BUDGET AUTHORITY: NATIONAL OCEAN SERVICE

For FY 2012, NOAA requests a net decrease of $19,157,000 and an increase of 13 FTE over the FY 2010 enacted level for a total of $559,553,000 and 1,259 FTE for the National Ocean Service. This increase includes $7,385,000 in inflationary adjustments.

BASE JUSTIFICATION FOR FY 2012:

National Ocean Service Overview

The National Ocean Service is the primary Federal agency that observes, measures, assesses, and manages the Nation's coastal, ocean and Great Lakes areas, provides critical navigation products and services, and conducts response and restoration activities to protect vital coastal resources. These activities support sound decision-making for human, ecological, and economic health. An estimated 154 million people (over 50 percent of the United States population) lived in coastal counties in 2004. These coastal counties make up only 17 percent of the Nation's land area. Although coastal population growth reflects the same rate of growth as that of the entire Nation, the limited land area of coastal counties is increasingly strained by the density of population growth. This increasing density, coupled with the important economies of coastal areas, makes the task of managing coastal resources increasingly difficult, especially with the Nation's coastal population expected to increase by more than 11 million by 2015 (*Population Trends Along the Coastal United States: 1980-2008*, NOAA 2004). In addition, over half of the U.S. Gross Domestic Product (GDP) is generated in coastal counties (*An Ocean Blueprint for the 21st Century,* USCOP 2004), highlighting the importance of coastal resources to the Nation's economy and emphasizing the need for access to data and sound science to inform decision making.

As a national leader for coastal and ocean stewardship and a trustee of coastal resources, NOS promotes a wide range of research and operational activities to better understand and manage ocean, coastal, and Great Lakes ecosystems. Research provides the strong science foundation required to effectively manage and advance the sustainable use of our coastal and ocean systems, improve ecosystem and human health, and support economic vitality. NOS promotes advancements in the quality, quantity, geographic distribution, and timeliness of ocean and coastal observations through innovative research and technology development. Observations by NOS assets and partners are critical components of the Nation's Integrated Ocean Observing System (IOOS®) and the Global Earth Observation System of Systems (GEOSS). NOS mapping, charting, geodetic, and oceanographic activities build on marine and coastal observations to increase the efficiency and safety of maritime commerce, support coastal resource management, implement coastal and marine spatial planning, and address coastal flooding and water quality concerns. NOS protects and restores coastal resources damaged by releases of oil and other hazardous materials. NOS also protects and manages the special marine areas of the Nation's marine sanctuaries and the Papahānaumokuākea Marine National Monument, and, through partnerships with coastal states, protects and manages the Nation's valuable coastal zones and nationally significant estuarine reserves. NOS helps international, Federal, state, and local managers build the skills and capacity to protect, restore, and use coastal ecosystems by providing financial and technical assistance, process and technical skill training, and other applied research and capacity-building resources.

NOS translates science into action, delivering the information, tools, and technical services needed to address issues such as climate change, population growth, ecosystem management, port congestion, and contaminants in the environment. Through a diversity of programs, NOS supports healthy, resilient coastal communities; promotes sustainable robust coastal economies; and protects the productivity and diversity of coastal and marine places.

In working towards vibrant, healthy coasts and economies, the strength of NOS's broad portfolio is apparent.

- In implementing coastal and marine spatial planning, NOS brings together needed observations, mapping, regional relationships, and management.
- When responding to disasters such as the BP Deepwater Horizon oil spill, NOS serves as the leading scientific resource for spills and delivers aerial imagery, observations, mapping, trajectory forecasts, assessment, and restoration.
- As natural and human-induced hazards threaten our Nation's coasts, NOS is monitoring sea level rise, delivering products to increase community resiliency, and monitoring for threats to human health.

NOS has three subactivities under the Operations, Research and Facilities (ORF) account ($529,605,000 and 1,230 FTE),

- Navigation Services ($167,412,000 and 550 FTE) includes the Office of Coast Survey (OCS), the National Geodetic Survey (NGS), and the Center for Operational Oceanographic Products and Services (CO-OPS). The activities of these offices are conducted under the authority of the Coast and Geodetic Survey Act of 1947, the Hydrographic Services Improvement Act (as amended in 2008), and the Ocean and Coastal Mapping Integration Act of 2009.
- Ocean Resources Conservation and Assessment ($191,075,000 and 428 FTE) includes programs managed by the National Centers for Coastal Ocean Science (NCCOS), the Office of Response and Restoration (ORR), the Coastal Services Center (CSC), the Office of Ocean and Coastal Resource Management (OCRM), and the NOAA Integrated Ocean Observing System (IOOS) Program. These activities are implemented primarily under the authorities established in the Harmful Algal Bloom and Hypoxia Research and Control Act; National Coastal Monitoring Act; Oceans and Human Health Act; Oil Pollution Act; Marine Debris Research, Prevention, and Reduction Act; Coastal Zone Management Act; Coral Reef Conservation Act; and the Integrated Coastal and Ocean Observation Systems Act.
- Ocean and Coastal Management ($155,498,000 and 252 FTE) includes programs managed by the Office of Ocean and Coastal Resource Management (OCRM) and the Office of National Marine Sanctuaries (ONMS). These activities are conducted under the authority of the Coastal Zone Management Act and the National Marine Sanctuaries Act.

Procurement, Acquisition, and Construction (PAC) activities ($40,890,000 and 1 FTE) include: the Coastal Estuarine Land Conservation Program (CELCP), the National Estuarine Research Reserve System (NERRS) Construction and Land Acquisition Program and the National Marine Sanctuaries Construction Program and are implemented by OCRM and ONMS.

NOS manages two mandatory accounts, the NOAA Damage Assessment and Restoration Revolving Fund ($15,600,000 and 16 FTE) and the Sanctuaries Asset Forfeiture Fund ($1,000,000 and 0 FTE).

- The NOAA Damage Assessment and Restoration Revolving Fund facilitates and sustains: (1) natural resource damage assessment while the Departments of Commerce and Justice seek full reimbursement from potentially responsible parties; and (2) 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.

- The Sanctuaries Enforcement Asset Forfeiture Fund receives proceeds from civil penalties and forfeiture claims against responsible parties, as determined through court settlements or agreements, for violations of NOAA sanctuary regulations. Penalties received are held in sanctuary site-specific accounts from year to year (technically reimbursables), as the funds are spent on resource protection within the sanctuary site where the penalty or forfeiture occurred. Funds are expended for resource protection purposes which may include all aspects of law enforcement (from equipment to labor), community oriented policing programs, and other resource protection and management measures such as the installation of mooring buoys or restoration of injured resources.

To implement these efforts, NOS staff and facilities are located around the country with concentrations in Silver Spring, MD; Charleston, SC; Seattle, WA; Norfolk, VA; Beaufort, NC; and Honolulu, HI.

Research and Development Investments:

The NOAA FY 2012 Budget estimates for its activities, including research and development programs, are the result of an integrated requirements-based strategic planning process. This process provides the structure to link NOAA's strategic vision with programmatic detail and budget development, with the goal of maximizing resources while optimizing capabilities. NOS requests $90,966,000 for investments in R&D and infrastructure to support R&D in the FY 2012 Budget.

NOAA's strategic planning process makes specific reference to the objectives and milestones outlined in the NOAA 5-Year Research Plan for 2008-2012. The strict management of planning against these investment criteria, objectives, and milestones leads to NOAA budget proposals that reflect the research and development needs of the organization. The NOAA Research Council - an internal body composed of senior scientific personnel from every line office in the agency - is tasked with developing the 5-Year Research Plan, and provides corporate oversight to ensure that NOAA's research activities are of the highest quality, meet long-range societal needs, take advantage of emerging scientific and technological opportunities, and shape a forward-looking research agenda.

Significant Adjustments-to-Base (ATBs):

NOAA requests a net increase of 1 FTE and $7,385,000 to fund adjustments to current programs for NOS activities. The increase will provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Service Administration (GSA).

NOAA also requests the following transfers for a net change of $0:

From Office	Line	To Office	Line	Amount
NOS	Ocean Research Priorities Plan Implementation	NOS	IOOS Regional Observations	$3,000,000
NOS	Ocean Research Priorities Plan Implementation	NOS	Coastal Services Center	$3,000,000
NOS	Oceans Health Initiative	NOS	National Centers for Coastal	$4,000,000

			Ocean Science	
NOS	Center for Coastal Environmental Health and Biomolecular Research (CEHBR)	NOS	National Centers for Coastal Ocean Science	$11,300,000
NOS	CEHBR – Oxford, MD	NOS	National Centers for Coastal Ocean Science	$4,500,000
NOS	Center for Coastal Fisheries Habitat Research	NOS	National Centers for Coastal Ocean Science	$5,000,000
NOS	Center for Coastal Monitoring and Assessment	NOS	National Centers for Coastal Ocean Science	$7,000,000
NOS	Center for Sponsored Coastal Ocean Research	NOS	National Centers for Coastal Ocean Science	$2,700,000
NOS	NCCOS Headquarters	NOS	National Centers for Coastal Ocean Science	$4,000,000
NOS	Center for Human Health Risk	NOS	National Centers for Coastal Ocean Science	$4,000,000
NOS	Damage Assessment Program	NOS	Response and Restoration Base	$9,300,000

NOAA requests a technical adjustment to move $3,000,000 from NOS Ocean Research Priorities Plan Implementation to NOS Coastal Services Center. These funds will be used to support the Ocean Research Priorities Plan's near-term priority of Forecasting the Response of Coastal Ecosystems to Persistent Forcing and Extreme Events.

NOAA requests a technical adjustment to move $3,000,000 from NOS Ocean Research Priorities Plan Implementation to NOS IOOS Regional Observations. These funds will be used to support the Ocean Research Priorities Plan's near-term priority to develop ocean sensors.

NOAA requests a technical adjustment to move $4,000,000 and 2 FTE from the Oceans Health Initiative to the National Centers for Coastal Ocean Science. This transfer will terminate the current Oceans Health Initiative line item and will transfer those activities associated with Oceans and Human Health to the National Centers for Coastal Ocean Science.

NOAA requests technical adjustments to consolidate the $38,500,000 allocated in the FY 2011 annualized continuing resolution to the individual centers of the National Centers for Coastal Ocean Science (NCCOS) into one NCCOS base line.

NOAA requests a technical adjustment to move the $9,300,000 allocated to the Damage Assessment Program into the Response and Restoration Base to consolidate Response and Restoration activities.

Other Adjustments:

The NOAA FY 2012 Budget for NOS also requests other adjustments in the amount of $5,515,000 to restore funds that were anticipated in FY 2011 to be transferred from the Department of Agriculture related to the Promote and Develop (P&D) account. The P&D transfer represents funds derived from duties on imported fisheries products and are transferred to NOAA from the Department of Agriculture. The annualized FY 2011 Continuing Resolution provided $36,056,800, including

carryover, less than requested in FY 2011 President's Budget due to a downturn in the international fisheries markets. To address the difference between estimated and actual transfer amounts in FY 2011, NOAA allocated the shortfall in the transfer to each of its seven line offices, taking a 1.06 percent reduction to each Program, Project, or Activity (PPA) line. For FY 2012 NOAA requests an adjustment to offset the impact of the FY 2011 shortfall.

From Office	Line	To Office	Line	Amount
NOS	All	NOS	All	$5,515,000

Administrative Cost Savings:

The Administration is pursuing an aggressive government-wide effort to curb non-essential administrative spending called the Administrative Efficiency Initiative (AEI). In order to be good stewards of taxpayer money the Federal Government should continue to seek ways to improve the efficiency of programs without reducing their effectiveness. As such, the President directed each agency to analyze its administrative costs and identify savings where possible. The National Ocean Service (NOS) has targeted a number of areas to achieve these savings. After reviewing its administrative costs, NOS has identified $9,323,000 in administrative savings, at both the Line Office Headquarters level and throughout the program offices. Using NOAALink, NOS anticipates saving money through more strategic sourcing of products and services. Consolidation of products will enable buying in bulk to reduce prices. Consolidation of services will also result in dollar savings by reducing the number of contracts to be managed. In the area of human capital, NOS expects to reduce its costs by canceling some planned hires, increasing hiring efficiencies, and selectively hiring for certain positions. Administrative savings in the area of logistics plans and in general administrative support have been identified by limiting of the use of overnight mail services as well as consolidating services through a single provider. In addition, NOS is reducing travel and printing costs, and identifying ways to accomplish our mission with reduced contract services. NOS has also identified savings tied to IT related items, primarily through delaying the refresh of computer equipment. The $9,323,000 in administrative savings identified above represent real reductions to the National Ocean Service's funding level and will help reduce overall spending by the Federal government.

Headquarters Administrative Costs:

In FY 2012, NOS Line Office headquarters will use $27,482,500, after instituting planned savings as a result of the AEI mentioned above, in funds to support general management activities, financial and budgeting, and IT related expenses, as well as supporting facilities and other general operating costs. These funds also include support for service contracts, utilities, and rent charges from the General Services Administration. As part of the AEI, NOS has reviewed its Line Office Headquarters costs and will be able to reduce previously planned costs by $880,000. Specifically, NOS will use headquarters administrative funds to support the following:

Headquarters Program Support Type	Description	FY 2012 Amount	FY 2012 FTE associated with NOS Line Office HQ

General Management & Direction	Includes Assistant Administrator's office, public affairs, information services	$13,095,400	57.0
CFO Operations	Includes Budget, Finance and Accounting	$4,779,500	25.9
CIO Operations	Includes IT-related expenses and other CIO related activities	$7,846,200	14.0
CAO Operations	Includes Facilities and Security costs, as well as other CAO related activities	$1,765,300	1.1
Human Resources	All HR services, including EEO	$739,900	4.0
Procurement services, Acquisitions, and Grants Management Operations		$136,200	1.0
Total before AEI savings		**$28,362,500**	**103.0**
AEI Savings		*($880,000)*	-
Total post AEI savings		**$27,482,500**	**103.0**

NOAA recognizes the need to improve the transparency of the policies and procedures used by its line office headquarters to bill component programs for management and administrative services. NOAA is currently re-evaluating, standardizing, and documenting these policies and procedures for each line office. Prior to the beginning of FY 2012, NOAA will publish its policies and procedures for assessing headquarters and administrative costs within the line offices on the NOAA CFO public website along with other budget and finance documents. NOAA looks forward to working with the Congress and other interested parties to increase the transparency and confidence in NOAA's financial management.

APPROPRIATION: OPERATIONS, RESEARCH AND FACILITIES
SUBACTIVITY: NAVIGATION SERVICES

The objectives of the Navigation Services subactivity are to:

- Survey and chart the Nation's oceans and coasts
- Define the national shoreline
- Define, develop and maintain the National Spatial Reference System
- Provide real-time observations and forecasts of water levels, tides, and currents

To achieve these objectives, NOAA conducts activities in several program areas within the Office of Coast Survey (OCS), the National Geodetic Survey (NGS), and the Center for Operational Oceanographic Products and Services (CO-OPS). These activities are conducted under the authority of the Coast and Geodetic Survey Act of 1947, the Hydrographic Services Improvement Act (as amended in 2008), and the Ocean and Coastal Mapping Integration Act of 2009. NOAA also represents these programs for the Department of Commerce on the interagency Committee for the Marine Transportation System.

The Navigation Services subactivity contains three items: Mapping and Charting, Geodesy, and Tides and Currents.

MAPPING AND CHARTING (http://nauticalcharts.noaa.gov/)
NOAA's Mapping and Charting Program is carried out by the Office of Coast Survey (with support from the National Geodetic Survey and the Center for Operational Oceanographic Products and Services). Established by President Thomas Jefferson in 1807, the Coast Survey is the oldest scientific organization in the U.S., with a long history of supporting maritime commerce and the Nation's economic growth. Authorized to survey and chart the 3.4 million square nautical miles of U.S. Exclusive Economic Zone (EEZ) waters by the Coast and Geodetic Survey Act of 1947 and the Hydrographic Services Improvement Act of 1998 (as amended), the program today continues to support safe, efficient, environmentally sound transportation in U.S. waters by delivering nautical charts and navigation products to meet the needs of increasingly larger ships carrying people, cargo and hazardous materials. Through this program, NOAA supports commercial shipping, the fishing industry, U.S. Navy and U.S. Coast Guard Homeland Security operations, state and local governments, and recreational boaters throughout U.S. waters. Coast Survey serves as the Nation's Hydrographer in international fora such as the International Hydrographic Organization to set standards for surveying and charting, and to build hydrographic capacity in other nations for safe navigation globally. The Mapping and Charting Program also conducts modeling and research and development activities to improve the tools, accuracy, and productivity of its data collection and chart compilation efforts.

Furthermore, the hydrographic and shoreline data that this program collects are fundamental for coastal zone and emergency management, climate assessments, coastal research, and many other uses. The work of the Mapping and Charting Program provides a foundation for the nine priorities identified in the National Ocean Policy, adopted on July 19, 2010 by Executive Order #13547, which includes Coastal and Marine Spatial Planning. This program is also the primary focus for Integrated Ocean and Coastal Mapping (IOCM) activities and efficient use of taxpayer dollars with multi-purpose mapping data. NOAA's Hydrographic Services Review Panel (HSRP), a Federal Advisory Committee, plays an oversight role. Mapping and Charting services fall under four of the HSRP's top priority recommendations for action in surveying and mapping U.S. waters, integrating those mapping efforts across Federal agencies charged with maintaining the U.S. Marine Transportation

System, strengthening capacity for emergency response, and improving dissemination of information to users of all kinds.

The Mapping and Charting item consists of five primary program elements:

- **Marine Charts** – Cartographers in this program compile data from many sources to analyze and produce over 1,000 nautical charts and products for safe maritime commerce in the Exclusive Economic Zone (EEZ). Nautical charts and updates are generated in both vector and raster formats to produce Electronic Navigational Charts, traditional paper charts and Raster Nautical Charts.
- **Hydrographic Surveys** – This unit manages the NOAA hydrographic fleet and $31 million in contract acquisition of hydrographic data with multibeam and side scan sonar, primarily in the 500,000 square nautical miles of navigationally significant U.S. waters. These hydrographic surveys provide the most basic depth and hazardous obstruction data for the production of nautical charts and for other applications such as storm surge, circulation/forecast and tsunami models, fisheries management, coastal zone land use, and spatial planning. Concurrent with data collection, the program ensures that physical scientists maintain sufficient hydrographic expertise to oversee contracts, develop specifications, interact with the International Hydrographic Organization and other nations, interface with other government agencies, and conduct all hydrographic survey work mandated by Congress.
- **Research and Development** – Coast Survey continually tests and evaluates new cartographic, hydrographic, and oceanographic systems in order to advance the science and processes used by NOAA for safe, efficient navigation and the utilization and protection of the coast. The program develops techniques and methods for the modeling, analysis, simulation and accurate real-time prediction of oceanographic, atmospheric and water quality parameters. Specific projects include the National Vertical Datum Transformation tool, or VDatum; Autonomous Underwater Vehicle survey technology; and coastal/ocean forecast models. NOAA's Joint Hydrographic Center (JHC) evaluates sonar technologies and processes to improve efficiencies in hydrographic data acquisition. JHC is also supporting the data collection and analysis necessary to support delimitation of the U.S. Extended Continental Shelf for a claim under the United Nations Convention on the Law of the Sea (UNCLOS).
- **Navigation Services** - The program has built in an outreach mechanism to interact directly with customers and stakeholders via Regional Navigation Managers on charting issues and Marine Transportation System infrastructure improvements. This feedback loop improves NOAA's response to charting and navigation questions and serves as a means to educate constituents on emerging charting technologies and their uses. In addition, seven Navigation Response Teams perform rapid response surveys after maritime emergencies or natural disasters to keep commerce moving.
- **Coastal Mapping** – The Mapping and Charting program defines the official 95,000 miles of U.S. shoreline that serve as the critical baseline for defining America's marine territorial limits, including its EEZ. The national shoreline is an essential data layer for nautical charts, and for the geographic reference needed to manage coastal resources, conduct marine spatial planning, mitigate and adapt to climate change, support Homeland Security, and many other uses. Shoreline is delineated by processing stereo aerial photographs and high resolution satellite imagery. In addition, the program conducts research into new technologies including Light Detection and Ranging (LiDAR) and Hyperspectral imaging. The program uses both contractors and in-house resources to collect and process shoreline data.

