`

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Budget Estimates, Fiscal Year 2001
President's Submission

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION

Exhibit 1 to
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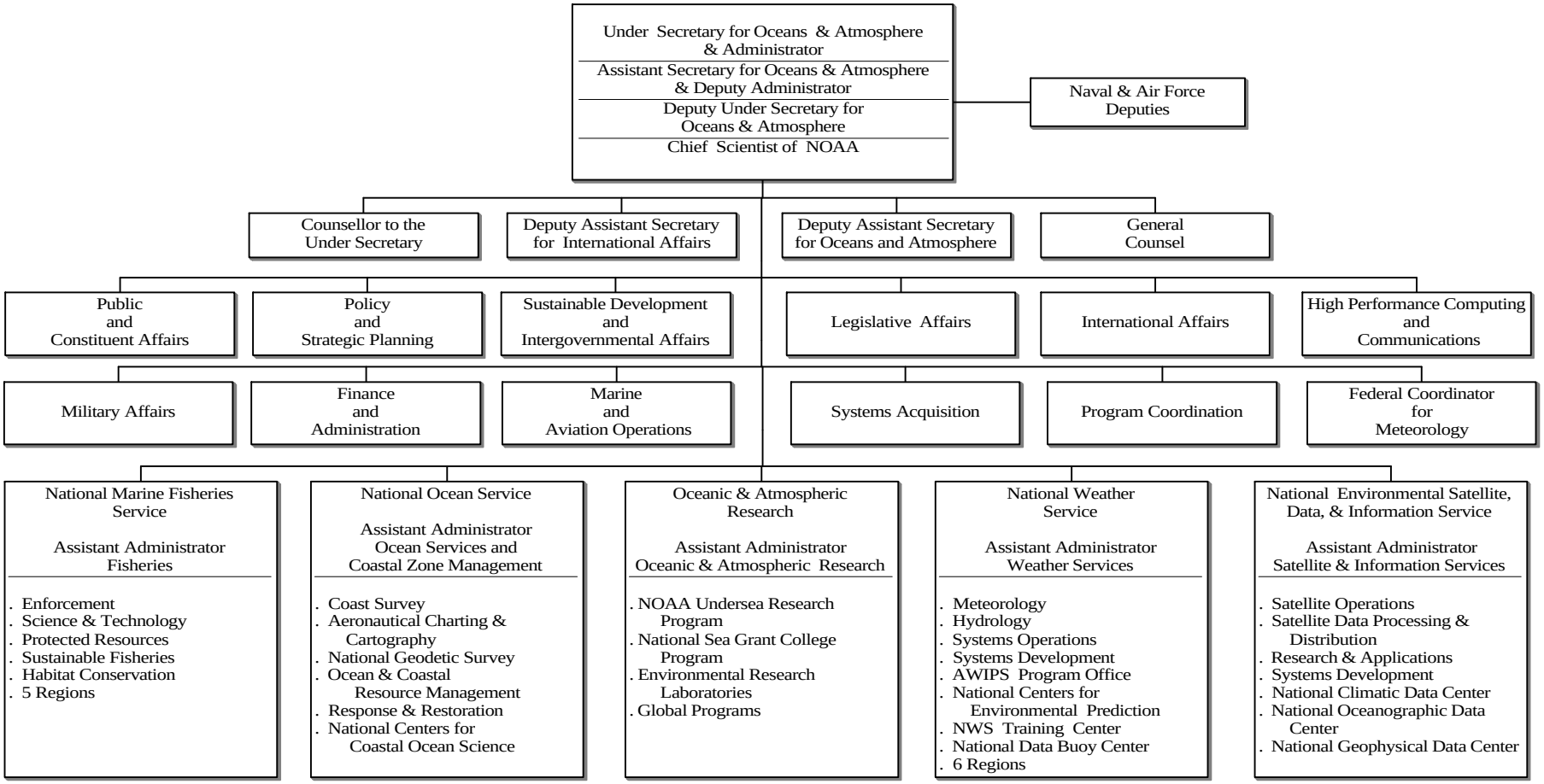

Amendment 4
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DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Executive Summary

Introduction

NOAA, a key component of the Department of Commerce, plays a vital role in the everyday lives of our citizens through our numerous contributions to the Nation's economic and environmental health. In a period of strongly competing government priorities, the President's FY 2001 Budget Request of $2.9 billion in total budget authority provides essential new resources for NOAA, underscoring the agency's important contributions to the Nation. The proposed budget provides the resources necessary to maintain indispensable services, ensures continuing progress in critical investment areas, and addresses statutory obligations.

Since then, NOAA has had much to be proud of – but there is still much to be done. NOAA has the challenge of mapping the future of our oceans and coasts, and of deepening our understanding of the atmosphere, which are no less than the economic and environmental lifelines of America and the world. This Budget Request, then, is one in a series of steps toward these goals.

NOAA's responsibilities, from issuing weather and climate forecasts, to managing our Nation's ocean and marine resources, are much in the public view. In 1999, we experienced a range of powerful weather and climate events, including a La Niña, for which NOAA provided a long range forecast, searing heat that scorched southern states, floods that swallowed parts of America's heartland, and a devastating hurricane season. The 1997-98 El Niño provided scientists around the world their first opportunity to observe a major climate event from beginning to end, and issue valuable forecasts to help mitigate the potential impacts. In 1999, NOAA built on its ability to provide long range forecasts and develop new climate products, including hurricane and drought outlooks that allowed emergency managers, businesses, communities and individuals to make advance preparations for the inclement weather. Also in 1999, NOAA completed the deployment of the Advanced Weather Interactive Processing System (AWIPS). This system, along with the NOAA Weather Radio and the Warning Decision Support System, was credited for the outstanding service and long lead time for warnings issued during a violent outbreak of tornadoes in May in Oklahoma and Kansas.

To fulfill its environmental stewardship mission, NOAA has initiated and continued strong cooperative efforts to protect our living marine resources. These efforts include innovative partnerships with the states of Washington, Oregon, and California to protect and recover at-risk Pacific salmon and steelhead species. These partnerships were based upon the significant flexibility of the Endangered Species Act (ESA) and provided a mechanism to reduce human-caused threats to the at-risk species before they are listed under the ESA. Thus, the partnerships promote the economic strength of the Nation and enhance recovery of at-risk species.

Take reduction strategies also have decreased incidental mortality in commercial fisheries. Strong fishery management programs have helped ensure the long-term sustainable harvest of valuable stocks of marine fish. Management actions to rebuild haddock stocks in New England have resulted in recent assessments indicating that the stock is recovering, and harvest limits have been safely increased.

NOAA also has led an effort to bring increased visibility to the challenges threatening our living marine resources. NOAA co-hosted with the Department of Navy the National Ocean Conference in 1998, which was the first national conference to draw attention to key ocean resources and issues, including coastal and ocean navigation and transportation, coastal habitats, fishing resources, and the interaction of ocean processes on weather and climate. Over 800 national leaders, members of Congress, researchers, and other interested stakeholders attended. Over 1,000 additional stakeholders participated in the Conference via satellite downlinks to facilities around the country. Several initiatives were introduced during the Conference which were included in the FY 2000 budget submission and are included in the FY 2001 Budget Request. A further discussion of these crosscutting initiatives is provided later in this section.

NOAA’s mission is to describe and predict changes in the Earth's environment, and to conserve and manage the Nation's coastal and marine resources to ensure sustainable economic opportunities. NOAA implements its mission through the activities of its five line offices: the National Ocean Service (NOS); the National Marine Fisheries Service (NMFS); the Office of Oceanic and Atmospheric Research (OAR); the National Weather Service (NWS); and the National Environmental, Satellite, Data and Information Service (NESDIS). The chart below illustrates the distribution of NOAA’s Budget Request among the line offices.

Today, the Nation and the world look to NOAA’s five line offices to provide timely and precise weather forecasts that protect lives and property; to manage fisheries and protected species; to build healthy coastlines; to make America more competitive through safe navigation; to examine changes in the oceans; and to inspire and create approaches that will protect and keep our precious natural resources alive for the generations to come.

NOAA conducts research to develop new technologies, improve operations, and supply the scientific basis for managing natural resources and solving environmental problems. NOAA's comprehensive system for acquiring observations -- from satellites and radars to ships and submersibles -- provides critical data and quality information needed for the safe conduct of daily life and the basic functioning of a modern society. NOAA’s products and services include short-term weather forecasts, seasonal climate predictions, long-term global change prognoses, environmental technologies, nautical charts, marine fisheries statistics and regulations, assessments of environmental changes, hazardous materials response information, and stewardship of the Nation's ocean, coastal, and living marine resources.

These products and services provide vital support to the domestic security and global competitiveness of the United States, and positively impact the lives of our citizens, directly or indirectly, every single day.

The President's Budget Request also allows NOAA to perform an essential role in a number of Departmental, interagency and Presidential initiatives, including: the Natural Disaster Reduction Initiative; the Lands Legacy Initiative; the Climate Services and Observations Initiative; building the capacity of the Nation's Minority Serving Institutions (MSI); the South Florida Ecosystem Restoration Initiative; the Clean Water Initiative, and the America's Ocean Future Initiative. Critical budget initiatives and programs are described below. All increases displayed below are comprised of program changes and adjustments to base.

A. Natural Disaster Reduction Initiative **$110.0 million**

Critical to meeting our 21st Century mission and the reduction of natural disasters is the ongoing health of NOAA's weather and satellite programs. In order to ensure our success, the President's Budget Request includes a total of $110.0 million in increases for sustaining the modernization of the National Weather Service, research and new funding for satellites and data efforts. The table below summarizes the programs that comprise the Natural Disaster Reduction Initiative (NDRI).

National Weather Service *$53.9 million*

The President's Budget includes $14.7 million in adjustments-to-base (ATBs) essential to sustaining a modernized National Weather Service (NWS). The ATBs will include funding for the mandatory federal pay raise and projected inflationary increases in non-labor categories such as maintenance and service contracts. Since 70% of the NWS base operations is committed to labor costs this funding is vital.

Also included in the FY 2001 request is $8.4 million to sustain base operations, $2.3 million to modernize and update the co-operative observer (COOP) network, $2.0 million for Weather Forecast Office (WFO) Maintenance, $6.6 million for Advanced Weather Interactive Processing System (AWIPS) Operations and Maintenance (O&M), $0.1 million for NEXRAD O&M, $0.1 million for ASOS O&M, an additional $1.0 million for U.S. Weather Research Program (USWRP), and another program that contributes to NDRI is the Advanced Hydrologic Prediction System (AHPS).

In the Procurement, Acquisition and Construction (PAC) Account, NWS systems acquisition funding is to continue the acquisition and improvement of major systems associated with advancing short term warnings and forecasts. For FY 2001, new increases are requested for the Next Generation Radar (NEXRAD) Program ($1.3 million); Automated Surface Observing System (ASOS) ($1.3 million); AWIPS/NOAA Port ($1.4 million); Computer Facilities upgrades ($4.0 million); NOAA weather radio expansion and enhancements ($6.2 million); Evansville Doppler Radar ($5.5 million); and in addition the Radiosonde Replacement Network supports NDRI.

Satellite Coverage and Data Programs *$49.6 million*

In order to ensure the sustainability of NOAA's satellite coverage and data programs, the President's Budget provides $49.6 million in new funding for these programs. Included in this request is funding for the next series of NOAA's Geostationary Operational Environmental Satellites (GOES) ($25.2 million) and new funding for NOAA's polar orbiting satellites ($6.5 million). Additional funding in the amount of $1.0 million is provided for Environmental Observing Services. The FY 2001 Budget Request for polar satellites will support the NOAA M satellite launch planned for FY 2001 and NOAA N and N' to be launched in a future year.

For NOAA's National Polar Orbiting Environmental Satellite System (NPOESS) Program, the FY 2001 Budget Request provides $16.9 million in new funding. The convergence of the NOAA Polar program and the Department of Defense's Defense Meteorological Satellite Program into a converged NOAA/DoD/NASA Program will save the United States Government millions of dollars over the life of the program by developing a satellite system that meets the needs of each of these agencies.

Global Disaster Information Network *$5.5 million*

The FY 2001 President's Budget Request also includes $5.5 million to create an integrated Global Disaster Information Network (GDIN). The GDIN is an interagency effort to improve all phases of disaster management and response by building a collaborative, public/private partnership to develop an information system to aid emergency managers and those affected by disasters. Funds will be used to improve coordination of and access to disaster information; to assure the reliability of Federal internet and other communication channels during disasters; and to standardize data sets, data access and data analysis tools.

Natural Disaster Reduction Initiative

Line Office	Activity	Strategic Plan	Program Changes ($ million)
	Sustaining a Modernized NWS		
	Maintaining Current Service - ORF		
NWS	Adjustments-to-base (ATBs)	ASTWF	$14.7
NWS	Sustain base operations	ASTWF	8.4
NWS	Modernize and update COOP network	ASTWF	2.3

Natural Disaster Reduction Initiative (Continued)

Line Office	Activity	Strategic Plan	Program Changes ($ million)
NWS	WFO maintenance	ASTWF	2.0
NWS	NEXRAD Operations	ASTWF	0.1
NWS	ASOS Operations	ASTWF	0.1
NWS	AWIPS Operations	ASTWF	6.6
	Subtotal, Maintaining Current Services		34.2
	Systems Acquisition - PAC		
NWS	NEXRAD	ASTWF	1.3
NWS	ASOS	ASTWF	1.3
NWS	AWIPS/NOAA Port	ASTWF	1.4
NWS	Computer Facilities Upgrade	ASTWF	4.0
NWS	Weather Radio expansion and enhancements	ASTWF	6.2
NWS	Evansville Doppler radar	ASTWF	5.5
	Subtotal, Systems Acquisition		19.7
	Subtotal, Sustaining a Modernized NWS		53.9
	Satellite Coverage and Data Programs		
NESDIS	GOES	ASTWF	25.2
NESDIS	Polar orbiting satellites	ASTWF	6.5
NESDIS	Environmental Observing Services	ASTWF	1.0
NESDIS	NPOESS	ASTWF	16.9
	Subtotal, Satellite Coverage and Data Programs		49.6
OAR	U.S. Weather Research Program (USWRP)	ASTWF	1.0

NESDIS	GDIN	ASTWF	5.5
	TOTAL		**110.0**

Note: The AHPS program also supports NDRI and is requested at a total of $1.0 million; the Radiosonde Replacement Network also supports NDRI and is requested at a total of $7.0 million.

B. Lands Legacy Initiative **$265.8 million**

In the FY 2001 Budget, NOAA requests an increase of $265.8 million to continue the many critical environmental programs of the Administration's historic Lands Legacy Initiative, which addresses some of the most serious challenges facing U.S. coasts and oceans. In FY 2000, NOAA received approximately $26.7 million in new increases for this initiative. The FY 2001 budget builds on the progress made to preserve our Nation's coastal and ocean resources. The FY 2001 Budget includes resources to significantly enhance the stewardship capabilities at the twelve National Marine Sanctuaries and 25 National Estuarine Research Reserves as well as the 33 coastal zone management states. Also included are additional resources to maintain and protect our critical estuaries, as well as mapping and monitoring of fragile coral reefs. With additional funds in FY 2001, NOAA will address the effects of polluted run-off in coastal areas, implement priority recommendations of the U. S. Coral Reef Task Force, enhance the recovery of threatened and endangered coastal salmon, and provide grants to coastal states with existing offshore oil and gas production for sound coastal zone management. These specific increases are described in detail below.

Coastal Zone Management Act

CZM Grants *$92.7 million*

An increase of $92.7 million for the Coastal Zone Management (CZM) Program will provide grants and technical assistance to coastal states to enable state managers and local communities to better address the significant and costly impacts of rapidly increasing coastal populations, polluted runoff, deteriorating waterfront areas, and loss of coastal habitats. Coastal states, which have been constrained from fully implementing their coastal zone management programs due to lack of funding, will be able to address the impacts of coastal storms and flooding, declining water quality, shortage of public access to the shoreline, loss of wetlands, deteriorating waterfronts and harbors, and the challenge of balancing economic and environmental demands in increasingly competitive ports. The results will be improved habitat protection and restoration, increased public access to the coast, urban waterfront and coastal community revitalization, and better management of special areas that are of concern at the local, State, and National levels – for the benefit of the Nation's economy and environment. From the requested amount, NOAA recommends that $25.0 million in grants be used by states to reduce polluted run-off, the leading cause of degradation in coastal waters. As a result, state coastal waters will be cleaner and economic losses from polluted runoff will be reduced. NOAA also requests that $30.0 million of the total amount for CZM

state grants be directed to implement community-based, environmentally protective solutions to combat the effects on coastal resources resulting from increased development and sprawl.

CZM Program Administration *$2.1 million*

In order to fulfill the expanded responsibilities of the Coastal Zone Management Program, an increase is requested to support NOAA's responsibilities under the Coastal Zone Management Act (CZMA) which continue to grow with the addition of new state coastal management programs and National Estuarine Research Reserves. This increase is critical if NOAA is to provide adequate levels of support to its state partners. For example, NOAA will mediate disputes between States, Federal agencies, and others; enable better dissemination of information from the National Estuarine Research Reserve System; and construct research, monitoring and education, and support facilities at the Reserves and Sanctuaries. Adequate technical and administrative support to manage and protect vital coastal habitat through the National estuarine and coastal management programs is essential to NOAA's ability to fulfill its responsibilities as a coastal steward and manage efforts under this initiative.

Polluted Runoff Grants *$2.0 million*

NOAA requests an increase of $2.0 million, to accelerate completion of State Coastal Nonpoint Pollution Control programs that address the impact of polluted runoff on coastal waters (Nonpoint Pollution Control Program, Section 6217). In addition to supporting the Lands Legacy Initiative, this increase supports the Administration's Clean Water Initiative and furthers the recommendations of the Clean Water Action Plan. It also supports the recommendation included the 1999 interagency report, "Turning to the Sea: America's Ocean Future" to effectively address polluted runoff into coastal waters.

Coral Reef Conservation and Protection *$9.0 million*

In FY 2000, NOAA began to strengthen its capabilities to address the Nation's coral reef crisis. Working with State, territorial, and local partners, this new funding will support research, monitoring, and local-level projects to reduce human impacts and increase sustainable use of America's valuable coral reefs. Of these additional funds, $4.0 million will allow NOS to improve understanding of reef health and focus on preventing reef-damage from vessel grounding, pollution, fishing, and other human impacts. $5.0 million of the increase amount will enable NMFS to develop, establish, monitor, and enforce coral reef fishery reserves critical to restoring valuable commercial and recreational species and protecting the habitats they depend upon. This request will directly support increased monitoring, protection, and sustainable use of coral reefs which are priorities of the U.S. Coral Reef Task Force and recommendations included in the America's Ocean Future report.

National Marine Sanctuaries *$10.0 million*

NOAA requests an increase of $10.0 million for the Marine Sanctuary Program to improve and enhance the operating and technical capacity of the 12 existing National Marine Sanctuaries.[1] Resulting from this increase will be improved protection of these special places that include coral reefs, endangered marine mammals, sensitive habitats and cultural resources. The request will also support exploration of deep ocean areas within the Sanctuaries and explore the important socioeconomic contributions to the Nation from ocean resources. Lands Legacy funds in FY 2000 were instrumental in beginning this process, by allowing some sanctuaries to reach baseline operational levels. These new funds will allow for continuing improvements to baseline operations and upgraded management capabilities. Education, community outreach, research and monitoring, cultural resource management, enforcement, and response to resource damage will all be enhanced by additional resources. Continued funding of $3.0 million is provided in the PAC account for Sanctuaries to complete a comprehensive facilities plan that prioritizes needs and opportunities at individual sites for constructing sanctuary exhibits and possible visitor centers and conducting collaborative education projects.

National Estuarine Research Reserves *$8.0 million*

An increase of $6.0 million is requested for the National Estuarine Research Reserve System (NERRS) to improve the ability of NOAA to protect, conserve, and restore coastal habitats and biodiversity at the Nation's 25 existing National Estuarine Research Reserves. NOAA, with its state partners, will provide national leadership in demonstrating how estuaries can be managed for the benefit of future generations. The increase will help make all reserves fully functional in accordance with program guidelines and a 1997 Inspector General report. Funds will help state partners hire full-time core staff and allow Reserve staff to plan and complete state land acquisition and construction activities. The increase also will complete assessment of biological resources at each site and implement the System-wide monitoring program critical to tracking the health of each reserve. This effort will address a key recommendation of the 1999 interagency report, "Turning to the Sea: America's Ocean Future," to improve monitoring of the Nation's estuaries. Funding of $2.0 million in the PAC Account is associated with the Lands Legacy Initiative, and is requested for state land acquisition and construction of research and visitor facilities.

Pacific Coastal Salmon Recovery Fund *$42.0 million*

As part of the Lands Legacy Initiative, NOAA requests new funding to increase support for the Pacific Coastal Salmon Recovery Fund. These funds will build on the FY 2000 Appropriation and will be used to enhance the recovery of threatened and endangered coastal salmon by providing Federal funds to help share the costs of conservation actions by tribes, States and local communities. The increase will provide assistance in the conservation of Pacific salmon runs at risk of extinction in the western states of California, Oregon, Washington, and Alaska. Of these funds, those provided to coastal tribes do not require matching funds, while those provided to States have a 25% matching fund requirement. These new

1 The 12 National Marine Sanctuaries are Channel Islands, Cordell Bank, Gulf of the Farallones, Monterey Bay, Monitor, Olympic Coast, Stellwagen Bank, Gray's Reef, Florida Keys, Fagatele Bay, Flower Garden Banks, and Hawaiian Islands Humpback Whale.

Federal resources will bolster lasting partnerships with tribal, State, and local governments in their effort toward Pacific salmon recovery and habitats restoration.

Pacific Salmon Treaty *$60.0 million*

NOAA requests an increase of $60.0 million to implement the Pacific Salmon Treaty. This increase will provide $20 million to capitalize the Southern Boundary Restoration and Enhancement Fund, $20 million to the Northern Boundary and Transboundary Rivers Restoration fund and $20 million to the State of Washington to complete the Vessel License Buyback Program. The two endowment funds will be administered by the Pacific Salmon Commission for habitat, stock enhancement, science and salmon management initiatives in both countries.

Coastal Impact Assistance Fund *$100.0 million*

This Coastal Impact Assistance Fund will provide resources to coastal states with existing offshore oil and gas production. Offshore oil and gas development places a variety of additional social, economic and environmental demands on ports, communities, and natural resources of coastal states. Funds from the account will provide grants to existing oil and gas producing coastal states to implement activities consistent with Coastal Zone Management Plans and increase protection and sustainable management of coastal resources such as habitat protection, community revitalization, improved coastal access, and public education on coastal issues. States eligible to receive grants under the Coastal Impact Assistance Fund are: Alabama, Alaska, California, Louisiana, Mississippi, and Texas. These funds will help develop the tools to minimize risks to coastal environments from coastal development including oil and gas activities.

Lands Legacy Initiative

Line Office	**Activity**	**Strategic Plan**	**Program Changes ($ million)**
NOS	Coastal Zone Management Grants +	SHC	**$92.7**
NOS	CZM Program Administration	SHC	**2.1**
NOS	Polluted Runoff Grants (also counted in CWI)	SHC	**2.0**
	Coral Reef Conservation and Protection		
NOS	Coral Reef Conservation	SHC	4.0
NMFS	Coral Reef Protection	SHC	5.0
	Subtotal, Coral Reef Conservation and Protection		**9.0**
NOS	National Marine Sanctuaries	SHC	**10.0**

	National Estuarine Research Reserves System		
NOS	Manage estuaries for future generations (ORF)	SHC	6.0
NOS	State land acquisition and construction (PAC)	SHC	2.0
	Subtotal, NERRS		**8.0**
	Other Accounts		
NMFS	Pacific Coastal Salmon Recovery Fund	RPS	42.0
NOS	Coastal Impact Assistance Fund	SHC	100.0
	Subtotal, Other Accounts		**142.0**
	TOTAL		**$265.8**

+ Includes $2.0M for Coastal Nonpoint Source Pollution Control Program, also counted in CWI.

C. Climate Observation and Services Initiative **$28.0 million**

During recent years, there has been a growing demand from emergency managers, the private sector, the research community, decision-makers in the U.S. and international governmental agencies and the general public to provide timely data and information about climate variability, climate change and trends in extreme weather events. The economic and social need for continuous, reliable climate data and longer-range climate forecasts has been clearly demonstrated. Climate observations and services will be as important to the 21st century economies and societies as weather forecasting is today. To respond to these needs, as several recent National Research Council reports have pointed out, NOAA must take immediate steps to repair its deteriorating data and observational systems as well as support new observations and develop more efficient and timely data infrastructure capabilities. The Climate Observations and Services Initiative will provide resources critical to these needs and to extend our ability to produce forecasts on a longer-time scale. This initiative will support transitioning our current research efforts and knowledge into operational systems and products. To do this, NOAA will focus its efforts to address key deficiencies in its observation and data management systems, implement new ocean observations, and develop a broad spectrum of new forecast products. The following efforts will be supported by this initiative:

Climate Reference Network *$6.0 million*

To ensure NOAA's capability to monitor decadal to centennial changes of temperature and precipitation, a climate reference network consisting of several hundred stations must be developed by making use of the historical data from the best sites in the network of 11,000 cooperative observing sites. This climate reference network will build on data from stations identified as those with the longest environmentally stable records, most dedicated observers, and most reliable data with few interruptions. These records have been used to identify past trends, variations, and changes in

climate but are now degrading at an intolerable rate. A climate reference network of about 250 stations will be identified with adequate spatial coverage to monitor temperature and precipitation trends across the USA. This will ensure long-term and bias-free global monitoring, including validation of NOAA's satellite monitoring capabilities. In FY 2001, NOAA will select the first 100 sites; place instrument types for temperature, precipitation, and soil moisture at a subset of the reference network; implement a means to electronically communicate all data collected in the reference network; develop a quality control package for observed data that includes checks for both random and systematic errors; and evaluate periods of concurrent data using old and new instruments to ensure a seamless transition to the new reference stations.

Improving the Availability of Climate Data and Information *$10.0 million*

As observational capabilities increase and observing networks expand, it is essential that data management and dissemination systems are in place to make the resulting data and information widely and easily accessible to public and private sector decision makers. Many communities have an unfilled demand for data and information related to past, present, and expected changes in weather and climate. NOAA must develop the required infrastructure to assemble, develop, and communicate the data, information, and knowledge about the trends and future expectations of climate and weather events. Elements of this infrastructure will consist of:

$1.0 million for NWS Climate Prediction Center to translate an enhanced capability to monitor global climate variability and the insights about climate fluctuations gained from better observing systems into operational practice. This will be done through improvements to climate forecast models and better assimilation of observational data and development of a broad spectrum of new forecast products which emphasize risks of high-impact weather events in the context of climate variability. Proposed new and improved products are biweekly to multi-year probabilities of rainfall events and droughts; probabilities of above- and below-normal hurricane seasons in the Atlantic and Pacific; probabilities of biweekly to multi-year temperature extremes; and probabilities for increased risk of fires.

$4.0 million requested in the PAC account for the National Environmental Data Archive and Access System (NEDAAS) to improve access by the public, private industry, decision-makers, and scientists to the large volume of space-based and ground-based data, such as Doppler radar, polar and geostationary satellites. These new resources will improve the efficiency of NOAA's data management activities, for both in situ and satellite data; drive down NOAA's costs of data management per data set; and improve user services by providing access to data that is presently too costly to access for most users. The system will include the development of optimized storage technologies such as data compression and decompression, media migration to new generation storage devices, and improved Internet access to near-on-line data.

$1.0 million to develop and implement real-time operational updates to NOAA's premier research quality long-term ocean and atmospheric reference data sets. The Nation's highest quality long-term peer-reviewed data sets are being used in a research mode, but are now ready for exploitation by private industry, decision-makers, and the general public. These funds will be used to develop the infrastructure necessary to update routinely these data sets in real-time and ensure access to the data.
$2.5 million to improve observation network performance by ensuring that key in-situ and satellite observing networks systems adhere to the

principles and guidelines for Long-term Climate Monitoring as articled by the U.S. National Academy of Sciences. The funding will be used to monitor the performance of these networks using performance indicators to identify problems early enough to prevent serious degradation; provide for overlapping coverage when new instruments are introduced; ensure the data are used in national and international assessments to help evaluate the data quality; and provide for adequate metadata (information about the operation the network and related algorithms used for processing the data). Improving the overall performance of these networks will allow NOAA to avoid reconstructing entire historical data sets because of problems uncovered long after initial observations.

$1.5 million for observations and analysis in linking climate and extreme weather events critical to the general public and decision makers. Of particular importance is how climate variations such as El Niño, the North Atlantic Oscillation or long-term trends influence the probability of occurrence of extreme weather events. An observational and analysis effort is proposed to better forecast high-impact weather on both short and long time scales; localize the predicted area of impact with high-resolution nested modeling and field programs; develop new tools for risk evaluation and prediction of extreme or significant weather types; and understand better the underlying physical processes that govern the unique weather of topographically complex regions.

Baseline Observatories *$3.0 million*

These funds will upgrade and expand operations at NOAA's remote manned Global Atmospheric Baseline Observatories at Barrow, AK; Mauna Loa, HI; American Samoa; and the South Pole, Antarctica. These observatories measure up to 250 different atmospheric parameters relevant to the study of climate change and are critical to the collection and continuity of the world's longest atmospheric time series, supplying the scientific community with information on the state and recovery of the ozone layer, global carbon dioxide, and other trace gases impacting the global climate. Funds are needed to rehabilitate the aging Barrow and Samoa observatories by upgrading the equipment and facilities; upgrading the Dobson ozone spectrometer equipment; and upgrading 11 continuous surface radiation sites. Routine aircraft flask profile measurements of trace gases and aerosols also will be expanded to cover the continental U.S. and the Pacific basin, and enhanced sampling from ships and buoys will be undertaken. Finally, funds are requested to expand the gas and aerosol baseline measurements of effluents flowing from the Asian mainland to Hawaii, Alaska, and North America.

Ocean Observations *$9.0 million*

Improved understanding of ocean circulation and physics is fundamental to our ability to predict climate variability. Finer measurements of ocean data are needed to track climate shifts, understand the interaction of oceans and atmosphere and predict severe weather and the regional impacts of climate variability. This initiative will provide funds for NOAA to complete the U.S. portion of the global array of profiling floats (ARGO) for temperature and salinity. NOAA, with its international partners, will use these resources to construct, deploy and operate an array of profiling floats for data collection in the Pacific and Atlantic Oceans. It will also deploy additional surface drifting buoys in the Southern Hemisphere and other under-sampled regions to complete the Global Drifter Array and improve and increase sampling from Voluntary Observing Ships (VOS).

NOAA will make use of the U.S. (NASA) and French (CNES) satellite altimetry data (sea surface heights) by developing a methodology for effectively assimilating altimetry into ocean models and improving assimilation systems for the higher latitudes. In conjunction with this, NOAA will upgrade global sea-level stations for satellite altimeter drift calibration and for monitoring of long-term trends. Most of these funds (up to $7.5 million) will be managed through the National Oceanographic Partnership Program (NOPP).

Climate Observations and Services Initiative

Line Office	Activity	Strategic Plan	Program Changes ($ million)
OAR	Climate Reference Network	PADCC	$6.0
	Climate Data and Information		
NWS	NWS Climate Prediction Center	ISICF	1.0
OAR	Improving access to space and ground-based data (NEDAAS)	ISICF	4.0
OAR	Develop & implement real-time updates for long-term ocean & atmospheric reference data sets	ISICF	1.0
OAR	Improve observation network performance	ISICF	2.5
	Analysis in linking climate and extreme weather events	ISICF	1.5
	Subtotal, Climate Data and Information		**10.0**
OAR	Baseline Observations	PADCC	**3.0**
OAR	Ocean Observations	ISICF	9.0
	TOTAL		**$28.0**

D. Minority Serving Institutions **$17.0 million**

As part of a Commerce-wide capacity building effort, NOAA requests $17.0 million to continue educational training relationships through a joint partnership with a consortium of Minority Serving Institutions (MSIs). These efforts will result in the education of new marine, atmospheric and environmental scientists. In addition, the initiative will help to develop capacity at the consortium of MSIs and allow these institutions to train a greater number of resource scientists and managers. This effort will provide the Department with a broader and more diverse pool of potential employees. Having additional trained natural resource managers will expand the overall scientific community and provide NOAA with additional sources of scientific data that would allow the agency to more effectively carry out its mission.

Minority Serving Institutions

Line Office	Activity	Strategic Plan	Program Changes ($ million)
Program Support	Minority Serving Institutions	ASTWF, BSF, ISI, PSN	17.0
	TOTAL		**17.0**

E. South Florida Ecosystem Restoration Initiative **$1.6 million**

NOAA's FY 2001 Budget Request includes an increase of $1.6 million to address issues related to the South Florida Ecosystem Restoration Initiative. The South Florida Initiative is an integrated effort among Federal, tribal, State and non-governmental partners to halt the degradation and restore the function of the South Florida ecosystem. As the U.S. Army Corps of Engineers begins to implement major construction and re-routing of water flow through the South Florida ecosystem, downstream coastal resources will be affected. NOAA supports the portion of the South Florida Initiative exclusively devoted to restoring and protecting the coastal and marine portions of the South Florida ecosystem such as the fisheries habitat and coral reefs. Continued investment is necessary to restore and maintain the marine ecosystem and the associated economies of South Florida and the Florida Keys. The table below summarizes the programs included in this initiative.

South Florida Ecosystem Restoration Initiative

Line Office	Activity	Strategic Plan	Program Changes ($ million)
NOS	South Florida Ecosystem (ORCA)	SHC	1.0
NMFS	Resource Information/Restoration and Research	SHC	0.6
	TOTAL		**1.6**

F. Clean Water Initiative **$6.9 million**

NOAA's FY 2001 Budget requests an increase of $6.9 million over the FY 2000 enacted budget, to support the Administration's Clean Water Initiative. This Initiative will help protect coastal communities from toxics and reduce the flow of pollution into coastal waters from nonpoint sources (e.g., runoff from agricultural fields, city streets, and other areas). Polluted runoff is now a major source of coastal water pollution and one of the primary factors associated with outbreaks of harmful algal blooms (e.g., Pfiesteria) and the spread of hypoxic zones in U.S. coastal waters.

The increasing frequency and magnitude of these problems suggests that significant action is required now to reduce the costs and symptoms of polluted runoff, and improve the quality of U.S. coastal waters. NOAA's FY 2001 request will strengthen and enhance critical research, monitoring, resource trustee, and coastal management capabilities of the National Ocean Service required to address the sources of polluted runoff and symptoms of degraded coastal waters, including harmful algal blooms, hypoxia, and beach closings. The table below summarizes the programs included in the Clean Water Initiative.

Harmful Algal Blooms *$2.4 million*

Harmful Algal Blooms (HABs) are an expanding problem in all of our Nation's coastal areas. Over the past two decades, an estimated $1.0 billion in economic losses have occurred in coastal communities due to HABs such as red and brown tides, and Pfiesteria, that are associated with polluted waters. A requested increase of $2.4 million will be used to work with States, universities, and communities to conduct rapid monitoring and assessment response activities in response to HAB outbreaks. Development of HAB action plans, undertaking necessary actions such as targeted research, monitoring and assessment during an episode, and providing fiscal and technical support to those affected by HABs will improve management measures aimed at recovery, prevention and control. In addition, these funds will improve overall understanding of HABs by improving the support provided to the interagency program, the Ecology and Oceanography of Harmful Algal Blooms (ECOHAB).

Coastal Nonpoint Source Pollution Control Programs *$2.0 million*

Presently, 29 coastal states have approved Coastal Nonpoint Source Pollution Control Programs that require funds for implementation. Working with other Federal, State and local agencies, NOAA will use $6.0 million of the Coastal Zone Management (CZM) Act Grants to fund these programs for implementing on-the-ground management measures to control polluted runoff in coastal areas. This increase of $2.0 million also supports the Lands Legacy Initiative.

Polluted Runoff Grants *$2.0 million*

Communities, businesses and human health are increasingly threatened by polluted runoff and the symptoms of polluted coastal waters. For example, every year degraded water quality causes warnings or closures of thousands of beaches resulting in losses to tourism and recreation industries. An increase of $2.0 million will support the development of nonpoint control programs in the new CZM states through Polluted Runoff (Nonpoint Pollution Control Program, Section 6217) Grants. These grants, which are also counted as part of the Lands Legacy Initiative, will be used to assist new coastal zone management states to develop their nonpoint programs. The grants will also aid other coastal states that need to meet conditional requirements in order to gain full approval of their programs. The funding will also further strengthen the management and implementation of the states' ongoing programs. Three states (Texas, Georgia , and Ohio) recently submitted their coastal nonpoint programs for approval and Minnesota's plan is in its initial stage of program development.

Coastal Protection and Restoration Program *$0.5 million*

NOAA's FY 2001 Budget Request includes an increase of $0.5 million which will enhance NOAA's capabilities to address the impacts of hazardous waste sites on coastal water quality and NOAA trust resources. These funds will allow NOAA's Coastal Protection and Restoration Program to address these serious environmental threats more quickly and effectively. NOAA will be able to expedite restoration and cleanup of coastal natural resources without costly litigation, share NOAA's technical expertise, and create cost effective approaches for remediating waste site contamination as part of the Clean Water Initiative.

Clean Water Initiative

Line Office	Activity	Strategic Plan	FY 2000 Program Totals
	Harmful Algal Blooms		
NOS	Research and Monitoring	SHC	$1.8
NOS	ECOHAB	SHC	0.6
	Subtotal, harmful algal blooms		**2.4**
NOS	Coastal Nonpoint Source Pollution Control Programs*	SHC	2.0
NOS	Polluted Runoff Grants*	SHC	2.0
NOS	Coastal Protection and Restoration Program	SHC	0.5
	Total		**$6.9**

* Also counted in the Lands Legacy Initiative.

America's Ocean Future Initiative **$51.6 million**

NOAA's FY 2001 Budget Request continues to focus on necessary actions designed to explore, protect and restore America's vital ocean resources. Highlighting the important role the ocean plays in the daily lives of all Americans, the Administration's 1999 interagency report, "Turning to the Sea: America's Ocean Future," introduced measures to promote new scientific insight into the oceans, sustain use of fisheries and other marine resources, provide new opportunities for economic growth, and protect fragile coastal communities and ecosystems, such as coral reefs, from damage and environmental degradation. The report and this initiative are a result of the recommendations made at the National Ocean Conference in order to develop a coordinated, disciplined, long-term Federal ocean policy. The specific programs included in this initiative are summarized in the table below.

Safe Navigation *$6.2 million*

NOAA requests an increase of $6.2 million to promote safe and efficient navigation. These resources will improve the competitiveness of U.S. ports and exports while lowering the risk of marine accidents and resulting pollution. In partnership with the private sector and local authorities, NOAA will focus on the quality assurance necessary to fully implement the Physical Oceanographic Real-time Systems (PORTS). NOAA will continue to modernize the National Spatial Reference System and continue progress on NOAA's electronic chart database, including reduction of the shoreline data backlog.

A complete suite of electronic charts with timely updates of hydrographic, shoreline and navigation data is a key recommendation of the "Turning to the Sea: America's Ocean Future" report. Modernized, accurate positioning supports the PORTS program, electronic charts, other navigation-related programs and many economic sectors that depend of accurate location data.

Aquaculture *$2.6 million*

Wild fish stocks in the U.S. and around the world are dwindling. At the same time world demand for protein continues to rise. The budget proposes $2.6 million to promote the development of an environmentally friendly and commercially viable domestic aquaculture industry. Of the $2.6 million, OAR will use $1.6 million for research and development of environmentally and economically sound aquaculture technologies with a focus on peer reviewed competition to find projects that will lead to business use. NMFS will direct much of the remaining increase of $1.0 million towards developing aquaculture standards that protect the environment, which promote ecologically-sound farming technologies, and address site selection criteria to assist those who plan to invest in aquaculture within Federal waters. These funds will further the Administration's ocean stewardship mission by protecting the environment while developing sustainable aquaculture.

Fisheries Stock Assessments and Conservation, and Management *$11.9 million*

NOAA requests a total increase of $11.9 million. The increase is comprised of a $3.6 million increase request for establishment of the National Observer Program and more observer coverage to carry out mandates in the Magnuson Stevens Act. In addition, a requested $3.0 million will support work on fisheries oceanography. This increase supports programs to improve stock predictions by identifying and assessing critical environmental processes controlling long-term trends in the Nation's fishery production. These funds also support a network of bio-physical moorings in the North Pacific Ocean will provide data on key oceanographic indicators and give greater insight into environmentally-induced shifts in the productivity of commercially important fish stocks. Within the $11.9 million increase, an increase of $1.8 million supports field studies to refine essential fish habitat and reduce the impacts of commercial and recreational fishing gear, anchoring, commercial at-sea processing and related fish waste discharges, and vessel operations on essential fish habitat. In addition, an increase of $1.0 million is requested to collect fisheries statistics and perform economic analyses required by the National Standard 8 of the Sustainable Fisheries Act (SFA). The analysis will include socioeconomic characteristics of commercial and recreational fishermen, economic values within fisheries, and vessel data within fisheries, all of which will improve the analytical capability to predict and monitor the economic and social consequences of management decisions. Also requested is an increase of $2.5 million to develop a core economic data collection capacity within NMFS to determine economic consequences of various activities on participants in a fishery, including improved regulatory flexibility analyses.

Seafloor Observatories *$3.1 million*

In order to implement the 1999 interagency report, "Turning to the Sea: America's Ocean Future," NOAA is requesting an increase of $3.1 million to unravel deep-sea mysteries, discover new opportunities in the ocean, and better understand how to protect marine resources. These funds will launch a program to map and explore U.S. ocean waters with advanced underwater technology. It will expand activities at two existing shallow-water observatories, the LEO-15 (off of the coast of New Jersey), and the Aquarius in the Florida Keys. The increase will fund two new deep-sea observatories: the new millennium observatory which recently has begun its first phase in the Pacific Juan deFuca Ridge and also an observatory in the Gulf of Mexico. Finally, to better understand the contribution that ocean resources provide to the Nation's economy, funds will also be used to assess the economic value of the domestic ocean and coastal resources.

Fleet Replacement *$8.0 million*

The FY 2001 requests increase of $8.0 million is requested to reactivate, convert, and upgrade the NOAA vessel ADVENTUROUS to support fisheries research activities. The ADVENTUROUS is a modern T-AGOS class vessel acquired from the Navy and is currently inactive. The ADVENTUROUS can be converted to meet the marine mammal survey and some high priority fisheries data collection requirements. In addition, $8.3 million is funded to continue the construction of a new acoustically quiet Fisheries Research Vessel (FRV) that is essential for conducting the stock assessment surveys necessary to monitor species' abundance, recruitment, age composition, and responses to ecological changes and fisheries pressure to build sustainable fisheries. The collection of fisheries and marine mammal information at-sea is essential to the mission and to the development of sensible regulation governing commercial and recreational fishing activities.

Acquisition of Data *$1.8 million*

NOAA requests an increase of $1.8 million over the FY 2000 enacted. This request supports the collection of hydrographic and coastal assessment data through days-at-sea for programs of significant national interest. These increases will support an additional 140 days-at-sea of University-National Oceanographic Laboratory System (UNOLS) ship time needed to support ongoing and new ECOHAB program and Global Ocean Ecosystem Dynamics (GLOBEC) projects. This request implements a key recommendation of the Ocean Future report to increase research to understand the ongoing changes in ocean chemistry.

Resource Protection *$13.5 million*

To continue resource protection NOAA requests an increase of $13.5 million which includes $12.3 million in Endangered Species Act Recovery Planning and $1.2 million for Protected Species Management. NOAA requests an increase of $12.3 million to implement programs to respond to the extinction crisis facing several highly endangered marine species and to expand efforts for Pacific and Atlantic Salmon. Included in this increase is $2.3 million to stem the decline of Pacific leatherback turtle and the northern Atlantic loggerhead turtle, Hawaiian monk seals, northern Atlantic and North Pacific right whales, Steller sea lions, and Cook Inlet Beluga Whales, all of which are on the brink of extinction. This will be done through a combination of research, monitoring and management actions to determine the causes for the decline and to implement recovery

measures. This initiative also includes $9.0 million to continue the Administration's support for the recovery of endangered Pacific salmon by investing in the scientific underpinnings of this recovery program and monitoring its effectiveness, and $1.0 million to provide a solid foundation for conserving Atlantic salmon in Maine through a strong investment in research. Protected Species Management also includes $0.2 million to monitor marine biodiversity to maintain healthier marine species and ecosystems through evaluating the threats and their impacts on habitats and biodiversity and $1.0 million for coral reef assessments and reduction of fishery impacts not included in the Lands Legacy Initiative.

Fisheries and Marine Resource Enforcement *$4.5 million*

Enforcement is a key element of a credible management effort designed to support the growth and stability of the domestic fishing industry and protect our nation's living marine resources. NOAA requests an increase of $4.5 million for enforcement activities. This increase includes $1.3 million needed to expand current vessel monitoring programs, $0.2 million needed to provide additional enforcement activities associated with salmon recovery efforts, and $2.5 million to establish cooperative enforcement programs between NMFS and the coastal states.

America's Ocean Future Initiative

Line Office	Activity	Strategic Plan	Program Changes ($ millions)
	Safe Navigation		
NOS	Tide & Current Data (PORTS)	PSN	$2.8
NOS	Build Nautical Charting Database	PSN	2.8
NOS	National Spatial Reference System	PSN	0.6
	Subtotal, Safe Navigation		**6.2**
	Aquaculture		
NMFS	Developing aquaculture standards	BSF	1.0
OAR	R&D of Aquaculture technologies	BSF	1.6
	Subtotal, Aquaculture		**2.6**
	Fisheries Stock Assessments, Conservation, and Management		
NMFS	National Observer Program	BSF	3.6
NMFS/OAR	Fisheries oceanography	BSF	3.0
NMFS	Field studies and impacts on essential fish	BSF	1.8
NMFS	Collecting fish statistics under SFA	BSF	1.0
NMFS	Developing economic data collection capacity	BSF	2.5
	Subtotal, Fish Stock Assessments and Conservation,		**11.9**
OAR	Sea Floor Observatories	SHC	**3.1**
	Fleet Replacement		
NMFS	Construction of fisheries research vessel	BSF	[8.3]
NMFS	Reactivation, conversion & upgrade of NOAA	RPS	8.0
	Subtotal, Fleet Replacement		**8.0**
NMFS	Resource Protection	RPS	**13.5**

America's Ocean Future Initiative (Continued)

Line Office	Activity	Strategic Plan	Program Changes ($ millions)
NMFS	Fisheries and Marine Resources	BSF/RPS	**4.5**
NMFS	Acquisition of Data	SHC	**1.8**
	TOTAL		**51.6**

Note: The $8.3 million for the construction of a fisheries research vessel is new funding in FY 2001. In FY 2000, $53.3 million was provided to begin the construction project.

Other NOAA Priorities

Global Learning and Observation to Benefit the Environment *$2.0 million*

Also important in meeting NOAA's immediate programmatic needs and longer-term strategic goals are several key programs. Among these key programs is the Global Learning and Observation to Benefit the Environment (GLOBE) Program aimed at improving the quality of science education for the next generation of American scientists**.** The GLOBE Program is a worldwide network of students, teachers, and scientists working together to study and understand the global environment. Students and teachers from over 7,000 schools in more than 80 countries are working with research scientists to learn more about our planet. The FY 2001 President's Budget Request includes an increase of $2.0 million, for a total of $5.0 million, for the GLOBE Program.

Commerce Administrative Management System *$15.8 million*

Also essential in making NOAA's programs successful is the Commerce Administrative Management System (CAMS). NOAA requests $15.8 million for CAMS in the PAC Account in order allow for continued production support. These funds will support the Accounts Payable, Small Purchases, and the Travel Modules. The full funding of CAMS is essential for NOAA to maintain a sound financial accounting system and to meet its statutory obligations under the Federal Managers' Financial Integrity Act (FMFIA) and the Chief Financial Officer Act (CFO Act).

The NOAA Strategic Plan

NOAA has institutionalized strategic planning process that defines and validates its business activities, guides the development f implementation, operating and senior management performance plans, and forms the basis for management decisions. The Strategic Plan provides the framework for articulating and organizing the agency's goals and work objectives. NOAA's goals for the future will enhance opportunities for our citizens, the health of the U.S. economy, the protection of our environment, and the sustainable use of our natural resources.

For the year 2005, NOAA envisions a world in which societal and economic decisions are coupled strongly with a comprehensive understanding of the environment. Environmental stewardship, assessment and prediction will serve as keystones to enhancing economic prosperity and the quality of life, better protecting lives and property, and strengthening the U.S. balance of trade. This vision depends on actions now that:

Environmental Assessment and Prediction Mission

Advance Short-Term Warning and Forecast Services

Total Request: $1,364,520,000

Vision - NOAA's vision for 2005 is to provide significantly improved short-term warning and forecast products and services that enhance public safety and economic productivity to the Nation. NOAA will enhance its ability to observe, understand, and model the environment, and effectively disseminate products and services to users.

Challenge - Our environment has profound effects on human welfare and economic well being. Each year, hundreds of lives and billions of dollars are lost due to severe storms, floods and other natural events that can be predicted minutes to months in advance. NOAA's current ability to predict short-term change is restricted by observations that are incomplete in time and space. This limits the ability to improve basic understanding, and predictive modeling of weather and other natural phenomena. NOAA is committed to improving its observing systems, developing a better understanding of natural processes, and enhancing its predictive models and dissemination systems.

Implementation Strategy - The objectives of this goal are to:

- Sustain modernized weather service operations
- Maintain continuous operational satellite coverage critical for warnings and forecasts
- Strengthen observing and prediction systems
- Improve customer service to the public, emergency managers, the media, and private forecasters.

Benefits - Increasing our understanding of the environment through research and investing in new technologies will provide more accurate and timely weather warnings and forecasts required by the Nation. Improved geomagnetic forecasts will increase efficiencies for satellite operations and

communications and electronic power distribution networks. Advanced modeling techniques and more complete observations will reduce uncertainties in hurricane track prediction, saving millions of dollars, and will improve inland flood prediction, saving lives and property. Accurate outlooks of future conditions will provide better information for planning weather sensitive activities over land and ocean. Critical contributions for the Administration's Natural Disaster Reduction Initiative will be provided from the research, monitoring and operational program in this NOAA goal.
Improvements associated with the modernized weather services have allowed for huge dividends. A cost-benefit analysis by the National Institute of Standards and Technology estimated economic benefits to the Nation to be about eight times greater than the costs involved. The Nation should realize annual benefits approaching $7 billion from the modernization. It is now time to take full advantage of the modernization.

Key FY 2001 Activities:

- Sustain NWS base operations
- Provide an adequate preventative and cyclical facilities maintenance program
- Provide operation and maintenance support for 152 fielded Advanced Weather Interactive Processing Systems (AWIPS)
- Continue AWIPS Build 5.0 development activities (2nd year of 3 year effort)
- Continue NEXRAD and ASOS product improvement initiatives
- Acquire, deploy, and install Doppler weather radar for the Evansville, IN area as recommended by the Modernization Transition Committee (MTC)
- Continue lease payments on the Class VIII supercomputer
- Continue the radiosonde replacement program to ensure critical upper air data
- Continue the procurement, launching, and operation of polar orbiting satellites and the follow-on series of geostationary weather satellites
- Improve geomagnetic and ionospheric storm predictions through acquisition of additional advanced satellite and surface observations
- Continue the national implementation of the Advanced Hydrologic Prediction Service (AHPS) in the Upper Midwest and tributaries within the upper Ohio River Basin
- Upgrade and expand the NOAA Weather Radio (NWR) network with the acquisition of 30 new transmitters and an improved voicing capability
- Perform research to improve the forecast accuracy and lead-time for hurricane tracking and landfall prediction through assessments, analysis of enhanced data sets, and simulations.
- Complete enhancement of a research-grade WSR-88D radar to include dual-polarization capabilities and evaluate the ability of quantitatively estimate precipitation amounts
- Continue simulations under the North America Observing System Council to evaluate potential forecast improvements through selected GOES imager and sounder data.
- Complete development of advanced observing systems such as an Advanced Microwave Sounding Radiometer and a buoy-based wind profiler system
- Implement Warning Decision Support System technology into AWIPS/System for Convective Analysis and Nowcasting
- Improve public awareness/preparedness of hazardous weather, and develop new techniques for detecting and tracking volcanic ash, and expand the framework of the Global Disaster Information network (GDIN)
- Begin detailed planning and project development associated with the construction of a new facility and renovation of existing facilities to house NOAA operational and research centers at the University of Oklahoma
- Support for the Department's Natural Disaster Reduction Initiative (NDRI).

Implement Seasonal to Interannual Climate Forecast

Total Request: $ 127,489,000

Vision - NOAA, working together with academic and multinational partners, will provide up to one-year and longer lead-time forecasts of known skill of global climate variability, especially El Niño and its associated precipitation, temperature, and storm patterns. These forecasts will increase society's ability to mitigate economic losses and social disruption.

Challenge - The largest interannual climate variability that has a degree of predictability is caused by the El Niño-Southern Oscillation (ENSO) phenomenon in the Pacific Ocean. Temperature and precipitation patterns, changes in ocean circulation, and changes in storm frequency caused by ENSO have global effects on economies and planning. Based on the application of ENSO-related research, NOAA issues monthly and seasonal probability outlooks for temperature and rainfall, and successfully forecasted the 1997-1998 El Niño six months in advance. ENSO-related effects range from severe drought to strong storms, with some regions experiencing floods and landslides while others suffer from fire and smoke. However, the ability to improve the accuracy and reliability of multi-season forecasts requires enhanced modeling and incorporation of the impacts of other modes of climate variability, like those from trends associated with decade-to-decade swings such as the North Atlantic Oscillation and the Pacific Decadal Oscillation, or long-term trends. The impact of global change on short-term climate variability like ENSO or the North Atlantic Oscillation must also be understood, requiring enhanced process understanding and an expanded observing system. In addition, NOAA must work towards an expanded operational suite of new products which integrate regionally-focused, climate-related impacts spanning short (one-week) to long (multi-season) time scales.

Implementation Strategy - The objectives of this goal are to:

- implement climate prediction systems to deliver useful seasonal to interannual climate forecasts for the U.S. and collaborate in a multinational effort to generate and use similar forecasts;

- enhance global observing and data systems required to provide data for the initialization and validation of model predictions of seasonal to interannual climate variations;

- invest in process and modeling research that leads to improved predictability of temperature and rainfall distributions; and

- assess the impacts of climate variability on human activity and economic potential, and improve public education so that climate forecasts are understood and acted upon.

Benefits - We can now predict El Niño events with a level of skill and enough lead time that hundreds of millions of dollars a year can be saved in the Nation's economy and abroad. Climate services will be as important to 21st Century economies and societies as weather forecasting is today. Better climate forecasting can result in benefits to the Nation's agriculture, and ultimately consumers, of more than $300 million annually from improved agricultural decisions. For example, the ability to perfectly forecast ENSO events one year in advance would permit the Nation's corn inventories to decline 8 percent, with annual savings of nearly $240 million. A cost-benefit analysis of one NOAA program to understand and model ENSO, the Tropical Ocean Global Atmosphere (TOGA) program, shows a real economic return on investment of at least 13% - 26% for U.S. agriculture alone. A global ENSO forecast would have much greater benefits. ENSO forecasts will also improve fisheries management, as warm ENSO events have been

associated with reduced marine catches. Global forecasts of climate variability will enhance agricultural, water resources, and other economic and social response planning.

Key FY 2001 Activities:

- Continue to translate an enhanced climate monitoring capability and insights about climate variability from better observing systems into operational practice at the National Centers for Environmental Prediction (NCEP). This will be done through improvements to climate forecast models and better assimilation of observational data which feed into them, a broad spectrum of new forecast products to better serve the public and decision makers which emphasize risks of high impact weather events in the context of climate variability, and the computing capability to develop the improvements and deliver the products. Proposed new and improved products are biweekly to multi-year forecasts of risks of high-impact rainfall events and droughts, high levels of hurricane activity in the Atlantic and Pacific, temperature extremes, and forest and grassland fires. The successful Threats Assessment product will be extended from out to 14 days to three months for heavy precipitation, fire danger, and newly-implemented heat wave alerts, and improvements will be made to forecasts of El Nino and La Nina and other climate oscillations.

- Maintain and improve its data delivery systems. In particular, NOAA will increase support to its data center operations in order to meet the growing needs to manage incoming data and to serve the rapidly increasing demands for new climate services.

- Operationalize climate reference data sets, in order to maintain and distribute satellite data sets that were experimental but are now widely used by the operational and research climate community.

- Establish and maintain the sustained global observing system necessary for climate research and forecasting as well as the long-term monitoring system necessary for climate change detection and attribution. To that end, NOAA will complete its portion of the global array of profiling floats (ARGO) for temperature and salinity, deploy additional surface drifting buoys in under-sampled regions to complete the Global Drifter Array, and improve and increase sampling from Voluntary Observing Ships (VOS). Additionally, NOAA will assess how our ability to document and forecast climate variability is impacted by the different data sources.

- Build on current U.S. (NASA) and French satellite altimetry programs, TOPEX and JASON, to ensure their continuity through the next decade. Studies of satellite systems and ground systems architecture, including orbits, will be performed that will ensure effective assimilation of altimetry into ocean models.

- Conduct El Niño - Southern Oscillation (ENSO) research to determine atmospheric predictability induced by tropical Pacific sea surface temperature changes, model the global response to changes in the ENSO cycle, and examine the changes in probabilities of extreme weather events induced by ENSO.

- Improve access to its data holdings by the public and decision makers, and will provide very high volume of data from new remote sensing observing systems. The new system will reduce NOAA's costs of data management and will improve user services.

Predict & Assess Decadal to Centennial Climate Change

Total Request: $114,151,000

Vision - NOAA and its research partners will provide science-based information for improving the predictive understanding of decadal-to-centennial changes in the global environment, specifically for: long-term climate change and greenhouse warming, ozone layer depletion, and air quality improvement.

Challenge - Our planet is a place of natural and human-induced change. Human activities are now recognized as impacting the global heat balance and climate system, thinning of the stratospheric ozone layer, and atmospheric pollution. While these changes increasingly promise to impact our societal systems and natural environments, they challenge the world scientific community to improve its prediction and assessment capabilities. Explanatory environmental models must be strengthened through better understanding of the atmospheric and oceanic processes so that we may meet the challenges of understanding and foreseeing climate variability and long-term change in approaching decades. Sound economic and social decisions depend upon assessed scientific information as a touchstone.

Implementation Strategy - The objectives of this goal are

- to characterize the agents and processes that force decadal to centennial climate change;
- understand the role of the ocean as a reservoir of both heat and carbon dioxide to address a major source of uncertainty in climate models;
- ensure a long-term climate record by enhancing domestic ad international weather networks, observing procedures, and information management systems. Document present and past changes and variations in the climate system, including extreme events, and rapid climate changes, exploiting national and international observing networks, satellites, and paleoclimatic data;
- guide the rehabilitation of the ozone layer by providing the scientific basis for policy choices associate with ozone-depleting compounds and their replacements;
- provide the scientific basis for improved air quality by improving the understanding of high surface ozone episodes in rural areas and by strengthening the monitoring network to detect cleaner air quality and improving the characterization of airborne fine particles; and
- develop models for the prediction of long-term climate change (including extreme events and rapid climate changes), carry out scientific assessments, and provide human impacts information.

Benefits - Nations have committed to eliminating production of compounds that deplete the ozone layer (Montreal Protocol). Research is not only helping define "ozone-friendly" replacement compounds and monitoring the atmospheric decline in ozone-depleting substances, but also documenting that the recovery of the ozone layer is as expected. Anticipatory research on global climate change supports sustainable development by providing timely information to society to make sound decisions about the role of human activities in global climate change and variability. NOAA research has identified

areas of air quality changes, such as high surface ozone in rural areas, that require the development of a fundamental understanding of their causes. New research is pointing to more effective ways to meet those goals, thereby avoiding costly over-regulation. Providing research results that address key scientific uncertainties, presenting the improvements in understanding in up-to-date assessments, and summarizing this knowledge in policy-relevant terms to government and industrial leaders are the cornerstones of environmental stewardship.

Key FY 2001 Activities

- Continue to advance understanding of the natural and human-influenced processes affecting the earth's radiation balance with an emphasis on observations of the coupled ocean-atmosphere system, especially as it relates to the cycle of carbon dioxide, utilization of observations, and assessments of the current understanding that serve as input to public policy formulation.

- Publish and disseminate the 2001 assessment report of the Intergovernmental Panel on Climate Change (IPCC). This assessment includes observations of the current changes and trends in the climate system, a reconstruction of past changes and trends, an understanding of the processes involved in those changes, and the incorporation of this knowledge into models of the system that can provide simulation of natural or human-induced future changes in the climate system. This third in the series (1990 and 1996) will provide decisionmakers in governments, industry, and other non-governmental organizations on the complex issue of global climate change.

- Report the findings from a major field study that will focus on a better understanding of the processes that control the formation and distribution of ozone and particulate matter in the Houston/East Texas region. The study will provide a new level of fundamental atmospheric information that can provide the scientific basis for air quality management of the growing issues of that region.

- Publish and disseminate the US National Assessment of Potential Consequences of Climate Variability and Change. This assessment reports on our understanding of US vulnerabilities to possible climate change impacts. This is the first attempt to address the potential impacts of climate change in the USA for the 21st Century across various regions and sectors. The National Assessment of the Potential Consequences of Climate Variability and Change was mandated by a 1990 law and has taken place under the auspices of the U.S. Global Change Research Program (USGCRP).

- Building on efforts begun in FY 2000 to develop a climate reference network, NOAA will select 100 sites; place instrument types for temperature, precipitation and soil moisture at a number of reference network sites and implement a means to electronically communicate all data collected in the reference network.

- Improve the observation network performance by developing and using performance indicators to identify problems early enough to prevent serious degradation.

- Upgrade and expand operations at NOAA's remote manned baseline observatories. NOAA will rehabilitate aging Barrows and Samoa observatories; upgrade the Dobson ozone spectrometer equipment; and upgrade 11 continuous surface radiation sites.

Promote Safe Navigation

Total Request: $109,542,000

Vision - by the new Standard 8 of the Sustainable Fisheries Act. The importance of such economic data has increased in recent years as additional management measures have been implemented to end overfishing and rebuild stocks.

- Promote public and private sector aquaculture which includes funding for research and an extension program to develop environmentally sound marine aquaculture.

- Support programmatic costs required to complete construction of the first of four new Fisheries Research Vessels (FRVs).
  By 2005, merchant ships, fishing vessels and recreational boats will safely ply our coastal waters, electronically guided by space-based navigation and advanced information technologies. NOAA will revolutionize U.S. marine navigation, mapping and surveying and assist commercial shipping in moving increased cargoes safely and efficiently into and out of the Nation's ports and harbors. NOAA will provide a precise satellite derived reference system as the basis for the Nation's nautical data and geographical positioning needs.

Challenge - Ships have doubled in length, width and draft in the last 50 years and seagoing commerce has tripled, leading to increased risk in the Nation's ports. Between 1993 and 1996, tankers alone were involved in 174 groundings, 14 collisions and 12 deaths. Navigation tools must be modernized. Up-to-date nautical charts are essential for the safety of life and property, and for safe and efficient navigation. More than 50 percent of NOAA's nautical charting data were obtained before 1940. Although considered to be the best available at that time, dramatic improvements in efficiency and accuracy have been realized in the technology used to collect data. Two-thirds of the data used for tidal predictions are more than 40 years old. The existing coordinate reference system must be modernized to provide the higher accuracy and accessibility available from the Global Positioning System (GPS).

Implementation Strategy - The objectives of the Promote Safe Navigation goal are to:

- build, maintain, and deliver a digital nautical charting database to underpin new electronic navigation systems which integrate satellite positioning, tidal heights and currents, radar and sonar, and navigational aids;

- update nautical surveys of the Nation's coastal areas using full-bottom coverage technologies;

- define the national shoreline in an accurate and consistent manner using state of the art technology to serve the Nation's navigational and coastal;

- provide mariners with real-time observations and forecasts of water levels, tides and currents, and weather conditions in ports; and

- continue to evolve the National Spatial Reference System to anticipate and fulfill the growing demands for more accurate and timely positioning services critical to digital mapping, charting, and surveying.

Benefits - New technology including full-bottom nautical surveys, digital charting, satellite positioning (GPS) and real-time observations of tides and currents promise to reduce maritime transportation risks, enhance environmental protections and heighten the competitiveness of the U.S. shipping industry. With today's deep-draft container ships, each additional inch of clearance translates into as much as tens of thousands of dollars in additional cargo trade in or out of the United States. Newer technologies will result in more complete and accurate surveys of the ocean floor, and will enable the mariner to know the ship's precise position relative to charted obstacles as well as its depth and underkeel clearance. These technologies also will support the needs of coastal zone planners, regulatory officials and researchers as they work to ensure the safe, sustainable and efficient development of our coastal and ocean resources.

Key FY 2001 Activities:

- Produce 200 new editions of nautical charts and an additional 30 electronic navigational charts for a total of 120 ENC's.
- Map another 20 percent of the shoreline depiction backlog in the 38 critical high priority ports.
- Reduce the critical hydrographic survey backlog by an additional 3.5 %.
- Integrate NOAA's navigation-related tools through the National Spatial Reference System to deliver more accurate and timely 3-dimensional positioning capability.
- Modernize all 175 National Water Level Observation Network stations to 100 percent operational capacity to ensure real time capabilities in support of Physical Oceanographic Real-Time Systems (PORTS) and coastal resource management.
- Implement the comprehensive quality assurance capabilities and modernization necessary to support additional PORTS.

Environmental Stewardship Mission

Build Sustainable Fisheries

Total Request: $435,422,000

Vision - NOAA's vision for the next decade is to greatly increase the Nation's wealth and quality of life through sustainable fisheries that support fishing industry jobs, provide safe and wholesome seafood, and ensure recreational fishing opportunities.

Challenge - Billions of dollars in economic growth, thousands of jobs and countless recreational fishing opportunities are not realized as a result of overfishing and overcapitalization in commercial and recreational fisheries. While many fisheries are well managed and are producing positive benefits, others are severely depleted, and must be restored to realize their long-term potential. For example, the historically important New England groundfish fishery was severely curtailed in 1994 due to the collapse of stocks. Transboundary resources can be especially vulnerable as they require international cooperation to achieve effective conservation and management. Bycatch of non-target species, including juveniles and protected marine species, the

controversial allocation decisions among elements of fishing industries, and the degradation and loss of essential fish habitat are serious problems effecting U.S. fisheries. The lack of sufficient scientific information makes it necessary, at times, to make conservative management decisions. There is an increasing domestic and global demand for seafood. In order to meet this growing demand, and in light of the growing number of wild stocks that are overfished or fully utilized, it is important for the Nation to develop marine aquaculture, and to do so in an environmentally sound manner.

Implementation Strategy - The objectives of this strategic planning goal are to:

- eliminate and prevent overfishing and overcapitalization - by assessing the status of fishery resources, advancing fishery predictions, managing for economic growth in the fishing industry and ensuring adequate and voluntary compliance with fishery regulations;

- attain economic sustainability in fishing communities - by providing research and services for fishery-dependent industries and maximizing benefits from marine resources; and

- develop environmentally and economically sound marine aquaculture - by supporting aquaculture research and development and ensuring responsible industry practices.

Benefits - Rebuilding over-exploited fish stocks by eliminating overfishing, protecting and improving fish habitat, and improving the economics of fisheries by reducing over capitalization, are the key elements in a transition to sustainable fisheries. These activities will result in a more viable and competitive U.S. fishing industry, which in turn will lead to economic and social improvement in fisheries-dependent communities. Along with economic gains and the rebuilding of living marine resources, improved fisheries management and conservation will enhance recreational opportunities and save lives by eliminating the dangerous and wasteful race for the fish. By developing environmentally sound aquaculture, the increasing demand for seafood can be met with high quality and reliable products without contributing to overfishing of wild populations or other negative impacts on coastal ecosystems.

Key FY 2001 Activities:

- Improve and expand stock assessment and prediction through increased stock surveys, fisheries oceanographic projects, and a West Coast Observers program.

- Continue to implement the Sustainable Fisheries Act, refine essential fish habitat designations in the fishery management plans, and to reduce fishing impacts on essential fish habitat.

- Implementation of a national fishing vessel registration and fisheries information system, quality standards for regional programs, and integrate the results into a unified system. This system will also fill critical gaps through initiation of new data collection programs that will subsequently reduce the risk and uncertainty of living marine resource policy decisions.

- Implement priority recommendations of the Task Force on coral reefs by identifying, developing, monitoring and enforcing fishery reserves in U.S. waters. This program will provide the management tools for NOAA Fisheries and the Regional Fishery Management Councils to effectively utilize “no-take” fishery replenishment areas as fishery management tools. It will work with fishing communities and other to provide baseline assessments

and long-term monitoring of both coral reef fishes and the associated ecosystem in identified coral reef “no-take” zones; and provide enforcement support for such zones.

- Continue to attain economic sustainability in fishing communities by establishing a Fisheries Assistance Fund to provide flexible, uniform, and timely assistance through buy-backs to address disasters, overfishing, or overcapitalization. Collect fisheries statistics and perform economic and social analyses required

Recover Protected Species

Total Request: $278,254,000

Vision - NOAA's vision is to conserve marine species and to recover those in danger of extinction. By 2005, NOAA will be on the road to recovering every marine species at risk and maintaining the healthy marine ecosystems upon which they depend.

Challenge - Marine resources contribute billions of dollars to the Nation's economy. However, many commercial and recreational activities contribute to stress on marine species. Many populations of marine organisms are depleted or declining due to human activity in marine ecosystems and unknown causes. For example, West Coast salmon populations are at-risk due to a combination of factors including habitat loss and commercial overexploitation. Despite protective measures, fishing-related mortality continues to threaten marine turtles in the Nation’s waters. Several seal and sea lion populations in Alaska are declining rapidly and the causes are uncertain. Recovery plans have been developed for the most endangered species, but implementation for others, especially for stocks of marine mammals and sea turtles, is needed. The desired outcome is to recover protected species in danger of extinction and to maintain healthy species and ecosystems, in a manner compatible with the sustainable use of marine resources.

Implementation Strategy - The objectives of this goal are to:

- reduce the probability of extinction for protected species; and

- maintain healthy species and ecosystems.

Benefits - Through conservation of the Nation's living marine resources, NOAA will enhance economic and cultural opportunities for future generations. The existence of the Marine Mammal Protection Act, the Endangered Species Act and other legislation provides a clear indication of public support for strong efforts to conserve living marine resources. This effort will enable the preservation of marine biodiversity by balancing the utilization of natural resources with the management of protected species. Recovering species, and avoiding the further decline of others, will contribute to the overall health and understanding of marine ecosystems. Improved science will lead to better long-term management and conservation strategies.

FY 2001 Key Activities:

Through the *Prevent Extinction Crisis Initiative*, NOAA will implement programs to respond to the extinction crisis facing several highly endangered marine species and to expand efforts for Pacific and Atlantic Salmon. It will stem the decline of Pacific leatherback turtle and the northern Atlantic loggerhead turtle, Hawaiian monk seals, northern Atlantic and North Pacific right whales, Steller sea lions, and Cook Inlet Beluga Whales, all of which

are on the brink of extinction. This will be done through a combination of research, monitoring and management actions to determine the causes for the decline and to implement recovery measures. This initiative continues the Administration's support for the recovery of endangered Pacific salmon by investing in the scientific underpinnings of this recovery program and monitoring its effectiveness, and provides a solid foundation for conserving Atlantic salmon in Maine through a strong investment in research. These activities include:

- Increasing NOAA participation with the Interior Columbia Basin Ecosystem Management Program by providing consultation and advisory services specifically regarding projects to improve habitat and increase populations of listed steelhead and chinook salmon.

- Continue implementation of the ESA Section 7 Biological Opinion regarding the impact of Federal dams in the Columbia River basin. The opinion will dramatically affect the allocation of water resources in the Pacific Northwest. The opinion addresses the operation of Federal hydro projects and will enable NMFS to effectively respond to the accelerated schedule for dam re-licencing in the Pacific Northwest.

- Support State and tribal implementation of management and conservation of listed and candidate salmon populations. Under the Salmon Recovery Initiative, NOAA will continue to work with participating States and tribal organizations to implement cooperative agreements under Section 6 of the ESA.

- Improve scientific knowledge of wild Atlantic salmon to understand impacts and risks affecting production. To address the severe decline of this species, the Maine conservation Plan for Atlantic Salmon will be implemented. The Plan focuses on watershed and river enhancement, minimizing interactions between wild and aquaculture-salmon, and river stocking strategies.

- Increase the collapsing population of the Pacific leatherback populations, NOAA will eliminate incidental take in commercial driftnet and longline fisheries; support international efforts to protect nesting turtles and their eggs and nesting habitat; and determine migratory patterns, habitat requirements and primary foraging areas for the species throughout the leatherback range.

- For loggerhead turtles, NOAA will develop gear technology to eliminate incidental take in non-shrimp commercial fisheries; determine population size and status in U.S. waters; determine the population range and level of mortality; and develop cooperative international efforts to protect the loggerhead population.

- For monk seals NOAA will conduct ecology studies to protect and conserve foraging habitat and conduct health assessments to mitigate the impact of disease, of particular importance with translocation efforts.

- NOAA will complete a large-scale population assessment of the north Atlantic right whale, providing an accurate measure of the species status. Data from the assessment will be used in developing and implementing efforts to reduce species mortality due to human activity. A population status study of the North Pacific right whale will be initiated, monitoring trends in abundance and identifying and protecting critical habitat.

- Efforts for Steller sea lions will focus on reducing known threats from fishery interactions and assessing and monitoring the status of this endangered stock.

Under the *Maintain Healthy Species and Ecosystems* objective, NOAA will assist in maintaining healthy species within the coral Reef Conservation Initiative to meet the goals of the President's Executive Order on Coral Reef Protection (E.O. 13089). In addition, this request will support the co-management of a sustainable marine mammal subsistence harvest by Native Americans. These include:

- Addressing coral reef protection through identifying and prioritizing Pacific coral reefs for protection, areas of important biodiversity, essential fish habitat and ecosystem function.

- Supporting sustainable communities that conserve and recover protected species through Native American co-management of marine mammals by Alaska natives and Makah tribe.

Sustain Healthy Coasts

Total Request: $486,768,000

Vision - By 2005, the Nation's coasts will have more productive and diverse habitats for fish and wildlife, and cleaner coastal waters for recreation and the production of seafood. Coastal communities will have thriving, sustainable economies based on well-planned development and healthy coastal ecosystems.

Challenge - Despite progress in developing technology, information and management tools to protect and sustainably use coastal resources, rapid population growth and increasing demands continue to degrade coastal resources and threaten the economic productivity and environmental services of coastal areas. Although these areas comprise only 10 % of U.S. land area, over half of the U.S. population lives on or near the coast, and coastal populations are growing faster than most inland areas. There are many signs that additional efforts are needed to protect the economic and environmental values of U.S. oceans and coasts. In 1998, for example, about one third of 1,062 beaches reporting had at least one advisory or closing, up from 26% in 1997. Polluted runoff and degraded water quality continues to close or restrict the use of nearly 31 % of U.S. shellfish growing waters, and declines in environmental quality continue to threaten coastal communities, businesses, and human health.

Healthy coastal environments support tourism, recreation, fishing and other industries that generate more than $100 billion annually in coastal communities across the Nation. Coastal wetlands, estuaries, coral reefs and other areas provide essential feeding and nursery habitats for approximately 70 percent of all U.S. commercial and recreational fisheries species. Maintaining the health, productivity and biodiversity of coastal ecosystems is challenging but essential to sustainable development of coastal economies and the future welfare of the Nation.

Implementation Strategy - The goal of Sustain Healthy Coasts encompasses the following objectives:

- Protect, conserve and restore coastal habitats and their biodiversity.

- Promote clean coastal waters to sustain living marine resources and ensure safe recreation, healthy seafood, and economic vitality.

- Foster well-planned and revitalized coastal communities that sustain coastal economies, are compatible with the natural environment, minimize the risks from nature's hazards, and provide access to coastal resources for the public's use and enjoyment.

Benefits - The pursuit of this goal provides information, technology, solutions, and other valuable tools to coastal resource managers at local, state, tribal and Federal levels. NOAA's coastal activities form an integrated suite of monitoring, research, assessment, restoration, information dissemination and resource management programs that enable sound decision making and sustainable development of coastal areas. Federal-state partnerships such as the Coastal Zone Management Program, National Estuarine Research Reserve System, and National Sea Grant College Program are essential components of the Sustain Healthy Coasts goal. Research provides improved understanding of the way in which coastal ecosystems function, and increases the ability to predict how ecosystems and society respond to change, whether natural or caused by humans. The ability to predict change and determine its causes empowers managers and stakeholders to work together to promote sustainable use of coastal resources and mitigate costly damages. NOAA's coastal programs effectively ensure that the Nation's coastal ecosystems are managed for the long-term benefit of the public.

Key FY 2001 Activities:

- As part of the Lands Legacy Initiative, new funding for the Coastal Zone Management Program will provide grants and technical assistance to coastal states to enable state managers and local communities to better address serious threats to the economic health and livability of coastal areas. This increase will allow coastal states with coastal zone management plans to address the significant and costly impacts of rapidly increasing coastal populations, polluted runoff, deteriorating waterfront areas, and loss of coastal habitats.

- As part of the Lands Legacy Initiative, NOAA will establish a Coastal Impact Assistance account will provide coastal states with existing offshore oil and gas production additional resources needed to protect and sustainably use ocean and coastal resources. Funds from the account will provide grants to implement activities that increase protection and sustainable management of coastal resources such as habitat protection, community revitalization, improved coastal access, and public education on coastal issues.

- As part of the Lands Legacy Initiative, NOAA will enhance protection, public education, and monitoring capabilities within the Nation’s National Marine Sanctuaries and National Estuarine Research Reserves. Funding for these programs will ensure that each Sanctuary and Reserve has the resources needed to protect these valuable, National treasures and provide the access and educational opportunities requested by visitors and local community partners.

- As part of the Lands Legacy Initiative, NOAA’s National Ocean Service will take significant new steps to address the Nation’s coral reef crisis and reverse the degradation of these “rainforests of the sea.” Working with state, territorial, and local partners, the new funding will support research, monitoring and local-level projects with states, territories and other partners to reduce human impacts and increase sustainable use of America’s valuable coral reefs and will help implement key recommendations of the U.S. Coral Reef Task Force.

- In FY 2001, NOAA will support the Administration’s Clean Water Action Plan by strengthening and enhancing its programs that address polluted runoff into coastal watersheds and the impacts of coastal pollution. Activities in support of this plan will include research on hypoxia in the Gulf of Mexico, research on the ecology and oceanography of harmful algal blooms (HABs), and implementation of state Coastal Nonpoint Pollution Control programs that address the impact of polluted runoff.

- As part of the South Florida Ecosystem Restoration Initiative, NOAA will provide key monitoring, research, and management activities in support of a Federal-tribal-state effort to restore and sustain the natural resources of this unique region. For example, the restoration effort depends on NOAA's coastal monitoring and research efforts to track and implement inland restoration efforts that alter water flows to coastal bays and estuaries.

- NOAA will address aquatic nuisance species issues in marine and coastal areas, a priority item under the National Invasive Species Act, through new funding for both the National Sea Grant College Program and the Great Lakes Environmental Laboratory.

- NOAA's Office of Oceanic and Atmospheric Research will expand shallow water observatories, develop new deep-sea observatories, and enhance undersea research vehicles through the use of advanced technologies to explore exotic sea life.

Conclusion

The challenge of investing strategically in the Nation's future is accompanied by the requirement to be more effective, to identify and realize opportunities for savings, and to focus the efforts of all levels of Government on what matters most to the American people. Our citizens are increasingly demanding proof of performance – documentation of the "bang for the buck" -- and NOAA's FY 2001 Budget Request includes measures which track results to the level of public investment. Success in the complexities of the 21st Century, will depend more and more on partnerships and cooperative ventures that link business, industry, and universities with Federal, State and local governments and international parties. NOAA will continue to develop those associations that most efficiently and economically leverage resources and talent, and that most effectively provide the means for successfully meeting mission requirements.

FY 2001 President's Request by Strategic Plan Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Advance Short-Term Warning and Forecast Services										
Suistain NWS Modernization	4,783	730,702	4,573	715,127	4,566	730,427	4,550	743,226	(16)	12,799
Satellite Continuity	587	437,068	587	433,070	641	433,746	641	500,825		67,079
Enhance Observations & Predictions	332	56,133	336	67,292	348	66,963	350	62,008	2	(4,955)
Improve Service Communication and Utilization	21	1,870	21	1,885	21	1,904	21	13,655		11,751
Infrastructure	628	43,927	628	43,653	616	42,337	616	44,806		2,469
Total ASTWFS	**6,351**	**1,269,700**	**6,145**	**1,261,027**	**6,192**	**1,275,377**	**6,178**	**1,364,520**	**(14)**	**89,143**
Implement Seasonal to Interannual Climate Forecast										
Implement Prediction Systems	74	18,566	74	18,471	74	18,489	74	19,541		1,052
Maintain and Improve Observing and Data Delivery Systems	344	55,868	357	65,495	357	66,556	359	71,575	2	5,019
Conduct Research for Improved Climate Predictions	77	29,701	76	32,300	76	32,478	76	29,890		(2,588)
Deliver Climate Services and Assess Socio-economic Impacts		1,122		1,117		420		422		2
Infrastructure	54	3,968	54	3,830	53	3,721	54	8,061	1	4,340
Total ISICF	**549**	**109,225**	**561**	**121,213**	**560**	**121,664**	**563**	**129,489**	**3**	**7,825**
Predict and Assess Decadal-to-Centennial Change										
Characterize Global Climate Forcing Agents	44	7,237	44	8,206	44	8,295	44	9,326		1,031
Understand the Role of Oceans in Global Change	211	29,221	211	29,182	211	29,589	213	29,818	2	229
Guide the Rehabilitation of the Ozone Layer	44	7,033	45	7,006	45	7,097	45	7,124		27
Provide Prediction, Assessment, & Human Impact Info.	41	8,956	41	8,928	60	9,045	60	13,079		4,034
Ensure a Long-Term Climate Record	75	26,875	75	23,636	75	23,652	77	32,639	2	8,987
Provide the Scientific Basis for Improved Air Quality	3	5,412	3	5,391	3	5,398	3	5,419		21
GLOBE	9	2,500	9	3,000	9	3,000	9	5,000		2,000
Infrastructure	58	5,008	58	10,053	57	9,952	57	11,746		1,794
Total PADCC	**485**	**92,242**	**486**	**95,402**	**504**	**96,028**	**508**	**114,151**	**4**	**18,123**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Promote Safe Navigation										
Build Nautical Charting Database	175	23,950	175	24,413	175	24,760	176	26,079	1	1,319
Update Nautical Surveys	319	20,539	319	20,726	309	20,738	309	21,243		505
Provide Marine Predictions	141	12,000	141	12,343	141	12,682	141	15,089		2,407
Establish National Spatial Reference System	197	19,659	197	20,011	197	20,558	197	20,206		(352)
Define National Shoreline		3,311		3,301		3,345		4,845		1,500
Infrastructure	46	4,105	46	5,005	45	4,930	45	4,080		(850)
Address Survey Backlog/Contracts		14,000		18,828		18,831		18,000		(831)
Total PSN	**878**	**97,564**	**878**	**104,627**	**867**	**105,844**	**868**	**109,542**	**1**	**3,698**
Build Sustainable Fisheries										
Develop Sound Aquaculture			7	30,975	7	30,975	7	29,407		(1,568)
Assess the Status of Fishery Resources	1,492	190,080								
Advance Fishery Prediction	17	20,950								
Managing for Economic Growth	384	124,863								
Ensuring Adequate Compliance	181	17,775								
Provide Research and Service	47	18,250								
Infrastructure	209	39,624	209	88,012	205	88,526	206	46,749	1	(41,777)
Eliminate & Prevent Overfishing			1,961	275,070	1,961	279,297	1,983	292,652	22	13,355
Attain Economic Sustainability in Communities			285	47,553	285	48,592	285	66,614		18,022
Total BSF	**2,330**	**411,542**	**2,462**	**441,610**	**2,458**	**447,390**	**2,481**	**435,422**	**23**	**(11,968)**
Recover Protected Species										
Assess Status and Impacts	351	37,868								
Implement Conservation Plans	199	37,557								
Infrastructure	25	4,209	25	4,843	25	5,080	25	13,500		8,420
Maintain Healthy Species & Ecosystems			409	31,554	389	33,000	390	34,234	1	1,234
Prevent Extinction			248	118,228	248	118,798	297	230,520	49	111,722
Total RPS	**575**	**79,634**	**682**	**154,625**	**662**	**156,878**	**712**	**278,254**	**50**	**121,376**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Sustain Healthy Coasts										
Protect, conserve and restore habitats	548	117,112	538	136,878	529	138,387	560	192,077	31	53,690
Promote clean coastal waters	214	76,426	201	70,715	209	71,863	210	96,433	1	24,570
Foster well-planned and revitalized coastal communities	30	50,202	30	48,399	43	46,953	45	176,391	2	129,438
Infrastructure	98	17,257	98	22,697	96	22,590	97	21,867	1	(723)
Total SHC	**890**	**260,997**	**867**	**278,689**	**877**	**279,793**	**912**	**486,768**	**35**	**206,975**
Infrastructure										
Administration				(4,656)	9	15,823	9	15,823		
Construction/Facilities/Env. Compliance										
Total Infra				**(4,656)**	**9**	**15,823**	**9**	**15,823**		
NOAA										
All goals		7,363		10,400		15,100		14,400		(700)
Total NOAA		**7,363**		**10,400**		**15,100**		**14,400**		**(700)**
Total Obligations for NOAA	**12,058**	**2,328,267**	**12,081**	**2,462,937**	**12,129**	**2,513,897**	**12,231**	**2,948,369**	**102**	**434,472**

Obligations from above	2,948,369
Prior Year Recoveries,ORF and PAC	(43,504)
NOAA Corps Retirement	
Rescission of Unobligated balance	
Offsetting Collections, CZMF	(3,200)
Offsetting Collections in Fund	
Maguson Fee Offset	
Total Budget Authority	**2,901,665**
DARRF Unobligated Balance	(2,162)
Mandatory Payment	(14,400)
Transfer from Agriculture for P & D	(69,921)
Mandatory Spending Authority from Collections	3,200
Collections CZMF	
Federal Ship Financing Fund	
Discretionary Budget Authority	**2,818,382**

SUMMARY OF GOALS, OBJECTIVES AND PERFORMANCE MEASURES

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
Build for the future and promote U.S. competitiveness in the global marketplace by strengthening and safeguarding the nation's economic infrastructure	Advance Short-Term Warning and Forecast Services	Sustain NWS modernized operations	NWS NESDIS OAR COP	Meet % reliability targets for continuing operation and maintenance of modernized systems	Increase lead time (minutes) and accuracy (%) for severe weather warnings (e.g. tornado, winter storm, flash flood) Increase % accuracy of global aviation model forecasts
		Maintain satellite continuity	NESDIS NWS OAR	Continue procurement, launch, maintenance and operations of GOES and POES satellites	Increase lead time for hurricane warnings Improve accuracy of aviation, marine, and precipitation forecasts
		Enhance Observations and Predictions	OAR NWS NESDIS OAR	% completion of replacement of the radiosonde network Improved Upper Air and Surface Observations Initiate national implementation of the	Increase lead time (minutes) and accuracy (%) for prediction of severe weather events (e.g. tornado, flash flood, hurricane, winter storm) Increase essential upper air data for local to global

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
				Advanced Hydrologic Prediction System (% completion) Continue G-IV Operations to improve hurricane/winter storm surveillance	numerical weather prediction models
		Improve service communication and utilization	NWS NESDIS	Promote hazard awareness and mitigation education	Increase public response and the awareness of hazards
Keep America competitive with cutting-edge science and technology and an unrivaled information base	Implement Seasonal to Interannual Climate Forecasts	Implement climate prediction systems	NWS OAR	% dynamic forecast model operational	improve ENSO forecasts accuracy (correlation) improve U.S. temperature skill score
		Enhance observing and data systems	OAR NESDIS	% ENSO observing system operational # of new and improved data sets developed and produced	improve ENSO forecasts accuracy (correlation) improve U.S. temperature skill score

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
		Conduct research for improved climate predictions	OAR	% key research programs (GCIP, GOALS, CLIVAR) implemented	improve ENSO forecasts accuracy (correlation) improve U.S. temperature skill
		Deliver climate services and assess socio-economic impacts	NWS OAR	# user surveys conducted # public user requests processed # regional workshops and demonstration projects	Analyze and quantify economic and social benefits of climate forecasts
	Predict and Assess Decadal to Centennial Change	Characterize forcing agents of climate change	OAR NESDIS NWS	Update the global trends in long-lived greenhouse gases	Results of 90% of the research activities are to be cited in the IPCC Assessment of Climate Change
		Understand the role of ocean processes in climate change	OAR NESDIS NWS	Determine mechanisms of North Pacific-North Atlantic decadal climate linkage	Results of 90%of the research activities are to be cited in the IPCC Assessment of Climate Change
		Ensure long-term climate record	OAR NESDIS NWS	Provide updated and improved centennial length global surface temperatures and worldwide precipitation	Results of 90% of the research activities are to be cited in the IPCC Third Assessment of Climate Change
		Guide rehabilitation of ozone layer	OAR OGP NESDIS NWS	Provide a review of the role of aerosols (natural and human-produced) on	Results of 90%of the research activities are to be cited in the UNEP/WMO

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
				ozone-layer variation	Assessment of Ozone Layer Depletion
		Provide the scientific basis for improved air quality	OAR NESDIS NWS	Report updated baseline trends from the AIRMON sites	Results of 90% of the research activities are to be cited in the NARSTO Assessment of Fine Particles
		Furnish prediction, assessment and human impacts information on decadal to centennial climate change	OAR NESDIS	NOAA research cited in IPCC Assessment	90% of NOAA research cited in the IPCC Assessment of Climate Change.
	Promote Safe Navigation	Build, maintain and deliver digital nautical charting database	NOS	Increased number of charts available in vector electronic format. Throughput of data from collection to chart product	Increased access to all nautical charts in electronic format Reduce the time necessary to produce a chart once survey data has been collected.
		Update nautical surveys	NOS	% reduction in backlog of hydrographic surveys for critical areas	Increased % of critical areas will have been surveyed to produce up-to-date nautical charts
		Provide real-time observations and forecasts on water	NOS	% of Water Level Network operational and modernized	Increased access to the full suite of quality-assured, real-time tide, current,

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
		levels, tides and currents, and weather			meteorological and positioning data
		Develop the National Spatial Reference System	NOS	% areas of U.S. within 200 km of Continuously Operating Reference Stations (CORS)	The CORS System, which enables high accuracy readings from the Global Positioning System, will be available to a wider # and range of users
		Define the national shoreline	NOS	% of shoreline mapped (critical)	Provides accurate shoreline data for highest priority ports.
Provide effective management and stewardship of our nation's resources and assets to ensure sustainable economic opportunities	Build Sustainable Fisheries	Eliminate and prevent overfishing and overcapitalization	NMFS OAR NOS	# sea-days for data collection % increase in efficiency of base statistics collection % completion of federal-state data collection plan # models/syntheses incorporating natural variability # of Essential Fish Habitat amendments to FMPs completed # fleets using vessel	% fewer overfished fisheries (stocks subject to overfishing) % fewer overcapitalized fisheries % of stocks which have essential fish habitat

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
				monitoring systems for spatial/temporal regulations % reduction in enforcement risk factors in the most at-risk fisheries over base year # Fishery Management Plans with access controls implemented	
		Attain economic sustainability in fishing communities	NMFS OAR	% Fishery Management Plans with net economic benefits calculated # of crosscutting partnerships with EDA, MBDA, ESA, NIST, and others to assist fishing communities	% increase in employment in non-capture fishing and/or other sectors % of communities impacted by limited/closed fisheries which are economically improved
		Develop environmentally and economically sound marine aquaculture	NMFS OAR NOS	# of new biotechnology methods to increase aquaculture production # of new technologies for offshore production and enhancement of local marine fish species # of new genetic techniques for aquaculture	% of aquaculture operations which are in compliance with code of responsible aquaculture % increase in economic contribution of aquaculture to Gross Domestic Product (GDP)

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
				# new disease diagnostics/ control systems developed for aquaculture # of new improved feeds and feeding regimes for use in different aquaculture systems and species # of new species in commercial aquaculture production % reduction in the time and cost of permitting environmentally sound aquaculture ventures	

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
	Recover Protected Species	Prevent extinction of listed species	NMFS OAR NESDIS NOS	% reduction in incidental and direct takes % improvement in protected species habitat % decrease in negative interactions # stocks monitored and status assessments conducted	% reduction in probability of extinction of ESA endangered, threatened or candidate species % increase in the probability that depleted marine mammals will exceed minimum optimal sustainable population level % reduction to insignificant levels of strategic marine mammal mortality incidental to commercial fishing
		Maintain healthy species and ecosystems	NMFS OAR NESDIS NOS	% reduction in conflicts between healthy species and human activities # marine mammal species maintained at zero mortality rate goal	# marine mammal stocks within optimal sustainable population range # of healthy or recovered protected species maintained beyond the status of candidates

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
	Sustain Healthy Coasts	Protect, conserve and restore coastal habitats and their biodiversity	NOS NMFS NESDIS OAR	# environmental technologies and tools developed that enhance monitoring, assessment, management and restoration of coastal habitats % of U.S. coastline with habitats characterized and mapped.	# acres of coastal habitat restored
			NOS NMFS		# Natural Resource Damage cases settled or damage assessments completed.
			NOS OAR		# U.S. coastal regions with reduced introductions and impacts of nonindigenous species.
			NOS		# CZM and NERRS sites with management capabilities upgraded to protect and restore coastal habitats.
				# National Estuarine Research Reserves completed and maintained at acceptable levels to protect special	% of the Nation's 40 key coastal ecosystems with reduced risks of habitat loss from releases of oil and hazardous chemicals due to response planning,

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
				marine and estuarine ecosystems. % of designated National Marine Sanctuary sites that meet baseline operational levels. % of National Marine Sanctuary sites that have significantly upgraded management capabilities.	mitigation, modeling, monitoring and assessments.
		Promote clean coastal waters	NOS	% State coastal nonpoint source pollution control programs approved (% of 35 coastal states).	# National Estuarine Research Reserves and National Marine Sanctuaries with upgraded capabilities to protect and enhance coastal water quality.
			NOS OAR		# U.S. coastal regions with systems to predict and reduce impacts of harmful algal blooms.

Strategic Theme	Bureau Goal	Bureau Objective	LO/PO	Outputs	Outcomes
			OAR		% U.S. coastal regions with assessments of atmospheric pollution effects on water quality and habitat.
		Foster well-planned and revitalized coastal communities	NOS OAR NMFS	% coastal constituencies incorporating improved coastal hazard mitigation measures into local planning/regulatory activities.	% U.S. coastline and inland areas with improved ability to identify extent and severity of coastal hazards.

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National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Approp.	Budget Authority	Direct Obligations
FY 2000 Currently Available	12,067	11,865	1,673,216	1,741,216	1,833,643
plus: Restoration of recoveries from prior years			36,000	36,000	36,000
plus: FY 2001 Adjustments to Base	103	97	39,431	42,631	42,631
less: Requested recoveries from FY 2001			(36,000)	(36,000)	(36,000)
less: Prior Year Unobligated balance SOY					(42,027)
FY 2001 Base	12,170	11,962	1,712,647	1,783,847	1,834,247
plus: FY 2001 Program Changes	145	105	169,542	189,542	189,542
Total FY 2001 Estimate, ORF	12,315	12,067	1,882,189	1,973,389	2,023,789

Comparison by activity/subactivity		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
National Ocean Service:											
Navigation Services	Pos./BA.	630	89,226	576	86,161	576	87,708	577	91,751	1	4,043
	FTE/Obl.	561	91,060	576	86,218	576		577		1	
Ocean Resource Conservation & Assessment	Pos./BA.	368	85,972	379	84,608	439	92,883	442	94,431	3	1,548
	FTE/Obl.	360	87,903	372	87,847	439		441		2	
Ocean and Coastal Management	Pos./BA.	100	78,645	117	86,607	166	89,915	196	202,508	30	112,593
	FTE/Obl.	92	81,693	112	88,806	166		189		23	
Acquisition of Data	Pos./BA.	196	14,739	231	15,487	231	15,132	231	17,246	0	2,114
	FTE/Obl.	226	14,502	231	15,749	231		231		0	
Subtotal, National Ocean Service	Pos./BA.	1,294	268,582	1,303	272,863	1,412	285,638	1,446	405,936	34	120,298
	FTE/Obl.*	1,239	275,158	1,291	278,620	1,412	0	1,438	0	26	0

Comparison by activity/subactivity		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
National Marine Fisheries Service:											
Information, Collection, and Analyses	Pos./BA.	1,446	193,244	1,462	200,127	1,462	203,544	1,467	183,500	5	(20,044)
	FTE/Obl.	1,331	183,834	1,436	209,973	1,436		1,440		4	
Conservation and Management Operations	Pos./BA.	917	147,860	1,074	168,693	1,074	172,376	1,178	228,907	104	56,531
	FTE/Obl.	897	142,254	1,053	174,709	1,053		1,130		77	
State and Industry Assistance Programs	Pos./BA.	106	41,428	130	21,881	130	21,881	106	17,018	(24)	(4,863)
	FTE/Obl.	101	40,175	130	22,303	130		106		(24)	
Acquisition of Data	Pos./BA.	296	25,977	296	25,844	296	25,970	296	25,944	0	(26)
	FTE/Obl.	366	26,083	366	25,846	366		366		0	
Subtotal, National Marine Fisheries Service	Pos./BA.	2,765	408,509	2,962	416,545	2,962	423,771	3,047	455,369	85	31,598
	FTE/Obl.*	2,695	392,346	2,985	432,831	2,985		3,042		57	
Oceanic and Atmospheric Research:											
Climate and Air Quality Research	Pos./BA.	383	122,896	383	128,882	383	129,588	391	154,356	8	24,768
	FTE/Obl.	374	122,327	384	128,775	384		390		6	
Atmospheric Programs	Pos./BA.	301	49,850	301	50,184	301	50,492	304	47,607	3	(2,885)
	FTE/Obl.	283	49,802	293	50,118	293		295		2	
Ocean and Great Lakes Program	Pos./BA.	218	107,068	218	105,648	158	99,151	158	87,595	0	(11,556)
	FTE/Obl.	116	107,170	189	105,677	129		129		0	
Acquisition of Data	Pos./BA.	103	13,250	103	12,903	103	12,903	103	12,952	0	49
	FTE/Obl.	112	13,220	117	12,957	117		117		0	
Subtotal, Oceanic and Atmospheric Research	Pos./BA.	1,005	293,064	1,005	297,617	945	292,134	956	302,510	11	10,376
	FTE/Obl.*	885	292,519	983	297,527	923		931		8	

Comparison by activity/subactivity		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
National Weather Service											
Operations and Research	Pos./BA.	4,664	500,603	4,574	523,360	4,574	538,032	4,587	550,005	13	11,973
	FTE/Obl.	4,445	499,661	4,412	522,736	4,412		4,425		13	
Systems Acquisition	Pos./BA.	179	61,622	179	78,033	179	79,370	177	84,867	(2)	5,497
	FTE/Obl.	174	61,450	179	78,616	181		179		(2)	
Subtotal, National Weather Service	Pos./BA.	4,843	562,225	4,753	601,393	4,753	617,402	4,764	634,872	11	17,470
	FTE/Obl.*	4,619	561,111	4,591	601,352	4,593		4,604		11	
National Environmental Satellite, Data and Information Service:											
Satellite Observing Systems	Pos./BA.	519	60,158	519	56,903	573	57,579	573	63,412	0	5,833
	FTE/Obl.	439	57,827	507	57,676	561		561	0	0	
Environmental Data Management Systems	Pos./BA.	277	51,477	277	52,363	277	53,296	277	44,789	0	(8,507)
	FTE/Obl.	270	52,791	275	52,704	275		275			
Subtotal, National Environmental Satellite Data. and Information Service:	Pos./BA.	796	111,635	796	109,266	850	110,875	850	108,201	0	(2,674)
	FTE/Obl.*	709	110,618	782	110,380	836		836		0	
Program Support:											
Administration and Services	Pos./BA.	1,109	59,732	1,109	56,234	1,109	52,798	1,113	70,746	4	17,948
	FTE/Obl.	1,023	64,654	1,096	56,371	1,075		1,078		3	
Aircraft Services	Pos./BA.	107	10,779	112	10,719	112	10,968	112	11,009	0	41
	FTE/Obl.	101	10,927	110	10,719	111		111		0	
Rent Savings	Pos./BA.				(4,656)						
	FTE/Obl.				(4,656)						
Subtotal, Program Support:	Pos./BA.	1,216	70,511	1,221	62,297	1,221	63,766	1,225	81,755	4	17,989
	FTE/Obl.*	1,124	75,581	1,206	62,434	1,186		1,189		3	

Comparison by activity/subactivity		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Facilities:											
Facilities	Pos./BA.	15	34,735	15	10,981	15	12,604	15	11,452	0	(1,152)
	FTE/Obl.	15	28,489	15	16,894	15		15		0	
Fleet Maintenance and Planning:											
Fleet Maintenance and Planning	Pos./BA.	12	13,441	12	12,905	12	12,956	12	9,294	0	(3,662)
	FTE/Obl.	12	12,709	12	14,817	12	0	12		0	
ORF:	Pos./BA.	**11,946**	**1,762,702**	**12,067**	**1,783,867**	**12,170**	**1,819,147**	**12,315**	**2,009,389**	**145**	**190,242**
	FTE/Obl.*	**11,298**	**1,748,531**	**11,865**	**1,814,855**	**11,962**		**12,067**		**105**	
Y2K:	Pos./BA.		7363		0						
	FTE/Obl.*		3280		4083						
Total Direct ORF:	Pos./BA.	11,946	1,770,065	12,067	1,783,867	12,170	1,819,147	12,315	2,009,389	145	190,242
	FTE/Obl.	11,298	1,751,811	11,865	1,818,938	11,962	0	12,067	0	105	0
Offset for Fee Collections (FY 2000 Magnuson)					(4,000)		(4,000)				
Mandatory Payments for NOAA Corps Retirement					14,400		14,400		14,400		
Unavailable					3,400						
Payment to WCF					906						
Restoration of Rescission							4,700				
Direct Obligations ORF	Pos./BA.	11,946	1,770,065	12,067	1,783,867	12,170	1,834,247	12,315	2,023,789	145	190,242
	FTE/Obl.*	11,298	1,751,811	11,865	1,833,644	11,962		12,067		105	0

	1999 Actual *		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Direct Obligations	11,298	1,751,811	11,865	1,833,643	11,962	1,834,247	12,067	2,023,789	105	189,542
Adjustment to Obligations										
Recoveries		(47,300)		(36,000)		(36,000)		(36,000)		0
Unobligated balance, start of year.		(72,881)		(42,027)						
Unobligated balance Transferred, net		(5,395)				0		0		0
Unobligated balance, end of year		42,027		0						
NOAA Corps Retirement Pay (Mandatory)				0		0		0		0
Unobligated balance,(made available from GOES)										
Anticipated offsetting collections										0
New offsetting collection (data sales)										
Budget Authority	11,298	1,668,262	11,865	1,755,616	11,962	1,798,247	12,067	1,987,789	105	189,542
Less Mandatory Funding				(14,400)		(14,400)		(14,400)		
Financing from transfers:										
Promote and develop American fisheries		(63,381)		(68,000)		(68,000)		(68,000)		0
Damage asses. & restoration revolving fund		(2,780)		0		0		0		0
Disaster research and prevention (USDA)		(7,000)								
Unobligated balance transferred from Information Techonoly System (Y2K)		(7,363)								
Coastal Zone Management						(3,200)		(3,200)		0
Transfer from USDA (NMFS Programs)								(20,000)		(20,000)
Transfer to GA		0								
Net Appropriation (general fund)	11,298	1,587,738	11,865	1,673,216	11,962	1,712,647	12,067	1,882,189	105	169,542
Anticipated Offsetting Collections		0		0		0				0
Appropriation With collections	11,298	1,587,738	11,865	1,673,216	11,962	1,712,647	12,067	1,882,189	105	169,542
Budget Authority, Total (from above)		1,668,262		1,755,616		1,798,247		1,987,789		189,542

* - FY 99 Actual FTEs may differ slightly from previously published figures. Current data reflects updated counts.

Exhibit 7

National Oceanic and Atmospheric Administration
Operations, Research and Facilities
Summary of Financing
(Dollar Amount in Thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease
Direct Obligations	1,751,811	1,833,643	1,834,247	2,023,789	189,542
Reimbursables	256,007	287,985	204,400	204,400	0
Navigation and Magnuson Fee Collections		4,000	0		[30,000]
Anticipated offsetting collects		3,600	3,600	3,600	0
New Offsetting Collecrions	0	0	0	0	0
Total Obligations	2,007,818	2,129,228	2,042,247	2,231,789	189,542
Offsetting collections from:					
Federal funds	(265,334)	(287,985)	(147,700)	(147,700)	0
Non-Federal funds			(56,700)	(56,700)	0
Offset for Fee Collections		(4,000)	0	0	0
Federal Ship Financing Fund	0	0			0
Anticipated offsetting collects		0			0
NOAA Corps Retirement Pay (Mandatory)		0	0	0	
New offsetting collections (data sales)	0	(3,600)	(3,600)	(3,600)	0
Recoveries	(47,299)	(36,000)	(36,000)	(36,000)	0
Unobligated balance, start of year	(118,140)				0
Unobligated balancemade available from GOES		(42,027)	0	0	0
Unobligated balance, end of year	96,611				
Unobligated balance, transferred, net	(5,395)				
Total Budget Authority	1,668,261	1,755,616	1,798,247	1,987,789	189,542
Less Mandatory Funding	(2,780)	(14,400)	(14,400)	(14,400)	
Financing from transfers:					
Promote and Develop American Fisheries	(63,381)	(68,000)	(68,000)	(68,000)	0
From Damage Assessment and Restoration Revolving Fund	0	0	0	0	0
Coastal Zone Management			(3,200)	(3,200)	0
Disaster research and prevention		0			
Unobligated balance transferred from Y2K	(7,363)				
Transfer from USDA	(7,000)			(20,000)	(20,000)
	0				
Net Appropriation	1,587,737	1,673,216	1,712,647	1,882,189	169,542
Anticipated Offsetting Collections	0	0	0		0
Appropriations without collections	1,587,737	1,673,216	1,712,647	1,882,189	169,542
FY 2001 Magnuson Fees				(20,000)	
Navigation Fees				(14,000)	
Budget Authority, Total (from above)	1,668,261	1,755,616	1,798,247	1,987,789	189,542
ORF Appropriation w/Rescission	1,574,515	1,765,370	1,712,646	1,848,189	135,543

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
CHANGES TO BASE
(Dollar amounts in thousands)

	FTE	Amount
Adjustments:		
Restoration of FY 2000 Deobligations		36,000
Restoration of Rescission for Hurricane Andrew		0
Restoration of GOES Satellite release of unobligated balances		2,652
Adjustment for FTE re-estimate	(21)	0
Partial Restoration of FY 2000 Rescission		4,700
Rent adjustment for Goddard		4,656
Subtotal	(21)	48,008
		0
Financing:		0
Deobligations		(36,000)
		0
Transfer:		0
Transfer of CAMS Bureau Specific to PAC		(6,500)
Transfer of CAMS Bureau Specific to PAC		(4,823)
Transfer of CZMF TO ORF		3,200
		0
Subtotal		(8,123)
		0
Other Changes:		0
Annualization of Jan., 2000 Pay Raise		8,404
2001 Pay raise		15,514
Payment to Working Capital Fund		244
Full year costs of positions financed in part-year in FY 2000	14	1,255
One Less Compensable Day		(2,836)
Within-grade step increases		6,549
Civil Service Retirement System (CSRS)		(1,616)
Federal Employees Retirement System (FERS)		2,149
Thrift Savings Plan		379
Federal Insurance Contribution Act (FICA) - OASDI		1,263

Health insurance premiums		3,259
Employees' Compensation Fund		(52)
Travel:		0
Per diem		716
Common Carrier		1,046
Transportation of Things		114
Rental payments to GSA		998
Rental payments to others		156
Records Storage & maintenance costs		(12)
Comm,, Util., and misc.		400
Printing and reproduction		224
Other Services		1,408
Working Capital Fund/Transfer to GA for Security		(3,437)
Working Capital Fund		215
Executive Development and Leadership Training		530
Supplies and Materials		795
Equipment		779
Grants		302
Subtotal, Other Changes	14	38,746
Total, Adjustments- To- Base	(7)	42,631

Exhibit 9

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF CHANGES TO BASE

		FTE	Amount
Adjustments:			**48,008,000**
Restoration of FY 2000 Deobligations In FY 2000, NOAA offset its budget authority by realizing recoveries of $36,000,000 of prior year obligations. These offsets will not be available in FY 2001.	36,000,000		
Restoration of GOES Satellite release of unobligated balances Pursuant to FY 2000 Conference Language NOAA will reprogram $2,652,000 in unobligated balances (from 1998), a GOES carryover to finance NOAA's Budget Authority.	2,652,000		
Adjustment for FTE re-estimate A reduction of 21 FTE is requested based on decisions of the Department's Working Capital Fund.		(21)	
Partial Restoration of FY 2000 Rescission A total of $4,700,000 was used to restore the FY 2000 rescission.	4,700,000		
Rent adjustment for Goddard As part of the FY 1998 President's budget, NOAA included a reduction of $4,656,000 in rent savings to be associated with a proposal to build a new facility at the Goddard Space Flight Center. Construction of this building was never initiated and the identified rent savings have not materialized.	4,656,000		
Financing			**(36,000,000)**
Deobligations In FY 2001, NOAA expects to realize recoveries of prior year obligations of $36,000,000. This amount will be used to offset the budget authority in FY 2001.	(36,000,000)		

			FTE	Amount
Transfer:				**(11,323,000)**
Transfer of CAMS to PAC		(6,500,000)		
In FY 2001, NOAA proposes to transfer $11,323,000 in base funding for the Commerce Administrative Management Systems (CAMS) to the Procurement, Acquisition, and Construction Account. This transfer is made based on recognition that CAMS is a Capital Asset Acquisition.		(4,823,000)		
Transfer of CZMF to ORF				**3,200,000**
NOAA proposes to offset the ORF account for the cost implementing the Coastal Zone Management Act of 1972 as amended. This action would increase ORF discretionary Budget Authority, and eliminate Discretionary Budget Authority in the Coastal Zone Management Fund.				
Other Changes:				
Pay Raises			**0**	**23,918,000**
Full-year cost of FY 2000 pay increase and related costs. The FY 2000 President's budget assumes a pay raise of 4.8% to be effective January 1, 2000.		8,404,000		
Total cost in 2001 of 2000 pay increase	31,285,000			
Amount funded in 2000	(22,929,000)			
Amount requested in 2001 to provide full-year cost of 2000 pay increase	8,356,000			
Payment to Working Capital Fund	48,000			
Total Adjustment for 2000 pay increase	8,404,000			
A general pay raise of 3.7% is assumed to be effective January 1, 2001.		15,514,000		
Total cost of the January 2001 pay increase	26,951,000			
Less amount for period October 2001 - December 2001.	(6,737,000)			
Amount requested for 2001 pay increase	20,214,000			
Payment to the Department of Commerce Working Capital fund	0			
Subtotal, adjustment for 2001 pay increase	20,214,000			
Partial Restoration of FY 2000 Rescission	(4,700,000)			
Total, adjustment for 2001 pay increase	15,514,000			

	FTE	Amount
Payment to Working Capital Fund		244,000

A increase of $244,000 is required for the NOAA payment to the department's Working Capital Fund in order to pay for inflationary increase in costs associated with that account.