Schedule & Milestones:

Performance Schedule	FY 2011 Target	FY 2012 Target	FY 2013 Target	FY 2014 Target	FY 2015 Target	FY 2016 Target
Build and maintain Electronic Navigational Charts (ENCs) for a total of 1025 available to public	800	850	910	1,025	1,025	1,025
Reduce the survey backlog within navigationally significant areas (SNM)	3,200	3,250	3,250	3,250	3,250	3,250

Deliverables:

- VDatum models implemented along the entire contiguous U.S. coastline, enabling seamless integration of land and water information
- Complete suite of Electronic Navigational Charts (ENCs) available to the public along with paper/raster chart options made possible by the programs single chart production system
- Production and maintenance of a wide variety of products and services such as nautical chart updates and nowcast/forecast models
- Hydrographic survey backlog reduced by 16,250 snm (3,250 snm per year) within navigationally significant areas
- 500 new editions of Raster Navigational Charts
- 875 hydrographic surveys conducted and approved by NOAA survey units, contractors, and other sources for nautical charting
- ENCs validated in 65 ports by NOAA Navigation Response Teams (NRTs)
- New editions of Coast Pilot published at a rate of eight per year
- nowCOAST GIS web mapping portal enhanced to meet requirements of partners in several collaborative projects and other nowCOAST users, and data dissemination improved to address regional needs for data access
- Improved efficiency and accuracy of hydrographic surveys by surveying on the ellipsoid, eliminating the need for time-consuming activities such as tide gauge installations, vessel settlement and squat corrections, and inefficient post-survey-processing

Performance Goals and Measurement Data

Performance Measure: Percentage of priority seaports in Alaska with access to the VDatum tool	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	0%	0%	0%	22%	33%	33%
Description: The percentage of priority seaports in Alaska with access to the VDatum tool is one of the metrics for NOAA's Navigation Services programs, typically used to capture annual performance of NOAA available resources to increase the percent of seaports with access to a tool capable of transforming bathymetry and topography between 28 different vertical datums.						

Performance Measure: Percentage of top US Seaports with access to suite of NOAA Navigation Products and Services (ENCs, NRTs, access to VDatum across Nation excl AK/HI)	FY 2011 Target	FY 2012 Target	FY 2013 Target	FY 2014 Target	FY 2015 Target	FY 2016 Target
	76%	80%	82%	83%	84%	84%
Description: The U.S. Army Corps of Engineers tracks the number of vessel transits and cargo tonnage that pass through the 300 or so ports in the U.S. on an annual basis. Over 95 percent of the annual tonnage passes through the top 175 seaports. By tracking how many seaports to whom NOAA is providing a full suite of its products and services, one can determine what percentage of cargo is transiting more safely and efficiently. The percentage of seaports can then be correlated with these statistics.						

Performance Measure: Reduce the hydrographic survey backlog within navigationally significant areas – Measure 18f	FY 2011 Target	FY 2012 Target	FY 2013 Target	FY 2014 Target	FY 2015 Target	FY 2016 Target
	3,200	3,250	3,250	3,250	3,250	3,250

Performance Measure: Update National Shoreline and Priority Ports (Percentage of total per year)	FY 2011 Target	FY 2012 Target	FY 2013 Target	FY 2014 Target	FY 2015 Target	FY 2016 Target
	3.2% / 12%	3.2% / 12%	3.2% / 12%	3.2% / 12%	3.2% / 12%	3.2% / 12%
Description: Updating the National Shoreline and Priority Ports is a measure NOAA typically uses to capture annual performance of NOAA in-house and contract assets for acquiring shoreline data for navigation safety and other programs.						

GEODESY (http://geodesy.noaa.gov/)

The Geodesy program provides a common reference framework, the National Spatial Reference System (NSRS), for establishing the coordinate positions of all geographic and geospatial data. The NSRS is the national coordinate system that specifies latitude, longitude, height, scale, gravity, and orientation throughout the Nation. NSRS provides the critical positioning framework for transportation; mapping and charting; and a multitude of scientific and engineering applications, and is an essential component of all national observing systems. The NSRS must continually evolve to meet the growing demand for more accurate, timely, and consistent positioning services. To accomplish its mission, the Geodesy program defines, maintains and provides access to the NSRS to meet our Nation's economic, social, and environmental needs. Geodesy activities occur in all 50 states and many U.S. territories. The Geodesy program is implemented by NOAA's National Geodetic Survey (NGS) program office.

The Geodesy program can be grouped into five major overlapping elements:

- **Passive Network Infrastructure Support** - A major component of NSRS is a network of over one million permanently marked reference points including the Federal Base Network (FBN), the Cooperative Base Network (CBN), and the User Densification Network (UDN). These monuments form a crucial foundation for all geographically referenced activities conducted in the United States.
- **Continuously Operating Reference Stations (CORS) support** - NGS manages a National CORS Network of permanently operating GPS receivers that includes a highly accurate

receiver that continuously collects radio signals broadcast by Global Navigation Satellite System (GNSS) satellites. NGS provides access to GPS data from this network free of charge via the Internet. The CORS system enables positioning accuracies that approach a few centimeters relative to the NSRS.

- **Height Modernization** - Height Modernization is an NGS-led effort to enhance the vertical aspect of the NSRS through the establishment of accurate, reliable and consistent heights at the local level. As part of this effort, NGS is conducting a multi-year effort to collect airborne gravity data and update the Nation's gravity-based geoid model through its Gravity for the Re-Definition of the American Vertical Datum (GRAV-D) initiative. This is essential for developing a new national vertical datum allowing GPS to efficiently establish accurate elevations for all types of positioning and navigational needs. Because GRAV-D will take a number of years to complete, on-going height modernization efforts are also focusing on integrating GPS technology with existing survey techniques in areas of the country that have critical, urgent and compelling needs and cannot wait for the establishment of a new national vertical datum through GRAV-D.
- **Data Access and Capacity Building** - NGS archives and provides access to geodetic control, shoreline, and aeronautical survey data from its own surveys and from cooperating organizations. These data are made available via the Internet. As part of its technology transfer efforts, NGS conducts a series of workshops and constituent forums around the country. NGS also manages the State Geodetic Advisor Program, a cost-shared program that provides a liaison between NOAA and the host state to guide and assist the state's geodetic and surveying programs. Thirty-four states, the District of Columbia, and Puerto Rico are currently covered under the advisor program.
- **Research, Tool and Model Development** - NGS develops standards, specifications, guidelines, and best practices for the surveying and positioning industry, as well as a variety of models and programs describing geophysical and atmospheric phenomena that affect spatial measurements. These tools and models are crucial to scientific and commercial positioning activities. To accomplish its mission, NGS also conducts cutting-edge research and development in geophysics, including geodynamics and geodesy. The goal of this research is to improve the collection, distribution, and use of spatial data. Current research interests include improving accuracies and precision of geodetic positions/velocities, automated processing of GPS data for static and/or kinematic positioning, orbital dynamics, sea level rise, crustal motion, GPS antenna characteristics, meteorological effects, and tidal effects.

NOAA's Geodesy program has grown out of a 200-year old requirement to provide the Nation with geodetic and geographic positioning services. A 2009 socioeconomic study estimated that the NSRS provides more than $2.4 billion in potential annual benefits to the U.S. economy. The study found that the NOAA CORS network alone provides an estimated $758 million per year in benefits. The study estimated that an additional $522 million in annual economic benefits could be generated by the implementation of a new vertical reference system through GRAV-D, allowing users to determine more precise elevations using the Global Positioning System (GPS), with approximately $240 million saved from improved floodplain management alone (*Socio-Economic Benefits Study: Scoping the Value of CORS and GRAV-D*, Levenson 2009).

Schedule & Milestones:

- Establish and publish the geoid theory necessary to achieve < 1 cm absolute accuracy, for all non-mountainous regions of the United States, allowing for rock density unknowns in the mountains, and with unknowns not exceeding 1cm at the coast (FY 2012)

- Update orbital software to calculate GPS and GNSS orbits to within 1cm absolute accuracy (FY 2012)
- Install three foundation CORS sites for the improvement of the International Terrestrial Reference Frame (ITRF) (FY 2013)
- Compute Prototype North American Gravimetric Geoid (FY 2013)
- Complete term as International GNSS Service (IGS) Analysis Center Coordinator (FY 2013)
- Develop and test standards, specifications, and workflows for new coastal geospatial products, including orthomosaics and lidar data (FY 2013)
- Create models to predict the 3-D crustal velocity at any location in the United States (FY 2013)
- Ninety percent of U.S. counties rated as fully enabled or substantially enabled with accurate positioning capacity (FY 2014)
- Complete two-thirds of all GRAV-D (Gravity for the Redefinition of the American Vertical Datum) areas (FY 2017)

Deliverables:

- Manage, maintain, interpret, certify, and disseminate geodetic information
- Act as the Federal geodetic control theme lead and define, maintain and provide access to the National Spatial Reference System as the fundamental geodetic control for the United States
- Develop Federal geodetic standards, specifications, and guidelines, participate in development of international geodetic policy, standards, and guidelines and participate in the development of GPS and other global navigation satellite system policy to the extent it relates to the NSRS
- Provide positioning instrument testing and calibration services to ensure accurate implementation of NSRS
- Develop publicly accessible models and tools relating spatial datums and describing geophysical, atmospheric, equipment, and GPS orbit phenomena impacting accurate spatial measurement
- Enhance GPS augmentation by managing, monitoring, and providing access to the CORS Networks, in support of civil positioning and the U.S. transportation infrastructure
- Conduct geodetic control surveys
- Conduct GPS satellite orbit analysis and act as the International GNSS Service (IGS) Analysis Center Coordinator to pinpoint the locations of more than 40 GPS and GNSS satellites to ensure the accuracy of satellite-delivered positioning information
- Install “foundation“ CORS sites tied to the International Terrestrial Reference Frame (ITRF) in order to improve forecasting absolute global sea level rise on the order of millimeters per year and necessary to inform coastal management and construction project planning

Performance Goals and Measurement Data

Performance Measure: Percentage of U.S. counties rated as fully enabled or substantially enabled with accurate positioning capacity - Measure 18g	FY 2011 Target	FY 2012 Target	FY 2013 Target	FY 2014 Target	FY 2015 Target	FY 2016 Target
	83%	86%	89%	n/a*	n/a*	n/a*

** Current measure is expected to be replaced by FY 2014 with the measure below.*

Performance Measure: Percent Progress toward a New National Vertical Datum (Proposed Replacement Measure)	FY 2011 Target	FY 2012 Target	FY 2013 Target	FY 2014 Target	FY 2015 Target	FY 2016 Target
	15%	25%	35%	45%	55%	65%

Description: An updated geoid model will dramatically improve elevations and height information in at-risk coastal areas and other parts of the country as the foundation for improved commerce, economic efficiencies, and to better protect against inundation from storms, flooding, and sea level rise. This measure tracks progress towards the redefinition of the American Vertical Datum.

TIDE AND CURRENTS (http://tidesandcurrents.noaa.gov/)

The Tide and Current Data Program (TCDP) is an essential component of the integrated, comprehensive suite of NOAA information products required by the maritime community to ensure safe and efficient navigation. The TCDP provides the foundational reference framework for coastal (tidal datums) and Great Lakes (International Great Lakes Datum) water levels as well as tide and tidal current predictions. This reference framework enables the production of nautical charts and delineation of shoreline, the demarcation of marine boundaries ranging from international to private property, the monitoring of local sea level trends for long term climate records, and effective coastal and marine spatial planning. The Coast and Geodetic Survey Act of 1947 (61 STAT 787, 33 U.S.C. §§ 883 a-f) authorizes collection and dissemination of water level data; Section 883a authorizes NOAA to conduct "Hydrographic ... tide and current observations"; Section 883b authorizes NOAA "to analyze and predict tide and current data, and process and publish data, information, compilations, and reports." The Hydrographic Services Improvement Act (112 STAT 3454, 33 U.S.C. §§ 892 et seq) provided updated authorities for the provision of real time information and the use of information for coastal resource management. Other acts, such as the Tsunami Warning and Education Act (120 STAT 2902, 33U.S.C. Ch. 45) authorizes the use of real time tide data for tsunami warnings. The TCDP is an end-to-end program managed by the NOS Center for Operational Oceanographic Products and Services (CO-OPS). CO-OPS accomplishes its mission consistent with international standards and basic approaches utilized by other countries and entities seeking to provide similar geospatial reference systems and data. Observations, predictions, forecasts and other water level and current products and services are generated and distributed to the marine transportation community and other users. A Customer Satisfaction survey was performed in 2009 on CO-OPS products and services to measure customer satisfaction with current products and services and gain insight for future areas of focus. CO-OPS scored significantly higher on the American Customer Satisfaction Index (ACSI) metric (score of 82) than other Federal government agencies.

The Tide and Current Data Line Item is composed of four primary program elements described below:

- **National Water Level Program** – CO-OPS operates and maintains the National Water Level Observation Network (NWLON), a system of over 200 observation stations located in U.S. coastal areas, the Great Lakes, and U.S. Territories and possessions. Information from the NWLON ranges from the high frequency (real time) content in the record (e.g., tsunamis and storm surge) to the long-term content (e.g., sea level and lake level trends). NWLON provides vertical reference datums for all marine boundary applications; national shoreline and nautical chart products; coastal project planning and construction; dredging; habitat restoration projects; and hurricane evacuation route planning. The program also defines and provides local mean sea level trends essential to coastal community and project planning that must incorporate sea level rise guidance. The multi-mission NWLON also provides real time data for safe and efficient navigation, improved hazmat and emergency response, storm surge and tsunami warnings, and other applications. CO-OPS conducts a collaborative program across several NOS offices known as Coastal Oceanographic Applications and Services of Tides And Lakes (COASTAL) that focuses on non-navigation applications of CO-OPS, NGS and OCS data for such applications as beneficial uses of dredged material, coastal planning projects, marsh restoration projects, long-term sea-level assessments, storm-surge monitoring, emergency preparedness, and HAZMAT response. In FY 2009, the NWLON expanded to five additional locations in the Gulf and Alaskan regions, bringing the total number of NWLON stations to 210. Efforts to strengthen stations against extreme weather events to ensure data is available when most needed continued with eight stations being hardened. Thirty NWLON stations were also upgraded with meteorological sensors to better serve navigation customers as well as local National Weather Service Forecast Offices. CO-OPS Sea Levels Online website was enhanced by updating linear sea level trends for 128 NOAA/CO-OPS long-term water level stations along with their 95 percent confidence intervals. Sea level trends were calculated for 70 new global stations to bring the number of global stations presented to 114. In FY 2010, CO-OPS completed the hardening of six NWLON stations against extreme events and upgraded an additional 25 stations with meteorological sensors.

- **National Current Program** – CO-OPS conducts short term tidal current surveys primarily to update the NOAA annual tidal current prediction tables. NOAA's tidal current prediction tables are used by the largest ship operators, as well as the fishing industry, recreational boaters, kayakers, and wind surfers. U.S. Coast Guard carriage regulations require large commercial vessels to carry NOAA's annual Tide and Tidal Current Prediction tables along with Nautical Charts for safety. Updated, accurate predictions are essential for these users to support safe and efficient navigation and for fishers to determine best catch times. Accurate measurements of the currents are essential to test oil spill response strategies and provide onsite response to an emergency spill. The data are used to fine tune strategies and verify current trajectories for models. Tidal currents are also used to assess and help site alternative renewable energy projects tapping into hydrokinetic energy sources such as currents, tides and waves. In FY 2009, CO-OPS conducted tidal current surveys in Alaska, Massachusetts and Florida to update tidal current predictions at over 70 locations. In FY 2010, tidal current surveys were conducted in Alaska and in the Long Island Sound.

- **Physical Oceanographic Real Time Systems (PORTS®)** - PORTS® is a decision support tool that integrates and disseminates real-time environmental observations, forecasts and other geospatial information. In partnership with local port authorities, pilot associations, shippers, the U.S. Coast Guard, the U.S. Army Corps of Engineers, the U.S. Navy,

academia, and others, PORTS® has been implemented in various bays and harbors in the U.S. to measure and disseminate water levels, currents, salinity, winds, and atmospheric pressure to various users. PORTS® is a cost-shared program requiring local partners to provide funding for the cost of installation, operation and maintenance of the sensor systems. NOAA's responsibility is to provide the technical expertise required to design the systems and provide ongoing management of the data. PORTS® builds on CO-OPS water levels and currents program expertise as well as the NWLON observing system infrastructure. PORTS® observations support many mission requirements within NOAA and other Federal agencies. In FY 2009, two new PORTS® were established and brought on line in Lake Charles and New Orleans, Louisiana, bringing the total number of PORTS® to 20. In FY 2010, a new PORTS® was established in New London, CT. In addition, a new PORTS® economic study was published in June 2010 for the Columbia River PORTS®, a new visibility sensor transitioned into operations, and wave data collected by the US Army Corps of Engineers was integrated into PORTS®, meeting PORTS® users two highest priorities for additional environmental parameters. Real time information produced by NOAA's PORTS® partners provided critical input to trajectory models run by the Office of Response and Restoration to forecast movement of oil from the Deepwater Horizon incident.

- **Operational Forecast Models Program -** CO-OPS operates nowcast and forecast models that provide short term water level and other environmental forecasts accurate out to 30 hours that enable better planning and decision making, particularly for vessel transits. These are typically operated in conjunction with PORTS® due to the need for real time data input. CO-OPS presently operates nine nowcast/forecast models that are being transitioned to operate on the National Centers for Environmental Prediction high performance computers to improve performance through coupling with other models and leveraging the supporting infrastructure. There are nine models presently in operation. In FY 2010, a new operational forecast model was delivered at Delaware Bay and the existing Chesapeake Bay model was upgraded. A new operational forecast model for Tampa Bay is scheduled for release in FY 2011.

Schedule & Milestones:

Performance Schedule	FY 2011 Target	FY 2012 Target	FY 2013 Target	FY 2014 Target	FY 2015 Target	FY 2016 Target
Maintain PORTS® (# of PORTS®)*	21	21	21	21	21	21
Support hydrographic/shoreline survey projects	80	80	80	80	80	80
Operational Forecast Models	13	15	17	19	20	20

* Number of new PORTS® cannot be projected due to cost-share nature of program

Deliverables:

- 66 percent of national reference framework (tidal and International Great Lake datums) necessary for nautical charting and shoreline surveying, marine boundaries, habitat restoration, dredging, coastal construction projects, and effective coastal and marine spatial planning
- Tidal zoning, tidal correctors, smooth tides and other tidal information required for reduction of hydrographic soundings to nautical chart datum and for tidal control of shoreline surveys
- Legal authority for definition of local mean sea level, long term sea level trends, guidance for consistent incorporation of sea level trends into interagency planning guidance

- Continuous accurate, reliable, and timely quality controlled real time data from over 2,000 oceanographic and meteorological sensors to support safe and efficient navigation, hazmat response, emergency response planning and execution, NWS tsunami and storm surge warnings, and dredging
- Tide and tidal current predictions updated annually at approximately 6,000 locations, and nowcast/forecast oceanographic and meteorological parameters for safe and efficient navigation and coastal resource management

Performance Goals and Measurement Data

Performance Measure: Percentage of top 175 US Seaports with access to suite of NOAA Navigation Products and Services (CO-OPS contribution by tonnage)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	55%	55%	55%	55%	55%	55%
Description: The U.S. Army Corps of Engineers tracks the number of vessel transits and cargo tonnage that pass through the 300 or so ports in the U.S. on an annual basis. Over 95 percent of the annual tonnage passes through the top 175 seaports. By tracking how many seaports to whom NOAA is providing a full suite of its products and services, one can determine what percentage of cargo is transiting more safely and efficiently. The percentage of seaports can then be correlated with these statistics.						