	FTE	Amount
Full Year Cost of Positions Financed for part-year in FY 2000	**14**	**1,255,000**

An increase of $1,255,000 is required to fund the full-year cost in 2001 of positions financed for part-year in 2000. The computation rounded to nearest thousand follows:

Annual salary of new positions in 2000	70	4,021,287
Pay adj. of annual salary of new positions in 2000		193,022
Less 5 percent lapse	(4)	(210,715)
Full-year cost of personnel compensation	66	4,003,594
Less personnel compensation included in the 2000 budget (corrected)	(52)	(3,032,674)
Subtotal, personnel compensation	14	970,920
Adjustment for 2001 pay raise for 3/4 of the year	0	28,399
Amount required for personnel compensation	14	999,319
Benefits		255,326
Total adjustments-to-base	14	1,254,645

One Less Compensable Day		**(2,836,000)**

The decrease cost of one less compensable day in 2001 compared to 2000 is calculated by dividing the 2000 estimated personnel compensation $635,169,000 and applicable benefits $105,153,772 by 261 compensable days. The cost of the decrease of one less compensable day is $2,836,451.

	FTE	Amount
Within Grade Increases		**6,549,000**

An increase of $6,549,000 is required to cover the cost of within grade step increase. This estimate reflects the net cost of step increases including merit pay increases which will be earned in FY 2001.

Estimated number of within grade step increases	5,140,000
Less WIG in the MARDI program	5,140,000
Step increases not earned due to turnover (9.9%)	509,000
Average step above step 1 per separation	3,000
Average cost per within grade step increase	1,562,000
Gross cost of scheduled step increases	8,028,680
Less savings due to separations	(2,385,174)
Subtotal, personnel compensation	5,643,506
Benefits	905,196
Total adjustment to base	6,548,702

Civil Service Retirement System (CSRS) **(1,616,000)**

The number of employees covered by the Civil Service Retirement System (CSRS) continues to drop as positions become vacant and are filled by employees who are covered by Federal Employees Retirement System (FERS). The estimated percentage of payroll for employees covered by CSRS will drop from 45.9% in FY 2000 to 42.9% in FY 2001 for regular employees and from 47.5% in FY 2000 to 34.3% in FY 2001 for law enforcement employees. Contribution rates will remain the same.

Regular:		
2001	$598,526.000 x .4290 x .0851	21,850,927
2000	$598,526,000 x .4590 x .0851	23,378,964
	Subtotal	(1,528,037)
Law Enforcement:		
2001	$7,419,000 x .3430 x .0901	229,279
2000	$7,419,000 x .4750 x .0901	317,515
	Subtotal	(88,236)
Total adjustment-to-base		(1,616,273)

	FTE	Amount
Federal Employees Retirement System (FERS)		**2,149,000**

The number of employees covered by the FERS continues to rise as employees covered by CSRS leave and are replaced by employees who are covered by FERS. The estimated percentage of payroll for employees covered by FERS will rise from 54.1% in FY 2000 to 57.1% in FY 2001 for regular employees and from 52.5% in FY 2000 to 65.7% in FY 2001 for law enforcement employees. Contribution rates will remain the same.

Regular:		
2001	$598,526,000 x .5710 x .1070	36,568,143
2000	$598,526,000 x .5410 x .1070	34,646,875
	Subtotal	1,921,268
Law Enforcement:		
2001	$7,419,000 x .6570 x .2330	1,135,708
2000	$7,419,000 x .5250 x .2330	907,529
	Subtotal	228,179
Total adjustment-to-base		2,149,447

Thrift Savings Plan (TSP)	**379,000**

The cost of the agency contributions to the Thrift Savings Plan will also rise as FERS participation increase. The contribution rate is expected to remain 2%.

Regular:		
2001	$598,526,000 x .5710 x .02	6,835,167
2000	$598,526,000 x .5410 x .02	6,476,051
	Subtotal	359,116
Law Enforcement:		
2001	$7,419,000 x .6570 x .02	97,486
2000	$7,419,000 x .5250 x .02	77,900
	Subtotal	19,586
Total adjustment-to-base		378,702

	FTE	Amount
Old Age, Survivors, and Disability Insurance (OASDI)		**1,263,000**

As the percentage of payroll covered by FERS raises, the cost of OASDI contributions will increase. In addition, the maximum salary subject to OASDI tax will rise from $73,275 in FY 2000 to $78,450 in FY 2001. The OASDI tax rate will remain 6.2% in FY 2001.

Regular:		
2001	$598,526,000 x .5710 x .9850 x .0620	20,871,182
2000	$598,526,000 x .5410 x .9830 x. 0620	19,734,471
	Subtotal	1,136,711
Law Enforcement:		
2001	$7,419,000 x .6570 x .9850 x .0620	297,672
2000	$7,419,000 x .5250 x .9830 x .0620	237,383
	Subtotal	60,289
Other Salaries		
2001	$34,612,400 x .5710 x .9850 x .0620	1,206,968
2000	$34,612,400 x .5410 x .9830 x .0620	1,141,233
	Subtotal	65,735
Total adjustment-to-base		1,262,735

Health Insurance Premium **3,259,000**

Effective January, 1999, NOAA's contribution to Federal employee's health insurance premiums increased by 12.3%. Applied against the FY 2000 estimate of $26,497,228, the amount required is $3,259,159.

2000 Congressional estimate for health benefits.	26,497,228
Avg rate increase	12.3%
2001 Adjustment To Base	3,259,159

Employees Compensation Fund **(52,000)**

The Employees' Compensation Fund bill for FY 2001 is $52,000 lower than the bill for the FY 2000. The changes will be reimbursed to the Department of Labor pursuant to 5 U.S.C. 8147.

		FTE	Amount
Travel and Transportation of Persons:			**1,762,000**
Per Diem Related to Domestic Administrative Travel	716,000		
Effective January 1999, the General Services Administration raised per diem rates. This increase results in a 6.1% increase to NOAA. This percent was applied to the DOC Passback amount of $11,817,532 to arrive at an increase of $716,142.			
Common Carrier	1,046,000		
The Commerce-wide contract for travel services support expires in October 1999. The new contract will cost an additional $2.0 million per year Department-wide. NOAA's share of this increase is estimated at $1,046, 000.			
Transportation of Things			**114,000**
Based on the GNP deflator of 1.5%, the cost of transportation of things is expected to increase by $113,955 from the FY 2000 estimate of $7,597,000.			
Rental Payments to GSA			**998,000**
GSA rates are projected to increase 2.1% in FY 2001. This percentage was applied to the FY 2000 estimate of $57,037,000 to arrive at an increase of $1,197,777 minus 200,000 for adjustment.			
Rental Payments to Others			**144,000**
The cost of storage of records at the National Archives and Records Administration is expected to decrease by $12,000 from the FY 2000 estimate of $262,000.	(12,000)		
Based on the GNP deflator of 1.5%, the cost of rental payment to others is expected to increase by $196,380 from the FY 2000 estimate of $13,092,000. This amount was decreased to $156,000 due to and decrease adjustment of 40,000.	156,000		
Communication, Utilities, and Miscellaneous Charges			**400,000**
Based on the GNP deflator of 1.5%, the cost of communications, utilities and miscellaneous charges - excluding charges for postage and the Federal Telecommunications System (FTS) - are expected to increase by $449,700 from the FY 2000 estimate of $29,980,000. An additional decrease of 50,000 was taken for adjustments.			

			FTE	Amount
Printing and Reproduction				**224,000**
GPO has provided an estimated rate increase of 3.3% for printing costs. This percentage was applied to the FY 2000 estimate of $7,101,000 to arrive at an increase of $234,333. An additional decrease was taken of $10,000 for an adjustment.				
Other Services			**0**	**(2,692,000)**
Working Capital Fund/Transfer to GA for Security	0	(3,437,000)		
A reduction of $3,437,000 and 21 FTE is requested in the NOAA payment to the Department's Working Capital Fund based on the decision to request these funds centrally in the Departmental Management.				
Working Capital Fund		215,000		
A increase of $215,000 is required for the NOAA payment to the Department's Working Capital Fund in order to pay for inflationary increase in costs associated with that account.				
Executive Development and Leadership Training		530,000		
This allowance of $530,000 reflects the $5,000 cost for each of the 106 Senior Executive Service employees currently onboard in NOAA.				
Based on the GNP deflator of 1.5%, the cost of other services is expected to increase by $1,408,000 from the FY 2000 estimate of $332,634,954.			0	**1,408,000**
Supplies and Materials				**795,000**
Based on the GNP deflator of 1.5%, the cost of supplies and materials is expected to increase by $1,294,710 from the FY 2000 estimate of $86,314,000. An additional decrease of $500,000 was taken due to an adjustment.				
Equipment				**779,000**
Based on the GNP deflator of 1.5%, the cost of equipment purchases is expected to increase by $1,278,555 from the FY 2000 estimate of $85,237,000. An additional decrease of $500,000 was taken for adjustments.				
Grants				**302,000**
Based on the GNP deflator of 2.3%, the cost of the Congressionally-mandated grants to the Regional Fishery Management Councils is expected to increase by $302,450 from the FY 2000 estimate of $13,150,000.				
Subtotal, Other Changes			**14**	**38,746,000**
Total, ORF Changes To Base			**(7)**	**42,631,000**

NATIONAL OCEAN SERVICE
STRATEGIC PLANNING GOALS AND OBJECTIVES

The National Ocean Service (NOS) supports three of NOAA's Strategic Planning Goals. Below is a brief characterization of the NOS programs in the context of these Goals.

GOAL - PROMOTE SAFE NAVIGATION

NOS includes efforts in all five of the objectives for this goal.

OBJECTIVE - BUILD, MAINTAIN, AND DELIVER DIGITAL NAUTICAL CHARTING DATABASE

Accurate, reliable, and up-to-date nautical chart information is more important today, as margins of error are smaller and the consequences greater, than at any time in the past. New electronic navigation systems can meet demands for greater protection of life, property, and the environment, as well as significantly improving efficiency. A digital nautical charting database is needed not only to support these systems but also to improve the productivity of our chart-making process. NOS's Nautical Charting Program will be reinvented as the transition is made from traditional techniques to an automated digital process.

OBJECTIVE - UPDATE NAUTICAL SURVEYS

NOS must increase its hydrographic survey efforts to ensure up-to-date coverage of critical areas to ensure that they are safe for marine transportation. More efficient and effective hydrographic survey systems are required to improve productivity and sea floor coverage. The current backlog of 34,000 square nautical miles in the Nation’s ports, harbors and other coastal areas must be eliminated. This survey activity will balance in-house resources with private sector contracts to reduce the backlog.

OBJECTIVE - DEFINE THE NATIONAL SHORELINE

NOS must use state of the art technology to delineate the Nation’s coastline in an accurate, consistent manner to create an up-to-date database which will serve the nation’s navigational and coastal management requirements. Photogrammetric mapping of the coastline will be expanded to simultaneously characterize benthic communities and marine habitats, measure nearshore topography (for setbacks, zoning, erosion measurement, and hazardous material response), and delineate shoreline for nautical charts.

OBJECTIVE - PROVIDE REAL-TIME OBSERVATIONS AND FORECASTS OF WATER LEVELS, TIDES, AND CURRENTS

NOS's National Water Level Observation Network, the national network of water level, current, water temperature, and meteorological sensors, must be modernized to provide the data required for nowcasting and predicting in real-time and supplemented with sensors to measure currents at critical locations. Physical oceanography (tides, currents, and weather) measurements and measurement-based predictions will be made available in real-time to mariners and environmental planners in all key U.S. ports.

OBJECTIVE - DEVELOP THE NATIONAL SPATIAL REFERENCE SYSTEM

New electronic navigation systems integrate electronic chart data with satellite positioning, as well as radar, sonar, and telemetered environmental information. In order to meet the Nation's navigation and other positioning needs, NOS's National Geodetic Survey must renovate the existing coordinate reference system to provide the higher accuracy and accessibility needed for use with the Global Positioning System (GPS). The digital revolution in mapping, charting, and surveying requires a National Spatial Reference System (NSRS) consisting of the following components: (1) a network of monumented points having four-dimensional positions, (2) a set of GPS Continuously Operating Reference Stations (CORS), (3) high accuracy orbits of the GPS satellites, and (4) a highly accurate geoid.

GOAL - SUSTAIN HEALTHY COASTS

NOS includes efforts in all three of the objectives for this goal.

OBJECTIVE - PROTECT, CONSERVE AND RESTORE COASTAL HABITATS AND THEIR BIODIVERSITY

To improve stewardship of coastal habitats and biodiversity, NOS and other NOAA line and program offices will continue to focus their research and monitoring activities on identifying and assessing habitat requirements of key species, building NOAA's capability to use biodiversity as an indicator of coastal ecosystem health, and understanding how habitats function, threats to them, and the consequences of change to living resources. NOS is supporting and implementing science-based regional research, assessment, and modeling programs related to cumulative impacts of multiple stressors, the functions of regional ecosystems, practical applications of remote sensing science, and coral reef degradation and recovery to better integrate our understanding and management of natural resource systems at broader spatial and temporal scales. NOS, through the National Centers for Coastal Ocean Science (NCCOS), leads the interagency Ecology and Oceanography of Harmful Algal Blooms (ECOHAB) program which addresses the need for long-term, large-scale, interdisciplinary research and mitigation of harmful algal blooms that threaten marine resources and ecosystem health. NOS and its Federal and state partners will use this information to implement and enhance protection, damage assessment, and restoration solutions to problems threatening habitat and living resources.

OBJECTIVE - PROMOTE CLEAN COASTAL WATERS

To promote clean coastal waters, NOS and other NOAA line and program offices must understand the factors affecting water quality and the repercussions for ecosystem functions. NOS will conduct research on the transport, fate, and effects of contaminants, nutrients, and other pollutants, and monitor changes in coastal water quality. To fully understand the complexity of factors affecting coastal water quality, NOS research, monitoring, and assessment activities will be undertaken at the appropriate local, watershed, and regional scales. NOS will implement solutions to these problems in protected areas and will work with coastal states to implement point and nonpoint source pollution controls. NOS will inform the public and coastal decision makers about the problems and participate in development and implementation of the best possible solutions.

OBJECTIVE - FOSTER WELL-PLANNED AND REVITALIZED COASTAL COMMUNITIES

The health of coastal economies and the lifestyles they afford depends on well-planned, sustainable development and healthy coastal resources. To foster sustainable coastal communities and conserve coastal resources, NOS must better understand the physical processes and cumulative impacts of development affecting coastal shorelines and the economic value of coastal resources and recreational activities. NOS and its state partners will conduct research on coastal processes (e.g., beach and bluff erosion) and NOS will assess the value of coastal resources and economies. NOS will work with its partners in coastal states to foster well-planned development and redevelopment through improved project reviews; enhanced public access and recreational opportunities in coastal states and protected areas; and wise economic development. NOS will make the information and solutions available to the public and coastal decision makers in a useable and timely fashion.

GOAL - BUILD SUSTAINABLE FISHERIES

NOS includes efforts in one of the objectives for this goal.

OBJECTIVE - ADVANCE FISHERY PREDICTION

The NOS National Centers for Coastal Ocean Science (NCCOS) works with other NOAA line and program offices to strengthen NOAA's ability to advance fisheries predictions by assessing and predicting natural and human-induced changes in fisheries productivity. Better prediction of future fishery yields will depend upon the development of better coastal ecosystem models that incorporate mechanisms of population control, natural environmental fluctuations, cumulative impacts of multiple stressors, and multi-species interactions. To build these models, the NCCOS must first identify the dominant natural processes that control variation in the growth and productivity of fish stocks. Non-fishing anthropogenic stresses, such as pollution, need to be

sorted out against the background of natural variability, and important information must be obtained on the physical environment, predator-prey relationships, and basic recruitment processes. NCCOS also leads the interagency ECOHAB (Ecology and Oceanography of Harmful Algal Blooms) program which addresses the need for long-term, large-scale, interdisciplinary research and mitigation of harmful algal blooms which threaten marine resources and health.

National Ocean Service
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Promote Safe Navigation										
Build Nautical Charting Database	175	23,950	175	24,413	175	24,760	176	26,079	1	1,319
Update Nautical Surveys	294	19,328	294	19,547	294	19,532	294	20,032		500
Provide Marine Predictions	141	12,000	141	12,343	141	12,682	141	15,089		2,407
Establish National Spatial Reference System	197	19,659	197	20,011	197	20,558	197	20,206		(352)
Define National Shoreline		3,311		3,301		3,345		4,845		1,500
Address Survey Backlog/Contracts		14,000		18,828		18,831		18,000		(831)
Total PSN	**807**	**92,248**	**807**	**98,443**	**807**	**99,708**	**808**	**104,251**	**1**	**4,543**
Build Sustainable Fisheries										
Advance Fishery Prediction	14	9,200								
Eliminate & Prevent Overfishing			14	9,071	14	9,103	14	9,866		763
Total BSF	**14**	**9,200**	**14**	**9,071**	**14**	**9,103**	**14**	**9,866**		**763**
Recover Protected Species										
Maintain Healthy Species & Ecosystems				300		300		500		200
Total RPS				**300**		**300**		**500**		**200**
Sustain Healthy Coasts										
Protect, conserve and restore habitats	294	73,984	316	91,258	404	99,959	426	154,014	22	54,055
Promote clean coastal waters	135	53,027	135	47,787	152	49,440	153	80,362	1	30,922
Foster well-planned and revitalized coastal communities	19	25,648	19	26,004	35	27,128	37	56,943	2	29,815
Total SHC	**448**	**152,659**	**470**	**165,049**	**591**	**176,527**	**616**	**291,319**	**25**	**114,792**
Total for NOS	**1,269**	**254,107**	**1,291**	**272,863**	**1,412**	**285,638**	**1,438**	**405,936**	**26**	**120,298**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Navigation Services

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Mapping and Charting	Pos./BA	258	55,990	238	53,807	238	54,468	239	56,456	1	1,988
	FTE/OBL.	233	58,048	238	53,807	238		239		1	
Geodesy	Pos./BA	227	21,096	197	20,011	197	20,558	197	20,206	0	(352)
	FTE/OBL.	192	20,665	197	20,071	197		197		0	
Tide and Current Data	Pos./BA	145	12,140	141	12,343	141	12,682	141	15,089	0	2,407
	FTE/OBL.	136	12,347	141	12,340	141		141		0	
Total	Pos./BA	630	89,226	576	86,161	576	87,708	577	91,751	1	4,043
	FTE/OBL.*	561	91,060	576	86,218	576		577		1	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Ocean Service**
Subactivity: **Navigation Services**

Goal Statement

Reduce the risks to life, property and the coastal environment and enhance NOS' role of coastal stewardship by providing an extremely powerful set of products and services to meet the Nation's need for accurate and up-to-date marine navigation information. This is accomplished through the provision of a variety of digital and traditional data products and services which include such things as paper charts, electronic charts, tide and current predictions, etc.

To improve and maintain the National Spatial Reference System (NSRS) for accurate geographic positions, elevations, and gravity values to provide a common geographic framework and the foundation for the Nation's spatial data infrastructure. The NSRS is the positioning basis for mapping, charting, navigation, boundary determination, property delineation, infrastructure development, resource evaluation surveys and scientific applications.

To provide the navigation community with access to real-time data and predictions of current speed and direction, water levels, and meteorological data (wind speed and direction, gusts, etc.) to enable more safe and efficient vessel routing. Accurate and timely tide and current data are also critical for coastal flood warnings, emergency response operations to spills of hazardous materials, and for real-time control of harbor maintenance dredging.

Proposed Legislation

No legislation is proposed for this activity.

Base Program

Mapping and Charting: The Mapping and Charting Line Item consists of two programs: Nautical Charting and Coastal Mapping.

Nautical Charting: The objectives of this program are to:

- Plan and direct hydrographic and special investigation surveys.
- Process the data from these surveys, access information affecting marine transportation, create nautical charts, and other products for marine navigation, ocean operation, national defense, and marine resources planning and management.
- Build, maintain and deliver the nautical charting database to support new electronic charting systems which integrate satellite positioning, tidal heights and currents, radar and sonar, and navigational aids.

The Nautical Charting Program is carried out by NOS's Office of Coast Survey (OCS). OCS plans hydrographic surveys that provide the basic data for the production of nautical charts. These surveys and special investigations of wrecks and obstructions are conducted by NOAA and/or contractors. Significant productivity improvements have occurred in the past four years using new computer based surveying and positioning technologies. Data from both government and private sources are used to update nautical charts. Approximately 50,000 of these source documents are evaluated annually and qualified data, plus the hydrographic survey data, are incorporated onto the nautical charts.

Accurate, reliable, and up-to-date nautical chart information is more important today than at any time in the past. As an increased number of vessels push their cargo capacities to the limit, margins of safety are becoming smaller. New electronic navigation systems can meet demands for greater protection of life, property, and the environment, as well as significantly improving the efficiency of maritime commerce. A digital nautical charting database forms the core of the Nautical Charting Program. This database also serves as the most basic component required to fuel the new electronic systems. Responding to these requirements, the Nautical Charting Program process has been re-engineered and has made the transition from traditional techniques to automated digital processes using off-the-shelf personal computer technology.

Nautical charts and related marine navigational publications are the basic tools for marine navigation, ocean operations, and marine resources planning and management. A significant portion of chart products go to the Department of Defense and other government agencies to support their activities. Other major users are merchant ships, offshore platforms, work boats, commercial fishing vessels and dredges operating in U.S. ports, coastal and most inland waters of the country, requiring charts to operate safely and efficiently.

OCS has revolutionized its chart production and delivery techniques over the past two years as part of an overall modernization strategy. This has allowed for a focus on the following processes and services: 1) full implementation of continuous maintenance of the digital raster nautical charting database, keeping all 1000 nautical charts in a constant state of currency; 2) continuing the delivery of a raster electronic chart product through a partnership with the private sector, in effect since 1994; 3) through a partnership with the private sector, transition from lithographic offset printing to “print-on-demand”; 4) Complete the collection of a vector electronic navigational chart (ENC) database in the Internationally accepted S-57 format for the Nation’s priority ports and harbors, with incremental expansion of the chart coverage as required by users; and 5) in cooperation with the U. S. Coast Guard and the U.S. Army Corps of Engineers, develop and deliver an S-57 compliant vector river chart for the main components of the inland river navigation system.

In accordance with 44 USC 1307, the prices of NOS's nautical charts are recomputed annually. The objective in pricing these products is to recover production costs to the extent possible given the current market. This same statute prohibits NOS from recovering hydrographic and photogrammetric source data acquisition costs.

The Nautical Charting Program also supports the Joint Center for Hydrographic Excellence at the University of New Hampshire (UNH). The Joint Hydrographic Center is a learning center for new government and private sector hydrographers, as well as a research and development center for new hydrographic technologies and new applications for hydrographic data. This UNH-NOAA partnership has three goals: 1) to advance hydrographic and ocean mapping technology, 2) to expand the scope of ocean mapping, and 3) to educate hydrographers.

Coastal Mapping: The objectives of this program are to:

- Define the National Shoreline.
- Plan and conduct aerial photographic missions to map the coastal zone.
- Perform analyses of survey data to position landmarks and navigational aids needed for the compilation and revision of nautical charts, marine boundary maps, and special coastal zone maps.
- Maintain the photogrammetric data base.
- Design and develop new photogrammetric techniques.
- Establish geodetic control and provide cartographic data for inshore hydrographic surveys.
- Map the high and low water shoreline for depiction on nautical charts and marine boundary maps.

The National Shoreline definition is the delineation of the 95,000 miles of United States shoreline on a map or in a digital database. It is the official U.S. shoreline; it must be accurate, consistent, and up-to-date. This program is carried out by the Remote Sensing Division of NOS’ National Geodetic Survey (NGS).

Presently, one-third of the U.S. shoreline has never been mapped by this agency, and of the portion that has been mapped, one-quarter was mapped prior to 1970. Only about 10 percent of the shoreline has been produced digitally. At the present rate of progress, the entire U.S. shoreline is projected to be surveyed on a 50-year cycle. Also, many different shoreline definitions are used.

The present situation will be improved by using new technologies and new methodologies including: kinematic Global Positioning System (GPS) in aircraft for the very accurate 3-dimensional positioning of the data sensor, real-time tidal heights telemetered to the aircraft to ensure that the data are collected at Mean High Water (MHW) and/or Mean Lower Low Water (MLLW), digital ortho-images (for computer assisted data processing), and high accuracy shoreline for the production of electronic docking charts. The National Shoreline should be resurveyed on a 5-year cycle for critical portions of coastline and on a 10-year cycle for other areas to maintain adequate coverage.

Data will be collected by methods including: aerial photography with metric cameras, interferometric synthetic aperture radar, and LIDAR (Light Detection And Ranging). Sensor positions will be determined using kinematic GPS, and the data collection times will be coordinated with real-time tides. The actual heights above the datum for MHW and MLLW will be determined from long-term NOAA tide gauges. Data processing will be performed on analytical photogrammetric plotters, soft copy workstations, and desktop computers, resulting in digital shoreline data.

Detailed project instructions are prepared for NOAA's aerial photographic missions that map the coastal zone. NGS Survey field parties provide the control needed for these aerial photographic missions. The Remote Sensing Division also carries out research in new photogrammetric techniques.

The Integrated Digital Photogrammetric Facility (IDPF), which uses analytical stereo plotters, computer graphics, and modern data base technologies, has replaced manual methods and provides digital cartographic source data needed to support the Nautical Charting Program. Research is also conducted on improved aerial camera systems and applying multispectral imagery to NOS shoreline mapping. Cost saving techniques for positioning an aircraft carrying out aerial photography by kinematic GPS methods have become operational.

Products of the Coastal Mapping Program are essential to NOAA's nautical charting program. Over the years the program's photogrammetric techniques have also been applied to other environmental problems dealing with the coastal zone. For example, the program has produced boundary maps for government agencies and legal authorities for use in the adjudication of marine boundary disputes among Federal, state, and private litigants. Storm evacuation maps have been used by government and disaster relief agencies for planning emergency evacuation of affected inhabitants from coastal areas subject to flooding by severe storms and hurricanes. Coastal zone managers, planners, scientists, and regulatory agencies use the coastal zone maps prepared by NOAA/NOS to assess marshlands, marine sanctuaries and other coastal areas subject to multiple use.

Address Survey Backlog/Contracts: The objectives of this sub-line item are to:

- Increase the outsourcing of hydrographic surveys to meet the Nation’s nautical charting needs.
- Reduce the total backlog of 43,000 square nautical miles in the most efficient manner possible.

In 1993, NOAA identified 43,000 square nautical miles of sea floor in U.S. waters that was in critical need of resurvey with over half of this backlog in Alaska. At the end of FY 1999, approximately 34,000 square nautical miles remain to be surveyed. At the FY 2000 level, it will take over 20 years to eliminate the backlog. Many of these areas carry heavy commercial and passenger traffic leading to ports and harbors, are less than 30 meters deep, and are known to be naturally changeable, a risky condition at best. Chart inadequacies, requiring resurvey, have also been reported in other areas. This sub-line item allows for the expanded use of private contractors to increase the hydrographic data collection of critical areas and reduce the time required to eliminate the critical survey backlog. NOS will acquire at least 50 percent of its hydrographic services through the use of private contracts or long-term leases. The use of more efficient techniques, such as multibeam swath sonar, will provide more accurate and greatly improved coverage.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Percent of critical area survey backlog reduced(43,000 SNM total backlog in 1993)				
Annual Reduction	3.7	4.5	3.6	3.5
Cumulative reduction	15.5	20.7*	24.3	27.8
Nautical Chart Editions (Suite of 1000)				
Lithographic/Alternative Methods	360	250	200	200
Throughput**(In weeks)	104	8	4	2
Electronic Navigational Charts	-	37	90	90
Percent of cumulative shoreline defined:				
Critical***	10	15	20	25

*A one-time change in accounting caused cumulative reduction in backlog to be adjusted in FY 1999. To improve estimates for contracting, contract miles are now counted when awarded and not when accomplished.
**Throughput is defined as the time from when data is received in OCS to when it appears on the product.
***Critical Shoreline is approximately 20% of the total national shoreline that is concentrated in 38 high priority ports, prioritized by the amount of shipping tonnage.

Geodesy: The objectives of this line item are to:

- To improve and maintain the National Spatial Reference System (NSRS)
- Incorporate new horizontal data from NOAA and non-NOAA surveys into the redefined North American Datum of 1983 (NAD 83) and complete the horizontal network in deficient and unsurveyed areas.
- Incorporate Federal surveys referenced to the National Geodetic Vertical Datum (NGVD 29) into the North American Vertical Datum of 1988 (NAVD 88) and complete the vertical network in deficient and unsurveyed areas.
- Provide support to the States in the development of high precision geodetic networks.
- Carry out advanced geodetic science activities, including high accuracy, high resolution geoid determination and crustal motion studies in support of time-dependent modeling of control stations within the NSRS.
- Transfer geodetic technology to Federal, state, and local governments and the private sector.
- Provide Global Positioning System (GPS) tracking data to users from a nationwide network of Continuously Operating Reference Stations (CORS).
- Process GPS satellite data from global tracking stations for issuance of GPS orbital positions to civilian users.

In order to meet the Nation's navigation and other positioning needs, the existing coordinate reference system must be renovated to provide the higher accuracy and special accessibility needed for use with the GPS. The digital revolution in mapping, charting, and surveying requires a NSRS consisting of the following components:

(1) a network of monumented points having four-dimensional positions, (includes the Federal Base Network (FBN), the Cooperative Base Network, and the User Base Network;

(2) a set of GPS Continuously Operating Reference Stations (CORS), meeting NOAA geodetic standards for installation, operation, and data distribution, known as the National CORS, and

(3) a set of accurate models describing dynamic geophysical processes affecting spatial measurements, including a highly accurate geoid model, and high accuracy orbits of the GPS satellites.

The NSRS provides a common geographic framework and the foundation for the Nation's spatial data infrastructure. The NSRS is the basis for mapping, charting, navigation, boundary determination, property delineation, infrastructure development, resource evaluation surveys, and scientific applications. The National Geodetic Survey (NGS) is responsible for developing and maintaining the NSRS.

The constantly evolving needs for more accurate, timely, and consistent positioning services cause the NSRS to continually grow and adapt to anticipate and meet these burgeoning demands. Given this dynamic environment, it is impossible to accurately gauge at what point the NSRS will fully meet user

needs as advances in technology spawn new applications requiring greater and varying demands. The NSRS can be justifiably credited with helping to accelerate this rapid pace of innovation in positioning applications.

The major emphasis of the NSRS is now on providing better access to accurate and consistent height data and support of differential GPS activities. These objectives can be categorized under two broad activities: Height Modernization and support services for National CORS.

Height Modernization is an effort to enhance the vertical aspect of NSRS. Two major components of the NSRS are the Federal Base Network (FBN), a set of very accurately positioned monumented survey marks, and the National CORS, which provide real-time GPS satellite information. The horizontal aspect of the FBN is complete; however, most of the survey marks and all of the CORS in the system do not include an adequately accurate vertical component. By integrating advanced GPS with improved height information, very accurate vertical coordinates can be obtained, as well as, accomplishing more comprehensive nationwide implementation of the National Vertical Datum of 1988 (NAVD 88).

NGS collects and distributes GPS observational data from a nationwide network of permanently operating GPS receivers known as National CORS. The primary objective of National CORS is to provide local users with ties to NSRS for post-processing position determination. Another of the National CORS objectives is to monitor sites for their positional stability, which are determined to centimeter accuracy. The National CORS sites, along with other globally distributed tracking stations, are also used by NGS in computing precise GPS orbits. The National CORS network, consisting of the CORS stations and a central data facility makes observational data from a present network of over 140 GPS receivers available over the Internet. These receivers have been positioned, three dimensionally, at the 1 to 3 centimeter level.

CORS data are used to greatly improve the accuracy of users' GPS positioning activities through the use of differential GPS (DGPS) techniques. A National CORS network goal of approximately 300 receivers should provide nationwide coverage such that the entire U.S. will be within 200 km of a National CORS. However, it cannot be determined at this time if this network will fully meet all users' needs. In some portions of the country, local CORS networks are being developed that will provide coverage within 100 km or less of a CORS. These prototype local networks will be the model for a more innovative CORS system. To more fully meet its users' needs, NGS plans to develop guidelines, installation and application assistance along with support capabilities to local authorities to successfully implement local CORS networks. NGS will continually assess the utility of incorporating the local CORS networks and services into the National CORS network.

Other significant activities being undertaken by NGS include technology transfer. As part of its efforts to transfer geodetic technology to Federal, state, and local governments and the private sector, NGS administers its State Geodetic Advisory Program with operations in 25 states. Other technology transfer programs are continuing through regional geodetic coordination and calibration baseline services, including the transfer of GPS technology to State and local governments, universities, and the private sector.

NGS also applies advanced methods of measurement (e.g. GPS, and absolute gravity) to the observation and analysis of global, continental and regional scale geodetic and geophysical problems. NGS researchers collect and analyze measurements of geophysical phenomena such as variations in the rotation of the earth, global patterns of glacial rebound, tectonic motions of the lithospheric plates, and sudden displacements of the crust associated

with major earthquakes, ocean and atmospheric loading, tidal displacements, and ocean heat content and circulation. Research continues in the application of GPS to crustal motion studies, improvements in GPS techniques for high precision static and kinematic surveys, and refinements to a high resolution geoid model that allows vertical heights to be determined from GPS measurements.

NGS makes the data it acquires, processes, and certifies available from the NGS Integrated Data Base via the Internet.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Percent of Networks with NAD 83 latitudes and longitudes with 2 cm accuracy at 95% confidence level				
FBN - (Horizontal component)	98	100	100	100
Percent of Networks with NAVD 88 heights with 2-5 cm accuracy at 95% confidence level				
FBN - (Vertical component)	40	62	72	75
National CORS - (Vertical component)	0	0	7	22
NWLON - (Vertical component)	0	0	0	17
User availability to CORS measured by cumulative % of areas of US within 200 km of a CORS*	69	55	65	81
Percent of National Spatial Reference System (NSRS) complete NSRS*	69	59	64	72

Percent NSRS complete = [%FBN(H) + %FBN (V) + %National CORS]/3
*In FY 1999, the CORS performance measure changed to reflect the need for a more dense network.

Tide and Current Data: The objectives of this line item are to:

- Collect and distribute observations and predictions of tides, water levels and currents to promote safety of navigation.
- Provide tide and water level datums in support of: (1) nautical charting; (2) determination of Federal, state and offshore marine boundaries; (3) coastal dredging; and (4) coastal engineering.
- Operate prototype real-time oceanographic observation systems, in partnership with local sponsors, to demonstrate the feasibility and benefits of real-time oceanographic and related atmospheric data to the maritime community.
- Develop and implement a prototype capability to quality control real-time data provided by real-time oceanographic systems.
- Establish partnerships with private industry, state and local governments, and the academic community to share responsibility for the provision of marine navigation services.
- Provide technical assistance to public and private organizations who wish to establish real-time oceanographic measurement systems in areas of maritime economic and environmental significance.

The Tide and Current Data Program (TCDP) is one component of an integrated National Ocean Service Program to provide a comprehensive suite of information products needed by the maritime community to ensure safe and efficient navigation, improve oil and other hazardous material spill response, and support coastal resource management. The TCDP is operated by the Center for Operational Oceanographic Products and Services. Observations and predictions of water levels and currents are collected and distributed to the marine transportation community, as well as other users. For example, this same set of water level and coastal current products are required by the National Weather Service to meet its weather warning and forecasting responsibilities (e.g., tsunami warnings, storm surge warnings/forecasts).

The TCDP operates and maintains 175 long-term stations in the National Water Level Observation Network (NWLON) located in U.S. coastal areas including the Great Lakes, and U.S. Territories and possessions; performs quality assurance procedures on the data from these stations and computes tidal and Great Lakes datums and predicts tides for all U.S. coastal areas; enters into cooperative programs with other Federal and State agencies; provides data, information and products critical to the National defense, safe navigation, tsunami and storm surge warnings; determination of marine boundaries; Great Lakes water resource management, including hydroelectric power generation and regulation, coastal engineering, and wetland preservation and management.

Over 90% of the NWLON has been modernized with the Next Generation Water Level Measurement System (NGWLMS), a microprocessor-based data collection, processing, and dissemination system developed in the early 1980's that, among other technical advances, enabled real-time data dissemination. NGWLMS technology is required for a NWLON station to support more sophisticated decision support tools such as Physical Oceanographic Real-Time Systems (PORTS).

The provision of real-time oceanographic and related marine meteorological data to users can greatly improve navigation safety and efficiency, oil and other hazardous materials spills response, and the management of coastal resources. The Physical Oceanographic Real-Time System (PORTS) is a

decision support tool which integrates and disseminates real-time environmental observations, forecasts and other geospatial information. Four prototype PORTS (Tampa, New York, San Francisco, and Houston/Galveston), and several smaller (single station) prototype real-time systems (called PORTS-Lite) are being operated by NOS on a partnership basis with local sponsors to demonstrate their feasibility and benefits. PORTS Lites have been established in Anchorage and Nikiski, Alaska, Tacoma, Washington, Baltimore, Maryland, and Soo Locks, Michigan. Local sponsors are required to fund local operation and maintenance costs as a condition for continued NOS support. NOS has developed and implemented a prototype quality control capability called the Continuous Operational Real-Time Monitoring System (CORMS) to provide a centralized capability to quality control the real-time data disseminated by real-time oceanographic systems. This capability is required to ensure that mariners and other users have accurate data upon which to confidently base critical operational decisions that can affect life and property, and to protect NOS against exposure to potentially large liability.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Percentage of National Water Level Observation Network (NWLON) operational & modernized	75	91	81	71
Number of PORTS installations*	7	9	9	9

*Includes Full PORTS and PORTS Lite installations.

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Navigation Services	POS/BA	576	$87,708	577	$91,751	1	$4,043
	FTE/Obl	576	$87,708	577	$91,751	1	$4,043

The net changes in this subactivity support the NOAA strategic goal of Promote Safe Navigation. NOAA requests these increases to ensure a balanced approach in providing the integrated suite of navigation products and services required by user communities for safe and efficient navigation, as well as to accelerate the reduction of critical shoreline survey backlogs. This request supports the President's "Ports for the 21st Century" Year of the Ocean National Ocean Conference pledge by maintaining America's ability to safely handle increasing ocean vessel traffic and competitiveness in the world marketplace.

Mapping & Charting (+ 1 FTE, +$2,819,000): An increase of $1,319,000 is requested under the base Mapping & Charting line item for data compilation and management activities, conducted primarily through contracts, that are required to keep pace with the increased rate of hydrographic data collection. Newly acquired data are accumulating at a faster rate than can be quickly turned into new chart editions. The increase will also fund continued work on NOAA's electronic chart database for the production of thirty additional highly accurate Electronic Navigation Charts (ENC) for areas of the coastal United States and inland navigable rivers. This will bring the total number of ENCs created and maintained to 120 out of the approximately 190 needed to cover the nation’s critical ports. In addition to the navigational benefits, these ENCs will also provide the context for the display of real-time and predicted environmental information delivered through NOAA's Physical Oceanographic Real-Time System (PORTS) directly to the ship's bridge. A complete suite of electronic charts with timely updates is a key recommendation in the recently released National Ocean Report, ”Turning to the Sea, America’s Ocean Future.” In addition, an increase of $1,500,000 is requested to provide a more accurate national shoreline. Presently, one-third of the U.S. shoreline has never been mapped by NOAA, and of the portion that has been mapped, one-quarter was mapped prior to 1970. Less than 10 percent of the shoreline has been produced digitally, and at the present rate of progress, the entire U.S. shoreline is projected to be surveyed on a 50-year cycle. An increased emphasis on shoreline is required to keep pace with an accelerated nautical chart publication cycle, accelerated hydrographic surveys, and to improve the accuracy of electronic charts for navigation. As documented in the May 1999 Report to Congress on Shoreline Mapping Activities, NOAA has determined that in order to adequately maintain the national shoreline, a 5-year average cycle is needed to resurvey those portions of the shoreline deemed critical, with the remaining areas requiring mapping on a 10-year average cycle. Data will be collected by a number of methods utilizing commercial contracting to supplement in-house expertise for acquisition and compilation of shoreline data to move toward a 5/20 year maintenance cycle. To accomplish this, the initial emphasis will be on the critical areas of the coasts around 38 high priority ports which will be resurveyed on a 5-year cycle. Other areas will be resurveyed to move toward a 20-year cycle.

Address Survey Backlog/Contracts (+ 0 FTE, - $831,000): NOAA requests a decrease of $831,000, for total funding of $18,000,000 in FY 2001, for the reduction of the critical hydrographic survey backlog through use of private sector contracts.

Geodesy (+ 0 FTE, - $352,000): NOAA requests an increase of 0 FTE and $572,000 under the Geodesy line item for activities required to increase the Nation's access to Continuously Operating Reference Stations (CORS), expand the number of Federal Base Network stations connected to the North American Vertical Datum 1988 through GPS vertical measurements, and improve the accuracy of the geoid model. These activities to improve and maintain the National Spatial Reference System (NSRS) focus primarily on providing better access to accurate and consistent height data and support of differential Global Positioning System (GPS) activities. These activities continue to improve access to accurate NSRS information by the marine transportation sector who derive significant safety and economic benefits from accurate and timely spatial reference data. No funding is requested for the congressionally designated South Carolina Geodetic Survey project enacted in FY 2000 at $462,000 or for the Height Modernization Demonstration project enacted in FY 2000 at $462,000 are proposed within this line item.

Tide and Current Data (+ 0 FTE, + $2,407,000): NOAA requests an increase of $2,796,000 under the Tide and Current Data line item to fully develop and implement the comprehensive quality assurance capabilities and modernization efforts necessary to support the design, establishment and quality assurance of additional Physical Oceanographic Real-Time Systems (PORTS) through local cost-sharing partnerships. PORTS provide real-time oceanographic data critical to safe and efficient navigation, hazardous material spill response efforts, coastal flood warnings, and other applications. New PORTS will be established through cost sharing partnerships requiring that installation and on-going local operation and maintenance costs be paid for by local partners and other sources. Locations such as Narragansett Bay, RI, Los Angeles/Long Beach, CA, Philadelphia/Delaware Bay, Fall River, MA, New Haven, CT, Port Hueneme, CA, Wilmington, NC, Jacksonville, FL, New Orleans, LA, and others have either committed funds to development of a new PORTS or are considering PORTS. The funds will enable NOAA to maintain and modernize the underlying National Water Level Observation Network stations to ensure real time capabilities; quality control of PORTS data; and develop, test, and integrate quality assurance processes for new technology sensors, information systems and communications. The deployment of real time systems such as PORTS is a key recommendation in the Ocean Future report, as well as the "Assessment of the U.S. Marine Transportation System" report to Congress. No funding is requested for the congressionally designated one-time Great Lakes water level station modernization effort enacted in FY 2000 at $389,000.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
MAPPING & CHARTING					
Nautical Chart Editions					
Lithographic/Alternative Methods	200	200	200	200	200
Throughput* (In weeks)	2	2	2	2	2
Electronic Navigational Charts**	120	150	180	210	240
Percent of cumulative shoreline defined:					
Critical***	40	60	80	100	20 ****

*Throughput is defined as the time from when data is received in OCS to when it appears on the product.
** Of the 300 total electronic navigational charts needed, approximately 190 are needed to cover critical ports.
***Critical Shoreline is approximately 20% of the total national shoreline that is concentrated in 38 high priority ports, prioritized by the amount of shipping tonnage.
****Begins 5-year observations cycle for 38 critical ports.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
GEODESY					
Percent of Networks with NAVD88 heights with 2-5 cm accuracy at 95% confidence levels					
FBN - (Vertical component)	76	78	78	85	92
CORS - (Vertical component)	27	40	57	73	90
NWLON - (Vertical component)	33	41	50	67	83
Total NSRS Percent Complete					
NSRS = (FBNV + NAVD 88 + CORS / 3) . . .	72	77	82	87	90
TIDE AND CURRENT DATA					
Number of PORTS and PORTS-Lite installations* . . .	13	17	21	25	29
Percentage of National Water Level Observation Network (NWLON) Modernized (175 stations total)	100	100	100	100	100

* NOAA is not requesting any base funding for PORTS/PORTS-Lite installations. Installations will be funded by local entities and the estimates are based on entities that have indicated an active interest to proceed once real-time data quality assurance can be provided.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2000 Base (BA in Thousands)					
Total Program Changes (Outlined above)	$4,043	$4,043	$4,043	$4,043	$4,043

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Ocean Service
Subactivity: Navigation Services

Title:	Location		Grade	Number	Annual Salary	Total Salaries
Cartographer	Headquarters		12	1	51,204	51,204
Total				1		51,204
Less lapse		25%		(0)		(12,801)
Total full-time permanent (FTE)				1		38,403
2001 Pay Adjustment (3.7%)						1,421
Total						39,824

Personnel Data	**Number**
Full-time permanent	1
Other than full-time permanent	0
Total	1
Authorized Positions	
Full-time permanent	1
Other than full-time permanent	0
Total	1

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **National Ocean Service**
Subactivity: **Navigation Services**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	40
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	40
12.1	Civilian personnel benefits	12
13	Benefits for former personnel	0
21	Travel and transportation of persons	247
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	324
24	Printing and reproduction	21
25	Other services	3,024
26	Supplies and materials	129
31	Equipment	1,954
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	436
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	6,187

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **National Ocean Service**
Subactivity: **Navigation Services**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25	Other services	(831)
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(1,313)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(2,144)

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean Resource Conservation and Assessment

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Estuarine and Coastal Assessment	Pos./BA	347	67,270	358	67,463	418	75,651	421	76,199	3	548
	FTE/OBL.	339	69,263	351	70,702	418		420		2	
Coastal Ocean Science	Pos./BA	21	18,702	21	17,145	21	17,232	21	18,232	0	1,000
	FTE/OBL.	21	18,640	21	17,145	21		21		0	
Total	Pos./BA	368	85,972	379	84,608	439	92,883	442	94,431	3	1,548
	FTE/OBL.*	360	87,903	372	87,847	439		441		2	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Ocean Service**
Subactivity: **Ocean Resources Conservation and Assessment**

Goal Statement

Promote healthy coastal ecosystems by ensuring that economic development in coastal areas of the U.S. is managed in ways that maintain biodiversity and long-term productivity for sustained use. Working in partnership with Federal and state agencies, NOS will integrate operational coastal management, protection and restoration activities in an ecosystem-wide or watershed approach, expand monitoring in coastal areas, conduct strategic assessments to provide improved and focused information for decision-makers, strengthen predictive capabilities to improve the scientific basis for policy and management decisions, develop and facilitate the use of technologies that support the sustainable use of coastal resources, and provide education and outreach to increase public understanding.

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

Estuarine and Coastal Assessment: This line item contains the programs managed by the National Centers for Coastal Ocean Science (NCCOS), the Office of Response and Restoration (ORR), and the Coastal Services Center (CSC) of the National Ocean Service as well as the Cooperative Institute for Coastal and Estuarine Technology (CICEET), co-administered by NOS' Office of Ocean and Coastal Resource Management and the University of New Hampshire. The goals of this line item are to use the authorities established in the Clean Water Act, Coastal Zone Management Act, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA/Superfund), Oil Pollution Act, National Coastal Monitoring Act,

Marine Protection Research and Sanctuaries Act, Harmful Algal Bloom and Hypoxia Research and Control Act, and other legislation to protect, conserve, and restore natural resources and the environmental quality of the Nation's coastal ecosystems. More specifically, over time NOAA proposes to:

- Establish the institutional arrangements and procedural framework through which the authorities of Federal and state agencies can be focused to provide for the protection and restoration of coastal resources within a watershed context and to recommend management actions to minimize the cumulative effects of coastal development on natural resources, especially NOAA trust resources.

- Conduct research to define the nature and extent of human activities and conditions that threaten the health and productivity of the Nation's coastal resources, conduct damage assessments to support negotiated settlements and litigation for recovering funds for restoration of injuries to NOAA trust resources, apply scientific expertise to mitigate the effects of human activities and facilitate environmental recovery, and undertake actions to restore ecosystem functions and resource values.

- Develop a joint Federal/state capability to monitor, assess, and predict coastal ecosystem structure and function to detect unacceptable changes, to evaluate effects of management strategies, and to identify actions to manage effectively threats to ecosystem health.

- Conduct research to develop and synthesize information needed to understand and predict ecosystem functions and processes, develop means for valuing non-market ecological resources, clarify causes and significance of ecosystem changes, identify requirements and opportunities for management intervention, and develop new tools, technologies, and strategies for monitoring, protecting, restoring, and managing the health of coastal ecosystems.

- Improve public understanding of functions and values of coastal ecosystems, enhance public access to information on coastal environmental quality and environmental health risks from pollutants in coastal ecosystems, and facilitate transfer of technology for protecting against or reducing impacts of coastal development on natural resources, and restoring injured resources.

- Support NOAA's and the Nation's obligations under international treaties and conventions, and increase effectiveness of international programs for coastal environmental science and technology, integrated coastal zone management, and sustainability of coastal resources.

Three National Ocean Service program offices and the CICEET currently conduct activities in estuarine and coastal assessment.

National Centers for Coastal Ocean Science (NCCOS): NCCOS provides National leadership in ocean, coastal, and Great Lakes science to build the strong scientific foundation essential for sustainable use of coastal resources. NCCOS capitalizes on comprehensive, integrated research, monitoring, assessment, prediction, and technical assistance capabilities to address critical National coastal environmental problems, build better linkages among

NOAA's coastal programs that are responsible for ocean, coastal, and Great Lakes resources, and strengthen the scientific basis underlying effective coastal management. NCCOS provides high-quality science for predicting coastal ocean, Great Lakes, and watershed processes and their impacts on coastal habitats and living resources, and delivers data, information, products, and technical assistance to NOAA and to its other Federal, state, academic, non-governmental, and public partners.

NCCOS is comprised of four research centers, each with unique and complementary expertise and capabilities to address critical coastal resource issues.

Through monitoring, applied research, and assessment programs, the Center for Coastal Monitoring and Assessment (CCMA) evaluates the environmental quality of U.S. coastal, estuarine, and Great Lakes areas and the ecosystem consequences of current and potential anthropogenic stresses on these areas. The Center conducts national, regional, and local-scale monitoring and assessment programs to support sustainable management of U.S. coastal resources. CCMA manages NOAA's National Status and Trends Program (NS&T) for marine environmental quality. Since 1984, the NS&T program has monitored the concentrations of toxic contaminants, nutrients, indicators of biological effects, and related properties in biota, water, and sediments at over 300 coastal and estuarine sites around the U.S. to determine the current status, and to detect changes that are occurring, in the environmental quality of these areas. The CCMA also conducts programs in applied research, monitoring, and assessment to determine: the distribution of anoxia/hypoxia and other effects of anthropogenic eutrophication and the association of these conditions to nutrients and other causative agents; the occurrences and environmental relationships of harmful algal blooms (HABs); and the biodiversity, habitat and other physical, chemical, and biological properties of U.S. estuarine, coastal, and Great Lakes areas. Complementary research programs are focused on mapping and quantifying the spatial and temporal distributions of living marine resource species and the habitat conditions that control these distributions.

The Center for Coastal Environmental Health and Biomolecular Research (CCEHBR) at Charleston, South Carolina conducts applied research programs to: develop new methods to characterize and detect marine biotoxins and harmful algal blooms (e.g., *Pfiesteria*) and identify the hazards to marine resources and seafood consumers; develop and implement new techniques for field assessment of environmental quality and marine ecosystems health; improve detection and measurement of chemical and microbiological contaminants and evaluation of their significance in the management and utilization of marine species and their habitats; and understand the predominant factors linking land use in the coastal zones with distribution, fate, and effect of environmental contaminants on living marine resources and coastal habitats. Research on other environmental issues includes: developing techniques and mathematical models for determining exposure to hazards from environmental contaminants, including assessment of risks associated with consumption of seafood; determining the anthropogenic impacts and anomalous events on the health of marine mammals and sea turtles, including response to strandings and unusual mortalities; and applying biotechnology to support fisheries management, including development of genetic characterization of fish and shellfish to improve species, stock, and population identifications.

The Center for Coastal Fisheries Habitat Research (CCFHR) at Beaufort, North Carolina is the second oldest Federal marine laboratory in the Nation and has been a focal point for coastal habitat and fisheries research for nearly a century. The Center's research efforts are focused on the role of coastal habitats in controlling the growth and survival of fishery organisms, particularly pre-adult stages. Field investigations address the importance of various coastal habitats (i.e. marshes, seagrasses, mangroves, mudflats, etc.) to these organisms and the development of effective habitat restoration techniques,

as well as, spawning locations, feeding requirements, and inshore transport mechanisms of newly spawned fish. Research on other environmental issues, such as the causative factors and effects of harmful algal blooms on fishery resources, is being conducted to understand better the impact of these events on living marine resources. Laboratory studies are conducted to better understand the role of trace metals in controlling estuarine food webs, not only in terms of potential toxicity, but also from their role as micro-nutrients. Results of the Center's research are utilized by habitat managers at the Federal, state, and local level to address important environmental issues, such as controversial permit applications, environmental litigation, and the development of effective environmental management policies.

The Center for Sponsored Coastal Ocean Research (CSCOR) manages NOAA's Coastal Ocean Program (COP). This program supports through the competitive peer-review process, research investigations, studies, surveys, and pilot projects to improve the understanding and prediction of ocean, coastal, and Great Lakes dynamics and resources to support sustainable use of living and non-living marine resources. The research sponsored through these programs provides scientific information to assist coastal decision makers to meet the challenges of managing our Nation's coastal resources. The Center targets critical issues that exist in the Nation's estuaries, coastal waters, and Great Lakes and translates its findings into accessible information for coastal managers, planners, lawmakers, and the public to make significant strides toward finding the solutions that will protect coastal habitats and the associated living resources and ensure their availability and well-being for future generations. Funding for the Coastal Ocean Program is carried under the ***Coastal Ocean Science*** line item, which is described below.

NOAA is one of several Federal, state, and local agency partners working to focus the many competing interests in South Florida on restoration, sustainable use, and long-term management of the Florida Everglades and the South Florida Ecosystem. NOAA's efforts are focused primarily on the coastal marine areas encompassing Florida Bay and the Florida Keys National Marine Sanctuary. As part of the Interagency South Florida Ecosystem Restoration Task Force, NCCOS is implementing and supporting an integrated marine ecosystem monitoring, assessment, and prediction program to evaluate the effects of operational management decisions and the effectiveness of land-based restoration activities in South Florida; preparing comprehensive databases to map and assess risks and determine the impacts of various stressors on the numerous diverse, fragile habitats comprising the South Florida Marine Ecosystem; and conducting socioeconomic monitoring to evaluate the impacts of restoration and management strategies in the Florida Keys National Marine Sanctuary.

Coastal Services Center (CSC): The NOAA Coastal Services Center (CSC) serves the decision-making needs of state and local coastal resource managers. CSC works with clients to develop tools and techniques to bridge the gap between science and management, and promotes sustainability through capacity-building services. CSC focuses on those themes which have been identified as important to the coastal resources management community – hazards, habitat, data access and usability, and capacity building. Projects and activities undertaken must be: 1) client oriented; 2) driven by results; 3) national in scope, but local in approach; and 4) aligned with partners. All projects must have clear end users and utility, and must be conducted in partnership with clients and enablers to leverage resources and ensure buy-in. CSC is organizationally unique within NOAA, being composed of employees from throughout the agency, and the CSC annual operating plan is developed in coordination with all of NOAA's line offices. CSC functional areas include management, information, and technology services.

Coastal Management Services (CMS) promotes and develops the ability of state and local coastal resource managers and planners to perform their duties. By working with the coastal management community and the other CSC service areas, CMS: (1) facilitates management assistance to the coastal management community, including fellowship and apprenticeship programs; (2) increases communication, understanding, and outreach between CSC and its clients; and (3) provides customized training and meeting planning.

Coastal Information Services (CIS) houses the Center's data management and analysis, and product development capabilities. Program functions include satellite and aircraft-based coastal remote sensing, geographic information systems (GIS), a coastal information library, Internet accessibility, landscape characterization and restoration, coastal change analysis, and coastal hazards. CIS focuses on developing and providing access to broad-based information and technology tools for coastal resource managers.

Coastal Technology Services (CTS) works to bring new and underutilized technology out of the laboratory and into the hands of the coastal resource manager. CTS provides both technology transfer, as well as technology commercialization expertise. CTS helps scientists with important steps of technology identification and assessment, including demonstration, testing, verification, evaluation, and marketing potential.

Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET): CICEET, a joint institute between NOAA and the University of New Hampshire, supports the development of innovative technologies to address the problems of contaminants and habitat degradation in estuaries. By fostering collaboration among academia, government, and the private sector, CICEET aids in efforts to understand, reduce, and reverse the impacts of coastal and estuarine contamination and other manmade causes of environmental degradation by supporting technology development projects conducted in estuaries around the country, aiding in technology commercialization in partnership with the private sector, and transferring technology and information to coastal managers and other users.

Office of Response and Restoration (ORR): The mission of ORR is to protect and restore coastal resources by responding to environmental threats through the application of science and technology. ORR conducts national programs that include:

- Coordination of spill response and contingency planning activities to protect coastal environments and minimize the environmental effects of oil and hazardous materials spills and hazardous waste sites in coastal areas;

- Development of personal computer-based geographic information systems, models, and other tools for decision-making, planning, and responses to emergency events;

- Scientific and economic evaluation of injuries and damages to NOAA trust resources resulting from accidental spills or chronic discharges of oil or hazardous materials to support recovery of funds for restoration;

- Restoring coastal resources injured by spills, releases, or other environmental damages;

- Identifying risks to coastal resources and improving prevention, preparedness, and response through partnerships and cross-NOS capabilities; and the transfer of complex technology, technical information, and information to user communities; and

- Assessing the severity of environmental risk posed by hazardous waste sites and other specific pollution problems and developing effective and relevant solutions.

As scientific support coordinator to the U.S. Coast Guard's Federal On–Scene Coordinator, NOAA's Hazardous Materials Response (HazMat) Program protects NOAA trust resources by providing the scientific basis for appropriate response decisions. NOAA supports the Unified Command in making timely operational decisions by forecasting the movement of spilled oil or chemicals, evaluating the risk to resources, and recommending cleanup actions. NOAA develops technical guidance to assist federal, state, and local governments and industry prepare for more effective response. NOAA strengthens implementation of this guidance through training and drills to maintain readiness for rapid and effective response, both within the U.S. and overseas. Planning and response to spills and other environmental insults are supported by a suite of sophisticated tools that allow trajectory prediction, weathering and characterization of pollutant behavior, threat assessment to natural resources or humans, and rapid access to site-specific information. Tools such as CAMEO™ (Computer-Aided Management of Emergency Operations) provide first responders the capability to rapidly access critical information upon which to base life-threatening decisions. Such tools are used both domestically and internationally by emergency responders and are continually refined, based upon user input and NOAA field experience. NOAA, in collaboration with states and other federal agencies, maps the entire U.S. coastline to identify the sensitivity of habitats to oil spills and makes these maps available electronically to the first responder community. NOAA conducts research to improve its ability to provide effective assessments and recommendations for response actions that will protect sensitive environments and facilitate recovery of impacted shorelines. NOAA also responds to other emergency events that require scientific expertise to develop appropriate response actions.

The Secretary of Commerce is designated as a natural resource trustee under CERCLA (Superfund), Clean Water Act, and the Oil Pollution Act. This responsibility, which has been delegated to NOAA, requires the agency to assess and recover damages for injuries to NOAA trust resources due to releases of oil and hazardous substances. The **Coastal Protection and Restoration (CPR) Program** is the first line of defense in remediating contaminant problems that threaten NOAA trust resources. Working through a network of regional scientists, called Coastal Resource Coordinators, this program works with the U.S. Environmental Protection Agency and other state and federal agencies, during the Superfund process to develop remedies that protect NOAA trust resources, their supporting habitats, and human health. Since 1985, NOAA has evaluated more than 700 hazardous waste sites in coastal areas and identified several hundred others that could potentially affect NOAA trust resources. NOAA's goal is to obtain a comprehensive settlement that protects and restores the environment and allows the responsible party to be released from natural resource liability.

Where significant damages have occurred or the responsible party is unwilling or unable to conduct appropriate actions, NOAA conducts a damage assessment to enable the Federal Government to file claims against potentially responsible parties and to obtain compensation to restore the natural resources. The NOAA **Damage Assessment Center** is responsible for assessing injury and developing an appropriate restoration plan, which is

presented to the responsible party for implementation. It works cooperatively with other NOAA program offices as a component of the **Damage Assessment and Restoration Program (DARP)** to lead the planning, implementation, and monitoring of case–specific efforts to restore NOAA trust resources after successful settlement of natural resource damage claims. When there is no viable or known responsible party for natural resource damages due to an oil spill, NOAA may recover assessment and restoration costs from the Oil Spill Liability Trust Fund. Since its inception, the DARP and its partners have recovered approximately $230 million in restoration funds. As part of NOAA's responsibilities under the Oil Pollution Act, NOAA is tasked with developing and maintaining regulations for assessing natural resource damage from oil spills. OR&R also conducts research, develops new methods and applies new technologies to support its responsibilities relating to these regulations as well as its general trusteeship mandate. Such research includes methods development for more efficiently valuing specific coastal and estuarine habitats; development of computer-based tools to support site–specific remedial decisions, dredging and disposal of contaminated sediments; and other projects that improve decisions relating to ecological risk, biological impact assessment and environmentally protective remediation.

Coastal Ocean Science: The Coastal Ocean Program is managed by the Center for Sponsored Coastal Ocean Research, one of the centers within NOS's National Centers for Coastal Ocean Science. The goal of this line item is to strengthen NOAA's predictive capabilities across its coastal missions, improving the scientific basis for policy and management decisions. With this funding, NOAA applies new observation and analytical technologies, such as advanced satellite remote sensing, high-performance computing, and geographic information system capabilities, as well as multi-disciplinary research partnerships with universities, to the development of tools for coastal decision-makers. NOAA's Coastal Ocean Program (COP) represents a unique intra- and inter-agency approach to addressing the large-scale, interdisciplinary, and complex issues that confront our Nation's marine environment.

Research projects funded through the COP support NOAA's mission requirements for oceans and fisheries in the coastal environment. Projects are designed and implemented by multidisciplinary teams of scientists, from across all NOAA line offices and the academic and state research communities. The quality of COP's efforts is assured through a competitive peer-review selection process. COP's regional scale efforts fill the critical gap between very long lead-time, individual-investigator fundamental research and the incident-driven science needs of crisis management. The COP's innovative, cross-cutting program development and implementation structure ensures maximum participation by NOAA programs, the outside scientific community, and user groups. This program structure ensures: internal/external partnerships; wide participation in cross-cutting program development and implementation; routine input from outside technical advisors; and relevance of its products to the user community.

Through this program structure, NOAA undertakes the improvement in predictions necessary for accomplishing its strategic objectives, and directly responds to the goals of sustainable development of the Nation's marine environments, providing information vital to sound decision making in the public and private sectors.

The COP directs its theme-oriented focus toward regional integrated ecosystem approaches to improve prediction of human influence on the marine environment within the context of natural variability. COP conducts research, assessments, and modeling efforts to understand the cumulative impacts of multiple stressors, the functions of regional ecosystems, and practical applications of remote sensing science. COP also seeks to strengthen NOAA's

ability to advance fisheries predictions by assessing and predicting natural and human-induced changes in fisheries productivity. These coastal ecosystems research studies and areas of special focus, such as hypoxia and Harmful Algal Blooms (HABs), improve understanding to support the continued development and application of improved fisheries assessments and coastal resource management actions.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
SUSTAIN HEALTHY COASTS				
PROTECT, CONSERVE AND RESTORE COASTAL HABITATS AND THEIR BIODIVERSITY				
Cumulative percent of Nation's 40 major coastal ecosystems with reduced risks of habitat loss from releases of oil and hazardous chemicals due to response planning, mitigation, modeling, monitoring, and assessments	20	32	37	42
Cumulative number of hazardous waste sites where coastal habitat protection and restoration is improved through NOAA activities	360	370	370	370
Cumulative number of natural resource damage assessments completed or cases settled to recover funds for restoration of coastal resources injured by pollution	30	37	41	45
Number of tools and technologies that enhance habitat restoration	-	3	5	6
Number of new, expanded, or enhanced marine protected areas where coral are present	-	0	1	5
Number of coral areas where human-related impacts are reduced		0	1	3

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
PROMOTE CLEAN COASTAL WATERS				
Cumulative percent of Nation's 40 major coastal ecosystems for which inventories, databases, and assessments of water quality and natural resources have been developed or enhanced	25	28	30	33
Cumulative percent of Nation's 40 major coastal ecosystems that have assessments of levels and effects of toxic contamination and/or nutrient enrichment	25	28	30	32
Number of U.S. Coastal regions with systems to predict and reduce the impacts of harmful algal blooms	-	0	1	1
FOSTER WELL-PLANNED COASTAL COMMUNITIES				
Cumulative percent of shoreline and inland areas with improved ability to identify extent and severity of coastal hazards	-	5	14	18
Number of improved information management tools developed to assist coastal hazard mitigation	-	0	3	3
Cumulative percent of coastal constituencies incorporating improved coastal hazard mitigation measures into local planning and regulatory activities	-	0	7	10
BUILD SUSTAINABLE FISHERIES				
ELIMINATE AND PREVENT OVERFISHING AND OVERCAPITALIZATION				
By 2004, 45% (86 of 286) fewer overfished fisheries (stocks subject to overfishing)	-	0	0	5

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Ocean Resources Conservation and Assessment .	POS/BA	439	$92,883	442	$94,431	3	$1,548
	FTE/Obl	439	$92,883	441	$94,431	2	$1,548

The net changes in this subactivity are +2 FTE and + $1,548,000.

Estuarine and Coastal Assessment (+ 2 FTE, + $548,000): NOAA requests an increase of 2 FTE and $1,548,000 for programs in the Estuarine and Coastal Assessment line item. Funding requested under Estuarine and Coastal Assessment supports a number of important Administration Initiatives including Lands Legacy Initiative, Clean Water Initiative, South Florida, and America's Ocean Future Initiative. This will allow NOAA to address a number of pressing issues facing our Nation's coastal areas, including threats to coral reefs, degrading water quality and restoring important ecosystems and coastal habitats.

Great Lakes Environmental Research Lab: (+0 FTE, - $714,000) NOS continues to make organizational changes to strengthen coastal stewardship, enhance research support for NOAA coastal management, and build better linkages among NOAA's coastal programs. The proposed transfer of the Great Lakes Environmental Laboratory (GLERL) from the Office of Oceanic and Atmospheric Research into NOS at a level of $6,085,000, is a key step that will provide NOS with the regional presence necessary to conduct important coastal research and form strong partnerships with governmental and non-governmental stewards.

Ocean Assessment Program - (+0 FTE, - $3,238,000) NOAA requests increases of $2,750,000 under the Ocean Assessment Program and decreases of $5,988,000. Increases will be used to support better understanding of Harmful algal Blooms (HABs) so that coastal states are better able to deal with them and to provide a better foundation for activities undertaken to restore the valuable South Florida ecosystem.

A requested increase of $1,750,000 will be used to address increasing outbreaks of harmful algal blooms (HABs) that are degrading our coastal ecosystems. These funds will support states, universities, and communities to conduct rapid monitoring and assessment response activities in responding to HAB outbreaks. The funds will be used to develop HAB action plans, take necessary actions such as targeted research, monitoring and assessment during an episode; provide fiscal and technical support to those affected by HABs and to guide management measures aimed at recovery, prevention and control. These funds will allow NOS to continue its responsibilities as the chair of the Interagency Task Force established by the *Harmful Algal Bloom and Hypoxia Research Control Act of 1998*. These actions will be linked to the longer term ECOHAB efforts to improve

understanding of episodic harmful algal bloom events to better manage emergency outbreaks and to prevent or control them in the future. This funding supports water quality recommendations in the "Turning to the Sea: America's Ocean Future" (Ocean Future) to implement the Administration's Clean Water Action Plan. No funding is requested for a harmful algal bloom project conducted by the South Carolina Department of Marine Resources enacted in FY 2000 at $462,000. .

NOAA requests an increase of $1,000,000 to fund NOS's portion of the Interagency South Florida Ecosystem Restoration Initiative. The funds will allow NOS to implement an integrated ecosystem monitoring program in South Florida, particularly in the coastal marine areas encompassing Florida Bay and the Florida Keys National Marine Sanctuary. These monitoring and research activities are critical to determine the design and impacts of ecosystem restoration efforts on sensitive coastal resources such as the Florida Keys coral reefs. The objectives of the monitoring program will be accomplished primarily through partnerships with state and local agencies and academic institutions. An enhanced South Florida ecosystem monitoring program directly supports collaborative efforts within the National Marine Fisheries Service to improve assessment, understanding, and predictions of critical ecosystems components and to develop ecosystem models to evaluate the effects of natural and anthropogenic changes to the South Florida Ecosystem. This increase supports the Ocean Future report's recommendation to improve estuarine monitoring and data reporting.

NOAA proposes to fund the Cooperative Institute for Coastal and Estuarine Environmental Technology, a joint NOAA-University of New Hampshire institute, at $3,000,000, a decrease of $2,361,000. NOAA proposes to fund the Coastal Services Center at $13,750,000, a decrease of $1,316,000. This includes discontinuation of the $100,000 in one-time funding provided for the Community Sustainability Center in FY 2000 appropriations. In addition, a decrease of $1,849,000 is requested for the National Coral Reef Institutes.

Response and Restoration (+ 2 FTE, +$4,500,000): An increase of $4,500,000 is requested for the Response and Restoration line to support activities that help ensure clean coastal waters and healthy coastal habitats. An increase of $500,000 is requested for the Coastal Protection and Restoration (formerly Coastal Resources Coordination) Program. This will enhance NOAA's capabilties to address the impacts of hazardous waste sites on environmental quality and NOAA trust resources. Funds will allow NOAA's Coastal Protection and Restoration Program to address these serious environmental threats sooner and more effectively, expedite cleanup and restoration of coastal natural resources without costly litigation, share NOAA's technical expertise, and create cost effective approaches for remediating waste site contamination and restoring coastal areas as part of the Administration's Clean Water Initiative.

Coral Reef Conservation: NOAA requests an increase of 2 FTE and $4,000,000 in FY 2001 as part of the Lands Legacy Initiative to better understand and reverse the decline of coral reefs. In FY 2000, NOAA and our partners began to strengthen the nation's ability to conserve coral reefs through enhanced mapping, monitoring and management efforts. Coral reefs are complex ecosystems, however, and more action must be taken to expedite our understanding and protection of these threatened resources. With additional funds in FY 2001, NOAA will strengthen its capabilties and provide assistance to build capacity at the local level to address the complex issues surrounding reef decline. NOAA and our partners will improve the understanding of what determines coral reef health and how and when coral reef recovery occurs. NOAA will also focus on prevention efforts related to marine transportation, a critical aspect of coral reef protection. Without this additional funding, protection of the nation's valuable coral reefs will

be stalled and local governments will not have the resources they need to adequately protect their reef resources. Increased monitoring, protection and sustainable use of coral reefs and implementation of priority actions of the U.S. Coral Reef Task Force are key recommendations in the Ocean Future report.

Coastal Ocean Science: (+ 0 FTE, $1,000,000). NOAA requests an increase of $1,000,000 for programs in the Coastal Ocean Science line item. The FY 2001 request for this line item includes continued support for the Coastal Ocean Program's (COP) academic and other partnerships to improve understanding and predictions of the impacts of natural and anthropogenic stresses on estuarine and coastal habitats and fisheries productivity. The FY 2001 increase will help implement the recommendation made in the report, "Turning to the Sea: America's Ocean Future," for improving water quality by implementing the Administration's Clean Water Action Plan. These funds will also enable NOS to continue its hypoxia and harmful algal bloom research, monitoring, and assessment responsibilities as established by the *Harmful Algal Bloom and Hypoxia Research and Control Act of 1998*.

An increase of $400,000 will be used to support ecological research, monitoring, and assessment of hypoxic conditions in the northern Gulf of Mexico that develop seasonally along the coast from the mouths of the Mississippi and Atchafalaya Rivers to the Texas border. Hypoxia potentially threatens nationally important fisheries and associated essential fish habitat. The increase will allow NOAA to respond directly to heightened regional and national concerns about declining water conditions and the urgent need to quantify the causes and effects of this condition. The funding increase will be used to conduct ecological observation and monitoring of hypoxia in the northern Gulf of Mexico; map and define the inshore boundary of the hypoxic zone; and assess and model the relationships between the nutrient loads from the Mississippi and Atchafalaya Rivers, the subsequent response in the coastal marine ecosystem, and the potential impacts of the changes in the Mississippi River Basin management practices and water diversion actions on the problem. These complementary monitoring, assessment, and modeling activites will provide the framework for an integrated decision system for the entire basin, and will provide the basis for development and delivery of the science-based tools needed to control the problems.

The remaining $600,000 is requested to support research on the ecology and oceanography of harmful algal blooms (HABs), and to develop models to predict their development, persistence, and impacts in U.S. coastal waters. HABs are common and increasingly frequent natural hazards in our coastal environments, causing severe impacts to water quality, coastal living resources, public safety, and coastal industries including fisheries, shellfisheries, and tourism related businesses; the estimated direct and indirect costs attributable to HABs exceeds one billion dollars over the last few decades. The research will be interdisciplinary and follow the plan outlined in the NOAA and National Science Foundation supported national research agenda - Ecology and Oceanography of Harmful Algal Blooms (ECOHAB). This effort, continuing the interagency partnership developed with the Environmental Protection Agency, National Science Foundation, and the Office of Naval Research to oversee and coordinate HAB research, will support additional research and modeling, allowing another regional component of the comparative approach to understand and predict bloom impacts in seven to eight coastal zones of the U.S. supporting HABs. The results will also serve as the foundation for developing control, prevention, and mitigation strategies for lessening HAB impacts on the U.S. coastal resources and populations.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
SUSTAIN HEALTHY COASTS					
PROTECT, CONSERVE AND RESTORE COASTAL HABITATS AND THEIR BIODIVERSITY					
Cumulative number of hazardous waste sites where coastal habitat protection and restoration is improved through NOAA activities	375	380	385	390	395
Number of new, expanded, or enhanced marine protected areas where coral are present	6	11	16	21	26
Number of coral areas where human-related impacts are reduced	5	9	13	17	21
Cumulative number of natural resource damage assessments completed or cases settled to recover funds for restoration of coastal resources injured by pollution	40	44	48	52	56
Number of tools and technologies that enhance habitat restoration and management	5	6	9	11	13
PROMOTE CLEAN COASTAL WATERS					
Cumulative percent of Nation's 40 major coastal ecosystems for which inventories, databases, and assessments of water quality and natural resources have been developed or enhanced	35	38	40	45	48
Number of U.S. coastal regions with systems to predict and reduce the impact of harmful algal blooms	1	1	1	2	3

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2000 Base (BA in Thousands)					
Total Program Changes (Outlined above)	+ $1,548	+ $1,548	+ $1,548	+ $1,548	+ $1,548

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Ocean Service
Subactivity: Ocean Resources Conservation and Assessment

Title:	Location		Grade	Number	Annual Salary	Total Salaries
Environmental Scientist	Hawaii		14	1	82,479	82,479
Environmental Scientist	Silver Spring, MD		12	1	51,204	51,204
Administrative Assistant	Silver Spring, MD		5	1	23,304	23,304
Total				3		156,987
Less lapse		25%		(1)		(39,247)
Total full-time permanent (FTE)				2		117,740
2001 Pay Adjustment (3.7%)						4,356
Total						122,097

* Positions in Hawaii, 1.25% of base salary used.

Personnel Data	Number
Full-time permanent	2
Other than full-time permanent	0
Total	2
Authorized Positions	
Full-time permanent	3
Other than full-time permanent	0
Total	3

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **National Ocean Service**
Subactivity: **Ocean Resources Conservation and Assessment**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	122
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	122
12.1	Civilian personnel benefits	33
13	Benefits for former personnel	0
21	Travel and transportation of persons	265
22	Transportation of things	30
23.1	Rental payments to GSA	0
23.2	Rental payments to others	5
23.3	Commun., util., misc. charges	68
24	Printing and reproduction	58
25	Other services	5,634
26	Supplies and materials	172
31	Equipment	297
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	1,566
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	8,250

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **National Ocean Service**
Subactivity: **Ocean Resources Conservation and Assessment**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	122
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	122
12.1	Civilian personnel benefits	33
13	Benefits for former personnel	0
21	Travel and transportation of persons	265
22	Transportation of things	30
23.1	Rental payments to GSA	0
23.2	Rental payments to others	5
23.3	Commun., util., misc. charges	68
24	Printing and reproduction	58
25	Other services	5,634
26	Supplies and materials	172
31	Equipment	297
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	1,566
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	8,250

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **National Ocean Service**
Subactivity: **Ocean Resources Conservation and Assessment**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	(24)
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	(20)
24	Printing and reproduction	(32)
25	Other services	(752)
26	Supplies and materials	(28)
31	Equipment	(25)
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(5,821)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(6,702)

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **National Ocean Service**
Subactivity: **Ocean Resources Conservation and Assessment**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	122
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	122
12.1	Civilian personnel benefits	33
13	Benefits for former personnel	0
21	Travel and transportation of persons	265
22	Transportation of things	30
23.1	Rental payments to GSA	0
23.2	Rental payments to others	5
23.3	Commun., util., misc. charges	68
24	Printing and reproduction	58
25	Other services	5,634
26	Supplies and materials	172
31	Equipment	297
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	1,566
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	8,250

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
Line Item		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Management	Pos./BA	51	67,784	49	63,683	98	66,991	113	170,508	15	103,517
	FTE/OBL.	49	67,223	49	65,882	98		109		11	
Coastal Zone Management Fund (Obl. in Fund)	Pos./BA	(51)	(4,000)	(49)	0	(49)	0	(49)	0	0	0
	FTE/OBL.	(49)	0	(49)	0	(49)		(49)		0	
Ocean Management	Pos./BA	100	14,861	117	22,924	117	22,924	132	32,000	15	9,076
	FTE/OBL.	92	14,470	112	22,924	117		129		12	
Total	Pos./BA	100	78,645	117	86,607	166	89,915	196	202,508	30	112,593
	FTE/OBL.*	92	81,693	112	88,806	166		189		23	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Ocean Service**
Subactivity: **Ocean and Coastal Management**

Goal Statement

The goal of the Coastal Zone Management Act (CZMA) of 1972, as amended, (P.L. 104-150), administered by the Office of Ocean and Coastal Resource Management (OCRM) of the National Ocean Service, is to ensure the rational use and conservation of the lands and waters of the Nation's coastal zone. OCRM provides financial and technical assistance to coastal states and territories, enabling them to (1) develop and implement comprehensive coastal resource management programs, (2) undertake new and innovative projects to enhance management and protection of the coastal zone, and (3) establish and manage estuarine research reserves to protect natural resources, strengthen estuarine research and education, and support coastal decision-making.

The goal of the National Marine Sanctuary Act (NMSA), as amended, (P.L. 104-283), administered by OCRM, is to identify, designate and manage as national marine sanctuaries, areas of the marine environment which possess conservation, recreational, ecological, historical, research, educational or aesthetic qualities which give them special national significance.

Proposed Legislation

NOAA is continuing to work with Congress in FY 2000 to reauthorize the CZMA and the NMSA. Both Acts provide authorities which are critical for NOS to fulfill its coastal stewardship role in the management and protection of ocean and coastal resources. As a part of this process, NOAA is seeking authority to combine funding for Coastal Nonpoint Pollution grants into the comprehensive CZM grants to develop a complete program in support of the Administration's Clean Water Action Plan.

Base Program

Coastal Management: The primary purpose of the national Coastal Zone Management (CZM) Program is to maintain and improve the quality and utility of the Nation's coastal lands and waters through a national network of federally-approved, coordinated, and supported state management

programs that seek to maintain the balance between the needs of resource protection and coastal-dependent economic activity. This national program recognizes the significance of coastal resources to our Nation's population and economy and promotes improved management of these national assets. Federal matching funds are provided as cooperative agreements to support state staff and projects that address the broad spectrum of coastal management issues ranging from habitat conservation and protection of life and property from coastal hazards to urban waterfront and port revitalization (Section 306/306A CZMA).

Recent state and Federal CZM efforts are focused on:

- (1) the implementation of 29 state Coastal Nonpoint Source Pollution Control programs and the development of programs in the newly approved states of Texas, Ohio, Georgia and Minnesota (Section 6217);
- (2) strengthening the ability of state programs to address the issues of wetlands protection, aquaculture, cumulative impacts of coastal development, coastal hazards, ocean resources use, marine debris, energy facility siting, and public recreational access (Section 309 CZMA);
- (3) the development (Section 305 CZMA) of management programs in one new state (Indiana), and
- (4) using resources available through the Clean Water Initiative to clean up polluted areas and restore coastal resources to public use.

The Indiana program is expected to be approved in FY 2001.

The **National Estuarine Research Reserve System** (Section 315 CZMA) is a national network of estuarine protected areas that represent the diverse biogeography and typology of the estuarine systems of the United States. OCRM provides system-wide national guidance, technical support, and matching funds to support state management, stewardship, research and education staff, acquire land, construct on-site facilities, and conduct on-site resource protection, research, education, and monitoring programs. Reserves serve as both local and regional sources of technical information and testing grounds for the improvement of coastal resource management. There are 25 designated reserves in 21 states and territories managing approximately one million acres of estuarine lands and waters. Two additional reserves are in development: New York (St. Lawrence River) and California (San Francisco Bay). The California and New York sites are expected to be designated in FY 2000.

Program Administration: OCRM provides technical assistance to states in the development, implementation, and improvement of state CZM programs and estuarine research reserves; reviews Federal agency actions for compliance with the Section 307 Federal consistency provisions of the CZMA; assists in the resolution of conflicts over the use of coastal and marine resources; supports scientific research and environmental monitoring for improved coastal management; conducts outreach and education activities concerning coastal issues; negotiates annual work programs with the states to ensure that CZM management and reserve operational issues are being addressed; evaluates state programs and reserves to ensure that Federal requirements continue to be met; and provides national policy perspective and support for ocean and coastal management issues.

Ocean Management: OCRM also administers the National Marine Sanctuaries Act and its **National Marine Sanctuary Program** by: (1) identifying areas of the marine environment of special national significance due to their resource or human-use values; (2) carrying out a comprehensive and coordinated program of conservation and management of these marine areas, including restoration of damaged ecosystems; (3) supporting, promoting,

and coordinating scientific research on, and monitoring of, the resources of these protected areas; (4) enhancing public awareness, understanding, and appreciation of the marine environment; and (5) facilitating, to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities.

There are 12 designated national marine sanctuaries: Monitor (NC), Channel Islands (CA), Gray's Reef (GA), Gulf of the Farallones (CA), Fagatele Bay (AS), Cordell Bank (CA), Florida Keys (FL), Flower Garden Banks (TX/LA), Gerry Studds Stellwagen Bank (MA), Monterey Bay (CA), Olympic Coast (WA), and Hawaiian Islands Humpback Whale (HI).

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
PROTECT, CONSERVE,, AND RESTORE COASTAL HABITATS AND THEIR BIODIVERSITY				
Percent completed of Coastal Zone Management (CZM) Program System (% of 35 coastal states and territories)	91	94	94	97
Percentage of NMS that have reached a baseline operational level	17	25	33	42
Percentage of NMS sites that have significantly upgraded management capabilities	0	0	25	33
Number of capabilities upgraded among approved Coastal Zone Management Programs	-	15	15	15
Percentage of significantly upgraded management capabilities and information delivery systems at NERRS sites	10	20	31	35

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
PROMOTE CLEAN COASTAL WATERS				
Percent of CZM states with approved Coastal Nonpoint Programs (% of 35 coastal states and territories)	74	83	86	89
FOSTER WELL-PLANNED COASTAL COMMUNITIES				
Number of coastal communities planning and implementing resource protection and community revitalization initiatives which enhance the local capacity to address impact and pressure on coastal resources	-	6	6	6

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Ocean and Coastal Management	POS/BA	166	$89,915	196	$202,508	30	$112,593
	FTE/Obl	166	$89,915	189	$202,508	23	$112,593

The net changes in this subactivity are +23 FTE and +$112,593,000 and support the NOAA Strategic Plan goals Sustain Healthy Coasts and Recover Protected Species.

Coastal Management (+ 11 FTE, +$103,517,000): a net increase of 11 FTE and $103,517,000 is requested under Coastal Management. This increase is part of the Land Legacy Initiative and will provide coastal states with tools and resources needed to address the growing pressure on our Nation's valuable coastal areas.

Administration of the Coastal Zone Management Act (+11 FTE, +$2,817,000) An increase of $2,817,000 is requested to support NOAA's responsibilities under the Coastal Zone Management Act (CZMA) which continue to grow with the addition of new state coastal management programs and National Estuarine Research Reserves (NERRs). By the end of FY 2001, NOAA expects to approve the 34th state coastal program, Indiana, and two new NERRS sites for a total of 27 NERRs. NOAA will also assist state coastal management programs as they accelerate their efforts to effectively reduce impacts of runoff pollution on coastal waters. This increase is vital to enable NOAA to continue supporting its state partners. It would restore NOAA's ability to: provide a basic level of on-site support to states; provide technical assistance to states and communities to reduce threats to coastal habitats and vulnerability from coastal hazards, and revitalize waterfronts for industry and recreation; mediate disputes between states, federal agencies, and others; enable better synthesis and dissemination of information from NERRS research, monitoring and education efforts; and support facilities construction at Reserves. Adequate technical and administrative support to manage and protect vital coastal habitat through the national estuarine and coastal management programs is essential to NOAA's ability to fulfill its responsibilities as a coastal steward.

Coastal Zone Management Grants to States (+0 FTE, $92,700,000) An increase of $92,700,000 derived from a new discretionary spending category to provide dedicated and protected funds for the Administration's Lands Legacy Initiative is requested to provide direct support to coastal states for implementing and improving their approved coastal management programs. Currently 33 of the 35 eligible coastal states have an approved coastal management program, with approval of the 34th state program, Indiana, expected by the end of FY 2001. Combined, these programs serve to manage and protect 99.9% of the Nation's shoreline for the benefit of the environment and economy. This request has three components: 1) providing resources

for coastal states to more fully implement their coastal management plans, 2) implementing actions to reduce polluted runoff and its impacts, and 3) working with coastal states and communities to revitalize and sustainably grow coastal communities.

The Coastal Zone Management Program is a Federal-state partnership which works to ensure the wise use of coastal resources for the benefit of the entire Nation through its national program and which also allows coastal states and communities to address issues of coastal resources and development by the people most affected by these decisions. The CZMA provides grants to coastal states and territories to address issues of national importance, such as the impact of coastal storms and flooding, declining water quality, shortage of public access to the shoreline, loss of wetlands, deteriorating waterfronts and harbors, and the challenge of balancing economic and environmental demands in increasingly competitive ports. Most coastal states have coastal management programs approved and are implementing key aspects of the program. Each of these programs, which identify a whole range of actions to undertake for management of the coast, however, have lacked the resources necessary to address all of the pressures on, and degradation of, coastal resources. Funding would aid state, local and tribal governments in further designing and implementing sustainable approaches for balancing environmental and economic activities in coastal areas and educating the public about the need to manage and protect coastal and ocean resources. The results would include: improved habitat protection and restoration, better public access to the coast, urban waterfront and coastal community revitalization, and better management of special areas of concern at local, state, and national levels. This proposal includes a request that recent appropriations language, which imposes a cap on states receiving Section 306 grants, be lifted.

As part of this increase, NOAA requests that $25,000,000 be directed to provide state and local entities with financial and technical resources to reduce runoff pollution, the leading cause of degradation in coastal waters. This increase would improve land management practices within coastal watersheds to reduce pollution stemming from diverse sources including pesticide and nutrient applications, failing or poorly designed septic systems, and urban stormwater runoff. Funds would enable coastal states with federally approved coastal management programs: to implement projects that reduce polluted runoff to protect critical coastal habitats; to provide technical guidance which assists local communities and private entities in adopting measures that protect coastal waters, and to develop methods which track the effectiveness of pollution reduction measures. These funds will also enable states to leverage other state and local resources for controlling the flow of polluted runoff into coastal waters. This increase implements the recommendation in the report “Turning to the Sea: America’s Ocean Future” to increase support for state, local and tribal efforts to reduce the flow of polluted runoff into coastal watersheds, bays and estuaries as well as supports the goals and objectives of the interagency Clean Water Action Plan.

In addition, NOAA also recommends that $30,000,000 of this increase be focused on providing the states with the resources needed for coastal communities, as part of a coastal community conservation grant program, to protect and restore coastal resources, revitalize urban waterfronts, and mitigate the impacts of hazards. This increase would support community-based, environmentally protective solutions to address the impacts on coastal uses and resources caused by development and sprawl, revitalize previously developed areas, direct new development away from environmentally sensitive areas, emphasize water dependent uses, and protect coastal waters and habitat from increasing pressures that impact the health of our nation’s coasts. Coastal communities contain some of the nation’s most productive natural resources, both for recreation and fishing, and yet, increasing demand for these resources continue to result in habitat loss, water pollution and increased vulnerability to coastal storms. This funding increase will provide many coastal communities with the tools, resources, and information they need to comprehensively address the impacts of rapid growth. This support

to coastal communities will result in community revitalization, development and implementation of sustainable growth strategies, reduced impacts from coastal storms, and restoration and protection of coastal resources.

National Estuarine Research Reserve System (+ 0 FTE, +$6,000,000): A program increase of $6,000,000 is requested for the National Estuarine Research Reserve System (NERRS) to improve the ability of NOAA and its partners to protect, conserve, and restore coastal habitats and biodiversity. NOAA will enhance its coastal trustee responsibilities and provide national leadership in demonstrating how estuaries can be managed for the benefit of future generations. The increase will help make all 27 reserves (25 designated, 2 to be designated in FY 2001) fully functional in accordance with program guidelines and a 1997 Inspector General report. Funds will help State partners hire Reserves full-time core staff (with a goal of having a manager, science coordinator, and education coordinator at each site), and allow Reserve staff to plan and complete land acquisition and construction activities under the new discetionary spending category to provide dedicated and protected funds for the Administration's Lands Legacy Initiative. The increase also will enable Reserve staff to complete updated ecological profiles, fully implement the water quality and weather component of the NERR System-wide monitoring program, and begin implementing Phases II and III of the monitoring program including biological and land use change components. The NERRS monitoring program is a national monitoring system that will integrate chemical, biological and land use elements and provides vital and needed information to scientists and managers. The increase will also expand full implementation of the Graduate Research Fellows Program at all sites. The professional technical training for coastal decision makers provided by NERRS will be enhanced at the 25 existing sites and will begin at the two new sites. In addition, increased funding will enable NERRS to expand habitat restoration activities and conduct research and monitoring for improved restoration techniques and success. The result of these efforts will be better management for these valuable and productive ecosystems; improved support for coastal management solutions at the local, regional and national levels through information from long term scientific studies conducted at the sites; and the promotion of improved water quality through management of Reserves watersheds. As part of the Lands Legacy Initiative, NERRS can also help achieve the goals for the Clean Water Action Plan and the Coral Reef Action Plan.

Coastal Nonpoint Pollution Control Program (+ 0 FTE, +$2,000,000) NOAA requests an increase of $2,000,000 to accelerate completion and support implementation of state Coastal Nonpoint Pollution Control programs (CNPCP) that address the impact of polluted runoff to coastal waters. Polluted runoff is a major cause of water quality degradation along our coasts. This is the only national polluted runoff program that deals exclusively with coastal waters. Of the 33 coastal state and territories that are required to develop such programs, one state has received full approval of its CNPCP and 28 others are making progress in addressing conditions on their approved programs. Three coastal states that recently joined the coastal management program (Texas, Georgia, and Ohio) have submitted a plan for federal approval and the newest CZM state, Minnesota, is in the initial stages of developing its program. This increase supports the Administration's Clean Water Initiative and would implement recommendations of the Clean Water Action Plan.

Ocean Management (+ 12 FTE; + $9,076,000): A net increase of 12 FTE and $9,076,000 is requested under Ocean Management.

National Marine Sanctuary Program (+ 12 FTE; + $9,076,000): NOAA requests an increase of 12 FTE and $10,000,000 for the National Marine Sanctuary Program (NMSP) to improve and enhance the operating and technical capacity in the twelve national marine sanctuaries. The results will

improve protection of important sanctuary resources, including coral reefs, endangered marine mammals, sensitive habitats and cultural resources. Funding levels in FY 2000 were instrumental in beginning this process, with the focus primarily on reaching baseline operational levels in more sites. This increase will continue improvements to baseline operations, and shift the focus to the equally important aspects of upgrading management capabilities. All base programs will be enhanced from the additional funding, including education, community outreach, research and monitoring, cultural resource management, enforcement, and response to resource damage and vessel groundings.

Continuing to improve baseline operations includes bringing Sanctuary sites to full staffing level and updating site management plans. This funding increase will allow necessary staff to be hired, including full time permanent education and research coordinators at several sites. In addition, review and revision of out-of-date management plans can be initiated at more sites. These vital management plan revisions provide the blueprint for base program operation at each site. The revisions will also examine the need for changes in site regulations, boundaries, and zoning.

Upgrading management capabilities will include improvement to the science programs, such as system-wide monitoring and site characterizations. The system-wide monitoring will allow sanctuaries to better understand changes in the health of the sanctuary ecosystems - an important tool for the assessment of various management measures. Similarly, site characterizations inventory the Sanctuary resources and help focus program efforts. The proposed budget increase will allow the NMSP to significantly accelerate the rate at which the system-wide monitoring program and all the site characterizations are implemented, resulting in better understanding and preservation of valuable sanctuary resources. The continued work of the Sustainable Seas Expeditions (SSE) is also an important tool in both monitoring and site characterizations. The use of SSE submersibles allows the last frontier of the ocean - the deep, previously unexplored areas of our Nation's sanctuaries - to be explored, characterized, and monitored. These increases in research and monitoring to acquire information for effective resource conservation are key recommendations in the report "Turning to the Sea: America's Ocean Future."

The FY 2001 request also includes funding to explore and better understand the economic contributions of Sanctuaries and other ocean resources to the Nation. Ocean and coastal resources are vital to America's economy, and current estimates suggest that healthy coastal areas support fishing, tourism, recreation, and other industries that generate nearly $100 billion every year in coastal communities across the Nation. Coastal tourism and recreation are the largest and fastest growing segments of the U.S. service industry. Over half of the U.S. population lives and works in coastal areas, and one out of every six jobs in the U.S. may be marine related. However, there currently is no comprehensive effort to assess and track economic contributions from U.S. ocean and coastal resources, and little information on which to determine the economic impacts of management decisions concerning ocean and coastal resources. In partnership with economists and other scientists, states, and communities, this request will provide critical resources for the first Nation-wide study of the economic value of the U.S. ocean and coastal resources. This request directly supports the recommendations of the 1999 report, "Turning to the Sea: America's Ocean Future."

As the NMSP continues to support the SSE, the Ocean Economics Study, the NMSP, and its education activities, many sectors of the public, including student groups, will be better informed about the importance and fragility of the marine environment. SSE is one component of the comprehensive education and outreach plan currently being developed by the NMSP. These additional funds will enable initial implementation of that plan, including

development of visitor center exhibits and improving outreach to create a common ocean conservation ethic in the American public. This effort directly responds to the recommendation in "America's Ocean Future" to improve and promote ocean science education.

Upgraded enforcement will continue to be stressed as a program priority by adding three additional sanctuary-focused enforcement officers at the Hawaiian Islands Humpback Whale, Olympic Coast, and Gulf of the Farallones NMS to improve compliance with regulations and respond to threats and damages to sanctuary resources. These Sanctuaries currently do not have officers dedicated to exclusively to Sanctuary resource protection. Finally, as the existing program is upgraded, planning for the future of the NMSP will continue. This includes examining the use of zoning, creating strong linkages to the international marine protected area community, and developing stringent criteria for examining new sites. No funding is requested for the Northwest Straits Citizens Advisory Commission, enacted in FY 2000 at $462,000, reflecting completion of this activity. No funding is requested for one time support for the Marine Debris Conference enacted in FY 2000 at $462,000.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Protect, Conserve, and Restore Coastal Habitats and their Biodiversity					
Percentage of NMS that have reached a baseline operational level	50	75	83	100	100
Percentage of NMS sites that have significantly upgraded management capabilities	67	75	83	92	100
Number of capabilities upgraded among approved Coastal Zone Management Programs	21	23	25	27	27
Percent of significantly upgraded management capabilities and information delivery systems at NERRS sites . .	45	56	71	82	88

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Promote Clean Coastal Waters					
Percentage of coastal watersheds where CZM states will support implementation of management measures to reduce polluted runoff	2.2	5.3	13.1	19.4	25.6
Foster well-planned Coastal Communities					
Number of coastal communities planning and implementing resource protection and community revitalization initiatives which enhance the local capacity to address impact and pressure on coastal resources	54	70	92	122	142

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2000 Base (BA in Thousands)					
Total Program Changes (Outlined above)	+$112,593	+$112,593	+$112,593	+$112,593	+$112,593

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

Title:	Location		Grade	Number	Annual Salary	Total Salaries
Science Coordinator	Silver Spring, MD		14	1	71,954	71,954
Regional Team Leader	Silver Spring, MD		14	1	71,954	71,954
Assistant Team Leader	Silver Spring, MD		13	1	60,890	60,890
Education Specialist	Silver Spring, MD		12	1	51,204	51,204
Program Analyst	Hawaii		12	1	58,694	58,694 *
Program Analyst	Gulf of Farallones, CA		12	1	54,003	54,003
Archeologist	Florida		12	1	50,139	50,139
Physical Scientist	Monterey, CA		12	1	50,139	50,139
Physical Scientist	Stellwagen		12	1	50,139	50,139
Program Specialist	Silver Spring, MD		11	2	42,724	85,448
Program Analyst	Silver Spring, MD		11	1	42,724	42,724
Program Specialist	Silver Spring, MD		11	2	42,724	85,448
Coastal Issues Specialist	Silver Spring, MD		11	1	42,724	42,724
Education Specialist	Gulf of Farallones, CA		11	1	45,059	45,059
Education Specialist	Hawaii		11	1	54,222	54,222 *
Science Coordinator	Monterey, CA		11	1	41,834	41,834
Science Coordinator	Grays Reef, GA		11	1	41,834	41,834
Science Coordinator	Massachusetts		11	1	41,834	41,834
Enforcement Officer	Gulf of Farallones, CA		11	1	45,059	45,059
Enforcement Officer	Washington		11	1	41,834	41,834
Enforcement Officer	Hawaii		11	1	54,222	54,222 *
Program Specialist	Silver Spring, MD		9	2	35,310	70,620
Coastal Issues Specialist	Silver Spring, MD		9	1	35,310	35,310
Education Specialist	Channel Islands, CA		9	1	36,512	36,512
Program Analyst	Silver Spring, MD		9	1	35,310	35,310
Secretary	Silver Spring, MD		6	1	25,976	25,976
Secretary	Silver Spring, MD		5	1	23,304	23,304
Total				30		1,368,390
Less lapse		25%		(7)		(340,729)
Total full-time permanent (FTE)				23		1,027,661
2001 Pay Adjustment (3.7%)						38,023
Total						1,065,684

* Positions in Hawaii, 1.25% of base salary used.

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

Personnel Data	Number
Full-time permanent	23
Other than full-time permanent	0
Total	23
Authorized Positions	
Full-time permanent	30
Other than full-time permanent	0
Total	30

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Ocean Service**

Subactivity: **Ocean and Coastal Management**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	1,066
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	1,066
12.1	Civilian personnel benefits	285
13	Benefits for former personnel	0
21	Travel and transportation of persons	1,024
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	111
23.3	Commun., util., misc. charges	130
24	Printing and reproduction	537
25.2	Other services	7,154
26	Supplies and materials	876
31	Equipment	977
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	101,357
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	113,517

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **National Ocean Service**
Subactivity: **Ocean and Coastal Management**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(924)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0

99	**Total obligations**	(924)

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Acquisition of Data

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Acquisition of Data	Pos./BA	196	14,739	231	15,487	231	15,132	231	17,246	0	2,114
	FTE/OBL.	226	14,502	231	15,749	231		231		0	
Total	Pos./BA	196	14,739	231	15,487	231	15,132	231	17,246	0	2,114
	FTE/OBL.*	226	14,502	231	15,749	231		231		0	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Ocean Service**
Subactivity: **Acquisition of Data**

Goal Statement

The goal of this subactivity is to provide vessel support needed to collect hydrographic and coastal assessment data. Vessel support needed by NOAA is unique and requires the ability to gather the precise measurements and observations needed to promote safe navigation and sustain healthy coasts. These vessels will provide days-at-sea for conducting and supporting programs of significant national interest, including marine environmental quality, safety of marine navigation, and protection of life and property.

Proposed Legislation

No legislation is proposed in this subactivity.

Base Program

The FY 2001 NOS acquisition of data base funding is $15,132,000. These funds will provide approximately 880 Days-at-Sea for nautical charting and coastal projects performed by the NOAA ships RAINIER, WHITING, RUDE, FERREL, and McARTHUR, and UNOLS vessels to collect data for the

joint NOAA/National Science Foundation and Ecology and Oceanography of Harmful Algal Blooms(ECOHAB) and Global Ocean Ecosystem Dynamics (GLOBEC) programs. Vessel characteristics and homeport are tabulated below.

Vessel	Length - Class	Mission	Homeport
RAINIER	231 ft. - II	Hydrographic Surveys	Seattle, WA
WHITING	163 ft. - III	Hydrographic Surveys & Bathymetric Mapping	Norfolk, VA

Vessel	Length - Class	Mission	Homeport
RUDE	90 ft. - V	Hydrographic Surveys	Norfolk, VA
FERREL*	133 ft. - IV	Environmental Assessment	Charleston, SC
McARTHUR**	175 ft. - III	Fisheries Research & Environmental Assessment	Seattle, WA

* Vessel shared with Oceanic & Atmospheric Research (OAR)
** Vessel shared with National Marine Fisheries Service (NMFS)

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Number of Days-at-Sea funded by NOS Acquisition of Data and allocated by the Fleet Allocation Council	838	763	880	880

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Acquisition of Data	POS/BA	231	$15,132	231	$17,246	0	$2,114
	FTE/Obl	231	$15,132	231	$17,246	0	$2,114

Acquisition of Data (+0 FTE, +$2,114,000): NOAA requests an increase of $2,114,000. This increase will provide approximately 140 additional days-at-sea for Ecology and Oceanography of Harmful Algal Bloom and the Global Ocean Ecosystems Dynamics Projects.

. . . . . .

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Days-at-Sea	+140	+140	+140	+140	+140

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands) . . .	+$2,114	+$2,114	+$2,114	+$2,114	+$2,114

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **National Ocean Service**
Subactivity: **Data Acquisition**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	1,526
24	Printing and reproduction	0
25	Other services	588
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	2,114

NATIONAL MARINE FISHERIES SERVICE
STRATEGIC PLANNING GOALS AND OBJECTIVES

The National Marine Fisheries Service (NMFS) supports three of NOAA's Strategic Planning Goals. Below is a brief characterization of the NMFS programs in the context of these three Goals.

GOAL - BUILD SUSTAINABLE FISHERIES

The Build Sustainable Fisheries initiative seeks to optimize the value of our fisheries resources for the benefit of the nation and reflects the Administration's emphasis on stewardship of our natural resources. Fisheries include the fish stocks, the people who catch the fish stocks, and the communities that depend on them. Rebuilding the health of U.S. fisheries responsibly requires the elimination of overfishing and overcapitalization while minimizing the impacts on fisheries- dependent communities. Additional fisheries resources can be produced through the development of environmentally sound aquaculture, and aquaculture can offer alternative employment and economic opportunities in fisheries-based communities. This initiative will increase NOAA's capability to implement the Department's crosscutting environmental stewardship theme by decreasing the scientific uncertainty associated with resource conservation decision-making and reducing conflicts between competing user groups for marine resources. The National Marine Fisheries Service supports the NOAA Strategic Planning Goal to Build Sustainable Fisheries through three objectives: 1) Eliminate and Prevent Overfishing and Overcapitalization; 2) Attain Economic Stability in Fishing Communities; and, 3) Develop Environmentally and Economically Sound Marine Aquaculture.

OBJECTIVE - ELIMINATE AND PREVENT OVERFISHING AND OVERCAPITALIZATION

In order to eliminate overfishing and permit fishing to occur at sustainable levels, considerable information is necessary about the stock size and age structure and the physical and biological processes that control ecosystem dynamics. This objective includes fishery assessment and prediction programs that give the Fishery Management Councils and the Secretary of Commerce the information necessary for equitable and legally sound regulatory decisions for the current 39 Fisheries Management Plans (FMP's) and for proposed plans to address additional stocks. This objective also accommodates the management support necessary to assist the Councils to evaluate, select and monitor fisheries measures, including FMP's that restrict access to the stocks and reduce overcapitalization. Overcapitalization is also addressed through fishing fleet downsizing, most often accomplished by industry-supported "buy-backs" of fishing vessels. Once fisheries management regulations are in place, the prevention of overfishing requires adequate compliance through enforcement and onboard observers, an important component of this objective. Another essential and legally mandated program under this objective is to maintain and improve essential fish habitat. NOAA will also pursue national and international agreements to support both conservation and economic goals that will work to reduce overfishing and overcapitalization world-wide.

OBJECTIVE - ATTAIN ECONOMIC SUSTAINABILITY IN FISHING COMMUNITIES

The rebuilding of overfished fisheries required under the Sustainable Fisheries Act amendments to the Magnuson-Stevens Act will result in temporary lower harvest levels in some fisheries.. Fewer fishing vessels and fewer fishing-related jobs have the potential to reduce economic activity in fisheries-dependent coastal communities. In order to minimize the economic impact of fisheries management decisions to communities, the programs under this objective use economic and social science research to understand the consequences of various alternative FMP strategies. NOAA is working with other Federal, state and local agencies to addresses these impacts on fishing communities through a variety of programs including loans, retraining, vessel and permit buyouts, and community planning. While NOAA alone does not cover the total costs of such programs, it acts as a catalyst to work within the DOC with such agencies as the Economic Development Administration and with other Federal agencies such as the Department of Labor and the Small Business Administration to coordinate community assistance to address the economic and social impacts of reduced fishing levels.

OBJECTIVE - DEVELOP ENVIRONMENTALLY AND ECONOMICALLY SOUND MARINE AQUACULTURE

Marine aquaculture can play an important role in producing fish for food, thereby reducing our dependence on wildstocks, and can offer new business and employment opportunities in coastal communities impacted by reduced fishing activity. In addition to food production, aquaculture can also be used to enhance wildstock populations, assist in recovery plans for protected species and to produce non-food products such as ornamental fish, baitfish and drugs and pharmaceuticals. This objective supports the development of marine aquaculture in the U.S. by addressing the technical, environmental, siting, regulatory, educational and socio-economic aspects. A major new thrust is the evaluation, development, and regulation of aquaculture in the U.S. Exclusive Economic Zone. NOAA will also foster technology development and international agreements to support environmentally and economically sound aquaculture.

GOAL - RECOVER PROTECTED SPECIES

The recover protected species initiative reflects the Administration's emphasis on conservation of our environmental resources. This initiative will increase NOAA's capability to implement the Department's crosscutting theme of environmental stewardship and assessment through decreasing the scientific uncertainty associated with resource conservation decision-making and reducing conflicts between protected species management and users of other marine resources, such as commercial fisheries. The National Marine Fisheries Service supports the NOAA Strategic Planning Goal to Recover Protected Species through two objectives: 1) Prevent Extinction of Protected Species; and, 2) Maintain Healthy Species and Ecosystems.

OBJECTIVE - PREVENT EXTINCTION OF PROTECTED SPECIES

NOAA will reduce the probability of extinction for protected species. NOAA will accomplish the objective in cooperation with Federal, tribal, state, and local partners. To do this, NOAA will strengthen its capabilities to identify and protect marine resources facing declines and extinction and will develop conservation and recovery programs that consider the resource and habitat needs of marine species in conjunction with sustainable economic

opportunities in the marine environment. NOAA will provide leadership and assistance through its scientific, educational, and technical capabilities to implement recovery plans and thereby ensure that protected resources remain for future generations. A significant portion of the activities under this objective will implement research and management actions to mitigate or avoid detrimental interactions between marine species and human activities.