Performance Measure: Percentage of U.S. coastline with accurate vertical control (tidal and geodetic)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	8%	8%	8%	8%	8%	8%
Description: The Coast and Geodetic Survey Act of 1947 authorizes NOAA to conduct tide and current observations and geodetic control surveys. NOAA is the authority for providing vertical reference datums for all marine boundary applications, national shoreline, and nautical chart products. This measure tracks NOAA's ability to provide these datums by measuring the percentage of the U.S. coastline that has accurate vertical control.						

Performance Measure: Update accuracy of NOAA tidal current predictions (number of locations)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	70	70	70	70	70	70
Description: The Coast and Geodetic Survey Act of 1947 authorizes NOAA to conduct tide and current observations and to analyze and predict tide and current data and publish data, information, compilations, and reports, including short term tidal current surveys that are used to update the NOAA annual tidal current prediction tables. This measure tracks NOAA's progress in updating the accuracy of these predictions by tracking the number of locations that have been updated.						

PROGRAM CHANGES FOR FY 2012:

Mapping and Charting Base: Integrated Ocean and Coastal Mapping (Base Funding: 0 FTE and $0; Program Change: +0 FTE and +$1,000,000): NOS requests an increase of $1,000,000 and 0 FTE for a total of $1,000,000 and 0 FTE to fund an Integrated Ocean and Coastal Mapping (IOCM) Data Processing Center, which maximizes mapping data collection efficiencies and the use of taxpayer dollars. The request supports implementation of the Ocean and Coastal Mapping Integration Act (OCMIA) of 2009, the National Ocean Policy goals, in particular coastal and marine spatial planning (CMSP), and other ocean and coastal economic and management activities.

Proposed Actions:
With this request, NOAA will invest in an IOCM data processing center to greatly enhance NOAA's existing, overextended hydrographic/bathymetric data processing capacity. This increase will enable NOAA to use its seafloor and water column mapping assets more efficiently in support of ocean and coastal mission requirements including conservation and management of living marine resources and habitats, economic uses such as navigation, commercial/recreational fisheries and tourism, coastal hazard resilience, climate change mitigation and adaptation strategies, and scientific research. Furthermore, Administration priorities for CMSP will require nationally consistent, derived data products, including habitat maps as data layers, which will become part of a framework for regional assessments and alternative future use scenarios. These IOCM investments will support this framework by addressing the obstacles currently preventing NOAA and others from collecting truly multipurpose data. Funding for this effort targets the lack of standards in data collection and processing and also expands NOAA's capacity to work with programs from the start of a survey so that the mapping work can be planned, executed and derived into products with greater utility for more purposes.

These IOCM investments are integral to the concept of "map once, use many times" and are a high priority for both marine transportation and marine resource management interests. The IOCM approach is an effective use of taxpayer dollars because it increases the availability and accessibility of quality mapping data for multiple purposes. Seafloor and water column mapping data acquired by NOAA, other Federal and state agencies, and academic institutions will be sent to the IOCM Data Processing Center, to be co-located with the NOAA/University of New Hampshire Joint Hydrographic Center (JHC), in order to utilize JHC's strengths in the development of new technology and techniques for improved data processing and analysis. The Data Processing Center will develop and maintain IOCM standards, specifications and metadata standards for mapping data. The Center will accept mapping data from a variety of sources; manage these data with advanced data systems; and produce and deliver quality-assured products to support both navigation and non-navigation requirements. Data will be archived at the National Geophysical Data Center (NGDC) so that NOAA can provide universal access that would otherwise be unavailable to the broader research and resource management community, and the public.

The increase will allow NOAA's Office of Coast Survey (OCS) to demonstrate some quick wins in launching this effort by maximizing the use and reuse of mapping data. By processing, reprocessing and creating products from existing data, OCS will be able to update nautical charts, describe seafloor regions necessary for coastal and marine spatial planning, and create high resolution shoreline and new electronic navigational charts at a fraction of what it would cost to collect new data for these efforts. While the Center will be co-located with JHC, the increase is needed to: rent additional lab space; support one contractor for oversight and management; provide funding for IT contracts to complete data archiving and processing; purchase supplies and material for reprocessing; and acquire equipment.

Statement of Need and Economic Benefits:
Many Federal, state and private-sector customers rely on seafloor and water column mapping data, and demand for these data is growing exponentially. Ocean and coastal mapping is essential, but expensive. Improving capabilities for integration and data sharing provides an opportunity to meet multiple needs more efficiently. This is especially true in areas of emerging requirements like Alaska and the Arctic. OCMIA codifies collaborative approaches for Federal mapping agencies and builds on recommendations of NOAA's Hydrographic Services Review Panel Federal Advisory Committee, the National Academy of Sciences report, *A Geospatial Framework for the Coastal Zone*, and the U.S. Commission on Ocean Policy, among others. The Department of Commerce (NOAA) and Interior (U.S. Geological Survey) are the designated co-chairs of the Interagency Committee on Ocean and Coastal Mapping.

If collected and processed to specifications that can support multiple uses, seafloor and water column data will enable a "whole ocean" approach to management supporting such important activities as coastal and marine spatial planning, climate adaptation and mitigation strategies, fishery and protected species management, offshore renewable energy siting, homeland security, storm surge/tsunami readiness, oil spill response, and coastal zone and emergency planning. NOAA's primary center of seafloor mapping expertise – the hydrographic surveying program – is overwhelmed by requests for mapping support (data acquisition and processing), and as NOAA equips its new vessels with multibeam sonar systems, the data management challenges are compounding. Recent experiences with the new multibeam systems on NOAA's new fisheries survey vessels have shown that training, expertise and technical support are required to fully utilize these state-of-the-art systems for mapping bathymetry, seafloor habitat, and fish populations. The IOCM Data Processing Center will provide this support and optimize the data that is collected. Without this funding, the roughly $1M investment in each of these systems will not be able to be leveraged for multipurpose data collection.

Resourcing OCMIA's mandates will allow NOAA to execute the coordination needed, provide the needed technical support, reduce the potential for duplication of effort, and directly target currently unrealized efficiencies that can be gained by multi-use data and collaborative mapping efforts, particularly in challenging areas like the Arctic and Alaska. NOAA has identified several existing data sets, in addition to data that will become available on a recurring basis, as the initial sets for processing by the IOCM Data Processing Center (see deliverables below). These initial data sets encompass 374,000 square nautical miles (SNM) of seafloor and cost over $380 million to acquire. Once reprocessed, they can be used for purposes other than those for which they were initially collected. For example, data collected by NOAA to update nautical charts can be reprocessed to support the development of benthic habitat maps or data collected by the Army Corps of Engineers to support sediment transport and sand delivery modeling can be used to support nautical charting. Additional uses of these data include: developing or improving storm surge/inundation models, evaluating potential ocean energy sites, developing geo-hazard maps and improving our understanding of tsunami potential, assisting in the designation and design of marine protected areas, and supporting other coastal and marine spatial planning activities. Once the IOCM Data Processing Center is established, additional data sets will be identified and reviewed for processing.

Two recent proof-of-concept projects in 2008 and 2009 illustrate the concept and cost savings. In Kachemak Bay, Alaska, NOAA and the state partnered to use NOAA ship time to collect both hydrographic data for navigation and acoustic backscatter for Alaska Department of Fish and Game habitat needs. Another good example is the $14.5 million cost-share partnership with California to survey the state's coastal waters in support of conservation and climate adaptation needs, as well as navigation. Existing datasets can also be re-processed to standards appropriate for both charting

and habitat mapping, including $40 million of recently collected mapping data, but the NOAA hydrographic program simply cannot currently ingest it all to leverage it for both charting and the many other requirements for mapping data. For every SNM of seafloor mapping data processed to support multiple needs, a minimum cost savings of 100 percent in data acquisition cost is realized. At a cost of $5300/SNM of seafloor data acquired in support of the California partnership, the State and NOAA realized an overall cost savings of $14.5 million, the cost to re-survey this area had the partnership not evolved. The cost to acquire similar data in nearshore areas can be as much as four times more expensive. Without this IOCM investment, thousands of SNM of data previously acquired in coastal waters for non-navigation purposes will not be processed for navigation purposes and may result in a considerable investment in data re-acquisition costs.

Base Resource Assessment:
There are no base resources for this activity as it is a new initiative.

Schedule and Milestones:

- Establish and co-locate IOCM Data Processing Center with the NOAA/UNH Joint Hydrographic Center (FY 2012)
- Develop and maintain IOCM standards/specs/metadata for mapping data (FY 2012+)
- Accept/process data, deliver products to OCM programs, archive at NGDC (FY 2012+)
- Implement standard file format access to NOAA data (Bathymetry Attributed Grid (BAG), multibeam surveys, sidescan sonar) providing customary and standard products that would otherwise be unavailable (FY 2012+)
- Implement data archive capability for NOAA charter mapping data from University-National Oceanographic Laboratory System (UNOLS) projects (FY 2013+)

Deliverables:

- The IOCM Processing Center will begin ingesting existing data sets from a variety of sources for processing to standards appropriate for both charting and habitat mapping, including $40 million of recently collected data across NOAA:
    - 885 square nautical miles of Gulf of Maine seafloor mapping
    - Gulf of Mexico marine debris mapping data
    - NOAA-acquired multibeam surveys in the U.S. Pacific Islands, including Papahānaumokuākea Marine National Monument
    - Extended continental shelf mapping data supporting U.S. delimitation under Law of the Sea
- Develop and sustain data standards, tools and expertise and provide guidance on acquisition and processing in support of the OCM community.
- Develop acoustic backscatter collection protocols that will facilitate the acquisition of these valuable data while maintaining the quality of bathymetry data.

NGDC will:

- Develop automated extraction of standard products from new hydrographic source data in Bathymetry Attributed Grid (BAG) format including the preservation of accuracy uncertainty attributes.
- Provide access to integrated hydrographic and derived science products through standard web services.
- Enhance metadata to improve discovery/use of NOAA hydrographic data, and to improve IOCM planning and coordination.

Performance Goals and Measurement Data

Performance Measure Reduce the Hydrographic Survey Backlog within Navigationally Significant Areas (Square Nautical Miles - SNM) Measure 18f	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	3,490	3,720	3,920	4,120	4,300
Without Increase	3,200	3,250	3,250	3,250	3,250	3,250
Description: NOAA estimates that a portion of the data re-processed by the center will contribute to surveys in navigationally significant areas and count toward this measure.						

Performance Measure: Multibeam sonar data reprocessed for use in fisheries management (SNM)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	700	875	1,340	1,340	1,400
Without Increase	0	0	0	0	0	0
Description: This measure tracks the re-processing of data collected by NOS for nautical charting for use in NMFS ecosystem assessments and habitat characterizations. An IOCM Center would re-process multi-beam data, data that will contribute geospatial information on the physical and geological components of the ocean environment, and is, therefore, a necessary component of habitat characterization and assessment. This effort would increase the amount of data available for fisheries management to improve the scientific basis for decisions.						

Performance Measure: Initial datasets processed for IOCM seafloor/water column mapping data products (annual SNM)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	6,190	17,100	22,800	37,000	47,950
Without Increase	100	100	100	100	100	100
Description: This measure highlights existing datasets that the IOCM center can focus on re-processing in addition to the above two measures. The metric illustrates the large quantities of data available but not accessible for multiple uses. These datasets were collected for a single purpose, but with some assistance can be rendered more useful to other purposes such as CMSP, habitat mapping, tsunami and storm surge models, and nautical chart updates in areas less critical for navigation than above.						

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Navigation Services

	Object Class	2012 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	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	40
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental Payments to others	60
23.3	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	650
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	100
31	Equipment	150
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	1,000

Mapping and Charting Base: Development and Demonstration of Unmanned Surface Vehicles (Base Funding: 0 FTE and $750,000; Program Change: -0 FTE and -$750,000):
NOAA requests a decrease of $750,000 and 0 FTE for a total of $0 and 0 FTE. In the Consolidated Appropriations Act, 2010, Congress provided $750,000 for NOAA to develop and demonstrate the potential use of unmanned surface vehicles (USVs) for hydrographic survey operations. In FY 2010, NOAA applied this funding towards a contract with the Department of Defense (DOD) Naval Sea Systems Command, Naval Surface Warfare Center (as intended by Congress) to develop an MOA with that office to: develop the concept of operations (CONOPS) and detailed requirements for integrating USVs into NOAA's existing hydrographic survey operations, and to develop and perform a proof-of-concept demonstration at sea of a prototype USV system based upon the developed CONOPS and technical requirements. A NOAA vessel will be used for the demonstration. This additional funding is not required in FY 2012. NOAA has not planned for transition of this technology in the short term (three years), as it is still very much in the research and development phase.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Navigation Services

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	(750)
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	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	(750)

Regional Geospatial Modeling Grants (Base Funding: 0 FTE and $5,500,000; Program Change: -0 FTE and -$5,500,000): NOAA requests a decrease of $5,500,000 and 0 FTE for a total of $0 and 0 FTE. In the Consolidated Appropriations Act, 2010, Congress provided funds for projects supported by Regional Geospatial Modeling Grants. Grants were awarded in FY 2010 with this funding and no additional funding is needed for these projects. Base funding from the Coastal Services Center and Geodesy Program will support core mission activities including a Passive Network Infrastructure support, Continuously Operating Reference Stations (CORS) support, Height Modernization, data access and capacity building, research, and tool and model development. NOAA will also continue to work with states and across Federal agencies to provide geospatial data and tools, training, social science information, and partnership-building at the national, regional and state levels that would otherwise be unavailable. In addition, the President's FY 2012 Request includes an additional $2 million to develop a national integrated high-resolution topographic and bathymetric dataset to address a range of high priority coastal issues.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Navigation Services

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(5,500)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(5,500)

Tides and Currents (Base Funding: 124 FTE and $33,779,000; Program Change: -0 FTE and -$4,800,000): NOAA requests a decrease of $4,800,000 and 0 FTE for a total of $28,979,000 and 124 FTE for Tides and Currents base funding.

Proposed Actions:
NOAA requests a decrease in the Tides and Currents Base of $600,000 to reflect the completion of the installation of meteorological sensors (wind speed/direction, air temperature and barometric pressure) at National Water Level Observation Network (NWLON) stations, a decrease of $400,000 from funding used for the "hardening" of NWLON stations damaged by recent hurricanes, and a decrease of $3,800,000 for the design, installation, maintenance, and operations of the Physical Oceanographic Real-Time System (PORTS®). In the Consolidated Appropriations Act, 2010, Congress provided additional funds for NOAA to fully support the design, installation, maintenance, and operations of the entire PORTS® systems. PORTS® have traditionally been a cost-share between the local port and NOAA – each funding specific responsibilities. NOAA believes that this is the appropriate funding model and for FY 2012 proposes to return to the cost-share model.

Statement of Need and Economic Benefits:
The Tide and Current Data Program (TCDP) is an essential component of the integrated, comprehensive suite of NOAA information products required by the maritime community to ensure safe and efficient navigation, support homeland security, improve oil and other hazardous material spill response, and support coastal resource management. The U.S. Coast and Geodetic Survey Act of 1947 mandates that NOAA collect tide and current data to support safe and efficient marine navigation. The Hydrographic Services Improvement Act of 1998 recognized technological advances in the TDCP by authorizing the provision of real time data for navigation safety and efficiency.

The Nation's commerce, which passes through our seaports, is an economic lifeline of our country and vital to the economic well being of our Nation. More than 78 percent of U.S. overseas trade by volume and 43.5 percent by value, including nine million barrels of imported oil daily, transits through our seaports. (*2003 Pocket Guide to Transportation* Table 5-5, U.S. Department of Transportation.) The "*National Strategy for the Marine Transportation System: A Framework for Action,"* published by the Cabinet level Committee on the Marine Transportation System in 2008, found that real-time environmental observations for weather, tides, and currents enhance mariner situational awareness, but are not currently available in all critical areas of the MTS. Mariners need a complete understanding of the physical environment in which they operate, including both oceanographic and meteorological information. Meteorological data such as wind speed and direction are critical to the safe maneuvering of large commercial vessels within constrained harbors and shipping channels. The economic and environmental consequences of a marine accident, particularly when hazardous materials are spilled, can run into the millions or even billions of dollars. This same physical environmental data can also be crucial when extreme weather and water events such as hurricanes, tsunamis, nor'easters, etc. impact U.S. coasts. Forecast models in particular rely upon real time information to inform and validate model results. Accurate real time storm tide and associated meteorological data improve National Weather Service (NWS) marine surface weather analyses and local models, improve the accuracy of marine weather forecasts and warnings, and support weather forecast verification activities. Over time, the NWS and other partners have funded the addition of meteorological sensors at approximately 80 NWLON stations as a cost effective approach to obtain more coastal observations. In FY 2008, the President's Budget requested funds to systematically and cost effectively complete optimizing the NWLON with the installation of these sensors at the remaining stations. As demonstrated by the devastating impacts of

Hurricanes Katrina and Rita in 2005, and Ike and Gustav in 2008, coastal communities need improved, robust products and services to help them plan for, respond to, and recover from coastal storms. Faced with increasing vulnerability of coastal communities, coastal and emergency managers have a need for comprehensive, timely and accessible information to aid in making decisions at critical times.

PORTS® is a cost shared partnership where the local partner funds the installation and local operation and maintenance costs. NOAA's base funds for PORTS® are used to provide technical expertise for PORTS® design, continuous quality control, research and development for technology infusion, national standards, and data processing and management. NOAA-sponsored economic studies at four PORTS® locations have documented over a 50 percent reduction in groundings and economic benefits of up to $18 million annually at Houston-Galveston alone. The 20 existing PORTS® are: Tampa Bay, New York/New Jersey, San Francisco, Chesapeake Bay, Narragansett Bay, Long Beach/Los Angeles, Houston-Galveston, Delaware Bay, New Haven, Tacoma, Soo Locks, Anchorage, Columbia River, Mobile, AL, Pascagoula, MS, Gulfport, MS, Sabine, TX, Cherry Point, WA, New Orleans, LA, and Lake Charles, LA.

Base Resource Assessment:
The base resources for this activity are described in the Navigation Services base narrative.

Schedule and Milestones:
None

Deliverables:

- Continue maintenance on meteorological sensors on NWLON stations.
- Continue design, installation, maintenance, and operations of PORTS®

Performance Goals and Measurement Data

Performance Measure: Number of NWLON stations providing real time meteorological data that are fully operational	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Decrease	170	170	TBD	TBD	TBD	TBD
Without Decrease	170	170	170	170	170	170
Description: This measure reflects the completion of the installation of meteorological sensors at 170 NWLON stations. Ongoing maintenance is necessary to ensure that these stations retain their ability to provide real time meteorological data.						

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Navigation Services

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	(4,800)
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	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	(4,800)

APPROPRIATION: OPERATIONS, RESEARCH AND FACILITIES
SUBACTIVITY: OCEAN RESOURCES CONSERVATION AND ASSESSMENT

The objectives of the Ocean Resources Conservation and Assessment subactivity are to:

- Establish the framework through which the authorities of Federal and state agencies are focused to protect and restore coastal resources.
- Recommend management actions to minimize the cumulative effects of coastal development on natural resources, especially NOAA's 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's 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.
- Facilitate and support resource conservation through sound science and management activities.
- Develop a capability to research, monitor, assess, and predict coastal ecosystem structure and function to detect changes, evaluate management strategies, and identify actions to effectively manage threats to ecosystem health.
- Provide continuous, integrated data on our open oceans, coastal waters, and Great Lakes in the formats and at the rates and scales required to support the information needs of government, environmental managers, scientists, business, and the public.
- Develop means for valuing non-market ecological resources and clarify the causes and significance of ecosystem changes.
- Facilitate the development and transfer of tools and technology that provide more effective mechanisms to conserve, protect, restore, and utilize coastal ecosystems.
- Build the capacity of coastal decision makers to minimize environmental, social, and economic impacts from coastal and climate hazards to their communities.
- Improve public understanding of functions and values of coastal ecosystems and enhance public access to information on coastal environmental quality and health risks from pollutants.
- 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.

This subactivity contains programs managed by the National Centers for Coastal Ocean Science (NCCOS), the Office of Response and Restoration (ORR), the Coastal Services Center (CSC), the Office of Ocean and Coastal Resource Management (OCRM), and the NOAA Integrated Ocean Observing System (IOOS) Program. The objectives of this subactivity are implemented under the authorities established in the Integrated Coastal and Ocean Observation Systems Act; Clean Water Act; Coastal Zone Management Act (CZMA); Oil Pollution Act (OPA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA/Superfund); National Coastal Monitoring Act (NCMA); Harmful Algal Bloom and Hypoxia Research and Control Act (HABHRCA); Estuaries Restoration Act (ERA); Coral Reef Conservation Act (CRCA); Oceans and Human Health Act (OHHA); Marine Debris Research, Prevention, and Reduction Act (MDRPRA); and other legislation to protect, conserve, and restore natural resources and the environmental quality of the Nation's coastal ecosystems.

The Ocean Resources Conservation and Assessment subactivity contains three items: Ocean Assessment Program, Response and Restoration, and National Centers for Coastal Ocean Science.

OCEAN ASSESSMENT PROGRAM

NOAA's National Ocean Service (NOS) promotes healthy coastal ecosystems by ensuring that economic development in United States coastal areas is managed in ways that maintain biodiversity and long-term productivity necessary for sustained use. Working in partnerships with Federal and state agencies, NOAA provides the coastal resource management community with the scientific understanding, information, products and services needed to balance the environmental, social, and economic goals of coastal communities and NOAA. The Ocean Assessment Program includes six sub-programs that contribute to NOAA's Healthy Oceans, Resilient Coastal Communities and Economies, Climate Adaptation and Mitigation and Weather-Ready Nation Goals.

COASTAL SERVICES CENTER (http://csc.noaa.gov) - The mission of the Coastal Services Center (CSC) is to build capacity for informed decision making that increases the resiliency of our coasts and coastal communities and economies. 80 percent of decisions that affect our coasts are made at the local level, and CSC's primary customers are the Nation's coastal managers, including natural resource managers, planners, and emergency officials. Working with other NOAA programs, states, and across Federal agencies, CSC provides geospatial data and tools, training, social science information, and partnership-building at the national, regional and state levels that would otherwise be unavailable. CSC is effectively "buying down" the cost of improving state and local coastal management programs and enabling a more effective and targeted implementation of the Coastal Zone Management Act (CZMA), the Ocean Research Priorities Plan's near term priority of Forecasting the Response of Coastal Ecosystems to Persistent Forcing and Extreme Events, and other relevant coastal legislation, such as the Ocean and Coastal Mapping Integration Act. Partnerships between CSC, state and local coastal management organizations give rise to numerous projects each year. CSC transfers successful tools and approaches to the coastal management community to ensure that national issues are most effectively addressed at regional, state and local levels. CSC's collaborative strategy builds effective working relationships across NOAA and with other Federal agencies.

CORAL REEF PROGRAM (http://coralreef.noaa.gov) - Coral reefs are some of the most biologically diverse ecosystems in the world. They provide a range of benefits, including food, recreation, marine habitat, coastal protection, and medicines and sustain American livelihoods and economic development. Coral reefs provide vital ecosystem services to coastal and insular areas including coastline protection during storms and tsunamis and productive fisheries resources and are valued between $130,000 and $1,200,000 per hectare. However, the health of these productive and valuable ecosystems in the U.S. and around the world is at serious risk due to a variety of human impacts, including global climate change, unsustainable fishing practices, and pollution. Nineteen percent of the world's reefs are effectively lost, 15 percent are seriously threatened with loss in the next 10-20 years, and 20 percent are under threat of loss in the next 20-40 years (Wilkinson 2008).

To address the complex nature of the threats that face coral reef ecosystems, the Coral Reef Conservation Program (CRCP) brings together expertise from across NOAA for a multidisciplinary approach to understanding and managing coral reef ecosystems. This matrix program includes more than 30 offices within NOAA from NOS, NMFS, OAR and NESS (funds are requested in NOS and then distributed among the participating offices) to meet its mission to protect, conserve and restore valuable coral reef ecosystems. NOAA has found this approach to be an efficient and effective way to mobilize and focus the specific capabilities of each office on these priorities. Examples of CRCP activities and tools include: climate forecasts developed by Coral Reef Watch (NESS), benthic habitat mapping (NOS and NMFS), baseline assessment and monitoring programs (NOS and NMFS), management capacity-building of our jurisdictional partners through training and technical assistance (NOS, NMFS, NESS), coral reef ecosystem research (OAR), and socioeconomic studies (NOS), among others.

The CRCP addresses NOAA's legislative mandates to protect and conserve coral reefs (Coral Reef Conservation Act of 2000 and the Presidential Executive Order 13089 on Coral Reef Protection, which established the NOAA-co-chaired U.S. Coral Reef Task Force), recover threatened corals and other protected species (ESA), manage reef-dependent federal fisheries and protect Essential Fish Habitat including deep coral and sponge communities (Magnuson-Stevens Fishery Conservation and Management Act (MSA)), promote sustainable use of the coastal zone under the Coastal Zone Management Act (CZMA), and improve management capabilities of the National Marine Sanctuaries (NMSA).

COASTAL STORMS (http://csc.noaa.gov/csp/) - The Coastal Storms Program harnesses and leverages NOAA and community resources to reduce the adverse impacts of coastal storms by developing improved and integrated products and services that address specific state/local decision-maker needs. The Coastal Storms Program brings NOAA-wide expertise, products, and services to address the challenges unique to each region and targets tools and outreach to the needs of local stakeholders. Efforts to integrate existing product service lines to meet unique needs are also included. The Coastal Storms Program is currently working in the Gulf of Mexico and Pacific Islands (Hawaii and the U.S. territories).

INTEGRATED OCEAN OBSERVING SYSTEM (http://ioos.noaa.gov) - The goal of U.S. IOOS is to provide continuous data on open oceans, coastal waters, and Great Lakes to inform decision-making and is mandated by Integrated Coastal and Ocean Observation System Act of 2009 (ICOOS Act). NOAA is charged with leading oversight and administration of the IOOS regional component, which complements Federal ocean observing assets by providing data, models, and information tailored to the economic and environmental requirements of local communities. NOAA is also working to ensure that Federal and regional contributions develop in a consistent and complementary manner by identifying and sharing standard procedures and integration services. IOOS implementation relies on the contributions of many programs across NOAA, the Federal government and the regions. NOAA, as the lead Federal agency, is responsible for coordinating these distributed capabilities to maximize the Nation's return on investment in IOOS. Increased compatibility of Federal and regional observing system assets will improve our understanding, forecasting, stewardship, and use of coastal waters. Base resources are allocated between two program components, NOAA IOOS and Regional IOOS. Analysis has found that researchers, modelers, forecasters, and other data users spend significant amounts of time searching for data. Users of ocean data, including modelers, and meteorologists spend an average of 25–50 percent of their time searching for, accessing, formatting, and ingesting data into their products. Significant resources are expended on data management activities that might otherwise be used to forecast and research. By improving the accessibility and interoperability of ocean data, IOOS delivers time and cost savings that can be redirected to improving existing and developing new products.

Schedule & Milestones:

Milestones for all components of the Ocean Assessment Program are provided below:

- Develop operational version of IOOS Data Catalog and web-based Viewer to allow users to find and access observational data (FY 2012)
- Support regional IOOS data standardization using DMAC standards. Make all regional IOOS data holdings discoverable through IOOS Data Catalog (FY 2012)
- Develop operational version of IOOS System Status Dashboard (FY 2013)
- Develop operational versions of Data Visualization and Format Conversion Services (FY 2013-2014)
- Develop initial versions of IOOS Product Generation and Data Integration Services (FY 2015-2016)

- Sustain observing and modeling capability throughout regional entities (FY 2012-2016)
- Develop and deliver state coastal resource and emergency manager decision support tools, such as hazard assessment tools, sea level rise visualizations, and coastal county snapshots (FY 2012-2016)
- Provide regional technical assistance, tools and coordination on priority issues to support managers in coastal regions of GOMA, MARCO, WCGA, NROC, and others (FY 2012-2016)
- Develop, distribute, update, and apply moderate resolution coastal land cover change analysis data (refreshed on five-year basis) for coastal regions (FY2012-2016)
- Develop integrated models to provide information about storm vulnerability and ecological impacts (FY 2012-2016)
- Complete coral reef jurisdictional Capacity Assessments (FY 2012)
- Develop a CRCP National Monitoring Plan (FY 2012)
- Conduct baseline assessments for priority coral marine protected areas (MPA) using the MPA Assessment Checklist (FY 2012-2013) then reevaluate these MPAs to determine improvements in management (FY 2014-2016)
- Develop five watershed management plans priority coral reef areas (FY 2012-2016)
- Conduct reef assessment and monitoring cruises in Pacific and Atlantic/Caribbean (FY 2012-2016)
- Continue to improve coral bleaching forecasts and ocean acidification models (FY 2012-2016)
- Complete the State of Coral Reef Ecosystems Report every four years (FY 2012, FY 2016)

Deliverables:

- Fully functional IOOS Data Catalog with contributions from all participating coastal, Great Lakes and open ocean data providers
- Utility services for visualizing, transforming and integrating oceanographic data
- Formal documentation for implementation and training of IOOS data providers and partners
- Standardized data access services and data formats at key NOAA and regional data providers, thereby simplifying access to new and archived oceanographic data
- New data providers and oceanographic datasets available based on customer requirements
- Refined IOOS enterprise metrics for assessing performance and maturity of the system
- Data, mapping, tools, and information resources through Digital Coast to address competing using of coastal resources and adaptation to coastal hazards and climate change
- Training and workshops on data, tools, and techniques that address competing using of coastal resources and adaptation to coastal hazards/climate change
- Effective regional ocean partnerships by building capacity through facilitation, training, and workshops addressing completing uses of coastal resources and adaptation to coastal hazards and climate change
- Outreach publications to increase capacities among coastal zone managers, land use planners, emergency management, floodplain managers, and others
- Development of environmental forecasting and risk and vulnerability decision-support tools to assist with decision making regarding the impacts of storms on natural resources and communities
- Increased management capacity and effectiveness in existing MPAs increases the condition of fish assemblages within coral reef MPAs, restores essential ecosystem functions crucial to coral health in priority coral reef areas and increases resilience of these areas to climate change impacts

- Development and implementation of watershed management plans reducing pollutant loading in target watersheds adjacent to coral reefs, thereby decreasing local stressors (sediments, nutrients, etc) that negatively affect coral reefs
- Conservation of more acres of coral reefs within U.S. boundaries through design and implementation of MPA networks
- New management strategies to better protect coral reef areas implemented through targeted research to better understand the impacts of stressors to coral reefs
- An engaged public who understands the need for and importance of coral reef ecosystems and who supports action to conserve important coral reef resources
- Reports every four years indicating the status and trends of U.S. coral reef condition

Performance Goals and Measurement Data

Performance Measure: Number of Regional IOOS supported coastal, ocean, and Great Lakes observations delivered to the GTS for use by NOAA operationally in daily forecasts	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	2.7M	1.6M	1.1M	1.1M	1.1M	1.1M
Description: Regional IOOS partners contribute a significant proportion of observations available for use by forecasters via the Global Telecommunications System. IOOS observation platforms are typically located in near shore areas where National Data Buoy Center and National Ocean Service platforms are not present, thereby filling a data gap of critical observations for NOAA.						

Performance Measure: Percentage of tools, technologies, and information services that are used by NOAA partners/ customers to improve ecosystem-based management - Measure 18c	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	87%	87%	87%	87%	87%	87%

Performance Measure: Percentage of U.S. coastal states and territories demonstrating 20% or more annual improvement in resilience capacity to weather and climate hazards – Measure 18e	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	30%	34%	36%	36%	36%	36%

RESPONSE AND RESTORATION (http://response.restoration.noaa.gov)

NOAA's Office of Response and Restoration (OR&R) protects coastal and marine resources, mitigates threats, reduces harm, and restores ecological function. OR&R provides comprehensive solutions to environmental hazards caused by oil, chemicals, and marine debris. NOAA responds to approximately 180 significant oil or chemical spills each year as scientific advisors to the U.S. Coast Guard and provides solutions to cleanup agencies that protect and restore coastal resources at more than 200 hazardous waste sites each year along the Nation's ocean and Great Lakes coasts. When

oil or hazardous substances threaten or injure coastal and marine resources, NOAA, along with state and other Federal natural resource trustees, is responsible for ensuring that cleanup actions protect those resources from further injury; assessing and recovering natural resource damages to restore the injured resources; and seeking compensation on behalf of the public for the loss of services that the natural resources provided. OR&R provides scientific expertise on releases of oil, chemicals, and contaminants; protecting and restoring NOAA trust resources; and extending core expertise to address critical local and regional coastal challenges.

EMERGENCY RESPONSE DIVISION - The Emergency Response Division (ERD) supports Federal, state, and local agencies across the country that depend on NOAA's science-based guidance during oil and chemical spills, vessel groundings, search and rescue efforts, national security events, and other emergencies. ERD provides scientific expertise, including oil spill trajectory modeling, shoreline cleanup assessment, identification of sensitive resources, information management, and development of cleanup strategies. ERD has extensive experience in the Incident Command System and has developed numerous spill response tools such as: the Environmental Sensitivity Index (ESI) maps used by first responders to depict resources at risk, the Environmental Management Response Application (ERMA), and the CAMEO suite used by fire services across the country to respond to hazardous releases. These tools enable ERD to make the best cleanup decisions to minimize the environmental and economic impacts of oil spills. ERD represents NOAA on the National and Regional Response Teams that provide technical assistance, resources and coordination of preparedness, response and recovery activities for emergencies involving oil, hazardous substances, pollutants, and weapons of mass destruction in disasters and other incidents of national significance. ERD enhances national knowledge and readiness by providing training to hundreds of Federal, state and local partners each year. ERD is currently providing critical scientific support to the Coast Guard for the Deepwater Horizon oil spill in the Gulf of Mexico.

ASSESSMENT AND RESTORATION DIVISION - The Assessment and Restoration Division (ARD) works closely with other Federal and state trustees and the responsible party to assess and restore resources injured by oil spills, releases from hazardous waste sites, and vessel groundings on corals and seagrass beds. ARD ensures the public's natural resources are restored. ARD also influences remediation at hazardous waste sites to be protective of NOAA trust resources. ARD is mandated to perform these natural resource trustee roles by the Oil Pollution Act, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Clean Water Act. ARD is a leader among the state and Federal damage assessment community and supports the protection and restoration of natural resources vital to coastal ecosystems and local economies. ARD and its partners have generated over $500 million of restoration over the life of its program, all of which has been paid for by the responsible party. ARD is now leading the damage assessment activities for the Deepwater Horizon oil spill in the Gulf of Mexico. In this arena, ARD works with NOAA's Restoration Center to provide assistance for estuary habitat restoration projects and to develop and enhance restoration monitoring and research capabilities. NOAA's efforts contribute to restoring estuaries that support local economies and understanding the efficacy of our restoration efforts.

MARINE DEBRIS PROGRAM - The Marine Debris Program (MDP), mandated by the Marine Debris Research, Prevention, and Reduction Act of 2006, has a lead role in addressing marine debris affecting the ocean and coastal environment and navigation safety in the United States. The MDP conducts reduction, prevention, and research activities, and supports grants, partnerships, and contracts to address marine debris issues. It has held regional, national, and international workshops and meetings and has coordinated NOAA positions on a variety of issues related to marine debris.

The MDP has positioned itself as a leader on marine debris issues within NOAA and the Federal community and chairs the Federal Interagency Marine Debris Coordinating Committee. Current emphasis of the program is on research (focusing on derelict fishing gear and microplastics), establishing a nation-wide marine debris monitoring program, and removal projects focusing on large, non-reaccumulating debris.

Schedule & Milestones:

- Respond to oil spills and other pollution events to influence cleanup decisions
- Influence remedial decisions at hazardous waste sites to protect NOAA trust resources
- Conduct natural resource damage assessments at priority spill and hazardous waste sites
- Conduct oil spill drills and implement response and damage assessment training for preparedness and capacity building in partners
- Address marine debris by removing and preventing debris and researching the cause of debris
- Achieve significant progress on regional ecosystem restoration planning, implementation, and monitoring

Deliverables:

- Technical support to CERCLA lead agencies, investigate potential injury to NOAA trust resources, develop protective remedial strategies, and address contaminated sediments
- Significant progress toward completing natural resource damage assessments or cases settled to recover funds for restoration of coastal resources
- Regional response exercises and drills with NOAA presence (Federal, state, local, private)
- Fifth International Marine Debris Conference, for 300-400 participants
- Socioeconomic monitoring of three ARRA restoration projects to estimate restoration project benefits

Performance Goals and Measurement Data

Performance Measure: Number of hazardous waste sites where assessments or cleanup plans address risks to NOAA trust resources	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	15	15	15	15	15	15
Description: This measure tracks the number of hazardous waste sites (e.g., Superfund sites) for which NOAA provides scientific expertise to assess and develop cleanup plans, thereby reducing the risk to NOAA's trust resources.						

Performance Measure: Number of Natural Resource Damage Assessment cases where liability is resolved	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	4	4	4	4	4	4
Description: This measure tracks the cumulative number of natural resource damage cases that are resolved, and for which restoration funds are secured. Successful cases reflect NOAA's ability to provide assistance and work cooperatively with industry on natural resource damage cases.						

NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE (http://coastalscience.noaa.gov)
NOS' National Centers for Coastal Ocean Science (NCCOS) conducts research, monitoring, and assessments to build the scientific foundation essential for sustainable use of coastal resources. NCCOS integrates its expertise and efforts across all levels of government through a variety of interagency task forces and has established partnerships with NIST, EPA, USGS, NPS, and CDC, academic institutions and coastal community resource managers and public health officials. Coordinating activities with partner organizations, NCCOS ensures research activities meet the highest priority science needs, provide a balanced response to local, regional and national issues and are utilized by decision makers to sustain the viability of coastal ecosystems and communities.

Three of NCCOS' centers have on–site research facilities, and two centers conduct research through analyses of field data. Although each center has unique expertise, NCCOS' research, monitoring and assessment capabilities are leveraged and enhanced by partnerships to manage threats of harmful algal blooms (HABs), support coastal and marine spatial planning, advance research on climate change impacts to coastal ecosystems and address impacts of coastal contamination, with a focus on pharmaceuticals, endocrine disrupting compounds, flame retardants and other contaminants of emerging concern (CECs). Brief descriptions of activities conducted at NCCOS centers are provided below.

Center for Coastal Environmental Health and Biomolecular Research (CCEHBR) – Located in Charleston, SC, CCEHBR conducts applied research programs to: develop methods to characterize, detect and measure marine biotoxins, HABs and CECs; and understand the factors linking land use in the coastal zones with the distribution and effects of environmental contaminants on living marine resources and associated habitats. NOAA's Cooperative Oxford Lab in Oxford, MD is affiliated with CCEHBR and is the only Federal aquatic research facility on the Chesapeake Bay. Partnering with the U.S. Coast Guard, the NOAA Chesapeake Bay Office and the Maryland Department of Natural Resources, the Oxford Lab specializes in shellfish pathology and habitat restoration research to investigate the role of disease in the distribution of marine animal resources, and to determine the influence of environmental factors on the occurrence and persistence of diseases.

Center for Coastal Fisheries and Habitat Research (CCFHR) – Located in Beaufort, NC, CCFHR's science and research efforts evaluate the anthropogenic effects on resource productivity and improve delineation, recovery and restoration of injured habitat. It also develops tools for detecting HABs and improving forecasts of bloom conditions and examines shoreline and habitat response to climate change. A CCFHR facility in Seldovia, AK is a cooperative endeavor with the University of Alaska-Fairbanks that serves as a center for graduate student research in marine and coastal studies.