OBJECTIVE - MAINTAIN HEALTHY SPECIES AND ECOSYSTEMS

NOAA will assess and predict the status of protected species and identify barriers to their recovery. This objective applies an ecosystem approach to marine biodiversity conservation and species recovery. This supports mandates in the ESA, MMPA, and international treaties, conventions and partnerships for species and ecosystem conservation. NOAA will produce the information and analyses necessary for assessments of the status and trends of protected marine species and ecosystems and the threats to their health. Knowledge of the status of species and assessments of those factors causing decline will assist in resolving conflicts between marine resource users without having to resort to overly restrictive conservation measures. Actions taken to conserve healthy or at risk resources will serve to avoid the need for listing as protected species.

GOAL - SUSTAIN HEALTHY COASTS

NMFS includes efforts in all three objectives of this goal.

OBJECTIVE - PROTECT AND RESTORE COASTAL HABITATS

Programs to protect and restore habitat are essential to the recovery and long-term health of living marine resources. This is especially true for those habitats important to U.S. commercial and recreational fisheries and for maintaining the biological diversity and associated economic productivity of the Nation's coasts. Activities under this objective will increase protection of habitats through collaborative assessment, research and management actions; expand participation in ecosystem and watershed programs for the benefit of trust resources; and improve Federal, state and local government decisions regarding permits, projects and their cumulative impact on habitats. In addition, NOAA will expand coastal habitat restoration actions, expanding the range of habitats restored and establishing joint efforts to increase leverage of Federal project funds. NOAA will also strengthen its ability to gather, transfer, and use data on biological diversity as an indicator of the health of coastal habitats and ecosystems and makes better use of ongoing resource surveys.

OBJECTIVE - PROMOTE CLEAN COASTAL WATERS

Chemical pollution continues to assault living marine resources, affecting both their health and survival, and to contaminate fisheries products. We must give greater attention to the research and management of chemical contaminants and water quality in the marine environment if we are to manage better trust resources (e.g., increase understanding and management measures to address decreased survival and impaired reproduction and development of living marine resources from endocrine disrupters.) Participation with state and Federal regulatory agencies regarding point and nonpoint discharges

into the marine environment and comprehensive assessments of Federal projects under Clean Water and Ocean Dumping Acts will continue under existing consultative authorities. These efforts will help improve water quality and help to ensure the safety of seafood for the Nation's consumers.

OBJECTIVE - FOSTER WELL-PLANNED COASTAL COMMUNITIES

Our valuable commercial and recreational fisheries illustrate the important relationship that exists between healthy coastal habitats and the economic well being of coastal communities. The economic growth and development of coastal communities can lead to the destruction or degradation of living marine resources and their habitats. The loss of habitat can threaten industries, such as aquaculture, that NOAA is seeking to promote. In addition, actions taken to mitigate the impacts of coastal hazards and reduce life and property losses can seriously affect living marine resources and their habitats. The objective provides the ability to quantify habitat functions, demonstrate the value of fishing activities to local economies, and design measures to enhance living marine resource conservation at the local level.

National Marine Fisheries Service
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Build Sustainable Fisheries										
Develop Sound Aquaculture				12,886		12,886		12,962		76
Assess the Status of Fishery Resources	1,476	184,197								
Advance Fishery Prediction		601								
Managing for Economic Growth	377	92,232								
Ensuring Adequate Compliance	181	17,775								
Provide Research and Service	43	3,448								
Infrastructure				3,786		3,888		7,657		3,769
Eliminate & Prevent Overfishing			1,925	248,442	1,925	252,112	1,923	260,002	(2)	7,890
Attain Economic Sustainability in Communities			285	43,998	285	45,037	285	52,866		7,829
Total BSF	**2,077**	**298,253**	**2,210**	**309,112**	**2,210**	**313,923**	**2,208**	**333,487**	**(2)**	**19,564**
Recover Protected Species										
Assess Status and Impacts	331	36,516								
Implement Conservation Plans	199	37,557								
Maintain Healthy Species & Ecosystems			389	29,945	389	31,389	390	32,423	1	1,034
Prevent Extinction			248	60,228	248	60,798	297	70,520	49	9,722
Total RPS	**530**	**74,073**	**637**	**90,173**	**637**	**92,187**	**687**	**102,943**	**50**	**10,756**
Sustain Healthy Coasts										
Protect, conserve and restore habitats	143	14,474	111	14,633	111	14,991	120	16,430	9	1,439
Promote clean coastal waters	27	2,630	27	2,627	27	2,670	27	2,510		(160)
Total SHC	**170**	**17,104**	**138**	**17,260**	**138**	**17,661**	**147**	**18,940**	**9**	**1,279**
Total for NMFS	**2,777**	**389,430**	**2,985**	**416,545**	**2,985**	**423,771**	**3,042**	**455,370**	**57**	**31,599**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: Information Collection & Analysis

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
Line Item		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Resource Information	Pos./BA	1,046	136,361	1,059	144,901	1,059	147,395	1,064	128,426	5	(18,969)
	FTE/OBL.	941	127,779	1,032	153,982	1,032		1,036		4	
Fishery Industry Information	Pos./BA	178	32,578	181	30,918	181	31,338	181	30,171	0	(1,167)
	FTE/OBL.	173	31,396	182	31,457	182		182		0	
Information Analyses and Dissemination	Pos./BA	222	24,305	222	24,308	222	24,811	222	24,903	0	92
	FTE/OBL.	217	24,659	222	24,534	222		222		0	
Total	Pos./BA	1,446	193,244	1,462	200,127	1,462	203,544	1,467	183,500	5	(20,044)
	FTE/OBL.*	1,331	183,834	1,436	209,973	1,436		1,440		4	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Marine Fisheries Service**
Subactivity: **Information Collection and Analyses**

Goal Statement

Provide accurate and timely analyses on the biological, ecological, economic, and social aspects of the Nation's use and conservation of its living marine resources in order to support the National Oceanic and Administration (NOAA) Strategic Plan goals to build sustainable fisheries, recover protected species, and sustain healthy coasts.

Proposed Legislation

NOAA will work with the Administration to reauthorize the Endangered Species Act (ESA), P.L. 95-632; the Magnuson-Stevens Fishery Conservation and Management Act, P.L. 104-297; and the Marine Mammal Protection Act, P.L. 97-58.

Base Program

The objectives of this subactivity are to:

- Collect, analyze, manage, and disseminate timely information on the status of fish, shellfish, marine mammal, and endangered species stocks and on their social and economic importance.
- Determine the impacts of the incidental taking of marine mammals and endangered species.
- Develop forecasting models for living marine resource populations, ecosystems, and fishery systems.
- Evaluate alternative management options and their effects on fishery resources and industry.
- Improve the quality and timeliness of information services concerning living marine resources, their habitats, and their use.
- Provide marine service to support fishery management and protected species functions.

Under the Magnuson-Stevens Fishery Conservation and Management Act, the Endangered Species Act, and the Marine Mammal Protection Act, NOAA is responsible for the management and conservation of the Nation's living marine resources and their habitats. Effective credible management -- to build sustainable fisheries, to recover protected species, and to promote coastal ecosystems health -- is in large measure dependent on the scientific foundation provided by information collection and analysis activities. This information is required by the eight Regional Fishery Management Councils; international and domestic fishery commissions; the Marine Mammal Commission; the interstate fishery commissions; and other Federal and state agencies to establish and implement fishery, protected species, and habitat conservation measures. The information and analyses are the basis for management and development decisions that support the growth and stability of the U.S. economy, especially the fishing industry that contributes billions of dollars each year to the economy. Currently, NOAA monitors and conducts research on 203 stocks of fish, marine mammals, and endangered species, as well as their habitats. These assessments must be updated frequently because of the dynamic and natural variability of the marine environment, the stocks involved, and widespread changes in fishing practices. To complete these assessments, NOAA collects biological, environmental, economic, social, and statistical data on fish, shellfish, marine mammal and endangered species stocks, and their habitats. Analytical models then are used to combine these data to assess trends in stock sizes, determine appropriate sustainable yields from resources, ascertain their economic and social importance, and evaluate the impacts of alternative management measures.

Work is conducted by NOAA's National Marine Fisheries Service (NMFS) field elements with oversight, review, and direction by NMFS headquarters in Silver Spring, MD. The field structure consists of five Regional Offices, each with a Science Center that conducts research and directs the work carried out by the other laboratories and satellite/special purpose facilities in that region. Major NMFS facilities are located at the following sites:

Northeast: **Regional Office** - Gloucester, MA.
Science Center - Woods Hole, MA.
Major Laboratories - Milford, CT; Narragansett, RI; Sandy Hook, NJ.
Satellite/Special Purpose Facilities - Smithsonian (National Systematics Lab), Washington, DC.

Southeast: **Regional Office** - St. Petersburg, FL.
Science Center - Miami, FL.
Major Laboratories - Galveston, TX; Panama City, FL; Pascagoula, MS.
Satellite/Special Purpose Facilities - Stennis Space Center (Bay St. Louis).

Southwest: **Regional Office** - Long Beach, CA.
Science Center - La Jolla, CA.
Major Laboratories - Tiburon, CA; Honolulu, HI.
Satellite/Special Purpose Facilities - Monterey, CA.

Northwest: **Regional Office** - Seattle, WA at Sand Point.
Science Center - Seattle, WA at Montlake.
Satellite/Special Purpose Facilities - Manchester, WA; Mukilteo, WA; Pasco, WA; Newport, OR; Pt. Adams, OR.

Alaska: **Regional Office** - Juneau, AK.
Science Center - Seattle, WA at Sand Point.
Major Laboratories - Auke Bay, AK; Kodiak, AK.
Satellite/Special Purpose Facilities - Little Port Walter, AK.

Resource Information: NOAA collects biological, environmental, and ecosystem data about the Nation's living marine resources and their supporting habitats. Living marine resources include fish, shellfish, corals, marine plants, marine mammals, and endangered species. Research programs are conducted nationwide by NOAA's fisheries research laboratories and provide fundamental information required by Federal, state, and industry decision-makers for conservation and management purposes in support of the Magnuson-Stevens Act, Endangered Species Act, Marine Mammal Protection Act, and other statutes.

Scientific surveys are conducted to sample the distribution and abundance of living marine resources. The surveys are conducted by NOAA research vessels, over contracted state, university or private vessels, aircraft, and satellites. These surveys collect biological information on the species composition, size, abundance and distribution of living marine resources of commercial, recreational, ecological significance oceanography, and related habitat data. This information supports habitat conservation and resource allocation decisions, including the resolution of conflicts among competing user groups. These surveys provide data and scientific samples used for determining the characteristics of the resource populations. Stock assessments are produced using a combination of information from resource surveys and information collected directly from fishing industries and observer programs, and through cooperative agreements and contracts with state agencies, universities, and private organizations. Contracting for days at sea for the Antarctic Living Marine Resources Program is also included in Resource Information base funding.

Fisheries research is conducted on predator-prey relationships, mortality and growth rates, age and sex structure, reproductive states, distribution and migrations, habitat and physiological requirements and diseases. These data provide an understanding of biological processes necessary to develop sound conservation and management strategies. Food chain and predator-prey relationships are particularly important in understanding the complex interactions of marine species and for comprehensive ecosystem management. Research also is carried out on stress to marine resources from pollution and overfishing. Accurate prediction of fishery yields is difficult because of ecological variability that influences the abundance of living marine resources. Environmental changes can affect living marine resources significantly during all life stages and drastically affect harvests, resource distribution and availability along traditional migratory routes, feeding and spawning concentrations, and behavior on fishing grounds. Natural and human-induced (i.e., fishing pressure, habitat degradation, and pollution) changes to marine habitats are studied to determine their effects upon the abundance, distribution, and physiological functions of species of commercial and recreational significance. The resulting increased understanding about recruitment dynamics,

pollutant effects, and ecosystem impacts helps managers to identify and mitigate the causes of mortality and recruitment variability. Such actions help to restore, to maintain, or to rebuild marine resources.

Aquaculture research is conducted to assist in the development of an environmentally sound industry and to investigate the utility of aquaculture enhancement to help recover overfished stocks more rapidly. Research is focused both on technologies to increase aquaculture production, and on evaluating and addressing environmental impacts.

Protected species research focuses on marine species population abundance, distribution and trends, marine ecosystem dynamics and the impacts of human activities on marine mammals and other protected marine species. NOAA conducts studies on large whales, porpoises, seals, sea lions, salmon, and sea turtles. NOAA uses this information to develop conservation and recovery plans in fulfillment of its Marine Mammal Protection Act and Endangered Species Act responsibilities. Scientists conduct research programs nationwide in NOAA fisheries research laboratories and provide fundamental information required by Federal, state and industry decision-makers for conservation and management purposes. Molecular genetics and modern approaches to stock identification supply data necessary to distinguish population stocks of marine species for use in appropriate and prudent listing determinations. NOAA specifically investigates the effects of commercial fishing, dams, power plants, polluted effluents, dumping, dredging and logging on protected species in support of Administration efforts to recover salmon species along the West Coast. NOAA prioritizes its research and monitoring efforts on only the most critical situations where sensitive populations are adversely affected by human activity and on species that are petitioned for status review to make a listing determination. Such species include several salmon, marine mammal and sea turtle populations. NOAA conducts periodic status reviews to monitor the improvement or decline of listed species and evaluate management activities.

Cross Cutting Research and Monitoring. Included within the Resource Information base is a research program to develop models and apply strategies for bycatch reduction through the assessment, monitoring and prediction of bycatch in major U.S. fisheries. While the issue of bycatch has been recognized as a significant factor in the accurate assessment of stocks, bycatch species are often an important biological component of ecosystems; their removal can be wasteful from an economic perspective, undermines conservation efforts, reduces biodiversity and may change the composition of ecosystems in ways that inhibit recovery of fish stocks. Thus means of reducing bycatch must be identified, developed and implemented. This work will provide research on the underlying biological relationships associated with bycatch and make progress on predicting the consequences of proposed mitigation options for dealing with bycatch.

The Magnuson-Stevens Fishery Conservation and Management Act directed the Department of Commerce to conduct research in the field of "conservation engineering," which includes the development of highly selective harvesting gear. Development of gear that will not catch non-target species is needed for some fisheries (e.g., Pacific halibut in Alaska trawl fisheries), while in other fisheries, gear must be developed that will permit non-target organisms, such as undersize swordfish taken on longline, to escape unharmed if captured.

NOAA uses remote sensing and other technologies to improve the timeliness and quality of the information on living marine resources. In some fisheries, acoustic devices are used to locate fish and estimate their abundance. Aerial and satellite sensor techniques are developed to: locate plankton

concentrations and ocean thermal fronts; measure water temperature, salinity, and turbidity; track fish, mammals, and sea turtles; and direct research and fishing vessels to target areas. The application of advanced technology increases the speed and efficiency at which large ocean expanses and extensive coastal areas can be monitored, thereby giving a more comprehensive picture of physical changes in the ocean environment and their relationship to resource variations evidenced from survey data.

To adequately monitor the impact of a fishery on a particular stock, as well as particular ecosystems, it is important to estimate the overall catch by vessels on the fishing grounds -- not just the portion of the harvest that is ultimately landed and sold. The best means for obtaining such information on what is removed (i.e., killed) from the system by fishing is through data collected by at-sea observers. NOAA's observer programs estimate the catch and can provide real time monitoring of the progress of the fishery. Data on the species, size, sex and other biological characteristics of both target and non-target species eventually landed or discarded at sea are collected. This includes samples of protected species such as marine mammals and sea turtles that might be bycatch to the fishery. This information is vital for the development of comprehensive management and conservation programs.

Habitat Research and Restoration. The NOAA Restoration Center directs the planning, implementation, and monitoring of case-specific programs to restore NOAA trust resources after successful settlement of natural resource damage claims. The Center provides in-house expertise and coordination for restoration and habitat research. The Center works with other NOAA components, as a participant of the Damage Assessment and Restoration Program (DARP), to develop and evaluate restoration needs and methods. In addition, the Center administers the NOAA-Army Agreement to increase marine fisheries productivity and advance habitat restoration technology, in cooperation with the Corps of Engineers Civil Works Program. It is also oversees of NMFS activities as part of implementing the Coastal Wetland Planning, Protection and Restoration Act (CWPPRA). NOAA expects to restore more than 90,000 acres of Louisiana coastal wetlands over the next five years, through CWPPRA projects. The Restoration Center provides support for NOAA efforts to build natural resource damage assessment claims against potentially responsible parties under statutes including the Comprehensive Environmental Response, Compensation and Liability Act and the Oil Spill Act of 1990. The Center uses awarded damages to restore, replace, or acquire the equivalent of injured resources; the services they provide; and to develop national expertise and institutional focus on habitat restoration through basic and applied studies.

NOAA strengthens the effectiveness of its habitat consultative powers by emphasizing research and management coordination, providing essential scientific advice early in the permit and license planning processes, working directly with developers in designing permit or license applications, supporting the Regional Fishery Management Councils in developing their positions on specific projects and issues, increasing overall habitat conservation awareness within Federal construction and permit-granting agencies and state and local agencies, and addressing opportunities to improve NOAA's ability to gather, transfer and use data on biological diversity as an indicator of the health of coastal habitats and ecosystems.

NOAA will continue its habitat restoration activities and its support for the South Florida Ecosystem Restoration using Resource Information base funding. NMFS has an important role in NOAA's contributions to the interagency restoration effort. NOAA's role is to provide the science, monitoring and assessments necessary to evaluate overall restoration activities and their impacts on coastal resources such as coral reefs, commercial and recreational

fisheries. NMFS is leading the effort to restore South Florida's living marine resources through protection of essential fish habitat, restoration of protected species and their habitats, monitoring of important habitat characteristics such as pesticides and other contaminants, and using this information to help design, monitor and evaluate the impacts of inland restoration activities on coastal resources. These NMFS activities are an essential part of an integrated NOAA effort in South Florida that includes the National Ocean Service. Research projects were awarded through a competitive process in collaboration with the office of Coastal Ocean Science's South Florida Ecosystem Research, Prediction, and Modeling Program.

Fishery Industry Information: Commercial and recreational fisheries data are essential to assess the status of fisheries and develop policy options to manage fisheries for biological and economic growth and sustainability. They are also used directly in fishery management as a basis of catch allocations and to determine when allowable catch levels have been reached. The absence of timely and accurate data prevents completion of needed analyses for fishery management, stock assessment and economic impact decision making. NOAA's ability to formulate and implement public policy with a clear understanding of its implications is strongly compromised. NMFS has developed its Fisheries Statistics Strategic Plan to focus on its statistics program needs over the next decade.

The major thrusts of the program will be the initiation of systematic collections of economic and social data for recreational and commercial fisheries. Data will be collected through a combination of Federal, state and contractual mechanisms with an emphasis on integrating new activities within our existing cooperative relationships, such as our state-Federal partnerships.

NOAA plans to improve the analytical capability to predict and monitor the economic and social impacts of its management decisions. Many of these analyses are required by statute or Executive Order. This program will utilize both in house economists and external economic and social science expertise through the creation of cooperative institutes and the use of Sea Grant and other university partnerships. More complete economic and social analyses of the impact of management decisions will rely on a systematic analysis of cost-earnings data; calculation of current and actual levels of capitalization; and establishment/implementation of standard methodology for evaluating net economic benefits and economic performance.

Commercial information includes: (1) volume and value of catch in domestic and foreign fisheries by species, region, state, and type of fishing gear; (2) incidental take or harvest of non-target species; (3) fishing effort; (4) volume and value of processed fishery products from domestic harvest, and imports; (5) cold storage holdings of fishery products; (6) production of industrial fish products (e.g., fishmeal and oil); (7) number of operating units and people employed in harvesting and processing fishery products; (8) imports and exports of fishery products; and (9) consumption of fishery products. Fishing effort and location data are collected from logbooks in some fisheries, from interviews of fishermen in others, and through at-sea sampling on domestic and foreign vessels. Recreational information includes: (1) the number and participation rates of marine recreational fishermen; and (2) their catch and effort data by mode of fishing (e.g., shore, pier, and charter boat).

Information Analysis and Dissemination: Fishery management depends on sophisticated mathematical and statistical analyses to integrate all of the available data from resource surveys, commercial and recreational data collections, at-sea observers, and population biology studies into a quantitative scientific basis for decisions. These analyses use state-of-the-art models of population dynamics and risk assessments to formulate policy

options for fisheries management. Resource information, analyses, and recommendations on the status of stocks and the effects of current and potential management regulations are provided to NOAA, the eight Regional Fishery Management Councils, states, three interstate Marine Fisheries Commissions, and commissions established through international treaties. Data are analyzed and used in computer models to forecast changes in resource abundance required for long-range management. Computer-based analyses are important for monitoring domestic and foreign observer data, for administering various permit systems, and for timing of mid-season closures, if necessary, of various fisheries under quota controls. This information also is used to identify the consequences of natural and human-induced changes in the marine environment on the production and abundance of living marine resources and to analyze the impacts of fishery management measures on the resources and the industry.

Activities support timely analysis and dissemination of fishery data, and ecosystem-focused analysis. This effort requires investments in computer, telecommunication, and facility infrastructure. Significant emphasis is placed on the use of state-of-the-art computer hardware and software systems to process scientific, administrative, and technical data used in living marine resource management, ecosystem modeling, stock abundance predictions, and other large-scale scientific applications. NOAA also must share data with states and the interstate Marine Fisheries Commissions for management of interjurisdictional fisheries, such as menhaden, flounder, and mackerel, and with other countries, such as Canada, Russia, and Mexico, for management of transboundary fisheries, including salmon, shrimp, groundfish, and pelagic swordfish and tunas.

Large quantities of valuable data are produced by fisheries assessment activities. These data must be managed so that they are accessible, easily manipulated and archived for future use by both NOAA and other users. NOAA/NMFS has a comprehensive, long-term plan for advancing data and information management as part of its Information Technology Strategic Plan.

NOAA/NMFS is in the process of planning and implementing a NMFS-wide systems architecture to provide a framework within which new systems can be acquired and existing information systems can evolve to new technologies when required. The systems architecture will build upon the capabilities currently provided by the nine host machines, distributed nationwide, which are supplemented by scientific workstations and personal computers. (The host machines and workstations were installed as the IT-95 computer system.) These are linked through a NMFS Wide Area Network (WAN) and Local Area Networks (LANs) to promote dissemination of information within and outside the agency. Conversion of older software to this relatively new system is underway. To facilitate the goal of non-duplicative, comprehensive, nation-wide systems of Fisheries information, the architecture will integrate client-server databases with distribution over the WAN and LANs. An efficient information technology system is essential for meeting NOAA's goal to Build Sustainable Fisheries, Recover Protected Species, and Sustain Healthy Coasts.

Mandatory Pay and Inflationary Costs: NOAA budget includes an increase of $3,417,000 to fund adjustments to base for NMFS base programs. This increase will fund the FY 2001 federal pay raise of 3.7 percent and annualize the FY 2000 pay raise of 4.8 percent. The increase will also provide inflationary increases for certain non-labor activities including service contracts and facility rent charges.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Build Sustainable Fisheries				
Eliminate and Prevent Overfishing and Overcapitalization				
By 2005, 25% (86 of 279) fewer overfished fisheries (stocks subject to overfishing)	…	–4%	–8%	0%
By 2005, 20% fewer overcapitalized fisheries (economic and social aspect) .	…	0	1%	2%
By 2005, 60% of stocks have sufficient "essential fish habitat"	…	N/A	10%	30%
Attain Economic Sustainability in Fishing Communities				
By 2005, 9% increase in employment in non-capture fishing and/or other sectors	…	0	1%	2%
By 2005, 20% of communities impacted by limited/closed fisheries are economically improved	…	0	1%	3%
Develop Environmentally and Economically Sound Marine Aquaculture				
By 2005, 17% increase in economic contribution of aquaculture to Gross Domestic Product	…	0	2%	4%
By 2005, 100% of aquaculture operations are in compliance with Code of Responsible Aquaculture Practice	…	0	2%	10%

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Information Collection and Analyses	POS/BA	1,462	$203,544	1,467	$183,501	5	($20,043)
	FTE/Obl	1,434		1,438		4	

NOAA requests a net change in this subactivity of +4 FTE and –$20,043,000. Program increases are needed to maintain a sustainable and healthy fishing industry, and to conserve and protect species that are impacted by commercial fishing activities.

Resource Information (+4 FTE, –$18,968,000): NOAA requests a net decrease of $7,242,000 for base programs in the Resources Information line item.

A net decrease of $7,242,000 is requested for Resources Information base programs. This net change consists of an increase of $7,824,000 which includes $1,000,000 for West Coast Groundfish Research Activities, $605,000 for the South Florida Ecosystem Initiative, $2,514,000 for Fisheries Oceanography, $2,705,000 for Expanded Annual Assessment - Data Collection, $1,000,000 Aquaculture, and a $15,066,000 decrease for items in the FY 2000 appropriation that were not proposed in the President's FY 2000 budget.

Within the Resource Information base funds, an additional $1,000,000 base increase is requested to provide a total of $3,250,000 for the **West Coast Groundfish program** in the Northwest Fisheries Science Center (NWFSC). These funds will begin to provide the additional survey work by NOAA vessels and industry charters necessary to cover the entire species range annually. This level of funding is needed for additional quantitative scientists and database mangers in the NWFSC to conduct analyses of species that are currently not assessed. To develop future quantitative assessment capability the Center needs to build programs with the universities to train students for careers in quantitative resource management science. Funding will also be used in the area of socio-economic analyses and research. There is an increasingly critical need for economic analyses of the capacity of the groundfish fishery.

An increase of 0 FTE and $605,000 is requested for its effort to restore **South Florida's Living Marine Resources** through protection of essential fish habitat, restoration of protected species and their habitats, monitoring of important habitat characteristics such as pesticides and other contaminants,

and using this information to help design, monitor and evaluate the impacts of inland restoration activities on coastal resources. The additional $605,000 will enable NMFS to research the affects of contaminant inflow on fisheries and marine mammal species.

An increase of 0 FTE and +$2,514,000 is requested for **Fisheries Oceanography** to improve stock assessments. This increase will provide support for the Fisheries and the Environment program (FATE) 2000 initiative to apply, develop, and expand research activities. This initiative will also transfer to fisheries management communities the information and models needed to integrate the impacts of ocean climate changes into resource assessment models, and to evaluate new models and techniques for resource management. The major tasks are to identify and assess critical environmental processes controlling long-term trends in the Nation's fishery production, develop an observational program of sufficient scope to anticipate impending regime shifts, and develop coupled bio-physical models to predict the effects of regime shifts on fisheries productivity.

An increase of +4 FTE and +$2,705,000 is requested to support **Expanded Stock Assessments - Data Collection** programs and assessment of the fisheries resources. Fisheries management must be based on sound science. NOAA is mandated to provide full scientific advice, produced through the highest levels of data acquisition and analysis techniques available, for all fisheries coming under national jurisdiction. The Sustainable Fisheries Act requires expanded and annual resource assessments of fisheries stocks. The status of a number of stocks is unknown or the data have wide confidence interval. The causes of this are the inability to adequately assess the status for lack of survey coverage or incomplete data. Additional resources geared directly toward the assessment of stocks are badly needed so that NOAA can better fulfill the SFA mandate. This request will support programs for studying nearshore groundfish in Alaska, identifying the distribution of west coast flatfish, pre-recruit surveys for west coast groundfish, and oceanic juvenile salmon studies.

An increase of 0 FTE and +$1,000,000 is requested to promote the development of environmentally sound marine **aquaculture** in the United States. NOAA, in line with its new aquaculture policy, intends to address the technological and regulatory issues associated with increased aquaculture production in a manner consistent with its stewardship responsibilities for capture fish stocks and the environment. Aquaculture can assist in building -sustainable fisheries by reducing pressure on wildstocks, and by providing alternative employment in fishing-dependent communities. Sustainable fisheries and sustainable aquaculture, existing in a healthy coastal environment, are achievable and necessary goals and will maximize the benefits of our ocean environment for the Nation. The funds will be used to develop and implement efficient regulatory and permit procedures for marine aquaculture including siting in the EEZ. Technical studies to define and ensure that aquaculture development is environmentally sound will also be supported.

The NOAA budget includes the following increases to continue in FY 2001 projects funded in the FY 2000 appropriation:

Gulf of Maine Groundfish Survey	+$ 2,000
Dolphin/Yellow Tuna Research	+$ 1,000
MARFIN	+$ 28,000
SEAMAP	+$ 5,000
Bering Sea Pollock Research	+$ 4,000
New England Stock Depletion	+$ 4,000
Atlantic Salmon research	+$ 3,000
Right Whale Research	+$ 200,000
Halibut/Sablefish	+$ 5,000

No funding is requested for the following Resource Information base projects that were funded in the FY 2000 appropriation but are not be requested in the FY 2001 President's budget:

Gulf of Mexico Consortium	-$1,571,000
Narragansett Bay Cooperative	- 693,000
Magnuson-Steven (Additional Funds)	- 750,000
Gulf and South Atlantic Foundation	- 924,000
Aquatic Resources Initiative	-7,395,000
Alaska Near Shore Fisheries	-1,155,000
National Warmwater Aquaculture Research Center	- 231,000
Chesapeake Bay Oyster Research	-416,000
Charleston Bump	-277,000
Shrimp Pathogens	-277,000
Lobster Sampling	-139,000
Southeastern Sea Turtles	-277,000
Bluefin Tuna Tagging	-324,000
Chesapeake Bay Multi-Management	-462,000

A decrease of $29,000 is requested for Antarctic research.

A decrease of $383,000 is requested for Chesapeake Bay studies which was funded in FY 2000 above the President's budget request.

A decrease of $218,000 is requested for Alaskan groundfish surveys which was funded in FY 2000 above the President's budget request.

A decrease of $37,000 is requested for West coast groundfish which was funded in FY 2000 above the President's budget request.

No funding is requested for Hawaii stock management plan which was funded, but not requested in FY 2000, –$462,000.

A decrease of $460,000 is requested for Yukon River chinook salmon.

A decrease of $6,823,000 is requested for Pacific salmon treaty program which was funded in FY 2000 above the President's budget request. This request includes a $3,177,000 increase for base programs to implement the provisions of the revised Pacific Salmon Treaty. The request also maintains the chinook salmon agreement at $1,844,000 in total funding. Funding to capitalize the treaty endowment funds is requested in the Pacific Coastal Salmon Recovery Account, therefore the $10,000,000 provided in the FY 2000 appropriation for the Southern Boundary Restoration and Enhancement Fund is not requested in this line. Pacific Salmon Agreement increases totaling $60,000,000 are requested in the Pacific Coastal Salmon Recovery account.

A decrease of $247,000 is requested for Hawaiian monk seals which was funded in FY 2000 above the President's budget request.

A decrease of $2,337,000 is requested for Steller sea lion recovery plan which was funded in FY 2000 above the President's budget request.

A decrease of $36,000 is requested for Hawaiian sea turtles which was funded in FY 2000 above the President's budget request.

No funding is requested for Bluefish/striped bass which was funded, but not requested in FY 2000, –$996,000.

Fishery Industry Information (0 FTE, –$1,167,000): NOAA requests a net decrease of $1,167,000 for programs in the Fishery Industry Information line item. This net change consists of $6,678,000 in decreases for earmarks in the FY 2000 appropriation that were not proposed in the President's FY 2000 budget, and $5,511,000 in increases, which includes $1,000,000 for National Standard 8 implementation of the Sustainable Fisheries Act, $2,500,000 to Develop Core Economic Data Collection, and $2,000,000 for National Fishing Vessel Registration & Fisheries Information System.

An increase of 0 FTE and + $1,000,000 is requested to collect fisheries statistics and perform economic analyses required by the new **National Standard 8 of the Sustainable Fisheries Act (SFA)**. National Standard 8 of the SFA mandates that conservation and management measures need to consider the economic consequences of those measures on fishing communities during the regulatory process. The increase will initiate a comprehensive plan in all NMFS regions for fisheries data collection on the socioeconomic characteristics of commercial and recreational fishermen, economic values within fisheries, and vessel data within fisheries, all of which will improve the analytical capability to predict and monitor the economic and social consequences of management decisions.

An increase of 0 FTE and +$2,500,000 is requested for the **Develop Core Economic Data Collection**. This initiative will begin to develop the core economic data collection protocols in cooperation with state marine fish commissions, the Atlantic Coastal Cooperative Statistics Program, fishery management councils, fishing communities, and other applicable state agencies. This program will initiate data collection efforts to address critical fishing community social and economic research and analytical needs that are currently not met due to the absence of sufficient data. This initiative will increase NOAA's capacity to conduct economic and social assessments and to accelerate the transfer of these results to fishing communities.

An increase of 0 FTE and +$2,000,000 is requested for the **National Fisheries Information System** to comply with Section 401 of the Magnuson-Stevens Act that requires the Secretary of Commerce to submit a proposal to Congress for implementation of a National fishing vessel registration and fisheries information system. This initiative would start to implement this proposal over a six year period. The program would be a cooperative effort between NMFS, the Atlantic Gulf and Pacific States Marine Fisheries Commissions, the states, regional fishery management councils, and the recreational commercial fishing industries. The proposed system would improve the accuracy and information technology, and quality standards for regional programs, and integrate the results into a unified WEB-enabled information system. This system will also fill critical information gaps through initiation of new data collection programs that will subsequently reduce the risk and uncertainty of living marine resource policy decisions.

A decrease of $114,000 is requested for Alaska Groundfish Monitoring which was funded in FY 2000 above the President's budget request.

An $11,000 increase is requested for PACFIN.

A decrease of $2,491,000 is requested for AKFIN which was funded, but not requested in the FY 2000.

A decrease of $586,000 is requested for Recreational Fishery Harvest Monitoring which was funded in FY 2000 above the President's budget request.

A decrease of $3,487,000 is requested for Gulf FIN which was funded, but not requested in FY 2000.

Information Analyses and Dissemination (0 FTE, $92,000): An increase of $92,000 is requested for Information Analysis and Dissemination. This increase includes a $13,000 increase for Computer hardware and software. These increases will support base programs necessary to analyze fishery data with computer models and disseminate the information through a wide area network.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Build Sustainable Fisheries					
Eliminate and Prevent Overfishing and Overcapitalization					
By 2005, 25% (86 of 279) fewer overfished fisheries (stocks subject to overfishing)	1%	5%	9%	15%	25%
By 2005, 20% fewer overcapitalized fisheries (economic and social aspect)	3%	5%	10%	15%	20%
By 2005, 60% of stocks have sufficient "essential fish habitat"	40%	52%	54%	56%	60%
Attain Economic Sustainability in Fishing Communities					
By 2005, 9% increase in employment in non-capture fishing and/or other sectors	2%	3%	5%	7%	9%
By 2005, 20% of communities impacted by limited/closed fisheries are economically improved	3%	5%	10%	15%	20%
Develop Environmentally and Economically Sound Marine Aquaculture					
By 2005, 17% of increase in economic contribution of aquaculture to Gross Domestic Product (GDP) . . .	4%	6%	8%	11%	17%
By 2005, 100% of aquaculture operations are in compliance with Code of Responsible Aquaculture Practice . .	15%	25%	50%	75%	100%

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (in thousands)	–$20,043	–$20,043	–$20,043	–$20,043	–$20,043

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Marine Fisheries Service
Subactivity: Information Collection and Analysis

Title:	Location		Grade	Number	Annual Salary	Total Salaries
Fisheries Biologist	NW Region		13	1	60,974	60,974
Fisheries Biologist	Alaska Region		13	1	55,837	55,837
Fisheries Biologist	NW Region		12	2	51,275	102,550
Fisheries Biologist	Alaska Region		12	1	46,955	46,955
Total				5		266,316
Less Lapse		25.0%		(1)		(66,579)
Total full-time equivalent (FTE)				4		199,737
FY 2001 Pay Adjustment (3.7 %)						7,390
Total						207,127

Personnel Data

Full-Time Equivalent Employment	
Full-time permanent	4
Other than full-time permanent	0
Total	4
Authorized Positions:	
Full-time permanent	5
Other than full-time permanent	0
Total	5

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Marine Fisheries Service**
Subactivity: **Information Collection and Analyses**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	207
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	207
12.1	Civilian personnel benefits	56
13	Benefits for former personnel	0
21	Travel and transportation of persons	150
22	Transportation of things	40
23.1	Rental payments to GSA	50
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	40
24	Printing and reproduction	0
25.1	Consulting services	80
25.2	Other services	12,171
25.5	R&D contracts	0
26	Supplies and materials	40
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	5
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	12,839

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Marine Fisheries Service**
Subactivity: **Information Collection and Analyses**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	(12,534)
25.5	R&D contracts	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(20,348)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(32,882)

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: Conservation and Management Operations

Line Item		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fishery Management Programs	Pos./BA	264	68,406	292	74,780	292	76,045	310	112,033	18	35,988
	FTE/OBL.	259	61,425	285	80,079	285		298		13	
Protected Species Management	Pos./BA	409	52,990	518	66,866	518	68,531	586	83,441	68	14,910
	FTE/OBL.	404	53,529	509	67,583	509		559		50	
Habitat Conservation	Pos./BA	82	8,275	85	9,165	85	9,421	97	11,079	12	1,658
	FTE/OBL.	77	8,976	84	9,165	84		93		9	
Enforcement and Surveillance	Pos./BA	162	18,189	179	17,882	179	18,379	185	22,354	6	3,975
	FTE/OBL.	157	18,324	175	17,882	175		180		5	
Total	Pos./BA	917	147,860	1,074	168,693	1,074	172,376	1,178	228,907	104	56,531
	FTE/OBL.*	897	142,254	1,053	174,709	1,053		1,130		77	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Marine Fisheries Service**
Subactivity: **Conservation and Management Operations**

Goal Statement

Implement and monitor living marine resource management measures to support the National Oceanic and Atmospheric Administration (NOAA) strategic plan goals to build sustainable fisheries, recover protected species and sustain healthy coasts.

Proposed Legislation

NOAA will work with the Administration to reauthorize the Endangered Species Act (ESA), P.L. 95-632; the Magnuson-Stevens Fishery Conservation and Management Act, P.L. 104-297; and the Marine Mammal Protection Act, P.L. 97-58.

Base Program

The objectives of this subactivity are to:

- Identify depleted and over exploited fishery stocks. Reduce fishing effort on overfished stocks. Implement Magnuson-Stevens Act (Section 602) guidelines for prevention of overfishing. Reduce bycatch of overfished stocks. Reduce the risk of overfishing in currently productive fisheries. Reduce uncertainty in stock assessments. Improve compliance with fisheries regulations. Ensure effective fisheries management to promote fisheries productivity. Rebuild overfished stocks.

- Improve the terms of competitive trade for the U.S. Fishing industry in international markets by addressing tariff and non-tariff barriers through multilateral and bilateral mechanisms.

- Identify and resolve conflicts, and improve coordination between the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA) and fisheries. Implement protected species recovery plans for species listed under the ESA and MMPA. Reduce fishery and passive viewing impacts on protected species.

- Use authority of the Fish and Wildlife Coordination Act, Magnuson-Stevens Act, Marine Mammal Protection Act, Endangered Species Act, Oil Pollution Act, Clean Water Act, Superfund, and other legislation to implement a cohesive strategy to protect and restore the habitat of living marine resources. Determine if artificial or restored habitat fulfills essential habitat needs of living marine resources. Encourage the restoration of habitats that have been adversely affected by habitat modifications to restore depleted stocks. Use international agreements to conserve living marine resources and their habitats. Establish and improve international agreements to promote scientific research and communication.

- Determine the impacts of aquaculture on habitat and wild populations, and methods to reduce adverse effects. Develop means to permit cultured products in the marketplace without jeopardizing the conservation of wild stocks. Determine the potential for aquaculture to enhance recovery of protected species and depleted fisheries.

This work is conducted by NMFS Regional Offices and Science Centers and through external partnerships with the Councils, Commissions, States and other Federal agencies.

Fishery Management Programs: The Magnuson-Stevens Fishery Conservation and Management Act established exclusive U.S. jurisdiction over the living marine resources in the 2.2 million square miles of ocean area, known as the Exclusive Economic Zone (EEZ), generally within 200 nautical miles of the coastline of the U.S. and its territories. This Act was intended to ensure that fishing within the EEZ is conducted under sound, scientifically-based management and economic conditions. U.S. commercial and recreational fishermen have right of access over foreign fishermen to resources within the EEZ. Through management decisions, government regulations, enforcement, and conservation activities, NOAA and the eight Regional Fishery Management Councils (established by the Magnuson-Stevens Fishery Conservation and Management Act) work with states, industry, other Federal agencies, and other organizations to maintain and restore fishery resources and their habitats and to enhance the health of the U.S. fishing industries. These efforts require a continuous, stable flow of data, information, and analyses provided by NOAA, states, universities, and the international scientific community.

The Regional Fishery Management Councils have the major responsibility for developing Fishery Management Plans (FMPs) for most domestic and foreign fisheries in the EEZ. The Councils also evaluate estuarine and freshwater issues affecting managed species under their purview. NOAA provides the Councils with technical and administrative assistance and financial support to develop, monitor, and amend FMPs. There is extensive consultation throughout the FMP process between NMFS Regional Administrators, who sit on the Councils, NMFS Science Directors, the Regional Councils and staffs, and the NMFS headquarters staff. Each existing fishery management plan may have one or more amendments per year. The Councils also review applications for fishing permits from foreign countries, conduct more than 200 public hearings and meetings, estimate yields, and determine the total allowable level of domestic and foreign fishing for each fishery under management within their jurisdiction. NOAA/NMFS reviews

management plans and amendments developed by the Councils to ensure compliance with the Magnuson-Stevens Fishery Conservation and Management Act and other applicable laws, and under authority delegated by the Secretary of Commerce approves or rejects them. Upon approval, NOAA/NMFS then implements the plans and amendments through promulgation and enforcement of regulations, issues permits, and collects fees for these permits if applicable. Besides providing oversight of fisheries management programs, NOAA develops national policy and legislative initiatives to guide the management of the Nation's fisheries.

Under amendments to the Magnuson-Stevens Fishery Conservation and Management Act, the Secretary of Commerce is directly responsible for the development and implementation of FMPs for any highly migratory species fisheries in the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea (in the Pacific Ocean, the Regional Fishery Management Councils are responsible for developing management programs for highly migratory species). The Magnuson-Stevens Act requires the Secretary to identify research and information priorities, including observer requirements and necessary data collection and analysis for the conservation and management of highly migratory species, especially tunas, swordfish, billfish, and sharks.

The Magnuson-Stevens Act was reauthorized in October 1996, and requires many significant new activities and programs. These new requirements include:

- Major revisions to all 39 existing Fishery Management Plans (FMPs) and associated regulations. Fishery Management Plans under development and any new Plans must conform to the Magnuson-Stevens Act's new standards.

- A new program to identify Essential Fish Habitat and to incorporate habitat needs into existing and future Management Plans prepared by the Councils. The Magnuson-Stevens Fishery Conservation Management Act directs the Secretary of Commerce to implement several requirements in the description, identification, conservation, and enhancement of essential fish habitat. The requested increase will support NOAA’s efforts to work with Federal, state, and local government agencies to award the destruction or degradation of essential fish habitat; to develop conservation and enhancement measures to minimize impacts to essential fish habitat; and identification of the effects of fishing on habitat. The Secretary is also required to provide recommendations to any Federal or state agency that funds or proposes to fund an action that may result in adverse effects on essential fish habitat.

- Establishment of six new advisory committees and preparation of numerous new reports.

- Development of a fishing vessel registration and information management system, and numerous other activities related to bycatch, limited access system permits, resource assessments, fisheries research (including a strategic plan and the expansion of ecosystem principles to fisheries management, etc.).

- Enforcement responsibilities.

Fishery resources that range beyond the EEZ and are harvested by fishing fleets of the U.S. and many other countries, must be monitored and assessed. Resources that must be monitored and assessed include tuna, swordfish, billfish, sharks, groundfish, scallops, and salmon. NOAA actively participates in international management efforts, such as the Pacific Salmon Commission, the North Atlantic Salmon Conservation Organization, the International Commission for the Conservation of Atlantic Tunas, the Inter-American Tropical Tuna Commission, the International North Pacific Fisheries Commission, the Commission for the Conservation of Antarctic Marine Living Resources, and the International Pacific Halibut Commission, to maximize U.S. access and to conserve these resources. NOAA monitors significant fishery activities in foreign countries to determine the effects on U.S. interests. Information on foreign fishing practices, policies, and programs is obtained through United Nations Food and Agriculture Organization bulletins and reports, translations and reviews of technical and industrial literature, discussions with international fishery officials, and communications with U.S. diplomatic officers.

Additionally, foreign fishing within the EEZ is assessed. However, in recent years little to no foreign fishing has taken place within the EEZ. Information on these activities is used by NOAA and the Department of State to negotiate and implement international fishery agreements and to determine which foreign countries will be allowed to harvest surplus U.S. fishery resources (i.e., those not fully utilized by U.S. fishermen within the EEZ). Negotiations and fishery allocation decisions occur throughout each fishing year and require continuous assessments of domestic and foreign fishing efforts. Currently, however, domestic fishing has almost completely supplanted foreign fishing in the EEZ, thus achieving one of the goals of the Magnuson-Stevens Act to promote U.S. economic interests and Americanize the U.S. fisheries.

Information collected in the various fishery assessment activities on the inputs of fishing industry production is used to analyze and model alternative regulatory regimes and forecast their likely impacts on the biology and economics of the fishery. Production output information is used to determine the efficacy of management decisions that are implemented and to track regulatory compliance by the participants. Timely and accurate harvesting information is vital to the effective implementation of quota-based, seasonal, areal, and in-season management regulations. Production information consists of biological, sociological, and economic information collected from commercial and recreational fisheries, as well as samples of recreational and commercial catch.

Habitat conservation and enhancement efforts directly support the essential fish habitat requirements of the Magnuson-Stevens Act. They reduce the destruction and degradation of habitats essential to living marine resources for spawning and growth to maturity. They protect and conserve habitats by helping people identify and evaluate the impacts of actions on habitat. They also develop measures to restore or enhance the value of habitat multiple uses.

Hatcheries and rearing ponds in the Columbia River Basin are operated and maintained as authorized under the Mitchell Act. The hatcheries mitigate the loss of salmon and steelhead habitat caused by Federal dams.

Given the opportunities to expand trade and competitiveness and the use of trade measures to support conservation objectives, NOAA ensures that policy makers have the best information possible to evaluate the impacts of decisions. NOAA is responsible for formulating strategy and positions on fishery

trade for bilateral and multilateral negotiations and participates as the Department's fishing industry sector staff. Activities include providing technical expertise and negotiating skills in multi- and bilateral efforts to reduce barriers in the trade of fish and fishery products. NOAA provides support for the U.S. Trade Representative's bilateral trade negotiations with Japan, Korea, and Taiwan and conducts regular technical bilateral discussions with Canada and the European Community. NOAA also provides support for actions under U.S. trade law, such as protection from import injury and retaliation for unfair trade practices. NOAA assists the Department's U.S. and Foreign Commercial Service activities in foreign countries promoting U.S. exports and U.S. Department of Agriculture food programs that purchase and distribute eligible seafood products domestically and internationally.

Protected Species Management: NOAA is required to evaluate and minimize the effects of human activities on protected marine, estuarine, and anadromous species under the Marine Mammal Protection Act of 1972 (MMPA), the Endangered Species Act of 1973 (ESA), and other statutes and international treaties and conventions. NOAA shares responsibility for the implementation of the ESA and the MMPA with the Department of the Interior. In general, the Department of the Interior is responsible for the conservation of terrestrial and aquatic (freshwater) organisms and NOAA is responsible for conservation of living marine resources, which include most marine mammals, many species of fish (both commercially valuable and non-harvested species), turtles at sea and species of marine invertebrates and plant life.

NOAA is responsible for the management, conservation, and recovery of some 32 stocks of marine species listed as threatened or endangered under the ESA, and depleted or strategic under the MMPA. An estimated 200 additional species are potential candidates for listing. When a species or population is declared depleted under the MMPA or threatened or endangered under the ESA, NOAA is responsible for developing and implementing recovery or conservation plans to promote the restoration of the species. NOAA convenes a team of experts that identifies specific research and management activities necessary to promote the recovery of the affected species or population.

The MMPA and ESA prohibit the taking (i.e., harassing, hunting, capturing, or killing) of marine mammals and endangered or threatened species. The MMPA allows the Secretary of Commerce to authorize U.S. citizens to incidentally take small numbers of marine mammals (e.g., by commercial fisheries) when the Secretary finds that the total of such taking would have a negligible impact on the affected species or stock and would not have an unmitigable adverse effect on subsistence taking. The ESA provides similar authority to the Secretary to authorize the incidental take of threatened and endangered species. To make the determination to authorize the incidental take of listed species, the Secretary must have reliable information on the status of the affected species or population and the number or proportion of the population to be taken by the proposed activity.

The recovery and conservation of salmon in the western U.S. and Atlantic has dramatically increased NOAA's responsibilities and challenged the organization’s ability to provide for the recovery of these species because the threats of extinction come from a variety of activities including fishing, hatchery operations, grazing, irrigation, and timber harvest. Status assessments allow NMFS to identify stocks in most need of management actions. If these stocks can be identified and mitigation plans developed before the stocks become depleted, threatened, or endangered, necessary actions to promote their recovery may be less restrictive than those required for listed species.

NOAA also provides public education and information services on protected species, participates in regional networks for stranded mammals and sea turtles with universities, state agencies, and private organizations, and consults with other Federal agencies to develop reasonable and prudent management actions that help Federal agencies ensure that their activities are not likely to jeopardize the continued existence of listed species or their critical habitats.

Through interagency agreements, NOAA cooperates with the Department of the Interior in listing, protecting, and controlling the importation of threatened or endangered marine species into the U.S. NOAA is also responsible for implementing numerous international agreements to further protection of marine species, including the International Whaling Convention, the Convention on Trade in Endangered Species, and the Convention on Biological Biodiversity.

Habitat Conservation: Habitat protection and restoration activities are vital to the conservation, long-term survival, and health of living marine resources, especially those important to U.S. commercial and recreational marine fisheries, and to increasing the economic and social benefits the Nation gains from its fisheries resources. NOAA carries out habitat protection through review of ecological impacts of proposed Federal actions that would affect the habitat of anadromous (e.g., salmon and shad), estuarine, and marine resources. This is done under authority of the Fish and Wildlife Coordination Act, the Federal Power Act, the National Environmental Policy Act, the Clean Water Act, and other legislation. Habitat conservation funds also protect in-river spawning, rearing and migrating habitat, which strive to join Federal salmon conservation goals with state and private sector activities. Habitat Conservation Plans for salmon seek to improve habitat while allowing the continued commercial use of affected land, and are a component part of the larger recovery and conservation effort.

In addition, the Magnuson-Stevens Fishery Conservation and Management Act gives authority for NOAA and the eight Regional Fishery Management Councils to influence Federal decisions affecting important fisheries habitats. Under these consultative powers, NMFS provides analyses and recommendations on Bureau of Reclamation and U.S. Army Corps of Engineers' construction projects, Corps permit applications for dredging and filling wetlands, Federal Energy Regulatory Commission licenses for hydroelectric power plant construction, and Environmental Protection Agency contaminant discharge permits, and other Federal funding and permit activities. Similar authorities also extend to state programs, with additional benefits to habitat.

NOAA’s National Habitat Program annually assesses about 5,000 such Federal projects, including wetlands permits, hydroelectric project license applications, and proposed outer continental shelf oil and gas development projects. In a recent year, permit applications affected over 39,000 acres of coastal habitats that supported about $12 million in commercial and marine recreational fishery harvests. NOAA also reviews and provides technical assistance on fisheries matters important to state coastal zone management plans, special area management plans, and proposed marine sanctuaries and estuarine research reserves.

The National Habitat Program also uses its mandates and expertise to influence decisions at the ecosystem or watershed level where protection and restoration successes can be even more dramatic. The Program pursues estuary improvements through regional studies, such as in the Chesapeake Bay

and partners with states to enhance watersheds and coastal ecosystems. These efforts provide large-scale benefits to NOAA trust resources and to our goals of no net habitat loss, increased yields, and sustained societal benefits.

Enforcement and Surveillance: Enforcement is a key element of a credible management effort designed to support the growth and stability of the domestic fishing industry and protect our nation's living marine resources. NOAA special agents and officers detect, deter, investigate, and document for prosecution, violations of Federal laws and regulations under the Magnuson-Stevens Fishery Conservation and Management Act, MMPA, ESA, Lacey Act, and other Federal statutes and international agreements relating to living marine resources. The program covers the full range of enforcement activities, including patrol, inspection, arrest, search, seizure, and undercover operations. Agents and officers ensure foreign and domestic fishing vessels operate in accordance with fishery management regulations, and investigate illegal taking, importation, or interstate transportation of contaminated shellfish, seafood, or protected species including their parts or products. Enforcement uses advanced satellite technologies to operate vessel management systems (VMS) to reduce intrusive at sea monitoring and ensure higher compliance. A national community oriented policing and problem solving (COPPS) focus works to reduce violations by seeking solutions to improve compliance in the regulated community.

Mandatory Pay and Inflationary Costs: NOAA budget includes an increase of $3,683,000 to fund adjustments to base for NMFS base programs. This increase will fund the FY 2001 federal pay raise of 3.7 percent and annualize the FY 2000 pay raise of 4.8 percent. The increase will also provide inflationary increases for certain non-labor activities including service contracts and facility rent charges.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Build Sustainable Fisheries				
Eliminate and Prevent Overfishing and Overcapitalization				
By 2005, 25% (86 of 279) fewer overfished fisheries (stocks subject to overfishing)	…	−4%	−8%	0%
By 2005, 20% fewer overcapitalized fisheries (economic and social aspect) .	…	0	1%	2%
By 2005, 60% of stocks have sufficient "essential fish habitat"	…	N/A	10%	30%
Attain Economic Sustainability in Fishing Communities				
By 2005, 9% increase in employment in non-capture fishing and/or other sectors	…	0	1%	2%
By 2005, 20% of communities impacted by limited/closed fisheries are economically improved	…	0	1%	3%
Develop Environmentally and Economically Sound Marine Aquaculture				
By 2005, 17% increase in economic contribution of aquaculture to Gross Domestic Product	…	0	2%	4%
By 2005, 100% of aquaculture operations are in compliance with Code of Responsible Aquaculture Practice	…	0	2%	10%
Recover Protected Species				
By FY 2005 protect or restore priority biodiversity areas:				
% ESA species critical habitat mapped	…	…	30	50
% MMPA species critical habitat mapped	…	…	0	50
# priority sites monitored	…	…	3	4
Sustain Healthy Coasts				
# of interagency agreement projects supported to restore coastal habitat (cumulative)	20	25	30	55
Number of acres of coastal habitat restored (cumulative)	26,000	43,000	55,000	70,000

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Conservation and Management Operations	POS/BA	1,074	$172,376	1,178	$228,907	104	$56,531
	FTE/Obl	1,053		1,130		77	

NOAA requests a net increase in this subactivity of +77 FTE and +$56,531,000. These program changes are required to maintain a sustainable and healthy fishing industry, and to conserve, protect and recover endangered and threatened species.

Fishery Management Programs (+12 FTE, +$35,988,000): NOAA requests a net increase of $35,988,000 for the Fishery Management Programs.

A net increase of $519,000 is requested for Facilities Operations and Maintenance. Of the net increase, +$412,000 will fund additional operations and maintenance costs for the Santa Cruz Research Laboratory. The remaining increase of +$107,000 is requested for additional operation and maintenance costs for the Sandy Hook Laboratory.

An increase of 0 FTE and +$770,000 is requested in the Fishery Management Programs base line item for Refining Essential Fish Habitat Designations. NOAA's mission includes conservation and enhancement of essential fish habitat (EFH) to support the continued economic vitality of the Nation's commercial and recreational fishing industries. Conserving and enhancing EFH is necessary to prevent future depletions of managed species, and restore over-fished stocks. The Sustainable Fisheries Act amendment to the Magnuson-Stevens Act requires that fishery management councils identify and describe essential fish habitat each Federally managed species. The fishery management plans must describe the geographic range of EFH for all stages and prepare maps of EFH for life stages over appropriate time and space scales. The fishery management plans must identify, describe and map habitat requirements for all life stages of each species. NOAA will conduct field studies to improve data bases on fish distribution and abundance for managed species that the councils use to focus and refine EFH area, making use of ongoing or expanded stock assessment surveys. NOAA will help the councils define the functional role of EFH for particular species and life stages. Studies will characterize the processes that control the distribution and functioning of EFH. Information from various habitat characterization efforts will be fully synthesized using Geographic Information System technologies. This will provide digital habitat data at various spatial and temporal scales to enable subsequent monitoring of physical and biological attributes of important habitats.

An increase of +4 FTE and +$1,000,000 is requested in the Fishery Management Programs base line item to reduce fishing impacts on EFH areas. The regional fishery management councils must determine the extent to which fishing gear can degrade or destroy essential fish habitat. The Councils must evaluate proposed management measures considering the costs and benefits to the fishing industry of damage to essential fish habitat. NOAA will conduct studies to determine the impacts of commercial and recreational fishing gear, anchoring, commercial at-sea processing and related fish waste discharges, and vessel operations on benthic communities and marine ecosystems. The regional fishery management councils will use this information in developing future management plans.

A net increase of 0 FTE and +$1,260,00 in the Fishery Management Programs base line item is requested for **Fisheries Observers** to improve stock assessments and prediction. The NMFS observer programs provide a fundamental mechanism for scientific data collection of the catch and bycatch of marine species in commercial fisheries. This initiative will provide adequate levels of observer coverage in fisheries that have monitoring required as a term and condition of authorizing the incidental taking of listed species, or as a reasonable and prudent alternative to jeopardy, as the result of a Endangered Species Act Section 7 consultation. Observers would also collect data on other managed species, including those management under Magnuson-Stevens Fishery Conservation and Management Act, the Marine Mammal Protection Act, and other applicable laws.

American Fisheries Act (0 FTE, –$2,246,000): A decrease of –$2,246,000 is requested for the American Fisheries Act implementation. This will provide base funding of $2,500,000 to continue the implementation of this multi-year task.

Coral Reef (+10 FTE, +$5,000,000): An increase of +10 FTE and +$5,000,000 is requested in the Fishery Management Programs line item for coral as part of the Lands Legacy Initiative. The $5,000,000 increase is proposed as part of a new Lands Legacy discretionary spending category to provide dedicated and protected funding for the President's Lands Legacy Initiative. The request includes +9 FTE and +$3,500,000 for the Protecting Coral Reef Ecosystems initiative. Of this amount, an increase of +6 FTE and $2,000,000 is requested to provide the management tools for the National Marine Fisheries Service (NMFS) and the Regional Fishery Management Councils to effectively utilize "no-take" fishery reserves as a fishery a management tool. It will provide base line assessments and long-term monitoring of both coral reef fishes and the associated ecosystem in the identified coral reef "no-take" zones; and provide enforcement support for such zones. It will also allow NMFS and the Councils to identify, and prioritize for protection, new areas of important biodiversity, essential fish habitat and ecosystems function on coral reefs and associated ecosystems. An additonal +3 FTE and $1,500,000 will assess essential fish habitat, identify effects of fishing, and implement actions to reduce these effects through Regional Fishery Management Councils. This project will provide NMFS and the Regional Fishery Management Councils information of the impacts of overfishing and fishing gear on coral reefs, and allow managers to target protection of essential fish habitat. Fishing is one of the most widespread human impacts to coral reefs. The removal of fish by humans not only effects target species populations but also associated habitats and communities. The U.S. Coral Reef Task Force has particularly identified ecosystems-level problems with the removal of trophic levels on reefs (e.g., top predators or major herbivores) and the impacts of fishing gear on reefs. There is particularly little information on the impacts of fishing gear on deeper reefs below 20 meters. This program will allow NMFS and the Councils to map reef habitat and determining the spatial extent of fishing induced disturbance; determine the effects of specific gear types, along a gradient of effort, on specific habitat types; develop predictive models to link fishing induced disturbance to the population dynamics of harvested species; develop new regulations that will enhance EFH and the sustainability of coral reef fisheries.

The final +1 FTE and +$1,500,000 will assess, monitor, restore and protect Pacific coral reefs, including major debris removal from Hawaiian reefs. The U.S. Pacific Islands account for 94% of the national's coral reefs, most of which lie in Federal waters. Even reefs thought to be pristine, such as the remote Northwestern Hawaiian Islands (NWHI), have suffered significant anthropogenic damage due to grounding of an estimated 6,000 metric tons of marine debris. This marine debris causes extensive physical damage to corals and essential fish habitat.

Columbia River Hatcheries (0 FTE, +$3,250,000): NOAA proposes to realign $3,812,000 from the Facilities activity to the NMFS activity. This request consolidates all Mitchell Act hatcheries funding within NMFS. A total request of $15,212,000 provides $11,400,000 for hatchery operations and $3,812,000 for screening activities.

Fisheries Habitat Restoration (0 FTE, +$2,000,000): An increase of $2,000,000 is requested to expand the scope and benefits for the NMFS **Community-based Restoration Program** beyond the $2,000,000 made available in FY 2000. The Program achieves habitat restoration through local projects that foster natural resource stewardship within communities. Funds will be used to further this highly successful, national effort to encourage partnerships with states, local governments, non-governmental organizations, business, industry and schools to carry out restorations of local and regional importance. NMFS provides seed money to catalyze cooperative restoration projects, and is able to leverage up to $10 of private funds for each Federal dollar provided.

Northeast Fisheries Management (0 FTE, +$6,146,000): An increase of $6,146,000 is requested for the Northeast Fisheries Management initiative. This increase will help rebuild overfished and overcapitalized northeast fisheries including groundfish and scallops. The additional funding will be used to implement rebuilding plans developed for such fisheries as required by the Magnuson-Stevens Fisheries Conservation and Management Act and carry out programs to address the social and economic effects of these plans on fishing communities.

Norton Sound Fisheries Failure (0 FTE, +$5,000,000): The U.S. Department of Agriculture, will transfer these funds. These funds were appropriated in FY 2000 or otherwise made available to the Department of Agriculture for transfer in FY 2001 to the Secretary of Commerce for obligation and expenditure under P.L. 106-78. The $5,000,000 is for carrying out activities under section 312 of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1861a) to address the 1999 fisheries failure in the Norton Sound region of Alaska.

Cooperative Research and Management in Northeast (0 FTE, +$15,000,000): The Department of Agriculture, Rural Development, Food and Drug Administration will transfer these funds. These funds were appropriated in FY 2000 or otherwise made available to the Department of Agriculture for transfer in FY 2001 to the Secretary of Commerce for obligation and expenditure under P.L. 106-78. The $15,000,000 is to provide emergency disaster assistance for the commercial fishery failure under section 308(b)(1) of the Interjurisdictional Fisheries Act with respect to Northeast multispecies fisheries. These funds will be used to support cooperative research and management activities by NMFS based on recommendations by the New England Fishery Management Council.

The NOAA budget includes the following increases:

Columbia river endangered species	+ $1,000
International fisheries commissions	+ $2,000
Management of George's Bank	+ $2,000

The NOAA request includes a decrease of $1,041,000 for the Pacific Tuna Management - Pelagic Fisheries Research line. This includes a decrease of $1,043,000 for JIMAR and a $2,000 increase Pacific Tuna Management.

Protected Species Management (+ 50 FT, + $14,910,000): NOAA requests a net increase of + 50 FTE and $14,910,000 for programs in the Protected Species Management line item.

Monitor Marine Biodiversity (0 FTE, + $200,000): An increase of $200,000 is requested in the Protected Species Management base line item to monitor marine biodiversity to maintain healthier marine species and ecosystems through evaluating the threats and their impacts on habitats and biodiversity. This initiative will provide the opportunity for monitoring biodiversity, using comparable methodologies, of other high priority biodiversity sites such as marine fishery reserves representing ecosystems not included in sanctuaries. This fine-scale monitoring will complement larger scale low-resolution monitoring in the GAP (gap analysis program) analysis and serve as control sites for more intensively used sites in similar ecosystems. Highest priority will be given to sites whose data will complement characterization of the biodiversity of endangered species habitat (including candidate species) or essential fish habitat.

In increase of $1,000,000 is requested to assess, monitor, restore and protect **Pacific coral reefs**, including major debris removal from Hawaiian reefs. The U.S. Pacific Islands account for 94% of the national's coral reefs, most of which lie in Federal waters. Even reefs thought to be pristine, such as the remote Northwestern Hawaiian Islands (NWHI), have suffered significant anthropogenic damage due to grounding of an estimated 6,000 metric tons of marine debris. This marine debris causes extensive physical damage to corals and essential fish habitat, entangles endangered and threatened species, and poses a threat to endemic reef flora and fauna by introducing invasive species. To address these concerns, a comprehensive multi-agency assessment, monitoring, restoration, and damage prevention program is proposed to 1) improve management of existing marine protects areas (national Wildlife Refuges, National Marine Sanctuaries, and National Parks), 2) foster planning for additional marine protected areas, 3) enhance coral reef fisheries management, including implementation of a Coral Reef Ecosystem Fishery Management Plan, and 4) remove harmful marine debris from coral reefs of the U.S. Pacific Islands. A significant portion of the funding requested for marine debris removal is to charter a tug and barge or small freighter (approximately $2,000,000 per year) for 6 to 8 months.

A decrease of $141,000 is requested for Driftnet Act Implementation which was funded in FY 2000 above the President's request.

A decrease of $329,000 is requested for Marine Mammal Protection Act which was funded in FY 2000 above the President's request.

Endangered Species Recovery Plans (+49 FTE, +$12,295,000): An increase of +49 FTE and +$12,295,000 is requested for Endangered Species Recovery Plans. This request responds to the extinction crisis facing several endangered marine species and significantly expands recovery efforts for Pacific and Atlantic salmon.

An increase for **Pacific Leatherback turtles** (+1 FTE, +$400,000) will not only maintain a basic program to address the current leatherback crisis in Mexico, and in the rest of the Pacific, these additional funds will expand research and conservation measures in the Western Pacific regions of Indonesia and the Indian Pacific. Preliminary migratory data show that these animals inhabit areas on both sides of the ocean at different life stages. Pacific leatherback nesting populations have declined dramatically in the last decade. A 1996 study of the four major nesting beaches for the Pacific leatherback in Mexico, which accounts for as much as half of all global nesting sites, revealed that the population has collapsed. During the last decade, the nesting population has declined by 90% to fewer than 1,000 females nesting annually. Recent evidence suggests that the driftnet and longline fisheries of the Pacific, in particular those prosecuted along the western coast of South America, may be largely responsible for these dramatic declines. NOAA will accomplish the following in support of this initiative: work to reduce to insignificant levels incidental take in commercial fisheries; support international efforts to protect nesting turtles, their eggs, and their nesting beach habitat; and determine migratory patterns, habitat requirements, and primary foraging areas for the species throughout its range.

A request of +1 FTE and +$100,000 is required for the **Northern Atlantic Loggerhead turtles** to address conservation issues, particularly our ability to address impacts in the northeastern Atlantic. The northern nesting subpopulation, occurring from northeast Florida through North Carolina, has shown no evidence of recovery despite more that a decade of intensive conservation efforts. Pro-active efforts are needed to reverse the observed decline to ensure this populations ultimately recovers.

Funding of 0 FTE and +$100,000 will sustain management of **Cook Inlet beluga whales**. This program will reduce the likelihood of this stock from becoming extirpated in the next 10 years, while allowing, as possible, the continued use of this stock for subsistence use by Native Alaskan hunters. Unless actions are immediately taken it will be necessary to list this stock on the List of Endangered or Threatened Wildlife (List). Further, unless management actions are effective, the likelihood that this stock will be extirpated in the next decade is very high. The funds requested for FY 2001 suffice to maintain a basic program of research and enforcement, but are inadequate for the level of management that will likely be required to resolve overharvest of this population. Therefore, an the FY 2001 request includes an additional $100,000 for population monitoring in FY 2002 and FY 2003 to supplement activities supporting the harvest management plan.

The **Salmon Recovery Initiative** (+43 FTE, +$10,000,000) will help protect and recover the at-risk salmonids. Of this amount, +41 FTE and +$9,000,000 is requested for the Pacific Salmon. The remaining +2 FTE and +$1,000,000 is requested for the Atlantic Salmon. Below are projects included in the Salmon Recovery Initiative:

The at-risk **Atlantic Salmon** (+2 FTE, +$1,000,000) initiative will protect and recover the Gulf of Maine Atlantic Salmon Distinct Population Segment. The requested funding increase will allow NOAA to further establish and maintain an active research and management presence in Maine.

This will further elevate the visibility of NOAA, allow for more cooperation and collaboration with our partners, and provide more opportunities for research and active monitoring of ongoing fish and habitat conservation measures. While a five-year time horizon represents only one Atlantic salmon generation, we believe that we will have identified and quantified some critical population bottlenecks, initiated management plans to rehabilitate habitat and address issues affecting ecosystem integrity, and provided technical expertise to watershed councils and other partnerships to allow informed stewardship and protection of riparian habitats and water quality.

The at-risk **Pacific Salmonids** (+41 FTE, +$9,000,000) initiative will bolster the National Marine Fisheries Service (NMFS) Science and management capabilities to cooperate, coordinate, assist and provide science-based advice to the broad array of federal, state, tribal, local government and private entities that are involved in collaborative salmon conservation efforts in this vast area. The four components of the NMFS salmon recovery effort and the additional resources needed in FY 2001 are:

Habitat Assessment (+9 FTE and +$2,000,000) - This initiative is to expand NMFS habitat research in freshwater, estuarine and ocean environments. Recovery of salmonid populations will require improvements in the quality of freshwater and estuarine habitat. At least 50% of the mortality suffered by Pacific salmon occurs during their relatively brief period of residency in these habitats. However, we currently do not know how much habitat improvement will be required to promote recovery of depressed populations. Additional resources are needed to develop a solid scientific capacity for habitat characterization, habitat quality assessment, and evaluation of habitat restoration efficacy. A better understanding of the relationship between habitat quality and the productivity of salmonids will enable the determination of the impact of management actions affecting freshwater and estuarine habitat on the survival and recovery of affected populations. Also, it is now known that conditions in the estuary and ocean, particularly in the first few months after leaving freshwater, significantly contribute to interannual variability in salmon survival and growth. Recovery planning will need to take estuarine and ocean survival into account and a better science base in this area is needed.

Population Dynamics (+12 FTE and +$3,000,000): This initiative is to expand monitoring and assessment of salmonid populations including life cycle modeling, genetic identification and analysis and population viability analyses. As recovery efforts progress, NMFS will need to continually assess population status to monitor/predict effectiveness of conservation measures. The research provides the basic information at the stock/ESU level that will allow for evaluation of the effects of various actions.

Risk Assessment (+15 FTE and +$2,000,000) - This initiative is to expand our scientific base in assessing the risks to salmonid populations from the 4 H's - Harvest, Hatcheries, Hydro and Habitat. To assess risks from human activities and/or contributions to recovery, NMFS needs to develop a better scientific base of information on the most vulnerable stages in the life history of each Evolutionary Significant Unit and the most likely source and magnitude of risk at each life stage. This initiative includes developing spatially explicit databases that layer populations, geographic attributes, risks and management activities (including authorized takes/activities under Endangered Species Act (ESA) Section 7 consultations and ESA Section 10 incidental take permits) and the quantitative capacity for cumulative risk analyses.

Risk Management (+5 FTE and +$1,500,000): This initiative is to bolster NMFS capabilities in collaborative conservation planning and ESA consultations to minimize risks to Pacific salmon, and to monitor compliance with conservation measures in biological opinions, incidental take permits and Habitat Conservation plans. In order to secure successes in salmon recovery, NMFS must increase its capacity for on-the-ground monitoring of compliance with conservation measures and Endangered Species Act permit conditions.

Pacific Salmonid Enforcement (+0 FTE and +$500,000): This initiative will provide enforcement personnel and resources to support endangered salmonid recovery. This support is needed to ensure compliance with required conservation and recovery measures in the watershed of endangered salmonids. There is an enforcement need for Pacific salmonid recovery program as no additional personnel to enforce salmon recovery efforts have been provided since the initial listing of Sacramento River winter-run chinook in 1990. The geographic area covered by current listings includes practically the entire west coast. The program's priority is to direct effort in the watershed areas to ensure compliance with required conservation measures.

The increase of +3 FTE and +$600,000 is requested for **Candidates Conservation**. This increase will be used to conduct status reviews on existing candidate species, identify criteria for adding additional species to the candidate species list, and promote programs to encourage candidate conservation. It ill allow a team of NMFS staff to categorize existing candidate species into those for which status reviews are necessary, those for which basic data on distribution and abundance is needed, and those for which NMFS wishes to continue to monitor. Species within each category will be prioritized and funds will be directed to either conduct status reviews or conduct necessary research. A workshop will be held to identify criteria for adding species to the list of candidates. Funds will be allocated on a competitive basis to support plans and activities to further the conservation of candidate species. An intern will be hired in each region to compile basic information on candidates to provide to federal agencies, states and private industries to encourage voluntary conservation actions.

This initiative would allow NOAA to better regulate and protect marine species by means of the **Convention on International Trade in Endangered Species (CITES)** (+1 FTE, +$100,000). The U.S. Fish and Wildlife Service (FWS) has responsibility for CITIES implementation, but the expertise for marine species lies in NMFS. Marine species of interest to CITIES include all the great whales, all the dolphins, all the marine turtles, six seal species, queen conch and all hard coral species. In addition to deliberations on these listed species, the US government, at the suggestion of various non-governmental organizations (NGOs) and other governments has considered whether CITES might also be used to regulate international trade in commercial fisheries products, such as sharks, bluefin tuna and Patagonian toothfish. Some of the most contentious discussions in recent years at CITES meetings have concerned marine species. It is anticipated that, as marine resources decline, there will be more efforts to open trade in species for which trade has been banned, and for increased regulation of international trade in species for which management has been insufficient. FWS staff have little or no experience with the realities and politics of this issue, and it is thus essential that NMFS increase its level of involvement with CITES to meet this most serious of all threats to US whaling policy. These funds are necessary since current personnel and funding levels are not sufficient to cope with the escalation of activity concerning marine species in CITES.

The **Hawaiian monk seal** (0 FTE; +$200,000) is the only endangered marine mammal located entirely within U.S. waters. The Hawaiian monk seal's future is in grave jeopardy since current abundance is between 1,300 and 1,400 animals. The number of monk seals has declined by 60% since the late 1950s, and 4% to 5% annually from 1985 to 1993. Counts leveled off from 1993 to 1996, but may continue to decline in the near future due to high juvenile mortality and low reproductive recruitment. Conceivably, the Hawaiian monk seal could be on the verge of extinction in 20 years.

An increase of (0 FTE and $250,000) is requested for **Marine Noise Impacts Research** to develop measure and determine the impacts of noise pollution on marine mammals and turtles. Noise sources such as shipping, explosions, sonic booms, sonar, sonic oil exploration, and other loud impulses increase each year. Since water is an excellent conductor of sound waves, noise can instantly spread across entire ocean basins. Noise may harm populations by masking (covering up) sounds that are used for communications. Research is needed to show whether various forms of noise affects the health and recovery of protected species.

In addition, 0 FTE and +$150,000 will be directed towards **emerging threats to marine animal health**. This initiative protects the health of marine mammal populations and reduce the risks to population recovery through identification and assessment of threats to population health. This program will use conceptual stress modeling in a risk assessment approach to evaluate the roles of various stressors in population health. This approach is multi-disciplinary and evaluates risks in a more holistic manner than can be done in single species or single discipline approaches. Biological samples (from target species and their prey) and information will be obtained through the stranding networks, through independent scientific investigations, through research (both field-live capture release programs and laboratory studies), and animals obtained in legal subsistence hunts and incidental takes. This approach depends on the sharing of information and the collaboration with multiple partners across NOAA offices, between NOAA and other agencies and with non-governmental organizations. Other programs within and outside of NOAA evaluate habitat quality in a variety of ways including National Status and Trends and the ecology of harmful algal blooms; however, this initiative will focus only on the specific implication and risks from these substances on protected species health.

Reduce Marine Mammal Fishery Conflicts (0 FTE and $300,000): The major objectives of the MMPA are to prevent the extinction and decline of marine mammals and to make sure populations remain healthy enough to be functioning elements of their ecosystem. One of the most significant impacts on marine mammal stocks is death from entanglement and drowning in fishing gear. This is a particular issue of concern in those cases where the marine mammal stocks are endangered or threatened or where little is known about their status the purpose of this initiative would be to 1) understand the extent and characteristics of the problem by developing a statistically valid observer monitoring and analysis program of commercial fisheries; assessing marine mammal populations by funding critically needed ship time and support; conducting research on marine mammal behavior as it relates to fishery interactions; and 2) reduce interactions in problem fisheries by developing new gear technology to avoid interactions; enforcing marine mammal conservation regulations; and by working cooperatively with stakeholders through take reduction teams.

A $13,000 increase is requested for Dolphin Encirclement.

Native Marine Mammals (0 FT, –$178,000): A decrease of $178,000 is requested for Native Marine Mammals. No funding is requested for the Bristol Bay Native Association and the Aleut Marine Mammal Commission which was funded, but not requested in FY 2000.

Observers/Training (0 FTE, +2,050,000): A net increase of $2,050,000 is requested for Observers/Training. This request includes an increase of $2,275,000 for west coast observers to begin implementation of the National Observer Program. This net increase also includes $168,000 in enhancements for the North Pacific Marine Resources Observers and East Coast observers. This net increase also includes a reduction of $393,000 to end the University of Alaska fishery training program which is duplicative of other training available at the Alaska Fisheries Science Center. This program was funded, but not requested in FY 2000.

Habitat Conservation (+9 FTE, +$1,658,000): NOAA requests an increase of +9 FTE and +$1,658,000 for the Habitat Conservation line item to provide operational and programmatic capability for the NOAA Restoration Center. The Center serves as NOAA's focal point for habitat restoration, restoring fish habitat and other living and nonliving natural resources injured by human activities; advancing the science and technology or coastal habitat restoration through research and monitoring by the NMFS regional science centers; and transferring restoration technology to both the public and private sectors. Since its establishment, the Restoration Center's workload has increased significantly in nature, scope, and magnitude. This trend has become more pronounced as a result of NOAA's mandated natural resource trustee responsibilities and the public's growing recognition of the role of habitat in preserving marine resources. Adequate core base funding is required to ensure NOAA/NMFS can continue to meet this increased workload in each of the major areas within the Center if we are to reverse the tide of diminishing habitats for marine and anadromous fish, endangered species and marine mammals.

The Restoration Center is an essential component of NOAA's Damage Assessment and Restoration Program (DARP) which fulfills the Secretary of Commerce's responsibilities as a natural resource trustee under the Oil Pollution Act, the National Marine Sanctuary Act and the Comprehensive Environmental Response, Compensation and Liability Act (Superfund). At present, an inadequate core operational capability limits the Center's ability to support the demand for restoration planning for coastal resources injured by hazardous material releases and rapid implementation of restoration recoveries from responsible parties. While Natural Resource Damage Assessment settlements cover many case-specific procedural and project implementation requirements, many administrative, developmental and logistical costs cannot be recovered and require base funding. These funds will also expand NOAA’s capability to provide technical assistance to states, local governments, and local groups in conducting community-based restoration.

Enforcement and Surveillance (+5 FTE, +$3,975,000): NOAA requests an increase of +5 FTE and +$3,975,000 to carry out NCAA’s enforcement efforts in support of Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), and the Sustainable Fisheries Act (SFA) amendments to the Magnuson-Stevens Act. These increases will provide the following:

An increase of +5 FTE and +$1,300,000 is requested to begin to establish and fund a national **Vessel Management System (VMS)**. These resources will create a program which will monitor approximately 1500 vessels and is readily expandible. VMS technology is an invaluable tool for modern fisheries management. It provides outstanding compliance without intrusive at sea boardings, enhances safety at sea, and provides new tools to managers

for real time catch reporting. The system will provide infrastructure, economies of scale and coordination across NMFS regions and offices and will ensure standards-based consistency for enacting national policies concerning systems security, legal evidence handling, and fishing data confidentiality. Current stand-alone regional VMS pilots and experiments employ a variety of costly systems using different hardware/software, that not only cannot "talk" with each other, but cannot readily be expanded to add new fisheries or volumes of boats. A national VMS is critical for meeting the needs of the next century.

An increase of 0 FTE and +$2,500,000 is requested for **Cooperative Agreements with States for Enforcement of Living Marine Resource Statutes**. Under section 311 of the Magnuson-Stevens Act, NMFS is authorized to enter into cooperative agreements with the States for the purposes of enforcing the statue. Currently, NMFS has 16 agreements with States, but does not have funding to provide assistance to the States to improve enforcement activities across the country. This increase will allow permanent resources to go to each State to implement these agreements.

ESA/MMPA Enforcement (+1 FTE, +$175,000): An increase of $175,000 is requested to support NOAA's efforts to restore marine mammals and turtles listed under the Endangered Species Act. Funding will support enforcement personnel's determination of compliance with and ensure active and comprehensive enforcement of current regulatory requirements.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Build Sustainable Fisheries					
Eliminate and Prevent Overfishing and Overcapitalization					
By 2005, 25% (86 of 279) fewer overfished fisheries (stocks subject to overfishing)	1%	5%	9%	15%	25%
By 2005, 20% fewer overcapitalized fisheries (economic and social aspect)	3%	5%	10%	15%	20%
By 2005, 60% of stocks have sufficient "essential fish habitat"	40%	52%	54%	56%	60%
Attain Economic Sustainability in Fishing Communities					
By 2005, 9% increase in employment in non-capture fishing and/or other sectors	2%	3%	5%	7%	9%
By 2005, 20% of communities impacted by limited/closed fisheries are economically improved	3%	5%	10%	15%	20%

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Develop Environmentally and Economically Sound Marine Aquaculture					
By 2005, 17% of increase in economic contribution of aquaculture to Gross Domestic Product (GDP) . . .	4%	6%	8%	11%	17%
By 2005, 100% of aquaculture operations are in compliance with Code of Responsible Aquaculture Practice . .	15%	25%	50%	75%	100%
Recover Protected Species					
By FY 2005, reduce the probability of extinction of 8 endangered species[1]/ESUs (Pacific leatherback turtle, Hawaiian monk seal North Atlantic right whale, Western Steller sea lion, North Pacific right whale, Pacific salmonids out of 33 endangered species/ESUs:	0	2	3	5	8
By FY 2005, reduce the probability of extinction of 5 threatened species[1]/ESUs (North Atlantic loggerhead turtle, Pacific salmonids Johnson's seagrass out of 23 threatened species/ESUs:	0	1	1	2	4
By FY 2005, reduce the probability of extinction of 7 candidate species[1]/ESUs out of 23 candidate species/ESUs:	0	1	3	5	7

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
By FY 2005 mortality of strategic marine mammal stocks incidental to commercial fishing operations in six fisheries will be at insignificant levels (Harbor porpoise in New England multispecies and Mid-Atlantic gillnet fisheries; Pilot whales, beaked whales, sperm whales and humpback whales in the California/Oregon thresher shark and swordfish drift gillnet fisheries; Pilot whales in the Atlantic pelagic longline fishery; North Atlantic right, humpback, fin, and minke whales in New England multispecies and Mid-Atlantic gillnet fisheries, Gulf of Maine and Mid-Atlantic lobster fisheries, and the southeastern Atlantic shark gillnet fishery	6	6	6	6	6

[1] Quantitative measures of the probability of extinction for individual protected species will be developed in the next years to establish the baseline from which program performance (reduction in the probability of extinction) is measured. NMFS recognizes the need for objective procedures to determine the status of protected species based on population viability analyses that take into account species biology and threats to existence that are both human-caused and natural. The RPS FY 2001-2005 budget proposal is based in part on measuring our ability to reduce the probability of extinction for at risk-species. RPS performance will be measured by the results of our attempts to reduce the risk of extinction for protected species from detrimental human activities, e.g., reducing incidental and direct takes, increasing species habitat, decreasing negative interactions, and mitigating natural phenomena.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (in thousands)	+ $56,531	+ $56,531	+ $56,531	+ $56,531	+ $56,531

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Marine Fisheries Service
Subactivity: Conservation Management and Operations

Title:	Location	Grade	Number	Annual Salary	Total Salaries
Oceanographer	SW Fisheries Science Center	14	1	72,562	72,562
Computer Specialist	Headquarters	13	1	60,890	60,890
Fisheries Biologist	NW Fisheries Science Center	12/13	19	60,974	1,158,506
Math Statistician	NW Fisheries Science Center	12/13	3	60,974	182,922
Research Analyst	NW Fisheries Science Center	12/13	2	60,974	121,948
Geographer	NW Fisheries Science Center	12/13	2	60,974	121,948
Computer Specialist	NW Fisheries Science Center	12/13	1	60,974	60,974
Hydrologist	NW Fisheries Science Center	12/13	1	60,974	60,974
Ecologist	NW Fisheries Science Center	12/13	2	60,974	121,948
Fisheries Biologist	SW Fisheries Science Center	12/13	17	61,404	1,043,868
Math Statistician	SW Fisheries Science Center	12/13	3	61,404	184,212
Research Analyst	SW Fisheries Science Center	12/13	1	61,404	61,404
Geographer	SW Fisheries Science Center	12/13	1	61,404	61,404
Computer Specialist	SW Fisheries Science Center	12/13	1	61,404	61,404
Ecologist	SW Fisheries Science Center	12/13	2	61,404	122,808
Fisheries Biologist	SW Fisheries Science Center / Honolulu Lab	12/13	1	55,837	55,837
Fisheries Biologist	NE Region	12	3	51,989	155,967
Ecologist	SW Fisheries Science Center	12	1	51,636	51,636
Computer Specialist	Headquarters	12	1	51,204	51,204
Computer Specialist	SE Region	12	1	50,139	50,139
Computer Specialist	Alaska Region	12	1	46,955	46,955
Fisheries Biologist	NE Fisheries Science Center	11/12	2	50,139	100,278
Fisheries Biologist	Headquarters	11/12	1	51,204	51,204
Fisheries Biologist	SW Fisheries Science Center	11/12	3	51,636	154,908
Fisheries Biologist	SE Fisheries Science Center	11/12	2	51,557	103,114
Ecologist	Headquarters	11/12	1	51,204	51,204
Ecologist	SW Fisheries Science Center / Honolulu Lab	11/12	2	46,955	93,910

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Marine Fisheries Service
Subactivity: Conservation Management and Operations

Title:	Location		Grade	Number	Annual Salary	Total Salaries
Fisheries Biologist	SW Fisheries Science Center / Honolulu Lab		11/12	2	46,955	93,910
Fisheries Biologist	NW Fisheries Science Center		11/12	1	51,275	51,275
Fisheries Biologist	NW Fisheries Science Center		11	1	42,782	42,782
Fisheries Biologist	SE Fisheries Science Center		11	2	43,017	86,034
Fisheries Biologist	NE Fisheries Science Center		11	1	41,834	41,834
Fisheries Biologist	Alaska Fisheries Science Center		11	1	42,782	42,782
Fisheries Biologist	NW Region		11	2	42,782	85,564
Fisheries Biologist	SE Region		11	4	41,834	167,336
Fisheries Biologist	NE Region		11	3	43,378	130,134
Fisheries Biologist	SW Region		11	2	44,177	88,354
Fisheries Biologist	AK Region		11	2	39,178	78,356
Special Agent Enforcement	SE Fisheries Science Center		9/11	1	43,017	43,017
Special Agent Enforcement	SW Fisheries Science Center/ Honolulu Lab		9/11	1	39,178	39,178
Enforcement Technician	Headquarters		9	1	36,487	36,487
Enforcement Technician	SE Region		9	1	35,728	35,728
Enforcement Technician	Alaska Region		9	1	33,459	33,459
Special Agent Enforcement	SE Fisheries Science Center		5/7/9	1	33,553	33,553
Special Agent Enforcement	SW Fisheries Science Center/ Honolulu Lab		5/7/9	1	32,380	32,380
Total				104		5,626,291
Less Lapse		25.0%		(27)		(1,406,573)
Total full-time equivalent (FTE)				77		4,219,718
FY 2001 Pay Adjustment (3.7 %)						156,130
Total						4,375,848

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Marine Fisheries Service
Subactivity: Conservation Management and Operations

Title:	Location	Grade	Number	Annual Salary	Total Salaries
Personnel Data					
Full-Time Equivalent Employment					
Full-time permanent			77		
Other than full-time permanent			0		
Total			77		
Authorized Positions:					
Full-time permanent			104		
Other than full-time permanent			0		
Total			104		

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Marine Fisheries Service**
Subactivity: **Conservation and Management Operations**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	4,376
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	63
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	4,439
12.1	Civilian personnel benefits	1,243
13	Benefits for former personnel	0
21	Travel and transportation of persons	850
22	Transportation of things	70
23.1	Rental payments to GSA	250
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	912
24	Printing and reproduction	50
25.1	Consulting services	0
25.2	Other services	15,409
25.5	R&D contracts	461
26	Supplies and materials	600
31	Equipment	600
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	36,719
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	61,603

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Marine Fisheries Service**
Subactivity: **Conservation and Management Operations**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	(2,716)
25.5	R&D contracts	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(2,356)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(5,072)

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: State and Industry Assistance Programs

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Grants to States	Pos./BA	0	20,226	0	11,846	0	11,846	0	8,690	0	(3,156)
	FTE/OBL.	0	19,362	0	11,986	0		0		0	
Fisheries Development Program	Pos./BA	106	21,202	130	10,035	130	10,035	106	8,328	(24)	(1,707)
	FTE/OBL.	101	20,813	130	10,317	130		106		(24)	
Total	Pos./BA	106	41,428	130	21,881	130	21,881	106	17,018	(24)	(4,863)
	FTE/OBL.*	101	40,175	130	22,303	130		106		(24)	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Marine Fisheries Service**
Subactivity: **State and Industry Assistance Programs**

Goal Statement

Conduct state and industry assistance programs to support National Marine Fisheries Service (NMFS) strategic plan goals to build sustainable fisheries, recover protected species and sustain healthy coasts.

Proposed Legislation

NOAA will work with the Administration to reauthorize the Endangered Species Act (ESA), P.L. 95-632. Legislation to transfer the Seafood Inspection Program to the Food and Drug Administration was submitted to Congress on April 29, 1999. This budget submission assumes the Seafood Inspection program will be transferred in FY 2000.

Base Program

The objectives of this subactivity are to:

- Provide cost-sharing grants to states to conduct research, collect and analyze data, and support interjurisdictional fishery management.

- Carry out a product quality and safety program with emphasis on reducing human health risks from microbial, biotoxin, and chemical sources in fish and shellfish and establishing mechanisms other than inspection to reduce human health risk from seafood consumption.

The Fish and Wildlife Act of 1956, the Magnuson-Stevens Fishery Conservation and Management Act, and the American Fisheries Promotion Act of 1980 encourage the conservation, management, and wise use of available fishery resources for the benefit of the nation. To help meet this goal, NMFS carries out a program in cooperation with the states and the private sector to address both the management of the national fishery resources and issues affecting the utilization of fish and seafood.

Grants to States: Grants to states are authorized under the Interjurisdictional Fisheries Act of 1986 (P.L. 99-659, Title III); the Anadromous Fish Conservation Act of 1965 (P.L. 89-304), and the Atlantic Coastal Fisheries Act of 1993, as amended (P.L.103-206). The goals of the formula-based, matching fund Interjurisdictional Fisheries Grants Program are to promote state activities that support interjurisdictional fisheries management and to encourage the management of resources throughout their range, recognizing that many species spend a substantial portion of their life cycle in state waters and state-controlled habitat and nursery areas. Funds are apportioned to states based on the value and volume of commercial landings by domestic fishermen. States submit research proposals for Federal funding through state management agencies or Interstate Marine Fisheries Commissions that support management of a fishery that occurs in waters under the jurisdictions of one or more states and the U.S. EEZ, for which there exists an interstate fishery management plan. States also submit proposals to conduct research on resources that migrate between the waters under the jurisdictions of two or more states. States bordering on the Great Lakes also may request funding support for fisheries research. This program also funds projects to alleviate resource disasters, such as hurricane damage to oyster beds, and to enforce interjurisdictional fisheries regulations.

The Anadromous Fish Conservation Act of 1965 (P.L. 89-304) authorizes NOAA to provide grants to conserve, develop, and enhance the Nation's anadromous fisheries resources, including fish in the Great Lakes. This Act is administered jointly with the Department of the Interior's Fish and Wildlife Service. Federal funds of up to 50 percent of project costs (or up to 66 2/3 percent for multi-state projects or up to 90 percent for projects supporting interstate fishery management plans) may be provided to state fisheries agencies, universities, and other non-Federal participants in the 31 states bordering the oceans and Great Lakes.

Fisheries Development Program: The Fish and Wildlife Act of 1956 and the Magnuson-Stevens Fishery Conservation and Management Act encourage the wise use of the Nation's living marine resources. NOAA carries out research and provides services for seafood harvesters, processors, and marketers with the objective of resolving technical issues and other barriers to optimum resource utilization.

NOAA's research program focuses on fishery resource health and safety, and on improving the safety and quality of fishery products for human consumption. This program is carried out through NOAA research laboratories located in Charleston, SC; Pascagoula, MS; and Seattle, WA, in cooperation with other Federal and state agencies. Program's components, such as risk management research support constitutes NOAA's primary involvement in reducing public health risks associated with the harvesting, processing, distribution, and consumption of fish and shellfish. NOAA's risk management research addresses priority public health problems (i.e. marine biotoxins, pathogenic microorganisms, and chemical contaminants associated with seafood) recognizing that most of these hazards originate in the environment and therefore, NOAA as the fisheries agency has a role in addressing these problems at their source. The focus of these research activities is on: (1) the development of improved detection methodologies; and (2) the development of risk assessment data bases for use by fishery managers in addressing seafood safety issues.

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
State and Industry Programs	POS/BA	130	$21,881	106	$17,018	(24)	($4,863)
	FTE/Obl	130		106		(24)	

Grants to States (0 FTE, –$3,156,000): A decrease of $3,156,000 is requested for the Atlantic Coastal Fisheries Cooperative Management Act under the Interstate Fish Commissions which was funded in FY 2000 above the President's budget request. An increase of $8,000 is requested for Anadromous grants.

Fisheries Development Program (–24 FTE, –$1,707,000):

An decrease of 24 FTEs and $1,014,000 is requested in the Product Quality and Safety line item. A decrease of 24 FTE and $1,571,000 is proposed to terminate funding Federal Ship Financing Fund (FSFF) Administrative Expenses within the Operations, Research and Facilities (OR&F) account. These expenses are incurred in the Fisheries Finance Program; thus, new budget authority is requested in the Fisheries Finance Program account to cover FSFF administrative expenses. NOAA requests an increase of $558,000 to provide funding to administer the Capital Construction Fund. The Capital Construction Fund is a tax deferred program for fisherman to accumulate capital for fishing vessel projects.

A decrease of $693,000 is requested for Hawaiian Fisheries Development which was funded, but not requested in FY 2000.

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Marine Fisheries Service**
Subactivity: **State and Industry Assistance Programs**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	558
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	8
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	566

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Marine Fisheries Service
Subactivity: State and Industry Assistance Programs

Title:		Grade	Number	Annual Salary	Total Salaries
Fisheries Biologist		Various	(24)	52,000	(1,250)
Total			(24)		(1,250)
Less Lapse	0.0%		0		0
Total full-time equivalent (FTE)			(24)		(1,250)
FY 2000 Pay Adjustment (0 %)					0
Total					(1,250)

Personnel Data

Full-Time Equivalent Employment	
Full-time permanent	(24)
Other than full-time permanent	0
Total	(24)
Authorized Positions:	
Full-time permanent	(24)
Other than full-time permanent	0
Total	(24)

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Marine Fisheries Service**
Subactivity: **State and Industry Assistance Programs**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	(1,250)
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	(1,250)
12.1	Civilian personnel benefits	(322)
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(3,857)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(5,429)

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: Acquisition of Data

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Acquisition of Data	Pos./BA	296	25,977	296	25,844	296	25,970	296	25,944	0	(26)
	FTE/OBL.	366	26,083	366	25,846	366		366		0	
Total	Pos./BA	296	25,977	296	25,844	296	25,970	296	25,944	0	(26)
	FTE/OBL.*	366	26,083	366	25,846	366		366		0	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Marine Fisheries Service**
Subactivity: **Acquisition of Data**

Goal Statement

The goal of this subactivity is to provide vessel support needed to conduct fishery independent scientific and survey operations in various marine environments. The vessel support must provide the unique operating capabilities to gather the observations needed to support build sustainable fisheries and recover protected species programs. Vessels will provide days-at-sea for conducting and supporting programs of marine resource assessment and development.

Proposed Legislation

No legislation is proposed in this subactivity.

Base Program

Acquisition of Data: FY 2001 base funding for National Marine Fisheries Service acquisition of data is $25,970,000. These funds will provide approximately 1,992 days-at-sea for fisheries resource assessment and protected species work performed by NOAA ships MILLER FREEMAN, ALBATROSS IV, MCARTHUR, OREGON II, DAVID STARR JORDAN, TOWNSEND CROMWELL, DELAWARE II, GORDON GUNTER, and JOHN N. COBB.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
The following are the number of Days-at-Sea funded by NMFS and allocated by the Fleet Allocation Council	1,670	1,897	1,992	1,992

Vessel Characteristics and Homeport are Shown Below:

Vessels	Length-Class	Mission	Homeport
MILLER FREEMAN	215 ft. - II	Oceanic Research Fisheries Research Environmental Assessment	Seattle, WA
GORDON GUNTER	224 ft. - III	Fisheries Research	Pascagoula, MS
ALBATROSS IV	187 ft. - III	Fisheries Research	Woods Hole, MA
McARTHUR *	175 ft. - III	Fisheries Research	Seattle, WA
OREGON II	175 ft. - III	Fisheries Research	Pascagoula, MS
DAVID STARR JORDAN	171 ft. - III	Fisheries Research	San Diego, CA
TOWNSEND CROMWELL	163 ft. - IV	Fisheries Research	Honolulu, HI
DELAWARE II	155 ft. - IV	Fisheries Research	Woods Hole, MA
JOHN N. COBB	93 ft. - IV	Fisheries Research	Seattle, WA

* Vessel shared with the National Ocean Service (NOS)

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Acquisition of Data	POS/BA	396	$25,970	396	$25,944	0	($26)
	FTE/Obl	366		366			

Acquisition of Data (0 FTE, –$26,000): NOAA requests a total decrease of $26,000 in contractual services and supplies for NMFS ships.

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Marine Fisheries Service**
Subactivity: **Acquisition of Data**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	0
26	Supplies and materials	(26)
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(26)

Management of NOAA Research & Development

The primary center for NOAA research and development is the Office of Oceanic and Atmospheric Research (OAR). OAR includes a national network of 58 Federal laboratories and university-based research programs. It supports NOAA by providing: (1) the research knowledge and techniques needed to improve existing NOAA products and services and (2) the longer-range R&D needed to create the wholly new products and services to keep NOAA relevant as national needs, knowledge, and technologies evolve, and (3) support to Departmental and NOAA-wide research activities, such as the Office of Research and Technology Applications (ORTA) - the activity implementing the Small Business and Innovative Research function. OAR does this through four components - OAR Laboratories, Office of Global Programs, National Sea Grant College Program, and National Undersea Research Program. With this diverse research "tool kit," OAR: (1) provides national and international leadership on critical environmental issues and (2) addresses environmental R&D needs of internal NOAA customers, states, industry, the Department of Commerce, and other Federal agencies. For example, OAR's Sea Grant program includes efforts aimed at economic development related to the coasts and the sea. OAR researchers are at the forefront of modeling, environmental observations, and outreach efforts. They are developing: better models to predict the weather and climate change; improved tools for sustaining fisheries resources and bio-diversity; innovative techniques for fostering marine and ocean-related industry; enhanced methods for air and water quality assessment, coastal hazards mitigation, and biotechnology; and the scientific basis for U.S. leadership in environmental science. In short, OAR research makes valuable contributions to the health and economic well-being of society.

OAR Laboratories

NOAA requires a solid underpinning of atmospheric sciences, oceanography, chemistry, biology, mathematics, and space physics in order to make improvements to further its mission goals. Twelve OAR laboratories and research centers have been founded around the country to carry out much of the necessary research. In addition, OAR supports eleven Joint or Cooperative Institutes and a collaborative Program in Atmospheric and Ocean Sciences. The locations of these institutions are shown on the map below and detailed in the accompanying list.

The primary role of the OAR laboratories and associated joint institutes is to integrate new insights and discoveries from their respective fields into NOAA operations for the benefit of the Nation. They do this by:

- conducting purposeful research and technology development at the forefront of those areas upon which future service improvements will depend;
- transferring research discoveries and technical developments into practical applications;
- delivering specialized environmental services; and
- providing leadership on environmental science issues of national and international importance.

OAR laboratories make substantial contributions in support of NOAA's environmental assessment and prediction mission, particularly the NOAA strategic goals of Advance Short-Term Warning and Forecast Systems (AST), Implement Seasonal to Interannual Climate Forecasts (SIC), and Predict

and Assess Decadal to Centennial Change (DCC). For example, OAR laboratories serve as the principal NOAA locus for weather R&D (AST) and the U.S. Weather Research Program (USWRP), recently providing the impetus and technology to implement the Advanced Weather Interactive Processing System (AWIPS) which constitutes the heart of the National Weather Service modernization program, as well as spearheading the incorporation of Next Generation Weather Radar (NEXRAD) data into forecasts. OAR laboratories are increasing their efforts in applied remote sensing research related to ground-based and satellite instruments. In addition, OAR laboratories provide climate observations and modeling research in support of NOAA's Climate Prediction Center (SIC/DCC).

With respect to NOAA's environmental stewardship mission, OAR laboratories play a contributory research role in two of NOAA's three strategic plan goals - Build Sustainable Fisheries (BSF) and Sustain Healthy Coasts (SHC). For example, OAR laboratories support NOAA's Fisheries Service by developing and testing new remote sensing techniques for fish surveys (BSF). Also, OAR laboratories provide NOAA's Coastal Ocean Program with atmospheric and air/sea remote sensing R&D and modeling to improve coastal storm and pollution predictions (SHC).

Within the OAR budget, the laboratories can be difficult to distinguish because their resources are spread among five line items in three sub-activities. In addition, OAR laboratories compete successfully for funds from the Climate and Global Change Program, Coastal Ocean Program, and the High Performance Computing and Communications Program.

OAR Joint and Cooperative Institutes

Over the years, OAR has, through its laboratories, developed research partnerships with academia and scientific institutions with programs dedicated to oceanic and atmospheric research, to form the Joint Institutes. The Joint and Cooperative Institutes, also referred to as "the University Programs" are formal, long-term collaborations established under a Memorandum of Understanding (MOU)/Agreement (MOA) between NOAA through the Under Secretary for Oceans and Atmosphere. By design, most of the Institutes are located with one or more NOAA facilities to promote scientific interchange and technology transfer. The primary purpose of each Institute is to bring together the diverse resources of a research university or institution, one or more OAR laboratories, and other branches of NOAA to develop and maintain a center of excellence in research with relevance to increased understanding of the Earth's waters, Arctic regions, solar-terrestrial environment, inter-mountain west, and the atmosphere. The locations of the Joint/Cooperative Institutes are shown on the map below.

Office of Global Programs (OGP)

Within the Federal Government, NOAA has the primary responsibility to routinely provide climate forecasts and assessments to the other Federal agencies, the public and private sectors, and the international community. The Office of Global Programs (OGP) assists in this capacity through its leadership of the Climate and Global Change Program. OGP's Climate and Global Change Program is an integral part of the interagency U.S. Global Change Research Program, and works to increase our understanding of the global climate system. To accomplish this goal, the Climate and Global Change Program supports focused scientific research within many research elements, such as Climate Change Data and Detection, Climate Variability

and Predictability, Climate Dynamics and Experimental Prediction, Global Carbon Cycle, Global Energy and Water Cycle Experiment, Atmospheric Chemistry, Paleoclimatology, and Climate and Societal Interactions. Through these studies, researchers coordinate activities that jointly contribute to improved predictions and assessments of climate variability over a continuum of time scales (seasonal, annual, decadal, etc.). OGP's participation in these areas has assisted NOAA in augmenting the state of science in the United States and around the world, guiding the development of our research efforts, and providing valuable scientific data and information for practical use and social and economic benefit. An important research center funded by OGP is the International Research Institute for Climate Prediction (IRI), which generates and disseminates forecast guidance multinationally. Regional Application Activities have been established in collaboration with participating countries (many of which currently do not have the infrastructure required to produce and disseminate climate forecasts) to tailor guidance from the IRI into localized forecasts and distribute products of immediate social and economic benefit. OGP funds are distributed through competitive, peer and/or panel reviewed grants to qualified academic institutions, research organizations, and independent investigators.

Sea Grant

Congress established the National Sea Grant College Program in 1966 to enhance the development, use, and conservation of the Nation's marine and Great Lakes resources. The legislation, most recently re-authorized in 1998, establishes a network of Sea Grant Colleges to conduct education, training, and research in all fields of marine study. It also directs that grants and contracts may be awarded to: “any individual; any public or private corporation, partnership, or other association or entity (including any Sea Grant College, Sea Grant Institute or other institution) or any State, political subdivision of a State, or agency or officer thereof" [PL 105-160]. There now are 29 Sea Grant College programs in coastal and Great Lakes states and Puerto Rico. These programs form the core of a national network of some 300 participating institutions involving over 3,000 scientists, engineers, educators, students, and outreach specialists to accomplish research and outreach objectives. The Sea Grant network provides a powerful, focused national capability in marine research and outreach. States participating in the Sea Grant program, and their associated Sea Grant Colleges, are shown on the map below.

Sea Grant plays a unique and important role in advancing our national interest in marine resources. Together with the Office of Naval Research (ONR) and the National Science Foundation (NSF), Sea Grant and other OAR programs provide the only sustained Federal contact and funding source for universities with marine research capabilities. Unlike ONR and NSF, Sea Grant supports marine and coastal resource research of immediate public importance and application. Sea Grant provides the major source of support for applied marine science research, including coastal and ocean engineering and management, fisheries and aquaculture, and marine-related social sciences and law. The Sea Grant Extension Program is unique - it transfers NOAA products to residents, managers, and industries in coastal and Great Lakes states and Puerto Rico. By law, Sea Grant must be responsive to local as well as national concerns; accordingly, one-third of the program's funds must be matched by state or local governments, industry, or other sources. In recent years, the match at most Sea Grant colleges considerably exceeds this requirement, thus providing outstanding leverage from limited Federal dollars.

National Undersea Research Program (NURP)

The National Undersea Research Program places scientists under water, directly (via submersibles, underwater laboratories, and SCUBA diving) or indirectly (via remotely operated vehicles and observatories). The program is comprised of a headquarters office and six National Undersea Research Centers. Also, by agreement with the Navy, NURP serves as the research manager for civilian use of U.S. Navy deep submergence vehicles (e.g., ATV Scorpio, Turtle, and NR-1). NURP owns and operates the "Aquarius," the world's only underwater science laboratory located off Key Largo, Florida. Finally, NURP represents NOAA in supporting, along with NSF and ONR, civilian use of the deep submergence vehicle Alvin (operated by Woods Hole Oceanographic Institution).

This "in-situ" approach allows acquisition of otherwise unobtainable observations, samples, and experiments related to such high-priority NOAA research goals as Build Sustainable Fisheries and Sustain Healthy Coasts. NURP also provides access for the U.S. research community to civilian, military, and international undersea technology. Finally, NURP addresses NOAA's legal requirement to improve the safety and performance of civilian divers. NURP-funded scientists conduct wide-ranging research investigations in such areas as the causes behind depletion of fisheries, the impacts of commercial fishing activity on critical habitats, the effects of climate change on the health of coral reefs, and undersea volcanism and its role in coastal hazards. The program also supports research at a long-term ecosystem observatory off the coast of New Jersey to provide a continuous stream of physical and biological data necessary to model coastal ecosystems and predict how they will respond to such major events as storms, oil spills, and the presence of excess nutrients.

NURP supports six National Undersea Research Centers: the Caribbean, Hawaii and Pacific, Middle Atlantic, North Atlantic and Great Lakes, Southeast and Gulf of Mexico, and West Coast and Polar Regions. These are also shown on the map below:

NOAA Oceanic and Atmospheric Research

Locations of OAR Labs, National Undersea Research Centers, Joint and Cooperative Institutes, International Research Institute, and Sea Grant Colleges and States

J - Joint or Cooperative Institute
E - OAR Laboratory
S - Sea Grant College - Shaded states indicate participants in the National Sea Grant College Program
★ - National Undersea Research Center
I - International Research Institute

OAR Laboratories

AL	Aeronomy Laboratory, Boulder, CO
AOML	Atlantic Oceanographic and Meteorologic Laboratory, Miami, FL
ARL	Air Resources Laboratory, Silver Spring, MD
CDC	Climate Diagnostics Center, Boulder, CO
CMDL	Climate Monitoring and Diagnostics Laboratory, Boulder, CO
ETL	Environmental Technology Laboratory, Boulder, CO
FSL	Forecast Systems Laboratory, Boulder, CO
GFDL	Geophysical Fluid Dynamics Laboratory, Princeton, NJ
GLERL	Great Lakes Environmental Research Laboratory, Ann Arbor, MI (proposed for transfer to NOS)
NSSL	National Severe Storms Laboratory, Norman, OK
PMEL	Pacific Marine Environmental Laboratory, Seattle, WA
SEC	Space Environment Center, Boulder, CO (also part of NWS/National Centers for Environmental Prediction)

Joint and Cooperative Institutes

CIASTA	Cooperative Institute for Atmospheric Sciences and Terrestrials Applications - Desert Research Institute of the University and Community College System of Nevada, Las Vegas, and Reno, NV
CICOR	Cooperative Institute for Climate and Ocean Research - Woods Hole Oceanographic Institution, Woods Hole, MA
CIFAR	Cooperative Institute for Arctic Research - U. of Alaska, Fairbanks, AK
CILER	Cooperative Institute for Limnology and Ecosystems Research - U. of Michigan, Ann Arbor, MI
CIMAS	Cooperative Institute for Marine and Atmospheric Studies - U. of Miami, Miami, FL
CIMMS	Cooperative Institute for Mesoscale Meteorological Studies, U. of Oklahoma, Norman, OK
CIRA	Cooperative Institute for Research in the Atmosphere - Colorado State U., Fort Collins, CO
CIRES	Cooperative Institute for Research in Environmental Sciences - U. of Colorado, Boulder, CO
JIMAR	Joint Institute for Marine and Atmospheric Research - U. of Hawaii, Honolulu, HI
JIMO	Joint Institute for Marine Observations - Scripps Institution of Oceanography, U. of California-San Diego, La Jolla, CA
JISAO	Joint Institute for the Study of the Atmosphere and Oceans - U. of Washington, Seattle, WA

OCEANIC AND ATMOSPHERIC RESEARCH
STRATEGIC PLANNING GOALS AND OBJECTIVES

The Office of Oceanic and Atmospheric Research (OAR) has supported primarily five of NOAA's Strategic Planning Goals and is participating in planning efforts related to the remaining two goals (Promote Safe Navigation and Recover Protected Species). Below is a brief characterization of the OAR programs in the context of the NOAA Goals.

GOAL - ADVANCE SHORT-TERM WARNING AND FORECAST SERVICES

NOAA's present ability to accurately predict short-term environmental change is restricted by the number “gaps” in the observational record. Prediction accuracy is restricted by interruptions in the data stream from existing observation sites and locations where observations are needed but not yet available. Improvements in NOAA's environmental prediction services critically depend on OAR research to improve NOAA observational systems, develop a better understanding of environmental processes, and enhance predictive models and dissemination systems in a comprehensive approach to natural hazard reduction. OAR supports the NOAA strategic planning goal to Advance Short-Term Warning and Forecast Services through two objectives: (1) Enhance Observations and Predictions and (2) Improve Service Communication and Utilization. Much of the weather research activity in OAR is organized under the leadership of the U.S. Weather Research Program (USWRP). The USWRP seeks to coordinate and expand research in three key areas: (1) Improve forecasts of hurricanes at landfall, (2) determine the optimal mix at observations and advance data assimilation into forecast models, and (3) improve quantitative predictive forecasts. Through this coordinated approach, research results will move rapidly into operational application to directly provide improvements in products and NOAA services.

OBJECTIVE - ENHANCE OBSERVATIONS AND PREDICTIONS

The NWS modernization represents only the first step toward providing an overall system of improved environmental forecasts and natural hazard reduction. Additional service improvements can only occur through a well organized research effort including a combination of scientific, technologic, and programmatic advances. This will include research in the areas of predicting weather, inland water resources, oceanic conditions, and the space environment. OAR funding will support additional research to design the next-generation national observing system, improvements in hurricane track and intensity forecasts, enhancements to NEXRAD severe weather detection capability, extending forecast accuracy out to a week and longer, and development of techniques to assimilate new data streams into forecast models. OAR also strives to support research to improve forecasts and warnings of solar storms that affect satellites, power grids, and communications and navigation systems. In cooperation with the Federal Aviation Administration (FAA), OAR provides predictive capabilities for volcanic plumes; with the Environmental Protection Agency (EPA), research on environmental stressors in the atmosphere/earth/water systems in the eastern U.S.; and, with the Nuclear Regulatory Commission and EPA, quick response and local models for hazardous plume prediction.

OBJECTIVE - IMPROVE SERVICE COMMUNICATION AND UTILIZATION

The benefits of NOAA's short-range prediction improvements will fail to reach their potential unless they can be retrieved and passed quickly and clearly to the public, both directly and through improved communications and display capabilities for emergency management agencies, public planners, the media, and private forecast providers. OAR funding will develop strategies and demonstration systems of advanced workstations to speed critical weather information into the hands of decision makers and will also evaluate the effectiveness of weather and flood warning products and dissemination systems in meeting the needs of users of NOAA services. With FEMA and the USGS, OAR provides a tsunami warning and risk analysis system to the West Coast states, including Alaska and Hawaii.

GOAL - IMPLEMENT SEASONAL TO INTERANNUAL CLIMATE FORECASTS

OAR supports efforts in all four objectives of this goal with the major efforts in Observing and Data Delivery Systems and in Conducting Research.

OBJECTIVE - IMPLEMENT PREDICTION SYSTEMS

The Geophysical Fluid Dynamics Laboratory (GFDL), the Climate Diagnostics Center (CDC) and the Hayes Center (joint Center between the Pacific Marine Environmental Laboratory and the University of Washington) are applied research centers within NOAA's Seasonal-to-Interannual Climate Prediction Program (SCPP). The GFDL's objective is to improve global coupled models and assimilation methods, to explore the levels of predictability of model-based forecasts, and provide these models and results to prediction centers. The CDC analyzes the accuracy and utility of observations, models, and assimilation techniques for prediction systems, and the Hayes Center is analyzing atmospheric and oceanic variability (e.g. data from the TAO array) and developing ocean-atmosphere models of the El Niño-Southern Oscillation (ENSO) phenomena.

OBJECTIVE - MAINTAIN AND IMPROVE OBSERVING AND DATA DELIVERY SYSTEMS

OAR supports and operates a number of major observing systems necessary for climate predictions on this time-scale and that are useful for weather prediction. OAR is the major contributor to the ENSO (El Nino-Southern Oscillation) Observing System, the key system for ENSO predictions. OAR implemented and maintains the TAO (Tropical Atmosphere-Ocean) array in the equatorial Pacific and the Pacific profiler and upper-air networks; has assumed the responsibility for implementing and maintaining the global drifter program (formally known as the Surface Velocity Program - SVP); and is responsible for a portion of the Volunteer Observing Ship (VOS) program. OAR is responsible for all aspects of data delivery from the TAO array, the profiler and upper-air networks, and the SVP.

OBJECTIVE - CONDUCT RESEARCH FOR IMPROVED CLIMATE PREDICTIONS

OAR is the primary NOAA office responsible for conducting research for improved climate predictions. The Climate Variability and Predictability (CLIVAR) program has been formulated to improve our understanding of and ability to predict the global climate system. The CLIVAR-PACS (Pan American Climate Studies) program, designed to improve seasonal climate predictions over the Americas. This program was developed by OAR and its university partners and is co-managed and co-funded by OAR and the Office of Global Programs. The Global Energy Water Cycle Experiment (GEWEX) focuses on the hydrologic cycle and energy fluxes over land. Implementation of the GEWEX Continental-Scale International Project (GCIP), which focuses on the Mississippi basin, is another major OAR research effort. Finally, a primary activity at a number of OAR facilities (laboratories, centers, and joint institutes) is developing a basic understanding of the ocean-atmosphere system through modeling, data assimilation and diagnostic programs, and research on different components of the system.

OBJECTIVE - DELIVER CLIMATE SERVICES AND ASSESS SOCIO-ECONOMIC IMPACTS

OAR is responsible for assessing the impacts of climate variations on all time-scales. In turn, assessments of the effects of these changes on economic sectors in regions also are conducted.

GOAL - PREDICT AND ASSESS DECADAL-TO-CENTENNIAL CHANGE

OAR includes efforts in all six objectives of this goal with the major efforts in Forcing Agents, the Role of the Ocean, Ozone Layer, and Air Quality objectives.

OBJECTIVE - CHARACTERIZE THE FORCING AGENTS OF CLIMATE CHANGE

OAR monitors trends in the atmospheric distribution of radiatively important trace species (e.g., carbon dioxide, methane), including water vapor, and studies their interactions with each other, land, and oceans. It conducts laboratory, process, and modeling studies on the impact of these species and their trends on the Earth's radiation balance, both warming as in the case of infrared absorption and cooling as in the case of increased clouds and increased atmospheric aerosols. OAR integrates observed modern records with paleoclimate records to document impacts of past climatic variations.

OBJECTIVE - UNDERSTAND THE ROLE OF THE OCEANS IN GLOBAL CHANGE

The oceans play a major role in climate on all time-scales because they are the major heat storage and transfer mechanism operating on earth. The oceans are also a major reservoir for carbon dioxide. OAR conducts major programs to collect and analyze oceanographic data to evaluate models of ocean circulation and predictive models of climate variability. It conducts major efforts on the cycling of carbon dioxide (geochemical and biological)

between the oceans, atmosphere, and terrestrial biosphere. Major continuous observational programs, and long time-series research programs conducted by OAR provide the benchmarks to assess future changes in oceanic environments.

OBJECTIVE - ENSURE A LONG-TERM CLIMATE RECORD

OAR developed and is responsible for maintaining, upgrading, and updating the most frequently used, high-quality ocean-atmosphere reference data set for climate analysis - the Comprehensive Ocean-Atmosphere Data Set (COADS).

OBJECTIVE - GUIDE TO THE REHABILITATION OF THE OZONE LAYER

OAR is the leading organization in the United States with a comprehensive program to understand the Earth's stratospheric ozone layer ("good ozone"). Its researchers have led the world in discoveries that have dramatically changed our understanding of the ozone layer. It develops and deploys new instrumentation essential for enhanced observation, analysis, and understanding of photochemical processes on ozone. It conducts laboratory and field research on chemical reactions and kinetics and develops models to simulate stratospheric processes that will allow higher confidence predictions of ozone-layer response to perturbations, including natural perturbations, such as volcanic emissions. OAR research provides the scientific basis for identification of safe substitutes for ozone-depleting substances. Research to elucidate the coupling between stratospheric ozone perturbations and surface climate variability is also conducted by OAR.

OBJECTIVE - PROVIDE THE SCIENTIFIC BASIS FOR IMPROVED AIR QUALITY

OAR supports the observational and research program to study key atmospheric reactions and perturbations that may impact air quality both in the United States and globally. Recent discoveries that elevated surface ozone levels (bad ozone) in rural areas are the result of the reaction of natural hydrocarbons with nitrogen emissions demonstrate the need for understanding these processes and their impact on ecosystems and agriculture. OAR conducts research on the human-influenced and natural emissions on ozone levels in rural areas. It conducts field programs to establish where natural emissions of ozone precursors dominate over human-caused emissions and conducts laboratory studies of the role of natural hydrocarbon emissions in creating surface ozone. These studies are combined with modeling and prediction studies to assist in the development of emission control strategies.

OBJECTIVE - PROVIDE PREDICTION, ASSESSMENT, AND HUMAN IMPACT INFORMATION

OAR is responsible for assessing the impacts of climate variations on all time-scales. In turn, assessments of changes in these areas on economic sectors in the region are also conducted.

GOAL - PROMOTE SAFE NAVIGATION

OBJECTIVE - PROVIDE NOWCASTS AND FORECASTS OF COASTAL OCEANIC AND ATMOSPHERIC CONDITIONS

NOAA is proposing advances in its coastal atmospheric and oceanic forecasting capabilities to provide a national capability to measure, understand, analyze, and forecast coastal environmental phenomena that impact coastal economies, public safety, and environmental management. These forecast capabilities are critically important to safe and efficient maritime commerce. Today's commercial shipping is pushing the limits of the marine environment with respect to draft and other conditions such as visibility and wind. The mariner depends on these types of environmental tools for decisions about timing of transits and other close quarters ship maneuvers. The private sector is increasingly dependent on accurate and timely forecasts of environmental conditions. From the insurance industry to the shipping community and resource managers, the need for more and better information about the coastal environment is rapidly growing.

GOAL - BUILD SUSTAINABLE FISHERIES

OAR research activities supporting Build Sustainable Fisheries are based on programs in the Atlantic Oceanographic and Meteorological Laboratory (AOML), Pacific Marine Environmental Laboratory (PMEL), Environmental Technology Laboratory (ETL), the National Sea Grant College Program (NSGCP) and the National Undersea Research Program (NURP). OAR supports the Build Sustainable Fisheries initiative through activities in four strategic plan objectives:

OBJECTIVE - ASSESSING THE STATUS OF FISHERY RESOURCES

OAR is providing direct, in-situ estimates of populations of commercially valuable species and is determining the value of harvest refugia.

OBJECTIVE - ADVANCING FISHERIES PREDICTIONS

OAR research is focused on: developing remote sensing technologies, including airborne sampling, to assess fisheries status more efficiently than is currently possible; determining the major processes controlling recruitment variability and population dynamics using resultant models for marine fishery issues; providing information on stock structure and recruitment variability, which will lead to an increase in sustainable harvest of the walleye pollock fishery in the Bering Sea and Shelikov Strait, Alaska; understanding processes influencing recruitment of finfish; assessing the impacts of nonindigenous species introductions on fishery resources; understanding recruitment processes of commercially important crustacean species; and assessing the impacts of fishing gear on fishery habitats.

OBJECTIVE - MANAGING FOR ECONOMIC GROWTH AND SUSTAINABILITY

OAR is: assisting in the design of mechanisms to allocate fishery resources that minimize community and industry dislocations; conducting research, technology transfer, and outreach to help rebuild fisheries; and developing and improving methods to increase efficiency of fishery management.

OBJECTIVE - PROVIDE RESEARCH AND SERVICES FOR FISHERY-DEPENDENT INDUSTRIES

OAR is providing results to reduce by-catch; ensure seafood safety and high quality; develop monitoring, control, and culture systems for aquaculture; reduce disease incidence and improve feed for cultured organisms; and produce genetically manipulated strains yielding higher production.

GOAL- RECOVER PROTECTED SPECIES

OBJECTIVE - DETERMINE EFFECTS OF ATMOSPHERIC POLLUTION ON U.S. CORAL REEFS & THEIR EXTENT & CONDITION

To aid in coral reef preservation and recovery, NOAA is exploring future initiatives that would use advanced technology to provide improved information about the distribution, status, and effects of pollution on extant coral reefs in the Caribbean Sea and the Pacific Ocean. This information is critically important, because without it, NOAA managers will be unable to determine the extent of coral reefs in the U.S. Exclusive Economic Zone, their condition, and the causes of their deterioration.

GOAL- SUSTAIN HEALTHY COASTS

OBJECTIVE - PROTECT, CONSERVE, AND RESTORE COASTAL HABITATS AND THEIR BIODIVERSITY

OAR research will assist in restoration of habitat that has been lost or degraded so that its original functional value can be recovered. Critical research needs being addressed are: (1) Developing and refining cost-effective and reliable techniques for restoring and creating critical wetland, estuarine, and coastal habitats, emphasizing the use of innovative technologies where appropriate; (2) Developing census “maps” of habitat-species relationships; and (3) Developing population and community level indices of habitat quality that reflect the ability of habitats to support living marine resources. OAR researchers will also help to identify non-indigenous organisms, their life cycles and ecological relationships, and work with outreach specialists to develop cost-effective, environmentally sound management strategies.

OBJECTIVE - PROMOTE CLEAN COASTAL WATERS

Through its Laboratories, National Sea Grant College Program, and NURP programs, OAR conducts research on the sources, transport, fate, and effects of coastal pollutants. These activities affect the concerns of this objective and the overall goal of achieving sustainable development in the coastal zone. They include the development of better tools, predictions, and understanding related to coastal water quality and coastal ecosystem management. They also include new ways at looking at such problems, such as the regional/watershed viewpoint and long range transport of pollutants which may reach Arctic environments.

OBJECTIVE - FOSTER WELL PLANNED AND REVITALIZED COASTAL COMMUNITIES

OAR, through the National Sea Grant College Programs, will contribute to development of the pharmaceutical, chemical, and seafood industries by using the tools of biotechnology. Research and technology-transfer programs will develop fundamental knowledge of natural products and processes of marine organisms to provide models for new commercial products and new approaches to industrial processing and bioprocessing. For example, bacteria from undersea vents have the potential for significant industrial, commercial, and medical applications. Molecular genetics provide a means for exploring ways in which lower plants and animals--macroalgae, bacteria, and cyanobacteria--may be used to produce chemical products or used in industrial processing. Success will result in strains that synthesize useful compounds at faster rates or break down waste materials and toxic pollutants more efficiently. A major goal of NOAA in FY 2001 is maximizing value of coastal resources through a blend of fisheries management, marine aquaculture and fisheries enhancement, fish processing and community involvement.

Oceanic and Atmospheric Research
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Advance Short-Term Warning and Forecast Services										
Enhance Observations & Predictions	272	47,680	272	51,712	272	51,204	274	46,188	2	(5,016)
Improve Service Communication and Utilization	21	1,870	21	1,885	21	1,904	21	1,911		7
Infrastructure	3	7,263	3	7,983	3	7,983	3	8,013		30
Total ASTWFS	**296**	**56,813**	**296**	**61,580**	**296**	**61,091**	**298**	**56,112**	**2**	**(4,979)**
Implement Seasonal to Interannual Climate Forecast										
Implement Prediction Systems	20	13,728	20	13,676	20	13,692	20	14,744		1,052
Maintain and Improve Observing and Data Delivery Systems	77	18,118	90	22,477	90	22,601	92	34,186	2	11,585
Conduct Research for Improved Climate Predictions	77	29,701	76	32,300	76	32,478	76	29,890		(2,588)
Deliver Climate Services and Assess Socio-economic Impacts		1,122		1,117		420		422		2
Infrastructure		930		926		926		930		4
Total ISICF	**174**	**63,599**	**186**	**70,496**	**186**	**70,117**	**188**	**80,172**	**2**	**10,055**
Predict and Assess Decadal-to-Centennial Change										
Characterize Global Climate Forcing Agents	44	7,237	44	8,206	44	8,295	44	9,326		1,031
Understand the Role of Oceans in Global Change	211	29,221	211	29,182	211	29,589	213	29,818	2	229
Guide the Rehabilitation of the Ozone Layer	44	7,033	45	7,006	45	7,097	45	7,124		27
Provide Prediction, Assessment, & Human Impact Info.	40	7,348	40	7,320	40	7,400	40	7,428		28
Ensure a Long-Term Climate Record	20	7,717	20	7,688	20	7,704	22	19,233	2	11,529
Provide the Scientific Basis for Improved Air Quality	3	5,412	3	5,391	3	5,398	3	5,419		21
GLOBE	9	2,500	9	3,000	9	3,000	9	5,000		2,000
Infrastructure	3	1,468	3	1,462	3	1,462	3	1,468		6
Total PADCC	**374**	**67,936**	**375**	**69,255**	**375**	**69,945**	**379**	**84,816**	**4**	**14,871**
Promote Safe Navigation										
Infrastructure		389		388		388		389		1
Total PSN		**389**		**388**		**388**		**389**		**1**

Build Sustainable Fisheries										
Develop Sound Aquaculture			7	17,791	7	17,791	7	16,147		(1,644)
Assess the Status of Fishery Resources	16	5,883								
Advance Fishery Prediction	3	11,149								
Managing for Economic Growth	1	1,050								
Provide Research and Service	4	13,858								
Infrastructure		3,205		802		802		805		3
Eliminate & Prevent Overfishing			17	15,278	17	15,278	17	13,689		(1,589)
Attain Economic Sustainability in Communities				3,257		3,257		3,450		193
Total BSF	**24**	**35,145**	**24**	**37,128**	**24**	**37,128**	**24**	**34,091**		**(3,037)**
Recover Protected Species										
Infrastructure		340		339		339		340		1
Total RPS		**340**		**339**		**339**		**340**		**1**
Sustain Healthy Coasts										
Protect, conserve and restore habitats	65	22,075	65	20,315	5	15,010	5	13,191		(1,819)
Promote clean coastal waters	42	19,724	29	17,489	29	17,489	29	13,146		(4,343)
Foster well-planned and revitalized coastal communities	8	20,584	8	19,825	8	19,825	8	19,448		(377)
Infrastructure		805		802		802		805		3
Total SHC	**115**	**63,188**	**102**	**58,431**	**42**	**53,126**	**42**	**46,590**		**(6,536)**
Total for OAR	**983**	**287,410**	**983**	**297,617**	**923**	**292,134**	**931**	**302,510**	**8**	**10,376**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Oceanic and Atmospheric Research
Subactivity: Climate and Air Quality Research

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Interannual & Seasonal Climate Research	Pos./BA	38	14,141	38	16,692	38	16,778	38	14,986	0	(1,792)
	FTE/OBL.	22	14,553	27	16,949	27		27		0	
Long-Term Climate and Air Quality Research	Pos./BA	189	41,569	189	42,588	189	43,113	192	43,275	3	162
	FTE/OBL.	230	41,747	230	42,772	230		232		2	
Climate & Global Change/Globe	Pos./BA	156	67,186	156	69,602	156	69,697	156	72,095	0	2,398
	FTE/OBL.	122	66,027	127	69,054	127		127		0	
Climate Observation and Services	Pos./BA							5	24,000	5	24,000
	FTE/OBL.							4		4	
Total	Pos./BA	383	122,896	383	128,882	383	129,588	391	154,356	8	24,768
	FTE/OBL.*	374	122,327	384	128,775	384		390		6	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Climate and Air Quality Research**

Goal Statement

To increase our understanding of oceanic and atmospheric processes through monitoring and research, to develop a predictive capability, and to provide sound scientific advice to those charged with managing the Nation's oceanic and atmospheric resources.

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

Interannual and Seasonal Climate Research - The objective of this element is to develop a predictive capability for interannual and seasonal climate fluctuations for North America and scientifically important areas. This line item provides research base support to NOAA's Strategic Plan objective to implement Seasonal and Interannual Climate (SIC) forecasts.

NOAA's Interannual and Seasonal Climate Research effort focuses primarily on the El Niño/Southern Oscillation (ENSO) phenomenon in the equatorial Pacific. The ENSO results in large-scale periodic variations in atmospheric circulation which occur in approximately four-year cycles with differing intensities. The ENSO is characterized by changes in atmospheric pressure, wind patterns, and sea-surface temperature in the tropical Pacific which are correlated with interannual and seasonal variations in temperature and precipitation throughout the Northern Hemisphere. Predictions of seasonal climate fluctuations related to the ENSO are possible once these correlations are well defined and the physical processes producing them are understood. NOAA organizations primarily involved in this effort include the Office of Global Programs and four of the OAR Laboratories, working in cooperation with NWS, NMFS, NOS, NESDIS, and scientists in universities and several foreign countries. NOAA's strategy is to: (1) acquire the essential data; (2) develop diagnostic and predictive models related to changes in the equatorial oceans; and (3) establish the relationship of those changes to widespread climate variations through data analysis and modeling. Specific research activities include:

- NOAA's CLIVAR-PACS (Climate Variability and Predictability--Pan-American Climate Studies) program has the goal of improving seasonal precipitation forecasts over North America, which will benefit agriculture, energy, and other sectors of the U.S. economy. PACS is a follow-on to the Equatorial Pacific Ocean Climate Studies (EPOCS) that pioneered NOAA's efforts on ENSO. PACS will develop the capability for real-time analyses and projections (in association with the National Centers for Environmental Prediction) and for operational tropical-ocean analyses using coupled ocean-atmosphere models. The research includes: (1) analysis of the seasonally varying mean climate of the Americas and adjacent ocean regions, with emphasis on: (a) precipitation patterns over North America, (b) fluctuations in the Pacific and Atlantic intertropical convergence zones which help to determine these patterns, (C) the role of oceanic clouds which are a major factor in the moisture and energy balance of the atmosphere, (d) the evolution of El Niño in the eastern Pacific, and (e) the dominant storm tracks affecting North America; (2) the role of land-air and tropical air-sea interactions in determining precipitation and seasonal-to-interannual climate variability in North America; (3) the interaction between the oceans and atmosphere throughout the North Pacific and subtropical North Atlantic in determining atmospheric circulation patterns over North America; and (4) the processes that determine sea-surface temperature in the tropical and subtropical Pacific, which are, perhaps, the largest of several major factors that determine temperature and precipitation patterns over North America.

- The International Satellite Cloud Climatology Program (ISCCP), which collects meteorological-satellite imagery data in order to determine the effect of clouds on the Earth's radiation balance. The first step in ISCCP is to convert the vast quantity of satellite data into a form amenable to systematic analysis to be used in models of climate prediction.

Long-Term Climate and Air Quality Research - The objectives of this element are to establish a critical observational data base and a capability to analyze and predict changes in long-term climate and air quality due to natural and human causes, such as changing atmospheric levels of radiatively important trace species, surface ozone, and acid rain. These activities provide the research base support to NOAA's strategic objectives to "Predict and Assess Decadal-to-Centennial change" and contribute also to activities in "Seasonal-to-Interannual Climate Forecasting" (e.g., ocean data assimilation).

Trends in long-term climate and air quality are influenced by natural processes and human-induced modifications of these natural processes. Human activities may impact the natural cycles of change by altering the global temperature and modifying atmospheric chemistry. The adverse effects of these changes are: (1) a perturbation of the global radiation and heat balance, which may change global temperature and precipitation patterns and significantly affect agricultural production worldwide; (2) a reduction in the ultraviolet shielding by the stratospheric ozone layer, significantly increasing the risk of skin cancer and damage to terrestrial and aquatic ecosystems; and (3) an increase in the acidity of precipitation and in oxidant levels at the Earth's surface, which has already damaged vegetation in some areas.

NOAA monitors important atmospheric constituents and studies dynamics and processes linked to global air quality and climate variability. NOAA research programs focus on: (1) monitoring and determining trends in atmospheric greenhouse species (e.g., carbon dioxide, methane, and aerosols);

(2) determining the atmospheric processes that distribute these species around the globe; (3) evaluating their impact on climate and the global chemical balance; and (4) determining processes that remove these gases from the atmosphere (e.g., absorption in the oceans and terrestrial vegetation) that may have a significant effect on long-term climate variability. These gases have a significant impact on Earth's heat balance. Indeed, it is the natural presence of some of these species (carbon dioxide and water vapor) that result in Earth's surface temperature being above freezing. These species also affect the overall air quality, acidic nature, and chemical reactivity of the atmosphere. Knowledge of long-term trends in the abundance of these atmospheric constituents and their local distributions is critical to establish a sound predictive understanding to aid informed decisions about resource management and economic issues, both public and private.

The Clean Air Act Amendments of 1990 define NOAA's role in providing the atmospheric chemistry and transport research that supports the efforts of the interagency National Acid Precipitation Assessment Program. NOAA operates acidic deposition and atmospheric monitoring networks that provide the standard against which routine monitoring networks are compared in the assessment of the status of national efforts to reduce acidic deposition and improve air quality. NOAA also is charged with investigating the role of natural emissions and processes in the formation of acids and surface ozone.

The principal NOAA organizations involved in this line item are seven of OAR's Laboratories working in cooperation with joint institutes, other university scientists, and scientists from foreign countries. Specific research activities include:

- Ocean's Role in Climate - Recent Research has highlighted the role of the oceans in climate change. NOAA and NOAA-sponsored university investigators have established strong partnerships in advancing our knowledge of these processes toward the goal of climate prediction. The Atlantic-CLIVAR program is directed toward understanding the relationship between the Atlantic Ocean and the atmosphere decadal to centennial time scales and contributes to the international CLIVAR program. In particular, Atlantic-CLIVAR is focusing on the coupled-ocean atmosphere system to examine modes of climate variability, such as the North Atlantic Oscillation and tropical variability, and their potential predictability. As the field phase of the World Ocean Circulation Experiment (WOCE) is completed., world-wide oceanographic data sets will soon become available for analysis in the context of climate and modes of climate variability. NOAA is also investigating the role of the ocean in the global carbon budget, examining both the rate and variability of ocean uptake of carbon dioxide, as well that the exchange of carbon dioxide between the ocean and atmospheres.

- Global Atmospheric Sampling Network is the world's only truly global activity that measures the long-term background concentrations of key radiatively important atmospheric constituents, such as carbon dioxide, ozone, methane, water vapor, and chlorofluorocarbons, that may enhance the greenhouse effect by absorbing and re-radiating heat emitted by the Earth. Knowledge of the long-term trends in the global abundance and distribution of these constituents of the atmosphere and the radiation received from the sun and radiated back to space is necessary for the modeling and assessment of climate variability. NOAA monitors changes in stratospheric ozone and will host an observatory at Mauna Loa, Hawaii, as a part

of the International Network for Detection of Stratospheric Change. NOAA also monitors fluctuations and long-term changes in solar radiation in the ultraviolet, optical, and infrared spectra since these affect both long-term climate and atmospheric chemistry. In addition to the automated measurements of the better known atmospheric constituents affecting climate variability, measurements will be taken for additional trace gas species that may play a role.

! The Radiatively Important Trace Species (RITS) program supports the Global Air Sampling Program by conducting research and monitoring to understand the trends, sources, sinks, and behavior of species that occur in the atmosphere in low concentrations (such as nitrous oxide, methane, and chlorofluorocarbons) and to determine their climatic and chemical consequences. Knowledge of the long-term trends in the global abundance and distribution of these constituents of the atmosphere and the radiation received from the sun and radiated back to space is necessary for the modeling and assessment of climate variability. NOAA will continue to upgrade measurement programs for these compounds to better understand their global distribution, including sampling and field studies along ocean shipping lanes. Recognizing the importance of tropospheric ozone in global chemistry and radiation balance, NOAA will continue work to characterize the concentration and transport of ozone and ozone precursors in the troposphere, including work with other agencies and countries to establish a long-term monitoring network.

! Climate modeling research uses numerical models of air and ocean systems to assess the sensitivity of these systems to changes in solar radiation, atmospheric and oceanic conditions, and trace substances. Ultimately, this research will lead to better predictions of climate variations through the improved reliability of coupled ocean-atmosphere models. Ongoing work focuses on: global balances of heat, salinity, and carbon dioxide; seasonal variations in oceanic heat transport; and the response of tropical oceans to fluctuating winds in relation to the El Niño current phenomenon. NOAA is continuing to develop, test, and evaluate a more sophisticated three-dimensional dynamical, chemical, and radiative model to better simulate the response of global atmospheric chemistry and climate to changes in atmospheric concentrations of radiatively important trace species.

! Stratospheric ozone research is conducted to investigate the causes of the depletion of the stratospheric ozone layer (good ozone), the impact on the atmosphere of proposed chemical substitutes for ozone-depleting substances, and the relation between ozone and climate. This program consists of monitoring the state of the stratospheric ozone layer and the amount of ozone-depleting chemicals and substitute species in the atmosphere, theoretical and field studies to understand the physical and chemical processes behind stratospheric ozone destruction, laboratory studies to evaluate the atmospheric impact of chemicals proposed as substitutes for those ozone-depleting species being banned by international treaty, and studies on the impact of stratospheric ozone depletion on climate change. The results of these research activities are providing vital scientific information to international policy makers charged with implementing the treaty to protect the stratospheric ozone layer.

- The Health of the Atmosphere program focuses on providing a sounder, more economical basis for implementing the Clean Air Act Amendments of 1990 through investigation of processes involved in the formation of surface ozone in rural areas and augmentation of an integrated air-quality monitoring network that can evaluate the effectiveness of the Act. The rural-ozone component of the program pursues understanding of the processes that govern the formation of surface ozone (smog) in rural areas, which, in elevated concentrations, damages crops and forests. This includes developing new measurement techniques for human-made and natural ozone precursor compounds, conducting field experiments to characterize the formation of ozone in rural areas, performing laboratory studies of ozone-forming chemical reactions, and improving models for predicting occurrences of high ozone levels in rural areas. The monitoring component provides augmented measurements for determining trends in air quality as emissions controls are implemented. This knowledge is critical for evaluating the effectiveness of current controls. This includes improving and operating special monitoring sites for wet-deposition and dry-deposition monitoring and analyzing the monitoring data to determine the causes of air-quality variability. The air-quality program provides the scientific expertise needed to develop the most cost-effective emission control strategies so as to avoid both over-regulation of several industrial sectors and unnecessary regulatory burden on states.

HIGH PERFORMANCE COMPUTING AND COMMUNICATION - NOAA's program in High-Performance Computing and Communication supports a number of the objectives included in NOAA's Strategic Plan. Its purpose is to make possible major improvements in the Nation's ability to forecast the weather and climate and to disseminate environmental information while, at the same time, stimulating modernization of NOAA's computationally intensive services through the use of evolving high-performance computing and high-speed networking technologies. Through this program, NOAA participates as a "mission" agency in the Federal High-Performance Computing and Communications Initiative. NOAA has a need for high-performance computing and high-speed networking to perform its mission; and, through participation in this initiative, NOAA contributes to the overall goals of the Federal initiative. The Procurement, Acquisition and Construction (PAC) account carries funding under this program providing NOAA with modern high-performance computing systems required to support NOAA’s advanced computing research needs. Improvements in the accuracy and timeliness of NOAA's short-term weather warnings, seasonal forecasts, and regional and global climate predictions are heavily dependent on major advances in high-end computing power and the widespread availability of environmental data and information. NOAA responds to the report of the Presidential Information Technology Advisory Committee (PITAC) through this program by supporting the research necessary to adapt the advanced information technology research of other agencies to improve the computing, networking and services of NOAA. Timely and responsive dissemination of NOAA's services and information requires full use of modern network, communication, and information technologies.

CLIMATE AND GLOBAL CHANGE - NOAA’s broad objective is to establish a national information service based on reliable assessments and quantitative predictions of changing global climate. Once established, this service will help NOAA provide high-quality predictions and assessments to the public and private sectors, other federal and state agencies, and the international community. The near-term objective is to provide reliable predictions of global climate changes, both natural and human-induced, and their associated human effects on time scales ranging from seasons to that of a century or more.

NOAA's climate and global change program is an integral part of the interagency U.S. Global Change Research Program (USGCRP). As part of this program NOAA is addressing an important aspect of global change - the global climate system - because changing climate confronts us with significant economic, health, safety, and national security implications. NOAA has a significant responsibility in operational observation, research, prediction, and information management efforts for the global change study effort. NOAA's role is integrated and coordinated with the roles of other agency participants in global change (NSF, NASA, DOE, EPA, etc.) through the National Science and Technology Council's Committee on the Environment and Natural Resources (CENR).

The Climate and Global Change Program contributes to two prediction and assessment initiatives of the NOAA strategic plan: (1) Implement Seasonal-to-Interannual Climate Forecasts, and (2) Predict and Assess Decadal-to-Centennial Change. Base activities of these initiatives supported by Climate and Global Change funding are described below.

Implement Seasonal to Interannual Climate Forecasts

Research in climate variability and predictability over the past ten years has advanced to the point where useful climate forecasts, particularly of El Nino, can be made seasons to a year in advance. Research continues to improve modeling and predictive capabilities and now focuses beyond prediction of El Nino in the tropical Pacific to include other factors that influence climate variability over seasons to years, such as air-sea interactions in other tropical oceans, higher latitude oceans, and land soil moisture content. This program is the only focused U.S. federal effort aimed at providing forecasts of climate events and their consequent impacts.

NOAA maintains an end-to-end climate forecasting system by supporting four parallel activities: (1) implement prediction systems (2) maintain and improve required observation and data systems (3) perform underlying research required for improvement of forecasts and (4) deliver climate information to the user community and assess socio-economic impacts.

Establishing and Upgrading Prediction Systems -The Climate and Global Change Program supports institutional arrangements that apply the unique talents and capabilities of NOAA and its university partners to providing climate forecasting products for use by all interested countries, and an operational forecasting capability designed specifically to address U.S. interests. The National Centers for Environmental Prediction (NCEP) routinely issues a suite of long-lead climate anomaly predictions for the U.S. up to four seasons in advance.

NOAA leads a multinational effort to establish a network of centers operating particularly on behalf of those countries that do not currently have the infrastructure required to produce and disseminate climate forecasts. The network seeks to enhance the development and use of climate forecast models and forecast methodologies. One research center, the International Research Institute for Climate Prediction (IRI) generates and disseminates forecast guidance multinationally. Regional Application Centers have been established in collaboration with participating countries to tailor guidance from the IRI into localized forecasts and distribute products of immediate social and economic benefit.

Predict and Assess Decadal-to-Centennial Change

The Climate and Global Change elements focusing on time scales of decades and longer can be generally divided into research activities that address: (1) the forcing agents of climate change; (2) the role of the oceans in global change; (3) the long-term climate record; (4) rehabilitation of the ozone layer; and (5) prediction, assessment, and human impacts.

Forcing Agents: Gases and Aerosols - An initial step in gaining a predictive knowledge of human-induced decadal-to-centennial changes is characterization of the agents of change, both natural and human-related. The past two-to-three decades has seen the marked deterioration of air quality in the industrialized countries caused by chemical and aerosol emission from human activities. Starting in Kyoto, Japan in December 1997, and in a series of follow-up conferences, world governments are focusing on reaching a multinational consensus on decisions regarding greenhouse gases. The economic stakes are high, both in terms of impact of possible global warming and the costs of making ameliorative emission reductions. Hence, knowledge regarding the greenhouse roles of a large variety of greenhouse gases is of premium value.

Monitoring the trends of the major human-influenced greenhouse gas - carbon dioxide - in the atmosphere has been a hallmark of NOAA. The Mauna Loa 40-year-plus record is probably one of the most frequently displayed time series in the atmospheric sciences. In addition, NOAA has now developed an unparalleled global network of carbon dioxide monitoring sties, and continues to analyze this record to reduce the uncertainty of the global carbon budget. The global distribution of carbon dioxide sinks is being determined using these data, combined with a global earth system carbon model, providing solid scientific information for the future policy discussions. The NOAA records of methane abundance globally are similarly second to none. NOAA data was the first to reveal the recent decreases in the growth rate of these gases. NOAA is leading the quest to understand this anomaly and its implications. Complementing this monitoring activity are laboratory, field, and modeling studies that focus on grasping the knowledge and ability to predict future greenhouse forcing.

The Role of the Oceans - Recent research has highlighted the role of the oceans in climate change. NOAA and NOAA-sponsored university investigations have advanced our knowledge of these processes toward the goal of climate prediction. The Atlantic-CLIVAR program is directed toward understanding the relationship between the Atlantic Ocean and the atmosphere on decadal to centennial time scales and contributes to the international CLIVAR program. In particular, the Atlantic-CLIVAR program is focusing on the coupled ocean-atmosphere system to examine modes of climate variability, such as the North Atlantic Oscillation and tropical variability, and become available for analysis in the context of climate and modes of climate variability. NOAA is also investigating the role of the ocean in the global carbon budget, examining both the rate and variability of ocean uptake of carbon dioxide, as well as the exchange of carbon dioxide between the ocean and atmosphere.

Ensuring a Long-Term Record - NOAA supplies much of the accurate information about long-term changes for a variety of climate quantities required for the computer models which help ascertain the sensitivity of the climate system to changes in atmospheric composition, as well as the impact of climate change on socio-economic, biogeochemical and physical systems. These climate quantities often are required at high temporal and spatial resolutions, especially with respect to the impact of climate change. The observations available to develop this information are derived from disparate observing systems as well as proxy paleoclimate data.

Rehabilitation of the Ozone Layer - NOAA supports studies to measure ozone-depleting reaction, field investigations to characterize ozone losses over mid-latitudes, and monitoring of the effects of the CFC and halon substitutes. This year has seen an encouraging leveling-off in the accumulation of ozone depleting compounds in the stratosphere as a result of substitution. The work is directed toward providing the scientific basis for policy choices associated with the substitutes as well as other ozone depleting gases such as methyl bromide. Better definition of which substitutes are the most "ozone friendly" will help our chemical industry avoid production of a substitute that later proves to destroy unacceptable amounts of ozone.

Prediction, Assessment, and Human Impacts - NOAA researchers, supported by both OAR and the Climate and Global Change Program, are the world leaders in discoveries that have dramatically changed our understanding of human influences on the ozone layer. Their services include ground-based monitoring of ozone trends and those of the gases that cause those trends, discovering the cause of the Antarctic ozone "hole", coordinating world scientific assessments of the state of understanding, and conveying the significance of that to policy makers. The NOAA global climate models are widely accepted as the benchmarks for prediction of long-term change. For example, the NOAA climate models have provided the fundamental data for all of the international assessments.

Global Learning and Observations to Benefit the Environment (GLOBE) - The objectives of this program are to: (1) enhance the collective awareness of individuals throughout the world concerning the global environment, (2) increase scientific understanding of the Earth by using a dense worldwide network of schools to collect environmental observations, and (3) help all students reach higher levels of achievement in science and mathematics. Scientists design experiments in which the spatial density of schools over the world's land area would augment the accurate, but low density observations from existing in situ and satellite measurements. Students at GLOBE schools carry out the measurements in coordination with scientists to ensure data validity and reliability. The program uses the Internet for student reporting of their observations for central processing and distribution, including dissemination of global environmental visualizations based on these and other data sets. Scientists access the data through the Internet and then use it in their research and provide feedback through the network to students. GLOBE school lead teachers are trained to enable them to guide their students to make observations that will be useful for scientists and to fulfill the educational objectives of the program.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
IMPLEMENT SEASONAL TO INTERANNUAL CLIMATE FORECASTS				
ENSO forecasts:				
Accuracy (correlation)	.85	.85	.85	.85
U.S. temperature:				
Skill score	22	22	22	22
ENSO Observing System operational (percent)	50	75	90	90
GCIP experiments implemented (percent)	40	60	80	100
GOALS experiments implemented (percent)	15	20	25	30

"Accuracy" means the pattern correlation of the forecast relative to actual conditions. Since ENSO events are defined by the sea-surface temperatures (SST) in the central Pacific Ocean, the accuracy of the forecast of an ENSO event is quantified by the pattern correlation of the central Pacific SST forecast versus observed. "Skill" score is a quantitative measure that evaluates the correctness of the forecast; higher numbers indicate more skill.

Measures of Performance

PREDICTING DECADAL TO CENTENNIAL CLIMATE CHANGE	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Conduct continuous program of upgrading AirMon (wet/dry) sites and publish updated trend results - Quarterly Annual Assessment Completed and Reported Upon	4	4	4	4
Evaluate and Report the Global Warming Potentials (GWPs) of the proposed, viable substitutes for ozone depleting substances - Quarter Completed . . . (This is a long-term effort and reappears in FY2002)	3rd	N/A	N/A	N/A
Document the "turnover" of CFC source gases (whose atmospheric abundance Is expected to begin decreasing by 1998) in order to verify the effectiveness of global policy actions - (Number of Reports) . . . . . (The next scheduled report for this will be in 2003)	N/A	1 report	N/A	N/A
Lead development of a peer reviewed initial assessment of regional ozone in N. America, including summarizing results for customers - (Number of Reports)	1 report	N/A	N/A	N/A
Develop and evaluate techniques to measure key intermediate and sink species needed for model evaluation - Quarter Completed	4	4	4	4
Inventory the NOAA research that will contribute to the year 2001 IPCC scientific Assessment of climate and provide this information(percent)	25	50	100	100
Publish updated trend results of air quality measurements	1 report	N/A	N/A	1 report
Document decadal variability in aspects of North Pacific Ocean circulation and temporal variability of CO2 and other trace gases (Qtr. Completed)	N/A	N/A	3rd	N/A

The goals of the Predict and Assess Decadal-to-Centennial Change program are long-term, with often long lead times for results. In accordance with the Government Performance and Results Act, qualitative performance measures will be used to evaluate the success of the program--the quality of the scientific information, applicability to national and international environmental policy decisions, and utility to the policy making users. Progress will be evaluated by independent panels of peers and users based on the following goals:

- Narrow the uncertainties in the global carbon dioxide budget.
- Achieve quantitative assessment of the benefits of each climate observing system in documenting and understanding climate and the impacts of changes or additions to systems.
- Document observed changes in climate, including extremes, for IPCC.
- Develop scenarios for regional climate and ecosystem change in a form suitable for impact models, starting with the North Pacific and California current.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
HIGH PERFORMANCE COMPUTING AND COMMUNICATIONS				
Major models adapted to run on highly parallel systems	3	3	4	5
Long-running weather/climate forecast prototypes on highly parallel systems	1	3	3	4
NOAA computing and data archiving facilities connected to the Internet . . .	23	25	27	30
NOAA centers of data connected to the Internet/NGI at high bandwidth	2	3	4	5
GLOBAL LEARNING AND OBSERVATIONS TO BENEFIT THE ENVIRONMENT (GLOBE)				
Number of School participants	5900	7700	9400	10600
Cumulative # of Measurements for which data have been reported (in thousands) . .	2800	3800	4800	6200
Number of Countries Participating	67	84	88	90

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
Climate and Air Quality Research	POS/BA	384	$129,588	388	$154,356	4	$24,768
	FTE/Obl						

Interannual and Seasonal Climate Research (+ 0 FTE, -$1,792,000). NOAA requests a net decrease of 0 FTE and $1,792,000 in this line item, consisting of an increase of $57,000 to sustain critical climate research activities at current levels of effort and a decrease of $1,849,000 to terminate funding for the Climate Change Research Center at the Institute for the Study of Earth, Oceans, and Space.

Long-Term Climate & Air Quality Research (0 FTE, + $162,000): NOAA requests a total increase of $162,000. This increase will help NOAA to sustain the current levels of effort such as critical climate activities as: atmospheric observations, anthropogenic aerosols studies, (including the study of aerosol forcing), tropospheric ozone model development, trace gas monitoring, and climate detection and attribution. These funds will support Long Term Climate and Air Quality Research ($114,000) and High Performance Computing ($48,000).

Climate and Global Change (+ 0 FTE, + $398,000). NOAA requests a net increase of $398,000 to help implement within its base Climate and Global Change Program, a combination of observations, modeling, and process research to improve the regional specificity and a net of climate forecasts. This will include work on quantifying the variability of source and sink regions for carbon dioxide on land and in the ocean in the northern Hemisphere and examining in detail the role of natural modes of climate variability (including the American Monsoon, North Atlantic Oscillation, and the Pacific Decadal Oscillation) and their influence on the climate regime over North America. As it is a lower priority program, no funding is requested for Refinement of Climate Models,-$1,849,000.

Global Learning and Observations to Benefit the Environment (GLOBE): (+ 0 FTE, + $2,000,000). NOAA requests $2,000,000 in FY 2001 to increase funding for the GLOBE Program. Funding will be used to support continued growth in the number of participating U.S. schools and in the breadth of the science data being collected for the international science community.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2000 Base (BA in thousands)					
GLOBE	+ $2,000	+ $2,000	+ $2,000	+ $2,000	+ $2,000

Climate Observations and Services (+4 FTE, +$24,000,000). NOAA requests an increase of 4 FTE and $24,000,000 to begin a new Climate Observations and Services Program (an additional $4,000,000 is requested in PAC for an Improved Access to Data component).

Background: The NOAA Climate Observations and Services initiative is requested in a new line under the OAR Climate and Air Quality subactivity so that it can be managed as an integrated program. The program will effect a transition of research observing and data systems and knowledge into operational systems and products. Over the next five years, the needs will change; and NOAA requires the flexibility to shift its resources. For example, NOAA will implement the Climate Reference Network over a period of about three years. During that time, funding needs will shift from installation costs to collection, analysis, and distribution. Similarly, climate products and services will be transitioned from developmental to operational status. The funds will be jointly managed by OAR, NESDIS, and NWS, with the initial distribution as described below.

Proposed Actions:

Climate Reference Network ($6,000,000): In order to ensure NOAA's capability to monitor decadal to centennial changes of temperature and precipitation, a climate reference network consisting of several hundred stations must be developed by making use of the historical data from the best sites in the network of 11,000 cooperative observing sites. This climate reference network will build on data from stations identified as those with the longest environmentally stable records, most dedicated observers, and most reliable data with few interruptions. These records have been used to identify past trends, variations, and changes in climate but are now degrading at an intolerable rate. The current network is also fraught with observing practices that require large and often uncertain data adjustments, making existing data less than satisfactory for monitoring changes and variations in climate.

A climate reference network of about 250 stations and 250 backup sites will be identified with adequate spatial coverage to monitor temperature and precipitation trends across the USA from the existing set of 11,000 cooperative observing sites. This network will eventually be expanded internationally in conjunction with other developed nations participating in the Global Climate Observing System. This will ensure long-term and bias-free global monitoring, including validation of NOAA's space-based monitoring capabilities. The USA climate reference network will make use of data from the U.S. Historical Climate Network and will be located in proximity of the sites. Each station will have a backup site and will be located in rural permanent settings, such as state and national parks and arboretums. $6,000,000 is needed to: (1) select the first 100 sites; place instrument types for temperature, precipitation, and soil moisture at a subset of the reference network; and complete site surveys; (2) implement a means to electronically communicate all data collected in the reference

network; (3) develop a quality control package for observed data that includes checks for both random and systematic errors; and (4) evaluate periods of concurrent data using old and new instruments to ensure a seamless transition to the new reference stations.

Improving the Availability of Climate Data and Information ($6,000,000) - As the observational capabilities increase and the observing networks expand, it is essential that data management and dissemination systems are in place to make the resulting data and information widely and easily accessible to public and private sector decision makers. During recent years, NOAA has struggled to respond adequately to questions from industry, the general public, and the Government regarding potential changes in weather and climate events. Historically, the climate has not been static but ever-changing, and the sensitivity of today's society to changes in climate and weather appears to becoming ever more apparent. Some causes are: an aging population, migration to new regions, increases in population at the coasts, new technology that is weather sensitive, fragmentation of natural habitats, and increased expectations for an environmentally pleasant life. Many of our industries have an unfilled demand for data and information related to past, present, and expected changes in weather and climate. NOAA must develop the required infrastructure to assemble, develop, and communicate the data, information, and knowledge about the trends, likelihoods, and future expectations of climate and weather events. Elements of this infrastructure will consist of:

- ***NWS/NCEP Climate Prediction Center*** will translate an enhanced capability to monitor global climate variability (especially for the oceans) and the insights about climate fluctuations gained from better observing systems, into operational practice. This will be done through: (1) improvements to climate forecast models and better assimilation of observational data which feed into them, (2) efficient and reliable operational execution of these forecast systems and their incorporation as guidance into official climate predictions from two weeks to several years in advance, and (3) development of a broad spectrum of new forecast products which emphasize risks of high-impact weather events in the context of climate variability. The categories of the new and improved products are: biweekly to multi-year probabilities of rainfall events and droughts, probabilities of above- and below-normal hurricane seasons in the Atlantic and Pacific, probabilities of biweekly to multi-year temperature extremes (including dangerous heat events and major Arctic and Canadian cold air outbreaks), and probabilities for increased risk of fires on multiple time scales.

- ***Improve Access to Large Volume Space-Based and Ground-Based Data Holdings***, e.g., Doppler radar and polar and geostationary satellites (over 700 terabytes). Improved access to these data sets will be available to the public, private industry, decision-makers, and scientists. Without improved access, NOAA will not be able to maintain the integrity of the existing data through the reprocessing of archived data with improved science algorithms. These data have cost the U.S. taxpayers 100's of billions of dollars to collect. The goals are to improve the efficiency of NOAA's data management activities for both in-situ and satellite data, drive down NOAA's costs of data management per data set, and improve user services by providing access to data that are presently too costly for most users to access. The system will include the development of optimized storage technologies, such as data compression and decompression, media migration to new generation storage devices, and improved Internet access to near-on-line data. The $4,000,000 for this activity are located in the Procurement, Acquisition, and Construction (PAC) Account.

- ***Develop and Implement Real-Time Operational Updates to NOAA's Premier Research Quality Long-Term Ocean and Atmospheric Reference Data Sets***. The Nation's highest quality long-term peer-reviewed data sets are being used in a research mode but are now ready for exploitation by private industry, decision makers, and the general public. These funds will be used to develop the infrastructure necessary to routinely update these data sets in real-time and ensure access to the data including critical information about the use of these data. These data will be used to minimize

environmental risks and maximize climate-related opportunities. Among other applications, they will be used to monitor weather and climate extremes related to floods, droughts, heat waves, cold waves, hurricanes, blizzards, and other extreme weather events. Existing reference data sets include global surface data (land and oceans) as well as such atmospheric data as winds, moisture, clouds and circulation indices. These funds will be used to develop the infrastructure necessary to update routinely these data sets in real-time and insure access to the data.

- ***Improved Observation Network Performance***. The funds will be used to improve the overall performance of key in-situ and satellite observing networks by ensuring that these systems adhere to the principles and guidelines for Long-Term Climate Monitoring as articled by the U.S. National Academy of Sciences and the 4th Conference of the Parties. These principles and guidelines include: (1) the ability to monitor the performance of these networks using performance indicators—for example, to identify problems early enough to prevent serious degradation of the observing networks; (2) provide for overlapping coverage when new instruments are introduced; (3) ensure the data are used in national and international assessments to help evaluate the data quality; (4) provide for adequate metadata (information about the operation of the network and related algorithms used for processing the data) and access to the data. The observing systems in question (the U.S. Historical Climate Network, the Hourly and 15 minute precipitation networks, the U.S. Surface Hourly Network, the U.S. Upper Air Network, and the U.S. Buoy Network) provide historical data sets key to our better understanding the Earth's climate variability. Improving the overall performance of those networks will allow NOAA to avoid reconstructing entire historical data sets because of problems uncovered long after initial observations. The funding will be used to monitor the performance of these networks to identify problems early enough to prevent serious degradation.

- ***Observations and Analysis in Linking Climate and Extreme Weather Events***. Establishing the link between weather and climate variations is critical for increasing the value and usefulness of NOAA's climate information for the public and decision makers. Of particular importance is how climate variations such as El Niño, the North Atlantic Oscillation or long-term trends influence the probability of occurrence, or risk, of extreme weather events (e.g., hurricanes, major floods, droughts). During the El Niño of 1997-1998 on the West Coast, NOAA researchers demonstrated the value of productive relationships between seasonal-to-interannual forecasters, the weather research community, NWS field offices, and emergency managers. Other examples of such linkages include the mid-west drought and the east coast ice storms. Improvements in forecasting both climate variability and related high-impact weather will provide significant economic benefits to the impacted region. Coupled with improved warnings to protect life and property, an observational and analysis effort is proposed to: (1) better forecast high-impact weather on both short and long time scales, (2) localize the predicted area of impact with high-resolution nested modeling and field programs, (3) develop new tools for risk evaluation and prediction of extreme or significant weather types, and (4) understand better the underlying physical processes that govern the unique weather of topographically complex regions. A final goal of the effort is to communicate effectively with the end users of the information, building on the relationships developed during the winter of 1997-1998 with West Coast Weather Forecast Offices, River Forecast Offices, water resource managers, emergency managers, and the public. The funding will be used to an observational and analysis effort to better forecast high-impact weather on short and long time scales and develop new tools for risk evaluation and prediction of extreme weather types.

Baseline Observatories (2 FTE, $3,000,000): These funds will expand operations at NOAA's remote manned Global Atmospheric Baseline Observatories, measuring up to 250 different atmospheric parameters relevant to the study of climate change at: Barrow, AK; Mauna Loa, HI (since 1957); American Samoa;

and the South Pole, Antarctica (also since 1957). These observations are critical to the collection and continuity of the world's longest atmospheric time series, supplying the scientific community with information on the state and recovery of the ozone layer, global carbon dioxide, and other trace gases impacting the global climate. Funds are needed to: rehabilitate the aging Barrow and Samoa observatories by upgrading the equipment and facilities; upgrade the Dobson ozone spectrometer equipment; support ozonesonde stations in Arcata, CA, and Huntsville, AL; and upgrade 11 continuous surface radiation sites. Routine aircraft flask profile measurements of trace gases and aerosols also will be expanded to cover the continental U.S. and the Pacific basin, and enhanced sampling from ships and buoys will be undertaken. Finally, funds are requested to expand the gas and aerosol baseline measurements of effluents flowing from the Asian mainland to Hawaii, Alaska, and North America because, as Asian economies continue to grow, their contributions to global climate forcing will surpass contributions from the rest of the globe, including the U.S. NOAA collects baseline atmospheric data from 10 sites and one regular ship route downwind (east) of the Asian continent.

Ocean Observations (2 FTE, $9,000,000): NOAA will establish and maintain the sustained global observing and data stewardship system necessary for climate research and forecasting as well as the long-term monitoring system necessary for climate change detection and attribution. Most of these funds (up to $7,500,000) will be managed through the National Ocean Partnership Program (NOPP). The observation network is based on a set of "core" observations (e.g., temperature, surface wind stress, salinity, sea level, CO_2), consisting of both in-situ and remotely sensed measurements, that have been identified in NOAA and other national and international reports as needed to satisfy research and operational climate requirements.

To that end, NOAA will: complete its **portion of the global array of profiling floats (ARGO)** for temperature and salinity required by the Global Ocean Data Assimilation Experiment (GODAE); deploy additional surface drifting buoys in the Southern Hemisphere and other under-sampled regions to complete the Global Drifter Array; improve and increase sampling from Voluntary Observing Ships (VOS), in particular, new surface meteorological, sea-surface temperature, and CO_2 sensors, and additional thermo-salinographs; and begin the development of oceanographic observatories in the world's oceans. NOAA will develop and implement data assimilation methods to optimally combine in-situ and remotely sensed data, including satellite altimetry data of sea-surface heights, into ocean models. NOAA will build on the current US (NASA) and French satellite altimetry programs, TOPEX and JASON, to ensure their continuity through the next decade. Studies of satellite systems and ground systems architecture, including orbits, will be performed that will ensure effective assimilation of altimetry into ocean models. Additionally, NOAA will upgrade global sea-level stations for satellite altimeter drift calibration and for monitoring of long-term trends and will assess how our ability to document and forecast climate variability is impacted by the different data sources. As part of GODAE, NOAA will develop and implement techniques to optimally combine in-situ and remotely sensed data sets with ocean model fields to produce data products that can be used for marine services, documenting climate variability, and initializing forecast models. Additionally, NOAA will assess how our ability to document and forecast climate variability is impacted by the different data sources, including such in-situ observations as those from XBTs, tide gauges, and moored or drifting buoys and remote observations from satellites (e.g., altimetric sea-level height, surface wind stress, and sea-surface temperature).

Benefits: By using the historical data from the best sites in the network of 11,000 cooperative observing sites to develop a climate reference network and eventually expand it internationally in conjunction with other developed nations participating in the Global Climate Observing System, NOAA both will ensure a source of long-term and bias-free data (including validation of NOAA's space-based monitoring capabilities) for better monitoring of the global climate system and will avoid the expense of having to reconstruct historical data sets post facto because of problems uncovered long after initial observations. Also,

NOAA will be better able to serve the needs of its customers in industry, the general public, and the Government for increasing more accurate data, information, and knowledge regarding potential changes in climate and extreme weather events as well as about the trends, likelihoods, and expectations of future climate and weather events. In addition, NOAA will be able to expand operations at NOAA's remote manned Global Atmospheric Baseline Observatories (at Barrow, AK; Mauna Loa, HI {since 1957}; American Samoa; and the South Pole, Antarctica {also since 1957}), which measure up to 250 different atmospheric parameters and produce the world's longest atmospheric time series, supplying the scientific community with essential information on such critical topics as the state and recovery of the ozone layer, global carbon dioxide, and other trace gases impacting global climate. Finally, NOAA will establish and maintain the sustained global observing system necessary for climate research and forecasting and for the long-term monitoring required for climate change detection and attribution - this system will include "core" observations (e.g., temperature, surface wind stress, salinity, sea level, and CO_2), consisting of both in-situ and remotely sensed measurements, that have been identified in NOAA and other national and international reports as needed to satisfy research and operational climate requirements. In short, this initiative provides the caliber of data record needed to translate climate research gains into operational climate services whose potential benefits extend well into billions of dollars of economic value.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Restoration of Barrow, Alaska facilities completed . . .	X				
Mauna Loa monitoring station refurbished			X		
Restoration of Samoa facilities completed	X				
Full operation of Dobson Ozone Spectrophotometer network	X	X	X	X	X
Full year supply of ozonesondes to Antarctic Ozone monitoring program	X	X	X	X	X

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Expand the range and usefulness of climate services by implementing new climate forecast products, e.g., drought forecasts, heat wave forecasts, etc. and subsequently improving the skill of these forecasts (cumulative new products implemented)	1	2	3	4	5
Increase the cumulative number of ocean observations made that are critical for improving seasonal-to-interannual climate analyses and forecasts (percent of basin-scale observing system implemented) . . . . . Project Completed	25	50	75	100	
Database records maintained (billions of bytes)	204,279	605,588	1,279,927	2,220,296	3,389,696
Climate Records added (billions of bytes)	15,416	212,446	485,476	751,506	980,537

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2000	2001	2002	2003	2004
Changes from FY 2000 Base (BA in thousands)					
Climate Observations and Services	+ $24,000	+ $24,000	+ $24,000	+ $24,000	+ $24,000

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Oceanic and Atmospheric Research
Subactivity: Climate and Air Quality Research

Title:	Location	Program	Payband	Number	Annual Salary	Total Salaries
Atmospheric Chemist	Boulder	Atmospheric Observations	ZP-V	1	85,213	85,213
Physical Scientist	Boulder	"	ZP-IV	1	61,304	61,304
Atmospheric Chemist	Boulder	"	ZP-IV	1	61,304	61,304
Oceanographer	Silver Spring	"	ZP-IV	1	60,890	60,890
Program Manager	Silver Spring	"	ZP-V	1	84,638	84,638
Total				5		353,349
Less Lapse			25.0%	(1)		(88,337)
Total full-time permanent (FTE)				4		265,012
FY 2001 Pay Adjustment (3.7%)						9,805
Total						274,817

Personnel Data	Number
Full-Time Equivalent Employment	
Full-time permanent	4
Other than full-time permanent	0
Total	4
Authorized Positions:	
Full-time permanent	5
Other than full-time permanent	0
Total	5

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Climate and Air Quality Research**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	264
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	264
12.1	Civilian personnel benefits	67
13	Benefits for former personnel	0
21	Travel and transportation of persons	385
22	Transportation of things	266
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	14,327
25.5	R&D contracts	0
26	Supplies and materials	3,163
31	Equipment	1,642
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	6,503
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	26,617

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Climate and Air Quality Research**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	0
25.5	R&D contracts	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(1,849)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(1,849)

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Oceanic and Atmospheric Research
Subactivity: Atmospheric Programs

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Weather Research	Pos./BA	240	43,655	240	43,282	240	43,508	243	41,425	3	(2,083)
	FTE/OBL.	223	43,723	228	43,184	228		230		2	
Solar-Terrestrial Services and Research	Pos./BA	61	6,195	61	6,902	61	6,984	61	6,182	0	(802)
	FTE/OBL.	60	6,079	65	6,934	65		65		0	
Total	Pos./BA	301	49,850	301	50,184	301	50,492	304	47,607	3	(2,885)
	FTE/OBL.*	283	49,802	293	50,118	293		295		2	

National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Atmospheric Programs**

Goal Statement

The goal of Atmospheric Research programs is to provide the Nation with more accurate and timely warnings and forecasts of: (1) weather events, particularly high-impact weather events which disrupt economic productivity and cause loss of life and property; and (2) solar disturbances and their terrestrial effects, including hazards to satellites and disruptions of communications, navigation, and utility systems.

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

Weather Research - The objectives for this element are to provide theoretical frameworks, remote sensing technologies, and scientific understanding to: (1) develop and assess new, cost-effective atmospheric observing systems; (2) develop data acquisition, management, analysis, and display systems; (3) develop and verify numerical models and other techniques to provide prediction guidance for all types of weather, particularly high-impact events; and (4) transfer research results both to aid the research community and to improve operational warnings and forecasts which are important to the emergency response and mitigation components of NOAA's National Disaster Reduction Initiative (NDRI).

Improving our understanding of atmospheric physical processes and interactions of weather systems on all scales is essential to the continued improvement of the forecasts and warnings of the National Weather Service (NWS). NOAA organizations involved in this line item include five OAR Laboratories working in close collaboration with the operational components of NWS and NESDIS and in partnership with the NOAA joint institutes and other university scientists. This research program has two major program elements: systems/modernization and forecasting research, much of which is organized and coordinated by the U.S. Weather Research Program (USWRP) in a multi-agency context.

Systems/Modernization - Improved forecasts and warnings require more frequent and higher-density observations, faster communications, and better local data-handling systems. This is true for both short-range forecasts and warnings prepared by meteorologists monitoring conditions as they develop and for the longer-range ones generated by complex numerical models. NOAA has implemented a major capital investment that substantially upgrades its ability to collect weather data. This includes the Next Generation Weather Radars (NEXRAD), satellites, and Automated Surface Observing Systems (ASOS). NOAA also developed the Advanced Weather Interactive Processing System (AWIPS), which significantly improves forecasters' ability to use the information. In support of this modernization effort, research is critically needed to improve the spatial and temporal resolution of remote observations of the atmosphere and to integrate the resulting data into coherent four-dimensional physical descriptions of the atmosphere for use in weather forecasting research and operations. The primary research activities currently include:

- Development of atmospheric **profiling** systems to remotely and continuously measure vertical profiles of wind speed and direction, temperature, and humidity. Specific efforts include: (1) operating and assessing the Wind Profiler Demonstration Network (WPDN) in the central U.S.; (2) developing techniques that can integrate the data from ground-based and satellite-borne profiling systems for more effective use in forecasts;(3) the use of satellite GPS signals for water vapor measurements; and (4) the development of advanced radiometric techniques for use on the ground as well as on airdrafts and satellites.

- Development of **LIDARs and infrared Doppler multi-frequency radars** as research tools to improve our knowledge of atmospheric winds, turbulence, aerosols, and moisture processes.

- Development of **dual-polarization Doppler and multi-frequency radars** and passive **radiometers** to study convective storms and their precursors (including in-cloud processes and cloud interactions with the surrounding air) and to improve the ability to measure rainfall important to flood forecasts and to detect damaging winds.

- Improvement of short-range (1-12 hour) forecasting by the development and evaluation of **new local data system technologies** and techniques, some of which have already been incorporated into an operational weather forecasting environment. These include improvements to workstations and products that depict the state of the atmosphere as well as improvements to NEXRAD algorithms that detect high impact weather.

Forecasting Research - Improvements in forecasts and warnings for operational weather services also require that: (1) the numerical models be based on sound mathematical and physical concepts of the atmosphere and (2) specific forecasting techniques (based on research findings) are developed, thereby allowing meteorologists to quickly recognize precursors to various high-impact weather events. Scientific understanding of physical processes that govern the behavior of the atmosphere is essential for accurate models, which in turn, provides a tool for more accurate weather prediction. Much of this weather research is coordinated within OAR and with other agencies with weather activities, through the USWRP.

OAR coordinates solar-terrestrial services and research within NOAA and with other agencies having space or upper atmospheric issues or responsibilities through the National Space Weather Program.

Numerical models also are important tools for generating National Center for Environmental Prediction (NCEP) forecast guidance. The specific activities include:

- Developing numerical **models** to simulate and predict the behavior of the atmosphere on several spatial scales including the global (synoptic and mesoscale). A better understanding of the physical processes associated with scale interaction is necessary in order to improve our current predictive capabilities. An example of such an improvement is the recent incorporation of advanced physics into the NCEP global model, which extended the reliability of global forecasts by an average of 1.5 days (a high priority of the USWRP and the North American Observing System Council).

- Developing and implementing **data-assimilation techniques** to better use the considerable amount of data from new and existing observing systems (e.g., wind profilers, NEXRAD, ARINC Communications Addressing and Reporting System (ACARS), GOES/POES). These activities have resulted in increased accuracy in the model products.

- **Collaborating with NWS scientists** (particularly in experimental forecast exercises) to improve predictions by the National Centers and regional forecast and local service offices through: improvements in data analysis and integration; algorithm development; and the application, interpretation, and transfer of model guidance.

- Investigating **convective storms** and their precursor conditions to better understand the processes involved in severe weather and developing prediction techniques and technologies capable of increasing the lead-time and accuracy for NWS watches and warnings of potentially destructive storms.

- Undertaking **field studies** to determine the factors that influence **hurricanes and other severe weather events** which will provide the basis of improving prediction models (a high USWRP priority).

- Developing and transitioning into operations, models to forecast and specify solar disturbances and Earth's responses to these disturbances (a high National Space Weather Program Priority).

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Major field experiments	2	2	2	2
Experimental models/algorithms developed	2	2	2	2
Flash Flood Warning				
Lead Time (minutes)	40	41	42	57
Accuracy (%)	83	85	85	86
Severe Thunderstorm Warning				
Lead Time (minutes)	18	19	19	21
Accuracy (%)	84	84	84	56
Tornado Warning				
Lead Time (minutes)	12	11	12	13
Accuracy (%)	70	70	70	70
Temperature				
Correct Forecast (%)	86	87	87	88
Accuracy of Forecasting Onset of Freezing Temperatures (%)	76	78	78	82
Snow Amount				
Forecasting of Heavy Snow (%)	50	55	60	65
Precipitation Forecasts				
Lead Time for 1"Precipitation Forecast with Same Accuracy as a 1-Day Forecast in 1971 (days in advance)	2.3	2.3	2.4	2.4
Severe Coastal Event Warnings				
Hurricanes				
Accuracy of Landfall (mi.) with 24-Hour Lead Time	87	84	81	81
Tsunamis				
Lead Time (hours)	0	0	1	1
Height Accuracy (%)	0	0	0	50
Tsunami Inundation Maps Completed (% coastal communities)	11	11	20	25

Solar-Terrestrial Services and Research - The principle objectives of NOAA's solar-terrestrial programs are to: (1) provide forecasts, alerts, warnings, and other key information about space weather (i.e., solar disturbances and geomagnetic storms) and its effects on communications, navigation systems, power distribution networks, operation of satellites, protection of astronauts on space missions to government and civilian customers on a 24 hour per day, seven days a week basis; (2) improve observations, data bases, physical forecast models, forecast and information products, and dissemination systems for these data and products through research and development; (3) evaluate and demonstrate research and development gains and transition them into operations.

Forecasts and Warnings

NOAA's Space Environment Center (SEC) Space Weather Operations Division, together with the US Air Force, operates the national civilian space weather service. Forecasts, alerts and warnings are provided to customers interested in the environment on a 7 day a week, 24 hour a day basis. These products are synthesized from over 1400 data streams providing observations of the solar terrestrial environment, including x-ray flux, charged particles, and magnetic field changes produced by solar disturbances.

Research

SEC's research scientists improve space weather forecasts and warnings by studying the Sun's electromagnetic, particle, and magnetic-field emissions and the processes by which they affect Earth's space environment. Specifically, they develop: (1) algorithms for processing and analyzing data from advanced space-environment sensors; (2) improved diagnostic and prediction techniques; (3) theoretical models, both statistical and numerical, to forecast space weather that will impact Earth; (4) improved sensor calibration and quality control; and (5) "expert systems" to recognize developing solar features for operational use. Furthermore, research is necessary to plan for longer-term follow-on replacements for current observing systems that are too old to maintain operationally because of expired satellite lifetimes and out-of-date technology.

Customer Service

SEC provides services to a broad user community of government agencies, industries, public institutions, and private individuals involved in satellite operation, space explorations, radio navigation, high-altitude polar flights, high-frequency communications, remote intelligence gathering, long-line power and data transmissions, and geophysical exploration. Forecast, alert, and warning products are distributed to these customers and the general public via the NOAA Weather Wire, email, the World Wide Web, broadcasts on the standard time and frequency radio station, and other electronic and non-electronic distribution networks. Many of the products are further distributed by industry and dedicated networks such as the World Meteorological Organization (WMO), Federal Aviation Administration contractors, American Amateur Radio League, WMO nets, and electric power coordination networks. Customer support is also provided by SEC's forecasters, who are available to respond to customer inquiries. To develop a viable way of meeting the expanding demand for space weather services as solar activity moves toward its cyclical maximum in the last part of the 1990's, SEC is fostering the development of a commercial third-party vender community to use the information gathered by the SEC from government observing systems and to turn it into tailored products aimed at solving specific user problems which are outside the role of government to provide.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Scientific Publications (refereed)	31	29	29	27
Technical Publications	12	11	11	12
Receive, Process & display new data streams	0	1	1	3
New Alerts and Warnings products	0	1	2	3
Space Weather Operations				
Number of forecasters	6	7	7	7
Hours of forecaster coverage	10	24	24	24

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
Atmospheric Programs	POS/BA	293	$50,492	295	$47,607	+2	-$2,885
	FTE/Obl						

The net change in this subactivity are +2 FTE and -$2,885,000. The individual changes are described below:

Weather Research (+2 FTE; -$2,083,000). NOAA requests a net change of +2 FTE and -$2,083,000 for this line item. Within this overall decrease, there are increases of $153,000 to sustain critical weather research activities at their current level of effort and 2 FTE and $1,000,000 for the U.S. Weather Research Program (USWRP) Hurricanes at Landfall/Natural Disaster Reduction Initiative (NDRI) - Reducing the Costs of Disruptive Weather, a multi-line organization NDRI initiative under the theme of Reducing the Costs of Disruptive Weather (OAR, NWS and NESDIS). These increased funds represent the second year of a multi-year effort that will provide the research, demonstrations, and operational implementation necessary to improve forecasts of hurricane landfall and inland flooding. It is a cooperative effort among OAR, NWS, and NESDIS and among three other USWRP agencies (NSF, NASA, and the Navy). These increases are offset by decreases for the STORM program at the University of Northern Iowa, (0 FTE, -$1,849,000) and for the incorporation of wind profile data into the forecast models (-$1,387,000) as they are a lower priority for NOAA.

Additional background information on the USWRP follows below:

Background: This initiative represents the NOAA responsibilities culminating from a multi-year and multi-agency science planning process under the sponsorship of the USWRP. More than 200 top scientists, forecasters, social economists, and users participated on prospectus development teams leading to three workshops. The products of these workshops were conceptually detailed science plans agreed upon by representatives from NOAA, NSF, NASA, and the Navy. The plans lay out the research required to significantly improve the forecasts of hurricanes at landfall and the QPF with particular attention to precipitation causing flooding. The plans also include the costs to the four agencies of this initiative over a multi-year period. This initiative contributes to the NOAA portion of the hurricane landfall forecast improvement plans. The expected performance measures and their estimated minimum societal benefits assume full participation among the agencies.

The requested funds supplement the $1,000,000 for land-falling hurricane research provided in the FY 2000 appropriation, which will allow the three Line Offices to convert some FTEs from reimbursable to NOAA base funding, purchase extra dropsondes for research flights of the Gulfstream IV, and provide a modest increment in the NOAA contribution to the university grants program in the USWRP. The FY 2001 increment provides a level of funding required to begin process research, observational programs, data assimilation, forecast demonstrations, and evaluations to meet the goals.

Proposed Actions: NOAA will carry out directed basic research, applied research, and development on experimental numerical model algorithms; provide field observational support for and analysis of special or enhanced observations; and conduct information and technology transfer to operations and services in order to reach performance goals defined for the following high priority areas:

Hurricanes at Landfall (USWRP initial priority) - Through inter-agency and intra-NOAA coordination, the multi-year program will be directed toward extending hurricane track predictions up to 120 hours, improving the accuracy of the hurricane landfall location, and improving the forecasts of hurricane intensity at landfall. Furthermore, as the storm moves inland, efforts will be focused on improving surface wind forecasts, both intensity and location, and on more precise quantitative precipitation forecasts in conditions under which such precipitation may lead to inland flooding. The effort will be accomplished through research on hurricane initialization and intensification processes and through data assimilation of targeted observations into operational and experimental numerical models. It will also involve studies of precipitation processes overland as the storm weakens in terms of wind speed, but often maintains or increases its ability to produce copious amounts of precipitation and to spawn tornadoes. Field observations are planned during hurricane seasons in the western Atlantic, Carribean, and Gulf of Mexico. The NOAA P-3 and Gulfstream G-IV, as well as NASA aircraft, each with state-of-the-art instrumentation will be deployed in coordinated campaigns. Observations from NOAA, NASA, and DMSP satellites will be combined with other data sources to provide information for hurricane process studies, for assimilation into operational and experimental numerical models and for real-time use at national and local forecast offices. Portable surface observations such as wind profilers and Doppler radars will observe the modifications of the hurricane boundary layer as the storm crosses the coast and moves overland. An important part of this effort is the extension of watch lead times and updating and improving the preparation of warnings and their dissemination. As products improve, we must also improve the ability to get the forecasts to those who need them the most.

Specifically, this increase will provide:

- Physical initialization of hurricanes with high resolution Doppler wind data
- Investigations into ensemble forecasting for hurricanes
- Testing of NOAA satellite Advanced Microwave Sounding Unit (AMSU)-derived wind fields in hurricanes
- Improved use of satellite data for hurricanes at landfall

Benefits: A USWRP-sponsored Workshop on the Social and Economic Impacts of Weather, attended by social scientists, economists, and end users of weather information, specified the potential benefits of the improved forecasts listed below. Using the most conservative measures, the benefit-to-cost ratio is greater than 10 to one. Here, the cost includes the five-year total cost for the four participating agencies. Savings accrue for such actions as reducing the average length of coastline under hurricane warnings saves at least $640K per coastal mile in the costs of evacuation and other preparedness actions. Decreasing the error in forecasted hurricane intensity would save many lives and would assist in our understanding of surface wind damage, aiding future mitigation efforts. With about 75% of the insured losses in this country directly caused by weather and 95% of the Presidentially declared disasters over the last decade weather-related, a small forecast improvements can lead to large benefits.

Measures of Performance: Although this **first set** of performance measures indicates the forecast improvement goals are not met until the end of the five-year program, many of the observations will be assimilated into operational numerical weather prediction models with increasingly sophisticated methods in near real time. We expect these observations and improved techniques to provide gradual forecast improvements throughout the five-year period.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Hurricanes at Landfall:					
Begin enhanced hurricane observations	X	.....	.....	.....	.....
Focus experiments on convective ocean	.....	.....	X	.....	.....
Develop data assimilation techniques to incorporate enhanced observations into operational models	.....	.....	X	.....	.....
Begin accelerated research in ensemble forecasting using enhanced observations	.....	.....	X	.....	.....
Begin using mobile and land-based observing system to map atmospheric boundary layer and precipitation structure	.....	X	.....	.....	.....
Begin forecast demonstrations using improved observations and models observations	.....	.....	X	.....	.....
Begin operationalizing specific, successfully demonstrating observing systems and data assimilation techniques	.....	.....	.....	X	.....
Implement next generation operational, community hurricane model	.....	.....	.....	.....	X

Measures of Performance: This **second set** of performance measures represents NWS operational forecast goals and are the result of a two-year development process which included NOAA and the other USWRP agencies as well as the university research and user communities. Although these measures indicate that the forecast improvement goals are met beyond a five-year period, many of the observations will be assimilated into operational numerical weather prediction models with increasingly sophisticated methods in near real time. We expect these observations and improved techniques to provide gradual forecast improvements throughout the period of the program.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Hurricanes at Landfall (percent of goal accomplished):	(All measures will be met by FY 2007.)				
Reduce landfall track and intensity error by 20%	.....	.....	25%	.....	50%
Increase warning lead time to and beyond 24h with 95% confidence without increasing the present 3 to 1 over-warning	.....	.....	35%	.....	75%
Make skillful (compared to persistence) forecasts on onset of gale (34-kt) and hurricane force (64-kt) radii out to 48 h with 95% confidence	.....	.....	25%	.....	50%
Extend QPF out to 3 days and improve skill of day 1-3 QPF's to improve inland flooding forecasts	.....	.....	30% ..	.....	60%

Solar-Terrestrial Services and Research (+ 0 FTE; -$802,000). NOAA requests a net change of 0 FTE and -$802,000 for this line item. This net decrease includes increases of $100,000 for our Space Weather Information Dissemination System, (IDS) and $22,000 to sustain critical space weather research activities at their current level of effort. This funding will support the Space Environment Center (SEC) which ingests, manipulates, and exports massive amounts of data on a daily basis in the process of producing operational space weather products and services. To meet the needs of growing data loads and to remove barriers that restricted user access to the data, SEC has initiated a modernization of its data distribution system. The new system replaces late 1970's technology that could no longer be maintained and limited SEC's ability to transfer data to customers. The decreases include termination of the funding for the lower priority Dartmouth College RadioPhysics Laboratory (-$924,000).

Specifically, funding within this sub line item will support the final testing and commissioning of the IDS enabling improved space weather operations. The benefits of supporting this system are as follows: Converting to a machine independent, high-capability system will allow SEC to provide more data with less burden to the organization. In the past, customers, such as the NASA Space Radiation Analysis Group who use SEC data to protect astronauts from harmful radiation storms, had only very limited access to the data. They could see a display of the data but could not manipulate the data or customize the information to their needs. With the IDS, customers and partners will be able to bring the data to their location in real time and do their own processing for their unique needs. This frees SEC from those activities and allows the Center to focus resources on efforts that benefit the entire space-weather community as a whole. Funding within this sub line item will also support the Space Weather Research Program.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2000 Base (BA in thousands)					
USWRP/NDRI	+ $1,000	+ $1,000	+ $1,000	+ $1,000	+ $1,000
Information Dissemination System	+ 100	+ 100	+ 100	+ 100	+ 100
Base restoration (Wx. Research)	+ 153	+ 153	+ 153	+ 153	+ 153
Base restoration (Solar-Terrestrial)	+ 22	+ 22	+ 22	+ 22	+ 22
STORM (U. of N. Iowa)	(1,849)	(1,849)	(1,849)	(1,849)	(1,849)
Wind Profile Data into Forecast Models	(1,387)	(1,387)	(1,387)	(1,387)	(1,387)
Radiophysics Laboratory of Dartmouth College	(924)	(924)	(924)	(924)	(924)
Total for Atmospheric Programs	(2,885)	(2,885)	(2,885)	(2,885)	(2,885)

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Oceanic and Atmospheric Research
Subactivity: Atmospheric Programs

Title:	Location	US Weather Research Program		Payband	Number	Annual Salary	Total Salaries
Meteorologist	Miami			ZP-IV	1	72,012	72,012
Physical Scientists	Suitland	US Weather Research Program		GS 13/1	2	60,890	121,780
							0
Total					3		193,792
Less Lapse			25.0%		(1)		(48,448)
Total full-time permanent (FTE)					2		145,344
FY 2001 Pay Adjustment (3.9 %)							5,668
Total							151,012

Personnel Data	Number
Full-Time Equivalent Employment	
Full-time permanent	2
Other than full-time permanent	0
Total	2
Authorized Positions:	
Full-time permanent	3
Other than full-time permanent	0
Total	3

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Atmospheric Programs**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	
11.3	Other than full-time permanent	137
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	137
12.1	Civilian personnel benefits	34
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	70
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	20
24	Printing and reproduction	10
25.1	Consulting services	0
25.2	Other services	61
25.5	R&D contracts	631
26	Supplies and materials	61
31	Equipment	20
32	Lands and structures	0
33	Investments and loans	231
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	1,275

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Atmospheric Programs**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	0
25.5	R&D contracts	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(4,160)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(4,160)

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Oceanic and Atmospheric Research
Subactivity: Ocean and Great Lakes Programs

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
Line Item		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Marine Environmental Research	Pos./BA	188	34,238	188	33,270	128	26,773	128	22,595	0	(4,178)
	FTE/OBL.	91	34,318	159	33,274	99		99		0	
Sea Grant	Pos./BA	22	58,219	22	58,630	22	58,630	22	59,250	0	620
	FTE/OBL.	17	58,345	22	58,655	22		22		0	
National Undersea Research Program	Pos./BA	8	14,611	8	13,748	8	13,748	8	5,750	0	(7,998)
	FTE/OBL.	8	14,507	8	13,748	8		8		0	
Total	Pos./BA	218	107,068	218	105,648	158	99,151	158	87,595	0	(11,556)
	FTE/OBL.*	116	107,170	189	105,677	129		129		0	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Ocean and Great Lakes Programs**

Goal Statement

NOAA's Ocean and Great Lakes Programs seek to:

- Provide the information base to support policy and management decisions for protecting the quality and value of the Nation's marine and coastal resources.
- Increase our understanding of coastal and marine processes for the purpose of predicting environmental changes.
- Provide the technical basis for enhancing the Nation's marine economic sector.

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

Marine Environmental Research - The objective for this element is to support a wide variety of research carried out by five OAR Laboratories (Great Lakes Environmental Research Laboratory, GLERL(proposed for transfer to NOS); Atlantic Oceanographic and Meteorological Laboratory, AOML; Pacific Marine Environmental Laboratory, PMEL, Environmental Technology Laboratory, ETL; and the Air Resources Laboratory, ARL) and through cooperative activities at universities and other NOAA and Federal Laboratories. Though each laboratory specializes in certain aspects of

research, they all support both of NOAA's primary mission areas (i.e., to improve the prediction and assessment of ocean, coastal, and Great Lakes processes, phenomena, and resources and to promote stewardship of those resources).

Research is conducted within the following themes to: develop a sound scientific basis for management, development, and use of coastal, estuarine, and Great Lakes waters and for understanding and predicting physical, biological, and chemical processes; develop instrumentation, modeling, and other technologies for more effective measurement, storage/retrieval, and analysis of environmental data; and transfer new technologies, techniques, and data/information bases to the private sector in a timely and effective manner. An overview of the ocean and Great Lakes research programs with some specific examples is covered below.

Great Lakes Programs - The aquatic contaminants research program combines process studies and mathematical modeling focused on these toxic organic contaminants to increase our understanding of the dynamics and effects of pollutants in the ecosystem. Contaminants introduced into the Great Lakes ecosystem bind to particles and either remain suspended in the water column or settle into the sediment. Aquatic bottom-dwelling organisms are exposed to certain critical pollutants through their contact with the sediment. These pollutants may then be introduced into the food chain where they ultimately threaten human health as well as the health of the ecosystem.

Meteorological and oceanographic conditions in coastal and Great Lakes areas can cause significant damage to property, loss of human life, and social or economic disruption. One of the primary factors responsible for producing hazardous conditions in these areas is the marine surface wind, which produce damaging waves, storm surges, and strong currents. High and low lake levels, heavy snowfalls, ice, and shoreline erosion also pose serious threats, as do human-caused hazards, especially chemical and petroleum spills. The Circulation Modeling and Nearshore Processes program provides new or improved circulation and wind models and other products to assist in marine hazard prediction, emergency response, damage prevention and reduction. It also synthesizes the results of research on large lake hydrodynamics, biological processes, and water chemistry to assist coastal managers in making well-informed decisions on nearshore water quality and natural resource problems.

Great Lakes and coastal ecosystems are continually exposed to various stressors such as increased or decreased nutrient loads, human-induced changes in the carbon cycle and climate, and the introduction of toxic contaminants. The goal of the Biogeochemical Processes program is to help answer questions and address issues about the system’s biogeochemical response to these stressors.

Coastal Research - The coastal regions of the world, along with their adjacent oceans and estuaries, exemplify a dynamic system that confronts severe pressures. Not only must these regions face natural hazards such as storms, but they also must try to meet the demands for resources by plants and animals. The human demand is perhaps the harshest. The goal of optimizing the use of these resources for both the benefit of humans and the health of the ecosystem can only be achieved if the processes that operate within the coastal system are thoroughly understood. Currently, several research programs are working on increasing our understanding of coastal regions in the United States, specifically on direct impacts to marine organisms and the discharge of material into the coastal ocean, as well as improving the forecasting accuracy of: lake levels; hazardous winds, waves, tsunamis, and storm surges. For example:

The coastal region of the lower Everglades is the transition zone between the Florida peninsula and Florida Bay. The natural and anthropogenic changes that have occurred within this region over time are important to understanding the entire ecosystem. There have been no long-term monitoring programs to record these changes, but the sediments potentially contain a continuous historical record of such information. The biological, chemical, and geological responses of the ecosystem to these changes, from the turn of the century to the present, are being studied so that we will be in a better position to predict the effects of future changes. This research is supported directly by OAR and through reimbursement by the NOAA Florida Bay Program and other sponsors.

Every day hundreds of millions of gallons of treated sewage effluent are discharged into our coastal waters. Until 1988, little was known about the initial dilution and mixing characteristics of the discharged wastewater. This lack of scientific and practical knowledge created conflicts between those who wrote regulations (both state and federal) and those who had to abide by them (municipal utilities). To remedy this situation, programs have been developed to measure the chemical, biological, and physical oceanographic parameters of the receiving water column, which furthers our understanding of potential sewage effluent transport pathways, dilution, and exposure potentials. Data from these programs are now being used as the factual basis for the formation of efficient operating procedures and effective regulations for discharge. The work is supported through several reimbursable projects.

Direct biomass surveys are an important tool for fishery research and stock assessment. The use of biomass surveys is increasing as resources become fully utilized and require frequent and accurate monitoring to be managed properly. The traditional direct surveys (e.g., trawling) have substantial limitations when applied to active fishes such as mackerels, sardines, anchovies, menhaden, tuna, and oceanic salmon. Airborne Light Detection And Ranging (LIDAR), currently being developed by OAR and NMFS, provides a more accurate assessment. The basic technology was developed by the U.S. Navy for submarine and mine detection. The newly developed instrumentation has been used to make calibration measurements of sardines. A NOAA research trawler tested the instrumentation's capabilities, with favorable results, and NOAA's LIDAR is currently being installed on an aircraft belonging to the state of California. Further tests are planned, and the results will be used to guide system and algorithm improvements. In addition, new techniques for measuring zooplankton availability and distribution of fish larvae using automated instrumentation are being developed and used in research projects to develop improved fishery recruitment models and stock assessment techniques.

U.S. coastal communities are threatened by tsunamis that are generated by local and distant earthquakes. Local tsunamis give residents only a few minutes to seek safety. Tsunamis of distant origin give residents more time to evacuate threatened coastal areas but increase the need for timely and accurate assessment of the tsunami hazard to avoid costly false alarms. The Tsunami Hazard Mitigation program seeks to mitigate tsunami hazards to Hawaii, California, Oregon, Washington and Alaska through research and development aimed at improving the speed and accuracy of tsunami warnings. Initial research has been focused on development of deep ocean tsunami detection buoys and tsunami inundation mapping. The program has also been upgrading existing seismic networks in Alaska, Washington, Oregon, California and Hawaii, designing prototype data and earthquake products for the two NOAA warning centers, creating an inventory of existing mitigation materials and developing a strategic implementation plan for coordination among Federal, State, and local agencies.

Ocean Observations - On a global scale, the 1982-1983 El Niño is estimated to have caused more than $8 billion in economic damages. Over the millennia, the waxing and waning of entire cultures is believed, in part, to be related to regional climatic change. Sea surface temperature and the underlying thermal structure of the ocean are believed to hold the key to forecasting El Niño Southern Oscillation (ENSO) variations. Recently, the National Weather Service has begun using such information to prepare experimental climate forecasts that are being issued to the public. Using moored arrays, drifting buoys and expendable bathythermographs (XBT's) to probe the evolution of the temperature structure of the upper ocean, OAR also provides many of the observations that essential to the climate forecasting activities of the National Weather Service. Meteorological centers throughout the world receive data from both the XBTs and the buoys via a global communications network, and use it to prepare analyses for weather forecasts.

North Pacific and Arctic Research - NOAA supports a spectrum of research in coupled biological-physical oceanography designed to predict recruitment of walleye pollock, an extremely important commercially fished species in the Gulf of Alaska and Southeast Bering Sea. These projects are a uniquely successful example of modeling the effects of changes in the physical environment on survival of a population of wild fish. The results are not only used by National Marine Fisheries Service managers to determine catch limits, but also by biologists attempting to understand the fluctuations in Bering Sea fur seal populations that feed on pollock as a main part of their diet.

The NOAA Arctic Research Initiative (ARI) focuses on research, monitoring and assessment projects to study natural variability and anthropogenic influences on the Western Arctic/Bering Sea ecosystems, taking into account fisheries and marine mammals, the presence of coastal communities, the cultural and economic value of the area, and the need to address sustainable use of resources. This initiative contributes to the international Arctic Monitoring and Assessment Program (AMAP) and to NOAA research priorities in climate and the Bering Sea ecosystem. The ARI has implemented a competitive research program, through its Cooperative Institute for Arctic Research (CIFAR) at the University of Alaska - Fairbanks, to build partnerships among NOAA and academic scientists with participation from foreign (e.g., Russian) and other Alaskan scientists.

Open Ocean Processes - Established in 1984, the VENTS Program focuses research on determining the oceanic impacts and consequences of submarine hydrothermal venting. The program directs most of its efforts toward achieving an understanding of the chemical and thermal effects of venting along northeast Pacific Ocean floor spreading centers and their potential impact on the global ocean. Over the past two years, VENTS has shifted a major portion of its efforts to acquiring and disseminating key ocean data from real-time ocean monitoring systems (e.g., SOSUS and automated in-situ instrumentation). Finally, a recent joint NOAA-NSF effort is seeking to understand and exploit a newly discovered subseafloor microbial biosphere.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Improve technology for modeling and predicting survival of larvae and recruitment (percent improved in predictive capability)	15	0	10	11
Develop and evaluate new technologies for tracking, surveying, and aging larvae, juveniles, and populations (technologies evaluated)	1	0	1	2
Develop improved monitoring and control and culture systems for existing aquaculture industries (systems)	4	4	8	9
Develop collaborative studies with international partners on the effects of aquaculture and on carrying capacity of coastal ecosystems	0	0	0	1
Technologies implemented for physical, chemical, and biological observations at a seafloor observatory	0	0	1	3
Establishment of long-term environmental monitoring program in Alaska . . .			X	X

National Sea Grant College Program: NOAA's National Sea Grant College Program draws upon a partnership among the Federal government, academia, and industry to develop coastal and marine resources for a sustainable economy and environment. Sea Grant involves a university-based network of 29 programs through which scientific research, education and training, and technology transfer are conducted to ensure stewardship and responsible use of our Nation's marine and Great Lakes resources.

The Sea Grant College network--comprised of universities in coastal and Great Lakes states, Hawaii, and Puerto Rico--conducts competitively reviewed, high-quality research projects providing the fundamental knowledge necessary for solving coastal and marine-related problems. A major component of these research projects is the involvement/training of students who then enter the workforce equipped with the knowledge and skills needed to be wise stewards of the Nation's coastal and marine resources. Finally, Sea Grant uses a cadre of specialists trained in public outreach and education to transfer research results out of the laboratories and into the hands of businesses and persons who can best use the results for new product development, job creation, and/or better management of coastal resources.

Through Sea Grant, NOAA forges a major link to the external academic community, where a strong infrastructure and a talented pool of scientists, engineers, educators, and outreach specialists can be tapped to meet agency and departmental missions in a time of a reduced Federal workforce. While focusing on making the United States the global leader in marine resources research and development, Sea Grant contributes to the NOAA 1995-2005 Strategic Plan as well as to the Department of Commerce's mission to ensure and enhance economic opportunity for the American people. Sea Grant

organizes its work with three broad portfolios in mind: economic leadership, coastal ecosystem health and public safety, and education and human resources.

Economic Leadership -- The United States is being challenged to find ways to balance the amenities and environmental health of coastal areas with the economic expansion and development needed to sustain these communities. In responding to the current economic dislocation within the New England fishing industry, for instance, Sea Grant has developed an export market for hagfish skins used to produce high quality leather. A viable and environmentally friendly fishing technology has been developed for this formerly unexploited fish. The market is already over $1 million annually and expanding rapidly; it has kept some fishermen, who would have been without work, economically productive. Sea Grant has initiated five major research programs to provide critical information required to better manage the New England fisheries and to develop new jobs through new and expanded aquaculture opportunities.

To further develop the marine sector of the national economy and to strengthen coastal community infrastructures, Sea Grant will concentrate on stimulating scientific knowledge related to: advanced technology for commercial products and processes, seafood production, and coastal economic development.

Advanced Technology -- Sea Grant research and technology transfer programs in marine biotechnology will develop fundamental knowledge of natural products and processes of marine organisms in order to provide models for new commercial products and new approaches to industrial processing and bioprocessing. Sea Grant also will develop environmental technologies for application to environmental assessment and monitoring, pollution reduction in the seafood industry, and contaminant remediation in the coastal environment.

- Sea Grant, along with NMFS, NOS, and other NOAA and DOC partners have established a NOAA/DOC Aquaculture policy and development program. New policy and regulations to facilitate aquaculture industry development for such technologies as marine offshore, recirculating, and enhancement technologies are being finalized. Critical issues in this area will be addressed in new programs beginning in FY 1999 and expanding in FY 2000 and beyond.

- Seafood production--To enhance the Nation's commercial fisheries, Sea Grant will work to advance ecosystem-based management and to minimize the heavy bycatches of non-target species. Related research in seafood technology will provide the knowledge needed for improved seafood product quality and safety.

- Coastal economic development--Coastal enterprises engaged in tourism, recreational boating, sportfishing, and marine trades face a complex regulatory environment and increasing competition for waterfront. Sea Grant will use its linkages with businesses to help them adapt to changes in the regulatory environment and to manage more efficiently in their business environment. Along the Nation's coastlines, many docks, piers, outfalls and shipyards are in a state of disrepair. Rejuvenating this aging physical marine infrastructure will require Sea Grant research on such topics as inspection techniques and structural performance assessments.

Coastal Ecosystem Health and Public Safety – The fragility of natural coastal ecosystems and their susceptibility to natural and man-made hazards provide major challenges to policy makers and public safety officials concerned with providing sustained development opportunities and maintaining public safety. Sea Grant provides a major mechanism for accomplishing this difficult task. As just one example, Sea Grant research on nutrient inputs from agriculture into bays led to the adoption of "Best Management Practices" in four states. These new land-use practices resulted in a 25 percent reduction of nitrogen compounds entering bays, with a subsequent improvement in water quality. Sea Grant's research and outreach programs will support sustainable development and the enhancement of public safety in the coastal zone.

- Coastal Ecosystem Health--Sea Grant will focus on enhancing the quality of coastal and Great Lakes waters through research and outreach on non-point source pollution, toxic chemicals, and harmful algal blooms. The impacts of coastal habitat alterations and procedures for restoring damaged areas will also be investigated. In order to promote sustainable development, Sea Grant will provide policy makers and resource managers with the information and tools needed for formulating appropriate environmental policy.

- Protection of Life and Property--Sea Grant will conduct research and outreach designed to enable public safety officials to implement programs that ensure the preparedness and response of communities to coastal hazards such as hurricanes, coastal storms, tsunamis, and chemical/oil spills. It will also promote safety at sea through development of new equipment and training programs for the fishing and the diving communities.

Education and Human Resources--Whether formal or informal, Sea Grant educational efforts have provided the impetus for individuals from kindergarten to graduate school as well as those outside of school to experience the excitement and reality of scientific study in a way that whets the appetite for more. At the university level, Sea Grant researchers annually train about 500 undergraduate and graduate students to solve coastal and marine problems in science and engineering as well as in coastal policy. Ensuring sustainable development of the Nation's marine, coastal, and Great Lakes environments requires an investment in education and human resources.

- A Technically-Trained Workforce--Sea Grant will continue to fill the Nation's need for qualified scientists, engineers, technicians, and resource managers in marine and coastal fields and will give greater attention to increasing student diversity and training opportunities. Complementing its successful program of providing university fellowships, Sea Grant has initiated a pilot program in partnership with industry to provide highly qualified graduate students with research experiences in corporate settings.

- An Environmentally and Scientifically Informed Citizenry--Coastal issues such as declining water quality and multiple-use conflicts require an informed public aware of the issues and potential solutions. In the area of formal pre-college education, Sea Grant will design programs to complement the national systemic education reform movement by reflecting marine and coastal information translated into local contexts. Reaching more teachers through marine science training opportunities will let them acquire new knowledge and skills for use in educating their

students. In the non-formal sphere, Sea Grant will increase public understanding of science via life-long learning programs, museums and aquaria, and the use of emerging communication technologies.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Initiate pilot-scale tests of developing aquaculture technologies to obtain economic and performance measures	0	0	2	3
Number of environmental technologies developed that enhance environmental monitoring and assessment (cum.)	6	8	10	12
Number of techniques developed to reduce the amount of degraded habitats and improve habitat restoration (cum)	3	4	5	6
Number of Coastal and Great Lakes states provided with improved predictive capabilities and understanding of environmental processes	2	2	4	4
Number of technology and business forums developed to transfer research results to increase productivity of coastal businesses	4	4	6	6
Number of models for new commercial products and new approaches to industrial processing and bioprocessing based on biochemical products and processes in marine organisms	8	8	8	8
Develop and improve techniques for modeling and predicting survival of larvae and juveniles, and recruitment (cum.)	1	2	3	4
Decrease commercial by-catch (percent)	10	10	15	20
Develop and transfer technologies for improving safety and high quality of seafood by reducing time to market and bacterial contamination (cum.)	1	2	3	4
Develop new genetic techniques for aquaculture	2	3	5	6
Develop new disease diagnostics and control systems for use in aquaculture	4	6	8	9
Develop and improve methods for gathering and using information relating to fisheries management	3	4	5	5
Develop Biotechnology methods for use in aquaculture to increase production (percent)	10	10	15	18
Determine economic and social factors affecting selected fisheries	2	3	4	5

National Undersea Research Program (NURP): NURP is the Nation's only Federal scientific program that specializes in providing civilian access to undersea technology to help us better manage Earth's last frontier. NURP makes undersea technologies available to the scientific community, supports creative partnerships, and conducts groundbreaking research towards the advancement of marine and Great Lakes science. In the past three years, NURP supported more than 373 peer-reviewed research projects involving more than 3,000 scientists, and safely conducted 856 submersible, 1,250 remotely operated vehicle and 20,045 SCUBA and mixed- gas dives, a performance record unmatched by any program in the world. NURP's research program is implemented primarily through its six university-based centers. About 80 percent of NURP's research is performed by university scientists from around the country. In order to be supported by NURP, research must be relevant, peer reviewed, and of high quality.

NURP has recently undergone a re-invention that has resulted in better direction of the research and expertise of NURP-funded scientists at universities and private laboratories to support NOAA's goals. This has allowed NURP to more-effectively address NOAA, national, and regional needs. The reorganized NURP is based on principles that will continue to ensure competitive, high quality research, responsible management, and responsiveness to stakeholder concerns.

NURP Technologies and Expertise. The wide array of undersea scientific problems facing the Nation requires a variety of technologies. Through ownership or leasing, NURP provides undersea systems that work from the coast to the deep sea, for example:

- NURP owns and operates the Aquarius, the world's only underwater science laboratory, located off Key Largo, Fl, in a national marine sanctuary. Aquanauts live on and study sensitive coral reef ecosystems threatened by natural and human-caused impacts and are able to perform studies not possible through traditional diving techniques.

- NURP operates undersea robots or remotely operated vehicles (ROVs) that are deployed from ships of opportunity as well as autonomous underwater vehicles (AUVs) that are independent of the surface, battery powered, and controlled by computers.

- NURP scientists also occupy submersibles to depths of up to 4,500 meters (14,450 feet) to perform their research. Submersibles including the Johnson Sea-Link, Delta, Alvin, and Pisces V are used by NURP to study a variety of ocean and Great Lakes communities.

- NURP's partnership with the Navy provides access to Navy submersible assets for civilian use, including the NR-1, the world's only nuclear-powered research submarine.

NURP is also the only Federal program with statutory responsibility to improve the safety and performance of civilian divers.

Benefits: NURP benefits have included: providing valuable knowledge concerning the management of fisheries, marine sanctuaries, and other marine resources; the coring of deep sediments and other media to study the ocean's and Earth's past climates and their ecosystem impacts; discovering events

associated with plate tectonics and the consequence and implications of the movement of the continents; discovering new marine species; observing undersea volcanism and the birth of new islands such as Loihi; and identifying processes that contribute to the control or chaotic nature of air-sea interactions and their influence on weather, climate, beach erosion, and natural hazards. Examples of NURP's numerous recent accomplishments are the following:

Sustainable Fisheries - NURP-supported researchers predict variations in fish and shellfish populations and study the role played by sea floor habitats in their life-cycles and population strength.

Healthy Oceans - NURP researchers implement more efficient ways to observe, monitor, and conserve ocean resources, e.g., coral reefs and marine sanctuaries

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Number of exploited species whose biological requirements and habitats are better understood	0	1	4	0
Determine non-destructive underwater stock assessments for commercially valuable species	1	0	2	0
Compare direct in-situ observation estimates of key stocks with traditional estimates (# of studies)	0	0	2	1
Develop models and synthesis incorporating physical variability into management decisions leading to sustainable development of regional fisheries (# of process studies)	0	1	2	0
Percent of damaged coastal habitats restored in quality and quantity	2	3	2	1
Number of coastal and Great Lakes states provided with improved predictive capabilities and understanding of coastal processes	1	2	3	1
Cumulative percent of shoreline and inland areas with improved ability to identify extent and severity of coastal hazards	0	1	1	1
Number of activities conducted to provide a technically trained work force and environmentally informed citizenry	1	1	2	0

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
Ocean and Great Lakes Programs	POS/BA	129	$99,151	129	$87,595	0	$-11,556
	FTE/Obl						

The changes in this subactivity total a net decrease of 0 FTE and -$11,556,000. The individual changes are described below by line item:

Marine Environmental Research (0 FTE, –$4,178,000). NOAA requests a net decrease of $4,178,000 for Marine Environmental Research, which includes an increase of $83,000 to sustain critical ocean and costal research activities at current levels of effort, increases of $5,400,000 for the following four major initiatives, and terminations or reductions totaling $9,661,000 in seven lower priority programs.

Aquatic Nuisance Species/NISA (+ 0 FTE, + $200,000). NOAA is requesting $200,000 within the Marine Environmental Research line item to support and promote measures to prevent the spread of aquatic nuisance species which present serious threats to indigenous ecosystems and related economies.

Background: Since 1990, Congress has provided funding through Sea Grant and the Great Lakes Environmental Research Laboratory to combat the invasion of non-indigenous species in the Great Lakes and other freshwater environments. Non-indigenous species have also been introduced in to U.S. coastal and marine environments and have the potential to cause serious economic damage. For example, the green crab, a recent introduction to San Francisco Bay, has already spread north to Washington and threatens to decimate the cultivated oyster and clam industries along the Pacific Northwest coast. The Dungeness crab fishery, valued at $45-60 million per year, and recreational fisheries for crab and bivalves are also threatened. NISA requires NOAA to respond to these issues through research, outreach, prevention, and control efforts.

Proposed Actions: NOAA plans to continue to address aquatic nuisance species issues through both Sea Grant and the Great Lakes Environmental Laboratory to address priority items under NISA including: (1) Reducing the impacts of aquatic nuisance species in five marine regions (Chesapeake Bay, Gulf of Mexico, Pacific Coast, Atlantic Coast, and San Francisco Bay-Delta Estuary) through a nationally competitive program to improve and implement measures to prevent and control marine non-indigenous species introduction; (2) Developing improved or alternative technologies for ballast water exchange by the shipping industry so that mid-ocean exchange of ballast water may be avoided and the risk of new introductions reduced. This objective will be conducted by NOAA, academic, and industry scientists funded through a competitive peer review process; (3) Supporting efforts by

the Aquatic Nuisance Species Task Force (co-chaired by NOAA and the U.S. Fish and Wildlife Service) to continue developing species-specific control programs and coordinate national efforts to prevent introductions of non-indigenous species into coastal environments.

Benefits: These activities will result in: reducing the rate at which non-indigenous species invade and disrupt ecosystems; promoting public and industry awareness of activities which promote the spread of these species and preventive measures which have been shown to be cost-effective; carrying out NOAA's share of the responsibilities within ANS; and developing new technologies and techniques that will reduce or prevent future damages that would otherwise cause harm to marine and freshwater ecosystems and their dependent economies.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2000	2001	2002	2003	2004
Changes from the FY 2000 Base (BA in thousands)					
Aquatic Nuisance Species/NISA	+$200	+$200	+$200	+$200	+$200

Marine Aquaculture (+0 FTE, +$1,600,000). NOAA requests an increase of $1,600,000 within the Marine Environmental Research line item to expand the ongoing marine aquaculture initiative that began in FY 1999. NOAA and DOC will develop environmentally appropriate marine Aquaculture in cooperation with industry, Federal, and State partners.

Background: Several NOAA and DOC agencies have come together in a national steering committee to create new aquaculture policy and implementation plans. OAR, through its National Sea Grant College Program, and the National Marine Fisheries Service, have a long history in development of aquaculture technology. Recent technological developments provide an excellent opportunity to expand this new industry. New opportunities exist for offshore and recirculating production systems, and marine species enhancement as well as expansion of the existing marine culture industry.

Proposed Actions: NOAA and DOC will work with partners in industry, academia, and other State and Federal agencies in regional meetings to identify the most critical issues and set common goals for developing new, environmentally friendly aquaculture technologies. State and Federal policy, permits, and regulations need to be reviewed and clarified so that we can set up a positive development environment. At this time we need to develop commercial-scale hatcheries and nurseries in different regions for different species in order to provide seed stock and fingerlings for pilot scale studies. This capability does not exist at this time. We envision two to three integrated programs around the country focused on a different suite of species and environmental conditions. These programs will integrate the efforts of existing State, Federal and private research and production facilities whenever possible to avoid building redundant facilities. Individual and multi-disciplined projects, outside of the regional context, will be considered when they

advance the national and regional needs as perceived by the National Steering Committee for this effort. Pilot and demonstration projects will be conducted for key species in order to establish economic feasibility and to test experimental systems under different environmental conditions.

NOAA will provide a marine aquaculture information clearing house through its network of libraries and academic partners. Modern, computer-based information systems will be used to provide real time data and results that can be used by the industry and academic institutions. Sea Grant educators will adapt the information in the research program to the classrooms at both the primary and secondary school levels.

OAR will hold a national peer-reviewed competition that will include review by a blue-ribbon advisory panel of industry, academic, and government leaders. Projects and programs that leverage resources of funding partners will be given priority. Projects that lead to commercial opportunity will be given priority. Outreach, extension, communications, and education will be considered as important parts of the program. Resources of all DOC and NOAA agencies will be integrated through the NOAA Aquaculture Steering Committee to focus on this national issue. The DOC Small Business Innovation Program and existing industry outreach efforts of several agencies will be focused on marine aquaculture as a way of revitalizing coastal communities that have been devastated by the loss of natural fisheries production. The aquaculture technology and development activities will be integrated with the Fisheries and the Coastal Community Development components under the Build Sustainable Fisheries goal in order to provide a holistic management system for maximizing the value of coastal resources.