Center for Coastal Monitoring and Assessment (CCMA) – Located in Silver Spring, MD, CCMA conducts programs in applied research, monitoring, biogeography and assessment to evaluate the environmental quality and consequences of anthropogenic stresses to U.S. coastal, estuarine, and Great Lakes areas and to monitor toxic contaminants, nutrients, and related properties in biota, water, and sediments at over 300 sites through the National Status and Trends program. It also determines the distribution of anoxia/hypoxia, the occurrences of HABs, and the biodiversity and habitat characteristics of U.S. coastal, estuarine, and Great Lakes areas.

Center for Human Health Risk (CHHR) - Located in Charleston, SC at the Hollings Marine Lab (HML), a NOAA Center of Excellence in Oceans and Human Health, CHHR research is focused on genomics, environmental chemistry and toxicology, and pathogen source tracking, monitoring, and assessment to examine the interrelationships between human health and marine environmental

health; and to develop and integrate medical and marine technologies to understand, assess, sustain and protect marine and coastal ecosystems.

Center for Sponsored Coastal Ocean Research (CSCOR) – Located in Silver Spring, MD, CSCOR addresses emerging coastal ocean issues across NOAA's mission responsibilities. CSCOR supports competitive, peer-reviewed, interdisciplinary research investigations with finite life cycles conducted on a regional scale over a 3-5 year period. The program relies upon established processes that reflect the requirements and advice of both the management and science communities in setting its priorities to ensure the utility and credibility of research designed to investigate ecological stressors including HABs, hypoxia and climate change; and to forecast the ecological effects of ecosystem stressors in a regional context for coastal ecosystems of concern to NOAA.

Oceans and Human Health **(http://www.eol.ucar.edu/projects/ohhi/) -** NOAA created the Oceans and Human Health Initiative (OHHI) in response to recommendations of the U.S. Ocean Action Plan and mandates of the Oceans and Human Health Act (OHHA). The goal of the OHHI is to understand and predict connections between the condition of oceans, coasts, Great Lakes, and human and animal health, while providing information focused on reducing current and future risks to public health and enhancing efforts to provide curative agents and natural products from the sea. The OHHI supports research and develops tools, technologies, and services to identify, predict, reduce, and prevent coastal and ocean-related human health risks. The OHHI provides NOAA's core scientific and institutional capacity for engaging public and human health partners in oceans and human health and serves as the foundation for integration, synergy, and leverage of other NOAA activities to reduce ocean and coastal related health risks and to optimize benefits from the sea. The OHHI works with public health workers, natural resource managers, and the public in order to ensure that these technologies and information are useful for enhancing human and marine animal health. OHHI provides an integrated approach and institutional framework to address the intersection of ocean and human health issues, serving as a focal point for NOAA, increasing efficiency, decreasing redundancy, and ensuring delivery of useful science and services to the health sector.

In response to established legislation and NOAA priorities and in concert with scientific expertise and capabilities, NCCOS' internal research efforts deliver quality, timely and relevant science and services to the Agency and partners to respond to harmful algal blooms (30 percent), support coastal and marine spatial planning (25 percent), and assess the impacts of climate change (10 percent) and coastal contamination (35 percent).

Schedule & Milestones:

- Identify and analyze biological, benthic and oceanographic datasets at appropriate spatial and temporal scales to support New York and North Carolina offshore energy plans
- Research to support National Marine Sanctuary (NMS) rezoning and boundary delineation
- Characterize environmental conditions for HAB species to produce toxins and estimate toxin flux into food chains
- Collect and analyze data to support national baseline assessments of coastal resource health
- Investigate land use and weather modifications on runoff, eutrophication, HABs and pathogens for coastal Southeast, Gulf of Mexico and Chesapeake Bay
- Assess impacts of bulkheads on wave attenuation and marsh vegetation
- Develop new early warning system tools through OHHI partnerships and research activities

Deliverables:

- Operational national HAB forecasts for Gulf of Maine and Great Lakes

- Data visualization tools to support coastal and marine spatial planning
- Baseline ecological assessments in Gulf of Mexico, Chesapeake Bay and selected NMS and NERRs
- Reports on national ecological conditions and stressor impacts in coastal-ocean waters
- Models on marsh response to sea level rise and assessments of impacts of shoreline modification on ecosystem services in Mid-Atlantic region
- OHH-trained graduate students and postdoctoral scientists (approximately five per year)
- Sustained partnerships with public health partners at the Federal and state level

Performance Goals and Measurement Data

Performance Measure: Number of coastal, marine and Great Lakes ecosystem sites adequately characterized for management (Measure 18a: NCCOS contribution only)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	15	16	16	17	17	18

Description: Ecological characterizations provide the scientific basis for coastal and ocean assessments and forecasts, and the development of plans to manage resources and assess the effectiveness of measures implemented to effectively manage natural resources. Characterizations are conducted on NOAA trust resources, essential fish habitats, Great Lakes habitats and living resources and throughout the Nation's coastal zone. A subset of these metrics contributes to NOAA's measure 18a.

Performance Measure: Cumulative number of coastal, marine and Great Lakes forecast capabilities developed and used for management (Measure 18b: NCCOS contribution only)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	3	4	5	6	7	7

Description: This measure is a subset of measure 18b. NOAA's discrete forecast models allow resource managers to: 1) make decisions based on predicted environmental and socioeconomic impacts related to a particular issue; 2) use issue-based forecasts to predict the impacts of a single ecosystem stressor (e.g., climate change, extreme natural events, pollution, invasive species, and land and resource use) and 3) evaluate the potential options to manage those stressors to fulfill the ultimate goal for resource managers to use NOAA's forecasts to better manage ecosystem use, condition, and productivity. These forecasts will be based on field and laboratory studies, existing data, and models predicting environmental conditions under different scenarios and will have capabilities specific to a geographic area and be counted for each ecosystem as they become operational. For example, harmful algal bloom forecasts in the Gulf of Mexico and Gulf of Maine are two separate forecast capabilities and similarly, multiple, distinct forecast capabilities could be counted within a single ecosystem (i.e., harmful algal blooms, pink shrimp harvest, and hypoxia – all in the Gulf of Mexico).

Performance Measure: Percentage of health early warning tools, technologies, and information services that are used by NOAA partners/ customers to reduce health risks from the oceans and coasts	FY 2011 Target	FY 2012 Target	FY 2013 Target	FY 2014 Target	FY 2015 Target	FY 2016 Target
	10%	10%	10%	10%	10%	10%
Description: Science-based health early warning systems inform managers and health officials about pending human health risks. These systems result in public health warnings and warrant potential behavioral changes to decrease risks and associated health impacts. The goal is to increase the percentage of the ten U.S. Large Marine Ecosystems with operational science-based health early warning systems from 10 percent to 50 percent.						

PROPOSED LEGISLATION:

The Administration will work with Congress to reauthorize the Coral Reef Conservation Act, the Oceans and Human Health Act, the Marine Debris Research, Prevention, and Reduction Act, and the Harmful Algal Bloom and Hypoxia Research and Control Act.

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PROGRAM CHANGES FOR FY 2012:

Coastal and Marine Spatial Planning (Base Funding: 0 FTE and $0; Program Change: +9 FTE and +$6,770,000): NOAA requests an increase of $6,770,000 and 9 FTE for a total of $6,770,000 and 9 FTE to develop an agency-wide capability to conduct and support comprehensive coastal and marine spatial planning (CMSP) in U.S. waters. The requested increase will fulfill a critical role in implementing the National Ocean Policy and NOAA's Next Generation Strategic Plan (NGSP), and will enable balanced use of our oceans and coasts so that valuable ecosystem services can be sustained for this and future generations.

Proposed Actions:
This request reflects the growing recognition of the urgent need for comprehensive, integrated planning of how we use and seek to benefit from specific ocean spaces and the services they provide. Building upon NOAA's broad science, technical and policy strengths, the proposed activities address NOAA's diverse place-based stewardship and marine transportation mandates and provide the foundation necessary for effective data integration and regional capacity building. Combined, the proposed activities will create a transparent, robust, science-based capability to support and conduct CMSP for the Nation's oceans as called for in the National Ocean Policy and CMSP Framework adopted by Presidential Executive Order #13547 on July 19, 2010. Plans will be developed in partnership with emerging Regional Ocean Partnership structures and other Federal agencies, and the processes will be transparent and involve the public.

Specifically, NOAA will support the following activities on national and regional scales to meet the key implementation deliverables outlined in the national CMSP Framework with a primary focus on data management and integration:

Regional Data Integration and Planning Support ($3.411M)

- Working collaboratively with regional and interagency partners, NOAA will support regional CMSP efforts through the consolidation, synthesis, integration and dissemination of key data sets that will be used for assessing current and projected states of regional ecosystems, services, uses and governance.
- NOAA will assist regional partners in developing Regional Planning Bodies called for in the CMSP Framework and beginning the CMSP process including identification of objectives and development of work plans.

Building National Capacity: Data Integration, Tools and Monitoring ($3.359M)

- NOAA will develop an agency-wide plan for integrating key spatial data into the CMSP process and will play a central catalytic and integrating role with interagency and non-governmental partners to design, construct, test and provide data portal(s) for key CMSP information and tools. NOAA will also convene interagency partners to assist in defining requirements for data and systems development, standards and protocols, and a national strategy for integrating regional data management efforts under the National Information Management System.
- Working with external partners, NOAA will enhance the applicability and interoperability of web-based and desktop decision support tools for planners to better understand ecosystem services, cumulative impacts, site suitability, and tradeoffs involved in alternative ocean use scenarios under a variety of environmental and socioeconomic conditions and will work to identify gaps in spatial data and derived products to effectively create and implement regional CMS plans.

- NOAA will contribute to organizing, hosting and synthesizing the initial national and regional workshops and simulation exercises that will create a common purpose, understanding and momentum towards CMSP implementation.

Combined, the proposed activities will significantly advance the Nation's capability to effectively and transparently assess and match competing human uses to appropriate ocean areas. To this end, the proposed activities will: 1) enable the ability to begin to understand, for the first time, where, how, and why people use the ocean waters of the U.S. in a systemic way; 2) enable managers and stakeholders to fully and objectively understand the implications of spatial use decisions on the ecological services provided by the ocean to current and future generations of Americans; 3) help NOAA ocean management partners by providing critically needed data integration information, tools, and support for states and regional entities to more effectively and equitably manage their coastal resources; and 4) establish and fill a priority set of data gaps for each region through a process of engagement with stakeholder agencies and interests, using ongoing programs and activities.

Statement of Need and Economic Benefits:
Human uses of ocean resources are accelerating faster than our ability to manage them. Increasing conflicts are unavoidable as demands increase for ocean-based energy (oil and gas, wind, wave), marine aquaculture, commercial and recreational fishery products, shipping and navigation services, and other activities. At risk is the health of ocean ecosystems as well as the benefits they provide to coastal communities and the national economy. The Nation's current approach to managing the use of ocean resources is *ad hoc* and fragmented, with no systematic way to evaluate competing ocean uses and to inform and navigate the often difficult trade-offs they require. In July 2010, President Obama signed Executive Order #13547 adopting the Final Recommendations of the Interagency Ocean Policy Task Force as the National Policy for the Stewardship of the Oceans, Our Coasts and the Great Lakes which includes a Framework for implementing CMSP across the United States.

CMSP is a comprehensive, adaptive, integrated, ecosystem-based, and transparent spatial planning process, based on sound science, for analyzing current and anticipated uses of ocean, coastal, and Great Lakes areas. CMSP identifies areas most suitable for various types or classes of activities in order to reduce conflicts among uses, reduce environmental impacts, facilitate compatible uses, and preserve critical ecosystem services to meet economic, environmental, security, and social objectives. In practical terms, CMSP provides a public policy process for society to better determine how the ocean, coasts, and Great Lakes are sustainably used and protected - now and for future generations.

NOAA's existing scientific capacities and ocean management authorities—including ocean observing systems and mapping capabilities, along with area-based management responsibilities for marine sanctuaries, estuarine research reserves, fisheries, protected marine resources, habitat, and the national system of marine protected areas (MPAs)—uniquely position the agency to make significant contributions to CMSP across the Nation. In collaboration with Federal, state and local partners, NOAA will lead the Nation toward a comprehensive, integrated approach to CMSP that will enable the sustainable, science-based allocation of critical ocean resources. NOAA has major technical and implementation roles to play in CMSP both by integrating existing monitoring and observation data and combining critical assessments of bathymetric, ecological, human use, and oceanographic information into decision support tools for use by managers, and through its diverse place-based stewardship missions to achieve appropriate conservation, sustainable use, and other societal goals. CMSP furthers NOAA's mission and strategic goals in the coastal and estuarine systems, the Great Lakes, states' territorial seas and the exclusive economic zone (EEZ). Conducted with appropriate

spatial data and decision support tools, CMSP will sustain valued ecosystem services, provide greater certainty and predictability to ocean industries, and reduce conflicts among competing uses.

The efforts described in this proposal represent the first comprehensive effort by the agency to facilitate CMSP as defined in the National Ocean Policy. Fully implemented, comprehensive, science-based, and transparent CMS plans will advance many of NOAA's ocean stewardship and navigation mandates and will therefore benefit the desired outcomes already established for the programs implementing these mandates. As a planning process, many of the measures to track CMSP progress will be output based, but will ultimately improve the outcomes of existing programs by providing the entities involved (states, other Federal agencies, and NOAA) with the means to make better decisions about how to allocate uses to ocean spaces. In addition to enhancing existing outcomes (e.g. sustainable fisheries, safe navigation, improved water quality, living marine resources, critical habitat protected, etc.), a truly integrated and comprehensive marine spatial plan will cut across many NOAA programs and include broad-based societal benefits such as: sustainable human uses located in appropriate ocean areas; healthy and resilient ecosystems that support coastal communities and economies; reduced user conflicts over ocean areas; increased certainty and predictability for ocean-dependent industries and permitting and siting for offshore renewable energy; and enhanced understanding about ecosystem services and the need for stewardship of our ocean, coastal and Great Lakes resources.

Base Resource Assessment:
The base resources for this activity are described in the Ocean Resources Conservation and Assessment base narrative.

Schedules and Milestones:

- Formalize NOAA CMSP Program (FY 2012)
- Develop Prototype Portal & National Information Management System (NIMS) (FY 2012)
- Determine composition of and Establish Regional Planning Bodies (FY 2012)
- Organize and convene national and regional workshops (FY 2012)
- Develop Regional CMSP work plans (FY 2012)
- Develop NOAA Internal Data Integration Plan (FY 2012)
- Execute NOAA Internal Integration Plan and O&M of NIMS and Portals(FY 2012-2013)

Deliverables:

- A coordinated NOAA structure for effective implementation of the National Ocean Policy and CMSP Framework that supports interagency engagement at the national level and the nine Regional Planning Bodies with tools and capacity building needed for CMSP
- A NOAA-wide plan for integrating key spatial data for CMSP decision-making
- Development of Prototype Portal guidance for a NIMS

Performance Goals and Measurement Data

Performance Measure: Cumulative number of states or planning bodies utilizing NOAA data and decision support tools for CMSP	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	3	10	25	35	35
Without Increase	0	0	0	0	0	0

Description: This measure will track how many states or regional and sub-regional planning bodies are using the information, tools, and systems NOAA develops to create coastal and marine spatial plans. Successful marine spatial plans will require collaboration with coastal states, other Federal agencies, and stakeholders. The tools developed by NOAA will allow and encourage the sharing of critical information between these and other planning participants. Adoption and utilization of these tools will follow the regional implementation approach proposed by NOAA.

Performance Measure: Percentage of NOAA integrated data and information (relevant to CMSP decision making) that is made readily available through the National Information Management System (NIMS)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	65%	75%	85%	95%	99%
Without Increase	0%	0%	0%	0%	0%	0%

Description: At present, NOAA's data and information collected under varying mandates is not always accessible, properly integrated, or in a useable format for CMSP decision-making needs. By identifying such data and making it readily available through the NIMS, NOAA will facilitate transparent, rigorous, and defensible spatial allocations of ocean uses that are aimed at reducing conflicts of usage, data uncertainty for users and industry, and negative impacts on ecosystem services.

PROGRAM CHANGE PERSONNEL DETAIL

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

Title:	Location	Grade	Number of Positions	Annual Salary	Total Salaries
Program Analyst	Silver Spring, MD	ZA-04	2	62,467	124,934
Physical Scientist	Silver Spring, MD	ZP-03	3	62,467	187,401
Geographer	Silver Spring, MD	ZA-03	1	62,467	62,467
Geographer	Monterey, CA	ZA-03	1	67,963	67,963
Physical Scientist	Monterey, CA	ZA-03	1	67,963	67,963
Physical Scientist	Charleston, SC	ZA-03	1	57,408	57,408
Geographer	Charleston, SC	ZA-03	1	57,408	57,408
Program Analyst	Durham, NH	ZA-03	1	62,758	62,758
Total			11		688,302
less Lapse		25%	2		172,076
Total full-time permanent (FTE)			9		516,227
2011 Pay Adjustment (0%)					0
2012 Pay Adjustment (0%)					0
TOTAL					516,227

Personnel Data	Number
Full-Time Equivalent Employment	
Full-time permanent	9
Other than full-time permanent	0
Total	9
Authorized Positions:	
Full-time permanent	11
Other than full-time permanent	0
Total	11

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 Increase
11	Personnel compensation	
11.1	Full-time permanent	516
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	516
12	Civilian personnel benefits	147
13	Benefits for former personnel	0
21	Travel and transportation of persons	517
22	Transportation of things	3
23.1	Rental payments to GSA	0
23.2	Rental Payments to others	0
23.3	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	12
25.1	Advisory and assistance services	0
25.2	Other services	2,378
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	250
31	Equipment	210
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	2,737
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	6,770

IOOS Regional Observations: IOOS® Surface Current Mapping (Base Funding: 0 FTE and $0; Program Change: +0 FTE and +$5,000,000): NOS requests an increase of $5,000,000 and 0 FTE for a total of $5,000,000 and 0 FTE to implement the U.S. Integrated Ocean Observing Systems (IOOS®) Surface Current Mapping plan to monitor near-shore currents using High Frequency (HF) Radar. This program will be implemented by the IOOS® Regional Coastal Ocean Observing Systems (RCOOS) to deliver real-time surface current data to the national HF Radar surface current monitoring network.

Proposed Actions:
The requested resources will support Regional IOOS® HF Radar stations with an emphasis on those stations currently operating and delivering data to the national network in regions of offshore oil production and in the vicinity of major ports and harbors. The U.S. IOOS® program will award funding via an established merit-based competitive process with RCOOS, and through contracts with Federal partners to:

- Maintain geographic coverage of HF Radar stations which are at the extent of FY 2010 coverage by establishing maintenance technician teams and maintaining spare parts inventories;
- Maintain national network servers with quality assurance and quality control procedures and fail-over redundancy;
- Conduct annual monitoring and review of the network performance; and
- Manage the HF Radar network by negotiating frequency management agreements, improving algorithm and data assimilation methods, and coordinating data delivery to the U.S. Coast Guard's Search and Rescue Optimal Planning System (SAROPS).
- Support new HF Radar stations through the existing Regional IOOS competitive process.

Statement of Need and Economic Benefits:
U.S. coastal waters are currently sparsely sampled, providing a poorly detailed description of the coastal ocean environment. The requested funding will improve and maintain the geographic coverage for HF Radar surface current measurements that support oil spill response, national security, U.S. Coast Guard search and rescue (SAR) operations, PORTS®, marine transportation, water quality, pollutant tracking, and harmful algal bloom (HAB) tracking. The increase will also provide support for emerging uses including Ecosystem-based Management, Marine Protected Areas, Coastal and Marine Spatial Planning, weather, climate and marine forecasting, energy siting and production, and ocean, coastal and Great Lakes resource management.

The 2010 Deepwater Horizon oil spill highlighted the utility of HF Radar. NOAA's Office of Response and Restoration relied on real-time data collected from the national HF Radar surface current monitoring network to provide new data for inclusion in trajectory predictions of oil dispersal and to verify models used to assess the likelihood of the oil moving into the Loop Current. HF Radar data was also used daily by NOAA's Office of Response and Restoration (OR&R) during the Deepwater Horizon oil spill response to create trajectory forecasts (which were used by Federal responders to deploy spill response assets and identify fishery closures). In 2007, HF Radar was used to verify that trajectories of oil from the M/V *Cosco Busan* spill would not flow into the Federally-protected National Marine Sanctuaries near the San Francisco Bay, and resources were able to be deployed to other areas under greater threat. With sustained, long-term surface current data sets, NOAA's OR&R will now be able to provide Trajectory Analysis Planner products for threat assessments.

U.S. Coast Guard SAR operations demonstrate the benefits of improved surface current monitoring. The Coast Guard currently ingests surface current data from HF Radar into its SAR

operations center for the mid-Atlantic coast and estimates that access to HF Radar data in all U.S. coastal waters would save 26-45 additional lives annually and reduce costs spent on rescue flights.

The National HF Radar surface current monitoring network also benefits the development of offshore energy projects. In New Jersey, for example, the state will expand the HF Radar network in the Mid-Atlantic to support assessments of offshore wind projects worth $7 billion. The state can realize these assessments due to the existing NOAA-supported national HF Radar management infrastructure.

Base Resource Assessment:
The base resources for this activity are described in the Ocean Resources Conservation and Assessment base narrative.

Schedule and Milestones:

- Assess the network as scoped in the national plan with a geographic focus on oil exploration and production areas and high traffic shipping lanes and ports (FY 2012)
- Sustain Regional IOOS operations and maintenance of existing HF Radar network to support U.S. Coast Guard operational search and rescue, oil spill response, water quality and pollutant tracking, harmful algal bloom (HAB) monitoring, and offshore wind energy siting (FY 2012-2016)Maintain national network servers with quality assurance, control procedures, and fail-over redundancy (FY 2012-2016)
- Archive data at a national data center (FY 2014-2016)
- Monitor performance and “up time” of the HF Radar network (FY 2012-2016)

Deliverables:

- Version 2 of the short term prediction system for nationwide search and rescue forecasting (FY 2012)
- All HF Radar surface current data delivered to U.S. Coast Guard, expanding from solely mid-Atlantic to national coverage (FY 2012)
- Trend analysis on system performance and “up time” (FY 2012-2016)
- Service level agreements for data structure and methods for archiving HF Radar surface current data at the National Oceanographic Data Center (FY 2012-2013)
- Surface current data archived at the National Oceanographic Data Center according to agreed-upon methods (FY 2014-2016)

Performance Goals and Measurement Data

Performance Measure: Percentage of U.S. coastal waters with 2/3 reduced search and rescue area (96 hour period)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	19%	19%	19%	19%	19%	19%
Without Increase	19%	16%	13%	11%	10%	8%

Description: Percent of U.S. coastal waters with 2/3 reduced search and rescue area (96 hour period) resulting from USCG SAROPS integrating IOOS surface currents at 80% data availability. USCG estimates the search area is reduced by 2/3 in a 96 hour period when the SAROPS system is linked to the IOOS HFR data, thereby leading to greater numbers of lives saved and reduced search costs annually. As a baseline, U.S. coastal waters are defined as the area from the contiguous U.S. shoreline out to 150 km, for a total area of 1.5 million km^2. "Without increase" targets decline each year rather than remaining at a steady value as existing radars are taken off-line without operations and maintenance resources that would be provided with this proposed program increase.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	300
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	4,700
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	5,000

IOOS® Regional Observations: Marine Sensor Technology Innovations: (Base Funding: 0 FTE and $3,000,000 Program Change: +0 FTE and +$8,500,000): NOS requests $8,500,000 and 0 FTE for a total of $11,500,000 and 0 FTE for the IOOS Regional Observations line to develop and improve sensors for ocean chemical, biological, and physical parameters at multiple spatial and temporal scales to monitor changing conditions in the oceans, coasts, and Great Lakes.

Proposed Actions:
Through this effort, NOAA will focus on the "Sensors for Marine Ecosystems" near-term priority and the "Opportunities for Progress" for observing systems and models as specified in the Ocean Research Priorities Plan and Implementation Strategy titled, "Charting the Course for Ocean Science in the United States for the Next Decade" U.S. IOOS® will develop and apply a variety of biological, chemical, and physical marine sensing technologies to allow rapid, accurate, and cost effective detection, identification, characterization, and quantification of disease-causing microbes, toxins, and contaminants in marine waters, and seafood which may indicate health risks to humans. The goal will be to incorporate the successful marine sensor technologies into Regional IOOS and other monitoring and prediction programs to meet region-specific stakeholder needs as mandated by the Integrated Coastal and Ocean Observation System (ICOOS) Act (2009) and directed by the National Ocean Policy.

NOAA will make competitive, extramural awards to teams of U.S. IOOS Regions, industry, academia, and Federal partners for the development, demonstration and transition to operations of marine sensor technologies with potential to result in significant improvements to meet National Ocean Policy priorities related to informing decisions and improving understanding, water quality, and observations, mapping, and infrastructure. The competitions will be conducted through the National Oceanographic Partnership Program to leverage other agency investments intended to address the Nation's needs for ocean information. Additionally, IOOS will coordinate with NOAA's Oceans and Human Health Initiative to ensure topic areas meet priority needs. These demonstrations will be staggered and phased to allow new topics to be competed through the NOPP every two years and will include cross-agency prioritization of topics. With the funding NOAA will:

- Develop and identify appropriate biogeochemical sensors and platforms for rapid and accurate detection, identification, and quantification of ocean and coastal pathogens, nutrients, contaminants and harmful algae and their toxins that may indicate health risks to humans;
- Develop sensors to support validation of ocean satellite and in-situ observation systems;
- Evaluate and test sensors for transition to operational use within the Integrated Ocean Observing System (IOOS) to support harmful algal bloom monitoring, ocean acidification monitoring, aquaculture production, and ecosystem based management;
- Support cost-effective development and engineering to ensure sustainable and reliable use of sensors in the marine environment including analysis of emerging technologies such as miniaturization of sensors for hosting on smaller, energy constrained platforms such as gliders; and the use of marine animals as mobile observing platforms via tagging;
- Develop microarrays and other genomic tools to elucidate effects of multiple environmental stressors on key marine organisms, leading to new levels of understanding of ecosystem processes and impacts of climate change;
- Enhance coastal ocean and human health risk assessments and forecasts by refining models to describe and predict impacts of stressors (climate change, freshwater availability, coastal development, human behavior, anthropogenic pollutants and naturally occurring pathogens and toxins); and

Integrate U.S. IOOS compliant data into user-specified tools and information products (observations, model output, forecasts) at local and regional scales.

Biosensing capability coupled with traditional oceanographic data will enhance efforts in research, modeling, and forecasting, in turn enhancing the ability to make informed management decisions, even under a changing climate.

Statement of Need and Economic Benefits:
Through recreation, residential and commercial development, and employment, human populations are coming into increasing contact with our oceans and coastal waters. Continued coastal development, changes in land use, a varying climate, and altered ecosystem diversity add a complexity of environmental and human stresses, the consequences of which we do not yet fully understand and are ill prepared to manage. Approximately 100 million Americans use coastal and Great Lakes waters for recreation each year, many of them multiple times, and they are exposed to an increasingly dangerous array of ocean health threats from industrial, urban, and agricultural sources. In 2004, there were nearly 20,000 days of closings and advisories at ocean, bay and Great Lakes beaches, of which 73 percent were attributed to unknown sources and cost millions to local economies. During 2006-2007, beach advisory days due to sewage contamination more than tripled to 4,000 and 35 percent of tested estuaries and 12 percent of ocean shoreline waters were considered unfit for designated uses (*Testing the Waters 2009*, NRDC 2009)**.**

Our ability to rapidly and accurately monitor and assess ocean health threats, biodiversity and other indicators of marine ecosystem health, and biological effects of climate change have lagged far behind our capacity to detect physical changes in the oceans and atmosphere. Yet, it is in the biological realm that most people are likely to first encounter serious effects of climate change, such as through increased health threats from a variety of sources and changed distributions and perhaps loss of marine and other food sources. This significant capability gap is the target of the "Sensors for Marine Ecosystems" priority described here. This work will enable rapid and cost-effective identification of ocean-borne health threats, thereby enabling actions to protect public and animal health, advance our understanding of how multiple stressors – including climate change – affect the health of coastal ecosystems.

U.S. IOOS provides continuous data on open oceans, coastal waters, and Great Lakes to inform decision-making. Two studies, *The Business Case for Improving NOAA's Management and Integration of Ocean and Coastal Data* (2009) and *Estimating the Economic Benefits of Regional Ocean Observing Systems* (Kite-Powell et al. 2004), confirmed that investments in ocean observation will generate significant economic benefits to both NOAA and the Nation. Users of ocean data, including modelers and meteorologists, spend an average of 25–50 percent of their time searching for, accessing, formatting, and ingesting data into their products. The Kite-Powell study summarized the magnitude of potential economic benefits of deploying a network of ocean observing systems. Conservative estimates of benefits demonstrate that between $100 million and $1 billion in economic growth would be created by an investment in regional ocean observing systems (Kite-Powell et al. 2004). This sustained investment in technology innovation will propel marine sector businesses, job growth, and scientific discovery while supporting science, technology, engineering, and mathematics (STEM) education.

Base Resource Assessment:
The base resources for this activity are described in the Ocean Resources Conservation and Assessment base narrative.

Schedule and Milestones:

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Prioritize National Oceanographic Partnership Program (NOPP) topics with federal agencies interested in marine sensor innovative technology demonstrations to advance three-dimensional monitoring of coastal, Great Lakes, and ocean conditions		X		X	
Publish proposal solicitation via NOPP for 3-year marine sensor technology demonstrations for transition to operations within IOOS Regions.		X		X	
Initiate competitively selected demonstration projects	X		X		X
Make awards and conduct technology demonstrations in IOOS Regions	X	X	X	X	X
Transition demonstrated tools or technologies into operations				X	

Deliverables:

- Incorporation of two or more emerging tools or technologies into operations of two or more U.S. IOOS regions every three years (FY 2014 – 2016)
- Expanded capability of U.S. IOOS, improving mission readiness of Federal agencies and ability of U.S. IOOS regions to meet local and regional stakeholder needs for ecosystems data including new data from marine sensor development (FY 2012 –2016)
- NOPP topic demonstrations for sensor development, platform integration, tool development, and technology transition into operations (FY 2014 –2016)
- Expansion of scientific and technical jobs as well as training and education among industry and U.S. IOOS regional partners involved in demonstrations (FY 2012 – 2016)

Performance Goals and Measurement Data

Performance Measure: Cumulative number of new marine sensors or ecosystem tools developed to enhance ecosystem based management for fisheries, protected species, public health, and additional topics as defined by the National Oceanographic Partnership Program process	FY 2011 Target	FY 2012 Target	FY 2013 Target	FY 2014 Target	FY 2015 Target	FY 2016 Target
With Increase	n/a	0	0	4	4	8
Without Increase	0	0	0	0	0	0
Description: This measure is focused on the development of new sensors or tools resulting from 3-year NOPP marine sensor technology demonstrations. Staggered starts for projects will lead to four new sensors or tools every two years starting in FY 2014. This assumes at least one sensor or tool per topic demonstration.						

Performance Measure: Annual number of tools, technologies, or products developed from tested and validated sensors or related research used to improve ecosystem-based management and additional issue areas as defined by the National Oceanographic Partnership Program process.	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	n/a	0	0	8	4	8
Without Increase	0	0	0	0	0	0
Description: This measure is focused on the application of marine sensor technologies and tools. Specifically, this measure tracks success in translating tested and validated sensor technologies and related findings into information products, tools, or technology that improve ecosystem-based management of ocean, coastal and Great Lakes resources, protection of trust resources, and the prediction and reduction of ocean and coastal related human and marine organism health risks. This measure assumes three-year technology demonstrations with resulting tools becoming available in year three and becoming available to operations in year four.						

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	2,500
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	6,000
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	8,500

IOOS Regional Observations (Base Funding: 0 FTE and $27,000,000; Program Change: -0 FTE and -$12,445,000): NOAA requests the following decreases from the IOOS Regional Observations line for funding that was provided in the Consolidated Appropriations Act, 2010 : -$5,445,000 in competitive grant funding for regional ocean observations systems, -$4,000,000 for a regional test bed to evaluate existing coastal technologies, and -$3,000,000 for a consortium for testing and advancing new sensor technologies. Projects were awarded in FY 2010 with these funds and no additional funding is necessary. Regional ocean observing systems continued to deliver real-time ocean and coastal observing data and products to meet priority regional stakeholder needs including delivering data to the IOOS data assembly center for distribution through the Global Telecommunications System for use by operational forecasters and modelers. The regional test bed to evaluate existing coastal models and technologies was established and will deliver a cyber tool box for model analysis and comparison, a Web interface for testing, visualization and communication, and a consensus process for transitioning models into operations. The consortium for testing and advancing new sensor technologies received one year of funding to conduct sensor technology evaluations and deliver the resulting reports including final reports on analysis of pCO sensors; conduct verification testing of *in situ* hydrocarbon sensors. NOAA is near the end of its process of investigating the establishment of a Cooperative Institute for this capability. The President's FY 2012 Request includes $14,555,000 for IOOS Regional Observations. The Regional Associations can seek funds through this program via a competitive process. These projects will contribute towards NOAA's goal of providing continuous data on open oceans, coastal waters, and Great Lakes to inform decision-making, to ensure that Federal and regional contributions develop in a consistent and complementary manner by identifying and sharing standard procedures and integration services, to improve our understanding, forecasting, stewardship, and use of coastal waters, and to improve the accessibility and interoperability of ocean data, delivering time and cost savings that can be redirected to improving existing and developing new products. The President's FY 2012 Request also includes $11,500,000 to develop and improve sensors for ocean chemical, biological, and physical parameters at multiple spatial and temporal scales to monitor changing conditions in the oceans, coasts, and Great Lakes.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(12,445)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(12,445)

Gulf of Mexico Regional Collaboration (Base Funding: 0 FTE and $4,750,000; Program Change: -0 FTE and -$4,750,000): NOAA requests a decrease of $4,750,000 for a total of $0 and 0 FTE, ending the competitive NOAA grant program targeted at advancing regional coastal resource priorities defined by the five Gulf States in *The Governors' Action Plan II for Healthy and Resilient Coasts*. This grant program was strategically-designed to solicit and competitively fund applications representing each priority area in the action blueprint steps listed in the *Governors' Action Plan II*. Eligible grant recipients included state, local, and tribal governments, institutions of higher education, and non-profit organizations. Although this grant program will cease, a new $20,000,000 competitive grant program, Regional Ocean Partnerships, is proposed in FY 2012 to provide funding to implement the action plans of existing regional ocean partnerships and to begin planning activities in all nine of the coastal regions. As such, entities that had competed for funds under the Gulf of Mexico grant program in the past will be eligible to compete for a larger pool of funds under Regional Ocean Partnerships. In addition, the FY 2012 President's Budget includes a $4 million request for preparing coastal communities for climate hazards. This activity will have an initial focus on the Gulf of Mexico and the Pacific Islands and would support the *Governors' Action Plan II* priority to employ "mitigation methods such as accurate mapping, tide level predictions, resilient land use plans, and habitat conservation" that can increase a community's ability to recover after experiencing destructive coastal storms to due climate change and sea level rise.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	(20)
25.1	Advisory and assistance services	0
25.2	Other services	(400)
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	(10)
31	Equipment	(20)
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(4,300)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(4,750)

Coastal Storms Program (Base Funding: 0 FTE and $2,800,000; Program Change: +0 FTE and +$74,000): NOAA requests an increase of 0 FTE and $74,000 for the Coastal Storms Program for a total of $2, 874,000 and 0 FTE. This increase is requested to support existing program requirements not provided for in the FY 2010 Consolidated Appropriations Act. The Coastal Storms Program harnesses and leverages NOAA and community resources to reduce the adverse impacts of coastal storms by developing improved and integrated products and services that address specific state/local decision-maker needs. The Coastal Storms Program brings NOAA-wide expertise, products, and services to address the challenges unique to each region and targets tools and outreach to the needs of local stakeholders. Efforts to integrate existing product service lines to meet unique needs are also included. The Coastal Storms Program will build a seamless "observation-to-user" capability that brings NOAA-wide expertise, products, and services to locales to address challenges unique to those regions. Efforts to integrate existing product service lines to meet unique needs are also included. Targeted geographies include the St. John's water management district in northeast Florida, part of the Lower Columbia River watershed, the Southern California Bight. The Coastal Storms Program is also currently working in the Gulf of Mexico and Pacific Islands (Hawaii and the U.S. territories). The specific issues addressed are determined by regional needs as articulated by users. Commonalities are emerging in observations, modeling, outreach, risk and vulnerability, and decision-maker needs assessments among pilot regions.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	74
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	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	74

Coastal Services Center: Preparing Coastal Communities for Climate Hazards (Base Funding: 0 FTE and $0; Program Change: +2 FTE and +$4,000,000): NOAA requests an increase of $4,000,000 and 2 FTE for a total of $4,000,000 and 2 FTE to reduce the vulnerability of coastal communities and the U.S. economy to the hardship and costs associated with climate-related natural hazards. NOAA will apply its scientific and technical expertise to develop improved tools and work with communities to apply these tools so that the devastating human, economic and environmental impacts of events such as sea level change and other forms of coastal inundation can be mitigated or effectively managed.

Proposed Actions:
This increase will help communities (with an initial focus on the Gulf of Mexico and Pacific Islands) address the escalating economic and environmental costs associated with sea level change and other forms of coastal inundation, and will directly apply science and technology strategies to drive economic recovery, job creation and economic growth. This program directly supports the *Governors' Action Plan II for Healthy and Resilient Coasts*' priority to employ "mitigation methods such as accurate mapping, tide level predictions, resilient land use plans, and habitat conservation and restoration" that can increase a community's ability to recover after experiencing destructive coastal storms due to climate change and sea level rise. NOAA will focus efforts on directly helping communities with the tools they need to improve climate adaptation and related hazard mitigation strategies, identify risk and vulnerability, understand and prepare for the impacts of coastal inundation, and enhance communication. Specifically, this increase will provide:

- **Climate Adaptation Assessment and Planning ($1.7M)**. NOAA will develop planning guidelines to support coastal state and community requirements to plan for the impacts of climate change. With this increase, NOAA will incorporate sea level change data to provide training and information on understanding coastal risk and vulnerability assessments and develop associated products with Federal (FEMA, USGS, and USACE), state, and local agencies to translate science into management applications. Coastal decision support resources (e.g., augment web portals, GIS tools) that integrate social, economic and climate data in useful and interactive formats will also be developed.

- **Coastal Inundation Modeling, Forecasting, and Prediction ($2.3M).** NOAA will integrate observations into climate change projection products to address impacts and assessments at global, regional, and local scales and provide accurate and timely predictions of changing sea level - considering ocean temperatures, glacier and ice sheets, regional and local circulation and wave patterns, land water reserves, and movement of land. Interoperable community modeling systems will be developed and transitioned to produce and drive improved total water level and inundation forecasts (taking into account rising sea levels) and GIS tools with increased resolution, accuracy, and completeness will be provided to drive planning scenarios in vulnerable regions. NOAA will implement techniques (e.g., needs assessments and other social science applications, training and risk evaluations) to ensure that communities have the guidance to improve their resilience and response to climate hazards, such as increased flooding and storm surge impacts due to sea-level rise.

This increase represents a joint effort across a number of NOAA programs to leverage strengths and collaboratively address needs identified via regional and national coastal management needs assessments to deal with climate hazards: the Coastal Services Center (including the Pacific Services Center), the National Climate Data Center, the Office of Ocean and Coastal Resource Management, Climate Program Office, the Office of Coast Survey, the National Weather Service and the Coastal Storms Program.