Benefits:

- NOAA will focus and integrate national efforts in marine aquaculture
- Tens of thousands of new jobs will be created with an expanded industry.
- The national trade deficit in seafood products (currently almost $4 billion) will be reduced.
- Coastal communities will benefit and stabilize with an integrated program of fisheries and aquaculture.
- NOAA will provide a national clearinghouse for marine aquaculture information.
- Better, higher quality seafood will be available.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
By 2004, have a 10% increase in economic contribution of aquaculture to Gross Domestic Product (OAR/NMFS)	0%	0%	5%	10%	20%
Milestones					
Establish Marine Aquaculture Clearing House through NOAA library system (NESDIS/OAR/NMFS)	X	X	X	X	X
Partner in the DOC international and domestic trade offices to help industry (DOC/OAR/NMFS)	X	X			
Develop regional and national educational programs using interactive TV and standard educational methods about NOAA's aquaculture activities (OAR/NMFS/NESDIS) (4 regions)	1	2	3	4	5
Develop and evaluate fishermen professional retraining programs in aquaculture technologies (OAR/NMFS/NESDIS)		1 program		1 evaluation	X
Hold workshops with partners in different biogeographical regions to identify goals and priorities (OAR/NMFS/DOC/NOS)	4	X	4	X	4
Develop working relationship with industry and state partners through workshops and national meetings (OAR/NMFS/DOC)	X	X	X	X	X
Develop ecologically appropriate technologies					

for offshore and on-land aquaculture and marine stock enhancement (OAR/NMFS) (cumulative)		X	X	X	
Test marine culture system technologies at pilot scale (OAR/NMFS) (cumulative)		X	X	X	
Develop model business plans for different aquaculture technologies (OAR/NMFS) (cumulative) . .				X	X
Develop biological techniques for improving species production (OAR/NMFS) (cumulative/species)	X	X	X	X	X
Percentage of aquaculture operations are in compliance with guidelines for responsible aquaculture practice (NMFS/OAR)	0	10%	20%	30%	50%
Milestones					
Develop process to clarify and make transparent permit and licence process for both EEZ and state waters (NMFS/OAR)	X	X			
Develop siting criteria for different aquaculture technologies (NMFS/OAR) (4 regions)		1	2	3	4
Publish handbook of permit procedures for use by industry (NMFS/OAR)			X		
Establish pre-permitted aquaculture zones in different biogeographical regions (NMFS/OAR)		X	X	X	

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Aquaculture	$1,600,000	$1,600,000	$1,600,000	$1,600,000	$1,600,000

Fisheries Oceanography (+0 FTE, +$500,000). NOAA requests an increase of $500,000 within the Marine Environmental Research line item to develop a North Pacific Ocean monitoring system. This system will provide key oceanographic indicators to allow NOAA managers to provide early warning of major environmentally-induced shifts in the productivity of key fisheries stocks. It will also enable NOAA researchers and managers to monitor current and water structure trends, atmospheric changes, fishery productivity, and ecosystem dynamics. This project is a partnership between OAR and NMFS. This request is part of the ?Fisheries and the Environment (FATE-2000)" initiative, proposed to NMFS. FATE- 2000 is a modeling and monitoring effort to improve the management of North Pacific fisheries stocks. The OAR portion of FATE 2000 provides the bio-physical measurements of environmental variability necessary for accomplishment of critical mission-related NMFS and OAR goals.

Background: Ongoing research programs have demonstrated that the effects of long-term ocean climate variability can affect the distribution, abundance, carrying capacity, and, ultimately, fisheries productivity of major ocean species of commercially valuable fish stocks in the North Pacific basin. Presently, there are no broad-scale monitoring systems in place in the North Pacific. This initiative provides for the establishment of a near real-time monitoring network to supply ocean measurements for use in model verification and to initiate a long-term sampling program that will enable NOAA fisheries managers to build sustainable fisheries in the North Pacific Ocean.

Proposed Actions: OAR will develop, deploy, and maintain 5 bio-physical surface moorings and 14 subsurface moorings in strategic locations throughout the North Pacific Ocean. These moorings are designed to quantify the oceanographic and atmospheric impacts of long-term climate and oceanographic variability on commercially important fish stocks. Moorings will be phased in over a four year period. Data collected from surface moorings will be made available in near real-time to researchers and fisheries managers via the World Wide Web. Moorings will be augmented by sub-surface drifting floats that measure temperature and salinity and provide flow trajectories in the North Pacific.

Benefits: OAR's contribution to FATE 2000's multi-disciplinary approach to fisheries research will enable managers to use physical factors, such as climate, wind, and ocean current circulations, and biological factors to establish sustainable harvest rates in ecosystems that experience large changes in long-term climatic conditions. This initiative will allow fishery managers to anticipate environmentally-induced changes in fishery yields and respond with appropriate management measures. It will provide direct economic benefit to both industry and the consumer.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Establish real-time web-based data distribution capability	X	....	....	....	....
Number of new moorings deployed	4	4	10	1	0
Number of moorings refurbished	4	8	18	19	....
New sub-surface drifters	1	1	2	3	3

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2000 Base (BA in thousands)					
Fisheries Oceanography	+$500	+$500	+$500	+$500	+$500

Seafloor Observatories (+0 FTE, +$3,100,000). OAR requests an additional $3,100,000 within the Marine Environmental Research line item to expand shallow water observatories, develop new deep-sea observatories, and enhance undersea research vehicles through the use of advanced technologies to explore exotic sea life.

Background: Seafloor observatories are the next generation in the development of technology for understanding the oceans. Due in part to recent technology advancements in computers and communications, permanent and temporary seafloor stations may house and power a wide variety of *in situ* sampling tools and sensors for studying and monitoring the ocean. As an example of the usefulness of seafloor observations, we are now discovering that a vast microbiological biosphere is living beneath the seafloor and that the organisms in this biosphere have tremendous potential for making possible a plethora of environmentally friendly industrial compounds and creating whole new families of pharmaceuticals. We are also developing an understanding of how seismic processes which occur below the ocean's surface may also pose hazards, especially to people living in coastal regions. Finally, we are gaining access to remote, rarely seen environments, not just to look but to experiment and describe chemical, physical, and biological processes that cannot be understood using only occasional, “snapshot” measurements. The net result should be a better understanding of the oceans and their resources that will enable more informed policy choices as ocean development progresses.

Proposed Actions: In order to progress from our present state of knowledge about the ocean, NOAA proposes a sustained scientific investment in establishing seafloor observatories and laboratories to address important research issues and scientific questions. To do this, NOAA's approach will entail the following strategy:

- **Improve and expand existing seafloor observatories in shallow coastal waters off New Jersey and Florida**

  LEO-15: Improve the capabilities of the Long Term Environmental Observatory - 15 Meter Depth (*LEO-15*), two unmanned seafloor observatories 1.5 kilometers apart approximately 9 kilometers off the central coast of New Jersey. *LEO-15* is linked to the Rutgers Marine Field Station in Tuckerton, NJ, via an electro-optic cable to transfer information. *LEO* capabilities will be expanded by: (1) extending offshore to another, deeper node to study cross-shelf processes that influence the oceanic flux of carbon and sediments and (2) expanding the sensor capabilities of *LEO-15* to include more state-of-the-art acoustic and optical monitoring equipment, and (3) increased use of Autonomous Underwater Vehicles (AUVs) to expand the geographic range of observations, from the single point nodes to kilometer surveys at routine intervals.

  Aquarius Undersea Laboratory: The *Aquarius*, deployed in the Florida Keys in 1993, is the world's only laboratory beneath the sea. Planned enhancements will increase *Aquarius'* data collection operations from eighty saturation mission days per year to all year round. The data and life support buoy will be enhanced to send data on bottom temperature, nutrient levels, irradiation and physical conditions to the Internet.

- **Develop two new deep water observatories to monitor the seafloor activity off the coast of the Pacific Northwest and in the Gulf of Mexico**

  New Millennium Observatory: NeMO: *In 1998*, OAR's Pacific Marine Environmental Laboratory (PMEL) scientists completed the first phase establishing the *NeMO* seafloor observatory on the summit of a mile-deep volcano about 300 miles off the Oregon coast. *NeMO* monitors hydrothermal and seismic activity and samples thermophilic bacteria living at and beneath the seafloor. Beginning in 2000, *NeMO* will send real-time data to shore and accommodate an autonomous underwater vehicle (AUV) to respond to events detected and located within the observatory region by a acoustic monitoring system.

  Gulf of Mexico: The Gulf of Mexico is one of the Nation's largest and most productive ecological systems and is closely linked to a significant portion of the Nation's economy. Several candidate sites and applications exist for a long-term *in situ* observatory, including: hypoxic water mass that forms each summer near the Mississippi River mouth; oil and gas seeps on the outer continental shelf and slope; or the Flower Gardens Banks National Marine Sanctuary. A workshop will determine the most cost-effective and relevant solution.

- **Develop state-of-the-art autonomous undersea vehicles (AUVs) and facilitate their adaption to NOAA observatories**

  AUVs: Several AUVs are already under development with specific mission objectives, for example, *REMUS* (Remote Environmental Monitoring UnitS)–a low cost AUV designed for coastal monitoring and multiple vehicle survey operations. *REMUS* was developed through a partnership between NOAA's National Undersea Research Program (NURP) and the Office of Naval Research to support *LEO-15* operations. OAR will focus on making existing systems, like *REMUS*, operational and available to the science community.

Benefits: NOAA's accomplishments in underwater science have been impressive. However, the vast unknown resources of this last frontier demand that NOAA be pro-active in its exploration of the undersea environment if the potential of these untapped resources is to be realized. This request is intended to allow NOAA to do just that - provide the leadership needed to explore this frontier in a skillful manner so that benefits accrue in areas that are of vital interest to NOAA meeting its mission in such areas as building sustainable fisheries, sustaining healthy coasts, understanding and increasing ocean bio-diversity, and understanding and predicting environmental change.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Improve shallow water coastal observatories	1	0	1	0	0
Develop two new deep seafloor observatories	0	1	0	1	0
Facilitate the use of advanced AUVs at OAR Observatories	0	1	0	1	0

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2000	2001	2002	2003	2004
Sea Floor Observations	+$3,100	+$3,100	+$3,100	+$3,100	+$3,100

Program Eliminations/Reductions: Ocean and Great Lakes Programs - (0 FTE, −$9,661,000). NOAA requests decreases and program terminations totaling $9,661,000 for Marine Environmental Research Programs as they are either lower priority projects or one-time activities, specifically terminations of: National Invasive Species Act/Ballast Water Demonstration studies (-$786,000); Tsunami Hazard Mitigation (-$2,126,000); Open Ocean Aquaculture program (-$2,219,000) since the Administration already is supporting a $3,600,000 initiative in mariculture that will incorporate much of this effort; Pacific Tropical Ornamental Fish (-$231,000); Lake Champlain Studies (-$139,000); Aquatic Ecosystems Initiative and facilities construction at the Canaan Valley Institute (-$3,698,000); and Gulf of Maine Council (-$462,000). [Note that NOAA is proposing to transfer GLERL from OAR to NOS.]

National Sea Grant College Program (0 FTE, +$620,000): NOAA proposes to increase funding for this program by $620,000 in this line item. Because of the high quality research on NOAA's issues done by the National Sea Grant College Program via a highly competitive, peer-reviewed process and because of Sea Grant's record in generating critically needed research, educational, and advisory services in a successful partnership between the Administration, Congress, and academia, the Administration strongly supports Sea Grant funding.

National Undersea Research Program (NURP) (-0 FTE; -$7,998,000): NOAA requests a decrease of $7,998,000 in funding for NURP. The Administration supports funding NURP at $5,750,000. NURP is expected to play a leading role in the Sea-Floor Observatories Initiative requested under Marine Environmental Research. Also in the future, the program expects to encourage new research related to understanding deep-ocean environments and obtaining new products from the sea. This new direction, "bio-prospecting," will catalyze new partnerships to pursue aggressively an integrated program of basic and applied research into the potential biotechnological benefits that exist beneath the ocean's surface.

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Ocean and Great Lakes Programs**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	683
25.5	R&D contracts	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	5,420
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	6,103

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Ocean and Great Lakes Programs**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	0
25.5	R&D contracts	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(17,659)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(17,659)

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Oceanic and Atmospheric Research
Subactivity: Acquisition of Data

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Acquisition of Data	Pos./BA	103	13,250	103	12,903	103	12,903	103	12,952	0	49
	FTE/OBL.	112	13,220	117	12,957	117		117		0	
Total	Pos./BA	103	13,250	103	12,903	103	12,903	103	12,952	0	49
	FTE/OBL.*	112	13,220	117	12,957	117		117		0	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Acquisition of Data**

Goal Statement

The goal of this subactivity is to provide vessel support needed to conduct sustained oceanographic and atmospheric data collection in various marine environments. The vessel support must provide the unique operating capabilities to gather the observations needed to predict short and long term climate change. These vessels will provide days-at-sea for conducting and supporting programs of oceanographic and atmospheric research.

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

Acquisition of Data: The FY 2001 Office of Oceanic and Atmospheric Research acquisition of data base funding is $12,903,000. These funds provide approximately 756 Days-at-Sea (DAS) for climate and global change, tropical atmospheric ocean, Pan American Climate Study, VENTS, and Sea Grant projects. This work is be performed by the KA'IMIMOANA, RONALD H. BROWN, FERREL and through outsourcing arrangements with vessels of the University National Oceanographic Laboratory System (UNOLS). One third of these DAS are used to provide ship support of the TOGA TAO operational ocean buoy network in the Pacific which is used for climate predictions related to El Nino and La Nina.

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
Acquisition of Data.....	POS/BA	117	$12,903	117	$12,952	0	$49
	FTE/Obl						

Acquisition of Data (+0 FTE, +$49,000): NOAA proposes to increase funding for this line item by $49,000 to continue platform support. This activity is important to sustaining the vitality of NOAA's climate and marine environmental research.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Days-at-Sea	4	4	4	4	4

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Number of Days-at-Sea funded by OAR Acquisition of Data and allocated by Fleet Allocation Council (including UNOLS)	883	851	756	756

Vessel Characteristics and Home Port are Shown Below:

Vessels	Length-Class	Mission	Home Port
RONALD H. BROWN	274 ft. - I	Oceanographic Research Bathymetric Mapping	Charleston, SC
KA'IMIMOANA	224 ft. - III	Oceanographic Research	Honolulu, HI
FERREL	133 ft. - IV	Environmental Assessment	Charleston, SC

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **Oceanic and Atmospheric Research**
Subactivity: **Acquisition of Data**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
23.33	Charter of Ships	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	49
25.5	R&D contracts	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	49

NATIONAL WEATHER SERVICE
STRATEGIC PLANNING GOALS AND OBJECTIVES

The National Weather Service (NWS) supports three of NOAA's Strategic Planning Goals. Below is a brief characterization of the NWS programs in the context of these three Goals.

GOAL - ADVANCE SHORT TERM WARNING AND FORECAST SERVICES

NWS actively supports activities and programs in three of the four objectives for this goal.

OBJECTIVE - MAINTAIN NWS MODERNIZED OPERATIONS

With the FY 2001 budget, the NWS Modernization and Associated Restructuring will be complete. The process of modernization and restructuring was prompted by two factors: (1) the desire to apply advances in hydrometeorological science and technology to operational forecasting, and (2) the desire to replace obsolete and increasingly unreliable equipment. These replacement systems coupled with observations from planned, advanced geostationary and polar orbiting satellites, other existing weather observing systems/sources (e.g. radiosondes, data buoys, etc.), and newly developed mesoscale forecasting techniques have, and will continue to improve the timeliness and accuracy of severe weather and flood warnings to the U.S. public. The modernization and restructuring of the NWS will result in the transition to a final weather office structure of 121 Weather Forecast Offices (WFOs) and 13 River Forecast Centers (RFCs).

A Strategic Plan for the Modernization and Associated Restructuring of the National Weather Service was submitted to Congress in 1989 which enabled the NWS to optimize efficiency and effectiveness of the mesoscale warning and forecast program. The plan also included an evaluation program to refine operational procedures and resolve implementation issues best addressed through actual field experience. The National Implementation Plan (NIP), updated annually and submitted to Congress, provides a planning framework and general strategies for execution of the Strategic Plan, as revised.

The modernized NWS includes: the staffing and associated activities to transition to the modernized office structure (MARDI); the operation and maintenance of Next Generation Weather Radar (NEXRAD) which replaced existing aging weather radars and enhances severe weather and flood warnings, the Automated Surface Observing Systems (ASOS) and the Advanced Weather Interactive Processing System (AWIPS/NOAAPORT) to integrate all meteorological and hydrological data at the NWS field offices; and the upgrade of the NOAA Central Computer Facility to provide the capability to process the increased amount of data that will lead to more accurate and specific forecasts of major storms and medium (3 to 10 day) and extended (30 day) range forecasts.

OBJECTIVE - ENHANCE OBSERVATIONS AND PREDICTIONS

The NWS Modernization represents only the first step toward providing an overall system of improved environmental forecasts. NOAA can achieve additional service improvements through better utilization and understanding of the advanced observing technology installed under the NWS modernization. These improvements can only occur through a well organized research effort with a combination of scientific, technological, and programmatic advances. Dramatic gains in the prediction of high-impact weather such as hurricanes, thunderstorms, and their attendant flash floods, damaging hail, tornadoes and high winds can be achieved by combining new observing tools with emerging research which will lead to a better understanding of the processes responsible for such events. Service improvements through the U.S. Weather Research Program will enhance the Nation's capabilities to mitigate the impacts of national disasters; one of the major goals of the International Decade for Natural Disaster Reduction Initiative.

OBJECTIVE - IMPROVE SERVICE COMMUNICATION AND UTILIZATION

The benefits of NOAA's short-range prediction improvements will fail to reach their full potential unless the modernized data sets can be retrieved and passed quickly to the public through improved communications and display capabilities. NOAA interacts with several different organizations to communicate its warning and forecast products to the public including emergency management agencies, public planners, the media and private weather service providers. NOAA must improve customer service through an effective communication and utilization of its products and services to fully protect life and property and the economic well being of our Nation.

GOAL - IMPLEMENT SEASONAL TO INTERANNUAL CLIMATE FORECASTS

NWS actively supports activities and programs in one of the four objectives for this goal.

OBJECTIVE - IMPLEMENT PREDICTION SYSTEMS

The Climate Prediction Center (CPC) predicts climate variability, monitors the climate system, and develops data bases for determining current climate trends, and analysis and assessment of their origins. These services cover climate time scales ranging from weeks to seasons, and factor geographic, oceanic, and atmospheric conditions.

Climate services are distributed to the users in government, the research community, private industry and the public, both in this country and abroad. CPC supports and stimulates the application of climate information and services with particular attention to applications in agriculture, energy, transportation, water resources, and health.

To support these services and maintain their vitality, the CPC engages in diagnostic research and studies of model output to improve the monitoring, analysis and predictions of the physical climate system. A close connection with extramural research programs is accomplished through extramural sponsored research, cooperative institutes, and climate workshops.

GOAL - PREDICT AND ASSESS DECADAL TO CENTENNIAL CHANGE

NWS actively supports activities and programs in one of the four objectives for this goal.

OBJECTIVE - ENSURE A LONG TERM CLIMATE RECORD

Co-Operative Observer Program (COOP): The NWS uses approximately 11,500 Cooperative (volunteer) Observers as a supplement to its observational infrastructure in order to provide a long-term record of the Nation's climate. These observers are recruited in areas where additional observations are needed to fill in climatic and hydrologic information. These non-airport data sources provide ground level verifications for local weather office NEXRAD radar observations and provide a major source of data for the National Climate Data Base.

Observers are usually selected from permanent residents in a community, who have an interest in observing the weather. Nearly all observers record daily precipitation, and many take maximum and minimum temperature readings, snowfall and snow depth, usually at their homes. Others record river stages, evaporation, snow density, etc. NWS personnel visit each observer at least once a year, to maintain the equipment and to maintain rapport with the observers. At the end of each month, observers mail their records to the National Climatic Data Center (NCDC) or to another office, for publication in "Climatological Data" or "Hourly Precipitation Data". At a limited number of CoOp sites, weather data is provided to the local forecast office in real-time to support the local weather and flood warning and forecast function.

National Weather Service
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Advance Short-Term Warning and Forecast Services										
Suistain NWS Modernization	4,669	545,828	4,482	586,020	4,484	602,029	4,495	619,495	11	17,466
Enhance Observations & Predictions		2,000		996		996		1,000		4
Total ASTWFS	**4,669**	**547,828**	**4,482**	**587,016**	**4,484**	**603,025**	**4,495**	**620,495**	**11**	**17,470**
Implement Seasonal to Interannual Climate Forecast										
Implement Prediction Systems	54	4,688	54	4,688	54	4,688	54	4,688		
Total ISICF	**54**	**4,688**	**54**	**4,688**	**54**	**4,688**	**54**	**4,688**		
Predict and Assess Decadal-to-Centennial Change										
Ensure a Long-Term Climate Record	55	8,189	55	9,689	55	9,689	55	9,689		
Total PADCC	**55**	**8,189**	**55**	**9,689**	**55**	**9,689**	**55**	**9,689**		
Total for NWS	**4,778**	**560,705**	**4,591**	**601,393**	**4,593**	**617,402**	**4,604**	**634,872**	**11**	**17,470**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Weather Service
Subactivity: Operations and Research

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Local Warnings and Forecasts	Pos./BA	4,359	460,273	4,259	483,431	4,259	497,115	4,272	508,936	13	11,821
	FTE/OBL.	4,141	462,334	4,108	484,052	4,108		4,121		13	
Central Forecast Guidance	Pos./BA	271	37,683	276	36,940	276	37,860	276	38,001	0	141
	FTE/OBL.	266	33,014	266	37,044	266		266		0	
Atmospheric and Hydrological Research	Pos./BA	34	2,647	39	2,989	39	3,057	39	3,068	0	11
	FTE/OBL.	38	4,313	38	1,640	38		38		0	
Total	Pos./BA	4,664	500,603	4,574	523,360	4,574	538,032	4,587	550,005	13	11,973
	FTE/OBL.*	4,445	499,661	4,412	522,736	4,412		4,425		13	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Weather Service**
Subactivity: **Operations and Research**

Vision

America's no surprise weather service. A world-class team of professionals who:

Produce and deliver quality forecasts you can trust when you need them most
Use cutting edge techniques
Provide services in a cost-effective manner
Strive to eliminate weather-related fatalities and improve the economic value of weather information

Mission

The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters, and ocean area for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information data base and infrastructure which can be used by other government agencies, the private sector, the public, and the global community.

Goal Statement

The National Weather Service (NWS) strategic plan for Weather, Water, and Climate Services (August, 1999) sets 5 major goals for the 2000-2005 time frame: 1) Deliver better products and services: Deliver a credible, timely, and relevant suite of seamless weather, water, and climate products and services which exploit technology to the fullest to meet customer and partner needs; 2) Capitalize on scientific and technological advances: Aggressively and continually infuse science and technological advances to improve products and delivery of services that best meet and anticipate customer needs;

3) Exercise global leadership: Strengthen U. S. leadership on emerging applications of weather, water, and climate information to meet environmental and economic challenges; 4) Change the NWS organizational culture: Work with our people to create an organizational culture which embraces change; values service; promotes teamwork with customers, partners, and each other; and fosters innovation in mission and vision accomplishments; 5) Manage NWS resources: Create a responsive support system, adaptable to changing needs and opportunities which maximizes the return on investment to America.

Proposed Legislation

None proposed for this Activity.

Base Program

The objectives of this sub-activity are to ensure the safety of the population, mitigate property losses, and improve the economic efficiency of the Nation through the provision of timely and accurate meteorological, hydrologic, and climatological warnings, forecasts, and planning information.

The FY 2001 base request includes $14,672,000 in Adjustments to Base (ATBs) for NWS base operations. This includes funding for the mandatory federal pay raise of 3.7%, as well as increases in employee benefit rates. This increase also includes funding for projected inflationary increases in non-labor categories such as maintenance and service contracts. Approximately 70% of the NWS base operations budget is dedicated to labor costs. This is due to the labor intensive nature of local weather forecast and warning services which requires human analysis and interpretation of information 24 hours per day, seven days per week at field offices and national centers. Further, the NWS central operations and field operations rely upon thousands of equipment maintenance and service contracts to maintain their operational infrastructure. These contracts must comply with local Department of Labor wage rates which are periodically adjusted for inflation. Therefore, these funding adjustments are critical to sustaining current staffing levels and operations in the NWS. These ATBs are spread between the three principle NWS base operations line items: Local Warnings & Forecasts ($13,684,000),Central Forecast Guidance ($920,000), and Atmospheric and Hydrological Research ($68,000).

Line item Description

Local Warnings and Forecasts: NOAA provides around-the-clock weather and flood warning and forecast services to the general public for the protection of life and property and to meet the needs of all segments of the economy. Weather services are provided primarily by a restructured national network of 121 WFOs and 13 RFCs assisted by 13 Data Collection Offices (DCOs). The provision of services of the NWS described in the following

pages depends on the coordination, management, and centrally funded support provided by NWS's national and regional headquarters. This operational infrastructure includes such diverse functions as the maintenance and coordination of the NOAA Weather Radio Program, the logistics of all NWS observing systems spares, testing and evaluation of new observing sensors and systems, and the coordination and funding of centralized employee training. Management and support for the NWS is provided by national headquarters located in the national capital area, four regional headquarters offices within the continental United States, plus regional offices for Alaska and the Pacific region, the National Data Buoy Center in Bay St. Louis, MS, and the National Logistics Support Center and National Training Centers, both located in Kansas City, MO.

Weather warnings and forecasts: At 121 Weather Forecast Offices (WFOs) nationwide, NWS forecasters issue local warnings of severe weather such as tornadoes, severe thunderstorms, flash floods, and extreme winter weather. WFOs prepare forecasts for zones which are comprised of several counties that experience similar weather. Each WFO has forecast responsibility for several zones. WFOs also provide the main field forecast support for the marine and aviation programs as well as guidance for the fire weather program supporting federal lands management and wildfire control. All counties in the United States are assigned to specific WFOs for warning purposes. These offices issue and distribute local warnings of severe weather for their assigned counties. WFOs adapt generalized weather forecasts to local areas and issue severe weather and flash flood warnings. In preparing local warnings and forecasts, WFOs use value-added forecast guidance prepared by NCEP. Functions of the National Centers also provide central support for the local warning program.

Aviation weather services: The NWS provides a broad range of services in support of the aviation community. WFOs prepare site specific airport terminal forecasts four times per day with amendments as needed for over 500 public use airports in the fifty states and in the Caribbean. These offices also produce about 300 individual route-oriented forecasts three times per day for the forty-eight contiguous states. Weather Forecast Offices (WFOs) also take observations to meet local aviation requirements.

Marine weather services: Using weather analysis and forecast guidance provided by NCEP, marine weather forecasters at coastal and Great Lakes WFOs issue wind, wave, weather, and ice warnings, forecasts, and other information for the population living and working along the sea coast, off-shore, on the Great Lakes and the high seas. Principal products include small craft advisories, gale, storm, tropical cyclone, and storm surge warnings; coastal, off-shore, and high seas forecasts; sea and swell forecasts; sea and lake advisories; and special weather forecasts to aid in the containment and clean up of oil spills and other hazardous substances in the marine environment.

Fire weather services: Many WFOs in the Western and Southern parts of the country are staffed to provide wildfire suppression support, and support to prescribed burns on federal lands.

Tsunami warnings: Tsunami watches and warnings for Pacific Ocean areas and Alaska are prepared and issued by the Tsunami Warning Center at Ewa Beach, Hawaii, and the regional center at Palmer, Alaska. NWS collects and analyzes observational data from an international network of seismological observatories and sea level observing stations which operate on a cooperative basis. The centers use the data to prepare watches and warnings covering

all U.S. territories and states bordering on the Pacific Ocean and disseminate them to WFOs, Federal and state disaster agencies, military organizations, private broadcast media, and other facilities that can furnish warning information to the public.

River & flood forecasts and guidance:
At 13 regional River Forecast Centers (RFCs), hydrologists and hydrometeorologists are responsible for river flow and flood forecast services specific to 13 river basins in the U.S., maintaining hydrologic prediction models and databases, implementing forecast coordination and providing support for interagency water resources planning activities, and data exchange. The river flow and flood forecast products produced by the RFCs are the basis for flash flood and flood warning programs implemented at the WFOs.

The Office of Hydrology (OH) provides several centralized guidance and operational support functions for the RFCs. OH manages the application of hydrological forecasting techniques, provides hydrologic model development for field operations and hotline support to field users, and provides a focal point for assembling and disseminating real-time hydrologic information.

Forecast coordination: At each WFO a Warning and Coordination Meteorologist (WCM) is responsible for the coordination of local forecast and warning information with local emergency management and other state and local officials, both leading up to and during severe weather events. This ensures the most effective dissemination of NWS forecasts and warnings and ensures adequate public response to weather warnings. A national warning telecommunications system supports the rapid dissemination of weather forecasts and warnings, and coordination material to federal, state, and local emergency management.

Dissemination/communication: In order to disseminate data, forecasts, watches, and warnings to the public, emergency managers, private weather companies, the media, other federal agencies, the NWS relies on the following dissemination subsystems: NOAA Weather Wire Service, NOAA Weather Radio network, NEXRAD Information Dissemination Service, Emergency Management Weather Information Network, NOAA/GOES communications, and Family of Services. The Advanced Weather Interactive Processing System (AWIPS) Local Data Access and Dissemination (LDAD) capability will allow two-way information exchange between WFOs and local users including emergency management during and leading up to severe weather events.

Advanced Hydrologic Prediction Service:
The FY 2001 base includes $1,000,000 to continue the national implementation of the Advanced Hydrologic Prediction Service (AHPS) in the Upper Midwest (which includes Wisconsin, Minnesota, Michigan, Illinois, and portions of Iowa, Missouri, and North Dakota) and tributaries within the upper Ohio River basin (which includes Kentucky, West Virginia, Ohio, and western Pennsylvania). During FY 2001, the NWS will implement an additional 18 forecast points along tributaries in the Ohio River basin and an additional 19 forecast points in the Upper Midwest for a total of 36 and 38 forecast points respectively.

Our Nation's recent floods and droughts have forced the need for improved predictions to support flood/drought management and damage mitigation. Floods are this Nation's leading weather-related hazard. AHPS is an integrated real-time modeling and data management/analysis system that is ready for implementation and will provide new forecasts containing more information on river levels and river flow volumes. AHPS is the operational flood forecasting component of DOC's Natural Disaster Reduction Initiative. AHPS' hydrologic prediction capabilities contribute to DOC's leadership role in fostering economic gains for environmentally sound decision making.

AHPS will provide forecasts of river levels and river flow volumes from days to several months in advance of the event. Presently, NWS River Forecast Centers typically issue river level forecasts for events occurring 1, 2, and 3 days into the future. AHPS will also provide new river forecast information which can be used by water resource and emergency managers for risk based decision making.

AHPS products with extended forecast lead times (out to several months) will greatly improve the Nation's capability to take timely and effective actions that will significantly mitigate the economic losses from major floods and droughts. With over 75 percent of Presidentially- declared disasters associated with flooding events, it is imperative for AHPS river forecasts to be provided which will enhance the mitigation of this hazard. In addition, AHPS will provide new river forecast information which can be used by water resource managers to more efficiently utilize the availability of water which will accrue economic enhancements to industries (navigation, hydropower, water supply, irrigation, and recreation) and environmental enhancements to ecosystems. National implementation of AHPS will save lives and a projected $200 million per year in flood losses and $400 million per year in economic benefits to water resource users.

Central Forecast Guidance: The modernized field office structure emphasizes warnings and short-range forecasts. The process by which these products are generated begins with centralized processing of weather observations, followed by the application of high-resolution computer simulations of the atmosphere on the NOAA supercomputers, and adjustment by skilled NCEP forecasters. The results are forwarded to local WFO forecasters, who use them as the basis for local forecast products. Typically, local forecasters add the greatest value in the shortest forecast ranges. Beyond about 3 days, forecasts depend almost exclusively on NCEP output. The total forecast process depends critically on both NCEP products and local forecast efforts to enhance both accuracy and uniformity of service across the country.

In addition to their role in the local WFO forecast product generation, the NCEP are also the principal means through which NOAA provides operational weather, ocean, and climate prediction services for large areas, up to and including the entire globe, to a vast assortment of domestic and international users. These services typically exceed the domain of a single WFO, and require a large supercomputer; efficiency demands that they be generated centrally.

The NCEP consists of six science-based, service-oriented centers that generate environmental prediction products and two central activities supporting those services. The NWS National Prediction Centers provide an integrated suite of forecast guidance and specific forecast products from the short-term through seasonal, interannual, decadal, and centennial time frames. Each service center depends on the observational infrastructure, the data assimilation

systems, the numeric modeling function, and the application of model output statistics to produce value-added forecast guidance products for NWS field offices and direct users.

Storm Prediction Center: The Storm Prediction Center (SPC) focuses on hazardous weather events such as severe thunderstorms and tornadoes, ice or heavy snow, and flash floods, with emphasis on the first few hours of the forecast period. Products issued from the SPC give the WFOs specific guidance as to the probability and intensity of severe weather occurrences for regional to local geographic scales.

Hydrometeorological Prediction Center: The Hydrometeorological Prediction Center (HPC) has the responsibility for preparing quantitative precipitation forecasts (QPF) that is used by WFOs to develop local rainfall, snow, and ice forecasts and by the RFCs to develop local river and flood forecasts. The HPC provides special QPFs and coordination to other federal agencies such as FEMA during major flood events. The HPC also provides an array of analyzes and forecasts of frontal systems, pressure patterns, temperature, and precipitation for use by WFOs and the private weather community.

Marine Prediction Center: The Marine Prediction Center (MPC) discharges U.S. international meteorological obligations to marine interests under the International Convention for Safety of Life at Sea (SOLAS), to which the U.S. is a signatory. It provides one-stop-shopping for marine interests operating outside the domain of coastal WFOs. The HPC provides weather and sea state warnings and forecasts for the high seas of the Northern Hemisphere for planning and operational purposes. Its warnings and products go directly to ships at sea, and are vital for the protection of life and property. The Marine Prediction Center also provides guidance forecasts for WFOs with coastal responsibilities, which extend out to about 100 nautical miles. Coastal WFOs have responsibility for local forecasts and warnings out to that limit; for the high seas beyond, the responsibility has been centralized in the HPC.

Tropical Prediction Center/National Hurricane Center: The NCEP experts in the area of tropical meteorology are concentrated in the Tropical Prediction Center (TPC)/National Hurricane Center (NHC) in Miami, FL. Services provided by the TPC/NHC include advisories, watches, and warnings for tropical cyclones in the North Atlantic and eastern North Pacific Oceans, the Caribbean Sea, and the Gulf of Mexico, including the portions of the U.S. coastline threatened by such storms. In addition, TPC forecasters provide aviation and marine analyzes and forecast products for the same areas of responsibility. The TPC/NHC functions both to provide guidance, coordination, and tropical weather expertise to WFO forecasters and to serve users of centrally-generated products.

Aviation Weather Center: The Aviation Weather Center (AWC) is the mechanism by which the U.S. discharges its weather forecasting obligations to the aviation community under an international agreement through the International Civil Aviation Organization. The AWC provides wind, temperature, and flight hazard (e.g., icing, turbulence) forecasts for flight planning and en route aircraft operations for the U.S., the north Atlantic and north Pacific routes, and some routes in the Southern Hemisphere. In addition to the en route weather support provided for the aviation industry, the AWC also produces guidance products for use by WFOs in support of the airport terminal forecast function. Thus,

the AWC discharges large-scale, global aviation functions which can be sensibly centralized, while the WFOs discharge local aviation functions based on centralized guidance provided by the AWC.

Climate Prediction Center: The Climate Prediction Center (CPC) produces climate services consisting of operational prediction of climate variability, monitoring of the climate system and development of data bases for determining current climate anomalies and trends, and analysis and assessment of their origins and linkages to the rest of the climate system. These services cover climate time scales ranging from weeks to seasons, extending into the future as far as technically feasible, and cover the domain of land, ocean and atmosphere, extending into the stratosphere. CPC climate services are used by WFOs as well as the public, private industry, and the international research community.

NCEP also maintains two critical support organizations to facilitate the central forecast guidance process;

The *Central Operations* (NCO) of NCEP operates the NOAA Central Computing Facility, manages the computer production suite upon which all NCEP services are based and the communications linking the several parts of NCEP, and provides operational quality assurance of incoming observations and outgoing products. NCO staff also provide central support for software development for data processing, display, interaction, and product generation. The NCO is the technical transition between the development of numerical weather and climate prediction models and their operational use by forecasters at the NCEP and WFOs. The NCO staff also provide central support for software development for data processing, display, interaction, and product generation. The NCO consists of computing, communications, and software specialists, as well as meteorologists with special knowledge of numerical modeling operations.

NCEP's *Environmental Modeling Center* (EMC) develops and implements complex data assimilation and numerical model systems that span the globe. The computer models and other numerical forecast products developed by the EMC provide the basic guidance that meteorologists at the NCEP and WFOs use in making weather and climate predictions.

Atmospheric and hydrological research: NWS conducts applied research, building upon the more basic research conducted by NOAA research laboratories and the academic community. Applied meteorological and hydrological research is integral to providing more timely and accurate weather and flood warning and forecast services to the U.S. public.

The NWS Environmental Modeling Center (EMC) serves as the integrator of numerical modeling research and development performed in universities and research laboratories. Model impact studies are conducted by the EMC to validate data sets which lead to new data requirements from observing technologies (satellites, radar, etc.).

Atmospheric and hydrological research

The NWS Office of Systems Development (OSD) develops techniques for predicting mesoscale phenomena (e.g., heavy precipitation, tornadoes, and severe thunderstorms). These techniques are being developed and improved to use digital data from new observing systems, such as NEXRAD (Next

Generation Weather Radar), and GOES I-M (geostationary satellites with higher resolution). OSD develops models to improve hurricane tracking, hurricane probability estimates, and analyzes; and develops storm surge models to assist in developing hurricane evacuation plans for coastal basins. Through these applied atmospheric research and development activities, OSD works to best exploit and improve the capability of weather data observing and processing systems to hydrologic, meteorologic, and service requirements.

The NWS Office of Hydrology also develops improved hydrologic and hydrometeorological models and procedures in support of the national flood forecasting and water resources forecasting programs including:

- Specialized flood and flash flood forecasting procedures using linked hydrological, meteorological, and climatological models/products;
- Improvements to the Ensemble Streamflow Prediction model and its complementary models in the NWS River Forecast System;
- Algorithms to combine WSR-88D precipitation estimates with data from satellites and other ground-based observation systems;
- Development of remotely-sensed (airborne and satellite) snow-water equivalent and snow cover data products in near real-time; and,
- National integration of the Nation's hydrologic conditions and forecasts.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
NEXRAD Offices annual/(cumulative)				
Staffing: **Stage I Operations**	20/(118)	0/(118)	1/(119)	0/(119)
Flash Flood Warnings				
Lead Time (minutes)	52	54	55	57
Accuracy (percent)	85	85	86	86
Tornado Warnings				
Lead time (minutes)	11	11	12	13
Accuracy (percent)	66	70	70	70
False Alarm Rate (percent)		N/A	N/A	85
86				
Winter Storm Warnings				

Lead Time (hours)		N/A	N/A	12
13				
Accuracy (percent)		N/A	N/A	85
86				
Hurricane Warnings				
Lead Time (hours)		N/A	N/A	20
21				
Aviation Forecasts (Ceiling Visibility)				
Accuracy (percent)	N/A	N/A	20	21
False Alarm Rate (percent)	N/A	N/A	50	46
Marine Forecasts (Wind/Wave)				
Accuracy (percent)	N/A	N/A	51	53
Precipitation Forecasts				
Accuracy of 3-day forecast (percent)	N/A	N/A	20	22

Note: N/A represents new performance measures in accordance with new NWS Strategic Plan

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Operations and Research	POS/BA	4,412	$538,032	4,425	$550,005	+ 13	$11,973
	FTE/Obl						

The FY 2001 NWS Base budget request includes a net increase of $11,973,000 over the FY 2001 base which includes adjustments to base of $14,672,000. The $12.0 million increase is comprised of four major elements: (1) an increase of $8.4 million to sustain NWS base operations; (2) an increase of $2.0 million for Weather Forecast Offices maintenance; (3) an increase of $2.3 million to sustain the cooperative observer network; (4) a net decrease of $0.7 million to reflect completion of one-time program activities.

Mandatory Pay and Inflation Adjustments: The FY 2001 base request includes $14,672,000 in Adjustments to Base (ATBs) for NWS base operations. This includes funding for the mandatory federal pay raise of 3.7%, as well as increases in employee benefit rates. This increase also includes funding for projected inflationary increases in non-labor categories such as maintenance and service contracts. Approximately 705 of the NWS base operations budget is dedicated to labor costs. This is due to the labor intensive nature of local weather forecast and warning services which requires human analysis and interpretation of information 24 hours per day, seven days per week at field offices and national centers. Further, the NWS central operations and field operations rely upon thousands of equipment maintenance and service contracts to maintain their operational infrastructure. These contracts must comply with local Department of Labor wage rates which are periodically adjusted for inflation. Therefore, these funding adjustments are critical to sustaining current staffing levels and operations in the NWS. These ATBs are spread between the three principle NWS base operations line items: Local Warning and Forecasts ($13.7 million), Central Forecast Guidance ($0.9 million), and Atmospheric and Hydrological Research ($0.07 million).

1) Sustain NWS Base Operations (+ 13 FTEs, + $ 8,434,000): The following increases are required to sustain the current level of NWS operation and associated products and services, preserve the continuity of key processing, dissemination, and observing infrastructure, and provide the necessary security for critical information technology resources.

Interim Continuation of Services at Weather Service Offices (WSOs) (+ 13 FTEs, + $900,000): NOAA requests an increase of 13 FTEs and $900,000 to continue current services during FY 2001 at the following WSOs, slated for closure in FY 2001: Huntsville, AL; Fort Smith, AR; Williston, ND; and Erie, PA. The completion of the NWS WSO closure process is planned for the end of FY 2000 under the NWS Modernization

and Associated Restructuring as the NWS transfers service responsibility to modernized Weather Forecast of Offices. Therefore, the associated WSO staffing and operations resource requirements were not planned in the FY 2001 NWS budget profile. At the referenced locations, local communities continue to express concerns over the ability of the NWS to provide current services after closure. Current operations at these offices must be maintained while community concerns are evaluated and addressed.

ASOS Augmentation Contracts (+ 0 FTE, + $1,800,000): An increase of $1,800,000 is requested to perform required manual augmentation and backup through contract observers at 17 NWS locations. In order to comply with the Federal Aviation Administration's (FAA) Weather Observation Service Standards, the NWS is required to augment and backup the ASOS observations at certain categories of airports with human observers: Category A: Major aviation hubs and high traffic volume airports with average or worse weather; Category B: Smaller hubs or special airports in other ways that have worse than average bad weather operations for thunderstorms and/or freezing/frozen precipitation, and/or that are remote airports. The service standards require specific weather parameters to be added to the ASOS observation when observed; primarily those that ASOS cannot fully measure such as certain forms of frozen precipitation, runway visual range, visibility and cloud height requirements, thunderstorm identification, and snow depth. Next generation sensors (runway visible range (RVR), present weather sensor etc.) will address some of these issues but are not currently available or deployed. The ASOS program currently incorporates sensor development and improvement plans. In addition, the NWS/NOAA continues to work with the FAA on alternative resource arrangements for ASOS augmentation and backup.

NOAA Weather Radio Operations and Maintenance/Refurbishment: (+ 0 FTE, + $3,000,000) NOAA requests an increase of $3,000,000 to provide the necessary operations and maintenance for 110 known additional NWR sites scheduled for deployment during FY 2000 ($2.4 million); and to begin refurbishment of obsolete transmitters ($0.6 million for 15 transmitters). Beginning in 1994, the NWS entered into a public-private partnership to acquire, install, and operate additional NWR transmitters toward achieving 955 nationwide population coverage for NWR warning and forecast dissemination. Through this partnership, the NWS committed to operating and maintaining these transmitters once they were deployed. By the end of FY 1999, the NWS had approximately 100 transmitters to the network for a total of 500. Approximately 300 additional transmitters are still required to reach the 95% goal.

The NWS has received no additional funds for NWR Operations and Maintenance under the partnership, since a FY 1996 $1.0 million adjustment. The NWS requires additional funds to provide Operations and Maintenance beyond the 500 level currently deployed. Currently, 110 new sites are confirmed for acquisition, delivery, and installation during FY 2000 through various state, local, and private cooperators.

The 400 original NWR units use transmitters that are 25 to 30 years old and therefore rely on outdated technology with logistics requirements that are no longer commercially available. To prevent unrecoverable unit failures, the NWS must begin refurbishment of these sites in FY 2001. The initial 15 refurbishments will focus on those sites with the highest level of repair actions/lowest mean-time between failures.

Provide Network Security: (+ 0 FTE, + $800,000) NOAA requests an increase of $800,000 to procure and install necessary network security hardware and software to protect NCEP's information technology infrastructure from hacker attempts. Two recent incidents in which hackers successfully

penetrated and attacked WEB servers at the Storm Prediction Center and the Tropical Prediction Center have underscored the need for NCEP to implement strong and effective network security countermeasures in the immediate future. NCEP receives an average of 25 hacker attempts per week. The rate of attempts is doubling every three months. Successful attacks may cause damage to the NCEP product stream resulting in the potential degradation or loss of critical forecast guidance to field forecasters, aviation forecasts, weather watches, and or hurricane forecasts.

While NCEP has installed basic firewall protection in the national capital area including the central computer facility, the outlying Centers are still exposed. In addition, NCEP as a whole has not divided its publicly accessible information resources from those that are private to NCEP and has no NCEP wide detection systems.

The request of $0.8 million will enable NCEP to invest in the following security countermeasures: fire walls for remote centers (SPC, AWC, TPC); NCEP-wide intrusion detection system; hardware/software to segment public versus private information and web services; and network security consulting services.

Ensure Workplace Safety (+ 0 FTE, + $700,000): NOAA requests an increase of $700,000 to complete the planned conversion of the Alaska upper-air balloon inflation units from hydrogen to helium. The $0.7 million is required to purchase six remaining helium containers for a total of 15 (10 upper-air sites; 5 transient containers for resupply). The NWS takes upper-air weather observations at 13 sites in Alaska. Like all upper-air sites nationwide, observations are taken twice daily through the launch of radiosonde units tied to a weather balloon. Data from these soundings are the primary source of upper-atmosphere information required by numerical weather prediction models run at NCEP. At ten of the Alaska sites, the balloons are inflated with hydrogen gas generated on-site. The associated “hydrogen generators” are 20-25 years old, have exceeded their useful life, are costly to maintain, and present a serious safety risk to NWS technicians due to potential leakage and accidental ignition of hydrogen gas. The 15 mobile helium containers will be re-supplied periodically and rotated through these ten sites to provide an efficient and safe means for radiosonde/balloon launch.

Sustain Field Observations (+ 0 FTE, + $1,234,000): NOAA requests an increase of $ 1,234,000 to begin replacement of obsolete data collectors (automated remote collectors and limited automated collectors; ARC/LARC) used to report weather observations from rain and stream gages, and remote surface observing sites. At 2,400 sites, stream flow and cumulative rainfall measurements reported via LARCs are used to support the local flood forecasting program and flash flood warning functions at each NWS WFO. At 60 sites, ARCs report a full set of wind, temperature, and rainfall observations to WFOs in support of the national climate program and local forecasting.

The current ARC/LARC systems are obsolete and are no longer supported by the original manufacturer. All repairs are done in-house with a diminishing supply of available systems and parts. Based on the current rate of non-repairable failures and or catastrophic losses, available spare systems will be depleted by the end of FY 2000 or early FY 2001. At this point, NWS maintenance staff will be forced to remove systems from lower priority sites to maintain higher priority sites. This will result in the eventual loss of observations potentially jeopardizing the timeliness and accuracy of NWS hydrological forecasts (flood/flash flood) and reducing flash flood warning lead time. Fatalities and loss of property from flash floods exceed

those from all other weather related events combined. In addition, a reduction in observations in a WFO's forecast area may diminish local forecast accuracy and potentially impact the nation's climate record.

During FY 2001, the NWS will acquire 213 ARC/LARC units to begin the system-wide replacement. A contract will be awarded during FY 2000 to procure 30 units for initial testing and evaluation.

2) WFO Facilities Maintenance (+0 FTE, +$2,012,000): NOAA requests an increase of $2,012,000 for a total of $5,250,000 for WFO Maintenance in ORF. The WFOs provide forecasters with modernized facilities, supporting the new advanced technology systems and the provision of weather services to the public. All of the WFOs, regardless of age, require an investment in recurring and cyclic maintenance activities to support modernized field operations.

The current facilities maintenance base of $3.24 million in the NWS OR&F account has proven to be inadequate to perform the required range of facilities maintenance requirements including mandatory service contracts, preventive maintenance, and cyclical maintenance and corrective actions. To date, the NWS has been unable to provide for the full service contract requirements for janitorial services, landscaping, trash removal, and pest control; has not performed the required level of preventive maintenance on backup power generators located at each WFO; has not maintained preventive maintenance contracts on HVAC systems nationwide; has only been able to conduct repairs once failures occur; has not replaced generator batteries according to the required 3 year cycle; and has been unable to address a growing backlog of facilities maintenance corrective actions and capital improvement to address such as issues as foundation cracks, HVAC and upper air unit corrosion, parking lot/road repair, landscape/drainage repair, and peeling paint, wallpaper, and floor tiles.

While the NWS modernization is complete, many of its facilities are now more than 10 years old and require attention. Facilities deterioration and associated equipment failures will only grow in frequency if this current level of support is continued. These risks may affect the overall working environment of NWS operational field forecasters and technicians, and at a worst case may cause a disruption in service (e. g. HVAC or generator failure). These systems are most prone to failure during a severe weather event, the time at which a WFO facility must be fully operational and available to support critical weather warning functions.

The proposed budget will enable the NWS to implement a steady-state level of facilities maintenance support which fully addresses recurring service contract requirements ($4.0 million) and begin to address backlogged facilities logistics, corrective actions and preventive maintenance ($1.2 million). The facilities maintenance requirements established for this program comply with GSA and industry standards.

Establishing an adequate preventive and cyclical facilities program will ensure the preservation of the $250 million plus investment in modernized facilities and will ensure the proper working environment for NWS personnel, and provide a fully available and reliable infrastructure to support mission activities. This request puts the NWS on the path to correcting the current deficiencies in the facilities maintenance program.

3) Sustain the Cooperative Observer Network (0 FTE, +$2,300,000): NOAA requests an increase of $2,300,000 to ensure the continuity of observations in support of the Nation's climate record and local forecasting. The funds will be used to purchase off-the-shelf electronic data loggers for 900 rain gages ($1.8 million) and to purchase 250 replacement minimum/maximum temperature sensors ($0.5 million).

The cooperative observer network is a nationwide network of over 11,000 volunteer operated weather observing sites used by NOAA to record the Nation's climate and to provide data to local NWS field offices. The NWS manages and maintains the network and provides the necessary equipment and instrumentation at each site. Properly maintaining this network and the information it provides is critical to preserving the Nation's climate record used to monitor and detect local, regional, and national climate changes and variations. In addition, NWS forecasters use data from the network for local forecasting and verification purposes.

Currently, the instruments used to detect daily minimum and maximum temperatures, and the rain gage recording devices for measuring precipitation are antiquated and obsolete with many spare parts no longer commercially available. The rain gages currently use punched paper tape to record rainfall quantity measurements. The punched paper tape can only be processed by 2 remaining data readers at the NCDC. These data readers are projected to fail by 2004 when they reach their useful life (based on failure rate of obsolete parts no longer manufactured). Therefore all 2,700 rain gages must be retrofitted with electronic data loggers by 2004 to enable automatic downloading of observations into computer databases. At $1.8M per year, the NWS could complete this retrofit by the end of FY 2003. The NWS has 5000 MMTS units operating at cooperative sites nationwide. These units fail at an average of 250 per year. Replacement parts are no longer manufactured. The NWS has an inventory of 1,000 MMTS units which will cover current repair requirements until FY 2003 only. Without an annual purchase of at least 250 new MMTS units starting in FY 2001, the NWS will begin losing temperature observations by FY 2003.

4) Program Completions/Reductions (+0FTE, -$773,000) NOAA requests a net decrease of $773,000 to reflect the completion of the following one-time programs in FY 2000: Procurement & installation of NOAA Weather Radio (NWR) transmitters in Kentucky, South Dakota, Illinois , Wyoming, Missouri, and North Dakota; the University of Utah cooperative institute supporting development activities for 2002 Winter Olympics weather support; the Advanced Weather Prediction Prototype at the University of Oklahoma; flood forecasting enhancements to the Susquehanna River Basin Flood System.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
NEXRAD Offices annual/cumulative)					
Staffing: **Stage I Operations**	0/(119)	2/(121)	0/(121)	0/(121)	0/(121)
Flash Flood Warnings					
Lead Time (minutes)	57	59	61	62	65
Accuracy (percent)	86	87	88	89	90
Tornado Warnings					
Lead time (minutes)	13	13	14	15	15
Accuracy (percent)	70	70	72	74	80
False Alarm Rate (percent)	59	53	48	44	40
Hurricane Warnings					
Lead time (hours)	21	22	23	24	25
Aviation Forecast (Ceiling/Visibility)					
Accuracy (percent)	21	23	25	27	29
False Alarm Rate (percent)	46	41	36	31	26
Marine Forecasts (Wind/Wave)					
Accuracy (percent)	53	55	58	61	65
Precipitation Forecasts					
Accuracy of 3-day forecast (percent)	22	24	26	28	30

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Total Changes	+ 11,973	+ 11,973	+ 11,973	+ 11,973	+ 11,973

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Weather Service
Subactivity: Operations and Research

Title:	Grade	Number	Annual Salary	Total Salaries
Electronic Technician	11	1	42,672	42,672
Meteorological Technician	12	3	51,101	153,303
Meteorological Technician	11	5	42,648	213,240
Meteorological Technician	10	4	38,705	154,820
Total		13		564,035

Personnel Data	Number
Full-Time Equivalent Employment	
Full-time permanent	13
Other than full-time permanent	0
Total	13

Authorized Positions	
Full-time permanent	13
Other than full-time permanent	0
Total	13

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Weather Service**
Subactivity: **Operations and Research**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	6,195
25.4	Operation of GOCO's	0
26	Supplies and materials	250
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	6,445

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **National Weather Service**
Subactivity: **Operations and Research**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	(109)
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	(109)
12.1	Civilian personnel benefits	(32)
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	(424)
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	(113)
25.4	Operation of GOCO's	0
26	Supplies and materials	(250)
31	Equipment	(20)
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(948)

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Weather Service
Subactivity: Systems Acquisition

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Public Warning and Forecast Systems	Pos./BA	179	61,622	179	78,033	179	79,370	177	84,867	(2)	5,497
	FTE/OBL.	174	61,450	179	78,616	181		179		(2)	
Total	Pos./BA	179	61,622	179	78,033	179	79,370	177	84,867	(2)	5,497
	FTE/OBL.*	174	61,450	179	78,616	181		179		(2)	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Weather Service**
Subactivity: **Systems Acquisition**

Goal Statement

To provide timely and accurate meteorological, hydrologic, and oceanographic warnings, forecasts, and planning information to ensure the safety of the population, mitigate property losses, and improve the economic efficiency of the Nation in support of the Advance Short-Term Warnings and Forecasts initiative.

Proposed Legislation

No legislation is proposed for this activity.

Base Program

In FY 1998, the base program for this subactivity was changed with the inception of the Procurement, Acquisition, and Construction (PAC) account. All acquisition activity including program management, pre-planned product improvement, and technology infusion is now included in the PAC account. This ORF subactivity reflects the costs of on-going operations and maintenance until the completion of the entire acquisition, at which time it will be moved to the Operations and Research subactivity.

The FY 2001 base request includes $1,337,000 in Adjustments to Base (ATBs) for NWS systems acquisitions. This includes funding for the mandatory federal pay raise of 3.7%, as well as increases in employee benefit rates. This increase also includes funding for projected inflationary increases in non-labor categories such as maintenance and service contracts. ATBs of $1,337,000 are distributed among NEXRAD ($477,000), ASOS ($ 78,000), and AWIPS ($782,000).

Public Warning and Forecast Systems: Consistent with the goal of providing more timely and accurate weather and flood warning and forecast services to the public and in support of the Advance Short-Term Warning and Forecast Services portion of the NOAA Strategic Plan, NOAA has modernized the national weather system during the 1990s through the acquisition of technologically advanced systems.

Next Generation Weather Radar (NEXRAD): Managed by NOAA, and recently completed, this acquisition is a tri-agency program involving the Departments of Commerce, Defense and Transportation. NEXRAD is a Doppler weather radar system which provides automated signal processing, computerized processing of data by sophisticated meteorological software algorithms, state-of-the art ergonomically designed operator workstations, and a high-capacity, processor-driven communications capability. The system is modular in design, upgradable, has a long life-cycle expectancy, and provides its principal users with a wide array of automated weather information that will increase their capability to meet their respective operational requirements. For the National Weather Service, the system utilizes the Doppler technology and hydrometeorological processing to provide significant increases both in the functional capability and in performance compared with present radars including improved tornado and thunderstorm warnings, increased air safety, improved flash flood warnings and improved water resources management.

In FY 2000, NWS will continue to operate and maintain the network of 123 systems and continue acquisition contract closeout activities.

FY 2001 Plans:

- Continue product improvement initiative
- Continue operation and maintenance of fielded systems

ASOS (Automated Surface Observing System): ASOS provides reliable, 24-hour per day, continuous surface weather observations. Implementation of ASOS into NWS field operations provides continuous weather watch, and yields improved staff productivity. NWS operates and maintains NWS ASOS units, and under a reimbursable funding arrangement, FAA ASOS units.

In FY 2000 NWS will:

- Continue operations and maintenance of fielded systems
- Begin development, testing, and integration of the all weather precipitation gage, the processor upgrade, dew-point sensor, and the ice-free wind sensor
- Continue to work with the FAA and the aviation industry on sensor improvements

FY 2001 Plans:

- Continue operations and maintenance of fielded systems
- Continue development, testing, and integration of the all weather precipitation gauge
- Begin production phase for dew-point sensor
- Begin processor upgrades
- Continue work with the FAA and the aviation industry on sensor improvements

Advanced Weather Interactive Processing System (AWIPS)/NOAAPort: AWIPS is the cornerstone of the NWS modernization. This system is required to integrate and display all hydrometeorological data at NWS field offices. AWIPS will acquire and process data from modernized sensors and local sources, provide computational and display functions at operational sites, provide an interactive communications system to interconnect NWS operational sites, and disseminate warnings and forecasts in a rapid, highly reliable manner. This system will integrate satellite and radar data for the first time and provide to the local field forecaster a capability that will significantly improve forecasts and warnings. NOAAPORT offers the communications capability to provide internal and external users with open access to much of NOAA's real-time environmental data.

In FY 2000:

- Operations and maintenance of fielded systems and technology infusion activities will continue. Additional systems at the Secretary's mitigation sites in Key West and Caribou will be deployed.

FY 2001 Plans

- Continue operation and maintenance of fielded systems
- Invest in required hardware replacement/upgrade to prevent system obsolescence
- Continue technology infusion activities for data management, and open radar product generator (ORPG) integration
- Begin technology infusion activities for NCEP/OCONUS AWIPS, hydromet decision assistance, and increased communications bandwidth
- Continue AWIPS Build 5.0 development activities (2nd year of 3 year effort)
- Invest in catastrophic backup measures for the AWIPS National Control Facility

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
NEXRAD delivered (NWS systems)	120	123	123	123
NEXRAD accepted (NWS systems)	118	123	123	123
ASOS (NWS systems)				
Base (ASOS)				
installed	246	246	246	246
accepted	246	246	246	246
Additional ASOS (primarily scaled-down versions)				
installed	15	59	68	68
accepted	10	53	68	68
AWIPS installed	15	62	154*	154
AWIPS accepted	0	62	154*	154

* Includes Caribou and Key West

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Systems Acquisition (Total)	POS/BA	189	$79,370	187	$84,867	-2	$5,497
	FTE/Obl						

NOAA requests an increase of $5,497,000 for this subactivity. This subactivity provides for the operation and maintenance of the modernized NWS systems.

Next Generation Weather Radar (NEXRAD) (0 FTE, -$363,000): NOAA requests a decrease of $363,000 to reflect the revised estimates for providing operations and maintenance of the WSR-88D network with associated adjustments to base.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
NEXRAD - Systems Acquisition	$(363)	$(363)	$(363)	$(363)	$(363)

NEXRAD Outyear Funding Profile
(Dollar Amounts in Thousands)

	FY 1998 and Prior	FY 1999 Approp.	FY 2000 Approp.	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	All Years
*Procurement, Acquisition and Construction**									
Program Management	$61,199	$930	$615	$442	$0	$0	$0	$0	$63,186
Support Contracts	64,617	800	425	58	0	0	0	0	65,900
Acquisition/Deployment	427,750	0	993	0	2,000	1,000	1,000	0	432,743
Logistics Support	74,631	0	0	0	0	0	0	0	74,631
Facilities/Land	45,639	0	0	0	0	0	0	0	45,639
Planned Product Improvement	9,607	5,270	6,216	9,080	13,398	13,531	9,358	11,745	78,205
Operation & Maintenance	102,321	0	0	0	0	0	0	0	102,321
SAO Acquisition Management	4,364	0	0	0	0	0	0	0	4,364
Level II Data System					1,400	1,400	1,400	1,400	5,600
Subtotal	790,128	7,000	8,249	9,580	16,798	15,931	11,758	13,145	872,589
Operations Research and Facilities									
Operation & Maintenance	79,636	38,346	38,688	38,802	38,802	38,802	38,802	38,802	350,680
Subtotal	79,636	38,346	38,688	38,802	38,802	38,802	38,802	38,802	350,680
PROGRAM TOTAL	$869,764	$45,346	$46,937	$48,382	$55,600	$54,733	$50,560	$51,947	$1,223,269

Automated Surface Observing System (ASOS) (0 FTE, + $28,000): NOAA requests an increase $28,000 to continue the requirements of the program. ASOS is required to provide reliable, 24-hour per day, continuous automated surface weather observations critical to NWS forecasts and warning activities.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
ASOS - Systems Acquisition	$+ 28	$+ 28	$ +28	$ + 28	$ + 28

ASOS Outyear Funding Profile
(Dollar Amounts in Thousands)

	FY 1998 and Prior	FY 1999 Approp	FY 2000 Approp	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	All Years
*Procurement, Acquisition and Construction**									
Program Management	$33,927	$2,355	$2,563	$2,563	$2,563	$2,563	$2,563	$2,563	$51,660
Exp. of Alt. Sys. Design	13,128	0	0	0	0	0	0	0	13,128
Competitive Demonstration	12,814	0	0	0	0	0	0	0	12,814
Full-scale Development	5,978								5,978
Sensor Development	1,080	1,500	1,277	2,562	2,562	2,562	2,562	2,562	16,667
Production/Deployment	56,889	0	0	0	0	0	0	0	56,889
Planned Product Improvement	16,522	0	0	0	0	0	0	0	16,522
Operation & Maintenance	25,472	0	0	0	0	0	0	0	25,472
SAO Acquisition Managemen	1,393	0	0	0	0	0	0	0	1,393
Subtotal	167,203	3,855	3,840	5,125	5,125	5,125	5,125	5,125	200,523
Operations Research and Facilities									
Operation & Maintenance	9,402	7,116	7,317	7,423	7,423	7,423	7,423	7,423	60,950
Subtotal	9,402	7,116	7,317	7,423	7,423	7,423	7,423	7,423	60,950
PROGRAM TOTAL	$176,605	$10,971	$11,157	$12,548	$12,548	$12,548	$12,548	$12,548	$261,473

Advanced Weather Interactive Processing System (AWIPS)/NOAAPort (-2 FTEs, + $5,832,000): NOAA requests a decrease of two FTEs and an increase of $5,832,000 to continue the operations and maintenance of the fully deployed AWIPS network. This funding level accommodates AWIPS contract operations and maintenance and government activities support, inclusive of software maintenance to support the base network of 152 systems.

Background: AWIPS integrates and displays hydrometeorological data acquired from modernized sensors and local sources, provides computational and display functions at operational sites, and provides an interactive communications system to interconnect NWS operational sites, and disseminate warnings and forecasts in a rapid, highly reliable manner. Deployment of AWIPS baseline systems was completed in June 1999 incorporating Build 4.2 software.

Proposed Actions: The Fiscal Year 2001 request supports the operations and maintenance of 152 fielded base program AWIPS units. Additional funding in required in FY 2001 to support the estimated costs for contract software maintenance, systems obsolescence, training, and communications.

Specifically, an additional $3.7 million is required on the PRC contract to fully address AWIPS software maintenance functions including configuration change control, software quality control, code design and development, modification analysis, and system testing. The software lines of code for the AWIPS system have almost doubled from the original estimate of 1.5 million lines, adding to recurring maintenance costs.

To begin to address AWIPS hardware obsolescence and maintain system currency both for technology and mission support, $3.0 million is required. Specific items designated for replacement or upgrade are: initially deployed applications servers, initially deployed LAN Hubs, data server storage, workstation storage, additional site storage, and local interface connection support. Many of these hardware components were deployed early in the AWIPS deployment phase and can no longer be adequately supported; or current hardware does not provide the storage or processing capabilities to handle the current data volume at the WFOs/RFCs.

A total of $0.7 million is required to support advanced application training through COMET and other AWIPS operational training activities. With the full deployment of the AWIPS system, NWS forecasters will require enhanced operational training to fully utilize the technology and continue improvements in weather warning and forecasts.

A decrease of $1.4 million reflects operations and maintenance savings associated with the continuing decommissioning of legacy systems (AFOS) and a decrease of $0.3 million is associated with reductions in APO level of effort contract support.

Benefits: AWIPS, including Build 5 capabilities will substantially improve the productivity of the staff involved with the performance of day-to-day NWS operations enabling a 69 FTE reduction to authorized field staffing. It will also significantly improve the timeliness and accuracy of weather forecasts and warnings by implementing prototype software shown to increase severe storm probability of detection by 20% and reduce false alarm rates by roughly the same amount. AWIPS Build 5 will provide full NEXRAD Principle User Processor (PUP) functionality enabling the PUP to be

decommissioned at AWIPS locations. In conjunction with new NEXRAD ORPG technology, AWIPS contributed to warning lead times of 20 - 30 minutes in the recent Kansas and Oklahoma tornado events.

Timeliness: Funding for operations and maintenance of AWIPS is required to ensure the continuity of communications, data processing, and display capabilities for field forecasting, warning, and dissemination functions.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
NEXRADs in operation (NWS systems)	123	123	123	123	123
ASOS (NWS systems in operation)					
Base ASOS	246	246	246	246	246
Additional ASOS (primarily scaled-down versions) . . .	68	68	68	68	68
AWIPS units in operation	154	154	154	154	154

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
AWIPS - Systems Acquisition	+ $5,832	+ $5,832	+ $ 5,832	+ $5,832	+ $ 5,832

AWIPS Outyear Funding Profile
(Dollar Amounts in Thousands)

	FY 1998 and Prior	FY 1999 Pres. Budget	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	All Years
*Procurement, Acquisition and Construction **									
Program Management	$35,738	$3,432	$2,950	$2,000	$2,000	$2,023	$2,078	$2,135	$52,356
Exp. of Alt Sys. Design	$18,543	0	0	0	0	0	0	0	18,543
Full-scale Development	$265,746	8,976	0	0	0	0	0	0	274,722
Production, Deployment	139,454	54,034	1,600	0	0	0	0	0	195,088
Technology Infusion	0	250	10,325	13,200	11,545	5,652	4,602	4,533	50,107
Critical Infrastructure Protection	0	0	239	1,300	2,955	1,150	1,200	1,200	8,044
SAO Acquisition Management	5,995	975	825	800	800	820	820	785	11,820
Operation & Maintenance	12,769		0	0	0	0	0	0	12,769
Subtotal	478,245	67,667	15,939	17,300	17,300	9,645	8,700	8,653	623,449
Operations Research and Facilities									
Program Management	0	0	0	0	0	0	0	0	0
Operation & Maintenance	0	12,189	32,028	38,642	38,642	38,642	38,642	38,642	237,427
Subtotal	0	12,189	32,028	38,642	38,642	38,642	38,642	38,642	237,427
TOTAL	$478,245	$79,856	$47,967	$55,942	$55,942	$48,287	$47,342	$47,295	$860,876

* Prior to FY 1998, all funding shown associated with categories included in the Procurement, Acquisition, and Construction account was provided in the OR&F appropriation. The table above shows the total cost of the AWIPS acquisition and technology infusion through FY 2005.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Total Changes	+5,497	+5,497	+5,497	+5,497	+5,497

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Weather Service
Subactivity: Systems Acquisition

Title:	Grade	Number	Annual Salary	Total Salaries
General Engineer	14	1	74,760	74,760
Program Analyst	13	1	65,374	65,374
Total		2		140,134

Personnel Data	Number
Full-Time Equivalent Employment	
Full-time permanent	2
Other than full-time permanent	0
Total	2

Authorized Positions	
Full-time permanent	2
Other than full-time permanent	0
Total	2

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **National Weather Service**
Subactivity: **Systems Acquisition**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	6,195
25.2	Other services	0
25.4	Operation of GOCO's	250
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	6,445

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Weather Service**
Subactivity: **Systems Acquisition**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	(109)
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	(109)
12.1	Civilian personnel benefits	(32)
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	(424)
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	(113)
25.4	Operation of GOCO's	0
26	Supplies and materials	(250)
31	Equipment	(20)
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(948)

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **National Weather Service**
Subactivity: **Systems Acquisition**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	(109)
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	(109)
12.1	Civilian personnel benefits	(32)
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	(424)
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	(113)
25.4	Operation of GOCO's	0
26	Supplies and materials	(250)
31	Equipment	(20)
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(948)

NATIONAL ENVIRONMENTAL SATELLITE, DATA AND INFORMATION SERVICE
STRATEGIC PLANNING GOALS AND OBJECTIVES

The National Environmental Satellite, Data and Information Service (NESDIS) supports five of NOAA's Strategic Planning Goals. Below is a brief characterization of the NESDIS programs in the context of these Goals.

GOAL - ADVANCE SHORT TERM WARNING AND FORECAST SERVICES

NESDIS actively supports activities and programs in two of the objectives for this goal.

OBJECTIVE - COMPLETE NWS MODERNIZATION

NOAA is well underway toward completing the largest modernization and restructuring effort in the history of the NWS. The process of modernization and restructuring was prompted by two factors: (1) the desire to apply advances in hydrometeorological science and technology to operational forecasting, and (2) the desire to replace obsolete and increasingly unreliable equipment. These replacement systems coupled with observations from planned, advanced geostationary satellites and newly developed mesoscale forecasting techniques have and will continue to improve the timeliness and accuracy of severe weather and flood warnings to the U.S. public. A major element of this objective is the operation of the new series of geostationary satellites (GOES I-M). Two of the first three satellites of this series are in operation and are providing enhanced capabilities to meet the objectives of a modernized NWS. The third satellite, GOES-9, has been taken out of its operational status and is currently in an on-orbit back-up mode.

OBJECTIVE - SATELLITE CONTINUITY

This objective is to provide continuity of satellite coverage. Included is the continued operation of the current polar orbiting series (NOAA K-N'), and the continuity of the acquisition of additional geostationary satellites to be ready to replace the GOES I-M satellites when needed. Also included is development of a converged NOAA/DOD/NASA series of polar orbiting spacecraft.

NOAA will continue to acquire data from foreign and other non-NOAA satellites to achieve coverage of the Earth's oceans and wind measurements over these vast areas.

GOAL - IMPLEMENT SEASONAL TO INTERANNUAL CLIMATE FORECASTS

NESDIS actively supports activities and programs in two of the objectives for this goal.

OBJECTIVE - IMPLEMENT PREDICTION SYSTEMS

The prediction systems developed as the result of this objective will be implemented using environmental observations from NOAA’s satellites and the environmental data available from the three environmental data centers.

OBJECTIVE - MAINTAIN AND IMPROVE OBSERVING AND DATA DELIVERY

The three environmental data centers within NOAA are the nation's centers for the archiving and distribution of environmental data. They serve thousands of users from virtually all segments of the economy.

GOAL - PREDICT AND ASSESS DECADAL TO CENTENNIAL CHANGE

NESDIS actively supports activities and programs in one of the objectives for this goal.

OBJECTIVE - ENSURE A LONG TERM CLIMATE RECORD

NOAA will be responsible for maintaining the data archives for the large volumes of environmental data that will be collected for NASA's Earth Observing System (EOS).

GOAL - RECOVER PROTECTED SPECIES

NESDIS actively supports activities and programs in one of the objectives for this goal.

OBJECTIVE - ASSESS THE STATUS AND IMPACTS

The data retained in NOAA's three national data centers provide important environmental data necessary for understanding and addressing the many phenomena that effect changes in the environment.

GOAL - SUSTAIN HEALTHY COASTS

NESDIS actively supports activities and programs in one of the objectives for this goal.

OBJECTIVE - PROTECT, CONSERVE AND RESTORE HABITATS

NOAA's satellites, along with satellites from other government agencies and foreign nations, provide data necessary for assessment of our coastal areas.

National Environmental Satellite, Data and Information Service
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Advance Short-Term Warning and Forecast Services										
Satellite Continuity	507	54,385	507	54,003	561	54,679	561	54,997		318
Improve Service Communication and Utilization								5,500		5,500
Total ASTWFS	**507**	**54,385**	**507**	**54,003**	**561**	**54,679**	**561**	**60,497**		**5,818**
Implement Seasonal to Interannual Climate Forecast										
Maintain and Improve Observing and Data Delivery Systems	266	37,208	266	41,646	266	42,579	266	36,614		(5,965)
Total ISICF	**266**	**37,208**	**266**	**41,646**	**266**	**42,579**	**266**	**36,614**		**(5,965)**
Predict and Assess Decadal-to-Centennial Change										
Ensure a Long-Term Climate Record		10,969		6,259		6,259		3,717		(2,542)
Total PADCC		**10,969**		**6,259**		**6,259**		**3,717**		**(2,542)**
Recover Protected Species										
Assess Status and Impacts		1,202								
Maintain Healthy Species & Ecosystems				1,202		1,202		1,202		
Total RPS		**1,202**		**1,202**		**1,202**		**1,202**		
Sustain Healthy Coasts										
Protect, conserve and restore habitats	9	4,771	9	6,156	9	6,156	9	6,171		15
Foster well-planned and revitalized coastal communities		1,400								
Total SHC	**9**	**6,171**	**9**	**6,156**	**9**	**6,156**	**9**	**6,171**		**15**
Total for NESDIS	**782**	**109,935**	**782**	**109,266**	**836**	**110,875**	**836**	**108,201**		**(2,674)**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data and Information Service
Subactivity: Satellite Observing Systems

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Polar Convergence	Pos./BA	0		0	0	0	0	0	0	0	0
	FTE/OBL.	0		0		0		0		0	
Global Disaster Information network (GDIN)	Pos./BA	0	0	0	0	0	0	0	5,500	0	5,500
	FTE/OBL.	0	0	0	0	0		0		0	
Ocean remote Sensing	Pos./BA	0	4,068	0	3,985	0	3,985	0	4,000	0	15
	FTE/OBL.	0	4,103	0	3,891	0		0		0	
Environmental Observing Services	Pos./BA	519	56,090	519	52,918	573	53,594	573	53,912	0	318
	FTE/OBL.	439	53,724	507	53,785	561		561		0	
Total	Pos./BA	519	60,158	519	56,903	573	57,579	573	63,412	0	5,833
	FTE/OBL.*	439	57,827	507	57,676	561	0	561	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Environmental Satellite, Data, and Information Service**
Subactivity: **Satellite Observing Systems**

Goal Statement

The goals of the Satellite Observing Systems subactivity are: to maintain a system of polar-orbiting satellites that obtain global environmental data; to maintain a system of geostationary satellites that provide near-continuous observations of the Earth's western hemisphere; to access other U.S. and foreign ocean sensing environmental satellites, to monitor the Earth's surface and space environmental conditions; to introduce improved atmospheric, oceanic, and U.S. coastal observations and data dissemination capabilities; and to develop and provide new and improved applications and products for a wide range of Federal agencies, state and local governments, and private users. Programs in this subactivity support all of the Strategic Plan's Environmental Assessment and Prediction mission goals and the Recover Protected Species and Sustain Healthy Coasts goals of the Environmental Stewardship mission.

Proposed Legislation

No legislation is proposed for this activity.

Base Program

Satellite Observing Systems:

Environmental Observing Services: The operating objectives of the Environmental Observing Services line item are to: (1) operate and maintain the NOAA satellites and acquire data from them; (2) acquire, process and analyze the data from NOAA, DOD, and other operational and research Earth-observing satellites; (3) supply data, interpretations, and consultation services to users; (4) conduct research to improve satellite systems' capabilities for obtaining environmental data; (5) determine requirements for future satellite systems, (6) operate and maintain the Search and Rescue (SARSAT) mission control center plus seven ground receiving sites, and act as the lead U.S. agency for SARSAT; and (7) demonstrate better ways to use and

distribute data from NOAA, NASA, and other satellites, aircraft, and laboratory investigations, and apply these improvements to satellite data products for operational use.

Under this program, NOAA operates and maintains satellite ground facilities, ingests and preprocesses incoming satellite data, provides satellite-derived products to the users, and conducts research to improve the use of the satellite data. Specific functions include:

- Operation and maintenance of ground facilities to command and control operational satellites, acquire satellite data, and transmit satellite data to the central processing and analysis center. These functions are carried out by the Satellite Operations Control Center (SOCC) at Suitland, Maryland, and the Command and Data Acquisition (CDA) stations at Wallops Island, Virginia, and Fairbanks, Alaska.

- Ingesting and processing all data from the polar and geostationary spacecraft, including vertical atmospheric measurements (soundings), low-level wind vectors, and sea surface temperatures for input to National Weather Service analyses, forecast models and image production for distribution to wide variety of users.

- Ingesting and processing data from non-NOAA satellites to produce products to support protection, restoration, and sustainable use of coastal and oceanic ecosystems.

- Assessing and providing spacecraft and data anomaly; providing launch and checkout services for new spacecraft, and provision of tracking and other acquisition information to outside users of the spacecraft data.

- Providing products to assist in protection of life and property such as quantitative precipitation estimates for flash flood situations, hurricane classification, satellite monitoring and tracking of severe weather, and sea ice and ocean front analyses.

- Operation of the SARSAT mission control center. NOAA is the lead U.S. agency for the international COSPAS/SARSAT program. In this program, transponders flown on NOAA and Russian satellites receive signals from ships and aircraft in distress and identify their location.

- Research to develop new and improved methods of obtaining satellite data and to develop techniques for applying these data to atmospheric, oceanic, and land monitoring, warning, and prediction.

After acquiring, processing, and analyzing satellite data, NOAA prepares products for distribution. The primary uses for NESDIS polar-orbiting satellite products are the forecasts and warnings provided by the National Weather Service, but the satellite data are also used in many other environmental information contexts. These include analyzing climate change; detecting volcanic eruptions and wilderness fires and tracking associated dust clouds; and monitoring the health of vegetation, the growth of deserts, and deforestation. NOAA conducts research and development to improve

data quality and to identify other ways in which the data can be used to protect life and property, strengthen the Nation's economy, and improve our understanding of changes in the global climate.

Analyses and interpretations of geostationary and polar-orbiting satellite data are prepared by the National Weather Service at forecast offices staffed with satellite meteorology experts. These offices receive high-resolution images on a 24 hour-per-day, 365 day-per-year basis from the GOES Central Data Distribution System. San Francisco, Anchorage, and Honolulu forecast offices receive the high resolution polar satellite data directly from the spacecraft. All of these offices analyze and interpret the cloud and earth surface images and associated products for use in their regional forecasts. These images are used in preparing aviation forecasts, and short-term forecasts and warnings of hazardous events such as severe local storms and tornadoes, hurricane advisories, and gale warnings. The products also are used in preparing river and flood forecasts, snow melt and sea ice analyses, and marine forecasts and warnings, including services for shipping, coastal and ocean fisheries, and recreational boating. GOES imagery is distributed to television stations, universities, state governments, industry, and other Federal agencies through the GOES-TAP system which allows the user to receive any of the standard image sectors available to a particular forecast office. The NOAA PORT system, developed with AEIPS, is becoming the primary means of delivering GOES data and products to users.

The satellite data sets and applications products derived from both polar and geostationary satellites are delivered through a variety of systems and formats: network accessible data sets of near real time and archive data; photo facsimile images; and satellite broadcast weather facsimile (WEFAX) and other archives. Stratospheric sounding data derived from instruments developed and funded by the United Kingdom are relayed to the United Kingdom; Data Collection System (DCS) data, derived from the French-funded ARGOS systems on the spacecraft, are relayed to Project ARGOS in France as part of bilateral agreements. United States users, in turn, receive processed data from the French.

NOAA conducts research to improve our understanding of the physical processes in the atmosphere, on land, and in the oceans which affect weather and climate. Satellites are integral to this work because of their unique capability to provide the vast amounts of data needed for forecast modeling. The satellite's vantage point in space provides data coverage in both time and areal extent not achievable by other practical observational techniques or systems. Techniques also are developed for new and improved applications of satellite data. Universities and industrial groups participate in developmental activities through cooperative research and information exchange arrangements. NOAA coordinates closely with related NASA and DOD research and development programs and with the environmental satellite programs of other nations.

Ocean Remote Sensing: NOAA is developing a multi-disciplinary, multi-platform coordinated program of satellite ocean remote sensing. Data from NOAA and non-NOAA environmental satellites will be used to provide operational sensing of the U.S. coastal and global oceans. Data will be acquired, processed and distributed for use by NOAA, other federal agencies, state, local, and academic and educational users.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Number of quantitative precipitation estimates produced - GOES [thousands]	1.4	1.4	1.4	1.4
Accuracy of quantitative precipitation estimates - GOES (in Percent)	75	75	75	75
Number of severe weather systems tracked	180	180	180	180
Percent of time devoted to severe storms tracking	30	30	30	30
Satellite-derived wind velocity (Western hemisphere) - GOES [millions]	35.0[1]	35.0	35.0	35.0
Satellite-derived atmospheric moisture profiles - GOES [millions]	17.52[2]	17.52	17.52	17.52
Number of CoastWatch users	1,200	2,200	3,200	4,200
Number of new CoastWatch products lines added	1	0	2	0
Collections from GOES DCS remote platforms [millions]	33.9	34.2	34.5	34.8
New coastal hazards products/services developed and available	0	0	0	3
New coastal hazard types supported	0	0	0	2
Numbers of derived ocean products (AVHRR CoastWatch)	288,000	288,000	288,000	288,000
GOES DCS platforms in services end of year	14,590	15,175	15,782	16,413
Number of RADARSAT ice products	2,300[4]	2,700	3,000	3,200
Number of ocean color scenes available to CoastWatch Nodes	1,500	1,500	1,500	1,500
Emergency locator signals collected from aircraft and ships in distress	20,200	21,200	22,300	23,400
Emergency beacons in service at end of year	771,000	804,000	839,000	875,000
POES and DMSP global temperature and water vapor profiles collected [millions]	150	300	400	500
POES cloud cover images collected	40,000	40,000	40,000	40,000
Collections from remote terrestrial and marine observations from Argos (POES) platforms [millions]	4.0	4.2	4.4	4.6
Remote Argos platforms in services end of year (POES)	6,100	6,400	6,700	7,000
POES Global ozone measurements collected	485,000	485,000	485,000	485,000
Number of global ocean surface winds [millions]	4.0[3]	52.0	70.0	73.4

Note 1: GOES wind vectors (cloud drift, water vapors and picture triplet) calculated every 6 hours - 1,200 winds, 4 times per day. High density winds increase x 10.

Note 2: Includes GOES Sounder-BASED water vapor and 4-layer precipitable water profiles.

Note 3: ERS-1 and -2 produce 11,000 wind vectors per day. ADEOS NSCAT and QuikSCAT produces 190,000 winds per day. ADEOS was operational from April 15 to June 30, 1997.

Note 4: Based on number of operational SCANSAR products received from Alaska SAR Facility Order Desk and Gatineau (Canadian Ice Service).

CHANGES FOR 2001

(Dollar amounts in thousands)

	2001 Base		2001 Estimate		Increase/(Decrease)	
	Personnel	Amount	Personnel	Amount	Personnel	Amount
Satellite Observing Systems	561	$57,579	561	$63,412	0	+$5,833

Satellite Observing Systems (0 FTE +$5,833,000): In FY 2001 the net change in this subactivity is 0 FTE and +$5,833,000. This increase is made up of three elements within the Environmental Observing Services budget line item as described below:

Environmental Observing Services (O FTE, +$2,629,000): NOAA requests an increase of 0 FTE, and $2,629,000 for the following three items:

Restoration and Reallocation of Base Funding (+$2,629,000): NOAA requests an increase of +$2,629,000 to restore the Environmental Observing Services base funding to the amount previously requested in the FY 2000 President's Budget. This budget line item supports the operations of the two NESDIS satellite systems, the acquisition and processing of satellite data, and the applications research required for continued future operations. NESDIS provides satellite services on a 24 hours per day, 365 days per year schedule. Without adjustments for inflationary and technology-imposed cost increases, delivery of satellite data to the National Weather Service will be seriously impacted.

These funds must be restored to avoid increasing risk to the health and safety of current operational spacecraft (both polar and geostationary). These operations utilize over a billion dollars of NOAA's on-orbit spacecraft. The operational nature of the NESDIS mission leaves little option for cost reductions. These funds are necessary to keep up with increased labor cost and increases in such items as software licensing, communications, and ground system maintenance.

Funding requirements for the Environmental Observing Services line item have expanded because:

- GOES (8, 9 & 10) have imposed greater demands on operations and control.
- GOES satellites have provided greater amounts of data and opportunities for new products.
- New Polar satellite (NOAA-15) flies an advanced sounder requiring a high level of software development and improved products.
- International activities such as INSAT add to demands and opportunities for products and services.

- Opportunities for new products continues to expand.
- Ground System O&M is strained.

Impact of not restoring base funding:

- GOES Products and Services: A reduction in the operational performance levels for GOES products and services (winds, ABOS, soundings, NEWPORT, image distribution, SST, quantitative precis, etc.) will likely occur, dropping from the current reliability rate of 99 percent. If this occurs, all NWS satellite-based warnings and forecasts will be impacted.

- POES Products and Services: POES products and services contractor support reduced resulting in: 1) a degradation in performance measures for all POES products systems (soundings, SST, radiation, aerosol, ozone, vegetation index, etc.).

Global Winds Demonstration (-$2,311,000): NOAA requests a decrease of -$2,311,000 to eliminate funding of this task.

Global Disaster Information Network (+$5,500,000): NOAA requests an increase of +$5,500,000 to improve public awareness/preparedness of hazardous weather, and develop new techniques for detecting and tracking volcanic ash, and expand the framework of the GDIN. This increase is requested to establish an integrated Global Disaster Information Network (GDIN) to improve all phases of disaster management. The GDIN program will support a multi-agency effort to establish a robust, integrated, disaster information network for cooperative exchange of timely, relevant information that can be used during all phases of disaster management to save lives and reduce economic losses. Funds will be used to improve the organization of and access to disaster information; to enhance coordination among appropriate Federal, other government, and private organizations; to ensure the reliability of Federal intranets and other communications channels during disasters; and to standardize data sets, data access, and data analysis tools. Efforts to achieve these results include adapting appropriate technologies, supporting some research, and development for integrating data among appropriate agencies and stakeholders and disseminating disaster information. Specific GPRA results include evaluating existing capabilities and establishing and integrating Federal "nodes" to enable rapid data exchange among disaster information sources. Federal coordination will be achieved through an integrated program office, composed of representatives from participating agencies. The program office will develop policy and work to integrate information and establish a national disaster information network. A public/private partnership will be established in the development of this information system to involve those who manage or are affected by disasters.

Ocean Remote Sensing (+$15,000): NOAA requests an increase of $15,000 to the Ocean Remote Sensing line this will allow continuation of services at the current level of operations.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
New coastal satellite capabilities added (add'l/satellite/sensors)	0	0	0	0	0
New coastal hazards products/services developed and available	0	0	0	0	0
New coastal hazard types supported	0	0	0	0	0
Number of derived ocean products (AVHRR CoastWatch)	288,000	288,000	288,000	288,000	288,000
Number of global ocean surface winds [millions]	73.4	73.4	73.4	73.4	73.4
Number of RADARSAT ice products	4,000	4,000	4,000	4,000	4,000
Number of ocean color scenes available to CoastWatch Nodes	1,500	1,500	1,500	1,500	1,500

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Satellite Observing Systems	+ $5,833	+ $5,833	+ $5,833	+ $5,833	+ $5,833

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data and Information Service
Subactivity: Satellite Observing Systems

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	0
25.3	Purchase of goods and services from Government accounts	5,833
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	5,833

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data and Information Service
Subactivity: Environmental Data Management Systems

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Data and Information Services	Pos./BA	277	51,477	277	52,363	277	53,296	277	44,789	0	(8,507)
	FTE/OBL.	270	52,791	275	52,704	275		275		0	
Total	Pos./BA	277	51,477	277	52,363	277	53,296	277	44,789	0	(8,507)
	FTE/OBL.*	270	52,791	275	52,704	275		275		0	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **National Environmental Satellite, Data, and Information Service**
Subactivity: **Environmental Data Management Systems**

Goal Statement

The goals of the Environmental Data Management System (EDMS) subactivity are to provide worldwide environmental data and information products and services in the atmospheric, marine, solid earth, and solar-terrestrial sciences to meet the needs of users in commerce, industry, agriculture, science and engineering, the general public, and Federal, state, and local agencies. These products and services are used in decisions critical to the following: national economy; national defense; industrial productivity; energy development and distribution; world food supplies; public health, safety, and welfare; and development of natural resources. Environmental data management is becoming increasingly important due to the growing national and international focus on understanding the processes of global climate change. Programs in this subactivity support all of the Strategic Plan's Environmental Assessment and Prediction mission goals and the Build Sustainable Fisheries, Recover Protected Species and Coastal Ecosystems Health goals of the Environmental Stewardship mission.

Proposed Legislation

No new legislation is proposed for this subactivity.

Base Program

Environmental Data Management Systems: This subactivity is made up of the following line activities:

Environmental Data Systems Modernization: The operating objectives of this program are to increase productivity and improve support to the national economy, food and energy industries, scientific research, and the military services by improving the quality and accessibility of national environmental data and information files; and to improve environmental data products and services. Key elements of this subactivity are the rescue of critical environmental data that are presently at risk of being lost due to deteriorating storage media, and to develop the systems required to archive data from new NOAA observation systems and make it readily accessible to users.

Data and Information Services: The Environmental Data Management System subactivity includes NOAA-wide data and information services that include the NOAA data centers and other repositories of environmental data and information located throughout NOAA. The three NOAA data centers are: the National Climatic Data Center (NCDC) in Asheville, N.C.; the National Oceanographic Data Center (NODC) in Silver Spring, M.D.; and the National Geophysical Data Center (NGDC) in Boulder, Colorado. This line item also includes the NOAA library system. The library system, managed by NODC, includes a central library in Silver Spring, Maryland and branches in Seattle, Washington and Miami, Florida.

NOAA collects global environmental data about the oceans, earth, atmosphere, and the sun for use in NOAA activities to investigate, describe, and predict environmental conditions. Other domestic and foreign agencies, organizations, and individuals also collect data for their own environmental activities. After the data have been used for short-term purposes, selected data from these sources are obtained by NOAA, processed, and managed in the national environmental databases. The data are used in numerous applications in industry, agriculture, business, law, science, engineering, and academic research, as well as by Federal, state, and local government agencies and by the general public. Maintaining a national environmental database ensures that the large investment made to collect global data continues to pay off by providing information for decision-making in climate sensitive industries, marine resource management, policy planning, education, and science.

Climate Data Services: The National Climatic Data Center (NCDC), located in Asheville, NC, archives billions of meteorological observations and 700 terabytes of digital data, making it the world's largest climate data center. NCDC provides full data management functions, as it receives, processes, archives, and disseminates surface, marine, upper air, radar, solar radiation, and satellite-derived data obtained from the National Weather Service (NWS), the Federal Aviation Administration, NOAA satellites, the Department of Defense, and other national and international sources. Using the Internet, NCDC has provided users (national and international) computer-to-computer access to NOAA's environmental data. Internet users can browse, visualize, and download data to their own computers.

NCDC is handling the influx of new data streams made available under the NWS modernization. GOES I-M satellites, Automated Surface Observing System (ASOS), and the Next Generation Weather Radar (NEXRAD) systems. ASOS and GOES data are ingested in near real-time using new computer processing/quality control systems and telecommunications to keep pace with the modernization and provide timely customer service. This includes on-line delivery of data and station history information. Archived data are maintained in a variety of media including digital, analog, microform, photographic imagery, and manuscript forms. Collected continually over long periods (in some instances for over 100 years), the data assist in climate network monitoring and in detecting climate variability and trends. NCDC operates the World Data Center-A discipline center for meteorology and, through close coordination with the World Meteorological Organization and individual countries, gains access to worldwide climatic data.

NCDC provides data and information products to a large and diverse community (over one million requests per year), including climate researchers, engineers, agribusiness, planners, attorneys, government agencies, and the general public. For the climatological community, NCDC publishes several monthly publications that directly support its mission of describing the climate of the United States. (Over 1.4 million copies are distributed each year.)

In addition to providing customized services to answer specific needs, NCDC prepares and publishes climate information summaries to improve public health and safety, improve productivity, and to generally improve the U.S. competitive edge through informed decision-making. Economic sectors benefitting from NCDC's data include such diverse elements as energy development, energy conservation, power production, food production, human health, construction design and scheduling, air pollution control, and the transportation industry. NCDC also performs climatic applications studies for other government agencies including NASA, EPA, DOD, and DOE.

Ocean Data Services: The National Oceanographic Data Center (NODC) in Silver Spring, MD, maintains the world's largest collection of publically-available oceanographic information. Holdings include hundreds of millions of records gathered from ocean observation programs conducted throughout the world over the past 150 years. These data document the ocean's physical and chemical properties, currents, weather and biota as observed from ships, buoys and satellites. In addition to archiving and providing public access to data from U.S. sources, NODC operates the World Data Center-A for Oceanography providing access to the oceanographic holdings of other nations.

Public access to these holdings is provided through the Internet and a variety of atlases, analyses and technical reports published in both paper and CD-ROM media. Typical of these are the World Ocean Database and Atlas products which are updated periodically with new data holdings. Others include special topic data sets compiled in CD-ROM format such as the Marine Environmental Buoy Database, the Atlas of Surface Marine Data, and the World Ocean Circulation Experiment (WOCE) Data Set to name a few. Custom compilations of specific data sets also are provided on request for the cost of compilation. Users of NODC services (over 250,000 per year) include ocean researchers within NOAA, other agencies and academia; environmental program managers; educators and maritime industries.

NODC also operates the nucleus of the NOAA Library and Information System. This nucleus consists of the Central Library in Silver Spring, Maryland, the Seattle Regional Library, and the Miami Regional Libraries. The Central Library houses NOAA's historic collection and provides up-to-date scientific information from published sources to support NOAA employees and the public in working toward the agency's strategic goals and initiatives. The collection consists of more than 1.5 million volumes and thousands of visual images on topics related to NOAA's diverse missions. Access to the library collection and information services is available through the World Wide Web (WWW). This Internet service routinely handles over 250,000 queries per month. The Central Library extends accessibility to information and data by cooperating with 25 field libraries operated by other NOAA offices. In addition to NOAA employees, library users include national and international scientists, policy-makers, educators, private businesses and the general public. Approximately 50,000 reference actions are handled by the libraries; staff each year.

Geophysical Data Services: The National Geophysical Data Center (NGDC) in Boulder, Colorado, compiles, archives, and disseminates a wide variety of scientific data ranging from the Earth's interior; the land surface of the sun, including the land surface and ocean floor; snow cover and ice extent; the upper atmosphere; past climates; the space environment; and solar activity. Disciplines covered include natural hazards (tsunamis, volcanoes, and earthquakes), studies of the Earth's magnetic and gravity fields, topographic and ecosystems, marine geology and geophysics, glaciology, paleoclimatology, upper atmospheric physics, and space and solar environment. Data are acquired through formal and informal arrangements with other government agencies, universities, and many foreign sources. NGDC is the digital archives for the Department of Defense - Defense Meteorological

Satellite Program (DMSP). Five of the current thirteen World Data Centers A are located in Boulder. NGDC operates the discipline centers for Solar-Terrestrial Physics, Marine Geology and Geophysics, Solid Earth Geophysics, and Paleoclimatology.

Data holdings consist of several hundred data bases of various sizes. Holdings include over 65 million ionograms; over 2.5 million magnetograms; marine geophysical data collected over 15 million miles of ship tracks by research vessels; aeromagnetic data collected over 12 million flight miles; and numerous unique national and global data collections. Over 14 terabytes of satellite imagery are available and access provided to browse imagery via the world wide web and internet. Selected data are routinely exchanged with World Data Centers B in Russia, C in Europe and Japan, and D in China.

NGDC publishes the monthly periodical "Solar Geophysical Data", which provides detailed information on solar activity and its effect on Earth to the Worldwide research community. It also publishes a wide variety of special reports, summaries, listings, and announcements of new data acquisitions. NGDC provides various customized services to meet specific user needs in both the research community and the private sector.

NGDC serves a diverse community of over 850,000 users receive services each year. They range from scientists and engineers in the research community and the private sector, to Federal, state, and local government agencies and the general public. Particular emphasis is placed on providing data to the earth science research community to support research in global change, resource exploration, and basic science.

National Coastal Ocean Data Development Center: The National Coastal Ocean Data Development Center in Mississippi will be established at the Stennis Center complex with a target for completion by the end of FY 2000. The efforts in FY 2000 will focus upon developing an integrated approach for data management and stewardship of coastal data sets. Partnerships with the University community, stae and local governments and with the NOAA's Coastal Services Center in Charleston, South Carolina, and the National Oceanographic Data Center in Silver Spring, MD, will be established to enable a synergistic approach to the important task of managing the diverse data sets by coastal resource managers and other constituents. By the end of FY 2000, NOAA will have defined the mission and activities of the National Coastal Ocean Data Development Center.

Regional Climate Centers: The six Regional Climate Centers (RCC), part of the national, regional, and state climate services partnership, perform a variety of applied climate functions. The RCCs carry out region specific user service activities through direct user contact and the provision of on-line data and information. These climate related activities include: extreme weather events, e.g., droughts, floods, blizzards, cold/hot spells, ice storms, etc. They archive climate data from a variety of regional and state observational networks and monitor climate anomalies within their regions. To meet the ever growing needs of decision makers, the RCCs conduct applied research to develop new climate information methodologies.

Number of:				
Database records maintained (billions of bytes)	625,088	813,951	942,700	942,700
Records added (billions of bytes)	219,234	188,863	188,863	188,863
Records converted (millions of bytes)	336,124	821,369	902,416	902,342
Public user requests processed (millions)	3.1	4.0	4.6	5.3
Scientific and academic requests processed (thousands)	465	600	690	795
Library volumes maintained	1,700	1,723	1,726	1,752
Library volumes added	23	23	23	23
Bibliographic citations (thousands)	7,038	7,179	7,323	7,470
Public user requests for library information	16,600	17,000	17,200	17,200
Scientific and academic user requests for library information	33,200	33,400	33,500	33,500

CHANGES FOR 2001

(Dollar amounts in thousands)

	2001 Base		2001 Estimate		Increase/(Decrease)	
	Personnel	Amount	Personnel	Amount	Personnel	Amount
Environmental Data Management Systems	275	$53,296	275	$44,789	0	-$8,507

Environmental Data Management Systems (0 FTE, -$8,507,000): The net change to this subactivity is -$8,507,000.

Data and Information Services (0 FTE -$6,012,000): NOAA requests a net decrease of 0 FTE and -$6,012,000 for the below listed changes to this line item:

Base Reallocation (+$1,913,000): NOAA requests $1,913,000 to continue the funding of the data and information activities to include: increasing the Data Centers capacity to ingest, process and archive data; continue the rescue of valuable environmental data; and continue the modernization effort for the cooperative network.

Climate Data Base Modernization and Utilization (-$4,229,000): NOAA requests a decrease of -$4,229,000 to reduce funding for this task which was funded in the FY 2000 Appropriation. This reduction allows for a balance of $5,200,000 to continue the Climate Data Base Modernization and Utilization program to include, but not to be limited, to key entry of valuable climate records, and archive services, and data base development, with special emphasis on, on-line services.

National Coastal Ocean Data Development Center (-$3,698,000): NOAA requests a decrease of -$-3,698,000 to eliminate funding of this task.

Environmental Data Systems Modernization (+47,000): NOAA requests an increase of $47,000 to the Environmental Data Systems Modernization line. This will allow continuation of services at the current level of operations.

Regional Climate Centers (-$2,542,000): NOAA requests a decrease of -$2,542,000 to eliminate funding of this task which was funded in the FY 2000 Appropriation. This activity can, and should be provided by the private sector.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Database records maintained (billions of bytes)	1,146,979	1,548,288	2,222,627	3,162,996	4,332,396
Records added (billions of bytes)	204,279	401,309	674,339	940,369	1,169,400
Records converted (millions of bytes)	902,342	902,268	852,500	852,750	853,000
Public user requests processed (millions)	5.3	6.1	7.0	8.1	9.3
Scientific and academic requests processed (thousands)	795	915	1,050	1,215	1,395
Library volumes maintained	1,752	1,785	1,818	1.851	1,884
Library volumes added	23	23	23	23	23
Bibliographic citations (thousands)	7,470	7,620	7,773	7,893	8,052
Public user requests for library information	17,200	17,200	17,200	17,200	17,200
Scientific and academic user requests for library information	33,500	33,500	33,500	33,500	33,500

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Environmental Data Management Systems	-$8,507	-$8,507	-$8,507	-$8,507	-$8,507

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data and Information Service
Subactivity: Environmental Data Management Systems

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	(8,507)
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(8,507)

PROGRAM SUPPORT
STRATEGIC PLANNING GOALS AND OBJECTIVE

The Program Support activity provides support to all of NOAA's Strategic Planning Goals. Below is a brief characterization of Program Support activities in the context of these Goals.

GOAL - ADVANCE SHORT TERM WARNINGS AND FORECASTS

Program Support funds NOAA's executive management as well as administrative services such as procurement, grants and personnel management. Aircraft Services provide observation and data collection platforms in support of strengthening NOAA's environmental observing and prediction systems.

GOAL - IMPLEMENT SEASONAL TO INTERANNUAL CLIMATE FORECASTS

Program Support funds NOAA's executive management as well as administrative services such as procurement, grants and personnel management.

GOAL - PREDICT AND ASSESS DECADAL-TO-CENTENNIAL CHANGE

Program Support funds NOAA's executive management as well as administrative services such as procurement, grants and personnel management. Aircraft Services provide observation and data collection platforms in support of anticipatory research on climate and global change as well as health of the atmosphere.

GOAL - PROMOTE SAFE NAVIGATION

Program Support funds NOAA's executive management as well as administrative services such as procurement, grants and personnel management. Aircraft Services provide observation and data collection platforms in support of enhancing navigation products and services.

GOAL - BUILD SUSTAINABLE U.S. FISHERIES

Program Support funds NOAA's executive management as well as administrative services such as procurement, grants and personnel management.

GOAL - RECOVER PROTECTED SPECIES

Program Support funds NOAA's executive management as well as administrative services such as procurement, grants and personnel management.

GOAL - SUSTAIN HEALTHY COASTS

Program Support funds NOAA's executive management as well as administrative services such as procurement, grants and personnel management.

Program Support
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Advance Short-Term Warning and Forecast Services										
Suistain NWS Modernization	9	700	9	709						
Enhance Observations & Predictions	60	6,453	64	7,611	76	7,790	76	7,820		30
Infrastructure	621	33,194	621	31,750	609	30,190	609	34,983		4,793
Total ASTWFS	**690**	**40,347**	**694**	**40,070**	**685**	**37,980**	**685**	**42,803**		**4,823**
Implement Seasonal to Interannual Climate Forecast										
Implement Prediction Systems		150		107		109		109		
Infrastructure	54	2,902	54	2,776	53	2,640	54	6,937	1	4,297
Total ISICF	**54**	**3,052**	**54**	**2,883**	**53**	**2,749**	**54**	**7,046**	**1**	**4,297**
Predict and Assess Decadal-to-Centennial Change										
Provide Prediction, Assessment, & Human Impact Info.	1	1,608	1	1,608	20	1,645	20	1,651		6
Infrastructure	54	2,851	54	2,727	53	2,593	53	2,640		47
Total PADCC	**55**	**4,459**	**55**	**4,335**	**73**	**4,238**	**73**	**4,291**		**53**
Promote Safe Navigation										
Update Nautical Surveys	25	1,211	25	1,179	15	1,206	15	1,211		5
Infrastructure	44	2,321	44	2,220	43	2,111	43	2,149		38
Total PSN	**69**	**3,532**	**69**	**3,399**	**58**	**3,317**	**58**	**3,360**		**43**
Build Sustainable Fisheries										
Infrastructure	196	10,374	196	9,923	192	9,436	193	13,855	1	4,419
Total BSF	**196**	**10,374**	**196**	**9,923**	**192**	**9,436**	**193**	**13,855**	**1**	**4,419**
Recover Protected Species										
Assess Status and Impacts	20	150								
Infrastructure	21	1,184	21	1,132	21	1,076	21	1,095		19
Maintain Healthy Species & Ecosystems			20	107		109		109		
Total RPS	**41**	**1,334**	**41**	**1,239**	**21**	**1,185**	**21**	**1,204**		**19**

Sustain Healthy Coasts										
Protect, conserve and restore habitats		928		107		109		109		
Infrastructure	97	5,224	97	4,997	95	4,752	96	9,087	1	4,335
Total SHC	**97**	**6,152**	**97**	**5,104**	**95**	**4,861**	**96**	**9,196**	**1**	**4,335**
Infrastructure										
Administration				(4,656)	9		9			
Total Infra				**(4,656)**	**9**		**9**			
Total for Prog Sup	**1,202**	**69,250**	**1,206**	**62,297**	**1,186**	**63,766**	**1,189**	**81,755**	**3**	**17,989**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Program Support
Subactivity: Administration and Services

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Executive Direction and Administration	Pos./BA	309	20,918	309	20,022	309	20,520	309	20,614	0	94
	FTE/OBL.	296	20,162	301	20,151	301		301		0	
Central Administrative Support	Pos./BA	800	31,814	800	36,212	800	32,278	804	50,132	4	17,854
	FTE/OBL.	727	31,850	795	36,212	774		777		3	
Retired Pay Benefits to Commissioned Officers	Pos./BA	0	7,000	0	0	0	0	0	0	0	0
	FTE/OBL.	0	12,642	0	8	0		0		0	
Total	Pos./BA	1,109	59,732	1,109	56,234	1,109	52,798	1,113	70,746	4	17,948
	FTE/OBL.*	1,023	64,654	1,096	56,371	1,075		1,078		3	

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Program Support**
Subactivity: **Administration and Services**

Goal Statement

The goal of the administration and services subactivity is to support NOAA and DOC programs and missions through executive direction for the implementation of agency policies; develop and acquire major support systems; and provide administrative, budget, finance, legal, and public relations services. Programs in this subactivity support all of the Strategic Plan's goals.

Proposed Legislation

No legislation is proposed.

Base Program

Executive Direction: The objectives of this line item are to provide centralized executive management and decisions concerning NOAA policy and planning objectives; development and acquisition of major NOAA modernization systems; individual program operations; budget priorities; financial management; statutory and other legal requirements; congressional relations; and public and educational affairs; and strategic planning.

This line item provides funding for the Under Secretary and NOAA-level staff offices within the Office of the Administrator which provide executive direction and support for the operational programs. Located in the Department of Commerce headquarters in Washington, D.C., those offices include:

Under Secretary and Administrator
Assistant Secretary and Deputy Administrator
Deputy Under Secretary
Chief Scientist
General Counsel

Naval Deputy
Budget and Finance(Acctg.) portion of Office of Finance and Administration(OFA)
Legislative Affairs
Public and Constituent Affairs
Systems Acquisition Office
Sustainable Development
Policy and Strategic Planning

Central Administrative Support: The objective of this line item is to provide timely, high quality, cost-effective administrative support to all of NOAA and to the Department of Commerce programs in the field, while ensuring all laws, regulations and guidelines are followed.

This line item includes funding for NOAA's overall management of personnel, acquisition and grants, finance, facilities and logistics, and information technology systems. In addition, it includes funding for NOAA's share of the operation of the four field Administrative Support Centers (ASCs), and the headquarters administrative support operations. NOAA's Office of Finance and Administration structure is:

Office of Director of Finance and Administration located in Washington, D.C.

Headquarters Offices -
- Human Resources Management Office located in Silver Spring, Maryland
- Civil Rights Staff located in Silver Spring, Maryland
- Diversity Program Office located in Silver Spring, Maryland
- Acquisition & Grants located in Silver Spring, Maryland
- Facilities Services Office located in Silver Spring, Maryland
- Information Systems Office located in Silver Spring, Maryland
- Finance Office located in Germantown, Maryland

Field Offices -
- Eastern Administrative Support Center located at Norfolk, Virginia
- Central Administrative Support Center located at Kansas City, Missouri
- Mountain Administrative Support Center located at Boulder, Colorado
- Western Administrative Support Center located at Seattle, Washington
- (Each field office includes the services listed in the following section)

Below is a summary of the services provided to NOAA and all DOC field organizations:

- Personnel - includes all personnel functions, including classification and hiring, maintenance of personnel files, position review, labor management relations, employee counseling, and separation and retirement processing.

- Acquisition and Grants - includes processing of all contracts and purchase orders and performing all other associated procurement functions. Grants and cooperative agreements are handled for all of NOAA.

- Facilities and Logistics - includes management of real property and space utilization, safety, security services, personal property, transportation of goods, telecommunications and printing, environmental compliance, and engineering services.

- Finance - provides planning, design, and coordination on financial operations for NOAA-wide application, including financial accounting policy and procedures as well as administrative payments for DOC bureaus.

- Systems Support - includes, for NOAA only, the bureau-level Information Technology Management, operations and maintenance of NOAA resource management systems including the NOAA accounting system and financial management information, and overall network\telecommunications management.

- Site Specific Services - several OFA Offices(Headquarters/field) provide unique services to their clients including a research library, warehousing, guard and custodial services and health units.