Statement of Need and Economic Benefits:
Today, coastal communities comprise only one-fifth of the Nation's land, but they house over one-half of the U.S population, generate nearly 60 percent of the U.S. economy (*State of the US Ocean and Coastal Economies,* NOEP 2009), and account for the most repetitive flood loss claims with the National Flood Insurance Program (NFIP) and the private casualty loss insurance industry at a cost of $200 million per year for the NFIP alone (*24th Annual Workshop on Hazards Research and Applications,* Howard 1999). As sea levels rise and increase the impact of storms and associated flooding, it is expected that these losses will grow. Changing climate is expected to increase the impact of hazardous weather events in other ways, as well. For example, recently the Climate Change Science Program (CCSP) predicted that the Atlantic and Pacific basins will be hit with harder cold-season storms, packed with stronger winds and taller waves. The CCSP also noted that the power and frequency of Atlantic hurricanes have increased substantially in recent decades, likely driven by human-caused increases in sea surface temperatures (*Weather and Climate Extremes in a Changing Planet,* CCSP 2008; *Coastal Sensitivity to Sea Level Rise: A Focus on the Mid-Atlantic Region,* CCSP 2009).

Federal agencies, including NOAA, have the expertise and data needed to help coastal communities understand their risk exposure to coastal hazards. In many cases, coastal states and local governments do not have the budgets to support their own in-house expertise or necessary data collection to assess the potential impacts of coastal hazards on their communities and resources. There are significant opportunities to leverage Federal expertise and data with state and local investments to (1) improve decision-making at the state and local level and (2) meet national goals for reducing impacts of coastal hazards on the public treasury. This is especially important when it comes to climate change, as there is very little understanding of the impacts at the regional or state level and a significant need for Federal investment in this area. The outcome of this investment is the reduced vulnerability of coastal communities and the Federal treasury to the hardship and costs associated with climate-related natural hazards.

As coastal populations continue to increase (and coastal habitats continue to decline) their vulnerability to hazards resulting from climate change has also continued to increase (from winds, waves, and flooding generated by hurricanes and other major storms, as well as physical impacts caused by sea-level rise, coastal erosion, and long-term shoreline changes). Wetland loss is significantly increasing flood damage, costing states such as Florida and Texas millions of dollars per year (*Examining the Relationship between Wetland Alteration and Watershed Flooding in Texas and Florida,* Brody et al 2007). Coastal managers need science-based information and tools to make better land use, habitat conservation, evacuation planning, and infrastructure decisions to ensure that their coastal economies, communities, and ecosystem services can resist and rebound from climate-related hazards.

A recent survey of coastal state management programs found that 84 percent of the participating states, commonwealths, and territories are planning to develop sea-level rise adaptation plans (*The Role of Coastal Zone Management Programs in Adaptation to Climate Change*, CSO 2008). They are looking to NOAA, with our mandates to both predict and mitigate weather, climate, and ecosystem hazards impacts, to provide much of the data and information they need to develop these plans. This increase will directly address these needs by providing coastal communities with products and services that will help them address both the risks associated with natural hazards today and the potential increased impacts of those hazards tomorrow due to climate change. The National Institute of Building Sciences has found that for every dollar invested in mitigation activities, the U.S. taxpayer saves four dollars in losses associated with natural hazards.

Base Resource Assessment:
The base resources for this activity are described in the Ocean Resources Conservation and Assessment base narrative.

Schedule and Milestones:
- FY 2012: Evaluate community-based and NWS operational storm surge model components and outputs for contributions to NOAA mission requirements for planning, evacuation, response and recovery
- FY 2012-2013: Develop Climate Change Adaptation Planning Guidelines with a focus on the Pacific Islands, Louisiana, Mississippi and Alabama
- FY 2013-2016: Produce region specific climate information products and decision support resources, conduct stakeholder workshops, and support grants for the Southeast and Pacific Islands with other regions in outyears
- FY 2013-2016: Develop routine, up-to-date sea level trend analysis at reference sites along U.S. coasts. Information contributes to understanding of global sea level rise trends
- FY 2013-2016: Provide training activities targeted to state and local officials, based on Guidelines produced in FY 2012-2013 (two per year)
- FY 2013-2016: Develop climate adaption and hazards resilience planning tools that incorporate information on the value of ecosystem services (four per year)
- FY 2013-2014: Establish storm surge test environment infrastructure and provide support for use by NOAA partners
- FY 2013-2014: Complete benchmark societal and economic impact assessment of public risk perception through the use of forecast (including watch/warning/storm surge) products
- FY 2014-2015: Develop coupled modeling system for total water level and evaluate forecast system in operational test environment
- FY2015-2016: Couple automated forecast products with operational model output to develop forecast and decision support products
- FY 2012-2016: Provide coastal inundation modeling, mapping outreach, decision support tuning and training activities (four per year)
- FY 2013-2016: Conduct risk communication technical assistance activities for communities (15 per year)
- FY 2016: Complete final assessment of public risk perception from forecast (including watch/warning/storm surge) products

Deliverables:
- Risk and vulnerability assessment tools: e.g., decision support tools geared toward the most local level and built from digital elevation models and improved climate and storm surge model system which graphically show how coastal areas could be inundated and that allow communities to assess the tradeoffs of various weather and climate hazards management strategies, and tools for enhancing the resilience capacities of “green infrastructure” critical to protecting communities
- Region-specific climate information products through region specific workshops
- Coastal decision support resources (e.g., augment web portals, GIS tools) that integrate social, economic and climate data in useful and interactive formats

Performance Goals and Measurement Data

Performance Measure: Percentage of U.S. coastal states and territories demonstrating 20 percent or more annual improvement in resilience capacity to weather and climate hazards (%/yr),* Measure -18e	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	36%	41%	47%	53%	59%
Without Increase	30%	34%	36%	36%	36%	36%

Performance Measure: Number of regionally-focused climate impacts and adaptation studies, tools, and capacity-building utilized by coastal and emergency management	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	1	5	7	8	10
Without Increase	N/A	0	0	0	0	0
Description: This measure tracks the number of regionally-focused climate impacts and adaptation studies, tools, and capacity-building utilized by coastal and emergency management. The use of these products will improve management responses to climate change.						

Performance Measure: Cumulative percentage of water level products, tools, or training accounting for inundation, water level, or uncertainty that improve risk management of coastal communities	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	10%	20%	20%	30%	30%
Without Increase	0	0	0	0	0	0
Description: Coastal managers need science-based information and tools to make better land use, habitat conservation, evacuation planning, and infrastructure decisions to ensure that their coastal economies, communities and ecosystem services can resist and rebound from hazards. This measure tracks the percentage of products that result in improved risk management at the community level. NOAA would improve the percentage of products, tools, and training used that improves the ability of coastal communities to manage risk and make informed decisions over time.						

PROGRAM CHANGE PERSONNEL DETAIL

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

Title:	Location	Grade	Number of Positions	Annual Salary	Total Salaries
Physical Scientist	Asheville, NC	ZP-04	1	81,823	81,823
Coastal Management Specialist	Honolulu, HI	ZP-04	1	75,057	75,057
Physical Scientist	Silver Spring, MD	ZP-04	1	89,033	89,033
Total			3		245,913
less Lapse		25%	1		61,478
Total full-time permanent (FTE)			2		184,435
2011 Pay Adjustment (0%)					0
2012 Pay Adjustment (0%)					0
TOTAL					184,435

Personnel Data	Number
Full-Time Equivalent Employment	
Full-time permanent	2
Other than full-time permanent	1
Total	3
Authorized Positions:	
Full-time permanent	2
Other than full-time permanent	1
Total	3

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 Increase
11	Personnel compensation	
11.1	Full-time permanent	184
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	184
12	Civilian personnel benefits	52
13	Benefits for former personnel	0
21	Travel and transportation of persons	183
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental Payments to others	0
23.3	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	25
25.1	Advisory and assistance services	0
25.2	Other services	2,016
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	100
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	1,440
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	4,000

Coastal Services Center: Gulf of Mexico Coastal and Marine Elevation Pilot (Base Funding: 0 FTE and $0; Program Change: +0 FTE and +$2,000,000): NOAA requests an increase of $2,000,000 and 0 FTE for a total of $2,000,000 and 0 FTE to support a joint project with the Department of Interior (i.e., USGS and BOEMRE) to develop a national integrated high-resolution topographic and bathymetric dataset to address a range of high priority coastal issues including coastal and marine spatial planning (CMSP), modeling climate impacts, and ecosystem assessments. This includes strong interagency collaboration related to data collection, modeling, data standards, information access, and other foundational elements needed to develop an end-to-end, integrated, ocean and coastal mapping program. Due to the critical nature of the issues facing the Gulf region, NOAA will begin pilot efforts in MS and LA in support of the Gulf Coast Ecosystem Task Force, a sub-working group of the Gulf Coast Recovery Task Force, and the Interagency Working Group on Long Term Disaster Recovery; and later expand to other regions of the country.

Proposed Actions:
With the requested funding, NOAA will work across Federal agencies, along with regional, state, and local constituent groups to pilot successful integrated ocean and coastal mapping in the Northern Gulf of Mexico with expansion to other priority regions. Accurate, high-resolution, topographic and bathymetric data provide an essential baseline and seamless framework for any coastal and marine spatial planning effort. NOAA's Digital Coast will provide the data integration and delivery platform for the integrated topographic and bathymetric dataset and will also facilitate and highlight examples of how the data are used to address high-priority coastal issues. In response to prioritized requirements for new data collection assembled by these partners, as well as ongoing interactions with the academic community and the Sea Grant program, NOAA will work cross-agency to address known gaps and deliver results through the Digital Coast thereby enabling improved decision making along our coasts.

Specific actions include the following:

- Conduct a regional assessment and workshop with Federal, state, regional, local, private sector, and non-governmental organizations. The assessment will identify relevant ocean and coastal management issues for the region, determine the availability and characteristics of existing topographic and bathymetric data, identify gaps to be filled, and assess technologies needed for data acquisition ($40K).
- Prioritize and coordinate data collection activities for the region. Based on the workshop results and predetermined criteria, a data collection plan will be developed and implemented from 2012 to 2016. Existing data collection efforts will be leveraged to optimize the area that will be covered ($1,850K).
- Provide easy access to, and disseminate all, topographic and bathymetric data, including associated metadata, and demonstrate how the data is being used to address coastal management issues. All data will be managed and made accessible via the Digital Coast which allows users to search and download data and will include web-based tools to allow users to visualize the changes over time ($60K).
- Provide training to constituents on data acquisition and processing techniques, as well as the applied uses of topographic and bathymetric data, to address coastal and marine spatial planning issues ($50K).

These activities will be conducted in close coordination with DOI, the U.S. Army Corps of Engineers (USACE), and other Federal partners. NOAA and DOI will coordinate Integrated Ocean and Coastal Mapping (IOCM) efforts through the Ocean and Coastal Mapping

Integration Act of 2009. It is anticipated that the USGS will continue to collect the majority of topographic data for the region, while NOAA will focus its data collection efforts on the associated bathymetry. NOAA will then work with USGS and the USACE to achieve consistent data standards and integration procedures and distribute the seamless data through the Digital Coast. NOAA's ongoing partnership with BOEMRE to develop the Multipurpose Marine Cadastre, in support of CMSP, will provide applied uses and case studies to demonstrate utility of the data.

Statement of Need and Economic Benefits:
NOAA's 2006 Coastal Resource Management Customer Survey documented a clear national need for topography and bathymetry. This need was echoed by both the Digital Coast partners and the Gulf of Mexico Alliance needs assessment which identified bathymetry as a priority data requirement for habitat restoration.

According to a study by the U.S. Geological Survey, Louisiana is projected to experience an average net land loss of just over 10 square miles of land per year from 2000 to 2050 (*Historical and Projected Coastal Louisiana Land Changes: 1978-2050*: USGS Open File Report OFR 03-334, Revised January 2004) In addition, it is estimated that approximately 200 square miles of land loss can be attributed to Hurricanes Katrina and Rita alone(*Land Area Change in Coastal Louisiana: A Multidecadal Perspective(from 1956-2006:* . U.S. Geological Survey Scientific Investigations Map 3019, scale 1:0250,000, 14 p. pamphlet). Louisiana land loss constitutes approximately 80 percent of the annual coastal wetland loss in the United States over the last 60 years (*USGS Northern Gulf of Mexico Ecosystem Change and Hazard Susceptibility Project*, 2009). Rapid erosion of Mississippi's barrier islands severely threatens the state's coastal communities, impeding their natural ability to offer critical storm protection to coastal ecosystems. Ecological damage in the region has led to the loss of key ecosystem services, which in turn has resulted in many negative economic and environmental consequences for both the region and the Nation. Faced with increasing vulnerability of coastal communities, coastal and emergency managers have expressed a need for comprehensive, timely and accessible information to aid in making decisions at critical times. This increase will provide the foundational data and geospatial framework needed to measure changes in coastal elevation and nearshore bathymetry, delivering critical data to monitor and mitigate the impacts of coastal erosion, habitat loss, and coastal inundation (including sea level rise).

The Northern Gulf Coast is a nationally-significant ecosystem that plays a crucial role in the Nation's economy. One quarter of all domestically consumed oil and gas travels by pipeline through coastal Louisiana's wetlands and marshes (*USACE Louisiana Coastal Area Ecosystem Restoration Study*, 1999). The decomposition of wetlands and barrier islands leaves critical energy infrastructure exposed to open water (e.g., wave and tidal damage, threats of collisions) and vulnerable to storm damage. Maritime commerce is also a major concern within the region, as seven of the Nation's 10 leading ports in waterborne tonnage are found in the Gulf of Mexico. Coastal Louisiana and Mississippi commercial fisheries account for nearly 30 percent of the total catch by weight in the contiguous United States. The Louisiana Department of Wildlife and Fisheries' 2005 preliminary estimates of losses to the state's seafood industry as a result of Hurricane Katrina were $1.3 billion (annual total retail value), representing about 40 percent of the industry's annual total retail value (*National Marine Fisheries Service, NOAA, 2007d).* The region's non-commercial fisheries value is equally significant, totaling approximately $1 billion annually. However, the viability of coastal Louisiana and Mississippi's fisheries is tied to the health of the regions wetlands, marshes, and barrier islands, which serve as a nursery to juvenile fish and crustaceans. Impacts from Hurricanes Katrina and Rita continue to serve as additional drivers for improved storm surge modeling in the region.

These issues in the Gulf are indicative of the scale and complexity of problems faced in other regions of the country as well. Following pilot activities in Mississippi and Louisiana, this effort will be expanded to other parts of the country. This geospatial framework, jointly developed with USGS and BOEMRE and the Digital Coast partnership, will allow for more effective, data-driven decisions at state and local levels regarding habitat restoration, and will enable more comprehensive coastal and marine spatial planning to analyze current and anticipated ocean uses related to energy, fisheries, and navigation. Ultimately, the data and related interagency expertise will inform science-based decision-making to reduce user conflicts and environmental impacts, facilitate compatible uses, and preserve critical ecosystem services.

Base Resource Assessment:
The base resources for this activity are described in the Ocean Resources Conservation and Assessment base narrative.

Schedule and Milestones:

- FY 2012: Leverage existing regional and national assessments to identify data gaps in the Northern Gulf of Mexico
- FY 2012: Work with local, state, regional, non-governmental and Federal organizations to prioritize and coordinate data collection activities for the region
- FY 2012-2016: Develop and implement a data collection plan, leveraging existing data collection efforts to optimize the area that will be covered
- FY 2012-2016: Identify data collection parameters and initiate contract platforms to acquire topographic and bathymetric data for the Gulf Region
- FY 2012-2016: Disseminate and provide easy access to all topographic and bathymetric data via NOAA's Digital Coast, including associated metadata, and demonstrate how the data are being used to address coastal management issues
- FY 2012-2016: Prior to final data delivery, provide training to constituents on data acquisition and processing techniques, as well as the applied uses of topographic and bathymetric data, to address coastal and marine spatial planning and other coastal management issues

Deliverables:

- Gulf of Mexico regional assessment of priority needs and gaps associated with topographic and bathymetric data
- Integrated, high-resolution topographic and bathymetric dataset for the Mississippi and Louisiana coasts, provided via Digital Coast
- Training delivered to Gulf constituents relative to the collection, processing and application of topographic and bathymetric data

Performance Goals and Measurement Data

Performance Measure: Annual number of square miles of topographic and bathymetric data collected and disseminated through the Digital Coast	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	0	350	350	350	350
Without Increase	0	0	0	0	0	0
Description: This measure tracks the area covered with new topographic and bathymetric data collections. Costs associated with topographic data collection are consistent and easily projected. Costs associated with bathymetric data collection are dependent upon water depth and are highly variable; therefore, the projected the area of coverage is an estimate. Data collection will begin in late 2012.						

Performance Measure: Cumulative number of MS and LA decision makers accessing and/ or trained in applying NOAA data (topography and bathymetry) and data standards to improve management of coastal and marine ecosystems	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	0	70	160	250	325
Without Increase	0	0	0	0	0	0
Description: This measure tracks the number of decision-makers (e.g., state and local planners, resource managers, emergency managers, etc.) who are trained to apply NOAA data and data standards for elevation collected and developed through this effort or who are directly applying those data to address coastal and emergency management challenges. The data collection and processing will begin in late FY 2012 and FY 2013 and as the targets in this measure focus exclusively on the interactive training to apply the data; targets begin in FY 2013 and ramp up over time.						

*****The targets in these performance measures are limited to this initiative and do not capture activity conducted through the Coastal Services Center and other NOAA programs.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	1,940
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	60
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	2,000

Coastal Services Center (Base Funding: 82 FTE and $30,299,000; Program Change: -0 FTE and -$6,000,000): NOAA requests a decrease of $6,000,000 and 0 FTE for a total of $24,299,000 and 0 FTE for the Coastal Services Center. In the Consolidated Appropriations Act, 2010, Congress provided an additional $6,000,000 in funding for activities within the Coastal Services Center. These resources supported the Community Resilience Networks program which funds projects that help communities become more resilient to threats posed by coastal hazards and a variety of special projects at the Pacific Services Center. These additional funds are not required in FY 2012 as the President's Request includes funding to support essential operations at the Coastal Services Center (CSC) as well as new initiatives that will help develop geospatial data and tools and address important coastal issues. This, in turn, will enable more effective and targeted implementation of the Coastal Zone Management Act (CZMA) and other relevant coastal legislation.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	(6,000)
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	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	(6,000)

Coral Reef Program: Coral Reef Institutes (Base Funding: 4 FTE and $29,332,000; Program Change: -0 FTE and -$2,273,000): NOAA requests a decrease of $2,273,000 and 0 FTE for a total of $27,059,000 and 4 FTE In the Consolidated Appropriations Act, 2010, Congress provided $2,273,000 in competitive funding for external coral reef institute partners. These funds were awarded to projects in FY 2010 and no additional funding is required. In FY 2012, the CRCP intends to allocate approximately $8.6 million in competitive grants. The external coral reef institutes are encouraged to apply for funding through the CRCP's Domestic Coral Reef Conservation Grants program and the National Fish and Wildlife Foundation's Coral Fund. The President's FY 2012 Request includes $27,059,000 for the Coral Reef Conservation Program (CRCP), which will allow NOAA to continue to address the complex nature of the threats that face coral reef ecosystems and to bring together expertise from across NOAA for a multidisciplinary approach to understanding and managing coral reef ecosystems. The CRCP addresses NOAA's legislative mandates to protect and conserve coral reefs (Coral Reef Conservation Act of 2000 and the Presidential Executive Order 13089 on Coral Reef Protection, which established the NOAA-co-chaired U.S. Coral Reef Task Force), recover threatened corals and other protected species (ESA), manage reef-dependent Federal fisheries and protect Essential Fish Habitat including deep coral and sponge communities (Magnuson-Stevens Fishery Conservation and Management Act (MSA)), promote sustainable use of the coastal zone under the Coastal Zone Management Act (CZMA), and improve management capabilities of the National Marine Sanctuaries Act (NMSA

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(2,273)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(2,273)

Response and Restoration Base: Strengthening Oil Spill Response and Restoration Research and Development (Base Funding: 0 FTE and $0; Program Change: +0 FTE and +$2,900,000): NOAA requests an increase of $2,900,000 and 0 FTE for a total of $2,900,000 and 0 FTE to develop an oil spill research and development program.