The administrative functions funded in this line item are critical to each program in NOAA and the programs conducted by other Department of Commerce offices in the field. In addition to providing timely, quality administrative support, the Office of Finance and Administration also has the responsibility to ensure that their actions comply with all laws, regulations and guidelines. The organization is under continual pressure from the client organizations to continue to improve services and hold costs down, while being pressed for tighter controls on the processes. The NOAA ASCs also provide a wide range of administrative services to other bureaus. An annual billing process provides the mechanism to distribute the costs of these operations.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Lead time in days to process requisitions (over $100K)	114	118	123	128
# of days to process travel vouchers	10	10	5	4
Interest ($) paid to vendors for late payments ($ 000)	333	180	223	300
# of Outstanding Audit Recommendation	162	64	35	75
# of days to process collections	5	8	8	8
Avg. # of days to process grants (in Grants Management Division)	57	67	70	75

Retired Pay/Benefits for Commissioned Officers:

Payments for Retired Pay for Commissioned Officers are mandated as an entitlement under 33 U.S.C. 853o, 33 U.S.C. 853p, and 33 U.S.C. 857-2**.** No further discretionary funding for this line item will be included in Program Support.

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Administration and Services	POS/BA	1,075	$52,798	1,078	$70,746	3	$17,948
	FTE/Obl						

The changes in this subactivity total 3 FTE and $17,948,000. The individual increases are described below by line item:

Executive Direction and Administration (+0 FTE, +$94,000): NOAA requests an increase of $94,000 to address funding shortfalls resulting from pay-related adjustments-to-base. The EXAD budget is labor intensive. These funds are essential if NOAA is to continue to provide centralized executive management and decisions concerning policy and planning objectives; development and acquisition of major NOAA systems; statutory and other legal requirements; congressional relations; public and educational affairs; and strategic planning.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Executive Direction and Administration	+$94	+$94	+$94	+$94	+$94

Central Administrative Support (+0 FTE, +$854,000): NOAA requests an increase of $854,000 to continue supporting the offices that provide for NOAA's overall management of personnel, acquisition and grants, finance, facilities and logistics, and information technology systems as well as the four field Administrative Support Centers (ASCs) and the headquarters administrative support operations. These offices have had to take temporary “belt-tightening” measures such as stretching equipment replacement schedules, reducing training, and lapsing replacement personnel, or maintaining vacancies. Continuation of these restrictive measures will result in disruptions in the provision of administrative support to all of NOAA and to the Department of Commerce programs in the field. In addition, NOAA requests Congress reconsider the $0.73 million in pay-related adjustments-to-base denied in the FY 2000 Appropriation.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Lead time in days to process requisitions (over $100K)	118	116	116	116	116
# of days to process travel vouchers	4	4	2	2	2
Interest ($) paid to vendors for late payments ($ 000) .	200	175	150	125	100
# of Outstanding Audit Recommendation	25	15	10	10	10
# of days to process collections	4	4	2	2	2
Avg. # of days to process grants (in Grants Management Division)	60	60	60	60	60

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Central Administrative Support	+ $854	+ $854	+ $854	+ $854	+ $854

Support for Minority Serving Institutions (formerly HBCU) (+ 3 FTE, + $17,000,000): NOAA requests an increase of $17,000,000 and three FTEs to develop a Minority Serving Institution Education Initiative aimed at building capacity at minority serving institutions (MSIs). The purpose of the program is to increase the number of minorities that graduate and receive training in the natural and social sciences as they relate to atmospheric, environmental and oceanic sciences (AEOS). This initiative will cut across all of the NOAA strategic themes and help to train more students at targeted institutions to create a more representative workforce in the scientific and social sciences related areas integral to NOAA's mission. To date, NOAA's

support (e.g., infrastructural development, research funding, collaborative partnerships) for minority serving institutions has been disproportionally low. This program is aimed at increasing overall AEOS program capacity within the MSI community.

Background: The number of minorities graduating with science and engineering degrees continues to be disturbingly low based on statistics from the National Science Foundation. Data on Ph.D.'s awarded to minorities in 1997 illustrate that of the 600 Ph.D.s awarded in Earth, Atmospheric and Marine Sciences only 9 degrees were awarded to African Americans, 15 to Hispanics (including Puerto Rican and Mexican Americans) and 2 to Native Americans. Since approximately 40% of minorities receive their undergraduate degrees at MSIs, the challenge faced by the MSI community, therefore, is to establish strong research and training programs, including graduate degree granting programs, in AEOS at their campuses. This initiative is aimed at establishing new programs in collaboration with MSIs to increase the number of graduates with AEOS degrees and to provide NOAA with an opportunity to broaden its science and technology capability within all U.S. communities.

Proposed Actions: NOAA will significantly increase its relationship with Minority Serving Institutions - including Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions, and Tribal Colleges and Universities, as well as other institutions that have a successful record in producing African American, Hispanic and Native American scientists in NOAA's targeted science areas. This effort expands upon partnerships established with an HBCU Consortium which was established to build capacity and increase the number of graduates in AEOS.

There are four core components of this initiative. They are: 1) Creation of three *Cooperative Science Centers*, one each in ocean, atmospheric and environmental sciences. These Centers will represent the earth systems sciences component of the larger Department of Commerce Center of Excellence Initiative. The Science Centers will include collaborative research activities in AEOS, establishment of a distinguished faculty position to direct activities at the centers, faculty/staff exchanges, and creation of an electronic linkage among participating MSIs to support distance learning capabilities; 2) the *Graduate Scientist Program* will focus on recruitment of minorities and provide funding for full-time academic training in AEOS; 3) the *Environmental Entrepreneurship Program* will provide funds to MSIs to support research for sustainable management in natural resource depleted environments. The program will seek to collaborate with other bureaus of DOC such as EDA and will encourage community participation as a key component of its project support; and, 4) the *Student Fellowship Program*, a component of the larger Department of Commerce Student Fellowship Program, will target MSI students in their junior year who have an interest in AEOS. The program will provide scholarships during the junior and senior years to students who make a commitment to obtain degrees in the natural resources science and related management fields. Internships will be available at NOAA during their Junior and Senior academic breaks.

Funds budgeted for each component includes grants, program administration and other overhead costs.

Benefits: (1) Build capacity at institutions with a track record of training minority scientists, engineers and social scientists in atmospheric, oceanic, environmental sciences and management.
(2) Increase the number of minority graduates with degrees in NOAA's targeted areas.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Number of students *graduated* with advanced degrees from the **Cooperative Science Centers** funded at minority serving institutions, in AEOS	30	30	30	30	30
Number of minority students and staff supported in the **Graduate Scientists Program, Student Fellowship Program, the Environmental Entrepreneurship Program and through faculty/staff exchanges** . .	90	90	90	90	90

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Minority Serving Institutions	+ $17,000	+ $17,000	+ $17,000	+ $17,000	+ $17,000

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Program Support
Subactivity: Administration and Services

Title:		Grade	Number	Annual Salary	Total Salaries
Education Outreach Specialist	Silver Spring, MD	GS-14	1	68,570	68,570
Program Analyst	Silver Spring, MD	GS-12	1	48,796	48,796
Program Analyst	Silver Spring, MD	GS-9	2	33,650	67,300
Total full-time permanent (FTE)			4		184,666
FY 2000 Pay Adjustment (25 % lapse)			(1)		(46,167)
2001 Pay Adjustment (3.7%)					6,833
Total			3		145,332

Personnel Data

Full-Time Equivalent Employment	
Full-time permanent	3
Other than full-time permanent	0
Total	3
Authorized Positions:	
Full-time permanent	4
Other than full-time permanent	0
Total	4

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research, and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Program Support**
Subactivity: **Administration and Services**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	145
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	145
12.1	Civilian personnel benefits	36
13	Benefits for former personnel	0
21	Travel and transportation of persons	140
22	Transportation of things	1
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	2
24	Printing and reproduction	27
25.1	Consulting services	0
25.2	Other services	115
25.5	R&D contracts	0
26	Supplies and materials	260
31	Equipment	474
32	Lands and structures	15
33	Investments and loans	0
41	Grants, subsidies and contributions	16,733
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	17,948

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Program Support
Subactivity: Aircraft Services

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Aircraft Services	Pos./BA	107	10,779	112	10,719	112	10,968	112	11,009	0	41
	FTE/OBL.	101	10,927	110	10,719	111		111		0	
Total	Pos./BA	107	10,779	112	10,719	112	10,968	112	11,009	0	41
	FTE/OBL.*	101	10,927	110	10,719	111		111		0	

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Program Support**
Subactivity: **Aircraft Services**

Goal Statement

The goal of this subactivity is to ensure safe and timely operation of aircraft equipped with modern scientific instrumentation to conduct NOAA missions supporting the Department's goal of balanced management of the oceanic and atmospheric environment.

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

Aircraft Operations and Maintenance: The objectives of this line item are: (1) to ensure the operational readiness and to enhance capabilities of NOAA's uniquely configured aircraft and highly skilled personnel to perform missions which directly support NOAA's responsibilities of providing timely and accurate storm and weather warning and forecasts; accurate charts for safe navigation; providing effective stewardship of living marine resources -- and, often in cooperation with other agencies and institutions, conducting studies which increase our understanding of ocean and atmosphere processes and the effects of pollution on habitats, air and ocean quality, and climate change; (2) to provide centralized management and coordination, scheduling, repair, maintenance, labor relations, operations procedures, training, and engineering to operate a fleet of 14 aircraft; (3) to provide fuel, operating supplies, personnel, flight equipment, sensor packages, communications, and navigation equipment to meet user requirements and schedules; (4) to design, develop and engineer aircraft systems and modifications to ensure cost-effective operations; (5) meet safety/legal regulations for aircraft and their operation; and (6) provide training to pilots/navigators to meet proficiency requirements and ensure safety of passengers and property.

The Office of Marine and Aviation Operations, Aircraft Operations Center (AOC) at MacDill Air Force Base, Tampa, FL manages the 14 NOAA aircraft, composed of 2 heavy aircraft, 1 mid-sized jet, 8 light aircraft, and 3 helicopters which are deployed on world-wide operations, and based out

of 4 major locations in the United States. The Office of Marine and Aviation Operations is headquartered in Silver Spring, MD, and provides oversight and policy direction.

AOC provides support for NOAA's top priority programs as follows:

Climate and Global Change and Atmospheric Research - These programs are supported by NOAA's two fully instrumented WP-3D aircraft. The P-3's are the most sophisticated meteorological research platforms in the world. The aircraft research and navigation systems provide detailed spatial and temporal observations of a wide range of atmospheric and oceanic parameters in support of climate and global change, severe weather research, ocean and great lakes programs, air quality, air/sea interaction, and ocean dynamics. The Gulfstream IV jet provides the capability to conduct high altitude research, both for air sampling and investigations of mesoscale features in support of improved severe weather predictions. AOC develops and calibrates specialized instrumentation, integrates user-supplied instruments into the automated systems, and processes and analyzes data sets obtained from various field programs.

Hurricane Reconnaissance - NOAA P-3 aircraft provide high density/accuracy hurricane data to the National Hurricane Center in near real-time. Storm data are transmitted via the aircraft satellite data link to upgrade forecasting models of hurricane tracking/intensity. Because of this capability, the AOC provides reconnaissance for hurricanes within 24 hours of landfall on the United States and its territories. Additionally, the AOC augments reconnaissance by DOD aircraft on developing tropical storms and provides hurricane reconnaissance over foreign airspace where military aircraft may be prohibited. NOAA’s Gulfstream IV jet provides high altitude hurricane surveillance and limited research. Data from this platform provide significant improvements in the accuracy of hurricane forecasts.

Air Quality Research Program - One Twin Otter and one P-3 are instrumented to perform meteorological flux and air chemistry studies for OAR including research to measure, understand, and model the physical, chemical and dynamic processes of the lower atmosphere. This study includes the possible effects of the introduction of man-made pollutants. The Citation II provides the capability for mid-high altitude atmospheric research. The Gulfstream IV jet provides a long-range, high capacity platform capable of research in the upper troposphere.

Nautical Charting Operations - The Citation II jet and Turbo Commander, both camera equipped, support specialized aerial surveys and provide aerial photographs for the production of shoreline maps, shoreline revision data, nearshore bathymetric data for nautical charts, geodetic control establishment and storm evacuation routes; to position landmarks and aids to navigation; and to support other NOAA activities such as natural disaster damage assessment. These aircraft also serve as testbeds for a multi-spectral scanner for coastal mapping, HAZMAT, and have potential use for other NOAA missions.

Snow Survey Program - AOC provides support to the Airborne Snow Survey Program to obtain soil moisture and snow water equivalent data from a network of flight lines. Data is provided to the National Weather Service (NWS) River Forecast Centers in Kansas City and Minneapolis, for use in issuing river and flood forecasts as part of the NWS Hydrologic Service Program. A Shrike and the Turbo Commander support this program.

000Aerial Surveys - The Twin Otters, MD-500D helicopter, and the Lake Seawolf, support NMFS aerial surveys for marine mammals, endangered species, and other fisheries. These aircraft provide the capability for surveillance, enforcement operations, and quick response in support of the NOAA HAZMAT group. The Twin Otters are also supporting various remote sensing systems which can map coastal topography and monitor coastal waters for chlorophyll, salinity, and turbidity.

Helicopter Support - NOAA programs require the use of several different types of helicopters, 2 Bell 212 twin-engine helicopters and 1 small single engine MD-500D helicopter to support NOS, HAZMAT, OAR, and NMFS Programs. There is a wide variety of requirements including: aerial surveys, hydrographic, tide and oceanographic observations in the Arctic, tropical and remote locations; collection of biological, geological, and oceanographic specimens and samples; marine law and sanctuary enforcement; transportation to otherwise inaccessible areas to perform logistics functions; and shipboard operations in the Antarctic and Arctic for the safety of the ship, scientific investigations or logistics.

The following table provides information on the aircraft fleet and crew for the current base program (missions and support fluctuate based on NOAA priorities):

Aircraft	Type	Year Manufactured	Crew/ Passenger	Primary Mission/ Configuration	Crew Duty-station	Aircraft Base
HEAVY:						
(2) Lockheed WP-3D	4 engine turbo prop	1975/1976	10/7	Atmospheric Research (OAR) Reconnaissance (NWS)	Tampa, FL	MacDill AFB
MID:						
(1) Gulfstream G-IVSP	2 engine turbo jet	1994	9/3	Hurricane Surveillance/ Reconnaissance (NWS)	Tampa, FL	MacDill AFB
LIGHT:						
(2) Dehavilland Twin Otter DH6	2 engine turbo prop	1980/1981	2/6	Aerial Surveys (NMFS)	Tampa, FL	MacDill AFB
Lake Seawolf Amphibian	1 engine reciprocating	1991	1/3	Aerial Surveys/training (NMFS, NOS)	Tampa, FL	MacDill AFB
Lake Seawolf Amphibian	1 engine reciprocating	1991	1/3	Aerial Surveys/training (Sanctuary Support)	Monterey, CA	Monterey, CA
Cessna Citation II	2 engine turbo jet	1978	3/1 3/1	Photogrammetry (NOS) & High Altitude Atmos. Research (OAR) & Multi-Spectral Scanner (NOS)	Tampa, FL Silver Spring, MD	MacDill AFB Silver Spring, MD
Rockwell Aero Commander 690A (Turbo Commander)	2 engine turbo prop	1974	2/0 2/1	Photogrammetry (NOS) & Snow Survey (NWS) & Multi-Spectral Scanner(NOS)	Silver Spring, MD	Silver Spring, MD

Aircraft	Type	Year Manufactured	Crew/ Passenger	Primary Mission/ Configuration	Crew Duty-station	Aircraft Base
Rockwell Shrike 500S	2 engine reciprocating	1977	2/0 2/2	Snow Survey (NWS) Flight Edit	Minneapolis, MN Tampa, FL	Flying Cloud Airport, MN MacDill AFB, FL
HELICOPTERS:						
(2) Bell 212	Twin engine helicopter	1979	2/7	Remote over-water operations/ship support/SHOALS, hydrography (NOS, OAR, NMFS)	Tampa, FL	Tampa, FL
McDonnell Douglas 500D	Single engine light helicopter	1979	1/3	Aerial Surveys & Logistics	Tampa, FL	MacDill AFB

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Base funded flight hours allocated by the NOAA Aircraft Allocation Council	1,794	1,794	1,794	1,794
Hours Flown	1,792	1,566		

Note: Flight hours reflect Shrike being transferred to FAA .and approved allocation changes

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Aircraft Services	POS/BA	111	$10,968	111	$11,009	0	$41
	FTE/Obl						

Aircraft Services (+0 FTE, $41,000): NOAA requests a total increase of $41,000 for increased costs of fuel, supplies, and materials.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Aircraft Services	+$41	+$41	+$41	+$41	+$41

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Program Support**
Subactivity: **Aircraft Services**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25	Other services	0
26	Supplies and materials	41
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	41

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Program Support
Subactivity: Rent Savings

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Rent Savings	Pos./BA	0	0	0	(4,656)	0	0	0	0	0	0
	FTE/OBL.	0	0	0	(4,656)	0	0	0	0	0	0
Total	Pos./BA	0	0	0	(4,656)	0	0	0	0	0	0
	FTE/OBL.*	0	0	0	(4,656)					0	

Facilities
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Advance Short-Term Warning and Forecast Services										
Suistain NWS Modernization		3,000								
Infrastructure	4	647	4	1,147	4	1,391	4	1,722		331
Total ASTWFS	**4**	**3,647**	**4**	**1,147**	**4**	**1,391**	**4**	**1,722**		**331**
Implement Seasonal to Interannual Climate Forecast										
Infrastructure		72		128		155		192		37
Total ISICF		**72**		**128**		**155**		**192**		**37**
Predict and Assess Decadal-to-Centennial Change										
Infrastructure		83		147		178		221		43
Total PADCC		**83**		**147**		**178**		**221**		**43**
Promote Safe Navigation										
Infrastructure		68		121		147		182		35
Total PSN		**68**		**121**		**147**		**182**		**35**
Build Sustainable Fisheries										
Infrastructure	8	8,535	8	7,467	8	8,342	8	6,175		(2,167)
Total BSF	**8**	**8,535**	**8**	**7,467**	**8**	**8,342**	**8**	**6,175**		**(2,167)**
Recover Protected Species										
Infrastructure	2	747	2	1,323	2	1,605	2	1,987		382
Total RPS	**2**	**747**	**2**	**1,323**	**2**	**1,605**	**2**	**1,987**		**382**
Sustain Healthy Coasts										
Infrastructure	1	113	1	648	1	786	1	973		187
Total SHC	**1**	**113**	**1**	**648**	**1**	**786**	**1**	**973**		**187**
Infrastructure										
Construction/Facilities/Env. Compliance										
Total Infra										
Total for Fac	**15**	**13,265**	**15**	**10,981**	**15**	**12,604**	**15**	**11,452**		**(1,152)**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Facilities
Subactivity: Facilities

Line Item		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
NOAA-wide Space Planning	Pos./BA	0		0	0	0	0	0	0	0	0
	FTE/OBL.			0		0		0		0	
NOAA Facilities Maintenance	Pos./BA	6	4,353	6	1,802	6	1,925	6	1,941	0	16
	FTE/OBL.	6	2,162	6	3,319	6		6		0	
Sandy Hook lease	Pos./BA	0	2,000	0		0	0	0	0	0	0
	FTE/OBL.	0	2,000	0		0		0		0	
Environmental Compliance	Pos./BA	9	2,421	9	1,992	9	1,992	9	3,899	0	1,907
	FTE/OBL.	9	2,509	9	1,904	9		9		0	
NWS WFO Facilities Maintenance	Pos./BA	0	2,963	0			0		0		0
	FTE/OBL.	0	3,083	0	(21)						
Charleston Fisheries Lab	Pos./BA	0	13,189	0							
	FTE/OBL.	0	12,861	0	3						
NARA Records Management	Pos./BA	0	0	0	0	0	0	0	262	0	262
	FTE/OBL.	0	0	0	0	0		0		0	
Boulder	Pos./BA	0	0	0	3,835	0	5,335	0	5,350	0	15
	FTE/OBL.	0	0	0	3,835	0		0		0	
Newport Marine Science Center	Pos./BA	0	3,790	0	0	0	0	0	0	0	0
	FTE/OBL.	0	7	0	3,783	0		0		0	

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Columbia River Facilities	Pos./BA	0	6,019	0	3,352	0	3,352	0	0	0	(3,352)
	FTE/OBL.	0	5,867	0	4,071	0		0		0	
Total	Pos./BA	15	34,735	15	10,981	15	12,604	15	11,452	0	(1,152)
	FTE/OBL.*	15	28,489	15	16,894	15		15		0	

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition and Construction
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Facilities**
Subactivity: **Facilities**

Goal Statement

To provide for major repairs, building systems replacements, preventive actions, and modifications to existing facilities, and for environmental compliance, safety and health, in the most economical, efficient and effective manner.

Base Program

The FY 2001 request includes funds to provide for NOAA's Environmental Compliance, facilities maintenance and space planning. The objectives of NOAA's Facilities programs are to bring all facilities into legal compliance with applicable laws and regulations, and to bring each facility up to a standard condition, operating at a "steady-state" requiring only normal, regular maintenance and periodic, life-cycle replacement of major building systems and components. These objectives can best be achieved by implementing a Government Performance and Results Act-based management system which can provide a more efficient and consistent level of problem identification and corrective action, identifying projects, eliminating the backlog, and establishing a means by which NOAA maintains its facilities to the standard required to accomplish its mission. Funds for new construction and major capital improvements are requested in the Procurement, Acquisition and Construction Account.

The specific activities funded include:

Facilities Maintenance and Repairs - As the NOAA-owned facilities not associated with the Weather Service Modernization exceeds an average age of 30 years, investment in significant major maintenance, repairs and upgrades becomes increasingly critical. Major systems in many facilities are in imminent danger of failure, or are well past their design life and require maintenance, repair or replacement to ensure that the facilities remain viable in support of NOAA's programs. Additional funds for, major repairs, replacements and renovations is requested in the Procurement Acquisition and Construction account.

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Facilities	POS/BA	15	$12,604	15	$11,452	0	$-1,152
	FTE/Obl						

The net changes in this subactivity are 0 FTE and -1,152,000. The program changes are outlined below.

FACILITIES OPERATIONS:

NOAA Maintenance and Repairs (+ 0 FTE, + $16,000): The requested increase represents a one percent increase in support for this area which has been reduced by 72% from the FY 1994 funding level of $6,500,000. The large majority of maintenance requirements support facilities located in coastal areas frequently exposed to intense erosion resulting from saltwater and sand exposure. Given the advanced aging of NOAA-owned facilities investment in significant major maintenance and repairs becomes increasingly vital.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
NOAA Maintenance and Repairs	+ $16	+ $16	+ $16	+ $16	+ $16

Environmental Compliance and Cleanup (0 FTE, + 1,907,000): NOAA requests an increase of $1,907,000 for the nationwide NOAA Environmental Compliance Program. This increase will fund the large backlog of high risk environmental compliance projects and begin cleanup activity at NOAA facilities being closed.

In recent years, most of NOAA's environmental compliance resources has been diverted to address the Pribilof Islands cleanup; however, the agency's responsibilities for environmental compliance extend to the complete inventory of over 2,000 NOAA facilities nationwide. NOAA's requirements at its laboratories and facilities must be given renewed attention in order to maintain compliance with state and Federal laws.

The NOAA Environmental Compliance Program responds to numerous Federal, state, and local laws and regulations mandating environmentally responsible activity. Comprehensive investigations of NOAA staffed facilities and an aggressive employee training program have helped clearly identify the work necessary to be compliant with applicable laws and regulations which were designed to protect human health and safety and to preserve the environment. NOAA action has already resulted in cost avoidance of over $3,500,000 for potential penalty assessment by the Environmental Protection Agency (EPA) in FY 1996 alone.

Environmental Compliance Projects - The backlog of unfunded NOAA projects ranked 7.0 or higher by EPA's scale for ranking Federal agency environmental compliance projects and activities is $3,400,000. Projects ranked 7.0 or higher address current violations to Federal and state law and have a high potential for risk to human health and the environment. The requested funding is for completing 20 percent of the high-risk projects. At this rate of corrective action, NOAA will take to the year 2005 to eliminate the high risk projects currently identified.

Cleanup - Property transfers are planned at Tiburon, CA; Juneau and Kodiak, AK; Suitland, MD; Sterling, VA; the Pacific Marine Center, WA; and nearly 100 smaller NWS facilities. The General Services Administration will not accept property for reuse without environmental cleanup certification. Additionally, NOAA has no comprehensive assessment of property condition to determine future liabilities. Funding requested is for cleanup of only 10 percent of the identified sites. Transfers of the remaining sites will occur after site cleanup activities have been carried out in future years, with the attendant costs of maintaining old, unoccupied facilities, and delaying the use of these facilities by interested outside parties.

Chemical Information Management System (CIMS) - Over 30 percent of NOAA's staffed facilities manage hazardous materials. The CIMS, a corporate system for all Line and Program Offices, provides an efficient, cost-effective way for every NOAA facility to manage their hazardous materials. A small portion of the funding requested is for managing the corporate program; Line and Program Offices contribute an allocated share per facility.

Training - Audits of NOAA facilities showed the lack of job-specific environmental training to be a major deficiency. Personnel at NOAA facilities are generally unaware of environmental requirements and the appropriate procedures, and since over 30 percent of NOAA's facilities handle hazardous materials, job-specific training is imperative.

Pollution Prevention - Through Executive Order (EO) 12856, NOAA is ordered to comply with EPCRA and the Pollution Prevention Act of 1990. The EO directs each Federal agency to develop a written pollution prevention strategy by Dec. 31, 1995. To date, NOAA has no such policy or program to reduce it's hazardous chemical usage.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
% of Environmental Compliance backlog projects completed:	14	14	15	17	18
% of Facility Closure Activities completed:	20	30	40	50	50

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Environmental Compliance	+ $1,907	+ $1,907	+ $1,907	+ $1,907	+ $1,907

Columbia River Facilities (+ 0 FTE, -$3,352,000): NOAA requests a decrease of $3,352,000 to reflect a funding request in ORF for this activity. This request consolidates all Mitchell Act hatcheries funding within NMFS.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Columbia River Facilities	-$3,352	-$3,352	-$3,352	-$3,352	-$3,352

Boulder Facility Operations (+ 0 FTE, + $15,000): NOAA requests $15,000 to bring the Boulder Facility Operations line back to its previously approved base level. This restoration is important to sustaining the vitality of NOAA's climate and weather research.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Boulder Facility Operations	+ $15	+ $15	+ $15	+ $15	+ $15

NARA Records Management (+ 0 FTE, + $262,000): NOAA requests an increase of $262,000 in FY 2001. This requirement represents a storage cost which the National Archives and Records Administration (NARA) charges for all services provided by the Federal Records Centers.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
NARA Records Management	+ $262	+ $262	+ $262	+ $262	+ $262

Environmental Compliance and Cleanup Programs - The NOAA Environmental Compliance and Cleanup Program encompasses activities necessary to: comply with all existing laws, regulations and safety requirements; identify environmental problems and engage in required cleanup; and provide guidance to NOAA program managers engaged in the receipt, handling, use and disposal of hazardous materials. NOAA is implementing a management system which will increase awareness, provide more consistent compliance at a higher level, maximize economies of scale, produce tailored efforts, and establish guiding principles for the program.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
%of Facilities projects completed:					
Base Increment by year	3.2%	4.8%	4.7%	4.5%	4.5%

1/ Facilities projects are priority-ranked on a scale of 1 to 10 where the highest priority is assigned to correcting or mitigation of immediate threats to health and safety. Only the highest priority facilities projects, those with a ranking of 9 or above, received support in FY 2000.

2/ It is estimated that the facilities project backlog will grow at a rate of about $2.5-3.0 million per year through the year 2000; the Environmental Compliance backlog is expected to grow at a rate of about $1.8 million per year during the same period.

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Facilities**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	20
22	Transportation of things	0
23.1	Rental payments to GSA	15
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	2,165
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	2,200

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Facilities**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	(3,352)
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(3,352)

Fleet Maintenance and Planning
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Implement Seasonal to Interannual Climate Forecast										
Maintain and Improve Observing and Data Delivery Systems	1	542	1	1,372	1	1,376	1	775		(601)
Total ISICF	**1**	**542**	**1**	**1,372**	**1**	**1,376**	**1**	**775**		**(601)**
Predict and Assess Decadal-to-Centennial Change										
Infrastructure	1	542	1	736	1	738	1	415		(323)
Total PADCC	**1**	**542**	**1**	**736**	**1**	**738**	**1**	**415**		**(323)**
Promote Safe Navigation										
Infrastructure	2	1,327	2	2,276	2	2,284	2	1,360		(924)
Total PSN	**2**	**1,327**	**2**	**2,276**	**2**	**2,284**	**2**	**1,360**		**(924)**
Build Sustainable Fisheries										
Infrastructure	5	7,315	5	4,210	5	4,234	5	4,269		35
Total BSF	**5**	**7,315**	**5**	**4,210**	**5**	**4,234**	**5**	**4,269**		**35**
Recover Protected Species										
Infrastructure	2	1,379	2	2,049	2	2,060	2	2,060		
Total RPS	**2**	**1,379**	**2**	**2,049**	**2**	**2,060**	**2**	**2,060**		
Sustain Healthy Coasts										
Promote clean coastal waters	1	495	1	2,262	1	2,264	1	415		(1,849)
Total SHC	**1**	**495**	**1**	**2,262**	**1**	**2,264**	**1**	**415**		**(1,849)**
Total for Fleet	**12**	**11,600**	**12**	**12,905**	**12**	**12,956**	**12**	**9,294**		**(3,662)**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OPERATIONS, RESEARCH, AND FACILITIES
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Fleet Maintenance and Planning
Subactivity:

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Line Item											
Fleet Maintenance and Planning	Pos./BA	12	13,441	12	12,905	12	12,956	12	9,294	0	(3,662)
	FTE/OBL.	12	12,709	12	14,817	12		12		0	0
Total	Pos./BA	12	13,441	12	12,905	12	12,956	12	9,294	0	(3,662)
	FTE/OBL.*	12	12,709	12	14,817	12		12		0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Fleet Maintenance and Planning**
Subactivity: **Fleet Maintenance and Planning**

Goal Statement

The goal of this fund is to maintain NOAA's current fisheries, survey, and oceanographic research ship support capability and to plan for future capability to allow critical data collection requirements to be met effectively well into the 21st century.

Proposed Legislation

No legislation is proposed.

Base Program

Fleet Maintenance and Planning: NOAA's ability to collect data at sea is critical to the agency's missions in mapping and charting, assessment and management of living marine resources, environmental monitoring and oceanographic research. For a significant portion of this data, NOAA must rely on ships which are appropriately designed, equipped and outfitted.

A critical part of NOAA’s ship support capability is maintaining the reliability of the ships in NOAA’s fleet. Adequate maintenance and repair planning must take place if NOAA ships are to meet the rigorous demands placed on them by NOAA users.

In FY 2001 this funding will be used to maintain existing ships to ensure their reliable operation until they can be modernized or replaced. This funding will provide for fleet general maintenance and repair of NOAA ships, development of plans for future ship support, and for continuing major repairs of NOAA’s aging fisheries research vessels.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
New Ships Constructed (Delivered)	0	0	0	0
Ships Converted (Delivered)	1	0	0	0
Ship Repairs (Completed)	1	1	1	0
Ships Maintained	15	15	15	15

CHANGES FOR 2001

(Dollar amounts in thousands)

	2001 Base		2001 Estimate		Increase/(Decrease)	
	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fleet Maintenance and Planning	12	$12,956	12	$9,294	0	($3,662)

Fleet Maintenance and Planning (+ 0 FTE, -$3,662): NOAA requests a total decrease of $3,662. The decrease includes two non-recurring items which are the RAINIER Instrumentation of $924,000 and a NOPP-Related Activities of $2,773,000. Also included is an increase of $35,000 for NOAA ship maintenance. OAR's FY 2001 request includes funding for NOPP.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Fleet Maintenance and Planning	-$3,662	-$3,662	-$3,662	-$3,662	-$3,662

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Operations, Research and Facilities

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Fleet Maintenance and Planning**
Subactivity:

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	(2,773)
24	Printing and reproduction	0
25	Other services	35
26	Supplies and materials	(224)
31	Equipment	
32	Lands and structures	(700)
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(3,662)

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Operation, Research, and Facilities
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001* Request	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent	586,825	616,772	632,286	637,759	5,473
11.3	Other than full-time permanent	10,215	10,325	10,697	10,697	0
11.5	Other personnel compensation	39,007	39,220	39,220	39,283	63
11.8	Special personnel services paymer	651	651	651	651	0
11.9	Total personnel compensation	636,698	666,968	682,854	688,390	5,536
12.1	Civilian personnel benefits	153,109	158,219	163,166	164,696	1,530
13	Benefits for former personnel	11,742	18,644	18,644	18,644	0
21	Travel and transportation of person	33,297	34,400	35,113	38,140	3,027
22	Transportation of things	11,361	12,340	11,853	12,330	477
23.1	Rental payments to GSA	39,668	40,067	38,953	39,530	577
23.2	Rental payments to others	11,288	12,396	11,964	12,080	116
23.3	Commun., util., misc. charges	52,956	55,665	54,434	53,920	(514)
24	Printing and reproduction	4,935	5,290	5,214	5,965	751
25.1	Consulting services	65,482	66,087	62,796	62,796	0
25.2	Other services	180,705	181,705	188,413	242,489	54,076
25.3	Purchase of goods and services fro	67,833	70,216	66,966	66,966	0
25.4	Operation of GOCOs	12	0	0	0	0
25.5	Research and development contrac	2,084	3,057	2,952	4,044	1,092
26	Supplies and materials	73,692	75,125	73,247	78,754	5,507
31	Equipment	44,839	52,670	46,898	56,349	9,451
32	Lands and structures	2,524	2,524	2,397	2,397	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	359,430	378,270	368,382	476,301	107,919
42	Insurance claims and indemnities	24	0	0	0	0
43	Interest and dividends	132	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	1,751,811	1,833,643	1,834,247	2,023,789	189,542

*This object class distribution is inconsistent with the President's Appendix. These amounts reflect more accurately the object class distribution.

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Operation, Research, and Facilities
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001* Request	Increase/ (Decrease) over 2001 Base
Less prior year recoveries	(47,300)	(36,000)	(36,000)	(36,000)	0
Less unobligated balance, start	(66,829)	(38,627)	0	0	0
Less unobligated balance, unava	(6,052)	(3,400)	0	0	0
Less NOAA Corps Retirement Pa	0	0	0	0	
Less unobligated balance, transf	(5,395)	0	0	0	0
Plus unobligated balance,end of	42,027	0	0	0	0
Total Budget Authority	1,668,262	1,755,616	1,798,247	1,987,789	189,542
Less Mandatory	0	(14,400)	(14,400)	(14,400)	0
Less DARRF	0	0	0	0	0
Less Fee Collection Offset	0	0	0	0	0
Discretionary Budget Authority	1,668,262	1,741,216	1,783,847	1,973,389	189,542
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	11,314	11,340	11,437	11,542	105
Other than full-time permanent	525	525	525	525	0
Total	11,839	11,865	11,962	12,067	105
Authorized Positions:					
Full-time permanent	11,431	11,542	11,645	11,790	145
Other than full-time permanent	525	525	525	525	0
Total	11,956	12,067	12,170	12,315	145

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Request	Increase/ (Decrease)
11	Personnel compensation					
11.1	Full-time permanent					
	Executive level	358	383	388	388	0
	Senior Executive Service	12,992	13,992	14,089	14,089	0
	General schedule	538,045	566,967	580,667	586,140	5,473
	Commissioned officers	15,465	15,465	15,928	15,928	0
	Wage board/wage marine	12,307	12,307	12,428	12,428	0
	Scientific & professional (P.L. 80-313)	983	983	1,066	1,066	0
	Law Enforcement	6,675	6,675	7,720	7,720	0
	Students	0	0	0	0	0
	Subtotal	586,825	616,772	632,286	637,759	5,473
11.3	Other than full-time permanent					
	General schedule	4,074	4,074	3,857	3,857	0
	Wage board/wage marine	1,764	1,764	1,829	1,829	0
	Experts & consultants	464	464	480	480	0
	Hourly	3,913	4,023	4,531	4,531	0
	Subtotal	10,215	10,325	10,697	10,697	0
11.5	Other personnel compensation					
	Overtime	16,104	16,104	16,166	16,166	0
	Cash awards	9,755	9,755	9,691	9,691	0
	Other	13,148	13,361	13,363	13,426	63
	Subtotal	39,007	39,220	39,220	39,283	63

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Request	Increase/ (Decrease)
11.8	Special personnel services payments					
	Foreign service officers (State)	0	0	0	0	0
	Other	651	651	651	651	0
	Subtotal	651	651	651	651	0
11.9	Total personnel compensation	636,698	666,968	682,854	688,390	5,536
12.1	Civilian personnel benefits					
	Civil service retirement	24,180	23,180	20,948	20,948	0
	Federal Employee Retirement	30,940	33,440	35,238	35,832	594
	Medicare	9,163	9,563	9,950	10,032	82
	Thrift savings plan	12,392	12,892	13,150	13,258	108
	Federal insurance contribution act	20,643	21,643	23,169	23,514	345
	Health insurance	29,344	31,054	35,603	35,860	257
	Life insurance	1,034	1,034	1,344	1,352	8
	Overseas allowance (COLA)	7,521	7,521	7,521	7,643	122
	Employees comp fund (bec)	0	0	0	0	0
	Other	17,892	17,892	16,243	16,257	14
	Subtotal	153,109	158,219	163,166	164,696	1,530
13.0	Benefits for former personnel					
	Retired Pay	11,142	14,400	14,400	14,400	0
	Health benefits	0	0	0	0	0
	Other	600	4,244	4,244	4,244	0
	Subtotal	11,742	18,644	18,644	18,644	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Request	Increase/ (Decrease)
21	Travel and transportation of persons					
	Aircraft rental	15	15	10	10	0
	GSA vehicles	407	480	486	486	0
	Program travel	32,875	33,905	34,617	37,644	3,027
	Subtotal	33,297	34,400	35,113	38,140	3,027
22	Transportation of things					
	Trans of household goods	4,023	4,023	3,264	3,264	0
	GSA trucks	3,213	3,592	3,662	3,662	0
	Other	4,125	4,725	4,927	5,404	477
	Subtotal	11,361	12,340	11,853	12,330	477
23.1	Rental payments to GSA	39,668	40,067	38,953	39,530	577
23.2	Rental payments to others	11,288	12,396	11,964	12,080	116
23.3	Communications, utilities and miscellaneous charges					
	Utility services	11,289	11,889	12,227	12,269	42
	Aircraft charter	1,129	1,129	255	250	(5)
	Vessel charter	3,610	3,610	1,941	676	(1,265)
	Rental of office copying equipment	812	812	438	439	1
	Rental of ADP equipment	530	530	1,005	1,006	1
	Federal telecommunications system	14,246	14,246	12,619	12,681	62
	Other telecommunications services	18,165	18,165	18,460	18,672	212
	Postal services by USPS	3,175	3,175	3,596	3,595	(1)
	Other	0	2,109	3,893	4,332	439
	Subtotal	52,956	55,665	54,434	53,920	(514)

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Request	Increase/ (Decrease)
24	Printing and reproduction					
	Publications	3,336	3,541	3,501	3,974	473
	Public use forms	176	326	348	450	102
	Other	1,423	1,423	1,365	1,541	176
	Subtotal	4,935	5,290	5,214	5,965	751
25.1	Consulting services	65,482	66,087	62,796	62,796	0
25.2	Other services					
	Aircraft repair	597	597	597	610	13
	Vessel repair	15,099	15,099	15,099	15,134	35
	Contracts for research	22,342	22,910	23,500	42,382	18,882
	Maintenance of equipment	23,582	23,583	24,175	26,801	2,626
	Training:					
	University training	3,115	3,165	3,375	4,016	641
	CS commission training	0	0	0	0	0
	Other	500	800	800	804	4
	Federal Employees Compensation	0	0	0	0	0
	Audit Cost	0	0	0	0	0
	Other	115,469	115,551	120,867	152,742	31,875
	Subtotal	180,704	181,705	188,413	242,489	54,076
25.3	Purchases of goods & services from Gov't accounts	42,353	44,736	46,932	46,932	0
	Office of Personnel Management Training	708	708	708	708	0
	GSA reimbursable services	198	198	198	198	0
	Payments to FA, WCF	19,128	19,128	19,128	19,128	0
	Payments to FA, WCF (CAMS)	5,446	5,446	0	0	0
	Subtotal	67,833	70,216	66,966	66,966	0
25.4	Operation of GOCOs	12	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Request	Increase/ (Decrease)
25.5	Research and development contracts	2,084	3,057	2,952	4,044	1,092
26	Supplies and materials					
	Chart paper	56	56	56	56	0
	Met. upper air	5,895	5,895	5,895	5,895	0
	Maintenance of vessel	1,564	1,564	1,564	1,340	(224)
	Gases	882	882	882	954	72
	Fuel	4,428	4,428	4,428	4,976	548
	ADP supplies	5,880	5,880	5,880	7,433	1,553
	Other	54,987	56,420	54,542	58,100	3,558
	Subtotal	73,692	75,125	73,247	78,754	5,507
31	Equipment					
	Office machines and equipment	14	14	14	16	2
	ADP hardware	7,328	12,785	7,328	10,028	2,700
	Other capitalized	4,216	4,716	4,216	6,874	2,658
	Depreciation on capitalized equipment	0	0	0	0	0
	Non-capitalized	33,281	35,155	35,340	39,431	4,091
	Subtotal	44,839	52,670	46,898	56,349	9,451
32	Lands and structures					
	Land	4	4	4	4	0
	Building and Other Structures	2,520	2,520	2,393	2,393	0
	Depreciation of Building	0	0	0	0	0
	Subtotal lands and structures	2,524	2,524	2,397	2,397	0
33	Investments and loans	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Request	Increase/ (Decrease)
41	Grants, subsidies and contributions	359,431	378,270	368,382	476,300	107,918
42	Insurance claims and indemnities	24	0	0	0	0
43	Interest/dividends..	132	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total Direct Obligations	1,751,811	1,833,643	1,834,247	2,023,789	189,542
	Less prior year recoveries	(47,300)	(36,000)	(36,000)	(36,000)	0
	Less unobligated balance, start of year	(66,829)	(38,627)		0	0
	Less Unobligated balance, unavailable	(6,052)	(3,400)	0		0
	Less unobligated balance, transfer	(5,395)	0	0	0	0
	Less Rent Adjustment for Goddard			0		
	Plus Transfer of CZMF to ORF			0		
	Plus Offset for Fee Collection			0	0	0
	Plus unobligated balance, end of year	42,027	0	0	0	0
	Budget Authority	1,668,262	1,755,616	1,798,247	1,987,789	189,542
	Less Mandatory Funding	0	(14,400)	(14,400)	(14,400)	0
	Less DARRF	0				
	Less Fee Collection Offset	0	0	0	0	0
	Discretionary Budget Authority	1,668,262	1,741,216	1,783,847	1,973,389	189,542
FTE		11,839	11,865	11,962	12,067	105
Positions		12,770	12,668	12,170	12,315	145

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Operations, Research, and Facilities
APPROPRIATION SUMMARY STATEMENT

For necessary expenses of activities authorized by law for the National Oceanic and Atmospheric Administration, including maintenance, operation, and hire of aircraft; grants, contracts, or other payments to State and local governments and nonprofit organizations for the purposes of conducting activities consistent with NOAA programs; and relocation of facilities as authorized by 33 U.S.C. 883i; [$1,688,189,000] *$1,973,390,000* to remain available until expended of which $217,700,000 is for Lands Legacy: *Provided,* That fees and donations received by the National Ocean Service for the management of the national marine sanctuaries may be retained and used for the salaries and expenses associated with those activities, notwithstanding 31 U.S.C. 3302: *Provided further,* That in addition, $68,000,000 shall be derived by transfer from the fund entitled "Promote and Develop Fishery Products and Research Pertaining to American Fisheries": *[Provided further,* That grants to States pursuant to sections 306 and 306A of the Coastal Zone Management Act of 1972, as amended, shall not exceed $2,000,000: *Provided further,* That not to exceed $31,439,000 shall be expended for Executive Direction and Administration, which consists of the Offices of the Under Secretary, the Executive Secretariat, Policy and Strategic Planning, International Affairs, Legislative Affairs, Public Affairs, Sustainable Development, the Chief Scientist, and the General Counsel: *Provided further,* That the aforementioned offices, excluding the Office of the General Counsel, shall not be augmented by personnel details, temporary transfers of personnel on either a reimbursable or non-reimbursable basis or any other type of formal or informal transfer or reimbursement of personnel or funds on either a temporary or long-term basis above the level of 33 personnel: *Provided further,* That no general administrative charge shall be applied against any assigned activity included in this Act and, further, that any direct administrative expenses applied against assigned activities shall be limited to five percent of the funds provided for that assigned activity: *Provided further,* That of the amount made available under this heading for the National Marine Fisheries Services Pacific Salmon Treaty Program, $10,000,000 is appropriated for a Southern Boundary and Transboundary Rivers Restoration Fund, subject to express authorization.] *Provided further, that in addition, not to exceed $3,200,000 shall be derived by transfer from the fund entitled "Coastal Zone Management".*

In addition, for necessary retired pay expenses under the Retired Serviceman's Family Protection and Survivor Benefits Plan, and for payments for medical care of retired personnel and their dependents under the Dependents Medical Care Act (10 U.S.C. ch. 55), such sums as may be necessary.

(15 U.S.C.ch. 9, 9A, 40,56; 16 U.S.C. ch. 32, 32A, 33; 33 U.S.C. ch. 17, 22, 26; 42 U.S.C. ch. 97, 103; 43 U.S.C. ch. 29; Department of Commerce and Related Agencies Appropriations Act, 2000, as enacted by section 1000(a)(1) of the Consolidated Appropriations Act, 2000 (P.L. 106-113).)

FOREIGN FISHING OBSERVER FUND

For expenses necessary to carry out the provisions of the Atlantic Tunas Convention Act of 1975, as amended (Public Law 96-339), and the Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended (Public Law 100-627), and the American Fisheries Promotion Act (Public Law 96-561), to be derived from the fees imposed under the foreign fishery observer program authorized by these Acts, not to exceed [$189,000]

$191,000, to remain available until expended. *(16 U.S.C. 1824(b)(10), 1827; Department of Commerce and Related Agencies Appropriations Act, 2000, as enacted by section 1000(a)(1) of the Consolidated Appropriations Act, 2000 (P.L. 106-113).)*

(Legislative proposal not subject to PAYGO)

Contingent upon the enactment of authorizing legislation, the Secretary shall charge fees for any navigation services provided and for any fisheries management and enforcement services provided, and such fees shall be deposited as offsetting collections to this appropriation, to remain available until expended for the purpose of such services: Provided, that upon enactment of such legislation, the amount appropriated from the General Fund shall be reduced by $14,000,000 for navigation services and $20,000,000 for fisheries management and enforcement services.

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Operations, Research, and Facilities
JUSTIFICATION OF PROPOSED LANGUAGE CHANGES

1. After the words "as authorized by 33 U.S.C. 883i;" delete "$1,688,189,000" and insert "$1,973,390,000".

   This change deletes the number for the previous year and inserts the number for the applicable budget year.

2. After the words "Promote and Develop Fishery Products and Research Pertaining to American Fisheries" delete "*Provided further,* That grants to States pursuant to sections 306 and 306A of the Coastal Zone Management Act of 1972, as amended, shall not exceed $2,000,000: *Provided further,* That not to exceed $31,439,000 shall be expended for Executive Direction and Administration, which consists of the Offices of the Under Secretary, the Executive Secretariat, Policy and Strategic Planning, International Affairs, Legislative Affairs, Public Affairs, Sustainable Development, the Chief Scientist, and the General Counsel: *Provided further,* That the aforementioned offices, excluding the Office of the General Counsel, shall not be augmented by personnel details, temporary transfers of personnel on either a reimbursable or non-reimbursable basis or any other type of formal or informal transfer or reimbursement of personnel or funds on either a temporary or long-term basis above the level of 33 personnel: *Provided further,* That no general administrative charge shall be applied against any assigned activity included in this Act and, further, that any direct administrative expenses applied against assigned activities shall be limited to five percent of the funds provided for that assigned activity: *Provided further,* That of the amount made available under this heading for the National Marine Fisheries Services Pacific Salmon Treaty Program, $10,000,000 is appropriated for a Southern Boundary and Transboundary Rivers Restoration Fund, subject to express authorization."

   This change eliminates the limitation of $2,000,000 for states pursuant to the Coastal Zone Management Act, and inserts language required to transfer $3,200,000 from the Coastal Zone Management Fund. In addition, this change eliminates the limitation of expenses for Executive Direction and Administration. NOAA's improvements in financial management should address the concerns that caused this language to be created.

Exhibit 33

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Appropriation Language and Code Citations:
Operations, Research and Facilities Account

1. For necessary expenses of activities authorized by law for the National Oceanic and Atmospheric Administration,

5 USC 5348	15 USC 1511d	16 USC 1444	33 USC 853 et seq.
7 USC 1622	44 USC 1307	16 USC 1447a et seq.	33 USC 1251
12 USC 1715m	15 USC 1517	16 USC 1451 et seq.	33 USC 1441-43
15 USC 313	15 USC 1537-40	16 USC 1464	33 USC 2706
15 USC 313a	15 USC 2901 et seq.	16 USC 1531	33 USC 2801 et seq.
15 USC 313b	15 USC 5601 et seq.	16 USC 1801 et seq.	42 USC 8902-05
15 USC 313nt	16 USC 661 et seq.	16 USC 4101	42 USC 9601 et seq.
15 USC 325	16 USC 757a et seq.	16 USC 4701 et seq.	43 USC 1347e
15 USC 330b	16 USC 1361	16 USC 5001 et seq.	44 USC 1307
15 USC 330e	16 USC 1431 et seq.	33 USC 706 et seq.	49 USC 44720

Organizations and Employees

5 USC 5348 - Crews of Vessels.

"…the pay of officers and members of crews of vessels excepted from chapter 51 of this title by section 5102(c)(8) of this title shall be fixed and adjusted from time to time as nearly as is consistent with the public interest in accordance with prevailing rates and practices in the maritime industry."

Agriculture

7 USC 1622 - Distribution and Marketing of Agricultural Products

"The Secretary … is directed and authorized: …

(a) to determine the needs and develop or assist in the development of plans for the proper assembly, processing, transportation, storage, distribution, and handling of agricultural (fish) products.

(f) to conduct and cooperate in consumer education for the more effective utilization and greater consumption of agricultural products (fish)…

(g) to collect and disseminate marketing information… for the purpose of … bringing about a balance between production and utilization of agricultural (fish) products.

(h) to inspect, certify, and identify the class, quality, quantity and condition of agricultural (fish) products …

(m) to conduct … research … to determine the most efficient … processes for the handling, storing, preserving, protecting…of agricultural (fish) commodities …"

(h) - Duties of Secretary relating to agricultural products; penalties

"Whoever knowingly shall falsely make, issue, alter, forge, or counterfeit any official certificate, memorandum, or other identification, with respect to inspection, class, grade, quality, size, quantity, or condition, issued or authorized under this section or knowingly cause or procure, or aid assist in, or be a party to, such false making, issuing, altering, forging, or counterfeiting, or whoever knowingly shall possess, without promptly notifying the Secretary (of Commerce) or his representative, utter, published, or used as true, any such falsely made, altered forged, or counterfeited official certificate, memorandum, mark, identification, or device, or whoever knowingly represents that an agricultural product has been officially inspected or graded…when in fact such commodity has not been so graded or inspected shall be fined not more than $1,000 or imprisoned not more than one year, or both."

Banks and Banking

12 USC 1715m - Mortgage Insurance for Servicemen [NOAA Corps].

This section authorizes payment of Federal Housing Administration (FHA) home mortgage insurance premiums to NOAA Corps Officers.

Commerce and Trade

15 USC 313 - Duties of Secretary of Commerce [National Weather Service].

"The Secretary of Commerce…shall have charge of the forecasting of weather,…issue of storm warnings,…weather and flood signals,… gauging and reporting of rivers,…collection and transmission of marine intelligence…,…reporting of temperature and rainfall conditions…, the display of frost and cold-wave signals, the distribution of meteorological information…, and the taking of such meteorological observations as may be necessary to establish and record the climatic conditions of the United States, or as are essential for the proper execution of the foregoing duties."

15 USC 313 note - Weather Service Modernization Act

"(a) As part of the budget justification documents submitted to Congress in support of the annual budget request for the Department of Commerce, the Secretary shall include a National Implementation Plan for modernization of the National Weather Service" setting for specified modernization actions for the following two fiscal years."

15 U.S.C. 313a - Establishment of meteorological observation stations in the Arctic region.

"… The Secretary of Commerce shall … take such actions as may be necessary in the development of an international basic meteorological reporting network in the Arctic region of the Western Hemisphere…"

15 USC 313b - Institute for Aviation Weather Prediction

"The Administrator of the National Oceanic and Atmospheric Administration shall establish an Institute for Aviation Weather Prediction that shall provide forecasts, weather warnings, and other weather services to the United States aviation community…."

15 USC 330b - Duties of Secretary relating to Weather Modification Activities or Attempts - Reporting Requirement.

(a) "The Secretary shall maintain a record of weather modification activities, including attempts, which take place in the United States and shall publish summaries thereof from time to time as he determines."

15 USC 330e - Authorization of Appropriations relating to Weather Modification Activities or Attempts - Reporting Requirement.

This section provides funding authority to support the reporting requirements specified in this chapter.

15 USC 1511d - NOAA Estuarine Programs Office.

"… The Estuarine Programs Office shall develop, coordinate, and implement the estuarine activities of the administration with the activities of other Federal and State agencies. There are authorized to be appropriated to the Administration not to exceed $560,000 for fiscal year 1989, and $600,000 for fiscal year 1990."

15 USC 1514 - Basic authority for performance of certain functions and activities of Department.

"Appropriations are authorized for the following activities of the Department of Commerce:

(a) furnishing to employees…and their dependents, in Alaska and other points outside the continental United States, free emergency medical services…and supplies;

(b) …purchasing, transporting, storing, and distributing food and other subsistence supplies for resale to employees…and their dependents, in Alaska and other points outside the continental United States at a reasonable value…; the proceeds from such resales to be credited to the appropriation from which the expenditure was made;

(c) …establishment, maintenance, and operation of messing facilities, by contract or otherwise, in Alaska and other points outside the continental United States…, such service to be furnished to employees…and their dependents,…

(d) reimbursement…of officers or employees in or under the Department…for food, clothing, medicines, and other supplies furnished by them in emergencies for the temporary relief of dislocated persons in remote localities;

(e) providing motion-picture equipment and film for recreation of crews of vessels…, for…employees in remote localities…, and for training purposes;

(f) erecting, altering, repairing, equipping, furnishing, and maintaining…such living quarters and facilities as may be necessary to carry out its authorized work at remote localities not on foreign soil where such living and working accommodations are not otherwise available."

15 USC 1517 - Transfer of statistical or scientific work.

"The President is authorized, by order in writing, to transfer at any time the whole or any part of any office, bureau, division, or other branch of the public service engaged in statistical or scientific work, from the Department of State, the Department of the Treasury, the Department of Defense, the Department of Justice, the United States Postal Service, or the Department of the Interior, to the Department of Commerce; and in every such case the duties and authority performed by and conferred by law upon such office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall be thereby transferred with such office, bureau, division, or other branch of the public service, or the part thereof which is so transferred. All power and authority conferred by law, both supervisory and appellate, upon the department from which such transfer is made, or the Secretary thereof, in relation to the said office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall immediately, when such transfer is so ordered by the President, be fully conferred upon and vested in the Department of Commerce, or the Secretary thereof, as the case may be, as to the whole or part of such office, bureau, division, or other branch of the public service so transferred."

15 USC 1537 - 1540 Needs Assessment for Data Management.

"Not later than 12 months after October 29, 1992, and at least biennially thereafter, the Secretary of Commerce shall complete an assessment of the adequacy of the environmental data and information systems of NOAA"

Conservation

16 USC 661 et seq.- Declaration of purpose; cooperation of agencies; surveys and investigations; donations.

"…the Secretary of the Interior is authorized (1) to provide assistance to, and cooperate with, Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife, resources thereof, and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from overabundant species, in providing public shooting and fishing areas, including easements across public lands for access thereto, and in carrying out other measures necessary to effectuate the purposes of said sections; (2) to make surveys and investigations of the wildlife of the public domain, including lands and waters or interests therein acquired or controlled by any agency of the United States; and (3) to accept donations of land and contributions of funds in furtherance of the purposes of said sections."

16 USC 757a et seq.

The Act authorizes cooperative agreements with States "that are concerned with the development, conservation, and enhancement of [anadromous] fish" (section 757a(a)). Section 757d authorizes $4,250,000 for each of fiscal years 1998, 1999, and 2000.

16 USC 1361 - Congressional Findings.

"The Congress finds that - (1) certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities;"

> "The Secretary is authorized to make grants, or to provide financial assistance in such other form as he deems appropriate, to any Federal or State agency, public or private institution, or other person for the purpose of assisting such agency, institution, or person to undertake research in subjects which are relevant to the protection and conservation of marine mammals, and shall provide financial assistance for, research into new methods of locating and catching yellow-fin tuna without the incidental taking of marine mammals."

16 UCS 1431 et seq. - Findings, Purposes, and Policies [The National Marine Sanctuaries Act, as amended].

(b) Purposes and Policies

"The purposes and policies of this title are -

(1) to identify and designate as national marine sanctuaries areas of the marine environment which are of special national significance;

(2) to provide authority for … conservation and management of these marine areas …
(3) to support, promote, and coordinate scientific research on, and monitoring of,. the resources of these marine areas…
(4) to enhance public awareness, understanding, appreciation, and wise use of the marine environment;
(5) to facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities;
(6) to develop and implement coordinated plans for the protection and management of these areas…;
(7) to create models of, and incentives for, ways to conserve and manage these areas…"
(8) to cooperate with global programs …; and
(9) to maintain, restore, and enhance living resources …"

16 USC 1444 - Authorization of Appropriations.

"There are authorized to be appropriated to the Secretary" -

(1) $12,000,000 for fiscal year 1997;
(2) $15,000,000 for fiscal year 1998; and
(3) $18,000,000 for fiscal year 1999.

16 USC 1447a et seq. - Regional Marine Research Programs

Authorizes NOAA/EPA and Governors of certain states to appoint members to a number of regional marine research boards. Each board is to develop a comprehensive four year marine research plan and "the Administrator of the National Oceanic and Atmospheric Administration shall administer a grant program to support the administrative functions of each Board."

Authorization for the Boards expires on October 1, 1999. The authorization for appropriations expired at the end of fiscal year 1996.

16 USC 1451 et seq. - Findings, Purposes, and Policies [Coastal Zone Management Act]

Establishes a voluntary partnership between the Federal Government and coastal States. It also establishes the National Estuarine Reserve Research program, in which the Secretary of Commerce may designate an estuarine area as a national estuarine research reserve in consultation with governor of affected state.

16 USC 1464 - Authorization of Appropriations.

"(a) There are authorized to be appropriated to the Secretary- (1) for grants under sections 306, 306A, and 309 - (A) $47,600,000 for fiscal year 1997; (B) $49,000,000 for fiscal year 1998; and (C) $50,500,500 for fiscal year 1999; (2) for grants under section 315-(A) $4,400,00 for fiscal 1997; (B) $4,500,000 for fiscal year 1998; and (C) $4,600,000 for fiscal year 1999.

16 USC 1531 et seq.

The purposes of the Act are "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in [the statute]" (section 11531(b)).

16 USC 1801 et seq,

Magnuson-Stevens Fishery conservation and Management Act.

The primary purpose of the Act is "to take immediate action to conserve and manage the fishery resources found off the coasts of the United States (section 1801(b)(1)).

16 USC 4101 et seq.

"The purposes of this chapter are - (1) to promote and encourage State activities in support of the management of interjurisdictional fishery resources, and (2) to promote and encourage management of interjurisdictional fishery resources through their range" (section 4101). Section 4107(a) authorizes $4,400,000 for each of fiscal years 1998, 1999, and 2000.

16 USC 4701 et seq. - Aquatic Nuisance Prevention and Control

Establishes an interagency Aquatic Nuisance species Task Force, of which the Administrator of NOAA is a co-chair. The task force's responsibilities include developing and implementing "a program for waters of the United States to prevent introduction and dispersal of aquatic nuisance species; to monitor, control and study such species; and to disseminate related information."

16 USC 5001 et seq. - Purpose of Convention

"It is the purpose … to implement the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean, signed in Moscow, February 11, 1992."

Navigation and Navigable Waters

33 USC 706 et seq. - Department of Commerce; current precipitation information; appropriation.

"There is authorized an expenditure as required,…, for the establishment, operation, and maintenance by the Secretary of Commerce of a network of recording and non-recording precipitation stations, known as the Hydroclimatic Network, whenever…such service is advisable…"

33 USC 883a et seq. - Surveys and other activities.

"…the Secretary…is authorized to conduct the following activities:

(1) Hydrographic and topographic surveys;
(2) Tide and current observations;
(3) Geodetic-control surveys;
(4) Field surveys for aeronautical charts;
(5) Geomagnetic, seismological, gravity, and related geophysical measurements and investigations, and observations …"

33 USC 883b - Dissemination of data; further activities.

"…the Secretary is authorized to conduct the following activities:

(1) Analysis and prediction of tide and current data;
(2) Processing and publication of data…;
(3) Compilation and printing of aeronautical charts…;
(4) Compilation and printing of nautical charts…;
(5) Distribution of aeronautical charts…;
(6) Distribution of nautical charts…"

33 USC 883c - Geomagnetic data; collection; correlation, and dissemination.

"To provide for the orderly collection of geomagnetic data…the Secretary … is authorized to collect, correlate, and disseminate such data."

33 USC 883d - Improvement of methods, instruments, and equipments; investigations and research.

"…the Secretary … is authorized to conduct developmental work for the improvement of surveying and cartographic methods, instruments, and equipments; and to conduct investigations and research in geophysical sciences…"

33 USC 883e - Cooperative Agreements for Surveys and Investigations; contribution of costs incurred by National Oceanic and Atmospheric Administration.

"(1) The Secretary of Commerce is authorized to enter into cooperative agreements with, and to receive and expand funds made available by… for surveys or investigations… or for performing related surveying and mapping activities… and for the preparation and publication of the results thereof."

“(2) The Secretary of Commerce is authorized to establish the terms of any cooperative agreement entered into … including the amount of funds to be received … which the Secretary determines represents the amount of benefits derived … from the cooperative agreement.”

33 USC 883f - Contracts with qualified organizations.

“The Secretary is authorized to contract with qualified organizations for the performance of any part of the authorized functions of the National Ocean Survey…”

33 USC 883h - Employment of public vessels.

“The President is authorized to cause to be employed such of the public vessels as he deems it expedient to employ, and to give such instructions for regulating their conduct as he deems proper in order to carry out the provisions of this chapter.”

33 USC 883i - Authorization of Appropriations.

“There are hereby authorized to be appropriated such funds as may be necessary to acquire, construct, maintain, and operate ships, stations, equipment, and facilities and for such other expenditures, including personal services at the seat of government and elsewhere and including the erection of temporary observatory buildings and lease of sites therefore as may be necessary…”

33 USC 891 et seq. - Fleet Replacement and Modernization Program

“The Secretary is authorized to implement… a 15-year program to replace and Modernize the NOAA fleet.”

33 USC 1121-1131 - National Sea Grant College Program Act.

The Sea Grant Act authorizes the awarding of grants and contracts to initiate and support programs at Sea Grant colleges and other institutions for research, education, and advisory services in any field related to the conservation and development of marine resources.

The authorization for appropriation expired at the end of FY 1995.

33 USC 1251- Water Pollution Prevention and Control

Through the National Shellfish Indicator Program, authorizes the Secretary of Commerce, in cooperation with the Secretary of Health and Human Services and the Administrator of EPA, to establish and administer a 5-year national shellfish research program for the purpose of improving existing classification systems for shellfish growing waters using the latest technological advancements in microbiology and epidemiological methods.

33 USC 1321 - Oil and Hazardous Substances [Clean Water Act]

Authorizes the recovery of damages to natural resources in the event of an oil spill in waters of the United States. This authority has been delegated to several Federal agencies, including the Department, pursuant to an Executive Order.

33 USC 1441 - Monitoring and Research Program [Marine Protection, Research and Sanctuaries Act]

Authorizes the Secretary of Commerce, in coordination with other agencies, to initiate a comprehensive and continuing program of monitoring and research regarding the effects of the dumping of material into ocean waters or other coastal waters where the tide ebbs and flows or into the Great Lakes or their connecting waters.

33 USC 1442 - Research program respecting possible long-range effects of pollution, overfishing, and man-induced changes of ocean ecosystems

Authorizes the Secretary of Commerce, in consultation with other agencies, to … "initiate a comprehensive and continuing program of research with respect to the possible long-range effects of pollution, overfishing, and man-induced changes of ocean ecosystems."

33 USC 1443 - Regional management plans for waste disposal in coastal areas.

Authorizes the Secretary of Commerce to assist the Environmental Protection Agency in assessing "the feasibility in coastal areas of regional management plans for the disposal of waste materials."

33 USC 1444 - Annual Report

Requires the Secretary of Commerce to provide Congress with an annual report on the Department's activities to monitor ocean dumping and research the long-range effects of pollution on ocean ecosystems.

33 USC 2706 - Natural Resources [NOAA Oil and Hazardous Substance Spill Cost Reimbursement].

"…the National Oceanic and Atmospheric Administration acts as trustee of said marine environment and/or resources, shall be deposited in the Damage Assessment and Restoration Revolving Fund … for purposes of obligation and expenditure in fiscal year 1991 and thereafter, sums available in the Damage Assessment and Restoration Revolving Fund may be transferred, upon the approval of the Secretary …, to the Operations, Research, and Facilities appropriation of the National Oceanic and Atmospheric Administration."

33 USC 2801 et seq. - National Coastal Monitoring Act.

"The purposes of this chapter are to -

(1) establish a comprehensive national program for consistent monitoring of the Nation's coastal ecosystems;

(2) establish long-term water quality assessment and monitoring programs for high priority coastal waters that will enhance the ability of Federal, State, and local authorities to develop and implement effective remedial programs for those waters;
(3) establish a system for reviewing and evaluating the scientific, analytical, and technological means that are available for monitoring the environmental quality of coastal ecosystems;
(4) establish methods for identifying uniform indicators of coastal ecosystem quality;
(5) provide for periodic, comprehensive reports to Congress concerning the quality of the Nation's coastal ecosystems;
(6) establish a coastal environment information program to distribute coastal monitoring information;
(7) provide state programs authorized under the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.) with information necessary to design land use plans and coastal zone regulations that will contribute to the protection of coastal ecosystems; and
(8) provide certain water pollution control programs authorized under the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) with information necessary to design and implement effective coastal water pollution controls."

The Public Health and Welfare

42 USC 8902 et seq. - Acid Precipitation Program

Authorized the Administrator of NOAA to serve as co-chair of a task force to prepare a comprehensive research plan for a program to study the causes and effects of acid precipitation. Also authorizes the Administrator of NOAA to serve as the director of a related research program.

42 USC 9601 et seq. (CERCLA)

Through associated regulations and delegations, authorizes the Administrator to provide technical assistance to the Administrator, EPA, for hazardous waste response under CERCLA and the National Contingency Plan and authorizes the Administrator to act as a natural resource trustee with authority to bring a cause of action for damages resulting from an injury to, destruction of or loss of resources under NOAA's jurisdiction.

Public Lands

43 USC 1347 - Safety and Health Regulations

Authorizes the Secretary of Commerce in cooperation with other Federal entities, to conduct studies of underwater diving techniques and equipment "suitable for protection of human safety and improvement of diver performance...."

Public Printing and Documents

44 USC 1307 - Sale and Distribution of NOAA Nautical and Aeronautical Products.

"All nautical and aeronautical products created or published … shall be sold at … prices … the Secretary of Commerce shall establish annually … so as to recover all costs attributable to data base management, compilation, printing, and distribution of such products."

Transportation

49 USC 44720 - Meteorological services

The Administrator of the Federal Aviation Administration shall make recommendations to the Secretary of Commerce on providing meteorological services necessary for the safe and efficient movement of aircraft in air commerce. In providing the services, the Secretary shall cooperate with the Administrator and give complete consideration to those recommendations.

"To promote safety and efficiency in air navigation to the highest possible degree, the Secretary shall -(1)observe, measure, investigate, and study atmospheric phenomena, and maintain meteorological stations and offices…(2) provide reports to the Administrator (3)cooperate with persons engaged in air commerce in meteorological services…(4)maintain and coordinate international exchanges of meteorological information… (5) participate in developing an international basic meteorological reporting network…(6)coordinate meteorological requirements in the United States to maintain standard observations…;(7)promote and develop meteorological science….

Interjurisdictional Fisheries Act

97 Stat. 1409
Authorizes NMFS fisheries programs not otherwise authorized by law, including research to reduce entanglement of marine mammals in fishing gear, development of habitat restoration techniques, restoration of Chesapeake Bay, and conservation of Antarctic living marine resources.

Exhibit 34

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
CONSULTING AND RELATED SERVICES
(Obligations in thousands of dollars)

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Management and Professional Support Services	6,177	7,346	8,598	9,521
Studies, Analysis and Evaluations	2,212	2,154	2,597	2,974
Engineering and Technical Services	19,776	29,224	34,804	35,891
Total	28,165	38,724	45,999	48,387

Consulting Services are those services of a pure nature relating to the governmental functions of agency administration and management and agency problem management. These services are normally provided by persons or organizations generally considered to have knowledge and special abilities that are not usually available within the agency. Such services can be obtained through personnel appointments, procurement contracts, or advisory committees.

Management and professional services deal with management data collection, policy review or development, program development, review or evaluation, systems engineering and other management support services. Special studies and analyses deal with the highly specialized areas of agency activity, e.g., air quality, chemical, environmental, geophysical, oceanographic, technological, and etc. Management and support services for research and development are procurement actions that meet the description of management and professional services or special studies and analyses but are funded under research and development.

* NOTE: The Object Class 25.1 in MAX reflects Consultants only. It does not include Management & Professional Support Services; Studies, Analysis and Evaluation; and Engineering & Technical Services which are also defined in the A-11 as Consulting Services.

National Ocean Service ($32,487,000) - Engineering and technical services are used to acquire hydrographic data for reduction of the critical nautical survey backlog, as well as to modernize the data management and compilation services for the production of lithographic and digital nautical charts. Management and professional services are used primarily for operations, computer support, program reviews and other management activities.

National Marine Fisheries Service ($4,931,000) - Consulting services are used for specialized advice such as feasibility studies. This category also includes $31,400 in travel and contractual obligations for the National Marine Fisheries Advisory Committee (MAFAC), which provides the agency with outside expert advice and review. Management and professional services are used for: Operations computer system support at headquarters, data management, data collection, computer programming, and program review. Studies and analyses include: studies to support domestic and international conservation and management decisions associated with fish and protected species. These studies included socio-economic data, recreational fisheries data and assessment/status reviews.

Oceanic and Atmospheric Research ($54,000) - Consulting services are necessary for the laboratory review panels used by the Environmental Research Laboratories (ERL). In its formal laboratory reviews, ERL uses several outside experts in the fields of research being reviewed who serve as members of the review team. The National Sea Grant College Program uses consultants to assist in developing Sea Grant's new procedures for program evaluation. In addition, Sea Grant pays honorarium to individuals who serve on technical review panels administered by the National Sea Grant College Program.

National Weather Service ($6,000,000) - Management and professional services will be used to provide external expertise supporting weather observation technology improvements, improved financial systems, and setting information technology architecture standards. Studies, analyses, and evaluations will be used to inventory and analyze telecommunications configurations. Engineering and technical services will continue to be used to support major systems technology infusion implementation, facilities maintenance and retrofit requirements, programming/database management for weather prediction model output and hydrologic forecast program, systems configuration management, systems logistics support, and systems engineering support.

National Environmental Satellite, Data, and Information Service ($300,000) - Management and professional services will be used to provide outside technical and scientific expertise related to spacecraft sensors. FY 1999 amounts reflect anticipated level necessary for support of the Polar orbiting and Geostationary satellite systems.

Program Support ($46,000) - The funds provide professional medical services, assessment of fleet logistics support, and other alternatives and related studies. Engineering and technical support services such as system design, analysis, and integration; ship operational characteristics and requirements

development; drawing services; logistics support; engineering services; and other related supporting services. Other Special studies and analyses will be used for preparation of actuary report of NOAA Corps retirement system required by Public Law 95-595.

Systems Acquisition Office ($4,458,000) - Provides program planning, testing and evaluation of technical support, site surveys, environmental assessments, system engineering and technical support to the NOAA major systems acquisitions. Provide System Acquisition Office-wide support for cost and life cycle analyses, risk assessment, program management support, engineering design, technical management and documentation management support.

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PERIODICAL, PAMPHLETS, AND AUDIOVISUAL PRODUCTS
(Obligations in thousands of dollars)

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Periodicals	812	919	948	979
Pamphlets	574	590	581	598
Audiovisuals	153	176	278	247
Total	1,539	1,685	1,807	1,824

National Ocean Service ($468,000): The Office of Ocean Resources Conservation and Assessment produces numerous technical publications. Other components of NOS routinely produce technical publications (i.e., scientific bulletins and reports, and newsletters to keep abreast of ocean and coastal activities in the US and the world). The Office of Ocean and Coastal Resource Management produces numerous pamphlets describing their programs (i.e., National Marine Sanctuaries and National Estuarine Research Reserve outreach and education materials), and accounts for the bulk of NOS expenditures. Audiovisual materials used for ocean and coastal management briefings and technical assistance to state and local governments. Safe Navigation CD ROMS will be distributed.

National Marine Fisheries Service ($246,000): Expenditures are for periodicals and pamphlets publishing a variety of technical reports, as well as audiovisual products, programmatic bulletins and annual reports required by Congress.

Oceanic and Atmospheric Research ($56,000): Expenditures are for preliminary reports and forecasts of solar-geophysical activity bi-weekly, and reflect the following sub-activity breakout:

Environmental Research Laboratories: (ERL) ($36,000): Expenditures are for preliminary reports and forecasts of solar-geophysical activity bi-weekly.

National Sea Grant College Program: (NSGC) ($15,000): Expenditures are for Sea Grant Pamphlets, Sea Grant Directory, Sea Grant National Guidance and the Sea Grant Strategic Plan. Also, expenditures are for audio-visuals and Graphics which include slides, posters, and photographs.

National Undersea Research Program: (NURP) ($5,000): Expenditures are for audio-visual and graphic materials.

National Weather Service ($890,000): Expenditures are for various weather service charts, maps, bulletins, newsletters, and reports on climate, fire weather, floods, hurricanes, tornadoes, and winter storms.

National Environmental Satellite, Data, and Information Service ($100,000): Expenditures for periodicals include technical data publications in meteorology, oceanography, solid-earth geophysics, solar-terrestrial physics, and satellite meteorology. Pamphlets include scientific and technical reports that present results of operational, developmental, and research programs of NOAA. Audiovisual products are primarily the slide and viewgraph sets used for technical presentations of operational programs within NOAA.

Program Support ($25,000): NOAA Corps Bulletin, Roster of Commissioned Officers, and recruiting manuals and handouts. NOAA Corps also prepares an Aircraft Operations Center Brochure and a P-3 pamphlet. Audiovisuals products includes Aircraft Operations Center audiovisuals for meetings, briefings, and technical reports. Also included are cameras and VCRs placed on P-3 aircraft to enhance data collection and imaging.

Exhibit 36

Department of Commerce
National Oceanic and Atmospheric Administration
AVERAGE GRADE AND SALARY

	FY 99 Actual	FY 00 Estimate	FY 01 Estimate
Average ES salary	103,999	107,039	110,999
Average GS/GM grade	10.38	12.72	12.49
Average GS/GM salary	45,744	46,963	48,811
Average Pay Band salary	53,577	55,206	57,249
Average Commissioned Officers salary	47,761	45,478	46,934
Average salary for other positions:	43,496	44,711	46,365

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINSTRATION
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

Page No.		Positions	FTE	Budget Authority	Direct Obligations
	FY 2000 Currently Available	162	162	$592,866	$641,827
	plus: Recoveries from prior years in FY 2000			7,400	
	plus: Obligations from prior years				(41,561)
	plus: 2000 Adjustments to Base			15,823	15,823
	less: Recoveries from FY 2001			(7,504)	
	FY 2001 Base	162	162	$608,585	$616,089
	plus: FY 2001 Program Changes	(27)	(27)	26,637	26,637
	Total FY 2001 Estimate, PAC	135	135	$635,222	$642,726

Comparison by activity/subactivity		1999 Actual Personnel	1999 Actual Amount	2000 Currently Available Personnel	2000 Currently Available Amount	2001 Base Personnel	2001 Base Amount	2001 Estimate Personnel	2001 Estimate Amount	Increase/ (Decrease) Personnel	Increase/ (Decrease) Amount
Systems Acquisition	Pos./BA.	180	549,129	157	499,496	157		130		(27)	
	FTE/Obl.	180	562,020	157	510,244	157	522,719	130	597,100	(27)	$74,381
Construction	Pos./BA.	5	33,551	5	41,999	5		5		0	
	FTE/Obl.	5	45,703	5	79,212	5	41,999	5	29,326	0	($12,673)
Fleet Replacement	Pos./BA.	0	0	0	51,371	0	0	0	0	0	
	FTE/Obl.	0	0	0	51,371	0	51,371	0	16,300	0	($35,071)
Fishermen's Health Care	Pos./BA.	0	1,000	0	0	0		0		0	
	FTE/Obl.	0	0	0	1,000	0	0	0	0	0	$0
TOTALS	Pos./BA.	**185**	**583,680**	**162**	**592,866**	**162**		**135**		**(27)**	
	FTE/Obl.	**185**	**607,722**	**162**	**641,827**	**162**	**616,089**	**135**	**642,726**	**(27)**	**26,637**
Adjustments for:											
Recoveries			(339)		(7,400)		(7,504)		(7,504)		
Unobligated balance, start of year			(65,251)		(41,561)						
Unobligated balance, end of year			41,561								
Offsetting Collections:			(13)								
Budget Authority		**185**	**583,680**	**162**	**592,866**	**162**	**608,585**	**135**	**635,222**	**(27)**	**26,637**
Appropriation		**185**	**583,680**	**162**	**592,866**	**162**	**608,585**	**135**	**635,222**	**(27)**	**26,637**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINSTRATION
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease)
Direct Obligations	607,722	641,827	616,089	642,726	26,637
Reimbursables	0	0	0	0	0
Anticipated offsetting collects	0	0	0	0	0
Total Obligations	607,722	641,827	616,089	642,726	26,637
Actual Collections	(13)				
Recoveries	(339)	(7,400)	(7,504)	(7,504)	0
Unobligated balance, start of year	(65,251)	(41,561)	0	0	0
Unobligated balance transferred	0	0	0	0	0
Unobligated balance, end of year	41,561	0	0	0	0
Total Budget Authority	583,680	592,866	608,585	635,222	26,637
Net Appropriation	583,680	$592,866	$608,585	$635,222	$26,637

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition and Construction
CHANGES TO BASE
(Dollar amounts in thousands)

	FTE	Amount
Adjustments	**0**	
Restoration of FY 2000 Deobligations		**7,400**
Financing		
Deobligations		**(7,504)**
Transfers		
Transfer of CAMS from ORF (Bureau Specific)		**6,500**
Transfer of CAMS from ORF (Bureau Shared)		**4,823**
Other Changes (CAMS)		
CAMS (Bureau Specific)		**4,500**
Subtotal, Other Changes	**0**	**4,500**
Total, Adjustments- To- Base	**0**	**15,719**

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition and Construction
JUSTIFICATION OF CHANGES TO BASE

		FTE	Amount
Adjustments:		**0**	**7,400,000**
Restoration of FY 2000 Deobligations	7,400,000		
In FY 2000, NOAA offset its budget authority by realizing recoveries of $7,400,000 of prior year obligations. These offsets will not be available in FY 2001.			
Financing:			**(7,504,000)**
Deobligations	(7,504,000)		
In FY 2001, NOAA expects to realize recoveries of prior year obligations of $7,500,000. This amount will be used to offset the budget authority in FY 2001.			
Transfer:			**11,323,000**
Transfer of CAMS to PAC			
In FY 2001, NOAA proposes to transfer $11,323,000 in base funding for the Commerce Administrative Management Systems (CAMS) to the Procurement, Acquisition, and Construction Account. This transfer is made based on recognition that CAMS is a Capital Asset Acquisition.			
Transfer of CAMS from ORF (Bureau Specific) to PAC	6,500,000		
Transfer of CAMS from ORF (Bureau Shared) to PAC	4,823,000		
	11,323,000		
Other Changes (CAMS)			**4,500,000**
CAMS (Bureau Specific)	4,500,000		
	4,500,000		
Subtotal, Other Changes			**4,500,000**

Total, Adjustments-To-Base	**15,719,000**

Advanced Appropriations Requested for Projects in the Procurement, Acquisition and Construction Account

(Dollars in thousands)

	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total (BY thru Completion)
Systems Acquisition									
CAMS	$0	$0	$15,823	$13,218	$8,746	$8,413	8,413	$42,065	$96,678
NEXRAD	$7,000	$8,249	$9,580	$16,798	$15,931	$11,758	13,145	$65,725	$154,525
ASOS	3,855	3,840	5,125	5,125	5,125	5,125	5,125	$25,625	$63,219
AWIPS	67,667	15,939	17,300	17,300	9,645	8,700	8,653	$43,265	$319,584
Computer Facility Upgrades	9,900	11,058	15,085	17,505	19,285	19,285	20,085	100,425	$217,480
Radiosonde Replacement Program	0	6,973	7,000	7,000	7,000	7,000	5,231	0	$40,204
NOAA Weather Radio exspansion/enhancement	0	0	6,244	4,500	4,500	4,500	4,500	0	$24,244
Evansville Doppler Radar	0	0	5,500	0	0	0	0	0	$5,500
GFDL Supercomputer	0	4,981	7,000	7,000	7,000	7,000	7,000	45,000	$84,981
NEDAAS	0	0	4,000	4,000	4,000	4,000	4,000	0	$20,000
POES K-N'	149,917	130,481	136,965	136,965	103,010	85,559	78,603	72,960	$1,043,518
Polar Convergence	50,000	59,772	76,654	156,731	236,471	306,454	325,429	2,384,966	$3,596,477
GOES I - M	82,376	76,789	58,615	15,960	4,500	2,200	2,200	1,700	$367,150
GOES N - Q	182,766	188,814	232,209	221,575	215,464	189,683	181,593	833,768	$2,356,733
GOES R Series	0	0	0	0	1,500	2,500	50,000	TBD	$54,000
Subtotal, Systems Acquisition	553,481	506,896	597,100	623,677	642,177	662,177	713,977	3,615,499	8,444,293

Advanced Appropriations Requested for Projects in the Procurement, Acquisition and Construction Account

(Dollars in thousands)

	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total (BY thru Completion)
Construction									
Western Region Consolidation	0	0	200	2,370	0	0	0	0	$2,570
Boulder Laboratory Above Standard Cost	6,370	0	0	0	0	0	0	0	$9,227
NWS WFO Construction	9,526	9,490	9,526	9,526	9,526	9,526	9,526	47,630	$128,016
NCEP	850	0	0	0	0	0	0	0	$1,655
Santa Cruz Research Lab	4,200	0	0	0	0	0	0	0	$6,278
NERRS Construction	7,300	13,250	8,000	8,000	8,000	8,000	8,000	0	$69,447
Alaska Facilities Fisheries Center Juneau	0	747	1,000	20,000	15,000	0	0	0	$40,182
Pribilof Island Cleanup	700	0	0	0	0	0	0	0	$4,083
Alaska Facility Ship Creek	0	3,235	0	0	0	0	0	0	$3,235
Alaska Facility Sea Life Center	0	5,084	0	0	0	0	0	0	$5,084
Botanical Gardens	500	1,387	0	0	0	0	0	0	$1,887
LaJolla Bluffs	0	0	4,600	4,600	0	0	0	0	$9,200
Norman Consolidation	0	0	3,000	22,000	0	0	0	0	$25,000
Marine Sanctuaries	0	3,000	3,000	3,000	3,000	3,000	3,000	0	$18,000
NORC Rehabilitation	0	3,033	0	0	0	0	0	0	$3,033
Suitland	0	2,773	0	15,200	3,000	0	0	0	$20,973
Charleston/Fort Johnson	3,000	0	0	0	0	0	0	0	$3,000
Outer Banks Community Foundation	750	0	0	0	0	0	0	0	$750
Long Island Aquarium	1,000	0	0	0	0	0	0	0	$1,000
Subtotal, Construction	34,196	41,999	29,326	84,696	38,526	20,526	20,526	47,630	353,440

Advanced Appropriations Requested for Projects in the Procurement, Acquisition and Construction Account

(Dollars in thousands)

	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total (BY thru Completion)
Fleet Replacement									
Fisheries Research Vessel……	0	51,371	8,300	53,300	53,300	53,300	0	0	$219,571
Adventurous Refurbishment……	0	0	8,000	0	0	0	0	0	$8,000
Subtotal, Fleet Replacement	0	51,371	16,300	53,300	53,300	53,300	0	0	227,571
Other (Fishermen's Health Care)……	1,000	0	0	0	0	0	0	0	$1,000
Total, Procurement, Acquisition & Construction Obligations	$588,677	$600,266	$642,726	$761,673	$734,003	$736,003	$734,503	$3,663,129	$9,026,304
Deobligations	(4,000)	(7,400)	(7,504)	(7,504)	(7,504)	(7,504)	(7,504)	//	($48,920)
Unobligated balance, start of year									
Unobligated balance, end of year									
Total, Procurement, Acquisition & Construction B.A.	$584,677	$592,866	$635,222	$754,169	$726,499	$728,499	$726,999	$3,663,129	$8,977,384
No Advanced Appropriation Requested									
Total, Advance Appropriation Requested	$584,677	$592,866	$635,222	$754,169	$726,499	$728,499	$726,999	$3,663,129	$8,977,384

PROCUREMENT, ACQUISITION AND CONSTRUCTION (PAC)
SYSTEMS ACQUISITION
STRATEGIC PLANNING GOALS AND OBJECTIVES

The Systems Acquisition activity of the Procurement, Acquisition and Construction account supports one of NOAA's Strategic Planning Goals. Below is a brief characterization of the programs contained in the System Acquisition activity in the context of this Goal.

GOAL - ADVANCE SHORT TERM WARNING AND FORECAST SERVICES

Systems Acquisition supports activities and programs in two of the four objectives for this goal.

OBJECTIVE - COMPLETE NWS MODERNIZATION

With the FY 2001 budget, the NWS Modernization and Associated Restructuring will be complete. The process of modernization and restructuring was prompted by two factors: (1) the desire to apply advances in hydrometeorological science and technology to operational forecasting, and (2) the desire to replace obsolete and increasingly unreliable equipment. These replacement systems coupled with observations from planned, advanced geostationary and polar orbiting satellites, other existing weather observing systems/sources (e.g. radiosondes, data buoys, etc.), and newly developed mesoscale forecasting techniques have and will continue to improve the timeliness and accuracy of severe weather and flood warnings to the U.S. public. The modernization and restructuring of the NWS will result in the transition to a final weather office structure of 121 Weather Forecast Offices (WFOs) and 13 River Forecast Centers (RFCs).

Programs contained in this activity to continue the acquisition/improvement of major systems associated with maintaining NWS modernized operations, are: the product improvement for the Next Generation Weather Radar (NEXRAD) to enhance severe weather protection capabilities, the development and testing of new sensor capabilities for the Automated Surface Observing Systems (ASOS) which provides reliable, 24-hour per day, continuous surface weather observations; the continued technology infusion for Advanced Weather Interactive Processing System (AWIPS/NOAAPORT) to integrate all meteorological and hydrological data at the NWS field offices; and the upgrade of the NOAA Central Computer Facility to provide the capability to process the increased amount of data that will lead to more accurate and specific forecasts of major storms and medium and extended range forecasts and product operational climate forecasts. In addition, within NESDIS is the procurement and launch of geostationary satellites (GOES I-M). The first two satellites of this series GOES-8 and 9 were successfully launched and have provided enhanced capabilities on an operational basis to meet the objectives of a modernized NWS. A third GOES satellite GOES-10 has also been launched and has replaced GOES-9 as the operational satellite over the western U.S. and Pacific Ocean. GOES-9 has been placed in an on-orbit storage mode.

OBJECTIVE - SATELLITE CONTINUITY

This objective is to provide continuity of satellite coverage. Included is the continuation of the current polar orbiting series (NOAA K-N'), and acquisition of GOES N-Q geostationary satellites to be ready to replace the GOES I-M satellites when needed. Development activities associated with the National Polar-Orbiting Operational Environmental Satellite System (NPOESS) program to succeed the NOAA K-N' series are included in this objective.

Systems Acquisition
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Advance Short-Term Warning and Forecast Services										
Suistain NWS Modernization	100	170,798	77	115,875	77	115,875	50	111,205	(27)	(4,670)
Satellite Continuity	80	382,683	80	379,067	80	379,067	80	445,828		66,761
Enhance Observations & Predictions				6,973		6,973		7,000		27
Improve Service Communication and Utilization								6,244		6,244
Total ASTWFS	**180**	**553,481**	**157**	**501,915**	**157**	**501,915**	**130**	**570,277**	**(27)**	**68,362**
Predict and Assess Decadal-to-Centennial Change										
Provide Prediction, Assessment, & Human Impact Info.								4,000		4,000
Infrastructure				4,981		4,981		7,000		2,019
Total PADCC				**4,981**		**4,981**		**11,000**		**6,019**
Infrastructure										
Administration						15,823		15,823		
Total Infra						**15,823**		**15,823**		
Total for Systems	**180**	**553,481**	**157**	**506,896**	**157**	**522,719**	**130**	**597,100**	**(27)**	**74,381**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINSTRATION
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Systems Acquisition

Line Item		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
CAMS	Pos./BA.	0	0	0	0	0		0		0	
	FTE/Obl.	0	0	0	0	0	15,823	0	15,823	0	0
NEXRAD	Pos./BA.	11	7,000	7	8,249	7		7		0	
	FTE/Obl.	11	8,315	7	8,091	7	8,249	7	9,580	0	1,331
ASOS	Pos./BA.	0	3,855	0	3,840	0		0		0	
	FTE/Obl.	0	3,955	0	4,053	0	3,840	0	5,125	0	1,285
AWIPS	Pos./BA.	89	67,667	70	15,939	70		43		(27)	
	FTE/Obl.	89	70,641	70	18,814	70	15,939	43	17,300	(27)	1,361
Central Computer Upgrade	Pos./BA.	0	9,900	0	11,058	0		0		0	
	FTE/Obl.	0	10,102	0	11,004	0	11,058	0	15,085	0	4,027
Radiosonde Replacement Program	Pos./BA.	0	0	0	6,973	0		0		0	
	FTE/Obl.	0	0	0	6,973	0	6,973	0	7,000		27
GFDL Supercomputer	Pos./BA.	0	0	0	4,981	0		0		0	
	FTE/Obl.	0	0	0	4,981	0	4,981	0	7,000		2,019
NOAA Weather Radio	Pos./BA.	0	0	0	0	0		0		0	
	FTE/Obl.	0	0	0	0	0	0	0	6,244		6,244

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINSTRATION
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Systems Acquisition (Continued)

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
Line Item		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Evansville Doppler Radar	Pos./BA.	0	0	0	0	0		0		0	
	FTE/Obl.	0	0	0	0	0	0	0	5,500		5,500
National Data Archive	Pos./BA.	0	0	0	0	0		0		0	
	FTE/Obl.	0	0	0	0	0	0	0	4,000		4,000
Polar K-N'	Pos./BA.	20	149,917	20	130,481	20		20		0	
	FTE/Obl.	20	150,003	20	130,588	20	130,481	20	136,965	0	6,484
Polar Convergence	Pos./BA.	13	50,089	13	59,772	13		13		0	
	FTE/Obl.	13	49,886	13	59,975	13	59,772	13	76,654	0	16,882
GOES	Pos./BA.	47	260,701	47	258,203	47		47		0	
	FTE/Obl.	47	269,119	47	265,765	47	265,603	47	290,824	0	25,221
Total	Pos./BA	**180**	**549,129**	**157**	**499,496**						
	FTE/OBL.	**180**	**562,020**	**157**	**510,244**	**157**	**522,719**	**130**	**597,100**	**(27)**	**74,381**

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition and Construction
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Systems Acquisition**

Background

The objectives of this account are to capture the costs of acquiring and/or improving capital assets used by NOAA in carrying outs its varied missions. Creation of this account meets the requirement of OMB Circular A-11, as amended, and NOAA's request seeks advanced appropriations for the majority of assets falling into this category. Advanced appropriations will allow NOAA to realize procurement efficiencies, management accountability, as well as to reflect full cost of acquisition and/or improvement of an asset.

Goal Statement

The objective of this activity is to continue the acquisition/improvement of major systems associated with advancing short term warnings and forecasts. Specifically, NOAA has replaced obsolete weather radars and enhanced severe weather and flood warnings; acquired, deployed and commissioned an automated surface observing system which provides reliable, 24-hour per day, continuous surface weather observations; is moving towards integrating all meteorological and hydrological data at the NWS field offices through the acquisition of Advanced Weather Interactive Processing System (AWIPS); enhancing the current computing environment by continually upgrading supercomputers to significantly enhance the forecasting guidance for hurricanes, especially storm intensity, and the ability to implement an operational storm-scale model for detailed severe storm guidance; continuing procurement of spacecraft, instruments, launch services, and ground equipment necessary to maintain an uninterrupted operational polar-orbiting satellite system for the following purposes: (1) obtain quantitative environmental data such as temperature, moisture, radiation flux, and solar energetic particle flux, used in numerical analysis and prediction programs; (2) locate and collect data from remote, fixed and moving platforms, such as buoys, balloons, and ships; (3) provide visible and infrared imagery and radiation flux of the earth and its environment on a regular basis through direct read-out and environmental data broadcasts to ground stations; and (4) provide search and rescue data to locate aircraft and ships in distress and; via geostationary satellites (GOES), providing near-continuous observations of the Earth's western hemisphere; monitor the Earth's surface and space environmental conditions; introduce improved atmospheric, oceanic, observations and data dissemination capabilities; and develop and provide new and improved applications and products for a wide range of Federal agencies, state and local governments, and private users.

Proposed Legislation

No new legislation is proposed for this activity.

Included in this account are: planned product improvement of the NOAA's Next Generation Weather Radars (NEXRAD) and the Automated Surface Observing System (ASOS) network; the technology infusion within AWIPS; central computer facility upgrades (specifically Class VIII and next generation supercomputers); the NWS radiosonde replacement program; the acquisition of the Geophysical Fluid Dynamics Laboratory (GFDL) supercomputers; Polar-orbiting Operational Environmental Satellites (K-N' series); the converged NOAA/DoD National Polar-orbiting Operational Environmental Satellite System (NPOESS) program, Geostationary Operational Environmental Satellites (GOES I-M and N-Q series); the ACE satellite follow-on/GEOSTORM program; National Weather Service Weather Forecast Office Construction and other major construction projects NOAA-wide.

Base Program

Next Generation Weather Radar (NEXRAD): Managed by NOAA, this acquisition is a tri-agency program involving the Departments of Commerce, Defense (DoD) and Transportation (FAA). NEXRAD is a Doppler weather radar system which provides automated signal processing, computerized processing of data by sophisticated meteorological software algorithms, state-of-the art ergonomically designed operator workstations, and a high-capacity, processor-driven communications capability. The system is modular in design, ungradable, has a long life-cycle expectancy, and provides its principal users with a wide array of automated weather information that will increase their capability to meet their respective operational requirements. For the National Weather Service, the system utilizes the Doppler technology and hydrometeorological processing to provide significant increases both in the functional capability and in performance compared with previous radars including improved tornado and thunderstorm warnings, increased air safety, improved flash flood warnings and improved water resources management.

In FY 2000, NWS will continue to operate and maintain the network of 123 systems; continue acquisition contract closeout activities as appropriate; and continue the NEXRAD product improvement initiative.

FY 2001 Plans:

- Continue product improvement initiative
- Continue operation and maintenance of fielded systems

Automated Surface Observing System (ASOS): Managed by NOAA, this acquisition is a tri-agency program involving NOAA, DoD and FAA. ASOS provides reliable, 24-hour per day, continuous surface weather observations. Under the product improvement portion of this acquisition program, NOAA is developing new ASOS sensor capabilities in order to meet changing user requirements and decrease maintenance demands.

In FY 2000, NOAA will:

- **S** Continue operations and maintenance of fielded systems
- **S** Begin development, testing, and integration of the all weather precipitation gauge, the processor upgrade, dew-point sensor, and the ice-free wind sensor
- \- Continue to work with the FAA and the aviation industry on sensor improvements

FY 2001 Plans:

- **S** Continue operations and maintenance of fielded systems
- \- Continue development, testing, and integration, the all-weather precipitation gauge
- \- Begin production phase for dew-point sensor
- \- Begin processor upgrades
- \- Continue work with the FAA and the aviation industry on sensor improvements

Advanced Weather Interactive Processing System (AWIPS)/NOAAPort: AWIPS is the cornerstone of the NWS modernization. This system is required to integrate and display all hydrometeorological data at NWS field offices. AWIPS acquires and processes data from modernized sensors and local sources, provide computational and display functions at operational sites, provide an interactive communications system to interconnect NWS operational sites, and disseminate warnings and forecasts in a rapid, highly reliable manner. This system integrates satellite and radar data more fully and provides to the local field forecaster a capability that significantly improves forecasts and warnings. NOAAPORT offers the communications capability to provide internal and external users with open access to much of NOAA's real-time environmental data.

In FY 2000

- **S** Continue Operations and maintenance of 153 fielded systems
- **S** Deploy and install additional systems at Secretary's mitigation sites in Key West and Caribou.
- **S** Begin Build 5.0 software development and testing (1st year of a 3-year effort)

FY 2001 Plans:

- \- Continue operation and maintenance of fielded systems
- \- Invest in required hardware replacement/upgrade to prevent system obsolescence
- **S** Continue technology infusion activities for data management and open radar product generator

(ORPG) integration

- Begin technology infusion activities for NCEP/OCONUS AWIPS, hydromet decision assistance, and increased communication bandwidth
- Continue AWIPS Build 5.0 development activities (2nd year of 3 year effort)
- Invest in catastrophic backup measures for the AWIPS National Control Facility

Central Computer Facility Upgrade: The cyclical upgrade of the NOAA Central Computer Facility is intended to procure the computing and communication equipment needed to receive and process the increasing wealth of environmental data acquired by modernized observing systems, process improved and more sophisticated numerical weather prediction models, and stay current with the supercomputing technology the market has to offer. Execution of this program promotes public safety and the protection of property by providing the National Centers for Environmental Prediction (NCEP) with the computer systems that are capable of producing more accurate, NWS climate and numerical weather prediction (NWP) guidance products for hurricanes, severe thunderstorms, floods, and winter storms and forecasts of large-scale weather patterns in the medium (3 to 10 days) and extended range (30 days), and forecasts of major climate events such as El Nino and La Nina. In addition, the computer upgrades will improve the delivery of products to the field, and provide system users with enhanced productivity. These products and services will lead to significant economic benefits for users, i.e., the agriculture, construction, and transportation industries, etc., and are necessary to realize the full benefits of the NWS Modernization.

FY 2000 Plans:

- Continue lease payments toward Class VIII
- Deliver and install Phase 2 of the IBM SP system (Class VIII)
- Continue cyclical replacement and upgrade of interactive workstations

FY 2001 Plans:

- Continue lease payments toward Class VIII
- Continue cyclical replacement and upgrade of interactive workstations
- Increase communication bandwidth between the NCEP centers and the NWS telecommunications gateway

Radiosonde Replacement Program: The radiosonde network provides essential upper-air data needed for local to global numerical weather prediction models which generate the NWS central forecast guidance products. The current ground tracking system is obsolete and not maintainable due to the escalating costs of scarce replacement parts, and unavailability of certain components. Repairs have more than doubled over the past 5 years. Only two of the sites have fully functioning transponder decks for tracking the balloon after being carried over the horizon. Wind observations lost

by this deficiency have resulted in model analyses misplacing the jet stream on certain occasions. Based on current failure rates and available logistics, the current system will begin to fail in the FY 2004-2005 time frame.

New frequency allocations require bandwidth be reduced on the frequencies used to transmit data for the sonde to the ground. Reallocation of frequency spectrum in 1999 will place the radiosondes at risk of losing data due to interference from other band users, and force radiosondes to use frequencies that will increase interference with meteorological satellite operations. Both the radiosondes used and the ground equipment must be replace at each of the 102 sites operated or supported by the NWS if the radiosonde program is to continue. In addition, the PCs currently used for radiosonde data ingest and analysis are IBM XTs and can not support the window-based software required to manage the GPS radiosonde data. Finally, new surface observing instrumentation is necessary to calibrate the accuracy of the radiosonde at the point of release.

FY 2001 Plans:

- Procure 32 new ground-based receiving units (total of 41 of 102)
- Complete data processing computer acquisition with 20 remaining units (total of 102)
- Complete surface instrumentation acquisition with 35 remaining units (total of 102)
- Award system installation contract (installation of acquired receivers to begin in FY 2002)
- Procure initial supply of GPS radiosondes

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Number of:				
Radiosonde ground receiving station (acquired)	0	0	9	32
Radiosonde ground receiving stations (installed)	0	0	0	30
NEXRAD delivered (NWS systems)	120	123	123	123
NEXRAD accepted (NWS systems)	118	123	123	123
ASOS (NWS systems)				
Base				
installed	246	246	246	246
accepted	246	246	246	246
Additional ASOS (primarily scaled-down versions)				
installed	15	57	68	68
accepted	10	46	68	68
AWIPS installed	15	16	81	152
AWIPS accepted	0	16	81	152
Complete global temperature and water vapor profiles collected (millions)	158.0	158.0	158.0	285.0
Global cloud cover images collected (thousands)	40.0	40.0	40.0	40.0
Collections from remote terrestrial and marine observation ARGOS platforms (millions)	3.6	3.8	4.0	4.2
Remote ARGOS platforms in service end of year (thousands)	5.5	5.8	6.1	6.4

Commerce Administrative Management System (CAMS): NOAA is requesting $15,824,000 in PAC. All previous requests for CAMS have been made in the Operations, Research, and Facilities (ORF) account. OFA continues to contribute to the design and implementation of CAMS. The purpose of the System is to improve resources management and accountability by integrating various systems and data bases containing financial and other resource data. As such, CAMS will also contribute to NOAA's ongoing efforts to achieve, and then maintain, a clean audit. In order to better serve OFA customers and accommodate staffing decreases, OFA has automated services in grants, acquisitions, and human resources, and made a large volume of various types of information available via the Internet. OFA has also looked at consolidating various services to achieve economies of scale.

Polar-Orbiting Operational Environmental Satellite (POES) Program: The base program for POES includes procurement, launching, and operation of the polar-orbiting satellites, and procurement, operation, and maintenance of their associated ground systems. These satellites provide environmental data for a wide range of national and international applications, including weather forecasts and warnings produced by the National Weather Service. This activity also includes processing and analysis of the satellite data, dissemination of the data to users, research to improve the

satellite system capabilities, studies to define future system needs, and operation of the Search and Rescue program to locate ships and aircraft in distress.

This activity includes the procurement and launch of the polar-orbiting operational environmental satellites, and procurement of the ground system components which command and control the satellites and acquire data from them. The polar-orbiting system obtains global qualitative and quantitative environmental data. Qualitative data include visible and infrared images of cloud and weather features; quantitative data include measurements of the vertical temperature and moisture profile of the atmosphere, sea surface temperatures, vegetation index, and space environmental data. The principal products derived from polar-orbiting satellite data are: (1) vertical temperature and moisture soundings, (2) sea surface temperature measurements, (3) global cloud cover images and mosaics, (4) crop assessment parameters for agriculture monitoring, (5) search and rescue, (6) total ozone measurements, and (7) global heat balance data for climatological analyses. Data from these satellites are also used to produce snow-cover and sea- and lake-ice maps. The polar-orbiting satellites collect data from buoys, ships, aircraft, and remote platforms and relay them to a central processing and distribution site. They provide a relay function for global emergency signals from aircraft and ships in distress under an international Space System for Search of Vessels in Distress/Search and Rescue Satellite Aided Tracking (COSPAS/SARSAT) program. A key element in the success of this program, in addition to the space hardware segment, is the ground processing segment for receiving, processing, and distributing alert notification and location data. Emergency Locator Transmitters (ELT's) used by U.S. aircraft, and beacons in the U.S. recreational and commercial fleet are served by this program.

NOAA-14, launched in December, 1994 and NOAA-15, launched in May, 1998 are the current operational satellites. The subsequent satellites NOAA L through N' are expected to provide polar-orbiting satellite coverage through the end of the next decade, when the Tri-Agency consolidated program becomes operational. Agreement has been reached with Europe (EUMETSAT) to provide the platform for the morning segment starting no earlier than December, 2003. Procurement of the current series of polar-orbiting satellites is a cooperative venture in which NOAA and NASA have key roles. NOAA, as the operating agency, represents the user and defines the basic requirements for the system. NASA, as the agency with multi-disciplinary engineering expertise, develops detailed specifications and procures and arranges for launches of the spacecraft NASA is reimbursed for these services by NOAA. The L and M spacecraft are planned to be launched on USAF Titan launch vehicles procured through NASA. NOAA N & N' satellites will be launched on Delta launch vehicles which will also be procured through NASA unless more cost effective alternatives become available.

The sounder on the satellites through NOAA 14 is comprised of three instruments: the High-Resolution Infrared Radiometric Sounder (HIRS); the Stratospheric Sounding Unit (SSU), which is provided by the United Kingdom; and the Microwave Sounding Unit (MSU). For the NOAA K-N' series of spacecraft, an Advanced Microwave Sounding Unit (AMSU) replaces both the SSU and the MSU. The AMSU has greatly improved microwave all-weather sounding capability. A portion of the AMSU is furnished by the United Kingdom (UK) for NOAA-15, L, and M and by EUMETSAT for NOAA N and N’.

The contract for the NOAA K, L, and M spacecraft was awarded in July, 1988; the contract for two additional satellites (NOAA-N and N') was awarded in December, 1994. With the exception of the improved sounding unit, AMSU, the functional specifications for the NOAA K-N' series are similar to those of NOAA J. The NOAA K-N' spacecraft will be three-axis stabilized satellites carrying the following instruments:

- ATOVS - Advanced Tiros Operational Vertical Sounder consisting of Advanced Microwave Sounding Units A and B; collects atmospheric temperature and water vapor profiles.

- AVHRR - Advanced Very High Resolution Radiometer; collects and records medium resolution (4 km) radiometric data over the entire globe and high resolution (1 km) radiometric data over selected areas of each orbit for tape-recorded relay to NOAA ground stations and centralized analysis. It also provides high resolution (1 km) data and medium resolution (4 km) data with direct readout through the High Resolution Picture Transmission (HRPT) and the Automatic Picture Transmission System respectively.

- DCS - Data Collection System (ARGOS), furnished by France.

- SEM - Space Environment Monitor; measures space environment at spacecraft altitude.

- SBUV - Solar Backscatter Ultra Violet ozone monitoring instrument; collects global ozone measurements.

- SAR - Search and Rescue Instrument; Canada provides the spacecraft repeater and France provides the onboard processor.

The following launch schedule for the polar-orbiting system is for planning purposes only:

PLANNING LAUNCH SCHEDULE - POLAR SYSTEM

NOAA-L	CY 2000
NOAA-M	CY 2001
NOAA-N	CY 2003
NOAA-N'	CY 2008

Actual replacement launch dates are dependent on performance of previous spacecraft in orbit. The above schedule is based on analyses of in-orbit capabilities and life expectancy estimates. NOAA will manage the NOAA K-N' satellite assets to ensure program continuity until the converged system NPOESS become operational.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
POES and DMSP global temperature and water vapor profiles collected [millions]	150,000	300,000	400,000	500,000
POES cloud cover images collected	40,000	40,000	40,000	40,000
Collections from remote terrestrial and marine observations from Argos (POES) platforms [millions]	4.0	4.2	4.4	4.6
Remote Argos platforms in service end of year (POES)	6.100	6,400	6,700	7,000
POES Global ozone measurements collected	485,000	485,000	485,000	485,000
Number of global ocean surface winds [millions]	4.0	70.0	85.0	101.0
Number of RADARSAT Ice Products	2,300	2,700	3,000	3,200
Number of CoastWatch Users	1,200	2,200	3,200	4,200
New coastal hazards types supported	1	1	1	1
Number of derived ocean products (AVHRR CoastWatch)	288	288	288	288
Number of ocean color scenes available to CoastWatch Nodes	1,500	1,500	1,500	1,500
Emergency locator signals collected from aircraft and ships in distress	20,200	21,200	22,300	23,400
Emergency beacons in service at end of year	771,000	804,000	839,000	875,000

National Polar-orbiting Operational Environmental Satellite System (NPOESS): In 1994, the President's landmark decision initiated the integration of the Nation's civil and military operational polar-orbiting meteorological satellite systems into a single, national system capable of satisfying both civil and national security requirements for space-based, remotely sensed environmental data. The tri-agency program formed as a result of this decision is the National Polar-orbiting Operational Environmental Satellite System (NPOESS). Through NPOESS, the U.S. government will reduce duplication of efforts by satisfying the unique requirements of the civil and national security communities, as well as increasing international cooperation, including the open distribution of environmental data. NPOESS has already initiated costs effective efforts to reduce future operational risk by executing early design and fabrication of critical instruments and leveraging mature instruments from satellite development programs at NASA and other agencies. Early flight demonstration of key systems will ensure that new data can be processed and effectively utilized by both civilian and military users before the first operational NPOESS spacecraft is launched late in the next decade. The NPOESS visible, infrared, and microwave sensor suites will deliver higher resolution atmospheric and oceanographic data enabling more accurate short-term weather forecasts and warnings and severe storm warnings, as well as serve the data continuity requirements of the climate community for improved climate prediction and assessment. NPOESS will also provide improved measurements and information about the space environment necessary to ensure reliable operations of space-based and ground-based systems, as well as continue to provide surface data collection and search and rescue capabilities. The tri-agency NPOESS program is

well along the path to creating a high performance, integrated polar satellite system that will cost less, be more responsive to user demands, and deliver more capability that those in use today. This system is jointly funded by NOAA and the Air Force.

Geostationary Operational Environmental Satellite (GOES): The operating objectives of the GOES program are to continue procurement of spacecraft, instruments, launch services, and ground equipment necessary to maintain an uninterrupted, two-satellite, operational geostationary satellite system for the following purposes: (1) provide images of the United States, including adjacent ocean areas, to enable detection of hurricanes and other major weather events, for use in weather forecasts and warnings; (2) obtain quantitative environmental data such as temperature, moisture, wind, radiation flux, and solar energetic particle flux, used in analysis and prediction programs; (3) collect data from remote fixed platforms such as buoys and rain gauges for use in hydrological assessments and numerical weather prediction models; (4) provide continuous, immediate search and rescue detection capabilities to augment the polar-orbiting system; and (5) provide weather information to emergency managers for use in times of severe weather and during other disasters.

This program involves the procurement and launch of the geostationary operational environmental satellites (GOES). GOES 8, launched in April, 1994 and GOES 10, launched in April, 1997 are the two currently operational satellites. GOES 8 continues to operate beyond its 5 year design life. GOES 9 is currently in on-orbit storage as a spare with limited capability. GOES L will be launched in the first half of Fiscal Year 2000 and will become an on-orbit spare. GOES 8 and 9 are the first two satellites of the GOES I-M series. The GOES I-M series satellites each have a five-year design life; however, to assure that replacement satellites are available when needed, the program was structured to have replacement satellites ready three years after the launch of the first two satellites of the series.

The principal products derived from geostationary satellites are: (1) full western hemisphere and sectorized cloud-cover images, (2) derived wind speed and direction, (3) assessments of hurricane motion and intensity, (4) severe thunderstorm and tornado detection and monitoring, (5) warnings of potential flash flooding, (6) observations of atmospheric vertical structure for forecasting severe storm development, and (7) solar radiation and space environmental information. The geostationary satellites also provide data from which snow-cover and sea- and lake-ice maps and products to support agriculture and oceanography are produced.

Procurement of the geostationary satellites is a cooperative venture in which NOAA and NASA have key roles. NOAA, as the operating agency represents the user and defines the basic requirements for the system. NASA, as the agency with multi-disciplinary engineering expertise, develops detailed specifications and procures and launches the spacecraft. NASA is reimbursed for these services by NOAA. The contract for the GOES I-K spacecraft was awarded in October 1985; an option for two additional spacecraft (GOES L and GOES M) was exercised in December 1985. GOES I-M series is a major improvement over previous GOES satellites and has resulted in major improvements in the ability of National Weather Service (NWS) forecasters to more accurately track and analyze severe weather events. This series, in conjunction with new other major NWS systems such as the NEXRAD networks, will continue to play a major role in providing the Nation with improved weather forecasting. Whereas the previous spacecraft were spin-stabilized, GOES I-M are three-axis stabilized. Instruments on GOES I-M are able to view the Earth continuously, rather than

"eyeing" a scene once with each revolution. In addition, GOES I-M are able to provide soundings and images simultaneously; previous GOES systems could only provide either soundings or images at any given time.

GOES N through Q, the series of satellites after GOES-M, is structured for up to four satellites, each with five year operational lifetimes. In FY 1996, a contract was awarded to procure additional imager and sounder instruments for GOES N and O with options for GOES P and Q. In FY 1997, a contract was awarded for two Solar X-Ray Imagers for the GOES N through Q series. In FY 1998, a contract was awarded for the GOES N and O spacecraft and launch services with options for GOES P and Q. Direction to exercise the option for GOES P instruments was provided to NASA in April 1999.

The GOES satellites carry the following instruments:

- GOES sounder - provides measurements of atmospheric temperature and moisture as a function of height in the atmosphere to identify areas with potential development of severe storms.

- GOES Imager - provides infrared and visible images of full or specific segments of the Earth disc.

- SEM - Space Environment Monitor; provides measurements of solar radiation and space environmental data.

- DCS - Data Collection System; collects and relays environmental data measured by over ten thousand remotely located observing platforms.

- Solar X-Ray Imager - DOD-funded instrument to be flown on GOES M. Jointly funded with DOD on subsequent spacecraft.

- Search and Rescue - 406 MHZ receiver capable of continuously detecting distress signals from ships and aircraft. Complements polar-orbiting SAR, which can locate as well as detect distress signals, but must be in orbit over the signal beacon.

- WEFAX and EMWIN- Retransmission of low-resolution meteorological data and other environmental data. Provides up to date weather information to emergency managers.

The following launch schedule is provided for planning purposes only:

PLANNING LAUNCH SCHEDULE - GEOSTATIONARY SYSTEM	
GOES-L	CY 2000
GOES-M	CY 2002
GOES-N	CY 2002
GOES-O	CY 2005
GOES-P	CY 2007
GOES-Q	CY 2010

Actual schedules will be affected by performance of previous spacecraft in orbit.

GOES I-M are launched on Atlas expendable launch vehicles under a commercial launch services contract. The launch services contract for the GOES I-M series was awarded in May 1988. Launch services for GOES N-Q are included in the spacecraft contract and will be compatible with either a Delta-III or Atlas-IIIAS Booster.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Number of quantitative precipitation estimates produced - GOES	1,400	1,400	1,400	1,400
Accuracy of quantitative precipitation estimates - GOES (Percent)	75	75	75	75
Satellite derived atmospheric moisture profiles (GOES) [millions]	12.0	17.52	17.52	17.52
Satellite derived wind velocity estimates - GOES (Western Hemisphere) [millions]	35.0	35.0	35.0	35.0
GOES Atmospheric soundings collected over the US [millions]	17.52	17.52	17.52	17.52
GOES cloud images collected	96,200	96,200	96,200	96,200
Collections from GOES DCS remote platforms [millions]	33.9	34.2	34.5	34.8
GOES DCS platforms in service end of year	14,590	15,175	15,782	16,413
Number of severe weather systems tracked (GOES, POES, and non-NOAA satellites)	180	180	180	180
Percent of time devoted to severe storms tracking (Percent)	30	30	30	30
Number of new CoastWatch product lines added	1	0	2	0

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Systems Acquisition	POS/BA	157	$522,718	130	$597,100	(27)	$74,381
	FTE/Obl						

NEXRAD (Next Generation Weather Radar) (+0 FTE, +$1,331,000): NOAA requests an increase of $1,331,000 for this program in the Procurement, Acquisition and Construction (PAC) account to continue the NEXRAD product improvement initiative and continue acquisition closeout activities.

Background: Technology infusion is vital to the success of the National Weather Service. By infusing technology into observing networks and processing systems, the NWS can ensure continued improvement in weather warnings and forecast services and avoid additional large-scale capital investments such as the NWS Modernization. In the case of NEXRAD, NOAA's National Weather Service and National Severe Storms Laboratory researchers have developed and field-tested new radar detection techniques for use on the NEXRAD radar systems. However, the current processor on the NEXRAD utilizes late 1980's technology and cannot process the new detection algorithms. The Nation's $1.1 billion investment in NEXRAD doppler weather radar technology is being limited by lack of processing capability.

Proposed Actions: During FY 2001, NOAA will continue its efforts to migrate the NEXRAD system to an open systems architecture and continue the closeout of the acquisition contract. Specifically, NOAA will procure hardware to retrofit 58 sites (phase I hardware/ORPG) for a total of 120 out of 129 units (123 operational sites/6 testing/spares).

Benefits: Completion of the NEXRAD system acquisition and deployment has resulted in increased tornado warning lead times from the pre-modernization average of 2 minutes (and in many cases zero) lead time to 10-12 minutes. Combined with the Advanced Weather Interactive Processing System (AWIPS) build 5.0 software technology, the NEXRAD planned product improvement will enable NWS forecasters to increase tornado lead time by an additional 5 minutes and improve the detection of severe thunderstorms by over 20%. Further, the NWS will be able to utilize FAA radars to improve weather forecasting and fill weather radar coverage gaps. The NEXRAD acquisition program supports the goals of the Advance Short-Term Forecasts and Warnings portion of the NOAA Strategic Plan.

Timeliness: Migrating the NEXRAD system to an open systems architecture will support the greater processing capacities which will be required to implement future algorithms and forecasting enhancements. Furthermore, the faster an open systems architecture is deployed, the sooner NWS will be able to achieve operations and maintenance cost savings by replacing proprietary hardware with multiple vendor COTS (Commercial off the Shelf) hardware.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
NEXRADs delivered (NWS systems)	123	123	123	123	123
NEXRADs accepted (NWS systems)	123	123	123	123	123

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
NEXRAD - Systems Acquisition	$ (363)	$ (363)	$ (363)	$(363)	$ (363)
Procurement, Acquisition and Construction	+ $1,331	+ $11,549	+ $4,682	+ $3,509	+ $4,896
Total Changes	+ $968	+ $11,186	+ $4,319	+ $3,146	+ $4,533
Less ORF Systems Acquisition O&M Changes . .	$ (363)	$ (363)	$ (363)	$ (363)	$ (363)
Net Procurement, Acquisition and Construction Change	+ $1,331	+ $11,549	+ $4,682	+ 3,509	+ $4,896

NEXRAD Outyear Funding Profile
(Dollar Amounts in Thousands)

	FY 1998 and Prior	FY 1999 Pres. Approp.	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	All Years
*Procurement, Acquisition and Construction**									
Program Management	$61,199	$930	$615	$442	$0	$0	$0	$0	$63,186
Support Contracts	64,617	800	425	58	0	0	0	0	65,900
Acquisition/Deployment	427,750	0	993	0	2,000	1,000	1,000	0	432,743
Logistics Support	74,631	0	0	0	0	0	0	0	74,631
Facilities/Land	45,639	0	0	0	0	0	0	0	45,639
Planned Product Improvement	9,607	5,270	6,216	9,080	13,398	13,531	9,358	11,745	78,205
Operation & Maintenance	102,321	0	0	0	0	0	0	0	102,321
SAO Acquisition Management	4,364	0	0	0	0	0	0	0	4,364
Level II Data System					1,400	1,400	1,400	1,400	5,600
Subtotal	790,128	7,000	8,249	9,580	16,798	15,931	11,758	13,145	872,589
Operations Research and Facilities									
Operation & Maintenance	79,636	38,346	38,688	38,802	38,802	38,802	38,802	38,802	350,680
Subtotal	79,636	38,346	38,688	38,802	38,802	38,802	38,802	38,802	350,680
PROGRAM TOTAL	$869,764	$45,346	$46,937	$48,382	$55,600	$54,733	$50,560	$51,947	$1,223,269

* Prior to FY 1998, all funding shown associated with categories included in the Procurement, Acquisition, and Construction account was provided in the OR&F appropriation. The table above shows the total cost of the AWIPS acquisition and technology infusion through FY 2005.

Evansville, Indiana Mitigation(+ 0 FTE, + $5,500,000): NOAA requests an increase of $5,500,000 to acquire, deploy, and install an S-band type Doppler weather radar for the Evansville, IN area to ensure continuity of weather services for the Evansville area.

Background: The Modernization Transition Committee (MTC), an independent body commissioned by Public Law 102-567 to perform reviews of the NWS modernization transition concluded there was a degradation of service in the Evansville, IN area when the NWS transferred services to new forecast offices in the area. One area of degradation identified by the MTC was radar coverage. In response to the MTC findings, the NWS completed an action plan outlining necessary mitigation actions to address the MTC's concerns. Specifically, the action plan recommends the acquisition and deployment of a commercially available S-type Doppler radar with an effective coverage radius of 125 nautical miles.

Proposed Actions: With the funding provided, the NWS will acquire the S-band radar with initial spares and tower; acquire fixed site infrastructure including power backup and shelter, and acquire land, install communications and provide for required architecture and engineering work. Annual operations and maintenance costs associated with this radar have been included in the NEXRAD O&M budget in ORF ($269,000 recurring).

Benefits: These actions will enable the NWS to mitigate the service degradation found by the MTC, and ensure the provision of modernized weather services to the Evansville, IN area.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Evansville, IN Mitigation	+ $5,500	0	0	0	0

Automated Surface Observing System (ASOS) (0 FTE, + $1,285,000): NOAA requests an increase of $1,285,000 for this program in the PAC account to continue product improvement efforts in developing and testing new sensor capabilities. Specific product improvement activities include; replacing an obsolete ASOS data processor, developing a new all weather precipitation sensor to address aviation weather requirements, and developing a new dew-point sensor to address current maintenance problems.

Background: ASOS is required to provide reliable, 24-hour per day, continuous automated surface weather observations which are critical to NWS forecast and warning activities. Under the ASOS product improvement portion of this acquisition program, NOAA is developing new ASOS sensor capabilities in order to meet changing user requirements and decrease maintenance demands. During FY 2001, development and procurement activities will focus on: 1) the new all-weather precipitation gage necessary to address current ASOS deficiencies in observing different forms of freezing precipitation. The FAA and the aviation industry require improved freezing rain/snow identification for safe aircraft landing and takeoff operations; 2) the new dew-point sensor necessary to replace the current sensor which currently requires repairs once every 2-3 weeks (9 times the current standard) expending valuable maintenance staff time and travel; and 3) the ASOS processor upgrade required to meet current and future sensor algorithm demands. The current processor is a 286 based chip. Its processing capability is currently at maximum levels leaving no room for additional sensor improvements. Already, software work-arounds have been required to prevent corruption of observational data due to processor overloads.

Proposed Actions: During FY 2001, NOAA will continue ASOS product improvement activities including: 1) the procurement of test units and testing and integration into ASOS for the all weather precipitation gage ($0.65 million); 2) procurement and deployment of 250 processors of a total 314 ($1.2 million); 3) procurement and deployment of 75 dew-point sensors of a total of 314 ($0.6 million); and 4) continue development and test for the ice-free wind sensor ($0.11 million).

Benefits: These investments in new ASOS sensors will improve the accuracy and reliability of the NWS surface observing data set in support of local forecasts and warnings and the aviation industry as well as reducing maintenance resources. In addition, the ability to observe more weather parameters accurately such as freezing rain will improve the safety of the national airspace and improve NWS local warnings and forecasts.

Timeliness: Implementation of ASOS enhancements are required for NWS to reduce future ASOS maintenance levels and to meet future forecasting requirements.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
ASOS (NWS systems)					
Base					
installed	246	246	246	246	246
accepted	246	246	246	246	246
Additional ASOS (primarily scaled-down versions)					
installed	68	68	68	68	68
accepted	68	68	68	68	68
ASOS Product Improvement Activities					
Dewpoint Sensor					
development & testing	x	x			
field tested	20	0	20		
installed	0	120	270	315	0
Ice Free Wind Sensor					
development & testing	x				
field tested	20	20			
installed	0	20	170	315	0
All Weather Precip Gauge					
development & testing	x				
field tested	0				
installed	0	229	85	0	0

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Dew-point Sensor					
development & testing	x	x			
field tested	0	0	0	0	
installed	0	75	174	65	150
Processor					
field tested	0				
installed	0	250	64	0	0

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
ASOS - Systems Acquisition	28	28	28	28	28
Procurement, Acquisition and Construction	+ $1,285	+ $4,725	+ $2,815	+ $1,655	+ $6,154
Total Changes	+ $1,313	+ $4,753	+ $2,843	+ $1,683	+ $6,182
Less ORF Systems Acquisition O&M Changes	28	28	28	28	28
Net Procurement, Acquisition and Construction Change	+ $1,285	+ $4,725	+ $2,815	+ $1,655	+ $6,154

ASOS Outyear Funding Profile
(Dollar Amounts in Thousands)

	FY 1998 and Prior	FY 1999 Pres. Approp	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	All Years
*Procurement, Acquisition and Construction**									
Program Management*	$31,227	$2,355	$2,563	$2,563	$2,563	$2,563	$2,563	$2,563	$51,660
Exp. Of Alt. Sys. Design*	13,128	0	0	0	0	0	0	0	13,128
Competitive Demonstration*	12,814	0	0	0	0	0	0	0	12,814
Full-scale Development*	5,978	0	0	0	0	0	0	0	5,978
New Sensor Development	1,080	1,500	1,277	2,562	2,562	2,562	2,562	2,562	16,667
Production/Deployment*	56,889	0	0	0	0	0	0	0	56,889
Planned Product Improvement*	16,522	0	0	0	0	0	0	0	16,522
Operation & Maintenance*	25,472	0	0	0	0	0	0	0	25,472
SAO Acquisition Management*		1,393	0	0	0	0	0	0	0
1,393									
Subtotal	167,203	3,855	3,840	5,125	5,125	5,125	5,125	5,125	200,523
Operations Research and Facilities									
Operation & Maintenance	9,402	7,116	7,317	7,423	7,423	7,423	7,423	7,423	60,950
Subtotal	9,402	7,116	7,317	7,423	7,423	7,423	7,423	7,423	60,950
PROGRAM TOTAL	$176,605	$10,971	$11,157	$12,548	$12,548	$12,548	$12,548	12,548	$261,473

* Prior to FY 1998, all funding shown associated with categories included in the Procurement, Acquisition, and Construction account was provided in the OR&F appropriation.

AWIPS/NOAAPort (-27 FTE, +$1,361,000): NOAA requests a decreases of 27 FTEs and an increase of $1,361,000 for this program in the PAC account to support continued Build 5.0 software development efforts, critical infrastructure protection investments, and continue critical system technology infusion activities. This represents the second year of a three year effort to upgrade to AWIPS Build 5.0 capabilities. The reduction in FTEs represents the planned downsizing of the AWIPS Acquisition Office.

Background: AWIPS integrates and displays hydrometeorological data acquired from modernized sensors and local sources, provides computational and display functions at operational sites, and provides an interactive communications system to interconnect NWS operational sites, and disseminate warnings and forecasts in a rapid, highly reliable manner. Deployment of AWIPS baseline systems was completed in June 1999 incorporating Build 4.2 software.

Proposed Actions: The FY 2001 request allows for the currently planned technology infusion activities (mainly Software Build 5) and associated program management. Funds will be used to continue with the second year of the three year phased AWIPS Build 5.0 development ($11.1 million); identify cost effective methods for more efficient data storage through data compression ($0.18 million); improve operational effectiveness and maintenance at National Centers and OCONUS sites ($0.8 million); provide decision assistance tools to support hydrometeorological warning and forecast operations in high impact data situations, resulting in increased lead times ($0.3 million); and will increase the AWIPS communications bandwidth to address growing data volumes associated with central radar data collection and improved NCEP forecast model data ($0.8 million). Within this request, $1.3 million is requested to protect the AWIPS network against catastrophic failure, as recommended in the 1997 National Research Council Assessment on the AWIPS program including investments to provide redundancy and backup for the following single points of failure: AWIPS master ground station, space segment of the Satellite Broadcast Network (satellite transponder), and the Network Control Facility. The FY 2001 investment will focus on the NCF backup. The request includes a decrease of $0.95 million associated with the downsizing of the AWIPS Program Office consistent with deployment contract close-out; and a decrease of $1.6 million reflecting the completion of AWIPS delivery to the Secretary's Mitigation sites in Key West, Florida and Caribou, Maine.

Benefits: AWIPS, including Build 5 capabilities will substantially improve the productivity of the staff involved with the performance of day-to-day NWS operations enabling a 69 FTE reduction to authorized field staffing. It will also significantly improve the timeliness and accuracy of weather forecasts and warnings by implementing prototype software shown to increase severe storm probability of detection by 20% and reduce false alarm rates by roughly the same amount. AWIPS Build 5 will provide full NEXRAD Principle User Processor (PUP) functionality enabling the PUP to be decommissioned at AWIPS locations. In conjunction with new NEXRAD ORPG technology, AWIPS will increase the overall tornado warning lead time by over 5 minutes (11 minutes to 16 minutes).

Timeliness: The AWIPS build 5.0 investment and continuing investments in technology infusion are critical to: efficiently and effectively utilize modernized data sets; fully capitalizing on the AWIPS deployment investment to improve forecasts and warnings; and to achieve staff productivity and efficiencies envisioned under the NWS Restructuring and Modernization plan.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
AWIPS installed & accepted	154	154	154	154	154

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
AWIPS - Systems Acquisition	+ $5,832	+ $5,832	+ $5,832	+ $5,832	+ $5,832
Procurement, Acquisition and Construction	$1,361	$2,761	($6,294)	($7,239)	($7,286)
Total Changes	+ $7,193	+ $8,593	+ ($462)	+ ($1,407)	+ ($1,454)
Less ORF Systems Acquisition O&M Changes . .	$5,832	$5,832	$5,832	$5,832	$5,832
Net Procurement, Acquisition and Construction Change	$1,361	$2,761	($6,294)	($7,239)	($7,286)

AWIPS Outyear Funding Profile
(Dollar Amounts in Thousands)

	FY 1998 and Prior	FY 1999 Pres. Approp.	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	All Years
*Procurement, Acquisition and Construction **									
Program Management	$35,738	$3,432	$2,950	$2,000	$2,000	$2,023	$2,078	$2,135	$52,356
Exp. of Alt Sys. Design	$18,543	0	0	0	0	0	0	0	18,543
Full-scale Development	$265,746	8,976	0	0	0	0	0	0	274,722
Production, Deployment	139,454	54,034	1,600	0	0	0	0	0	195,088
Technology Infusion	0	250	10,325	13,200	11,545	5,652	4,602	4,533	50,107
Catastrophic Backup	0	0	239	1,300	2,955	1,150	1,200	1,200	8,044
SAO Acquisition Management	5,995	975	825	800	800	820	820	785	11,820
Operation & Maintenance	12,769		0	0	0	0	0	0	12,769
Subtotal	478,245	67,667	15,939	17,300	17,300	9,645	8,700	8,653	623,449
Operations Research and Facilities									
Program Management	0	0	0	0	0	0	0	0	0
Operation & Maintenance	0	12,189	32,028	38,642	38,642	38,642	38,642	38,642	237,427
Subtotal	0	12,189	32,028	38,642	38,642	38,642	38,642	38,642	237,427
TOTAL	$478,245	$79,856	$47,967	$55,942	$55,942	$48,287	$47,342	$47,295	860,876

* Prior to FY 1998, all funding shown associated with categories included in the Procurement, Acquisition, and Construction account was provided in the OR&F appropriation. The table above shows the total cost of the AWIPS acquisition and technology infusion through FY 2005.

Upgrade Central Computer Facility (0 FTE, + $2,027,000): NOAA requests an increase of $2,027,000 for a total of $13,085,000 to make contractual lease payments on the Class VIII system, provide for necessary operations, maintenance, and communications support, and begin acquisition of the next generation supercomputer capability for numerical weather prediction (NWP). This initiative supports the NWP part of the combined NWS climate and NWP computing requirements.

Background: The NWS Central Computer Facility provides the main supercomputing capability for the production of numerical weather prediction models, and their associated forecast guidance products used by NWS forecasters. Through continuing investments in supercomputer technology systems with higher data capacities and faster processing speeds, the NWS will be able to improve the accuracy and specificity of forecasts of major storms including hurricanes, severe thunderstorms, and winter storms. The central computer facility upgrade will also continue improvements in larger scale weather guidance products for day two and beyond. Improvements in these larger scale products will allow NWS forecasters to concentrate more on smaller-scale, short-term weather warnings and forecasts.

Proposed Actions: The NWS will continue the lease payments on the Class VIII supercomputer ($11,600,000), and provide the necessary funding to operate and maintain the Class VIII system ($1,485,000). Specifically, the FY 2001 funding will provide necessary communications and workstation support to sustain operations.

Starting in FY 2001, the NWS will invest in the acquisition of the next generation supercomputing capability to address NWP and climate forecasting requirements (see HPC for Operational Climate Forecasting initiative). Based on the results of a planned competitive acquisition process for this capability, NCEP with either upgrade the existing Class VIII system and architecture or procure a new system. These options will be evaluated in terms of reaching the best economic and technical solution for the Government. A three year computer upgrade cycle, with a fourth year of operations and overlap is assumed in order to maximize the Government's dollar to computational power value. NCEP analysis has shown that a longer upgrade cycle will result in a lag between NCEP computer capability and the industry dollar-performance curve: after three years, the same level investment can be better used to obtain much greater value. However, the NWS is evaluating alternative acquisition strategies to maximize value to the Government including potential outsourcing of the system upgrade itself. This could enable NWS to set performance criteria over a longer time frame, given a level investment, and give the contractor the responsibility to meet these criteria with the latest available technology.

These actions will permit NCEP to maintain continuity of its supercomputing capability and to continue implementing improvements in NWS forecast guidance products; especially for hurricane, aviation, and severe weather guidance.

Benefits: The HPC systems operated by the NWS have delivered accurate and timely weather forecasts to the Nation for many years. The high quality of the numerical weather prediction program in the NWS is demonstrated every day by the behavior of those private sector companies that use NWS products, with little modification, to provide weather forecasts to commercial interests and the public. The NWS HPC system contributes to almost every NWS performance measure except tornado warnings. However, even tornado warnings benefit through improved guidance because forecasters can be alerted to the potential for severe weather through improved model guidance. Improvements in numerical techniques are aimed at

producing more accurate predictions of severe weather events on decreasing spatial scales and at extending time scales to better serve the public. NCEP documented an annual benefit to the Nation of $220 Million in its Benefit/Cost study for the Class VIII system by identifying a few specific improvements in short-term weather forecasts and warnings. Weather sensitive industries that benefit from improved forecasts include agriculture, construction, and aviation. Similar annual savings will be realized by continuing to improve short-term forecasts supported by the increased computational power of the next generation NWP capability. Specific model resolution improvements from the Class VIII to the next generation NWP system include: 10Km to 2Km resolution for the regional storm-scale model (Eta) used for pinpointing areas of potential severe weather and estimating rainfall quantities; 20km to 10Km resolution for the RUC model supporting hazardous weather and turbulence detection for aviation; and 12 Km to 5 Km resolution for the hurricane model used to predict the intensity, path, and landfall location of hurricanes.

Timeliness: Sufficient funding must be available to ensure continuity of NCEP's supercomputer operations.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Upgrade Central Computer Facility	+ $2,027	+ $27	+ $2,027	+ $2,027	+ $2,827

Central Computer Upgrade Outyear Funding Profile
(Dollar Amounts in Thousands)

	FY 1998 and Prior	FY 1999 Approp	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Complete
Procurement, Acquisition and Construction									
Cray Y-MP8 (Replacement J-916)	2,700	400	0	0	0	0	0	0	3,100
Class VIII Acquisition (Oper Lease)*		9,000	10,000	10,000	2,800				31,800
Class VIII Maintenance & Support			1,600	1,600	1,000				4,200
Front-End Computer Maint. Savings			(1,000)	0	0	0	0	0	(1,000)
Next Gen. NWP Acquisition			0	0	5,000	10,000	10,000	5,000	30,000
Next Gen. NWP Maint & Support			0	0	800	1,600	1,600	1,600	5,600
Next Gen. Follow-on NWP Acquisition								5,000	5,000
Next Gen. Follow-on NWP Maint. & Support								800	800
Interactive Systems	0	500	485	500	500	500	500	500	3,500
NCEP Communications	0	0	0	985	985	985	985	985	4,925
NWS Gateway	2,300	0	0	0	0	0	0	0	2,300
Subtotal	5,000	9,900	11,085	13,085	11,085	13,085	13,085	13,885	90,210
Operations Research and Facilities									
Cray Y-MP8 (Replacement J -916)	35,062	0	0	0	0	0	0	0	35,062
Class VII Acquisition (C-90 Lease)	41,990	4,000	0	0	0	0	0	0	45,990
Front-End Computer Maint. Savings	(1,500)	(1,000)	0	0	0	0	0	0	(2,500)
Class VIII Maint & Support	0	1,600	0	0	0	0	0	0	1,600
Support Devices	4,426	0	0	0	0	0	0	0	4,426
Power Protection System	1,645	0	0	0	0	0	0	0	1,645
NWS Gateway	5,105	0	0	0	0	0	0	0	5,105
Subtotal	86,728	4,600	0	0	0	0	0	0	91,328
PROGRAM TOTAL	$91,728	$14,500	$11,100	$13,085	$11,085	$13,085	$13,085	13,885	181,538

* $1.8M used in FY 1999 to extend C90 operations through code conversion effort. Actual Class VIII investment is $30.0 M; $5.8 O&M.

High Performance Computing for Operational Climate Forecasts (0 FTE, + $2,000,000): NOAA requests $2,000,000 to augment planned investment for next generation weather prediction computing to implement operational climate prediction models. In addition, communication upgrades will enable collaborative climate modeling development activities with other high performance computing centers to facilitate the necessary level of climate research. This investment will enable the NWS to extend current threat assessment products for drought, flooding, and fire; produce a three month heat wave forecast, issue probability forecasts for extreme weather, and forecast weaker El Niño and La Niña events.

Background: This investment will substantially advance climate predictions and support this linkage of climate forecasts to the assessment of risks due to extreme weather events such as floods, droughts, hurricanes, and fire weather over periods from 1 to 2 weeks out to seasons in advance. This will be accomplished by implementing an integrated operational suite of weather and climate forecasts using advance computational models of the atmosphere, ocean, land, and hydrological cycles supported by a state-of-the-art data assimilation system. This integrated suite will address events that occur on spatial scales ranging from that of thunderstorm clusters to global weather patterns and time scales from minutes to seasons.

This initiative supports a higher performance computing system which provides the additional computational power necessary for the operational implementation of integrated climate forecasts. A high capacity communications system is also required to connect the next generation computing system to other HPC centers within NOAA and in other federal agencies such as Department of Energy and the National Science Foundation. The huge computational demands of future generation forecast models and systems development require NCEP to utilize these centers for research and development efforts. NCEP scientists will engage in collaborative research to meets its forecasting performance metrics. A similar high capacity communications system will connect NCEP to its remote service centers and to the NWS in Silver Spring.

Quantification of Computational Power Requirement vs. Demand (NWS & Climate):

NCEP has conducted a thorough review of its future HPC needs in relationship to planned improvements in NWP applications and the implementation of operational climate modeling. The requirement for sustained GFLOPs (a measure of HPC computational power) increases substantially in order to improve the spatial resolutions of existing NWP models. When NWP development and operational climate modeling are introduced, the GFLOP requirement increases another order of magnitude; from 150 sustained GFLOPs for the Class VIII phase 2 system to a projected 700 GFLOPS by FY 2003 (climate development activities would be implemented on external host systems through upgraded communication hubs). Robust HPC capabilities are required to meet these demands, and to fulfill the objectives established above.

In order to estimate associated costs for the requirements, NCEP has used hypotheses from Dr. Buzbee, of the National Center for Atmospheric Research (NCAR) which dictate how much computer power one can buy with $1 million, and "Moore's Law" which dictate the market efficiency for computing technology: given a level dollar investment, available computing power doubles every 18 months. When NCEP's combined operational climate and NWP computing requirements are compared to performance curves associated with a $10 million annual investment and a $15 million annual investment, the $15 million curve most closely matches quantified NCEP performance requirements. This supports the addition of $5 million per year to Central Computer Upgrade profile to achieve operational climate capabilities with NWP.

Proposed Actions: A total of $1.88 million will be invested in the next generational supercomputer to add capabilities for operational Climate forecasting (ramp-up to a total $15 million annual investment for climate and NWP beginning in FY03), with $0.3 million in associated system O&M. Based on the results of a planned competitive acquisition process for this capability, NCEP will either upgrade the existing Class VIII system and architecture or procure a new system. These options will be evaluated in terms of reaching the best economic and technical solution for the Government. This would not constitute a separate procurement from the next generation NWP capability but would be integrated under one acquisition to meet NCEP's requirements for operational climate prediction and NWP. In addition, $120 thousand will go toward establishing up high speed communications hubs at the National Centers. Communications investments starting in FY 2002 will establish links to 4 external HPC centers for collaborate climate research.

Benefits: The advanced NCEP suite of atmosphere, ocean, and land models will help improve forecast accuracy on all time scales from minutes to multi seasons in order to better serve the Nation. The communications system will support collaborative research and development. The integrated suite of operational climate and weather forecasts (discussed in a separate initiative) will reach maturity with the creation of new products such as forecasts for severe droughts and floods and forecasts for the likelihood of extreme events. Such forecasts are critical to water and emergency managers for risk mitigation. These products will serve a broad spectrum of users in the public and private sectors including those interested in public health, agriculture, energy, insurance, and finance. Products of this type were critical in mitigating El Niño induced weather damage during the winter of 1997-1998.

By fully implementing an integrated suite of operational climate and weather forecasts, the added socio-economic benefits achieved in all public and private sectors through the mitigation of risk from severe climate events such as El Niño will be even longer. The mitigation effect for the 1997/98 El Niño in California alone is estimated at several hundred million dollars. The benefit of risk mitigation for El Niño events in the agricultural sector is estimated to be several billion dollars over a 12-15 year period. In addition, the operational climate forecasting system is also expected to significantly improve the ability of the NWS to provide advanced warnings on the likelihood of potential hazardous weather events.

The successful forecast of the 1997/98 El Niño event and its impacts on the United States demonstrated the capability and potential benefits of physical model-based operational seasonal climate forecasts. Full implementation of the integrated suite of operational climate and weather forecasts is the necessary next step to transfer new climate prediction technology achieved from climate research and development into NWS's enhanced operational forecasting capability.

HPC for Operational Climate Forecasts
(Dollar Amounts in Thousands)

	FY 1998 and Prior	FY 1999 Approp	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Complete
Procurement, Acquisition and Construction									
Next Gen. Climate Acquisition			0	2,500	5,000	5,000	5,000	2,000	19,500
Next Gen. Climate Maint. & Support				400	1,100	1,100	1,100	500	4,200
Next Gen. Follow-on Climate Acquisition								3,000	3,000
Next Gen. Follow-on Maint. & Support			0	0	0	0	0	600	600
Establish/Maintain High Speed Comms Links				120	320	100	100	100	740
Total Program	0	0	0	2,000	6,420	6,200	6,200	6,200	27,020

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
HPC for Operational Climate Forecasts	+ $2,000	+ $6,420	+ $6,200	+ $6,200	+ $6,200

NOAA Weather Radio Expansion & Voice Enhancement (0 FTE + $ 6,244,000) -NOAA requests an increase of $6,244,000 to upgrade and expand the NOAA Weather Radio (NWR) network to cover 95% of the population by acquiring and installing new, state-of-the-art NWR stations in areas that currently have marginal or no NWR coverage. In addition, the NWS plans to deploy an improved NOAA Weather Radio (NWR) automated voicing capability for use in broadcasting of warnings and short-fused watches as generated by the AWIPS text- to-voice function. The automated voice technology will enable clearer, easier to understand dissemination of warnings and forecasts.

Background: The NWR network is the sole Government owned and operated radio network used for the direct broadcast of weather warnings and forecasts, and other hazard information to the public. NWR provides a critical means for the NWS to alert the public to severe weather events which may pose a risk to lives or damage property. When used in homes, schools, and other public meeting places, NWR can automatically alert people to take protective action in advance of fast paced, short-fused, severe weather events such as thunderstorms, tornadoes, or flash floods. NWR provides weather warning broadcasts to over 200 million citizens (75% of population) within the United States. However, over 75 million citizens in rural sections of the Country are not covered by NWR.

In 1994, the NWS began an initiative advocated by Vice President Gore to expand the NWR network to reach 95% of the population. This initiative was based on using a public-private partnership to install new NWR stations where state and local governments or private organizations would pay for the acquisition and deployment of the new units, and the NWS would provide continuing operations and maintenance support. While this partnership has brought results (over 100 new stations added to the network since 1994), the NWS estimates that NWR coverage improvement in over 300 additional areas is still required to meet the 95% goal.

The CRS or NWR 2000, relies on a synthesized voice technology to simulate the human voice for the NWR broadcasts. This simulated voice can be hard to understand, especially by the hearing impaired, as the pronunciation of words in many cases does not match the normal patterns of the human voice. Emergency Alert System (EAS) broadcasters have indicated concern over the current NWR voice quality; some have chosen not to broadcast the synthesized messages. The NWS recommends investing resources to improve this functionality for short-fused warnings and watches in order to ensure that weather warnings to the public are more understandable.

Proposed Actions: This initiative will begin a government-sponsored NWR expansion with the acquisition of 30 new transmitters ($4,500K) with associated contract installation and logistics. The necessary O&M for new transmitters under the public-private partnership and refurbishment activities are contained in the Operations, Research and Facilities (OR&F) account. For NWR voice enhancement, during FY 2001, the NWS will procure and install the hardware and software necessary to implement the automated voice technology at each NWS WFO; and contract for concatenated voice recordings ($1,744K).

Benefits: This initiative will enable the NWS to increase NWR coverage to 95 percent of the population in each state by FY 2005. Fulfillment of this goal will ensure Nationwide access to timely and reliable delivery of “all hazards” warnings of impending events to the public. The higher quality concatenated voice will be better accepted by the commercial broadcasters and will result in increased transmission and wider dissemination of NWS

warnings and watches directly into commercial broadcast networks. Increased dissemination and improved comprehension of warnings and watches will result in decreased property damage and fatalities.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2000 Base (BA in Thousands)					
NWR Expansion and Voice Enhancement	+ $6,244	0	0	0	0

High Performance Computing and Communications - GFDL (0 FTE, + $2,019,000): NOAA requests an increase of $2,019,000 for the full-year lease or purchase of a very large, scalable computer system that will provide critical computing, storage, and analysis capabilities to NOAA's Geophysical Fluid Dynamics Laboratory (GFDL). Funding requested and provided last year was prorated to provide start-up costs plus lease payments for 2 months. This computing initiative is essential if NOAA is to leverage the world-class research staff and modeling capabilities now in place at GFDL to address important research problems in climate and weather research. The laboratory's on-going model development effort, supported by HPCC, is positioning GFDL to take full advantage of the scalable architectures being developed by the American computer industry.

Background: Since NOAA scientists at GFDL developed the first coupled ocean-atmosphere climate model in 1969, these simulations have become the primary modeling tool for predicting climate behavior on time scales from months to centuries, with NOAA/GFDL research continuing to be at the forefront of this effort. Concern about climate change and the '97-98 El Niño event have spurred interest around the world, including the United States, for the development of national programs to improve climate prediction capabilities. Assuming responsibility for this program is an ambitious but necessary endeavor for NOAA if we are to have sound, reliable predictions. However, the success of these efforts will depend heavily on physics-based climate modeling and fundamental climate science, two areas in which NOAA/GFDL scientists are among the world's leaders. A sharp increase in computing and archival capabilities is the remaining ingredient required to allow the Laboratory to attack the very difficult problems confronting the climate research community and to support on-going and developing research collaborations within NOAA and with other government agencies, academic institutions, and research centers around the world.

Proposed Actions: NOAA proposes full-year funding for the comprehensive scalable computer system which was acquired in FY 2000. This system includes very large computing and storage capacity and the balanced analysis, visualization, and technical support that is required to make the most effective use of state-of-the-art, HPCC-sponsored technology being developed by the American computer industry.

Benefits: This enhanced computational capability is essential for world class scientific talent at NOAA/GFDL to attack some of the most difficult, but critical problems that inhibit progress in decadal-centennial climate change projections, seasonal-interannual climate predictions, and the next-generation hurricane prediction system. These problems include: (1) *Cloud-Radiative Feedback*, the dominant source of uncertainty in today's climate change projections, and which demand a very large increase in computing capability to develop more realistic cloud representations for global climate models; (2) *Model Climate "Drift" and Improved Initialization of the Model Ocean*, one of the most vexing and universal problems in modeling the behavior of the climate system and a major barrier to providing the credible regional climate projections that are a high priority of coming U.S. and Intergovernmental Panel on Climate Change (IPCC) climate assessments; (3) *Physically Consistent Seasonal-Interannual Climate Prediction*, the key to developing improved physically-based model forecasts of El Niño events and gaining a better understanding of the processes controlling these events; (4) *Development of a More Advanced GFDL Hurricane Prediction System*, providing improved prediction of hurricanes, including changes in storm intensity and ocean response. Progress toward resolving these problems is of great importance to the Nation, given the potential benefit to the national economy of more accurate projections of climate change and better predictions of El Niño events and tropical storms. Given GFDL's outstanding track record for leveraging its computational resources to produce critical scientific breakthroughs, the funding of this computational increase represents one of the best investments that the Nation can make toward the critical effort to improve climate change projections and weather predictions.

Measures of Performance: The research drivers that are the focus of this initiative involve the very leading edge of research activities in climate and weather. In order to track the progress of these very difficult research efforts, NOAA/GFDL will provide a phased schedule for reporting scientific progress and execution of key modeling experiments over the life of the computing system through FY 2004 to address the following four scientific objectives:

- Develop a more realistic model representation of cloud-radiative feedback. This will result in improved regional projections of climate change that will help the broader research community determine the impacts of climate change as part of the U.S. climate research program and the IPCC climate change assessment in 2005.

- Identify and evaluate sources of climate "drift" in long-running, higher resolution, coupled climate models, including investigation of the effects of the deep ocean circulation on model behavior.

- Develop the next-generation GFDL coupled research model using more realistic physics, higher resolution, and full ocean-atmosphere-soil coupling and evaluate its skill for seasonal-interannual climate prediction and its capability for elucidating the processes controlling El Niño Southern Oscillation events.

- Develop a more advanced GFDL Hurricane Prediction System to further improve track forecasting accuracy and to provide improved prediction of wind and precipitation fields, storm surge, and changes in storm intensity.

Performance measures that will track system capabilities such as computing and storage capacity will be implemented once the contract is awarded.

Milestones:

FY 1999
- Perform market survey of industry, including release for vendor comment of early versions of possible benchmark codes.
- Issue Request For Information to solicit vendor comments regarding draft version of full benchmark suite and statement of needs.

FY 2000
- Award contract.
- Complete site preparation and install initial systems.

FY 2001
- Evaluate the capabilities of a more advanced GFDL Hurricane Prediction System for providing improved track forecasts as well as predicting other storm features, such as wind and precipitation field and changes in storm intensity.

FY 2002
- Demonstrate progress in improving the capabilities of the next-generation GFDL coupled research model for predicting seasonal-interannual climate and for elucidating some of the processes that control El Niño Southern Oscillation events.

FY 2003
- Isolate some sources of climate "drift" and define a strategy for reducing their effect on long-running, higher resolution coupled climate models.

FY 2004
- Provide higher resolution projections of climate change, with improved representations of clouds and ocean circulation, to the impacts research community as part of the 2005 IPCC climate change assessment.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Lease costs	$5,500	$5,500	$5,500	$5,500	$5,500
Services	$1,500	$1,500	$1,500	$1,500	$1,500

High Performance Computing and Communications
Geophysical Fluid Dynamics Laboratory
High Performance Computing System
(Dollar Amounts in Thousands)

	FY 1998 and Prior	FY 1999 Approp.	FY 2000	FY 2001	FY 2002	FY2003	FY2004	FY 2005	To Complete	All Years
Procurement, Acquisition, and Construction										
Lease costs	0	0	3,581	5,500	5,500	5,500	5,500	5,500	35,550	67,135
Services	0	0	1,400	1,500	1,500	1,500	1,500	1,500	9,450	17,846
Total	0	0	4,981	7,000	7,000	7,000	7,000	7,000	45,000	36,200

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
HPCC/GFDL (Systems Acquisition	+$2,019	+$2,019	+$2,019	+$2,019	+$2,019

Polar-Orbiting System (+0 FTE, +$23,366,000): NOAA request a total increase of $23,366,000 for this program in the Procurement, Acquisition and Construction account to provide for the continuation of the current polar-orbiting satellite acquisition program and for the inclusion of the converged National Polar-Orbiting Environmental Satellite System (NPOESS).

This increase is the net sum of the current polar K-N' program and an increase to the Polar Convergence program:

NOAA Polar (K-N') (0 FTE, +$6,484,000): NOAA requests an increase of $6,484,000 to continue the procurement of the NOAA L through N' satellites, instrument, launch services and ground systems. In FY 2001 these funds are required to maintain spacecraft production at the contractor's Sunnyvale, California facility which was relocated from New Jersey in 1998. The request also includes funds necessary to complete the instruments for the European METOP satellite which will replace NOAA's morning polar orbiting satellite no earlier than December 2003.

In FY 2001 procurement will begin for the new Delta launch vehicle which will be used to launch NOAA-N and N'. The satellites preceding NOAA N will be launched on Titan launch vehicles.

This request provides funding for upgrading and replacing aging and deteriorating ground systems to allow for continuation of operations for the remainder of the Polar K-N' series through the end of its lifetime in about 2011. Funding is also included for replacing and upgrading the aging and deteriorating product generation and distribution system.

National Polar-Orbiting Environmental Satellite System (NPOESS) (+0 FTE, +$16,882,000): NOAA requests an increase of 0 FTE, and $16,882,000 for the continuation of the tri-agency polar-orbiting satellite program beyond the NOAA K through N' series.

This FY 2001 request represents NOAA's share of the Converged NOAA/DoD/NASA program. NOAA and DoD contribute equal funding for NPOESS on an annual basis. In FY 2001 funds will be required to continue the post-Preliminary Design Review (PDR) development for the five most technologically challenging NPOESS instruments. These instruments include: the Visible Infrared Imager Radiometer Suite (VIIRS), the Conical Microwave Imager Sounder (CMIS), the Cross-track Infrared Sounder (CrIS), the Ozone Mapping and Profiler Suite (OMPS), and the Global Positioning System Occultation Sensor (GPSOS). An additional sensor, the Space Environmental Sensing Suite (SESS) will be in its first full year of program definition and risk reduction. Continuation of these contracts is necessary for their timely and cost effective development, critical to a successful risk reduction strategy for NPOESS and ultimately the availability of the NPOESS system to replace both the Defense Meteorological Satellite Program (DMSP) and the NOAA Polar Orbiting Environmental Satellite (POES) spacecraft when needed.

In addition to the continuation of these instrument development contracts, FY 2001 funds will support risk reduction demonstration efforts in the Command, Control, and Communications Segment (C3S) and in the Interface Data Processor Segment (IDPS). These activities are needed in preparation for the NPOESS Acquisition Milestone II and to support early sensor flight opportunities on the NPOESS Preparatory Project (NPP). Command, Control, and Communications Segment activities include conducting site surveys and environmental mitigation studies at potential mission data recovery sites, the purchase of antennas and associated electronics, and the start of construction for antenna upgrades at Fairbanks, Alaska for NPP and NPOESS data acquisition.

FY 2001 funds will support the continuation of early convergence of DMSP and POES programs, with a primary focus on upgrades to the Operational Linescan System (OLS) on the DMSP satellites. Additional FY 2001 funds will support Internal Government Studies (IGS) among multiple universities and government laboratories to provide proof of concept for instrument techniques and/or methodologies and to investigate feasibility for satisfying

the highest priority currently unaccommodated environmental data requirements for the converged system. Most of the remainder of the FY 2001 request is accounted for in system definition, design, and development efforts involving industry, government, and university talents in preparation for the NPOESS Acquisition Milestone II. The converged satellite program combines the requirements of both the civil and national security communities into a single national system. NPOESS through early flights of opportunity will improve the use of existing assets, provide improved data to the national security and the civil users earlier than expected. In addition, NPOESS will defer major system funding commitments until absolutely necessary based on the launch success and health of existing assets, and save the taxpayer substantial funds in both the near and long term. The FY 2001 request will ensure the continued health and success of this critical national program.

Background: NOAA is the civilian satellite agency responsible for providing the Nation with global environmental data. These data are critical input to NOAA's National Weather Service forecasts and warnings, and are used in global climate and other environmental analyses. The polar-orbiting spacecraft also provide one of the two satellite systems that make up the international Search and Rescue program.

Proposed Actions: The proposed funding level continues the procurement of the NOAA M through N' satellites, instruments, launch services, ground systems support to provide coverage until the converged polar-orbiting satellites (NPOESS) become operational. Also included in this request is funding to continue procurement of instruments that will be flown on METOP polar orbiting environmental satellites that are planned to provide morning coverage after NOAA -15. The National Polar-orbiting Operational Environmental Satellite System (NPOESS) program will initiate and continue Phase II production of five critical sensors and algorithms to meet the civil and national security requirements for acquiring and disseminating global and regional, space based, remotely-sensed environmental data. In addition, the Space Environmental Sensor Suite (SESS) will be in the first full year of Phase I of sensor design and definition and risk reduction.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
POES and DMSP global temperature and water vapor profiles collected [millions]	500	700	900	1,200	1,200
POES cloud cover images collected	40,000	40,000	40,000	40,000	40,000
Collections from remote terrestrial and marine observations from Argos (POES) platforms [millions]	4.2	4.8	5.0	5.2	5.4
Remote Argos platforms in service end of year (POES)	7,000	7,300	7,600	7,900	8,200
POES Global ozone measurements collected	485,000	485,000	485,000	485,000	485,000
Number of global ocean surface winds [millions]	85.0	101.0	101.0	101.0	101.0
Number of RADARSAT Ice Products	3,200	3,200	3,200	3,200	3,200
Number of CoastWatch Users	4,200	5,200	6,200	7,200	8,200
New coastal hazards products/services developed and available	3	0	0	0	0
Number of ocean color scenes available to CoastWatch Nodes	1,500	1,500	1,500	1,500	1,500
Emergency locator signals collected from aircraft and ships in distress	23,400	24,500	25,700	27,000	29,200
Emergency beacons in at end of year	875,000	900,000	935,000	975,000	1,100,000

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Polar Orbiting Systems	+$23,366	+$103,443	+$149,228	+$201,760	+$213,779

POLAR-ORBITING SYSTEM
(Dollar amounts in thousands)

	FY 99 & Prior	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	TO COMPLETE	ALL YEARS
Procurement, Acquisition and Construction									
NOAA K-N'									
Spacecraft	$994,815	$93,213	$89,146	$85,443	$ 59,946	312,816	32,816	52,112	1,448,094
Launching	150,625	24,319	21,869	25,572	17,114	19,837	19,837	20,848	299,190
Ground Systems	58,511	11,999	25,000	25,000	25,000	25,000	25,000	////	195,510
Dual Pass Opns	3,642	950	950	950	950	950	950	////	9,342
Subtotal	1,207,593	130,481	136,965	136,965	103,010	85,559	78,603	72,960	1,952,136
Polar Convergence	139,500	59,772	77,654	156,731	236,471	306,454	325,429	2,384,966	3,685,977
Total Program	$1,347,093*	$190,253	$213,619	$293,696	$339,481	$392,013	$404,032	$2,457,926	$5,638,113

//// - Funding to be determined.

Geostationary System (+0 FTE, +$25,221,000): NOAA requests a net increase of 0 FTE and +$25,221,000 for this program in the Procurement, Acquisition and Construction account to provide for continued procurement of GOES I-M geostationary satellites and instruments, launch services, ground systems, systems support, and the procurement of additional GOES systems (GOES N-Q) necessary to maintain continuity of geostationary operations.

GOES I-M (0 FTE, -$18,174,000): NOAA requests a decrease of 0 FTE and -$18,174,000 to continue production of the GOES L and M satellites, related launch services and ground systems. GOES 8 and 10 are currently providing operational geostationary coverage. GOES K(10) which was launched in April 1997 was serving as an on-orbit spare until July 1998 when it was placed in operations to replace GOES 9. Due to operational problems GOES 9 was placed in storage in August 1998 as a spare with limited capability. GOES L is planned for launch in Spring 2000 and GOES M will be available for launch as early as 2001. This requested decrease in funding reflects the normal year-to-year cost variances associated with multi year systems procurement.

GOES N-Q (0 FTE, +$43,395,000): NOAA requests an increase of $43,395,000 in FY 2001 to continue production of up to four additional satellites required beyond the GOES I through M series currently in production. In FY 2001 these funds will be used to continue funding the firm fixed price contract for GOES N-Q spacecraft and launch services which was awarded in January 1998. In addition, under separate contract, production will continue for the Imager and Sounder instruments required for these satellites. The production of the Solar X-ray Imager (SXI) instruments will also continue under a third contract. The first in this series of satellites will be available for launch in fall of 2001. Evolutionary improvements to the system will be incorporated to meet National requirements and to exploit technological advances. This request includes funds to begin technical concept designs and studies of what manufactures can cost effectively produce for the next series of GOES instruments, the first set of which will fly on GOES-Q. These instruments will have the additional capabilities required to meet unmet NWS requirements.

This request provides funding for upgrading and replacing aging and deteriorating ground systems to allow for continuation of operations for the remainder of the GOES I-M series through the end of its lifetime in about 2007. This funding will also be used for implementing GOES N-Q ground systems which require expansion of the front-end sensor data processing system. Funding is also included for replacing and upgrading the aging and deteriorating product generate and distribution system.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Geostationary Systems	+$25,222	-$28,067	-$45,638	-$73,719	-$81,709

GEOSTATIONARY SYSTEM
(Dollar amounts in thousands)

	FY 99 & Prior	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	TO COMPLETE	ALL YEARS
Procurement, Acquisition and Construction									
GOES I-M:									
Spacecraft	$1,289,300	34,682	18,715	15,460	4,000	1,700	1,700	1,700	1,367,257
Launching	359,710	38,681	39,400	0	0	0	0	////	437,791
Ground Systems	76,344	0	0	0	0	0	0	0	76,344
Subtotal	1,725,354	73,363	58,115	15,460	4,000	1,700	1,700	1,700	1,881,392
Wallops Backup	7,805	500	500	500	500	500	500	////	10,805
Total I-M/Wallops	1,733,159	73,863	58,615	15,960	4,500	2,200	2,200	1,700	1,892,197
GOES N-Q:									
Spacecraft/Launching	372,154	173,739	207,209	183,025	185,164	159,583	105,993	817,680	2,200,813
Ground Systems	37,294	18,000	25,000	25,000	25,000	25,000	25,000	////	180,294
SEI				13,550	3,800	2,600	700	350	21,000
Subtotal N-Q	409,448	191,739	232,209	221,575	213,964	187,183	131,693	818,030	2,402,107
GOES R			0	0	1,500	2,500	50,000	////	54,000
Total Program	$2,142,607	$265,602	$290,824	$237,535	$219,964	$191,883	$183,893	$819,730	$4,348,313

//// - Funding to be determined.

* Includes the effects of rescissions and reprogrammings.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Number of quantitative precipitation estimates produced (GOES)	1,400	1,400	1,400	1,400	1,400
Accuracy of quantitative precipitation (GOES) [Percent]	75	75	75	75	75
Satellite derived wind velocity estimates (GOES) Western Hemisphere [millions]	35.0	35.0	35.0	35.0	35.0
GOES Atmospheric soundings collected over the US [millions]	17.52	17.52	17.52	17.52	17.52
GOES cloud images collected	96,200	96,200	96,200	96,200	96,200
Collections from GOES DCS remote platforms [millions] 36.0		34.8	35.1	35.4	35.7
GOES DCS platforms in service end of year	16,413	17,069	17,751	18,460	19,200
Number of severe weather system tracked (GOES, POES, and non-NOAA satellites	180	180	180	180	180
Percent of time devoted to severe storms tracking (Percent)	30	30	30	30	30
Number of new CoastWatch product line added	2	0	0	0	0

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Procurement, Acquisition, and Construction
Subactivity: Systems Acquisition

Title:	Grade	Number	Annual Salary	Total Salaries
Telecommunications Spec.	14	(1)	$78,746	($78,746)
Computer Specialist	14	(1)	$78,746	($78,746)
Program Analyst	14	(2)	$76,359	($152,718)
Electrical Engineer	14	(6)	$76,359	($458,154)
General Physical Scientist	14	(6)	$76,359	($458,154)
Program Analyst	13	(1)	$66,637	($66,637)
Quality Assurance Specialist	13	(1)	$66,637	($66,637)
Computer Specialist	13	(3)	$66,637	($199,911)
Program Analyst	12	(2)	$56,038	($112,076)
Meteorologist	9	(1)	$38,645	($38,645)
Secretary	8	(1)	$36,044	($36,044)
Secretary	7	(1)	$30,173	($30,173)
Secretary	6	(1)	$28,750	($28,750)
Total		(27)	$776,130	($1,805,391)

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Procurement, Acquisition and Construction

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: Procurement, Acquisition and Construction
Subactivity: Construction

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	$0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting Services	0
25.2	Ohter Services	8,089
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	2,000
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	$10,089

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Procurement, Acquisition, and Construction
Subactivity: Systems Acquisition

Personnel Data	Number
Full-Time Equivalent Employment	
Full-time permanent	(27)
Other than full-time permanent	0
Total	(27)
Authorized Positions:	
Full-time permanent	(27)
Other than full-time permanent	0
Total	(27)

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Procurement, Acquisition and Construction

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Activity: Procurement, Acquisition and Construction
Subactivity: Systems Acquisition

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	(1,805)
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	(1,805)
12.1	Civilian personnel benefits	(382)
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	(18,174)
25.3	Purchases of goods and services from Government accounts	0
25.5	R&D Contracts	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(20,361)

PROCUREMENT, ACQUISITION AND CONSTRUCTION (PAC)
CONSTRUCTION
STRATEGIC PLANNING GOALS AND OBJECTIVES

The Construction activity of the Procurement, Acquisition and Construction (PAC) account supports all of NOAA's Strategic Planning Goals, either directly, or as supporting infrastructure. Below is a brief characterization of the PAC account in the context of these goals.

GOAL - ADVANCE SHORT TERM WARNING AND FORECAST SERVICES

NOAA is well underway toward completing the largest modernization and restructuring effort in the history of the NWS. This effort will result in the transition of the current weather office structure to 121 Weather Forecast Offices (WFOs) and 13 River Forecast Centers (RFCs). Infrastructure requirements which support this major undertaking include implementing the facilities modernization program; and completing the restructuring of the National Meteorological Center into the National Centers for Environmental Prediction (NCEP). In addition NOAA requests funding to complete scoping and initiate design of a joint operational facility to house the National Center for Environmental Prediction (NCEP) and components of NESDIS and to begin detailed planning and project development associated with the construction of a new facility and renovation of existing facilities to house NWS and OAR operational and research centers at the University of Oklahoma (O.U.).

GOAL - BUILD SUSTAINABLE FISHERIES

In support of the Build Sustainable Fisheries Goal, NOAA is requesting funding to continue the current scoping work for the eventual formal design for the Honolulu Lab renewal project, the Montlake Pilot Plant, the La Jolla Coastal Bluff Stabilization Project and for the construction of new NMFS state-of-the-art research facilities in Juneau, Alaska.

GOAL - SUSTAIN HEALTHY COASTS

In support of the Sustaining Healthy Coasts Goal, NOAA is requesting funding to continue support for land acquisition in the National Estuarine Reserch Reserve System and facilities construction in the National Marine Sanctuary Program.

GOAL - ALL STRATEGIC PLAN GOALS

The NOAA Strategic Plan, which provides a framework for articulating program goals, forms the basis of the NOAA budget formulation process, from which resource priorities are established. The strategy consists of seven inter-related program goals, which enable the implementation and advancement of national, Department of Commerce, and NOAA objectives. The laboratory being built in Boulder, Colorado supports all seven of these goals.

Construction
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Advance Short-Term Warning and Forecast Services										
Suistain NWS Modernization	5	10,376	5	12,523	5	12,523	5	12,526		3
Infrastructure		2,823		2,773		2,773		88		(2,685)
Total ASTWFS	**5**	**13,199**	**5**	**15,296**	**5**	**15,296**	**5**	**12,614**		**(2,682)**
Implement Seasonal to Interannual Climate Forecast										
Infrastructure		64						2		2
Total ISICF		**64**						**2**		**2**
Predict and Assess Decadal-to-Centennial Change										
Infrastructure		64						2		2
Total PADCC		**64**						**2**		**2**
Build Sustainable Fisheries										
Infrastructure		9,195		10,453		10,453		5,688		(4,765)
Total BSF		**9,195**		**10,453**		**10,453**		**5,688**		**(4,765)**
Recover Protected Species										
Infrastructure		559						18		18
Total RPS		**559**						**18**		**18**
Sustain Healthy Coasts										
Infrastructure		11,115		16,250		16,250		11,002		(5,248)
Total SHC		**11,115**		**16,250**		**16,250**		**11,002**		**(5,248)**
Infrastructure										
Construction/Facilities/Env. Compliance										
Total Infra										
Total for Const	**5**	**34,196**	**5**	**41,999**	**5**	**41,999**	**5**	**29,326**		**(12,673)**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINSTRATION
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Construction

Line Item		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Boulder	Pos./BA.	0	6,370	0	0	0		0		0	
	FTE/Obl.	0	5,338	0	1,075	0	0	0	0	0	0
NWS WFO Construction	Pos./BA.	5	8,881	5	9,490	5		5		0	
	FTE/Obl.	5	9,041	5	10,938	5	9,490	5	9,526	0	36
National Centers for Environmental Prediction	Pos./BA.	0	850	0	0	0		0		0	
	FTE/Obl.	0	285	0	760	0	0	0	0	0	0
Santa Cruz Research Lab	Pos./BA.	0	4,200	0	0	0		0		0	
	FTE/Obl.	0	14,140	0	3,239	0	0	0	0	0	0
Nat'l Estuarine Research Reserve Construction	Pos./BA.	0	7,300	0	13,250	0		0		0	
	FTE/Obl.	0	6,678	0	13,975	0	13,250	0	8,000	0	(5,250)
Honolulu Fisheries Lab	Pos./BA.	0	0	0	0	0		0		0	
	FTE/Obl.	0	410	0	3,029	0	0	0	0	0	0
Gulf Coast Lab	Pos./BA.	0	0	0	0	0		0		0	
	FTE/Obl.	0	6,049	0	(49)	0	0	0	0	0	0
Alaska Facilities Juneau	Pos./BA.	0	0	0	747	0		0		0	
	FTE/Obl.	0	471	0	11,816	0	747	0	1,000	0	253
La Jolla Bluffs	Pos./BA.	0	0	0	0	0		0		0	
	FTE/Obl.	0	0	0	0	0	0	0	4,600	0	4,600

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINSTRATION
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Construction (Continued)

Line Item		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Norman Consolidation	Pos./BA.	0	0	0	0	0		0		0	
	FTE/Obl.	0	0	0	0	0	0	0	3,000	0	3,000
Ship Creek	Pos./BA.	0	0	0	3,235	0		0		0	
	FTE/Obl.	0	0	0	3,235	0	3,235	0	0	0	(3,235)
Sea Life Center	Pos./BA.	0	0	0	5,084	0		0		0	
	FTE/Obl.	0	0	0	5,084	0	5,084	0	0	0	(5,084)
Pribilof Island Cleanup	Pos./BA.	0	700	0	0	0		0		0	
	FTE/Obl.	0	1,793	0	12,167	0	0	0	0	0	0
Marine Sanctuaries	Pos./BA.	0	0	0	3,000	0		0		0	
	FTE/Obl.	0	0	0	3,000	0	3,000	0	3,000	0	0
NORC Rehabilitation	Pos./BA.	0	0	0	3,033	0		0		0	
	FTE/Obl.	0	0	0	3,033	0	3,033	0	0	0	(3,033)
Charleston/Fort Johnson	Pos./BA.	0	3,000	0	0	0		0		0	
	FTE/Obl.	0	0	0	3,000	0	0	0	0	0	0
Outer Banks Community Foundation	Pos./BA.	0	750	0	0	0		0		0	
	FTE/Obl.	0	1,000	0	750	0	0	0	0	0	0
New York Facilities	Pos./BA.	0	1,000	0	0	0		0		0	
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINSTRATION
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Construction (Continued)

Line Item		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Botanical Gardens	Pos./BA.	0	500		1,387	0		0		0	
	FTE/Obl.	0	500	0	1,387	0	1,387	0	0	0	(1,387)
Western Region Consolidation	Pos./BA.	0	0	0	0	0		0		0	
	FTE/Obl.	0	0	0	0	0	0	0	200	0	200
Suitland Facility	Pos./BA.	0	0	0	2,773	0		0		0	
	FTE/Obl.	0	0	0	2,773	0	2,773	0	0	0	(2,773)
Total	Pos./BA	**5**	**33,551**	**5**	**41,999**						
	FTE/OBL.	**5**	**45,703**	**5**	**79,212**	**5**	**41,999**	**5**	**29,326**	**0**	**(12,673)**

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition and Construction (PAC)
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Construction**

Background

The objectives of this account are to capture the non-recurring costs of acquiring and/or improving capital assets used by NOAA in carrying out its varied missions. Creation of this account meets the requirement of OMB Circular A-11 as amended, and NOAA's request seeks advanced appropriations for certain assets falling into this category. Advanced appropriations will allow NOAA to realize procurement efficiencies, management accountability, as well as to reflect full cost of acquisition and/or improvement of an asset.

Goal Statement

To provide for land acquisition, the construction of new facilities, and additions to existing facilities in the most economical, efficient and effective manner.

Proposed Legislation

No legislation is proposed for FY 2001.

Base Program

New Construction: The FY 2001 base program for Procurement, Acquisition and Construction (PAC) provides for land acquisition, construction, and related expenses for new facilities, and major additions and/or modifications to existing facilities. The base program also includes projects previously approved for which appropriations were received in prior fiscal years. Although over time the mix of specific projects changes, the purpose of the account is for capital assets acquisition. Below is a description of the base projects funded in the PAC account in FY 2001.

National Weather Service & Weather Forecast Office (WFO) Construction: A major facilities modernization program is nearly complete that will meet National Weather Service (NWS) Weather Forecast Office (WFO) facility requirements supporting the provision of public weather services and the nationwide fielding of NEXRAD systems. The program involves land acquisition, engineering, facility design, and site preparation, modification, and construction of 121 WFOs and 13 collocated River Forecast Centers (RFCs). The facilities effort is structured by the NWS to ensure completion of the WFOs/RFCs in sufficient time to receive the NEXRAD units as contractually scheduled and also ensures retrofit of completed facilities to comply with building codes, safety and maintainability requirements. In addition, this program provides for NWS construction projects located in Alaska and Pacific Region.

***National Estuarine Research Reserve System*:** The National Estuarine Research Reserve System (NERRS) is a federal-state partnership designed to protect valuable estuarine resources for research and education. Reserves are publicly-owned lands and onsite facilities provide opportunities for researchers as well as the public to better understand these estuarine areas. With the addition of three new reserves over the last two years and two more to be added in FY 2001, construction of new facilities at these reserves will begin. In addition, supplementing or updating facilities at the other 22 reserves will be carried out as envisioned in the system-wide facilities plan. All construction activities are based on the current needs for implementing core NERRS programs. Reserves will acquire additional, near-by critical habitat which has been identified. Acquisition of key properties from willing sellers will increase estuarine habitat protection and serve as places for conducting long-term science, education, and resource stewardship.

***National Marine Sanctuaries*:** The National Marine Sanctuary Program is undertaking a comprehensive facilities plan that prioritizes needs and opportunities at individual sites for constructing sanctuary visitor centers and conducting collaborative education projects. In order to help establish an appreciation of Sanctuary resources by the public, the Program will begin to construct a network of regional visitor centers. Whenever possible, Sanctuaries utilize existing aquaria, museums, and other appropriate facilities to develop cooperative centers, where the public and environmental decision makers can gain direct, objective and focused information on major conservation issues.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Weather Forecast Offices:				
Build/Lease	110	113	115	119
Occupied	110	113	114	119

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Construction	POS/BA	5	$41,999	5	$29,326	0	($12,673)
	FTE/Obl						

Western Region Consolidation (+0 FTE, +$200,000): NOAA requests an increase of 0 FTE and $200,000 for the design work in connection with the relocation of OMAO personnel and light industrial operations at the Marine Operations Center (MOC), Seattle, to NOAA's Regional Center (WRC) in Seattle, Washington. Completing the design work to ultimately move MOC to WRC will eliminate the need for a leased facility and avoid a large increase in lease costs expected in 2003. Funding will be used to complete scoping activities and for the design contract and design review. NOAA has occupied the present MOC facility since 1963 under two consecutive 20 year leases. The present lease will expire in 2003. Relocation of the ships will be required but no decisions have been made regarding future home ports.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Western Region Consolidation	+$200	+$2,370	+$0	+$0	+$0

WFO Construction (0 FTE, +$36,000): NOAA requests an increase of $36,000 for WFO Construction. Total funding of $9,526,000 will enable the NWS to complete the NWS Facilities Modernization program. Specifically, the request will fund existing WFO leases and retrofit projects, such as meeting maintainability requirements and HVAC upgrades will continue at selected sites. In addition, the request includes funding to continue the Alaska Region construction projects, support for the Pacific projects, and construction of a new Weather Forecast Office in Caribou, Maine and planning and A/E services support for the new WFO in Key West, Florida. The construction of new WFOs in Key West and Caribou were recommended by the Secretary of Commerce in December of 1997, following a special two year study prepared by a team of experts from the Department of Commerce.

Background: The remaining NWS systems are now being deployed, and it is critically important that the facilities keep pace to support the Weather Forecast Office (WFO) transition. The Facilities Modernization Program will provide 121 modernized WFOs and 13 River Forecast Centers at end state.

Proposed Actions: The construction program will continue in FY 2001. The architectural, engineering, administrative, and management efforts associated with construction will likewise ramp down and remaining Government Furnished Equipment (GFE) will be procured. Retrofits to previously completed WFOs will also continue to bring all facilities up to current code, add needed space, and improve maintainability. In FY 2001, the NWS needs to continue:

- WFO Caribou - Begin construction of the new Weather Forecast Office.

- WFO Key West - Planning and design for WFO construction.

- Retrofit Program - Many completed facilities require retrofits due to changes in code requirements, safety, conditions, and mission. Projects scheduled for FY2001 are:

  - Requirements Catch-Up: Continue the correction of HVAC (Heating, Ventilation, and Air Conditioning) controls and equipment to eliminate temperature fluctuations.

- Lease Payments - The NWS must continue to pay rent for the 13 WFO facilities which were converted to leases as well as a portion of the combined NTC-AWC facility.

- Alaska Region Facilities Program - This multi-year program will build a new West Coast Alaska Tsunami Warning Center (ATWC) and upgrade sub-standard Data Collection Offices (DCO), Upper Air Inflation Structures (UAIS), and government housing units in remote areas of Alaska. The Program will construct 30 government housing units, rehabilitate 11, and lease 7. Three new DCOs will be built and 10 will be rehabilitated. Four UAISs will be constructed and 6 will be modified. At many locations throughout Alaska the NWS and FAA use collocated operational facilities, but at times both groups have had separate housing complexes. However, through an agreement between the NWS and FAA, the

agencies have agreed to investigate collocated housing opportunities. FY2001 project sites include St. Paul (Housing Construction), McGrath (Site Preparation, Cold Bay (A/E Services), Barrow (Program Planning), ATWC (GFE Furniture), and Kotzebue (WSO Construction).

! Pacific Region Projects - At Hilo, the NWS will construct a new WSO/DCO to replace the existing office located in State-owned but not maintained abandoned terminal; in American Samoa, the NWS shall expand/renovate/modernize the existing late 1950s vintage WSO to accommodate additional staff and program upgrades; complete bathroom and kitchen renovations at the 40 year old PTWC residences.

Benefits: Consolidating the current services and operations of approximately 300 offices into 121 "high-tech" WFOs is a key element toward the transition to modernized weather services. In addition, employees in the Alaska and Pacific regions will be provided modernized operational and living quarters facilities necessary to support mission requirements.

Timeliness: The NWS must build or otherwise provide up-to-date, code-compliant facilities to fulfill the goals of the NWS modernization and to ensure an adequate working and living environment for NWS employees. Failure to implement the above actions may jeopardize field operational activities by not providing a reliable facilities infrastructure.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Weather Forecast Offices:					
Build/Lease	119	121	121	121	121
Occupied	119	121	121	121	121

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
WFO Construction	$36	$13,000	$13,000	$13,000	$13,000

Juneau Laboratory (0 FTE, +$253,000): NOAA requests an increase of $253,000 for the continued design and planning of the NMFS Laboratory in Juneau, AK.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Juneau Laboratory	+$253	+$20,000	$15,000	0	0

Botanical Gardens (0 FTE, -$1,387,000): NOAA requests a decrease of $1,387,000 to eliminate funding of this task that was not requested in the FY 2000 budget.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Botanical Gardens	($1,387)	($1,387)	($1,387)	($1,387)	($1,387)

Suitland (+0 FTE, -$2,773,000): NOAA requests a decrease of $2,773,000 reflecting the initiation of the facility planning and design process in FY 2000. In addition to the FY 2000 enacted appropriation of $2.7 million for initial design and preparation, OMB has provided advanced appropriation of $15.2 million in the FY 2002 Budget to begin construction. During FY 2001 NOAA will continue working with GSA in preparing the design work for this new NOAA Suitland facility. The space NOAA occupied at the Suitland Federal Center, Federal Building No. 4 (FB4), has significant asbestos problems. In addition to the asbestos concerns, water-testing results confirmed the presence of a harmful substance in the water (coliforms), thereby warranting the use of bottled water for human consumption. Also, due to the age of the facility, numerous roof leaks and other building system failures constitute threats to NOAA's critical infrastructure activities housed in the building. In order to accommodate NOAA's long term space requirement, GSA (on behalf of NOAA) initiated a Prospectus Development Study and has finalized NOAA's requirements for the Suitland Federal Center. GSA has designated this building as a high priority with a target completion date of FY 2004.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Suitland	($2,773)	+$15,200	+$3,000	0	0

NORC Rehabilitation (+0 FTE, -$3,033,000): NOAA requests a decrease of $3,033,000 to discontinue funding this task that was not requested in the FY 2000 budget.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
NORC Rehabilitation	($3,033)	($3,033)	($3,033)	($3,033)	($3,033)

SeaLife Center (+0 FTE, -$5,084,000): NOAA requests a decrease of $5,084,000 to discontinue funding of this task that was not requested in the FY 2000 budget.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
SeaLife Center	($5,084)	($5,084)	($5,084)	($5,084)	($5,084)

Ship Creek (+0 FTE, -$3,235,000): NOAA requests a decrease of $3,235,000 to discontinue funding of this task that was not requested in the FY 2000 budget.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Ship Creek	($3,235)	($3,235)	($3,235)	($3,235)	($3,235)

Norman Consolidation Project (+0 FTE, +$3,000,000): NOAA requests $3,000,000 to begin detailed planning and project development associated with the construction of a new facility and renovation of existing facilities to house NWS and OAR operational and research centers at the University of Oklahoma (O.U.). This facility will bring together NOAA's critical weather warning and forecast operations and research components in Norman with O.U.'s academic expertise in meteorology to form a national weather center. President Clinton, in a recent weekly radio address following the severe tornado outbreak in Oklahoma and Kansas, stated his support for such a center.

Background: NOAA plans to lease space to be constructed by the University of Oklahoma on the South Base portion of its main campus, for the National Severe Storms Laboratory (NSSL), the Storm Prediction Center (SPC), the Norman Weather Forecast Office (WFO), and the training and applications branches of the Operational Support Facility (OSF). The O.U. School of Meteorology and all its associated meteorological functions are also to be housed in this new facility. The major portion of the OSF will be located on the University's North Base to maintain adjacency to the radars that support its operation.

The FY 1999 appropriations report directed that NOAA apply $150 K from its facilities maintenance line item to conduct studies of space requirements for Norman. The Deputy Under Secretary has now approved the initiation of detailed scoping as described in Phase Two of the Project Development, Approval and Management (PDAM) process. OMB has now identified $3 million for FY 2001 and $22 million for FY2002 in support of this project.

Proposed Actions: The project is divided into two phases: (1) the new facility at the South Base, and (2) the renovation, with a small addition, of the current facilities at the North Base. Occupancy of Phase One would begin October, 2003 and be completed April, 2004.

The functional requirements have been reevaluated and scrubbed with the assistance of an A/E contractor. The completed rough order of magnitude requirements for the entire project are:

- Total Project 155,400 gross square feet.
- Phase One is 97,400 sq. ft. new construction at South Base.
- Phase Two is 49,800 sq. ft. renovation and addition, 8,200 sq. ft. as is at North Base

Benefits: The consolidation will relieve overcrowding, replace facilities which contain code violations and faulty building systems, eliminate use of temporary modular buildings, and enhance collaboration between NOAA research and applications components, and the University's meteorological research.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Norman Consolidation	+$3,000	+$22,000	0	0	0

La Jolla Coast Bluff Stabilization Project (0 FTE, +$4,600,000): NOAA request an increase of 0 FTE, and $4,600,000 to begin construction of an anchor "tie-back" retaining wall, horizontal drains, and a pioneer access road along the face of the bluff, and the installation of rock revetment at the base of the bluff. This project will prevent a potential catastrophic loss of the facility from either natural coastal erosion or an earthquake. The La Jolla project was initiated in response to failures to the adjacent bluffs in February 1997 and more recently to a neighboring bluff in February 1999.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
La Jolla Coast Bluff Stabilization Project	+ $4,600	+ $5,000	0	0	0

National Estuarine Research Reserve System (0 FTE, -$5,250,000): NOAA requests a net decrease of $5,250,000 for procurement, acquisition, and construction for the National Estuarine Research Reserve System (NERRS). As part of the Lands Legacy Initiative to protect and restore marine resources, NOAA requests a total of $8,000,000 to meet operational needs for NERRS by providing additional protection of key estuarine habitats through land acquisition and construction of facilities for existing and new reserves. These federal funds are leveraged with matching funds from the NERRS state partners. The System will expand from its current 25 reserves to an anticipated total of 27 reserves by the end of FY 2001 (additional reserves will be added in California and New York). Over one million acres of estuarine habitat are currently protected by NERRS. However, a majority of the reserves have identified additional critical habitat that requires protection and can serve as places for conducting long-term science, education, and demonstration projects.

Following are examples of possible NERRS acquisitions: wetlands and other habitat slated for development; threatened and endangered species habitat; areas for habitat restoration; additional areas for conducting long term research on water quality, land uses, and estuarine functions; and sites for construction of NERRS public facilities. Additional funding is also needed for facility construction at the two new reserves and for supplementing or updating facilities at the remaining 25 reserves. This increase will provide funds to develop construction plans and initiate construction of core facilities at the new reserves. Additions or renovation at the exisitng reserves will be funded based on current needs for implementing the core NERRS program. Examples of facilities that are needed at existing sites include visitor, research and education centers, interpretive exhibits, and boardwalks to ease visitor access and protect resources. Decreases of $7,250,000 are requested, reflecting the discontinuation of specific funding in the amount of $2,500,000 for Kachemak Bay NERR, $4,000,000 for Great Bay NERR land acquisition, and $750,000 for Jacques Cousteau NERR, as directed in FY 2000 appropriations.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
National Estuarine Research Reserve System	-$5,250	+ $8,000	+ $8,000	+ $8,000	+ $8,000

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Procurement, Acquisition and Construction

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: Procurement, Acquisition and Construction
Subactivity: Construction

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	$0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting Services	0
25.2	Ohter Services	8,089
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	2,000
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	$10,089

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Procurement, Acquisition and Construction

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: Procurement, Acquisition and Construction
Subactivity: Construction

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	$0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting Services	0
25.2	Other services	(15,512)
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(7,250)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	($22,762)

Procurement, Acquisition and Construction
FLEET REPLACEMENT
STRATEGIC PLANNING GOALS AND OBJECTIVES

The Fleet Replacement activity of the Procurement, Acquisition and Construction account supports NOAA's Build Sustainable Fisheries Strategic Planning Goals. Below is a brief characterization of the Fleet Replacement account in the context of these goals.

GOAL - BUILD SUSTAINABLE U.S. FISHERIES

The Fleet Replacement activity ensures that NOAA will be able to continue to provide observation and data collection platforms in support of assessing the status of fishery resources, improving fishery predictions, reducing bycatch, and managing fisheries stocks.

Fleet Replacement
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Build Sustainable Fisheries										
Infrastructure				51,371		51,371		8,300		(43,071)
Total BSF				**51,371**		**51,371**		**8,300**		**(43,071)**
Recover Protected Species										
Infrastructure								8,000		8,000
Total RPS								**8,000**		**8,000**
Total for Fleet				**51,371**		**51,371**		**16,300**		**(35,071)**

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINSTRATION
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Fleet Replacement

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
Line Item		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Research Vessel	Pos./BA.	0	0	0	51,371	0		0		0	
	FTE/Obl.	0	0	0	51,371	0	51,371	0	8,300	0	(43,071)
Adventurous Refurbishment	Pos./BA.	0	0	0	0	0		0		0	
	FTE/Obl.	0	0	0	0	0	0	0	8,000	0	8,000
Total	Pos./BA	**0**	**0**	**0**	**51,371**						
	FTE/OBL.	**0**	**0**	**0**	**51,371**	**0**	**51,371**	**0**	**16,300**	**0**	**(35,071)**

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Procurement, Acquisition and Construction
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Fleet Replacement**

Background

The objectives of this activity are to capture the non-recurring costs of acquiring and/or improving vessels used by NOAA in carrying out its varied missions. Creation of this activity meets the requirement of OMB Circular A-11, as amended, and NOAA's request seeks advanced appropriations for vessels falling into this category. Advanced appropriations will allow NOAA to realize procurement efficiencies, management accountability, as well as to reflect full cost of acquisition and/or improvement of and upgrades of ships, ship systems, subsystems and equipment.

Goal Statement

Modernize NOAA's fisheries, survey, and oceanographic research ship support capability to allow critical data collection requirements to be met effectively well into the 21st century.

Proposed Legislation

No legislation is proposed for this activity.

Base Program

In FY 2000, $51,386,000 provided in the Procurement, Acquisition, and Construction account for the construction of the first of four new Fisheries Research Vessel (FRV). Funding to design these replacement vessels was included in the non-Capital FY 1998 Appropriation. FRVs are essential for conducting the stock assessment surveys necessary to monitor species' abundance, recruitment, age composition and their responses to ecological changes and fisheries pressure. The collection of fisheries and marine mammal information at-sea is essential to this mission and to the development of sensible regulations governing commercial and recreational fishing activities.

NOAA's nine current fisheries research vessels are reaching the end of their useful lives and are becoming technologically obsolete. Replacement of these existing vessels, combined with chartering university and private commercial sources to the maximum extent possible, will enable NOAA to carry out its responsibilities under the Magnuson-Stevens Fisheries Conservation and Management Act, Marine Mammal Protection Act, and the Endangered Species Act. Ship resources will be devoted to the sea time needed to assess the status of fisheries stocks and populations of marine mammals. Significant improvement in the quality of data is anticipated because of the capabilities of these acoustically quiet dedicated FRVs. The reduced error margins in the scientific data NOAA collects will result in greater public confidence in fishing quotas.

The vessels needed to support the Build Sustainable Fisheries and Recover Protected Species elements of the NOAA Strategic Plan must be highly capable platforms. Based on the mission, varying range and endurance, the vessels must provide equipment to conduct bottom and midwater trawls, long lining, and pot hauling, egg and larval studies, bottom grabs, submersible, and scuba operations. They require a standard suite of state-of-the-art scientific sensors, e.g., Acoustic Doppler Current Profilers (ADCP), Conductivity, Temperature, and Depth (CTD) instruments. In addition, the vessels must have the ability to conduct hydro-acoustic fish surveys, support remote (underwater, aerial, and satellite) sensing operations, and conduct real-time oceanographic and meteorological sampling. The ships must also be highly maneuverable at low speeds and be acoustically "quiet" to minimize avoidance reactions of fish and marine mammals. In addition, they must have necessary laboratory equipment and sufficient space, uninterruptible power, and on-board scientific data acquisition and processing systems. Finally, the vessels must meet modern safety and habitability standards and international conventions for marine pollution, and have conference space as well as a sufficient number of berths to accommodate the scientific complement and crew.

To maintain the consistency and continuity of time-series data, it is imperative that existing platforms begin to be replaced immediately. Many key time-series assessments that have historically used known gear and vessels serve as the basis for sound advice to NOAA managers. To maintain continuity of NOAA's time-series, new vessels will operate parallel to existing platforms to calibrate new ships prior to the decommissioning of existing vessels.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Construction of Fishery Research Vessels	0	0	1	0
# of Fishery Research Vessels delivered (of 4 total)	0/0	0/0	0/4	0/4

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fleet Replacement	POS/BA	0	$51,371	0	$16,300	0	($35,071)
	FTE/Obl						

New Fisheries Research Vessel (FRV) (0 FTE, $-43,071,000): NOAA requests a decrease of $43,071,000 in the Procurement, Acquisition, and Construction account, reflecting the Department of Navy's recent decision to transfer the contracting authority from the Navy to NOAA. The requested $8.3 million will provide funds to outfit the first FRV which was appropriated in FY 2000. The construction of a core fleet of at least four purpose-built, dedicated FRVs to replace the aging fleet is integral to the central philosophy of the NMFS data acquisition plan. This plan utilizes a mix of the new FRV's and the charter of vessels from the academic and private industry fleets to meet the data acquisition requirements for fisheries management. To maintain the consistency and continuity of stock assessment time-series data, it is imperative to continue replacing the existing platforms. Time series assessments, using the same gear and vessels for decades, form the very foundation of NMFS stock assessment, and the fisheries management process. To maintain time series continuity, new vessels will operate parallel to existing platforms to calibrate the new ships prior to the existing vessels' decommissioning.

Additional operating expenses for the new vessels will be requested in the outyears when the new FRV's are to begin operations.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Construction of Fishery Research Vessels Funded by FY (of 4 total).....	0	1	1	1	0
# of Fishery Research Vessels delivered (of 4 total).....	0	0	1	0	1

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
New Fisheries Research Vessel……	-$43,071	$53,300	$53,300	$53,300	

ADVENTUROUS Vessel Upgrade/Conversion (0 FTE, +$8,000,000): NOAA requests an increase of $8,000,000 in the Procurement, Acquisition and Construction account to **reactivate,** convert and upgrade the NOAA vessel *ADVENTUROUS* to support fisheries research activities. The *ADVENTUROUS* is a modern T-AGOS class vessel acquired from the Navy and is currently inactive. Dependable platforms are essential for conducting the stock assessment surveys necessary to monitor species abundance, recruitment, age composition and their responses to ecological changes and fisheries pressure. The collection of fisheries and marine mammal information at-sea is essential to this mission and to the development of sensible regulations governing commercial and recreational fishing activities. The *ADVENTUROUS* can be converted to meet the marine mammal survey and some high priority fisheries data collection requirements. Two other T-AGOS class vessels have already been converted for use by NOAA; one for fisheries work and one for oceanographic and atmospheric research.

The NMFS's Honolulu Laboratory is currently serviced by the NOAA vessel *TOWNSEND CROMWELL*, a 35 year-old vessel that is becoming unreliable. The Honolulu Laboratory has extensive responsibilities for widely scattered pelagic fisheries resources of major economic importance to Hawaii, and other U.S. Pacific possessions. In order to provide the research data needed by the Western Pacific Fisheries Management Council the laboratory requires a more modern and dependable research vessel with capabilities for distant water oceanographic and fisheries research over a huge section of the Central and Western Pacific. The *TOWNSEND CROMWELL* has been maintained beyond its serviceable life and is now subject to frequent breakdowns, thus preventing completion of research that is essential for prudent, long-term management of our Pacific fisheries resources . The *ADVENTUROUS* will replace the *TOWNSEND CROMWELL* providing a platform for marine mammal surveys, and some high priority fisheries surveys including trap and longline surveys. NMFS will continue to seek opportunities utilize academic and commercial vessels, where appropriate, to meet its at sea data collection requirements in the Pacific.

Measures of Performance

	2001 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate
Number of Vessel Conversions	1	0	0	0	0
Number of Vessels Delivered	1	0	0	0	0

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
ADVENTUROUS Vessel Upgrade/Conversion . .	+ $8,000	0	0	0	0

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Procurement, Acquisition and Construction

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Activity: Procurement, Acquisition and Construction
Subactivity: Fleet Replacement

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	40
22	Transportation of things	20
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	7,720
26	Supplies and materials	20
31	Equipment	200
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	8,000

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Procurement, Acquisition and Construction

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Activity: Procurement, Acquisition and Construction
Subactivity: Fleet Replacement

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	(43,071)
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(43,071)

Other PAC
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Build Sustainable Fisheries										
Infrastructure		1,000								
Total BSF		**1,000**								
Total for Other PAC		**1,000**								

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINSTRATION
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Other Procurement, Acquisition, and Construction

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease)	
Line Item		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fishermen's Health Care	Pos./BA.	0	1,000	0	0	0		0		0	
	FTE/Obl.	0	0	0	1,000	0	0	0	0	0	0
Total	Pos./BA	**0**	**1,000**	**0**	**0**	**0**					
	FTE/OBL.	**0**	**0**	**0**	**1,000**	**0**	**0**	**0**	**0**	**0**	**0**

Activity: **Other Procurement, Acquisition, and Construction**

Proposed Legislation

No legislation is proposed for this activity.

Base Program

Funding of $1,000,000 was provided in FY 1999 for fishermen's health care. This funding was allocated to the eligible fishermen in the states of New Hampshire, Rhode Island, Maine, and Massachusetts. NOAA does not propose to continue funding this program in FY 2001.

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent	18,388	18,388	18,388	18,388	0
11.3	Other than full-time permanent	114	114	114	114	0
11.5	Other personnel compensation	310	310	310	310	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	18,812	18,812	18,812	18,812	0
12	Civilian personnel benefits	4,018	4,018	4,018	4,018	0
13	Benefits for former personnel	4	4	4	4	0
21	Travel and transportation of persons	2,485	2,485	2,485	2,525	40
22	Transportation of things	199	199	199	219	20
23.1	Rental payments to GSA	3,430	3,430	3,430	3,430	0
23.2	Rental payments to others	1,055	1,055	1,055	1,055	0
23.3	Commun., util., misc. charges	1,268	1,268	1,268	1,268	0
24	Printing and reproduction	63	63	63	63	0
25.1	Consulting services	17,666	17,666	17,666	17,666	0
25.2	Other services	75,328	157,889	75,328	41,741	(33,587)
25.3	Purchase of goods and services from Government accounts	425,483	377,027	433,850	482,437	48,587
26	Supplies and materials	4,584	4,584	4,584	5,823	1,239
31	Equipment	27,880	27,880	27,880	43,468	15,588
32	Lands and structures	2,568	2,568	2,568	2,568	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	22,879	22,879	22,879	17,629	(5,250)
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	607,722	641,827	616,089	642,726	26,637

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
Less prior year recoveries	(339)	(7,400)	(7,504)	(7,504)	
Unobligated balance, start of year	(65,251)	(41,561)	0		
Unobligated balance, end of year	41,561				
Offsetting Collections	(13)				
Total Budget Authority	583,680	592,866	608,585	635,222	26,637
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	185	162	162	135	(27)
Other than full-time permanent				0	0
Total	185	162	162	135	(27)
Authorized Positions:					
Full-time permanent	185	162	162	135	(27)
Other than full-time permanent				0	0
Total	185	162	162	135	(27)

Exhibit 17

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

	Object Class	2001 ATBs	2001 Base	2001 Estimate	Increase/ (Decrease)
11	Personnel compensation				
11.1	Full-time permanent	0	18,388	18,388	0
11.3	Other than full-time permanent	0	114	114	0
11.5	Other personnel compensation	0	310	310	0
11.8	Special personnel services payments	0	0	0	0
11.9	Total personnel compensation	0	18,812	18,812	0
12.1	Civilian personnel benefits	0	1,031	1,031	0
	Civil service retirement	0	0	0	0
	Federal Employee Retirement	0	556	556	0
	Medicare	0	221	221	0
	Thrift savings plan	0	284	284	0
	Federal insurance contribution act	0	925	925	0
	Health insurance	0	955	955	0
	Life insurance	0	46	46	0
	Subtotal	0	4,018	4,018	0
13.0	Benefits for former personnel	0	4	4	0
21	Travel and transportation of persons	0	2,485	2,525	40
22	Transportation of things	0	199	219	20
23.1	Rental payments to GSA	0	3,430	3,430	0
23.2	Rental payments to others	0	1,055	1,055	0
23.3	Communications, utilities and miscellaneous ch	0	1,268	1,268	0
24	Printing and reproduction	0	63	63	0
25.1	Consulting services	0	17,666	17,666	0
25.2	Other services	0	75,328	41,741	(33,587)

Exhibit 17

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

	Object Class	2001 ATBs	2001 Base	2001 Estimate	Increase/ (Decrease)
25.3	Purchases of goods & services from Gov't acc	15,823	433,850	482,437	48,587
25.4	Operation of GOCOs	0	0	0	0
25.5	Research and development contracts	0	0	0	0
26	Supplies and materials	0	4,584	5,823	1,239
31	Equipment				
	Office machines and equipment	0	0	0	0
	ADP hardware	0	0	0	0
	Other capitalized	0	27,880	43,468	15,588
	Depreciation on capitalized equipment	0	0	0	0
	Non-capitalized	0	0	0	0
	Subtotal	0	27,880	43,468	15,588
32	Lands and structures				
	Building and Other Structures	0	2,568	2,568	0
33	Investments and loans	0	0	0	0
41	Grants, subsidies and contributions	0	22,879	17,629	(5,250)
42	Insurance claims and indemnities	0	0	0	0
43	Interest/dividends..	0	0	0	0
44	Refunds	0	0	0	0
99	**Total Direct Obligations**	15,823	616,089	642,726	26,637

Exhibit 17

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

Object Class	2001 ATBs	2001 Base	2001 Estimate	Increase/ (Decrease)
Less prior year recoveries	(104)	(7,504)	(7,504)	0
Less unobligated balance, start of year				
Less unobligated balance, transfer				
Plus unobligated balance, end of year				
Budget Authority	15,719	608,585	635,222	26,637
Discretionary Budget Authority	15,719	608,585	635,222	26,637
FTE	0	162	135	(27)
Positions	0	162	135	(27)

Exhibit 31

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Procurement, Acquisition and Construction Account
APPROPRIATION SUMMARY STATEMENT

For procurement, acquisition and construction of capital assets, including alteration and modification costs, of the National Oceanic and Atmospheric Administration, [$596,067,000] *$635,222*,000 to remain available until expended of which $11,000,000 is for Lands Legacy,: *Provided further, to become available on October 1 of the fiscal year specified and remain available until expended; fiscal year 2002,$732,499,000; fiscal year 2003, $705,499,000; fiscal year 2004; $706,499,000; fiscal year 2005, $657,499,000; fiscal year 2006 $674,499,000; fiscal year 2007, $691,000,000; fiscal year 2008, $709,000,000; fiscal year 2009, $726,000,000; fiscal year 2010, $745,000,000; fiscal year 2011, $10,000,000; fiscal year 2012, $10,000,000; fiscal year 2013, $10,000,000; fiscal year 2014, $10,000,000; fiscal year 2015, $10,000,000; fiscal year 2016, $5,000,000; fiscal year 2017, $5,000,000; fiscal year 2018, $5,000,000; fiscal year 2019, $5,000,000: Provided further, that such funds are available for the Commerce Administrative Management System (CAMS); Next Generation Weather Radars (NEXRAD); the Automated Surface Observing System Network (ASOS); the Advanced Weather Interactive Processing System (AWIPS); Central Computer Facility Upgrades; the Radiosonde Replacement Program; the NOAA Weather Radio Expansion; the Geophysical Fluid Dynamics Laboratory Supercomputer; the Polar-Orbiting Operational Environmental Satellites (POES)(K-N' series); National Polar-Orbiting Operational Environmental Satellite System (NPOES); Geostationary Operational Environmental Satellites (GOES) (I-M and N-Q series); acquisition and deployment of the Evansville Doppler radar system enhancing NOAA's environmental data archive; consolidation of the Western Regional Center; construction of the National Weather Service weather forecast offices; the National Estuarine Research Reserves System; reinforcement of the La Jolla bluffs to prevent degradation of the National Marine Fisheries Service laboratory thereon; the consolidation of the Norman, OK research and weather facilities; the National Marine Sanctuaries; the Juneau, Alaska facility; replacement of a fisheries research vessel, and refurbishment of the NOAA Ship ADVENTUROUS: Provided further,* That unexpended balances of amounts previously made available in the "Operations, Research, and Facilities" account for activities funded under this heading may be transferred to and merged with this account, to remain available until expended for the purposes for which

the funds were originally appropriated. *(Department of Commerce and Related Agencies Appropriations Act, 2000, as enacted by section 1000(a)(1) of the Consolidated Appropriations Act, 2000 (P.L. 106-113).*

PROMOTE AND DEVELOP FISHERY PRODUCTS AND RESEARCH PERTAINING TO AMERICAN FISHERIES

[(*Recission)]*

[All unobligated balances available in the Fisheries Promotional Fund are rescinded: Provided, That all obligated balances are transferred to the "Operations, Research, and Facilities" account.] (*Department of Commerce and Related Agencies Appropriation Act; 2000, as enacted by section 1000(a)(1) of the Consolidated Appropriations Act, 2000 (P.L. 106-113).)*

FISHERMEN'S CONTINGENCY FUND

For carrying out the provisions of title IV of Public Law 95-372, not to exceed [$953,000] *$951,000,* to be derived from receipts collected pursuant to that Act, to remain available until expended. *(Department of Commerce and Related Agencies Appropriations Act,2000, as enacted by section 1000(a)(1) of the Consolidated Appropriations Act, 2000 (P.L. 106-113).)*

COASTAL ZONE MANAGEMENT FUND

Of amounts collected pursuant to section 308 of the Coastal Zone Management Act of 1972 (16 U.S.C. 1456a), not to exceed [$4,000,000 for purposes set forth in sections 308(b)(2)(A), 308(b)(2)(B)(v), and 315(e) of such Act] *$3,200,000 shall be transferred to the Operations, Research, and Facilities account to offset the costs of implementing such Act. (Department of Commerce and Related Agencies Appropriations Act, 2000, enacted by section 1000(a)(1) of the Consolidated Appropriations Act, 2000 (P.L. 106-113).)*

FISHERIES FINANCE PROGRAM ACCOUNT

For the cost of direct loans, [$338,000] *$6,628,000,* as authorized by the Merchant Marine Act of 1936, as amended: *Provided,* That such costs, including the cost of modifying such loans, shall be as defined in section 502 of the Congressional Budget Act of 1974: *Provided further,* That none of the funds made available under this heading may be used for direct loans for any new fishing vessel that will increase the harvesting capacity in any United States fishery. (*Department of Commerce and Related Agencies Appropriations Act, 2000, as enacted by section 1000(a)(1) of the Consolidate Appropriations Act, 2000 (P.L. 106-113).)*

PACIFIC COASTAL SALMON RECOVERY

For necessary expenses associated with the restoration of Pacific salmon populations and the implementation of the 1999 Pacific Salmon Treaty Agreement between the United States and Canada, [$58,000,000] *$160,000,000 of which $100,000,000 is for Lands Legacy, to remain available until expended. (Department of Commerce and Related Agencies Appropriations Act, 2000, as enacted by section 1000(a)(1) of the Consolidated Appropriations Act, 2000 (P.L. 106-113).)*

Funding for the Pacific Coastal Salmon Recovery within this account is proposed as part of a new Lands Legacy discretionary spending category to provide dedicated and protected funding for the President's Lands Legacy Initiative. See the Environment Chapter in the Budget for a summary of the Initiative.

FISHERIES ASSISTANCE FUND

For necessary expenses associated with vessel buyouts and cooperative research and management to address overfishing or overcapitalization in fisheries that are not sustainable, $10,000,000, to remain available until expended, as authorized by the Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. 1861a).

This account is proposed to fund the Fisheries Assistance Fund to address overfishing or overcapitalization in fisheries that are not sustainable through capacity reduction (vessel buyouts) and cooperative research and management. The funds would be used to complement the fishing industry's funding of overall buyback costs in FY 2001.

The fishing industry funds buyback costs through long-term loans from the Fisheries Finance Program (FFP). Post-buyback harvesters repay FFP buyback loans by landing fees equal to up to 5% of the landed value of all post-buyback harvests. Fish buyers collect these fees by deducting them from fish purchase proceeds before paying harvesters. Buyback loans are possible only if two-thirds of harvesters voting in special referenda approve the necessary loan repayment fees. The Fisheries Assistance Fund would help realize the economic and conservation benefits associated with fishing capacity reduction.

COASTAL IMPACT ASSISTANCE FUND

For grants to states and territories to protect and sustainably manage coastal resources, $100,000,000, to remain available until expended, as authorized by the Coastal Zone Management Act of 1972 as amended (16 U.S.C. 1451 - 1465).

Funding for the Coastal Impact Assistance Grants within this account is proposed as part of a new Lands Legacy discretionary spending category to provide dedicated and protected funding for the President's Lands Legacy Initiative. See the Environment Chapter in the Budget for a summary of the Initiative. This account will provide Coastal Impact Assistance funds to coastal states currently involved in offshore oil and gas production with additional resources needed to protect and sustainable use of ocean and coastal resources. Offshore oil and gas development places a variety of additional social, economic and environmental demands on ports, communities, and natural resources of coastal states. Funds from the account would provide grants to coastal states and territories to implement activities consistent with Coastal Zone Management Plans and that increase protection and sustainable management of coastal resources such as habitat protection, community revitalization, improved coastal access, and public education on coastal issues. Funds will help develop the tools to minimize risks to human safety and to coastal environments from coastal development including oil and gas activities. Funds will provide state managers and local communities with critically needed funds to better address serious threats to the economic health and livability of coastal areas. The account will be established by the Secretary of Commerce and made available through agreements with eligible coastal states for distribution. The Secretary will establish terms and conditions for the effective use of the funds and specific reporting requirements appropriate for ensuring full accountability of the available funds to meet the purposes of the account.

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Procurement, Acquisition and Construction
JUSTIFICATION OF PROPOSED LANGUAGE CHANGES

1. After the words “including alteration and modification costs, of the National Oceanic and Atmospheric Administration, delete “$596,067,000" and insert “$635,222,000".

   This change deletes the number for the previous year and adds the number for the applicable budget year.

2. Coastal Zone Management Fund:

   After the words “not to exceed” delete “$4,000,000 for the purposes set forth in sections 308(b)(2)(A), 308(b)(2)(B)(v), and 315(e) of such Act” and insert “$3,200,000 shall be transferred to the Operations, Research, and Facilities account to offset the costs of implementing such Act”.

   These changes are necessary to be consistent with the proposed reauthorization of the Coastal Zone Management Act for FY 2001, and to provide the budget authority for the Operations, Research, and Facilities account where the Coastal Zone Management Act is administered.

3. Fisheries Finance Program Account

   After the words “For the cost of direct loans,” delete “$338,000" and insert $6,628,000".

   This change deletes the number for the previous year and adds the number necessary for administrative and subsidy costs of *current* and new loan programs.

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Appropriation Language and Code Citations:
Procurement, Acquisition and Construction Account

1. For necessary expenses of activities authorized by law for the National Oceanic and Atmospheric Administration,

5 USC 5348	15 USC 1511d	16 USC 1444	33 USC 853 et seq.
7 USC 1622	44 USC 1307	16 USC 1447a et seq.	33 USC 1251
12 USC 1715m	15 USC 1517	16 USC 1451 et seq.	33 USC 1441-43
15 USC 313	15 USC 1537-40	16 USC 1464	33 USC 2706
15 USC 313a	15 USC 2901 et seq.	16 USC 1531	33 USC 2801 et seq.
15 USC 313b	15 USC 5601 et seq.	16 USC 1801 et seq.	42 USC 8902-05
15 USC 313nt	16 USC 661 et seq.	16 USC 4101	42 USC 9601 et seq.
15 USC 325	16 USC 757a et seq.	16 USC 4701 et seq.	43 USC 1347e
15 USC 330b	16 USC 1361	16 USC 5001 et seq.	44 USC 1307
15 USC 330e	16 USC 1431 et seq.	33 USC 706 et seq.	49 USC 44720

Organizations and Employees

5 USC 5348 - Crews of Vessels.

"…the pay of officers and members of crews of vessels excepted from chapter 51 of this title by section 5102(c)(8) of this title shall be fixed and adjusted from time to time as nearly as is consistent with the public interest in accordance with prevailing rates and practices in the maritime industry."

Agriculture

7 USC 1622 - Distribution and Marketing of Agricultural Products

"The Secretary … is directed and authorized: …

(a) to determine the needs and develop or assist in the development of plans for the proper assembly, processing, transportation, storage, distribution, and handling of agricultural (fish) products.

(f) to conduct and cooperate in consumer education for the more effective utilization and greater consumption of agricultural products (fish)…

(g) to collect and disseminate marketing information… for the purpose of … bringing about a balance between production and utilization of agricultural (fish) products.

(h) to inspect, certify, and identify the class, quality, quantity and condition of agricultural (fish) products …

(m) to conduct … research … to determine the most efficient … processes for the handling, storing, preserving, protecting…of agricultural (fish) commodities …"

(h) - Duties of Secretary relating to agricultural products; penalties

"Whoever knowingly shall falsely make, issue, alter, forge, or counterfeit any official certificate, memorandum, or other identification, with respect to inspection, class, grade, quality, size, quantity, or condition, issued or authorized under this section or knowingly cause or procure, or aid assist in, or be a party to, such false making, issuing, altering, forging, or counterfeiting, or whoever knowingly shall possess, without promptly notifying the Secretary (of Commerce) or his representative, utter, published, or used as true, any such falsely made, altered forged, or counterfeited official certificate, memorandum, mark, identification, or device, or whoever knowingly represents that an agricultural product has been officially inspected or graded…when in fact such commodity has not been so graded or inspected shall be fined not more than $1,000 or imprisoned not more than one year, or both."

Banks and Banking

12 USC 1715m - Mortgage Insurance for Servicemen [NOAA Corps].

This section authorizes payment of Federal Housing Administration (FHA) home mortgage insurance premiums to NOAA Corps Officers.

Commerce and Trade

15 USC 313 - Duties of Secretary of Commerce [National Weather Service].

"The Secretary of Commerce…shall have charge of the forecasting of weather,…issue of storm warnings,…weather and flood signals,… gauging and reporting of rivers,…collection and transmission of marine intelligence…,…reporting of temperature and rainfall conditions…, the display of frost and cold-wave signals, the distribution of meteorological information…, and the taking of such meteorological observations as may be necessary to establish and record the climatic conditions of the United States, or as are essential for the proper execution of the foregoing duties."

15 USC 313 note - Weather Service Modernization Act

"(a) As part of the budget justification documents submitted to Congress in support of the annual budget request for the Department of Commerce, the Secretary shall include a National Implementation Plan for modernization of the National Weather Service" setting for specified modernization actions for the following two fiscal years."

15 U.S.C. 313a - Establishment of meteorological observation stations in the Arctic region.

"… The Secretary of Commerce shall … take such actions as may be necessary in the development of an international basic meteorological reporting network in the Arctic region of the Western Hemisphere…"

15 USC 313b - Institute for Aviation Weather Prediction

"The Administrator of the National Oceanic and Atmospheric Administration shall establish an Institute for Aviation Weather Prediction that shall provide forecasts, weather warnings, and other weather services to the United States aviation community…."

15 USC 330b - Duties of Secretary relating to Weather Modification Activities or Attempts - Reporting Requirement.

(a) "The Secretary shall maintain a record of weather modification activities, including attempts, which take place in the United States and shall publish summaries thereof from time to time as he determines."

15 USC 330e - Authorization of Appropriations relating to Weather Modification Activities or Attempts - Reporting Requirement.

This section provides funding authority to support the reporting requirements specified in this chapter.

15 USC 1511d - NOAA Estuarine Programs Office.

"… The Estuarine Programs Office shall develop, coordinate, and implement the estuarine activities of the administration with the activities of other Federal and State agencies. There are authorized to be appropriated to the Administration not to exceed $560,000 for fiscal year 1989, and $600,000 for fiscal year 1990."

15 USC 1514 - Basic authority for performance of certain functions and activities of Department.

"Appropriations are authorized for the following activities of the Department of Commerce:

(a) furnishing to employees…and their dependents, in Alaska and other points outside the continental United States, free emergency medical services…and supplies;

(b) …purchasing, transporting, storing, and distributing food and other subsistence supplies for resale to employees…and their dependents, in Alaska and other points outside the continental United States at a reasonable value…; the proceeds from such resales to be credited to the appropriation from which the expenditure was made;

(c) …establishment, maintenance, and operation of messing facilities, by contract or otherwise, in Alaska and other points outside the continental United States…, such service to be furnished to employees…and their dependents,…

(d) reimbursement…of officers or employees in or under the Department…for food, clothing, medicines, and other supplies furnished by them in emergencies for the temporary relief of dislocated persons in remote localities;

(e) providing motion-picture equipment and film for recreation of crews of vessels…, for…employees in remote localities…, and for training purposes;

(f) erecting, altering, repairing, equipping, furnishing, and maintaining…such living quarters and facilities as may be necessary to carry out its authorized work at remote localities not on foreign soil where such living and working accommodations are not otherwise available."

15 USC 1517 - Transfer of statistical or scientific work.

"The President is authorized, by order in writing, to transfer at any time the whole or any part of any office, bureau, division, or other branch of the public service engaged in statistical or scientific work, from the Department of State, the Department of the Treasury, the Department of Defense, the Department of Justice, the United States Postal Service, or the Department of the Interior, to the Department of Commerce; and in every such case the duties and authority performed by and conferred by law upon such office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall be thereby transferred with such office, bureau, division, or other branch of the public service, or the part thereof which is so transferred. All power and authority conferred by law, both supervisory and appellate, upon the department from which such transfer is made, or the Secretary thereof, in relation to the said office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall immediately, when such transfer is so ordered by the President, be fully conferred upon and vested in the Department of Commerce, or the Secretary thereof, as the case may be, as to the whole or part of such office, bureau, division, or other branch of the public service so transferred."

15 USC 1537 - 1540 Needs Assessment for Data Management.

"Not later than 12 months after October 29, 1992, and at least biennially thereafter, the Secretary of Commerce shall complete an assessment of the adequacy of the environmental data and information systems of NOAA"

Conservation

16 USC 661 et seq.- Declaration of purpose; cooperation of agencies; surveys and investigations; donations.

"…the Secretary of the Interior is authorized (1) to provide assistance to, and cooperate with, Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife, resources thereof, and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from overabundant species, in providing public shooting and fishing areas, including easements across public lands for access thereto, and in carrying out other measures necessary to effectuate the purposes of said sections; (2) to make surveys and investigations of the wildlife of the public domain, including lands and waters or interests therein acquired or controlled by any agency of the United States; and (3) to accept donations of land and contributions of funds in furtherance of the purposes of said sections."

16 USC 757a et seq.

The Act authorizes cooperative agreements with States "that are concerned with the development, conservation, and enhancement of [anadromous] fish" (section 757a(a)). Section 757d authorizes $4,250,000 for each of fiscal years 1998, 1999, and 2000.

16 USC 1361 - Congressional Findings.

"The Congress finds that - (1) certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities;"

> "The Secretary is authorized to make grants, or to provide financial assistance in such other form as he deems appropriate, to any Federal or State agency, public or private institution, or other person for the purpose of assisting such agency, institution, or person to undertake research in subjects which are relevant to the protection and conservation of marine mammals, and shall provide financial assistance for, research into new methods of locating and catching yellow-fin tuna without the incidental taking of marine mammals."

16 UCS 1431 et seq. - Findings, Purposes, and Policies [The National Marine Sanctuaries Act, as amended].

(b) Purposes and Policies

"The purposes and policies of this title are -

(1) to identify and designate as national marine sanctuaries areas of the marine environment which are of special national significance;

(2) to provide authority for … conservation and management of these marine areas …
(3) to support, promote, and coordinate scientific research on, and monitoring of,. the resources of these marine areas…
(4) to enhance public awareness, understanding, appreciation, and wise use of the marine environment;
(5) to facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities;
(6) to develop and implement coordinated plans for the protection and management of these areas…;
(7) to create models of, and incentives for, ways to conserve and manage these areas…"
(8) to cooperate with global programs …; and
(9) to maintain, restore, and enhance living resources …"

16 USC 1444 - Authorization of Appropriations.

"There are authorized to be appropriated to the Secretary" -

(1) $12,000,000 for fiscal year 1997;
(2) $15,000,000 for fiscal year 1998; and
(3) $18,000,000 for fiscal year 1999.

16 USC 1447a et seq. - Regional Marine Research Programs

Authorizes NOAA/EPA and Governors of certain states to appoint members to a number of regional marine research boards. Each board is to develop a comprehensive four year marine research plan and "the Administrator of the National Oceanic and Atmospheric Administration shall administer a grant program to support the administrative functions of each Board."

Authorization for the Boards expires on October 1, 1999. The authorization for appropriations expired at the end of fiscal year 1996.

16 USC 1451 et seq. - Findings, Purposes, and Policies [Coastal Zone Management Act]

Establishes a voluntary partnership between the Federal Government and coastal States. It also establishes the National Estuarine Reserve Research program, in which the Secretary of Commerce may designate an estuarine area as a national estuarine research reserve in consultation with governor of affected state.

16 USC 1464 - Authorization of Appropriations.

"(a) There are authorized to be appropriated to the Secretary- (1) for grants under sections 306, 306A, and 309 - (A) $47,600,000 for fiscal year 1997; (B) $49,000,000 for fiscal year 1998; and (C) $50,500,500 for fiscal year 1999; (2) for grants under section 315-(A) $4,400,00 for fiscal 1997; (B) $4,500,000 for fiscal year 1998; and (C) $4,600,000 for fiscal year 1999.

16 USC 1531 et seq.

The purposes of the Act are "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in [the statute]" (section 11531(b)).

16 USC 1801 et seq,

Magnuson-Stevens Fishery conservation and Management Act.

The primary purpose of the Act is "to take immediate action to conserve and manage the fishery resources found off the coasts of the United States (section 1801(b)(1)).

16 USC 4101 et seq.

"The purposes of this chapter are - (1) to promote and encourage State activities in support of the management of interjurisdictional fishery resources, and (2) to promote and encourage management of interjurisdictional fishery resources through their range" (section 4101). Section 4107(a) authorizes $4,400,000 for each of fiscal years 1998, 1999, and 2000.

16 USC 4701 et seq. - Aquatic Nuisance Prevention and Control

Establishes an interagency Aquatic Nuisance species Task Force, of which the Administrator of NOAA is a co-chair. The task force's responsibilities include developing and implementing "a program for waters of the United States to prevent introduction and dispersal of aquatic nuisance species; to monitor, control and study such species; and to disseminate related information."

16 USC 5001 et seq. - Purpose of Convention

"It is the purpose … to implement the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean, signed in Moscow, February 11, 1992."

Navigation and Navigable Waters

33 USC 706 et seq. - Department of Commerce; current precipitation information; appropriation.

"There is authorized an expenditure as required,…, for the establishment, operation, and maintenance by the Secretary of Commerce of a network of recording and non-recording precipitation stations, known as the Hydroclimatic Network, whenever…such service is advisable…"

33 USC 883a et seq. - Surveys and other activities.

"…the Secretary…is authorized to conduct the following activities:

(1) Hydrographic and topographic surveys;
(2) Tide and current observations;
(3) Geodetic-control surveys;
(4) Field surveys for aeronautical charts;
(5) Geomagnetic, seismological, gravity, and related geophysical measurements and investigations, and observations …"

33 USC 883b - Dissemination of data; further activities.

"…the Secretary is authorized to conduct the following activities:

(1) Analysis and prediction of tide and current data;
(2) Processing and publication of data…;
(3) Compilation and printing of aeronautical charts…;
(4) Compilation and printing of nautical charts…;
(5) Distribution of aeronautical charts…;
(6) Distribution of nautical charts…"

33 USC 883c - Geomagnetic data; collection; correlation, and dissemination.

"To provide for the orderly collection of geomagnetic data…the Secretary … is authorized to collect, correlate, and disseminate such data."

33 USC 883d - Improvement of methods, instruments, and equipments; investigations and research.

"…the Secretary … is authorized to conduct developmental work for the improvement of surveying and cartographic methods, instruments, and equipments; and to conduct investigations and research in geophysical sciences…"

33 USC 883e - Cooperative Agreements for Surveys and Investigations; contribution of costs incurred by National Oceanic and Atmospheric Administration.

"(1) The Secretary of Commerce is authorized to enter into cooperative agreements with, and to receive and expand funds made available by… for surveys or investigations… or for performing related surveying and mapping activities… and for the preparation and publication of the results thereof."

"(2) The Secretary of Commerce is authorized to establish the terms of any cooperative agreement entered into … including the amount of funds to be received … which the Secretary determines represents the amount of benefits derived … from the cooperative agreement."

33 USC 883f - Contracts with qualified organizations.

"The Secretary is authorized to contract with qualified organizations for the performance of any part of the authorized functions of the National Ocean Survey…"

33 USC 883h - Employment of public vessels.

"The President is authorized to cause to be employed such of the public vessels as he deems it expedient to employ, and to give such instructions for regulating their conduct as he deems proper in order to carry out the provisions of this chapter."

33 USC 883i - Authorization of Appropriations.

"There are hereby authorized to be appropriated such funds as may be necessary to acquire, construct, maintain, and operate ships, stations, equipment, and facilities and for such other expenditures, including personal services at the seat of government and elsewhere and including the erection of temporary observatory buildings and lease of sites therefore as may be necessary…"

33 USC 891 et seq. - Fleet Replacement and Modernization Program

"The Secretary is authorized to implement… a 15-year program to replace and Modernize the NOAA fleet."

33 USC 1121-1131 - National Sea Grant College Program Act.

The Sea Grant Act authorizes the awarding of grants and contracts to initiate and support programs at Sea Grant colleges and other institutions for research, education, and advisory services in any field related to the conservation and development of marine resources.

The authorization for appropriation expired at the end of FY 1995.

33 USC 1251- Water Pollution Prevention and Control

Through the National Shellfish Indicator Program, authorizes the Secretary of Commerce, in cooperation with the Secretary of Health and Human Services and the Administrator of EPA, to establish and administer a 5-year national shellfish research program for the purpose of improving existing classification systems for shellfish growing waters using the latest technological advancements in microbiology and epidemiological methods.

33 USC 1321 - Oil and Hazardous Substances [Clean Water Act]

Authorizes the recovery of damages to natural resources in the event of an oil spill in waters of the United States. This authority has been delegated to several Federal agencies, including the Department, pursuant to an Executive Order.

33 USC 1441 - Monitoring and Research Program [Marine Protection, Research and Sanctuaries Act]

Authorizes the Secretary of Commerce, in coordination with other agencies, to initiate a comprehensive and continuing program of monitoring and research regarding the effects of the dumping of material into ocean waters or other coastal waters where the tide ebbs and flows or into the Great Lakes or their connecting waters.

33 USC 1442 - Research program respecting possible long-range effects of pollution, overfishing, and man-induced changes of ocean ecosystems

Authorizes the Secretary of Commerce, in consultation with other agencies, to … "initiate a comprehensive and continuing program of research with respect to the possible long-range effects of pollution, overfishing, and man-induced changes of ocean ecosystems."

33 USC 1443 - Regional management plans for waste disposal in coastal areas.

Authorizes the Secretary of Commerce to assist the Environmental Protection Agency in assessing "the feasibility in coastal areas of regional management plans for the disposal of waste materials."

33 USC 1444 - Annual Report

Requires the Secretary of Commerce to provide Congress with an annual report on the Department's activities to monitor ocean dumping and research the long-range effects of pollution on ocean ecosystems.

33 USC 2706 - Natural Resources [NOAA Oil and Hazardous Substance Spill Cost Reimbursement].

"…the National Oceanic and Atmospheric Administration acts as trustee of said marine environment and/or resources, shall be deposited in the Damage Assessment and Restoration Revolving Fund … for purposes of obligation and expenditure in fiscal year 1991 and thereafter, sums available in the Damage Assessment and Restoration Revolving Fund may be transferred, upon the approval of the Secretary …, to the Operations, Research, and Facilities appropriation of the National Oceanic and Atmospheric Administration."

33 USC 2801 et seq. - National Coastal Monitoring Act.

"The purposes of this chapter are to -

(1) establish a comprehensive national program for consistent monitoring of the Nation's coastal ecosystems;

(2) establish long-term water quality assessment and monitoring programs for high priority coastal waters that will enhance the ability of Federal, State, and local authorities to develop and implement effective remedial programs for those waters;
(3) establish a system for reviewing and evaluating the scientific, analytical, and technological means that are available for monitoring the environmental quality of coastal ecosystems;
(4) establish methods for identifying uniform indicators of coastal ecosystem quality;
(5) provide for periodic, comprehensive reports to Congress concerning the quality of the Nation's coastal ecosystems;
(6) establish a coastal environment information program to distribute coastal monitoring information;
(7) provide state programs authorized under the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.) with information necessary to design land use plans and coastal zone regulations that will contribute to the protection of coastal ecosystems; and
(8) provide certain water pollution control programs authorized under the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) with information necessary to design and implement effective coastal water pollution controls."

The Public Health and Welfare

42 USC 8902 et seq. - Acid Precipitation Program

Authorized the Administrator of NOAA to serve as co-chair of a task force to prepare a comprehensive research plan for a program to study the causes and effects of acid precipitation. Also authorizes the Administrator of NOAA to serve as the director of a related research program.

42 USC 9601 et seq. (CERCLA)

Through associated regulations and delegations, authorizes the Administrator to provide technical assistance to the Administrator, EPA, for hazardous waste response under CERCLA and the National Contingency Plan and authorizes the Administrator to act as a natural resource trustee with authority to bring a cause of action for damages resulting from an injury to, destruction of or loss of resources under NOAA's jurisdiction.

Public Lands

43 USC 1347 - Safety and Health Regulations

Authorizes the Secretary of Commerce in cooperation with other Federal entities, to conduct studies of underwater diving techniques and equipment "suitable for protection of human safety and improvement of diver performance...."

Public Printing and Documents

44 USC 1307 - Sale and Distribution of NOAA Nautical and Aeronautical Products.

"All nautical and aeronautical products created or published … shall be sold at … prices … the Secretary of Commerce shall establish annually … so as to recover all costs attributable to data base management, compilation, printing, and distribution of such products."

Transportation

49 USC 44720 - Meteorological services

The Administrator of the Federal Aviation Administration shall make recommendations to the Secretary of Commerce on providing meteorological services necessary for the safe and efficient movement of aircraft in air commerce. In providing the services, the Secretary shall cooperate with the Administrator and give complete consideration to those recommendations.

"To promote safety and efficiency in air navigation to the highest possible degree, the Secretary shall -(1)observe, measure, investigate, and study atmospheric phenomena, and maintain meteorological stations and offices…(2) provide reports to the Administrator (3)cooperate with persons engaged in air commerce in meteorological services…(4)maintain and coordinate international exchanges of meteorological information… (5) participate in developing an international basic meteorological reporting network…(6)coordinate meteorological requirements in the United States to maintain standard observations…;(7)promote and develop meteorological science….

Interjurisdictional Fisheries Act

97 Stat. 1409
Authorizes NMFS fisheries programs not otherwise authorized by law, including research to reduce entanglement of marine mammals in fishing gear, development of habitat restoration techniques, restoration of Chesapeake Bay, and conservation of Antarctic living marine resources.

Fisheries Finance, Program Account
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Build Sustainable Fisheries										
Managing for Economic Growth		28,338								
Eliminate & Prevent Overfishing				340		337	24	6,628	24	6,291
Total BSF		**28,338**		**340**		**337**	**24**	**6,628**	**24**	**6,291**
Total for FFPA		**28,338**		**340**		**337**	**24**	**6,628**	**24**	**6,291**

Exhibit 5

Department of Commerce

National Oceanic and Atmospheric Administration

Fisheries Finance, Program Account

SUMMARY OF RESOURCE REQUIREMENTS

(dollar amounts in thousands)

Page No.		Positions	Budget Authority	FTE	Direct Obligations
	Currently Available, 2000	0	340	0	341
	less: Obligations from prior years	0	0	0	(1)
	plus: 2001 adjustments to base	0	(3)	0	(3)
	less: Prior year recoveries	0	0	0	0
	2001 Base	0	337	0	337
	plus: 2001 program changes	24	6,291	24	6,291
	2001 Estimate	24	6,628	24	6,628

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2001 Base	
Comparison by activity:		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Vessel Buy Out -	Pos./BA	0	20,000	0	0	0	0	0	0	0	0
Direct Payment	FTE/Obl.	0	20,000	0	0	0	0	0	0	0	0
American Fisheries Act	Pos./BA	0	6,000	0	3 *	0	0	0	0	0	0
Implementation	FTE/Obl.	0	5,997	0	3	0	0	0	0	0	0
Cost of Loan Subsidy	Pos./BA	0	2,338	0	337	0	337	0	4,700	0	4,363
	FTE/Obl.	0	2,360	0	338	0	337	0	4,700	0	4,363
Program Administration	Pos./BA	0	0	0	0	0	0	24	1,928	24	1,928
	FTE/Obl.	0	0	0	0	0	0	24	1,928	24	1,928
Direct Obligations	Pos./BA	0	28,338	0	340	0	337	24	6,628	24	6,291
	FTE/Obl.	0	28,357	0	341	0	337	24	6,628	24	6,291
Adjustments to Obligations:											
Recoveries			0		0		0		0	0	0
Unobligated Balance, start of year			(22)		(1)		0		0	0	0
Unobligated Balance, end of year			3		0		0		0	0	0
Financing from transfers:											
Transfer from other accounts (-)											
Transfer to other accounts (+)											
Appropriation		0	28,338	0	340	0	337	24	6,628	24	6,291

All unobigated balances associated with the American Fisheries Act implementation were reappropriated in FY 2000.

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance, Program Account
SUMMARY OF FINANCING
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations	28,357	341	337	6,628	6,291
Offsetting collections from:					
Federal funds					
Trust funds					
Non-Federal sources					
Recoveries	0	0	0	0	0
Unobligated balance, start of year	(22)	(1)	0	0	0
Unobligated balance, end of year	3	0	0	0	0
Budget Authority	28,338	340	337	6,628	6,291
Financing:					
Transfer from other accounts					
Transfer to other accounts					
Appropriation	28,338	340	337	6,628	6,291

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
CHANGES TO BASE
(Dollar amounts in thousands)

	FTE	Amount
Non Recurring Items:		
Reappropriation of one time American Fisheries Act carryover.		**(3)**
Subtotal, Other Changes		**(3)**
Total, Adjustments- To- Base		**(3)**

Exhibit 9

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
JUSTIFICATION OF CHANGES TO BASE

	FTE	Amount
Non-Recurring Item:		
Reappropriation of a one time American Fisheries Act carryover.		(3)
Subtotal, Other Changes	**0**	**(3)**
Total, Adjustments-To-Base	**0**	**(3)**

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance, Program Account
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Fisheries Finance, Program Account (former Fishing Vessel Obligation Guarantee)**
Subactivity: **Fisheries Finance, Program Account (former Fishing Vessel Obligation Guarantee)**

Appropriation Summary Statement

The reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (the Sustainable Fisheries Act), P.L. 104-297 changed this program from loan guarantees to direct loans. The Fisheries Finance Program is subject to the Federal Credit Reform Act of 1990, P.L. 101-508 (FCRA). Before 1996 loan capital for all loan programs was borrowed from the private market for Government securities. Since 1996, loan capital for all direct loan programs has been borrowed from the U.S. Treasury and only the net Government cost (FCRA cost) of loan activity is appropriated. The Sustainable Fisheries Act provided the authority to double this program's income by increasing its fee to 2% above the cost of borrowing loan capital from the U.S. Treasury.

Goal Statement

Provide financing or refinancing for fishery projects that support NOAA's "building sustainable fisheries" policies . By stretching debt service over longer maturities more consistent with fisheries income cycles, the FFP loans increase the ability of fishermen to comply with the evolution of more rigid fishery management policies. Help develop the aquacultural industry by providing long-term capital financing at reasonable rates.

Proposed Legislation

No proposed legislation in this account.

Base Program

Title XI of the Merchant Marine Act, 1936, authorizes this Program. "Traditional" loans under the program are capacity neutral. Capacity-neutral vessel loans are for purposes like refinancing existing vessel debt or financing used vessel transfers. Shoreside loans (including aquaculture) finance or refinance constructing new facilities and refurbishing or transferring used ones. Eligible shoreside facilities include everything needed to grow,

unload, process, hold, or distribute fish. Regular Program financing and refinancing helps to stabilize non-aquacultural vessels and shoreside facilities by providing longer-term debt service more consistent with the economically useful lives of production equipment and the fisheries' economic variability. Soundly capitalized fisheries are better able to accommodate needed fishery conservation and management measures. The Program's rules prevent it from financing the construction of any non-aquacultural vessels in any fishery. For non-aquacultural vessels, the Program only refinances existing vessels (and existing vessels cannot add to fisheries capitalization).

The Sustainable Fisheries Act amendments to the Magnuson-Stevens Act provided the Fisheries Finance Program authority to earn interest income at a rate of 2% above its interest cost of borrowing loan capital from the U.S. Treasury. The Program income prior to the Magnuson-Stevens reauthorization was 1%, and the assumed subsidy rate was 1%. This 1% subsidy, per the Federal Credit Reform Act, has been appropriated annually.

Section 303(a) of the Sustainable Fisheries Act amendments to the Magnuson-Stevens Act also added a new section 1111 to Title XI of the Merchant Marine Act, 1936, that allows this Program to finance the cost of capacity reduction. Under this provision, the Program would finance the cost of reducing capacity by lending the capital to pay existing fishermen to scrap their vessels and surrender their fishing permits. All fishermen remaining in the fishery after capacity reduction repay this financing by a statutory levy on the gross value of the fish they catch. The first shoreside purchasers of the post-reduction fishermen's catches deduct this levy from what they would otherwise have paid those fishermen for their catches, and forward the levy revenues to the Program to repay the capacity reduction financing. These levies continue on every catch landed by every fishermen in the fishery until the capacity reduction financing is repaid. Before the Program can finance capacity reduction, a Fishery Management Council must propose, and two-thirds of the fishermen in the fishery involved must vote in favor of both the capacity reduction and the landing-fee levy. Capacity reduction financing is a way of allowing long-term fishermen to organize and finance the removal of excess competition from their fishery. This form of fisheries decapitalization requires the beneficiaries of decapitalization to repay its cost.

In accordance with the FCRA, the Program's administrative expenses are provided in NOAA Fisheries' Operations, Research, and Facilities account.

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Finance, Program Accounts	POS/BA	0	$337	24	$6,628	24	$6,291
	FTE/Obl	0		24		24	

Fisheries Finance Program (+24 FTE, $6,291,000): The loans requested under the Fisheries Finance Program (FFP) account will provide the financial assistance authorized under the 1996 Sustainable Fisheries Act (SFA) amended Title XI of the Merchant Marine Act, 1936, as amended, and the Magnuson-Stevens Fishery Conservation and Management Act. NOAA requests a net increase of $6,298,000 for the Fisheries Finance Program for the following programs:

NOAA requests an increase of +24 FTE and $1,928,000 to cover the administrative expenses incurred in this program. Since the 24 FTE and $1,700,000 has been funded from the Product Quality and Safety program in the Operations Research and Facilities appropriation, these funds and FTEs will be realigned to partially offset this increase. The new funding increase of $228,000 is requested for the Fisheries Finance Program's (FFP) additional responsibilities in managing loan activities of individual transferable quota and community development lending. These two new types of requested loans will require additional FTE because of increased loan servicing responsibilities and credit origination needs.

NOAA requests an increase of $513,000 for a 1% subsidy is requested for the Direct Loans for Vessels, Shoreside Facilities and Aquaculture. Traditional FFP direct loans financing offers the fishing industry slightly better interest rates and longer term loans than are available elsewhere. The longer term allows the industry to amortize their capital investment over the actual economic life of the fisheries asset. Lower debt service reduces economic pressure thus allowing the borrower to more easily accommodate more restrictive fishery management initiatives. FFP regulations ensure that FFP traditional lending will not increase harvesting capacity in the fisheries but will simply permit the financing of the acquisition of existing vessels or the refinancing of existing debt for vessels already in the fishery. Shoreside processing loans are capacity neutral. Aquaculture financing is an activity NOAA is actively encouraging because it removes pressure from the wild stocks. For fiscal year 2001, the traditional FFP loan principal to $75,000,000.

NOAA requests an increase of $2,000,000 for industry funded buyback loans. This increase will cover subsidy costs for a loan authority of $200,000,000 in buyback at an Federal Credit Reform Act subsidy rate of one percent. Buyback loans were authorized in the Sustainable Fisheries Act of 1998. Note, the loan authority identified in this narrative is different from the loan authority shown in the President’s Budget Appendix.

NOAA requests an increase of $1,000,000 in subsidy loans for offshore mariculture and land based closed system aquaculture facility loans. This will allow $20,000,000 in loan authority at a 5% FCRA subsidy rate. Aquaculture financing is an activity NOAA is actively encouraging because increases in aquacultural grown fish removes pressure from the wild stocks. Off shore mariculture and shore based closed systems are of special interest to NOAA as an alternative to traditional capture fishing.

NOAA requests an increase of $950,000 in subsidy costs for a loan authority of $19,000,000 using a 5% subsidy rate for Individual Fishery Quota (IFQ) loans. Sustainable Fisheries Act amendments to the Magnuson-Stevens Act authorizes loans up to 25% of the fees generated by the IFQ and Community Development Quota fee system be used to fund the Federal Credit Reform Act requirements of the IFQ loan program. The estimate of 25% of these fees is $950,000.

A decrease of $100,000 is requested for entry level and small vessel Individual Fishing Quota (IFQ) obligation guarantees in the halibut and sable fish fisheries off the coast of Alaska. The program was funded in FY 2000 above the President's budget request.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (in thousands)	+ $6,291	+ $6,291	+ $6,291	+ $6,291	+ $6,291

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance, Program Account
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Fisheries Finance, Program Account

Title:		Grade	Number	Annual Salary	Total Salaries
Fisheries Biologist		Various	24	63,958	1,535,000
Total			24		1,535,000
Less Lapse	0.0%		0		0
Total full-time equivalent (FTE)			24		1,535,000
FY 2000 Pay Adjustment (0 %)					0
Total					1,535,000

Personnel Data	
Full-Time Equivalent Employment	
Full-time permanent	24
Other than full-time permanent	0
Total	24
Authorized Positions:	
Full-time permanent	24
Other than full-time permanent	0
Total	24

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Fisheries Finance, Program Account

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Fisheries Finance, Program Account**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	1,535
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	1,535
12.1	Civilian personnel benefits	393
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	4,463
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	6,391

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Fisheries Finance, Program Account

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Fisheries Finance, Program Account**

	Object Class	2001 Decrease
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(100)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	(100)

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance, Program Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent	0	0	0	1,535	1,535
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	0	0	0	1,535	1,535
12.1	Civilian personnel benefits	0	0	0	393	393
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.2	Other services	25,997	3	0	0	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	2,360	338	337	4,363	4,026
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	28,357	341	337	6,291	5,954
	Less prior year recoveries	0				
	Less unobligated balance, SOY	(22)	(1)			
	Plus unobligated balance, EOY	3				
	Total Budget Authority	28,338	340	337	6,291	5,954

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance, Program Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	0	0	0	24	24
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	24	24
Authorized Positions:					
Full-time permanent	0	0	0	24	24
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	24	24

Promote and Develop Fisheries Products
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Build Sustainable Fisheries										
Develop Sound Aquaculture				298		298		298		
Managing for Economic Growth	5	2,101								
Provide Research and Service		944								
Eliminate & Prevent Overfishing			4	1,325	4	1,325	4	1,325		
Attain Economic Sustainability in Communities				298		298		298		
Total BSF	**5**	**3,045**	**4**	**1,921**	**4**	**1,921**	**4**	**1,921**		
Total for P&D	**5**	**3,045**	**4**	**1,921**	**4**	**1,921**	**4**	**1,921**		

Exhibit 5

Department of Commerce

National Oceanic and Atmospheric Administration

Promote and Develop Fisheries Products and Research Pertaining to American Fisheries

SUMMARY OF RESOURCE REQUIREMENTS

(dollar amounts in thousands)

Page No.		Positions	Budget Authority	FTE	Direct Obligations
	Currently Available, 2000	4	1,921	4	2,646
	less: Obligations from prior years	0	0	0	(725)
	plus: 2001 adjustments to base	0	0	0	0
	less: Prior year recoveries	0	0	0	0
	2001 Base	4	1,921	4	1,921
	plus: 2000 program changes	0	0	0	0
	2001 Estimate	4	1,921	4	1,921

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2001 Base	
Comparison by activity:		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Promote and Develop Fishery	Pos./BA	4	3,045	4	1,921	4	1,921	4	1,921	0	0
Products and Research	FTE/Obl.	4	3,968	4	2,646	4	1,921	4	1,921	0	0
Direct Obligations	Pos./BA	4	3,045	4	1,921	4	1,921	4	1,921	0	0
	FTE/Obl.	4	3,968	4	2,646	4	1,921	4	1,921	0	0
Adjustments to Obligations:											
Recoveries			(410)		0		0		0	0	0
Unobligated Balance, start of year			(1,175)		(725)		0		0	0	0
Unobligated Balance, end of year			725		0		0		0	0	0
Financing from offsetting collections:											
Federal Sources											
Non-Federal Sources			(63)								
Financing from transfers:											
Transfer from other accounts (-)		(4)	(66,426)	(4)	(69,921)	(4)	(69,921)	(4)	(69,921)	0	0
Transfer to other accounts (+)			63,381		68,000		68,000		68,000	0	0
Appropriation		0	0	0	0	0	0	0	0	0	0

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products and Research Pertaining to American Fisheries
SUMMARY OF FINANCING
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations	3,968	2,646	1,921	1,921	0
Offsetting collections from:					
Federal funds					
Trust funds					
Non-Federal sources	(63)				
Recoveries	(410)	0	0	0	0
Unobligated balance, start of year	(1,175)	(725)	0	0	0
Unobligated balance, end of year	725	0	0	0	0
Budget Authority	3,045	1,921	1,921	1,921	0
Financing:					
Transfer from other accounts	(66,426)	(69,921)	(69,921)	(69,921)	0
Transfer to other accounts	63,381	68,000	68,000	68,000	0
Appropriation	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products and Research Pertaining to American Fisheries
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Promote and Develop Fisheries Products**
Subactivity: **Promote and Develop Fisheries Products**

Goal Statement

To promote and develop fishery-based industries in the United States.

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

The American Fisheries Promotion Act (AFPA) of 1980 authorized a grants program for fisheries research and development projects and a National Fisheries Research and Development Program to be carried out with Saltonstall-Kennedy (S-K) funds. S-K funds are derived from a transfer from the Department of Agriculture to NOAA of duties on imported fisheries products. An amount equal to 30% of these duties is made available to NOAA and, subject to appropriation, are available to carry out the purposes of the AFPA. The S-K grants program has provided substantial assistance to address impediments in the management, development, and utilization of the Nation's living marine resources. Each year a Federal Register notice is printed announcing the upcoming year's grant cycle. The annual notice outlines areas of emphasis for that grant cycle, such as research on reduction/elimination of bycatch, biotechnology research, and aquaculture. If funds are available, a nationwide competitive National Fisheries Research and Development Program is conducted.

The remainder of the funds transferred are used to offset the appropriation requirements of the Operations, Research and Facilities (ORF) account.

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Products and Research Pertaining to American Fisheries
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent	295	295	295	295	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	295	295	295	295	0
12.1	Civilian personnel benefits	65	65	65	65	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	29	29	29	29	0
22	Transportation of things	1	1	1	1	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.2	Other services	365	365	365	365	0
26	Supplies and materials	18	18	18	18	0
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	3,195	1,873	1,148	1,148	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	3,968	2,646	1,921	1,921	0
	Less prior year recoveries	(410)				
	Less unobligated balance, SOY	(1,175)	(725)			
	Financing from offsetting collections	(63)				
	Plus unobligated balance, EOY	725				
	Total Budget Authority	3,045	1,921	1,921	1,921	0

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Products and Research Pertaining to American Fisheries
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	4	4	4	4	0
Other than full-time permanent	0	0	0	0	0
Total	4	4	4	4	0
Authorized Positions:					
Full-time permanent	4	4	4	4	0
Other than full-time permanent	0	0	0	0	0
Total	4	4	4	4	0

Exhibit 5

Department of Commerce

National Oceanic and Atmospheric Administration

Fishing Vessel and Gear Damage Compensation Fund

SUMMARY OF RESOURCE REQUIREMENTS

(dollar amounts in thousands)

Page No.		Positions	Budget Authority	FTE	Direct Obligations
	Currently Available, 2000	0	0	0	0
	less: Obligations from prior years	0	0	0	0
	plus: 2001 adjustments to base	0	0	0	0
	less: Prior year recoveries	0	0	0	0
	2001 Base	0	0	0	0
	plus: 2001 program changes	0	0	0	0
	2001 Estimate	0	0	0	0

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2001 Base	
Comparison by activity:		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fishing Vessel and Gear Damag	Pos./BA	0	0	0	0	0	0	0	0	0	0
Compensation Fund	FTE/Obl.	0	0	0	0	0	0	0	0	0	0
Direct Obligations	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0
Adjustments to Obligations:											
Recoveries			0		0		0		0	0	0
Unobligated Balance, start of year			(5)		0		0		0	0	0
Unobligated balance, transferred to General Fund			5		0		0		0	0	0
Unobligated Balance, end of year			0		0		0		0	0	0
Unobligated Balance, unavailable			0		0		0		0	0	0
Financing from offsetting collections:											
Non-Federal Sources			0								
Unavailable Balance (prior year)											
Financing from transfers:											
Transfer from other accounts (-)											
Transfer to other accounts (+)											
Appropriation		0	0	0	0	0	0	0	0	0	0

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Fishing Vessel and Gear Damange Compensation Fund
SUMMARY OF FINANCING
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations	0	0	0	0	0
Offsetting collections from:					
Federal funds					
Trust funds					
Non-Federal sources	0				
Recoveries		0	0	0	0
Unobligated balance, start of year	(5)	0	0	0	0
Unobligated balance transferred	5	0	0	0	0
Unobligated balance, end of year	0	0	0	0	0
Unobligated balance, unavailable	0	0	0	0	0
Budget Authority	0	0	0	0	0
Financing:					
Transfer from other accounts					
Transfer to other accounts					
Appropriation	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Fishing Vessel and Gear Damage Compensation Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Fishing Vessel and Gear Damage Compensation Fund**
Subactivity: **Fishing Vessel and Gear Damage Compensation Fund**

Appropriation Summary Statement

The Fishermen's Protective Act of 1967, as amended by P.L. 95-376, Section 10 (f) (1), September 18, 1978 and P.L. 96-561 of 1980, required that the Secretary of Commerce provide compensation to fishing vessel owners who sustain losses or damage to their gear or vessels while engaged in any fishery subject to the exclusive fishery management authority of the United States under the provisions of the Magnuson-Stevens Fishery Conservation and Management Act of 1976, provided that the vessel loss is attributable to any foreign vessel, or its crew, or its fishing gear or the gear loss is attributable to the actions of any other vessel whether foreign or domestic.

The appropriation shall be derived from: (1) all sums recovered in the exercise of rights subrogated under subsection (d) (5) of the Act; (2) administrative fees collected from applicants for compensation; (3) all surcharges imposed upon foreign fishing permit fees not to exceed 20 percent; (4) revenue obtained through the investment of funds collected and not currently needed; and (5) any revenue acquired by borrowing from the Treasury.

Goal Statement

The goals of this appropriation are to compensate domestic fishermen and vessel owners whose fishing vessels have been lost, damaged or destroyed by foreign vessel operations in the United States' Exclusive Economic Zone (EEZ) or whose fishing gear has been lost, damaged, or destroyed in the EEZ by foreign or domestic vessels, to provide for timely resolution of claims by vessel owners, and to administer the Fund's resources efficiently and effectively.

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

The Fishing Vessel and Gear Damage Compensation Fund is authorized by Section 10 of the Fishermen's Protective Act of 1967, as amended (P.L. 95-376 and P.L. 96-561). It compensates U.S. fishermen whose gear has been lost, damaged, or destroyed by foreign or domestic vessels or whose vessel casualties are attributable to foreign vessels or their crew or gear. NOAA administers the Fund and indemnifies domestic fishermen against the commercially uninsurable loss of fishing gear caused by foreign or domestic vessels and a portion of the associated economic loss. The risk of losing expensive fishing gear is a major destabilizing factor in some fisheries. Monies paid into this Fund include: (1) surcharges not to exceed 20 percent of the fee imposed for any foreign fishing vessel permit issued under the Magnuson-Stevens Fishery Conservation and Management Act; (2) administrative fees paid by claimants; (3) revenues from deposits or investments of Fund balances not immediately required; (4) funds not to exceed $5 million borrowed from the Treasury in the event the Fund balance is insufficient to pay claims; and (5) funds acquired from offending vessels through subrogation. Disbursements can be made only to the extent authorized by appropriation acts.

The existing balances of the fund were transferred to the general treasury and the account has been terminated.

Fishermen's Contingency Fund
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Build Sustainable Fisheries										
Managing for Economic Growth	1	953								
Eliminate & Prevent Overfishing			1	949	1	951	1	951		
Total BSF	**1**	**953**	**1**	**949**	**1**	**951**	**1**	**951**		
Total for FCF	**1**	**953**	**1**	**949**	**1**	**951**	**1**	**951**		

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
SUMMARY OF RESOURCE REQUIREMENTS
(dollar amounts in thousands)

Page No.		Positions	Budget Authority	FTE	Direct Obligations
	Currently Available, 2000	1	949	1	2,217
	less: Obligations from prior years	0	0	0	(1,268)
	plus: 2001 adjustments to base	0	2	0	2
	less: Prior year recoveries	0	0	0	0
	2001 Base	1	951	1	951
	plus: 2000 program changes	0	0	0	0
	2001 Estimate	1	951	1	951

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2001 Base	
Comparison by activity:		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fishermen's Contingency Fund	Pos./BA	1	94	1	949	1	951	1	951	0	0
	FTE/Obl.	1	359	1	2,217	1	951	1	951	0	0
Direct Obligations	Pos./BA	1	94	1	949	1	951	1	951	0	0
	FTE/Obl.	1	359	1	2,217	1	951	1	951	0	0
Adjustments to Obligations:											
Recoveries			0		0		0		0	0	0
Unobligated Balance, start of year			(1,532)		(1,268)		0		0	0	0
Unobligated balance transferred			0		0		0		0	0	0
Unobligated Balance, end of year			1,268		0		0		0	0	0
Financing from offsetting collections:											
Federal Sources											
Non-Federal Sources			(1)								
Financing from transfers:											
Transfer from other accounts (-)											
Transfer to other accounts (+)											
Appropriation		1	94	1	949	1	951	1	951	0	0

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
SUMMARY OF FINANCING
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations	359	2,217	951	951	0
Offsetting collections from:					
Federal funds					
Trust funds					
Non-Federal sources	(1)				
Recoveries	0	0	0	0	0
Unobligated balance, start of year	(1,532)	(1,268)	0	0	0
Unobligated balance transferred	0	0	0	0	0
Unobligated balance, end of year	1,268	0	0	0	0
Unobligated balance, unavailable	0	0	0	0	0
Budget Authority	94	949	951	951	0
Financing:					
Transfer from other accounts					
Transfer to other accounts					
Appropriation	94	949	951	951	0

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
CHANGES TO BASE
(Dollar amounts in thousands)

	FTE	Amount
Other Changes		
2001 Pay Raise		**2**
Subtotal		**2**
Total, Adjustments- To- Base	**0**	**2**

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
JUSTIFICATION OF CHANGES TO BASE

Other Changes

		FTE	Amount
2001 Pay Raise			**2**
A general pay raise of 3.7% is assumed to be effective January 1, 2001.			
Total cost of the January 2001 pay increase	3,000		
Less amount for period October 2001 - December 2001.	(1,000)		
Amount requested for 2001 pay increase	2,000		
Payment to the Department of Commerce Working Capital fund for the pay raise	0		
Total, adjustment for 2001 pay increase	2,000		
Subtotal, Other Changes		**0**	**2**
Total, Adjustments-To-Base		**0**	**2**

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Fishermen's Contingency Fund**
Subactivity: **Fishermen's Contingency Fund**

Appropriation Summary Statement

Title IV of the Outer Continental Shelf Lands Act Amendments of September 18, 1978, (P.L. 95-372, Section 402) as amended, established the Fishermen's Contingency Fund. The Fund is to be used by the Secretary of Commerce to compensate domestic fishermen for the damage or loss of fishing gear or fishing vessels (up to a reasonable insurance deductible), and any resulting economic loss due to natural obstructions or man-made obstructions related to oil and gas exploration, development, and production in any area of the Outer Continental Shelf.

For purposes of administration, the Secretary of Commerce was authorized to establish the Fishermen's Contingency Fund to pay claims and to request assessment by the Secretary of the Interior of the oil and gas industry to capitalize the Fund. Any holder of a lease, an exploration permit, easement, or right of way on the Outer Continental Shelf is required to pay to the Secretary of the Interior an amount not to exceed $5,000 per lease, permit, easement, or right of way per calendar year. The Secretary of the Interior deposits these collections in the Fishermen's Contingency Fund established by the Secretary of Commerce.

Title IV stipulates that amounts available can be disbursed only to the extent provided for by appropriations acts.

Goal Statement

This fund compensates domestic fishermen for damage or loss of fishing gear or vessels due to obstructions related to oil or gas exploration, development, and production on the Outer Continental Shelf (OCS). It minimizes financial instability of the fishing industry caused by competing uses of the OCS, and provides for timely resolution of claims by vessel owners.

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

The Fishermen's Contingency Fund is authorized under Section 402 of Title IV of the Outer Continental Shelf Lands Act Amendments of 1978. NOAA compensates U.S. commercial fishermen for damage or loss of fishing gear, vessels, and resulting economic loss caused by obstructions related to oil and gas exploration, development, and production in any area of the Outer Continental Shelf. The funds used to provide this compensation are derived from fees collected on an annual basis by the Secretary of the Interior from the holders of leases, exploration permits, easements, or rights-of-way on the OCS.

This activity is funded totally through user fees. Disbursements can be made only to the extent authorized in appropriation acts.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Number of claims received	66	44	70	70
Number of claims processed	54	36	50	50

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent	67	67	67	67	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	67	67	67	67	0
12.1	Civilian personnel benefits	14	14	14	14	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.2	Other services	0	0	0	0	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	0	0	0	0	0
42	Insurance claims and indemnities	278	2,136	870	870	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	359	2,217	951	951	0
	Financing from offsetting collections, Federal Sources	(1)				
	Less unobligated balance, SOY	(1,532)	(1,268)			
	Plus unobligated balance, EOY	1,268				
	Total Budget Authority	94	949	951	951	0

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	1	1	1	1	0
Other than full-time permanent	0	0	0	0	0
Total	1	1	1	1	0
Authorized Positions:					
Full-time permanent	1	1	1	1	0
Other than full-time permanent	0	0	0	0	0
Total	1	1	1	1	0

Foreign Fishing Observer Fund
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Build Sustainable Fisheries										
Managing for Economic Growth		189								
Eliminate & Prevent Overfishing				188		191		191		
Total BSF		**189**		**188**		**191**		**191**		
Total for FFOF		**189**		**188**		**191**		**191**		

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF RESOURCE REQUIREMENTS
(dollar amounts in thousands)

Page No.		Positions	Budget Authority	FTE	Direct Obligations
	Currently Available, 2000	0	188	0	1,663
	less: Obligations from prior years	0	0	0	(1,475)
	plus: 2001 adjustments to base	0	3	0	3
	less: Prior year recoveries	0	0	0	0
	2001 Base	0	191	0	191
	plus: 2001 program changes	0	0	0	0
	2001 Estimate	0	191	0	191

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2001 Base	
Comparison by activity:		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Foreign Fishing Observer Fund	Pos./BA	0	68	0	188	0	191	0	191	0	0
	FTE/Obl.	0	0	0	1,663	0	191	0	191	0	0
Direct Obligations	Pos./BA	0	68	0	188	0	191	0	191	0	0
	FTE/Obl.	0	0	0	1,663	0	191	0	191	0	0
Adjustments to Obligations:											
Recoveries			0		0		0		0	0	0
Unobligated Balance, start of year			(1,407)		(1,475)		0		0	0	0
Unobligated Balance, end of year			1,475		0		0		0	0	0
Financing from offsetting collections:											
Non-Federal Sources											
Unavailable Balance (prior year)											
Financing from transfers:											
Transfer from other accounts (-)											
Transfer to other accounts (+)											
Appropriation		0	68	0	188	0	191	0	191	0	0

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF FINANCING
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations	0	1,663	191	191	0
Offsetting collections from:					
Federal funds					
Trust funds					
Non-Federal sources					
Recoveries	0	0	0	0	0
					0
Unobligated balance, start of year	(1,407)	(1,475)	0	0	0
Unobligated balance transferred	0	0	0	0	0
Unobligated balance, end of year	1,475	0	0	0	0
Unobligated balance, unavailable	0	0	0	0	0
Budget Authority	68	188	191	191	0
Financing:					
Transfer from other accounts					
Transfer to other accounts					
Appropriation	68	188	191	191	0

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
CHANGES TO BASE
(Dollar amounts in thousands)

	FTE	Amount
Other Changes	**0**	
Other services		**3**
Subtotal, Other Changes	**0**	**3**
Total, Adjustments- To- Base	**0**	**3**

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
JUSTIFICATION OF CHANGES TO BASE

	FTE	Amount
Other Changes		
Other Services		**3**
This request applies to OMB economic assumption for FY 2001 to Subobject Classes where the price that the government pays are established through the market system. Based on the GNP deflator of 1.5%, the cost of other services is expected to increase by $3,000 from the FY 2000 estimate of $189,000.		
Subtotal, Other Changes	**0**	**3**
Total, Adjustments-To-Base	**0**	**3**

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Foreign Fishing Observer Fund**
Subactivity: **Foreign Fishing Observer Fund**

Appropriation Summary Statement

The Foreign Fishing Observer Fund was originally established by Public Law 96-339, which amended the Atlantic Tunas Convention Act of 1975. The Fund includes the Foreign Fishery Observer Program provided for by the Magnuson-Stevens Fishery Conservation and Management Act, as amended (P.L. 104-297). Under these laws, U.S. observers are placed aboard foreign fishing vessels fishing within the Exclusive Economic Zone (EEZ) of the United States to monitor compliance with U.S. fishery laws and to collect data for the management of U.S. fisheries. The fund is financed through fees imposed on owners and operators of the foreign fishing vessels that fish within the EEZ. The Foreign Fishing Observer Fund is to be used by the Secretary of Commerce to pay salaries, administrative costs, and data management costs associated with full observer coverage aboard foreign vessels. Beginning in FY 1985, foreign fishermen were also permitted to contract with NMFS approved contractors to obtain observers (Supplemental Observer Program).

The Magnuson-Stevens Act stipulates that the amounts available in the Fund can be disbursed only to the extent and in the amounts provided for in advance in appropriation acts.

Goal Statement

The goals of this fund are to provide 100 percent observer coverage aboard foreign vessels fishing within the United States' EEZ; to increase compliance with fishery regulations and requirements; to support balanced conservation and management measures to achieve and maintain the optimum use of our living marine resources; to collect data to determine foreign compliance with fishery regulations and the status of fish stocks within the EEZ of the United States; and to administer the base and supplemental observer programs in a cost-effective manner.

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

The Foreign Fishing Observer Fund is financed through fees collected from owners and operators of foreign fishing vessels fishing within the Exclusive Economic Zone (EEZ) of the United States (such fishing requires a permit issued under the Magnuson-Stevens Fishery Conservation and Management Act). This includes long-line vessels fishing in the Atlantic billfish and shark fishery and other foreign vessels fishing in the EEZ. The fund is used by NOAA to pay salaries, administrative costs, data editing and entry costs, and other costs incurred in placing observers aboard foreign fishing vessels. The observer program is conducted primarily through contracts with the private sector. NOAA/NMFS places these observers aboard foreign fishing vessels to monitor compliance with U.S. fishery laws and to collect fishery management data. Amounts available in the Fund can be disbursed only to the extent and in amounts provided in appropriation acts.

In FY 1985 Congress approved the establishment of a supplemental observer program. The program provided that foreign vessels without Federally-funded observers are required to obtain the services of private contractors certified by the Secretary of Commerce.

Measures of Performance

	1998 Actual	1999 Actual	2000 Estimate	2001 Estimate
Percent observer coverage of foreign fishing within the U.S. EEZ	100	100	100	100

NOTE: This performance data represents the combined impact of appropriated funds and direct contracting by foreign governments.

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent	0	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	0	0	0	0	0
12.1	Civilian personnel benefits	0	0	0	0	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.2	Other services	0	1,663	191	191	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	0	0	0	0	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	0	1,663	191	191	0
	Less prior year recoveries	0				
	Less unobligated balance, SOY	(1,407)	(1,475)			
	Plus unobligated balance, EOY	1,475				
	Total Budget Authority	68	188	191	191	0

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

Coastal Zone Management Fund
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Sustain Healthy Coasts										
Protect, conserve and restore habitats	37	880	37	880						
Promote clean coastal waters	9	550	9	550						
Foster well-planned and revitalized coastal communities	3	2,570	3	2,570						
Total SHC	**49**	**4,000**	**49**	**4,000**						
Total for CZMF	**49**	**4,000**	**49**	**4,000**						

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

Page No.		Positions	FTE	Budget Authority	Direct Obligations
	FY 2000 Currently Available	49	49	4,000	5,033
	less: Obligations from prior years			0	(1,033)
	plus: FY 2001 Adjustments to base	(49)	(49)	(800)	(800)
	less: Prior year recoveries			(3,200)	(3,200)
	2001 Base	0	0	0	0
	plus: 2001 program changes			0	0
	2001 Estimate	0	0	0	0

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ Decrease) over 2001 Base	
Comparison by activity/subactivity:		FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
CZMF	Pos./BA	51	3,816	49	4,000	0	0	0	0	0	0
	FTE/Obl.	18	3,816	49	4,000	0	0	0	0	0	0
Totals BA	Pos./BA	51	3,816	49	4,000	0	0	0	0	0	0
	FTE/Obl.	18	3,816	49	4,000	0	0	0	0	0	0
Adjustments for:											
Unobligated Balance, start of year			(593)		(1,033)		(1,033)		(1,033)	0	0
Unobligated Balance, end of year			1,033		1,033		1,033		1,033	0	0
Financing from offsetting collections:											
Prior yr. balance			(58)		0		0		0	0	0
Non Federal Funds		(18)	(4,198)	(49)	(4,000)	(49)	(3,200)	(49)	(3,200)	0	0
Transfer to ORF						49	3,200	49	3,200	0	0
Appropriation 1/		0	0	0	0	0	0	0	0	0	0

1/ Account has appropriation in FY 2001 and will be transferred to ORF.

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations/Discretionary BA	3,816	4,000	3,200	0	(3,200)
Offsetting collections from:					
Federal funds					
Trust funds					
Non-Federal sources	(4,198)	(4,000)	0	(3,200)	0
Transfer to ORF			(3,200)	3,200	3,200
Recoveries	(58)	0	0	0	0
Unobligated balance, start of year	(593)	(1,033)	(1,033)	(1,033)	0
Unobligated balance transferred					
Unobligated balance, end of year	1,033	1,033	1,033	1,033	0
Appropriation	0	0	0	0	0
Total Net Budget Authority	(382)	0	0	0	0

**CZMF transferred to ORF in FY 2001

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
CHANGES TO BASE
(Dollar amounts in thousands)

	FTE	Amount
	0	
FY 2000 Offsetting Collections - Mandatory		**(4,000)**
FY 2000 Appropriations Discretionary		**4,000**
Budget Authority		**0**
Adjustments to Base		
Less: Re-estimate for collections - Mandatory		**800**
FY 2001 Mandatory		**(3,200)**
FY 2000 Appropriation Offset by Collections (Discretionary)		**(800)**
Discretionary		**3,200**
Transfer:		
FY 2001 Transfer to ORF (Discretionary)	**(49)**	**(3,200)**
FY 2001 Mandatory Budget Authority	**(49)**	**3,200**
Subtotal, Other Changes	**0**	**0**
Total, Adjustments- To- Base	**(49)**	**(4,000)**

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
JUSTIFICATION OF CHANGES TO BASE

	FTE	Amount
Transfer:		
The ORF account is offset by funding from the Coastal Zone Management Fund. (Mandatory)		**(4,000)**
Appropriation (Discretionary)		**4,000**
		0
Collections to the Coastal Zone Management Fund are expected to decline by $800,000 from the FY 2000 estimate of $4,000,000. (Mandatory)		**800**
Mandatory		**(3,200)**
FY 2000 Appropriation Offset by Collections (Discretionary)		**(800)**
Discretionary	0	**3,200**
Transfer of CZMF Discretionary to ORF	**(49)**	**(3,200)**
Mandatory CZMF	**(49)**	**3,200**
Total, Adjustments-To-Base	**(49)**	**(4,000)**

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Coastal Zone Management Fund**
Subactivity: **Coastal Zone Management Fund**

Goal Statement

The Coastal Zone Management Fund (CZMF) was created by the 1990 amendments to the Coastal Zone Management Act. The purposes for which the funds can be used are set forth in Sec. 308 of that Act. In summary, Sec. 308 authorizes the use of the loan repayments from the former Coastal Energy Impact Program (CEIP) for the administrative costs of the Coastal Zone Management Program and if any funds remain, for other purposes as set forth below.

Proposed Legislation

NOAA will continue working with Congress in FY 2000 to reauthorize the CZMA. As a part of this process, NOAA has proposed to use the Fund as a general offset to the costs of implementing the CZMA by transferring any amounts collected under the Fund to the ORF account. The FY 2001 budget proposes to reduce the ORF offset from the CZM Fund from $4.0 million to $3.2 million. This decrease is necessary due to declining Fund balances.

Base Program

Section 308 of the Coastal Zone Management Act authorizes the CZMF to be used for the following purposes:

(1) Expenses incident to the administration of the Coastal Zone Management Act;
(2) Projects to address management issues which are regional in scope, including interstate projects;
(3) Demonstration projects which have high potential for improving coastal zone management, especially at the local level;
(4) Emergency grants to State coastal zone management agencies to address unforseen or disaster-related circumstances;
(5) Appropriate awards recognizing excellence in coastal management;
(6) Program Development Grants; and

Damage Assessment & Restoration Revolving Fund
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Sustain Healthy Coasts										
Protect, conserve and restore habitats				3,529		2,162		2,162		
Total SHC				**3,529**		**2,162**		**2,162**		
Total for DARRF				**3,529**		**2,162**		**2,162**		

Exhibit 5

Department of Commerce

National Oceanic and Atmospheric Administration

Damage Assessment and Restoration Revolving Fund

SUMMARY OF RESOURCE REQUIREMENTS

(Dollar amounts in thousands)

Page No.		Positions	FTE	Budget Authority	Direct Obligations
	FY 2000 Currently Available	0	0	3,529	21,026
	less: Obligations from prior years				
	plus: 2001 Adjustments to base			(1,367)	(17,364)
	less: Prior year recoveries				
	2001 Base	0	0	2,162	3,662
	2001 Estimate	0	0	2,162	3,662

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2000 Base	
Comparison by activity/subactivity:		FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
DARRF	BA	0	(2,780)		3,529		2,162		2,162		0
	FTE/Obl.	0	0	0	21,026	0	3,662	0	3,662	0	0
TOTALS	BA	0	(2,780)		3,529		2,162		2,162		0
	Obl.	0	0	0	21,026	0	3,662	0	3,662	0	0
Adjustments for:											
Recoveries			0		0		0		0		0
Unobligated Balance, start of year			(7,793)		(15,997)		0		0		0
Unobligated balance transferred					0		0		0		0
Unobligated Balance, end of year			15,997		0		0		0		0
Financing from offsetting collections:											
Non-Federal Sources			(12,881)		(1,500)		(1,500)		(1,500)		0
Receivables from Federal Sources			(8)		0		0		0		0
Financing from transfers:											
Unobligated Balances											
From DOI			(3,490)		0		0		0		0
To ORF			5,395				0		0		0
Total BA			(2,780)		3,529		2,162		2,162		0
Budget Authority											
Transfer from DOI					(3,529)		(2,162)		(2,162)		0
Transfer to ORF			2,780		0		0		0		0
Appropriation			0		0		0		0		0

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations	0	21,026	3,662	3,662	0
Offsetting collections from:					
Federal funds					
Unavailable Balance (prior year)	0	0	0	0	
Non-Federal sources	(12,881)	(1,500)	(1,500)	(1,500)	0
Receivables from Federal Sources	(8)	0	0	0	0
Recoveries	0	0	0	0	0
Unobligated Balance: Transfer					
From DOI	(3,490)	0	0	0	
To ORF	5,395	0	0	0	
Unobligated balance, start of year	(7,793)	(15,997)	0	0	0
Unobligated balance, end of year	15,997	0	0	0	0
Budget Authority	(2,780)	3,529	2,162	2,162	0
Financing:					
Transfer to ORF					
B.A.	2,780	0	0	0	0
Transfer from Dept of Interior					
B.A.	0	(3,529)	(2,162)	(2,162)	0
Appropriation	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Damage Assessment and Restoration Revolving Fund**
Subactivity: **Damage Assessment and Restoration Revolving Fund**

Goal Statement

Facilitate the spill response, damage assessment, and natural resource restoration activities of the National Oceanic and Atmospheric Administration.

Proposed Legislation

No legislation proposed for this subactivity.

Base Program

A National Oceanic and Atmospheric Administration (NOAA) Damage Assessment and Restoration Revolving Fund was established, under Section 1012(a) of the Oil Pollution Act of 1990, for deposit of sums provided by any party or governmental entity for response to discharges of oil or releases of hazardous substances, for assessment of damages to NOAA trust resources resulting from those discharges and releases, and for the restoration of the injured natural resources.

- Retain funds that are recovered through settlement or awarded by a court for restoration of injured natural resources, and retain reasonable costs of conducting spill response and damage assessment that are recovered by NOAA through negotiated settlement, court award, or other reimbursement.

- Ensure funds so deposited shall remain available to the trustee, without further appropriation, until expended to pay costs associated with response, damage assessment, and restoration of natural resources.

The NOAA Damage Assessment and Restoration Revolving Fund facilitates and sustains: (1) oil and hazardous materials contingency planning and response, automated spill assessment, and countermeasure capabilities; (2) natural resource damage assessment while the Departments of Commerce and Justice seek full reimbursement from potentially responsible parties; and (3) restoration, replacement or acquisition of the equivalent of injured or lost natural resources, including resources of National Marine Sanctuaries and National Estuarine Research Reserves, tidal wetlands and other habitats, for which NOAA is trustee. These program functions are conducted jointly within NOAA by the Office of General Counsel, the National Ocean Service, and the National Marine Fisheries Service.

Hazardous Materials Response Program - As the scientific support coordinator to the U.S. Coast Guard's Federal on-scene coordinator at coastal and marine spills of oil and hazardous materials, NOAA provides critical information on spill trajectory, chemical hazard analyses, and assessments of the sensitivity of marine and estuarine habitats. The program's substantial involvement in response activities related to the EXXON VALDEZ oil spill continues. The program provides similar support to the environmental hazardous waste sites in coastal areas.

Damage Assessment Program - To fulfill its responsibility as a Federal trustee for living natural resources under the Superfund, Clean Water, and Oil Pollution Acts, NOAA conducts comprehensive assessments of damages to trust resources from discharges of oil or releases of hazardous substances in coastal and marine areas. These assessments enable the Federal Government to file claims against the potentially responsible parties. The first such claim was filed in 1983 for damages resulting from PCB contamination in New Bedford Harbor, Massachusetts.

Natural Resources Restoration Program - The program uses recovered damages to restore injured resources, monitors the restoration to assess its effectiveness, conducts basic and applied research on restoration methodologies, applies these techniques to restoration of resource habitats, and provides guidance to habitat managers for selecting among restoration approaches.

Measures of Performance

Establish, maintain, and operate a system of financial accounting for said Revolving Fund to ensure status reports of fund activities and conformation to all applicable Federal regulations.

Provide to the Under Secretary for Oceans and Atmosphere an annual summary of deposit, transfer, and withdrawal activities by program area.

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent					
11.3	Other than full-time permanent					
11.5	Other personnel compensation					
11.8	Special personnel services payments					
11.9	Total personnel compensation					
12.1	Civilian personnel benefits					
13	Benefits for former personnel					
21	Travel and transportation of persons					
22	Transportation of things					
23.1	Rental payments to GSA					
23.2	Rental payments to others					
23.3	Commun., util., misc. charges					
24	Printing and reproduction					
25.1	Consulting services					
25.2	Other services	0	21,026	3,662	3,662	0
26	Supplies and materials					
31	Equipment					
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions					
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99	**Total Obligations**	0	21,026	3,662	3,662	0
	Recoveries					
	Unobligated Balance, SOY	(7,793)	(15,997)	0	0	0
	Unobligated Balance, EOY	15,997	0	0	0	0
	Financing from offsetting collections:					
	Non-Federal sources	(12,881)	(1,500)	(1,500)	(1,500)	0
	Receivables from Federal Sources	(8)				

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
Financing from Transfers:					
Unobligated Balances					
From DOI	(3,490)	0	0	0	0
To ORF	5,395		0	0	0
Budget Authority	(2,780)	3,529	2,162	2,162	0
Transfers:					
From DOI	0	(3,529)	(2,162)	(2,162)	0
To ORF	2,780	0	0	0	0
Appropriation	0	0	0	0	0

Federal Ship Financing Fund, Administration
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Build Sustainable Fisheries										
Eliminate & Prevent Overfishing				700						
Total BSF				**700**						
Total for FSFF				**700**						

Exhibit 5

Department of Commerce

National Oceanic and Atmospheric Administration

Federal Ship Financing Fund

SUMMARY OF RESOURCE REQUIREMENTS

(dollar amounts in thousands)

Page No.		Positions	Budget Authority	FTE	Direct Obligations
	Currently Available, 2000	0	700	0	700
	less: Obligations from prior years	0	0	0	0
	plus: 2000 adjustments to base	0	(700)	0	(700)
	less: Prior year recoveries	0	0	0	0
	2001 Base	0	0	0	0
	plus: 2001 program changes	0	0	0	0
	2001 Estimate	0	0	0	0

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2001 Base	
Comparison by activity:		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Federal Ship Financing Fund	Pos./BA	0	2,200	0	700	0	0	0	0	0	0
	FTE/Obl.	0	1,841	0	700	0	0	0	0	0	0
Direct Obligations	Pos./BA	0	2,200	0	700	0	0	0	0	0	0
	FTE/Obl.	0	1,841	0	700	0	0	0	0	0	0
Adjustments to Obligations:											
Recoveries			0		0		0		0	0	0
Unobligated Balance, start of year			(3,179)		(7,888)		0		0	0	0
Unobligated balance, transferred pursuant to P.L. 105-33			3,179		7,888		0		0	0	0
Unobligated Balance, end of year			7,888		0		0		0	0	0
Financing from offsetting collections:											
Non-Federal Sources			(7,528)								
Unavailable Balance (prior year)											
Financing from transfers:											
Transfer from other accounts (-)											
Transfer to other accounts (+)											
Indefinite Appropriation (FCRA of 1990)		0	2,200	0	700	0	0	0	0	0	0

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
SUMMARY OF FINANCING
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations	1,841	700	0	0	0
Offsetting collections from:					
Federal funds					
Trust funds					
Non-Federal sources	(7,528)				
Recoveries	0	0	0	0	0
Unobligated balance, start of year	(3,179)	(7,888)	0	0	0
Unobligated balance transferred pursuant to P.L. 105-33	3,179	7,888			
Unobligated balance, end of year	7,888	0	0	0	0
Budget Authority	2,200	700	0	0	0
Financing:					
Transfer from other accounts					
Transfer to other accounts					
Indefinite Appropriation (FCRA of 1990)	2,200	700	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Federal Ship Financing Fund**
Subactivity: **Federal Ship Financing Fund**

Proposed Legislation

No legislation is proposed for this subactivity.

Base Program

The Federal Ship Financing Fund (FSFF) manages the loan guarantee portfolio that existed prior to FY 1992. Administrative expenses for management of the loan guarantee portfolio were charged to the Federal Ship Financing Fund prior to the enactment of the Credit Reform Act of 1990; they were then charged to the Operations, Research and Facilities (ORF) account until FY 1996. In FY 1996, FY 1997, and FY 1998 Congress directed that administrative expenses of $1,700,000 for the FSFF and Fisheries Finance Program (FFP) be paid from existing balances of the fund rather than from the ORF account. The FY 1999 and FY 2000 enacted budgets directed NOAA to once again charge these expenses to the ORF account. The FY 2001 budget proposes to charge these expenses from within the FFP Account.

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent	0	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	0	0	0	0	0
12.1	Civilian personnel benefits	0	0	0	0	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.2	Other services	0	0	0	0	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	0	0	0	0	0
42	Insurance claims and indemnities	1,841	700	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	1,841	700	0	0	0
	Less prior year recoveries	0				
	Less unobligated balance, SOY	(3,179)	(7,888)			
	Plus unobligated balance, transferred pursuant to P.L. 105-33	3,179	7,888			
	Plus unobligated balance, EOY	7,888				
	Total Budget Authority	2,200	700	0	0	0

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

Fisheries Promotional Fund
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Build Sustainable Fisheries										
Eliminate & Prevent Overfishing				(1,223)						
Total BSF				**(1,223)**						
Total for FPF				**(1,223)**						

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Promotional Fund
SUMMARY OF RESOURCE REQUIREMENTS
(dollar amounts in thousands)

Page No.		Positions	Budget Authority	FTE	Direct Obligations
	Currently Available, 2000	0	(1,223)	0	(1,223)
	less: Obligations from prior years	0	0	0	0
	plus: 2001 adjustments to base	0	1,223	0	1,223
	less: Prior year recoveries	0	0	0	0
	2001 Base	0	0	0	0
	plus: 2001 program changes	0	0	0	0
	2001 Estimate	0	0	0	0

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2001 Base	
Comparison by activity:		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Promotional Fund	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0
Direct Obligations	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0
Adjustments to Obligations:											
Recoveries			0		0		0		0	0	0
Unobligated Balance, start of year			(1,186)		(1,223)		0		0	0	0
Unobligated Balance, end of year			1,223		0		0		0	0	0
Financing from offsetting collections:											
Non-Federal Sources											
Federal Sources			(37)								
Financing from transfers:											
Transfer from other accounts (-)											
Transfer to other accounts (+)											
Appropriation		0	0	0	(1,223)	0	0	0	0	0	0

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Promotional Fund
SUMMARY OF FINANCING
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 200 Base
Total Obligations	0	0	0	0	0
Offsetting collections from:					
Federal funds	(37)				
Trust funds					
Non-Federal sources					
Recoveries	0	0	0	0	0
Unobligated balance, start of year	(1,186)	(1,223)	0	0	0
Unobligated balance, end of year	1,223	0	0	0	0
Unobligated balance, unavailable					
Budget Authority	0	(1,223)	0	0	0
Financing:					
Transfer from other accounts					
Transfer to other accounts					
Appropriation	0	(1,223)	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Promotional Fund
CHANGES TO BASE
(Dollar amounts in thousands)

	FTE	Amount
Adjustment	**0**	
Restoration of FY 2000 Rescission		**1,223**
Subtotal, Other Changes	**0**	**1,223**
Total, Adjustments- To- Base	**0**	**1,223**

Department of Commerce

National Oceanic and Atmospheric Administration

Fisheries Promotional Fund

JUSTIFICATION OF CHANGES TO BASE

Adjustments:	FTE	Amount
		1,223
Restoration of Rescission		
In 1986, funding was transferred from Saltonstall-Kennedy funds per P.L. 99-659 to support the National Fish and Seafood Promotional Council. The Act expired in 1991 and the Council was terminated. Of the amounts transferred, $1,223,000 were not required and rescinded in the FY 2000 President's budget. No additional funds are available for rescission in FY 2001.		
Subtotal, Other Changes	0	1,223
Total, Adjustments-To-Base	0	1,223

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Promotional Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Fisheries Promotional Fund**
Subactivity: **Fisheries Promotional Fund**

Goal Statement

To strengthen the competitive position of the United States commercial fishing industry in the domestic and international marketplace through the National Fish and Seafood Promotional Council.

Base Program

Title II of Public Law 99-659, the Fish and Seafood Promotion Act of 1986, enacted November 14, 1986, established the Fisheries Promotional Fund (FPF) and a National Fish and Seafood Promotional Council. The FPF was to provide funding for the Council. Funding for the FPF was from the transfer of Saltonstall-Kennedy funds authorized by the Act and were subject to appropriation. The National Council was charged with marketing seafood products and fostering their sales nationally. The objectives of the activity were to: encourage the development and utilization of all species of fish available for harvest by the United States fishing industry; encourage the utilization of domestically-produced fish through enhancement of markets and promotion; help the United States' fishing industry develop methods to improve quality and efficiency in the marketplace; educate and inform consumers on the use of fish; develop better coordination of fisheries marketing and promotion activities with commercial fisheries research and development programs; and educate and inform the public about the nutritional value of fish in the diet.

The Fish and Seafood Promotion Act expired on December 31, 1991 and the National Fish and Seafood Promotional Council was terminated. Reauthorization of the Fish and Seafood Promotion Act is not proposed and unobligated balances of $1,223,000 were proposed for rescission from this account in the FY 2000 President's Request, no other funds will remain in this account. The FY 2001 budget includes an adjustment to base to eliminate the recission.

Pacific Coastal Salmon Recovery Account
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Recover Protected Species										
Prevent Extinction				58,000		58,000		160,000		102,000
Total RPS				**58,000**		**58,000**		**160,000**		**102,000**
Total for PCSR				**58,000**		**58,000**		**160,000**		**102,000**

Exhibit 5

Department of Commerce

National Oceanic and Atmospheric Administration

Pacific Coastal Salmon Recovery Account

SUMMARY OF RESOURCE REQUIREMENTS

(dollar amounts in thousands)

Page No.		Positions	Budget Authority	FTE	Direct Obligations
	Currently Available, 2000	0	58,000	0	58,000
	less: Obligations from prior years	0	0	0	0
	plus: 2001 adjustments to base	0	0	0	0
	less: Prior year recoveries	0	0	0	0
	2001 Base	0	58,000	0	58,000
	plus: 2001 program changes	0	102,000	0	102,000
	2001 Estimate	0	160,000	0	160,000

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2001 Base	
Comparison by activity:		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Pacific Coastal Salmon Recovery	Pos./BA	0	0	0	58,000	0	58,000	0	100,000	0	42,000
	FTE/Obl.	0	0	0	58,000	0	58,000	0	100,000	0	42,000
Pacific Salmon Agreement	Pos./BA	0	0	0	0	0	0	0	60,000	0	60,000
	FTE/Obl.	0	0	0	0	0	0	0	60,000	0	60,000
Direct Obligations	Pos./BA	0	0	0	58,000	0	58,000	0	160,000	0	102,000
	FTE/Obl.	0	0	0	58,000	0	58,000	0	160,000	0	102,000
Adjustments to Obligations:											
Recoveries			0		0		0		0	0	0
Unobligated Balance, start of year			0		0		0		0	0	0
Unobligated Balance, end of year			0		0		0		0	0	0
Financing from offsetting collections:											
Non-Federal Sources											
Unavailable Balance (prior year)											
Financing from transfers:											
Transfer from other accounts (-)											
Transfer to other accounts (+)											
Appropriation		0	0	0	58,000	0	58,000	0	160,000	0	102,000

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Pacific Coastal Salmon Recovery Account
SUMMARY OF FINANCING
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations	0	58,000	58,000	160,000	102,000
Offsetting collections from:					
Federal funds					
Trust funds					
Non-Federal sources					
Recoveries	0	0	0	0	0
Unobligated balance, start of year	0	0	0	0	0
Unobligated balance transferred	0	0	0	0	0
Unobligated balance, end of year	0	0	0	0	0
Unobligated balance, unavailable	0	0	0	0	0
Budget Authority	0	58,000	58,000	160,000	102,000
Financing:					
Transfer from other accounts					
Transfer to other accounts					
Appropriation	0	58,000	58,000	160,000	102,000

Department of Commerce
National Oceanic and Atmospheric Administration
Pacific Coastal Salmon Recovery Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Pacific Coastal Salmon Recovery Fund**
Subactivity: **Pacific Coastal Salmon Recovery Fund**

Proposed Legislation

No legislation is proposed for this activity.

Base Program

This account was established in FY 2000 to support a new Pacific Salmon Recovery program for the purpose of helping share the costs of state, tribal and local conservation initiatives. This account supports the states of California, Oregon, Washington, and Alaska and Coastal Tribes to assist in the conservation of at-risk Pacific coastal salmon runs. The FY 2000 appropriation included $58,000,000 that will be used for grants. Of this amount, $50,000,000 will be used for grants to states and will have a 25% matching fund and $8,000,000 will be used for tribes with no match required. Virtually every dollar will be applied to the task of salmon recovery.

NOAA is developing specific reporting requirements and other measures to ensure full accountability of the available funds to meet the purposes of the fund. NOAA has developed broad guidelines on the types of projects that will be funded by these grants. Examples of the types of projects that this fund will support are: salmon habitat conservation, watershed assessments, science and research activities directly related to salmon conservation, monitoring and evaluation activities, public education, tribal capacity and infrastructure support, and other efforts directly related to salmon conservation.

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Pacific Coastal Salmon Recovery Account	POS/BA	0	$58,000	0	$160,000	0	$102,000
	FTE/Obl						

Pacific Coastal Salmon Recovery Account (0 FTE, +$102,000,000) NOAA requests a total increase of $102,000,000 for this account

Pacific Coastal Salmon Recovery (0 FTE, +$42,000,000): NOAA request includes an increase of $42,000,000 to fund salmon habitat restoration, stock enhancement, and research. This request help share the costs of state, tribal and local conservation initiatives. Total funding of $100,000,000 for this program will bolster existing State and Tribal capabilities to assist in the conservation of Pacific salmon runs, some of which are at risk of extinction in the states of California, Oregon, Washington, and Alaska. Funds provided to these states will be matched. Funds will be provided to coastal tribes does not require matching dollars. This proposal responds to current listings of coastal salmon and steelhead runs under the Endangered Species Act by forming lasting partnerships with states, local and tribal governments and the public for saving Pacific salmon and their important habitats.

Pacific Salmon Treaty (0 FTE, +$60,000,000): NOAA requests an increase of $60,000,000 to continue implementation of the Pacific Salmon Treaty Agreement. This increase will provide $20,000,000 to capitalize the Southern Boundary Restoration and Enhancement Fund, $20,000,000 to the Northern Boundary and Transboundary Rivers Restoration and Enhancement Fund, and $20,000,000 to the States of Washington and Alaska. The State of Washington will complete the Vessel License Buyback Program. The two endowment funds will be administered by the Pacific Salmon Commission for habitat, stock enhancement, science and salmon management initiatives in both countries.

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Pacific Coastal Salmon Recovery Fund

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Pacific Coastal Salmon Recovery Fund**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	102,000
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	102,000

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Pacific Coastal Salmon Recovery Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent	0	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	0	0	0	0	0
12.1	Civilian personnel benefits	0	0	0	0	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.2	Other services	0	0	0	0	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	0	58,000	58,000	160,000	102,000
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	0	58,000	58,000	160,000	102,000
	Less prior year recoveries	0				
	Less unobligated balance, SOY	0	0			
	Plus unobligated balance, EOY	0				
	Total Budget Authority	0	58,000	58,000	160,000	102,000

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Pacific Coastal Salmon Recovery Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

Coastal Impact Assistance Fund
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Sustain Healthy Coasts										
Foster well-planned and revitalized coastal communities								100,000		100,000
Total SHC								**100,000**		**100,000**
Total for CIAF								**100,000**		**100,000**

Exhibit 5

Department of Commerce

National Oceanic and Atmospheric Administration

Coastal Impact Assistance Fund

SUMMARY OF RESOURCE REQUIREMENTS

(dollar amounts in thousands)

Page No.		Positions	Budget Authority	FTE	Direct Obligations
	Appropriation Available, 2000	0	0	0	0
	less: Obligations from prior years	0	0	0	0
	plus: 2001 adjustments to base	0	0	0	0
	less: Prior year recoveries	0	0	0	0
	2001 Base	0	0	0	0
	plus: 2001 program changes	0	100,000	0	100,000
	2001 Estimate	0	100,000	0	100,000

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2001 Base	
Comparison by activity:		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Impact Assistance Fund	Pos./BA	0	0	0	0	0	0	0	100,000	0	100,000
	FTE/Obl.	0	0	0	0	0	0	0	100,000	0	100,000
Direct Obligations	Pos./BA	0	0	0	0	0	0	0	100,000	0	100,000
	FTE/Obl.	0	0	0	0	0	0	0	100,000	0	100,000
Adjustments to Obligations:											
Recoveries			0		0		0		0	0	0
Unobligated Balance, start of year			0		0		0		0	0	0
Unobligated balance, transferred			0		0		0		0	0	0
Unobligated Balance, end of year			0		0		0		0	0	0
Unobligated Balance, unavailable			0		0		0		0	0	0
Financing from offsetting collections:											
Non-Federal Sources											
Unavailable Balance (prior year)											
Financing from transfers:											
Transfer from other accounts (-)											
Transfer to other accounts (+)											
Appropriation		0	0	0	0	0	0	0	100,000	0	100,000

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Impact Assistance Fund
SUMMARY OF FINANCING
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations	0	0	0	100,000	100,000
Offsetting collections from:					
Federal funds					
Trust funds					
Non-Federal sources					
Recoveries	0	0	0	0	0
Unobligated balance, start of year	0	0	0	0	0
Unobligated balance transferred	0	0	0	0	0
Unobligated balance, end of year	0	0	0	0	0
Unobligated balance, unavailable	0	0	0	0	0
Budget Authority	0	0	0	100,000	100,000
Financing:					
Transfer from other accounts					
Transfer to other accounts					
Appropriation	0	0	0	100,000	100,000

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Impact Assistance Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Coastal Impact Assistance Fund**
Subactivity: **Coastal Impact Assistance Fund**

Proposed Legislation

Establish a new account to address the impacts of offshore gas and oil production on coastal states.

Base Program

This account is new for FY 2001 and does not include base funds.

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Impact Assistance Fund	POS/BA	0	$0	0	$100,000	0	$100,000
	FTE/Obl	0	$0	0	$100,000	0	$100,000

Coastal Impact Assistance Fund (0 FTE, +$100,000,000) NOAA requests an increase of $100,000,000 to enable states to better address the impacts of coastal development and resources use, especially in oil and gas producing states, on the very resources which draw people to the coast for living, vacationing, and working. The request will establish a Coastal Impact Assistance Fund to provide coastal states with additional resources needed to protect and sustainably use ocean and coastal resources. Offshore oil and gas development places additional demands on coastal ports and communities for direct infrastructure support as well as additional community development from the increased employment/economic opportunities. The Fund would provide grants to coastal states and territories to implement activities consistent with Coastal Zone Management Plans and that increase protection and sustainable management of coastal resources. Funding increases will be used by states to resolve multiple use conflicts between the variety of activities in our Nation's coastal regions, including tourism and recreation, fisheries, vessel traffic, and marine protected areas. The states will also be able to use the funding for coastal environmental mitigation, including the onshore impacts from offshore mineral development and public service improvements. States will be able to develop and implement better methods and technology to minimize risks to human safety and to coastal and ocean environments from coastal development, including the development associated with oil and gas activities. This addresses one of the strategic goals from the 1995 National Energy Policy Plan - Sustainable Energy Strategy - which calls for ways to reduce the adverse environmental impacts associated with energy production delivery and use, as well as the recommendations found in the report "Turning to the Sea: America's Ocean Future." The benefits will include a healthier coastal environment and economically sustainable use of the coastal zone for current energy production activities as well as the other multiple uses which make the coast important ecologically and economically.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (BA in Thousands)					
Coastal Impact Assistance Fund	$100,000	$100,000	$100,000	$100,000	$100,000

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: **Coastal Impact Assistance Fund**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	100,000
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	100,000

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Impact Assistance Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Impact Assistance Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent	0	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	0	0	0	0	0
12.1	Civilian personnel benefits	0	0	0	0	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.2	Other services	0	0	0	0	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	0	0	0	100,000	100,000
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	0	0	0	100,000	100,000
	Less prior year recoveries	0				
	Less unobligated balance, SOY	0	0			
	Plus unobligated balance, EOY	0				
	Total Budget Authority	0	0	0	100,000	100,000

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Impact Assistance Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

Fisheries Assistance Fund
Contribution to the NOAA Strategic Planning Goals and Objectives

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Build Sustainable Fisheries										
Attain Economic Sustainability in Communities								10,000		10,000
Total BSF								**10,000**		**10,000**
Total for FAF								**10,000**		**10,000**

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Assistance Fund
SUMMARY OF RESOURCE REQUIREMENTS
(dollar amounts in thousands)

Page No.		Positions	Budget Authority	FTE	Direct Obligations
	Currently Available, 2000	0	0	0	0
	less: Obligations from prior years	0	0	0	0
	plus: 2001 adjustments to base	0	0	0	0
	less: Prior year recoveries	0	0	0	0
	2001 Base	0	0	0	0
	plus: 2001 program changes	0	10,000	0	10,000
	2001 Estimate	0	10,000	0	10,000

		1999 Actual		2000 Currently Available		2001 Base		2001 Estimate		Increase/ (Decrease) over 2001 Base	
Comparison by activity:		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Assistance Fund	Pos./BA	0	0	0	0	0	0	0	10,000	0	10,000
	FTE/Obl.	0	0	0	0	0	0	0	10,000	0	10,000
Direct Obligations	Pos./BA	0	0	0	0	0	0	0	10,000	0	10,000
	FTE/Obl.	0	0	0	0	0	0	0	10,000	0	10,000
Adjustments to Obligations:											
Recoveries			0		0		0		0	0	0
Unobligated Balance, start of year			0		0		0		0	0	0
Unobligated Balance, end of year			0		0		0		0	0	0
Financing from offsetting collections:											
Non-Federal Sources											
Unavailable Balance (prior year)											
Financing from transfers:											
Transfer from other accounts (-)											
Transfer to other accounts (+)											
Appropriation		0	0	0	0	0	0	0	10,000	0	10,000

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Assistance Fund
SUMMARY OF FINANCING
(dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ Decrease/ over 2001 Base
Total Obligations	0	0	0	10,000	10,000
Offsetting collections from:					
Federal funds					
Trust funds					
Non-Federal sources					
Recoveries	0	0	0	0	0
Unobligated balance, start of year	0	0	0	0	0
Unobligated balance transferred	0	0	0	0	0
Unobligated balance, end of year	0	0	0	0	0
Unobligated balance, unavailable	0	0	0	0	0
Budget Authority	0	0	0	10,000	10,000
Financing:					
Transfer from other accounts					
Transfer to other accounts					
Appropriation	0	0	0	10,000	10,000

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Assistance Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: **Fisheries Assistance Fund**
Subactivity: **Fisheries Assistance Fund**

Proposed Legislation

Establish a new account to address the Fisheries Assistance Fund. This account will be established under the authority of Magnuson-Stevens Fishery Conservation and Management Act section 312.

Base Program

This account is new for FY 2001 and does not include base funds.

CHANGES FOR 2001

(Dollar amounts in thousands)

		2001 Base		2001 Estimate		Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Assistance Fund	POS/BA	0	0	0	$10,000	0	$10,000
	FTE/Obl						

Fisheries Assistance Fund (0 FTE, +$10,000,000): NOAA requests an increase of 0 FTE and $10,000,000 to establish the Fisheries Assistance Fund account as part of the Build Sustainable Fisheries initiative.

This account will be established to address disasters occurring in a sustainable fishery, or overfishing or overcapitalization in fisheries that are not sustainable. The funds could be used by the Secretary of Commerce to address needs for assistance as they occur. These funds could be administered by DOC through Sec. 312 of the Magnuson-Steven Act, or transferred via the Economy Act to other Commerce Department bureaus with appropriate assistance authorities. Funds could be expended up to the level of appropriation in the fiscal year; unused funds would revert to the Treasury.
This account would allow NOAA to provide more flexible, uniform, and timely assistance. The existence of a dedicated fund at the DOC level would encourage interagency coordination to provide the most appropriate assistance for a given situation. It would also enable NOAA to work more effectively with the requesting state or community to determine what specific activities were most needed or most feasible, and their associated costs. Types of assistance carried out under the fund may include vessel or permit buyouts, cooperative research and management programs and job retraining programs.

OUTYEAR CHANGE ESTIMATES

Funding Requirements to Accomplish These Performance Measures

	2001	2002	2003	2004	2005
Changes from FY 2001 Base (in thousands)	+$10,000	+$0	+$0	+$0	+$0

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Fisheries Assistance Fund

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Fisheries Assistance Fund Account**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	10,000
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	10,000

Exhibit 15

Department of Commerce

National Oceanic and Atmospheric Administration

Fisheries Assistance Fund

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Direct Obligations amounts in thousands)

Activity: **Fisheries Assistance Fund Account**

	Object Class	2001 Increase
11	Personnel compensation	
11.1	Full-time permanent	0
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.8	Special personnel services payments	0
11.9	**Total personnel compensation**	0
12.1	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	0
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental payments to others	0
23.3	Commun., util., misc. charges	0
24	Printing and reproduction	0
25.2	Other services	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	10,000
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	**Total obligations**	10,000

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Assistance Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
11	Personnel compensation					
11.1	Full-time permanent	0	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	0	0	0	0	0
12.1	Civilian personnel benefits	0	0	0	0	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.2	Other services	0	0	0	0	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	0	0	0	10,000	10,000
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	0	0	0	10,000	10,000
	Less prior year recoveries					
	Less unobligated balance, SOY					0
	Plus unobligated balance, EOY			0		0
	Total Budget Authority	0	0	0	10,000	10,000

Personnel Data

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Assistance Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	1999 Actual	2000 Currently Available	2001 Base	2001 Estimate	Increase/ (Decrease) over 2001 Base
Full-Time equivalent Employment:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

NOAA FY 2001 President's Request by Strategic Plan

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Advance Short-Term Warning and Forecast Services										
Suistain NWS Modernization										
Operations, Research and Facilities										
NWS	4,669	545,828	4,482	586,020	4,484	602,029	4,495	619,495	11	17,466
Prog Sup	9	700	9	709						
Facilities		3,000								
Total ORF	**4,678**	**549,528**	**4,491**	**586,729**	**4,484**	**602,029**	**4,495**	**619,495**	**11**	**17,466**
Procurement Acquisition & Construction										
Systems	100	170,798	77	115,875	77	115,875	50	111,205	(27)	(4,670)
Construction	5	10,376	5	12,523	5	12,523	5	12,526		3
Total PAC	**105**	**181,174**	**82**	**128,398**	**82**	**128,398**	**55**	**123,731**	**(27)**	**(4,667)**
Total Modernization	**4,783**	**730,702**	**4,573**	**715,127**	**4,566**	**730,427**	**4,550**	**743,226**	**(16)**	**12,799**
Satellite Continuity										
Operations, Research and Facilities										
NESDIS	507	54,385	507	54,003	561	54,679	561	54,997		318
Total ORF	**507**	**54,385**	**507**	**54,003**	**561**	**54,679**	**561**	**54,997**		**318**
Procurement Acquisition & Construction										
Systems	80	382,683	80	379,067	80	379,067	80	445,828		66,761
Total PAC	**80**	**382,683**	**80**	**379,067**	**80**	**379,067**	**80**	**445,828**		**66,761**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total Sat Continuity	**587**	**437,068**	**587**	**433,070**	**641**	**433,746**	**641**	**500,825**		**67,079**
Enhance Observations & Predictions										
Operations, Research and Facilities										
OAR	272	47,680	272	51,712	272	51,204	274	46,188	2	(5,016)
NWS		2,000		996		996		1,000		4
Prog Sup	60	6,453	64	7,611	76	7,790	76	7,820		30
Total ORF	**332**	**56,133**	**336**	**60,319**	**348**	**59,990**	**350**	**55,008**	**2**	**(4,982)**
Procurement Acquisition & Construction										
Systems				6,973		6,973		7,000		27
Total PAC				**6,973**		**6,973**		**7,000**		**27**
Total Enh Obs/Pred	**332**	**56,133**	**336**	**67,292**	**348**	**66,963**	**350**	**62,008**	**2**	**(4,955)**
Improve Service Communication and Utilization										
Operations, Research and Facilities										
OAR	21	1,870	21	1,885	21	1,904	21	1,911		7
NESDIS								5,500		5,500
Total ORF	**21**	**1,870**	**21**	**1,885**	**21**	**1,904**	**21**	**7,411**		**5,507**
Procurement Acquisition & Construction										
Systems								6,244		6,244
Total PAC								**6,244**		**6,244**
Total Imp Serv/Comm	**21**	**1,870**	**21**	**1,885**	**21**	**1,904**	**21**	**13,655**		**11,751**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Infrastructure										
Operations, Research and Facilities										
OAR	3	7,263	3	7,983	3	7,983	3	8,013		30
Prog Sup	621	33,194	621	31,750	609	30,190	609	34,983		4,793
Fac	4	647	4	1,147	4	1,391	4	1,722		331
Total ORF	**628**	**41,104**	**628**	**40,880**	**616**	**39,564**	**616**	**44,718**		**5,154**
Procurement Acquisition & Construction										
Construction		2,823		2,773		2,773		88		(2,685)
Total PAC		**2,823**		**2,773**		**2,773**		**88**		**(2,685)**
Total Infra	**628**	**43,927**	**628**	**43,653**	**616**	**42,337**	**616**	**44,806**		**2,469**
Total ASTWFS	**6,351**	**1,269,700**	**6,145**	**1,261,027**	**6,192**	**1,275,377**	**6,178**	**1,364,520**	**(14)**	**89,143**

Implement Seasonal to Interannual Climate Forecast

Implement Prediction Systems										
Operations, Research and Facilities										
OAR	20	13,728	20	13,676	20	13,692	20	14,744		1,052
NWS	54	4,688	54	4,688	54	4,688	54	4,688		
Prog Sup		150		107		109		109		
Total ORF	**74**	**18,566**	**74**	**18,471**	**74**	**18,489**	**74**	**19,541**		**1,052**
Total Predict Sys	**74**	**18,566**	**74**	**18,471**	**74**	**18,489**	**74**	**19,541**		**1,052**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Maintain and Improve Observing and Data Delivery Systems										
Operations, Research & Facilities										
OAR	77	18,118	90	22,477	90	22,601	92	34,186	2	11,585
NESDIS	266	37,208	266	41,646	266	42,579	266	36,614		(5,965)
Fleet	1	542	1	1,372	1	1,376	1	775		(601)
Total ORF	**344**	**55,868**	**357**	**65,495**	**357**	**66,556**	**359**	**71,575**	**2**	**5,019**
Total Observe & Data	**344**	**55,868**	**357**	**65,495**	**357**	**66,556**	**359**	**71,575**	**2**	**5,019**
Conduct Research for Improved Climate Predictions										
Operations, Research and Facilities										
OAR	77	29,701	76	32,300	76	32,478	76	29,890		(2,588)
Total ORF	**77**	**29,701**	**76**	**32,300**	**76**	**32,478**	**76**	**29,890**		**(2,588)**
Total Research	**77**	**29,701**	**76**	**32,300**	**76**	**32,478**	**76**	**29,890**		**(2,588)**
Deliver Climate Services and Assess Socio-economic Impacts										
Operations, Research and Facilities										
OAR		1,122		1,117		420		422		2
Total ORF		**1,122**		**1,117**		**420**		**422**		**2**
Total Serv & Impact		**1,122**		**1,117**		**420**		**422**		**2**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Infrastructure										
Operations, Research and Facilities										
OAR		930		926		926		930		4
Prog Sup	54	2,902	54	2,776	53	2,640	54	6,937	1	4,297
Fac		72		128		155		192		37
Total ORF	**54**	**3,904**	**54**	**3,830**	**53**	**3,721**	**54**	**8,059**	**1**	**4,338**
Procurement Acquisition & Construction										
Const		64						2		2
Total PAC		**64**						**2**		**2**
Total Infra	**54**	**3,968**	**54**	**3,830**	**53**	**3,721**	**54**	**8,061**	**1**	**4,340**
Total ISICF	**549**	**109,225**	**561**	**121,213**	**560**	**121,664**	**563**	**129,489**	**3**	**7,825**

Predict and Assess Decadal-to-Centennial Change

Characterize Global Climate Forcing Agents										
Operations, Research and Facilities										
OAR	44	7,237	44	8,206	44	8,295	44	9,326		1,031
Total ORF	**44**	**7,237**	**44**	**8,206**	**44**	**8,295**	**44**	**9,326**		**1,031**
Total Climate Forcing	**44**	**7,237**	**44**	**8,206**	**44**	**8,295**	**44**	**9,326**		**1,031**
Understand the Role of Oceans in Global Change										
Operations, Research and Facilities										
OAR	211	29,221	211	29,182	211	29,589	213	29,818	2	229
Total ORF	**211**	**29,221**	**211**	**29,182**	**211**	**29,589**	**213**	**29,818**	**2**	**229**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total Role Oceans	**211**	**29,221**	**211**	**29,182**	**211**	**29,589**	**213**	**29,818**	**2**	**229**
Guide the Rehabilitation of the Ozone Layer										
Operations, Research and Facilities										
OAR	44	7,033	45	7,006	45	7,097	45	7,124		27
Total ORF	**44**	**7,033**	**45**	**7,006**	**45**	**7,097**	**45**	**7,124**		**27**
Total Rehab Ozone	**44**	**7,033**	**45**	**7,006**	**45**	**7,097**	**45**	**7,124**		**27**
Provide Prediction, Assessment, & Human Impact Info.										
Operations, Research and Facilities										
OAR	40	7,348	40	7,320	40	7,400	40	7,428		28
Prog Sup	1	1,608	1	1,608	20	1,645	20	1,651		6
Total ORF	**41**	**8,956**	**41**	**8,928**	**60**	**9,045**	**60**	**9,079**		**34**
Procurement Acquisition & Construction										
Systems								4,000		4,000
Total PAC								**4,000**		**4,000**
Total Pred/Ass/Imp	**41**	**8,956**	**41**	**8,928**	**60**	**9,045**	**60**	**13,079**		**4,034**
Ensure a Long-Term Climate Record										
Operations, Research and Facilities										
OAR	20	7,717	20	7,688	20	7,704	22	19,233	2	11,529
NWS	55	8,189	55	9,689	55	9,689	55	9,689		
NESDIS		10,969		6,259		6,259		3,717		(2,542)
Total ORF	**75**	**26,875**	**75**	**23,636**	**75**	**23,652**	**77**	**32,639**	**2**	**8,987**
Total Climate Rec	**75**	**26,875**	**75**	**23,636**	**75**	**23,652**	**77**	**32,639**	**2**	**8,987**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Provide the Scientific Basis for Improved Air Quality										
Operations, Research and Facilities										
OAR	3	5,412	3	5,391	3	5,398	3	5,419		21
Total ORF	**3**	**5,412**	**3**	**5,391**	**3**	**5,398**	**3**	**5,419**		**21**
Total Air Quality	**3**	**5,412**	**3**	**5,391**	**3**	**5,398**	**3**	**5,419**		**21**
GLOBE										
Operations, Research and Facilities										
OAR	9	2,500	9	3,000	9	3,000	9	5,000		2,000
Total ORF	**9**	**2,500**	**9**	**3,000**	**9**	**3,000**	**9**	**5,000**		**2,000**
Total GLOBE	**9**	**2,500**	**9**	**3,000**	**9**	**3,000**	**9**	**5,000**		**2,000**
Infrastructure										
Operations, Research & Facilities										
OAR	3	1,468	3	1,462	3	1,462	3	1,468		6
Prog Sup	54	2,851	54	2,727	53	2,593	53	2,640		47
Fac		83		147		178		221		43
Fleet	1	542	1	736	1	738	1	415		(323)
Total ORF	**58**	**4,944**	**58**	**5,072**	**57**	**4,971**	**57**	**4,744**		**(227)**
Procurement Acquisition & Construction										
Systems				4,981		4,981		7,000		2,019
Const		64						2		2
Total PAC		**64**		**4,981**		**4,981**		**7,002**		**2,021**
Total Infra	**58**	**5,008**	**58**	**10,053**	**57**	**9,952**	**57**	**11,746**		**1,794**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total PADCC	**485**	**92,242**	**486**	**95,402**	**504**	**96,028**	**508**	**114,151**	**4**	**18,123**
Promote Safe Navigation										
Build Nautical Charting Database										
Operations, Research and Facilities										
NOS	175	23,950	175	24,413	175	24,760	176	26,079	1	1,319
Total ORF	**175**	**23,950**	**175**	**24,413**	**175**	**24,760**	**176**	**26,079**	**1**	**1,319**
Total Naut Database	**175**	**23,950**	**175**	**24,413**	**175**	**24,760**	**176**	**26,079**	**1**	**1,319**
Update Nautical Surveys										
Operations, Research and Facilities										
NOS	294	19,328	294	19,547	294	19,532	294	20,032		500
Prog Sup	25	1,211	25	1,179	15	1,206	15	1,211		5
Total ORF	**319**	**20,539**	**319**	**20,726**	**309**	**20,738**	**309**	**21,243**		**505**
Total Naut Surveys	**319**	**20,539**	**319**	**20,726**	**309**	**20,738**	**309**	**21,243**		**505**
Provide Marine Predictions										
Operations, Research and Facilities										
NOS	141	12,000	141	12,343	141	12,682	141	15,089		2,407
Total ORF	**141**	**12,000**	**141**	**12,343**	**141**	**12,682**	**141**	**15,089**		**2,407**
Total Marine Predict	**141**	**12,000**	**141**	**12,343**	**141**	**12,682**	**141**	**15,089**		**2,407**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Establish National Spatial Reference System										
Operations, Research and Facilities										
NOS	197	19,659	197	20,011	197	20,558	197	20,206		(352)
Total ORF	**197**	**19,659**	**197**	**20,011**	**197**	**20,558**	**197**	**20,206**		**(352)**
Total Spatial Ref	**197**	**19,659**	**197**	**20,011**	**197**	**20,558**	**197**	**20,206**		**(352)**
Define National Shoreline										
Operations, Research and Facilities										
NOS		3,311		3,301		3,345		4,845		1,500
Total ORF		**3,311**		**3,301**		**3,345**		**4,845**		**1,500**
Total Nat'l Shoreline		**3,311**		**3,301**		**3,345**		**4,845**		**1,500**
Infrastructure										
Operations, Research & Facilities										
OAR		389		388		388		389		1
Prog Sup	44	2,321	44	2,220	43	2,111	43	2,149		38
Fac		68		121		147		182		35
Fleet	2	1,327	2	2,276	2	2,284	2	1,360		(924)
Total ORF	**46**	**4,105**	**46**	**5,005**	**45**	**4,930**	**45**	**4,080**		**(850)**
Total Infra	**46**	**4,105**	**46**	**5,005**	**45**	**4,930**	**45**	**4,080**		**(850)**
Address Survey Backlog/Contracts										
Operations, Research and Facilities										
NOS		14,000		18,828		18,831		18,000		(831)
Total ORF		**14,000**		**18,828**		**18,831**		**18,000**		**(831)**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total Backlog/Contracts		**14,000**		**18,828**		**18,831**		**18,000**		**(831)**
Total PSN	**878**	**97,564**	**878**	**104,627**	**867**	**105,844**	**868**	**109,542**	**1**	**3,698**
Build Sustainable Fisheries										
Develop Sound Aquaculture										
Operations, Research and Facilities										
NMFS				12,886		12,886		12,962		76
OAR			7	17,791	7	17,791	7	16,147		(1,644)
Total ORF			**7**	**30,677**	**7**	**30,677**	**7**	**29,109**		**(1,568)**
Promote and Develop Fisheries Products										
P&D				298		298		298		
Total P&D				**298**		**298**		**298**		
Total Aquaculture			**7**	**30,975**	**7**	**30,975**	**7**	**29,407**		**(1,568)**
Assess the Status of Fishery Resources										
Operations, Research and Facilities										
NMFS	1,476	184,197								
OAR	16	5,883								
Total ORF	**1,492**	**190,080**								
Total Assess	**1,492**	**190,080**								

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Advance Fishery Prediction										
Operations, Research and Facilities										
NOS	14	9,200								
NMFS		601								
OAR	3	11,149								
Total ORF	**17**	**20,950**								
Total Advance	**17**	**20,950**								
Managing for Economic Growth										
Operations, Research and Facilities										
NMFS	377	92,232								
OAR	1	1,050								
Total ORF	**378**	**93,282**								
Fisheries Finance, Program Account										
FFPA		28,338								
Total FFPA		**28,338**								
Promote and Develop Fisheries Products										
P&D	5	2,101								
Total P&D	**5**	**2,101**								
Fishermen's Contingency Fund										
FCF	1	953								
Total FCF	**1**	**953**								
Foreign Fishing Observer Fund										
FFOF		189								
Total FFOF		**189**								

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total Manage	**384**	**124,863**								
Ensuring Adequate Compliance										
Operations, Research and Facilities										
NMFS	181	17,775								
Total ORF	**181**	**17,775**								
Total Compliance	**181**	**17,775**								
Provide Research and Service										
Operations, Research and Facilities										
NMFS	43	3,448								
OAR	4	13,858								
Total ORF	**47**	**17,306**								
Promote and Develop Fisheries Products										
P&D		944								
Total P&D		**944**								
Total Res & Serv	**47**	**18,250**								

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Infrastructure										
Operations, Research & Facilities										
NMFS				3,786		3,888		7,657		3,769
OAR		3,205		802		802		805		3
Prog Sup	196	10,374	196	9,923	192	9,436	193	13,855	1	4,419
Facilities	8	8,535	8	7,467	8	8,342	8	6,175		(2,167)
Fleet	5	7,315	5	4,210	5	4,234	5	4,269		35
Total ORF	**209**	**29,429**	**209**	**26,188**	**205**	**26,702**	**206**	**32,761**	**1**	**6,059**
Procurement Acquisition & Construction										
Construction		9,195		10,453		10,453		5,688		(4,765)
Fleet				51,371		51,371		8,300		(43,071)
Other PAC		1,000								
Total PAC		**10,195**		**61,824**		**61,824**		**13,988**		**(47,836)**
Total Infra	**209**	**39,624**	**209**	**88,012**	**205**	**88,526**	**206**	**46,749**	**1**	**(41,777)**
Eliminate & Prevent Overfishing										
Operations, Research and Facilities										
NOS			14	9,071	14	9,103	14	9,866		763
NMFS			1,925	248,442	1,925	252,112	1,923	260,002	(2)	7,890
OAR			17	15,278	17	15,278	17	13,689		(1,589)
Total ORF			**1,956**	**272,791**	**1,956**	**276,493**	**1,954**	**283,557**	**(2)**	**7,064**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Fisheries Finance, Program Account										
FFPA				340		337	24	6,628	24	6,291
Total FFPA				**340**		**337**	**24**	**6,628**	**24**	**6,291**
Fisheries Promotional Fund										
FPF				(1,223)						
Total FPF				**(1,223)**						
Promote and Develop Fisheries Products										
P&D			4	1,325	4	1,325	4	1,325		
Total P&D			**4**	**1,325**	**4**	**1,325**	**4**	**1,325**		
Fishermen's Contingency Fund										
FCF			1	949	1	951	1	951		
Total FCF			**1**	**949**	**1**	**951**	**1**	**951**		
Foreign Fishing Observer Fund										
FFOF				188		191		191		
Total FFOF				**188**		**191**		**191**		
Federal Ship Financing Fund, Administration										
FSFF				700						
Total FSFF				**700**						
Total Overfishing			**1,961**	**275,070**	**1,961**	**279,297**	**1,983**	**292,652**	**22**	**13,355**
Attain Economic Sustainability in Communities										
Operations, Research and Facilities										
NMFS			285	43,998	285	45,037	285	52,866		7,829
OAR				3,257		3,257		3,450		193
Total ORF			**285**	**47,255**	**285**	**48,294**	**285**	**56,316**		**8,022**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Promote and Develop Fisheries Products										
P&D				298		298		298		
Total P&D				**298**		**298**		**298**		
Fisheries Assistance Fund										
FAF								10,000		10,000
Total FAF								**10,000**		**10,000**
Total Attain			**285**	**47,553**	**285**	**48,592**	**285**	**66,614**		**18,022**
Total BSF	**2,330**	**411,542**	**2,462**	**441,610**	**2,458**	**447,390**	**2,481**	**435,422**	**23**	**(11,968)**

Recover Protected Species

Assess Status and Impacts

Operations, Research and Facilities		
NMFS	331	36,516
NESDIS		1,202
Prog Sup	20	150
Total ORF	**351**	**37,868**
Total Assess	**351**	**37,868**

Implement Conservation Plans

Operations, Research and Facilities		
NMFS	199	37,557
Total ORF	**199**	**37,557**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total Cons Plans	**199**	**37,557**								
Infrastructure										
Operations, Research & Facilities										
OAR		340		339		339		340		1
Prog Sup	21	1,184	21	1,132	21	1,076	21	1,095		19
Fac	2	747	2	1,323	2	1,605	2	1,987		382
Fleet	2	1,379	2	2,049	2	2,060	2	2,060		
Total ORF	**25**	**3,650**	**25**	**4,843**	**25**	**5,080**	**25**	**5,482**		**402**
Procurement Acquisition & Construction										
Const		559						18		18
Fleet								8,000		8,000
Total PAC		**559**						**8,018**		**8,018**
Total Infra	**25**	**4,209**	**25**	**4,843**	**25**	**5,080**	**25**	**13,500**		**8,420**
Maintain Healthy Species & Ecosystems										
Operations, Research and Facilities										
NOS				300		300		500		200
NMFS			389	29,945	389	31,389	390	32,423	1	1,034
NESDIS				1,202		1,202		1,202		
Prog Sup			20	107		109		109		
Total ORF			**409**	**31,554**	**389**	**33,000**	**390**	**34,234**	**1**	**1,234**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total Healthy Species			**409**	**31,554**	**389**	**33,000**	**390**	**34,234**	**1**	**1,234**
Prevent Extinction										
Operations, Research and Facilities										
NMFS			248	60,228	248	60,798	297	70,520	49	9,722
Total ORF			**248**	**60,228**	**248**	**60,798**	**297**	**70,520**	**49**	**9,722**
Pacific Coastal Salmon Recovery Account										
PCSR				58,000		58,000		160,000		102,000
Total PCSR				**58,000**		**58,000**		**160,000**		**102,000**
Total Prevent Ext.			**248**	**118,228**	**248**	**118,798**	**297**	**230,520**	**49**	**111,722**
Total RPS	**575**	**79,634**	**682**	**154,625**	**662**	**156,878**	**712**	**278,254**	**50**	**121,376**
Sustain Healthy Coasts										
Protect, conserve and restore habitats										
Operations, Research and Facilities										
NOS	294	73,984	316	91,258	404	99,959	426	154,014	22	54,055
NMFS	143	14,474	111	14,633	111	14,991	120	16,430	9	1,439
OAR	65	22,075	65	20,315	5	15,010	5	13,191		(1,819)
NESDIS	9	4,771	9	6,156	9	6,156	9	6,171		15
Prog Sup		928		107		109		109		
Total ORF	**511**	**116,232**	**501**	**132,469**	**529**	**136,225**	**560**	**189,915**	**31**	**53,690**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Coastal Zone Management Fund										
CZMF	37	880	37	880						
Total CZMF	**37**	**880**	**37**	**880**						
Damage Assessment & Restoration Revolving Fund										
DARRF				3,529		2,162		2,162		
Total DARRF				**3,529**		**2,162**		**2,162**		
Total Habitats	**548**	**117,112**	**538**	**136,878**	**529**	**138,387**	**560**	**192,077**	**31**	**53,690**
Promote clean coastal waters										
Operations, Research & Facilities										
NOS	135	53,027	135	47,787	152	49,440	153	80,362	1	30,922
NMFS	27	2,630	27	2,627	27	2,670	27	2,510		(160)
OAR	42	19,724	29	17,489	29	17,489	29	13,146		(4,343)
Fleet	1	495	1	2,262	1	2,264	1	415		(1,849)
Total ORF	**205**	**75,876**	**192**	**70,165**	**209**	**71,863**	**210**	**96,433**	**1**	**24,570**
Coastal Zone Management Fund										
CZMF	9	550	9	550						
Total CZMF	**9**	**550**	**9**	**550**						
Total Water	**214**	**76,426**	**201**	**70,715**	**209**	**71,863**	**210**	**96,433**	**1**	**24,570**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Foster well-planned and revitalized coastal communities										
Operations, Research and Facilities										
NOS	19	25,648	19	26,004	35	27,128	37	56,943	2	29,815
OAR	8	20,584	8	19,825	8	19,825	8	19,448		(377)
NESDIS		1,400								
Total ORF	**27**	**47,632**	**27**	**45,829**	**43**	**46,953**	**45**	**76,391**	**2**	**29,438**
Coastal Zone Management Fund										
CZMF	3	2,570	3	2,570						
Total CZMF	**3**	**2,570**	**3**	**2,570**						
Coastal Impact Assistance Fund										
CIAF								100,000		100,000
Total CIAF								**100,000**		**100,000**
Total Communities	**30**	**50,202**	**30**	**48,399**	**43**	**46,953**	**45**	**176,391**	**2**	**129,438**
Infrastructure										
Operations, Research and Facilities										
OAR		805		802		802		805		3
Prog Sup	97	5,224	97	4,997	95	4,752	96	9,087	1	4,335
Fac	1	113	1	648	1	786	1	973		187
Total ORF	**98**	**6,142**	**98**	**6,447**	**96**	**6,340**	**97**	**10,865**	**1**	**4,525**
Procurement Acquisition & Construction										
Construction		11,115		16,250		16,250		11,002		(5,248)
Total PAC		**11,115**		**16,250**		**16,250**		**11,002**		**(5,248)**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total Infra	**98**	**17,257**	**98**	**22,697**	**96**	**22,590**	**97**	**21,867**	**1**	**(723)**
Total SHC	**890**	**260,997**	**867**	**278,689**	**877**	**279,793**	**912**	**486,768**	**35**	**206,975**
Infrastructure										
Administration										
Operations, Research and Facilities										
Prog Sup				(4,656)	9		9			
Total ORF				**(4,656)**	**9**		**9**			
Procurement Acquisition & Construction										
Systems						15,823		15,823		
Total PAC						**15,823**		**15,823**		
Total Admin				**(4,656)**	**9**	**15,823**	**9**	**15,823**		
Construction/Facilities/Env. Compliance										
Operations, Research and Facilities										
Facilities										
Total ORF										
Procurement Acquisition & Construction										
Construction										
Total PAC										
Total Const/EC										

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total Infra				**(4,656)**	**9**	**15,823**	**9**	**15,823**		
NOAA										
All goals										
Operations, Research and Facilities										
NOAA-wide		7,363		10,400		15,100		14,400		(700)
Total ORF		**7,363**		**10,400**		**15,100**		**14,400**		**(700)**
Total All goals		**7,363**		**10,400**		**15,100**		**14,400**		**(700)**
Total NOAA		**7,363**		**10,400**		**15,100**		**14,400**		**(700)**

	FY 1999 Enacted		FY 2000 Enacted		FY 2001 Base		FY 2001 Request		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total obligations	**12,058**	**2,328,267**	**12,081**	**2,462,937**	**12,129**	**2,513,897**	**12,231**	**2,948,369**	**102**	**434,472**
Obligations from above								2,948,369		
Prior Year Recoveries,ORF and PAC								(43,504)		
NOAA Corps Retirement										
Rescission of Unobligated balance										
Offsetting Collections, CZMF								(3,200)		
Offsetting Collections in Fund										
Maguson Fee Offset										
Total Budget Authority								**2,901,665**		
DARRF Unobligated Balance								(2,162)		
Mandatory Payment								(14,400)		
Transfer from Agriculture for P & D								(69,921)		
Mandatory Spending Authority from Collections								3,200		
Collections CZMF										
Federal Ship Financing Fund										
Discretionary Budget Authority								**2,818,382**		