Proposed Actions:
NOAA's Office of Response and Restoration (OR&R) is the lead trustee for the public's coastal natural resources and an international scientific leader for oil spill response, assessment, and restoration. The requested resources will be used to develop strong leadership in oil spill research, response, assessment, and restoration research. This program will address concerns by implementing additional focused peer reviewed research, and by communicating research results and recommendations to key decision makers. The goal of this program will be to conduct research to provide useful information, methods and tools for planners, oil spill responders, and assessment practitioners. The funds would support external grants that are coordinated with the Interagency Coordinating Committee for Oil Pollution Research (ICCOPR) as well as the National Oceanographic Partnership Program (NOPP). The grants will be focused on priority oil spill research areas, including:

- **Oil Fate and Behavior from Deepwater Releases** - As the Deepwater Horizon oil spill is demonstrating, there is a need to study how oil behaves and disperses within the water column when released at great depths, and to understand the effects of oil on mid-water and deep water benthic habitat.

- **Long-Term Effects on Species and Habitats** - Research is needed to improve our understanding of the long-term effects of oil on sensitive and economically important species and habitats. Continued research is also needed to determine the effects of oil and dispersants that are suspended in the water column on mid-water and pelagic species, and the effects of oil on deep water corals.

- **Research to Improve Tools for Assessment and Restoration** - As our understanding of complex ecosystems evolves, so should our modeling tools and restoration techniques. Research and tools to better assess and quantify natural resource services — such as water filtration/capture, flood protection, carbon sequestration, recreation, and education — across a range of habitat types can help ensure the public is fully compensated and the environment fully restored.

- **Oil in Arctic Environments** – Research is needed to better understand environmental conditions in the Arctic, which is important for conducting injury assessments and developing restoration strategies. Research is also needed to better understand the challenges of spill response in Arctic waters and the most effective tools and techniques to utilize in such environments.

- **Human Dimensions** - Research is needed on how to incorporate impacted communities into the preparedness and response processes to help to address the human dimensions of spills, including social issues, community effects, risk communication methods, and valuation of natural resources.

Statement of Need and Economic Benefits:
The public has high expectations for a prompt and effective cleanup following an oil spill, and responders must be equipped with the appropriate tools and information to help meet those expectations. The Deepwater Horizon spill has highlighted the longstanding need for stronger oil spill research and development on issues such as environmental impacts of dispersants, fate and transport of oil at deep depths, medium and long term forecasting of oil fates, risk communication with the public, and long term impacts of oil on shorelines. Strong science is critical to effective decision-making to minimize the economic impacts and mitigate the effects of oil spills on coastal and marine resources and associated communities. A robust research and development program can improve response effectiveness. It is important that we continue this work between spills so that we can develop the tools and understanding before, rather than during, the next big spill. Applying the latest science and continuing research and development can improve our response decisions, thereby reducing the severity of oil spill injuries to our Nation's economy and environment.

Congress recognized the need for oil pollution research when they passed the Oil Pollution Act of 1990 (OPA), yet with fewer large oil spills and competing national priorities, there has been a decline in oil spill research in both the private and public sectors. Existing research has resulted in advancing some response technologies; however, more should be done to strengthen our Nation's response capabilities, especially in deep water and Arctic environments. The Deepwater Horizon oil spill is a stark reminder that spills of national significance can occur despite the many safeguards and improvements that have been put into place since the passage of OPA. The risk of oil spills remains a concern given increases in marine transportation; efforts to develop domestic areas for drilling offshore; aging infrastructure (listed as #11 in the Ernst & Young Business Risk Report 2010: The Top 10 Risks for Oil and Gas) and frequent and increasingly more intense storms in U.S. coastal areas; and opening the Arctic to both shipping and oil development. The Nation is especially challenged to respond to oil spills in the Arctic as many of today's standard approaches to oil spill response, clean-up, and restoration are expected to be significantly less effective in the arduous conditions of the Arctic.

Oil spill preparedness and responses would greatly benefit from incorporating current science, information technology, and real-time observational data into response decision-making. The economic and environmental benefits of improved decision-making during incident responses are clear. For example, better understanding of where the oil is and where it will it go will help NOAA make money-saving decisions related to fisheries closures, navigation closures, and protecting critical habitats. The requested funds will allow NOAA to address those unanswered questions through a robust research and development program that will allow for better decision making and more effective and informed responses.

Benefits of improving spill response and reducing injury to natural resources can be quantified using several indicators. For more than 15 years, NOAA's Office of Response and Restoration has recovered more than $437 million for the protection and restoration of coastal resources after spills and waste site releases.

Base Resource Assessment:
The base resources for the Office of Response and Restoration are described in the Ocean Resources Conservation and Assessment base narrative. NOAA does not currently have an operational oil spill research and development program; however, in FY 2004 – FY 2007 NOAA received funding for the Coastal Response Research Center (CRRC) to conduct scientific studies on oil spill research and development.

Schedule and Milestones:

- Work closely with ICCOPR and NOPP to establish competitive process to fill high priority data gaps
- Fund 16 multi-year grants per year focused on high priority oil spill research and development (FY 2012-2016)
- Summarize and deliver results to decision-makers

Deliverables:

- Program Summary and Objective Statements
- Research plan
- Statement of Work/Request for Proposals
- Annual summaries of research findings and conclusions
- Recommendations for future research and other actions

Performance Goals and Measurement Data

Performance Measure: Number of research projects funded to advance priority spill response understanding	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	n/a	16	16	16	16	16
Without Increase	0	0	0	0	0	0
Description: This measure will track the number of multi-year research projects funded through this program.						

Performance Measure: Number of tools developed or enhanced that increase the effectiveness of oil spill response and restoration	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	n/a	9	9	9	9	9
Without Increase	0	0	0	0	0	0
Description: NOAA's OR&R research program will support applied research that will focus on improving oil spill response and restoration effectiveness. In collaboration with our Federal, state, academic partners, and emergency responders, OR&R will identify priority research areas to fund. The outcome of the research will be used to develop products/tools that will address the priority research areas and ultimately improve the effectiveness of oil spill response and restoration.						

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	900
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	2,000
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	2,900

Response and Restoration: Undersea Threats Assessment Initiative (Base Funding: 0 FTE and $0; Program Change: -0 FTE and -$1,000,000): NOAA requests a decrease of $1,000,000 and 0 FTE for a total of $0 and 0 FTE, ending a one-time solicitation program for an independent undersea threats assessment and analysis. In the Consolidated Appropriations Act, 2010, Congress provided $1,000,000 for a one-time independent assessment of potential man-made undersea threats. This solicitation was completed and funding is not required in FY 2012. In light of the Deepwater Horizon oil spill, the President's FY 2012 Request includes $2,900,000 for oil spill research and development efforts.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(1,000)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(1,000)

Estuary Restoration Program (Base Funding: 5 FTE and $3,000,000; Program Change: -0 FTE and -$1,812,000): NOAA requests a decrease of $1,812,000 and 0 FTE for a total of $1,188,000 and 5 FTE. In the Consolidated Appropriations Act, 2010, Congress provided additional funds for estuary restoration. These funds were used to complete projects including:

- the Port Susan Bay Estuary Restoration project in Washington to reintroduce the full tidal prism and inundation regime to 150 acres of diked farmland in the Stillaguamish River estuary in Puget Sound;
- Phase II of the Damde Meadows Tidal Restoration in Massachusetts to restore full tidal hydrology to Damde Meadows, a 15-acre salt marsh located in the heart of the Boston Harbor Islands National Recreation Area;
- the McDaniel Slough Tidal Restoration in California to restore and enhance 22 acres of tidal wetlands and 23.5 acres of freshwater wetlands; and
- the Molokai Fish Pond & Fringing Reef Restoration project in Hawaii to remove invasive mangroves and invasive marine algae from inside two 15th century fish ponds.

Grant funds were sufficient for recipients to complete priority restoration projects in FY 2010 and FY 2011 and additional funding is not required for these projects in FY 2012. The Estuary Restoration Act (ERA) makes restoring our Nation's estuaries a national priority and NOAA will continue to support estuary restoration and enhancement projects through the National Response and Restoration Program. In addition, the President's FY 2012 Request includes an additional $5,044,000 for NOAA's Community Based Restoration Program, which will benefit similar activities.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(1,812)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(1,812)

National Centers for Coastal Ecosystem Science: Coastal Ecosystem Science (Base Funding: 0 FTE and $900,000; Program Change: +0 FTE and +$1,000,000): NOAA requests an increase of $1,000,000 and 0 FTE for a total of $1,900,000 and 0 FTE to expand the Mussel Watch program and to refresh laboratory equipment at the National Centers for Coastal Ocean Science.

Proposed Actions:
This increase will allow NOAA to:

- ***Enhance NOAA's Mussel Watch Program ($0.5M):*** Funds are requested to expand existing partnerships with NIST, USGS, EPA, and state and local agencies to maintain and enhance NOAA's Mussel Watch Program. The program will establish monitoring sites in coastal areas currently under-represented, increase sampling and analysis of pollutants by 30 percent, and increase the number of pollutants currently monitored and assessed through NOAA's Mussel Watch Program by 50 percent.

- ***Laboratory Equipment Maintenance and Refresh ($0.5M):*** Funds are requested to invest in new laboratory equipment to maintain NOAA's leadership in coastal and ocean ecosystem science. Much of NOAA's laboratory equipment is aging and NOAA has not had the funds to replace the equipment. In addition, funds are requested to invest in service contracts to maintain NOAA's highly specialized lab equipment which is vulnerable to scientific failures, comply with applicable regulatory health, safety and environmental standards and ensure the safety and health of the cross-NOAA workforce and state and Federal partners who utilize these facilities. Investments in maintaining and modernizing equipment are critical for employee health and safety and necessary to operate the technical infrastructure that supports NOAA's core competencies in Ecosystem-based Management and supporting coastal communities and economies.

Statement of Need and Economic Benefits:
Coastal communities contain over half of the U.S. population and generate nearly 60 percent of the U.S. economy via tourism, recreation, commercial fisheries and commerce (Crossett et al., 2004). However, land-based discharges of trace metals, pesticides, pharmaceutical agents and pathogens from industrial, urban and agricultural sources negatively impact human health, impair coastal ecosystems, close beaches, and devastate coastal communities that rely on tourism and recreation as sources of income to achieve economic and environmental sustainability. Over 50 percent of the Nation's estuaries experience hypoxia (CENR 2003). Time-critical investments in research and applied science will fill gaps in NOAA's capacity to protect lives, promote healthy economies and improve human health, reduce the high costs associated with contamination clean-up and potential human health impacts, and respond to Administration priorities, the National Ocean Policy and NOAA's legal mandates.

NCCOS's contamination research and assessment programs provide leadership at the national level to assess the long-term patterns and extent of contamination of coastal resources that threaten ecosystem and human health. NCCOS partners with state, local and tribal agencies along the U.S. West Coast; Federal agencies such as the USGS, EPA, and FDA; the Canadian Government (to document highly contaminated areas in the Great Lakes); and the Gulf Watch Contaminants Monitoring Program (administered by the Gulf of Maine Council on the Marine Environment). Investments in NOAA's Mussel Watch Program will provide input to Federal, state, local and tribal partnerships and programs charged with managing the Nation's water quality and determining impacts and remediation strategies for Natural Resource Damage Assessment (NRDA) cases.

Investments in laboratory operations and maintenance supported by this request will dramatically facilitate strategic partnerships and protect NOAA's existing investments in research equipment as well as the leveraged resources of our partners.

Base Resources Assessment:
The base resources for the National Centers for Coastal Ocean Science are described in the Ocean Resources Conservation and Assessment base narrative. NCCOS' intramural research efforts will respond to harmful algal blooms (32 percent), support coastal and marine spatial planning (25 percent), assess the impacts of climate change (5 percent) and coastal contamination (38 percent), with a focus on CECs, including pharmaceuticals, endocrine disrupting compounds, flame retardants, and nanoparticles.

Schedule and Milestones:
- Mussel Watch CEC Early Warning Network in California (FY 2013), Nationwide (FY 2016)
- Pathogen and CEC analytical methods, and fate, transport, and toxicology assessments (FY 2012+

Deliverables:
- National Mussel Watch contaminant and monitoring program
- Models and tools to evaluate contaminant effects on marine resources (FY 2014+)
- Sustained partnerships with public health partners at Federal and state levels
- Invest in new laboratory equipment and service contracts to maintain NOAA's highly specialized lab equipment which is vulnerable to scientific failures, comply with applicable regulatory health, safety and environmental standards and ensure the safety and health of the cross-NOAA workforce and state and Federal partners who utilize these facilities

Performance Goals and Measurement Data

Performance Measure: Number of coastal, marine and Great Lakes ecosystem sites adequately characterized for management (Measure 18a NCCOS contribution only)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	20	23	26	29	33
Without Increase	15	16	16	16	17	17
Description: Ecological characterizations provide the scientific basis for coastal and ocean assessments and forecasts, and the development of plans to manage resources and assess the effectiveness of measures implemented to effectively manage natural resources. Characterizations are conducted on NOAA trust resources, essential fish habitats, Great Lakes habitats and living resources and throughout the Nation's coastal zone.						

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	50
22	Transportation of things	50
23.1	Rental payments to GSA	0
23.2	Rental Payments to others	0
23.3	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	10
25.1	Advisory and assistance services	0
25.2	Other services	540
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	350
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	1,000

National Centers for Coastal Ecosystem Science: Oceans and Human Health (Base Funding: 2 FTE and $4,000,000; Program Change: -0FTE and -$2,000,000): NOAA requests a decrease of $2,000,000 and 0 FTE for a total of $2,000,000 and 2 FTE for the Oceans and Human Health program. The President's FY 2012 Request includes $2,000,000 for the Oceans and Human Health which will allow NOAA to assess, understand and predict the connections between the condition of oceans, coasts, Great Lakes waters, and human health while providing information focused on reducing current and future risks to public health and enhancing efforts to provide curative agents and natural products from the sea Oceans and Human Health Act (OHHA) through base National Centers for Coastal Ocean Science (NCCOS) Program funding.

Proposed Actions:
The combined pressures of coastal development, changes in watersheds and climate change on our ocean and coastal systems pose both immediate and long term human health threats from disease-causing pathogens, contaminants and biotoxins. Funds will implement the Oceans and Human Health Act (OHHA) through the cross-NOAA Oceans and Human Health Initiative by:

- **A)** *Advancing NOAA research, tools, and technology* through NOAA's Centers of Excellence in Oceans and Human Health through targeted development of develop risk assessment capacity and tools for health early warning systems for public health and resource managers, conduct strategic public information and outreach efforts to engage users in the entire process, and improve stakeholder understanding and capacity to use NOAA oceans and human health products and services;
- **B)** *Increasing external partnerships and graduate and postdoctoral traineeships* to provide NOAA with premier research community expertise and build a cadre of future scientists who will help solve complex, interdisciplinary problems associated with oceans and human health, and who will become the NOAA and academic workforce of the future.

Statement of Need and Economic Benefits:
Coastal communities contain over half of the U.S. population and generate nearly 60 percent of the US economy via tourism, recreation, commercial fisheries and commerce (Crossett et al., 2004). According to the Natural Resources Defense Council, in 2008, beach pollution prompted 20,341 closing and swimming advisory days at ocean, bay and Great Lakes beaches, and exposure to bacteria, viruses and parasites in contaminated beachwater can cause a wide range of diseases, including ear, nose and eye infections, stomach flu, hepatitis, encephalitis, skin rashes, and respiratory illnesses. And complex environmental stressors are leading to other rapid changes as well.

Support for the Oceans and Human Health Initiative will ensure a coordinated approach to conducting research and delivering tools and early warnings of health risks to people and marine animals. By identifying, developing, and providing useful environmental information to its key public health partners, NOAA can bring its expertise to bear to help ensure the citizens and visitors of the United States a cleaner, safer, healthier ocean and coastal environment in which to live, play, and work. Partnerships with the academic and private sector communities will be strengthened and the next generation of scientists and policy makers will be able to work at the interface of ocean health and human health. The OHHI is critical to accomplishing the operational tasks required to assess and forecast regionally-relevant ocean health risks. Finally, the OHHI provides the institutional framework, scientific capacity, programmatic coordination, and links with IOOS and the public health community needed to develop an integrated system to detect, predict and mitigate coastal threats from microbial or chemical contaminant.

Healthier oceans and coasts, and healthier people make more resilient and economically productive communities—especially as these communities grow in density and their population ages. These communities are better able to adapt and withstand anomalous health impacts, coastal ecosystem changes due to climate and extreme weather events, and remain economically stable.

Base Resources Assessment:
The base resources for the Ocean and Human Health Initiative are described in the National Centers of Ocean and Coastal Science section of the Ocean Resources Conservation and Assessment base narrative.

Schedule and Milestones:
- Develop predictive models and assessments to assess human health risk from exposure to pathogens, contaminants, or biotoxins (two new tools per region starting in FY 2012)
- Identify groups at most risk of exposure/harm and documented behaviors affecting exposure to coastal and ocean health risks and contributing to coastal pollution (FY 2012-2014)
- Spatially depict human resource use patterns affecting human health in coastal areas (FY 2012+)
- Increased number of graduate and post-doctoral students trained in Oceans and Human Health-related sciences.
- Complete laboratory and technical equipment refreshment/maintenance (FY 2012+)

Deliverables:
- Surveys and socioeconomic analyses identifying behaviors contributing to pollution and exposure to health risks from water-borne diseases
- Models and datasets documenting and predicting how social, cultural, and economic factors affect the sustainable management of coastal and ocean ecosystems and protect the health and well-being of coastal communities (FY 2012+)
- Assessment of potential risk from vibrios and other seafood related health risks (one per region)
- Prediction tools and information and GIS products to reduce beach closures and reduce human exposure to pathogens (one per region)
- Sustained partnerships with public health partners at Federal and state levels

Performance Goals and Measurement Data

Performance Measure: Percentage of health early warning tools, technologies, and information services that are used by NOAA partners/customers to reduce health risks from the oceans and coasts	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	20%	20%	25%	25%	30%
Without Increase	10%	10%	10%	10%	10%	10%
Description: Science-based health early warning systems inform managers and health officials about pending human health risks. These systems result in public health warnings and warrant potential behavioral changes to decrease risks and associated health impacts. The goal is to increase the percentage of the ten U.S. Large Marine Ecosystems with operational science-based health early warning systems from 10 percent to 50 percent.						

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	(1,000)
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(1,000)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(2,000)

National Centers for Coastal and Ocean Science (NCCOS) (Base Funding: 0 FTE and $39,522,000; Program Change: -0 FTE and -$2,312,000): NOAA requests a decrease of $2,312,000 and 0 FTE for a total of $37,210,000 and 0 FTE for the National Centers for Coastal Ocean Science (NCCOS). In the Consolidated Appropriations Act, 2010, Congress provided $2,312,000 in additional funding for interdisciplinary science, information and decision support tools to improve coastal management and stewardship. These funds were used to supplement base funding to support research, monitoring, assessment and technical assistance for managing coastal ecosystems. This additional funding is no longer required in FY 2012 as the President's FY 2012 Request includes $38,210,000 to provide national leadership in ocean, coastal, and Great Lakes science by conducting research, monitoring, and assessments to build the strong scientific foundation essential for sustainable use of coastal resources. NCCOS integrates its expertise and efforts across all levels of government through a variety of interagency task forces and has established partnerships with NIST, EPA, USGS, NPS, and CDC, academic institutions and coastal community resource managers and public health officials. Coordinating activities with partner organizations, NCCOS ensures research activities meet the highest priority science needs, provide a balanced response to local, regional and national issues and are utilized by decision makers to sustain the viability of coastal ecosystems and communities.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(2,312)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(2,312)

National Centers for Coastal Ecosystem Science: Competitive Research (Base Funding: 0 FTE and $16,000,000; Program Change: -0 FTE and -$199,000): NOAA requests a decrease of $199,000 and 0 FTE for a total of $15,801,000 and 0 FTE for the National Centers for Coastal Ocean Science (NCCOS) Competitive External Research program. In the Consolidated Appropriations Act, 2010, Congress provided an additional $199,000 in competitive research funding for NCCOS. This funding was competitively awarded for projects in FY 2010, and no additional funding is required for these projects. The President FY 2012 Request includes $15,801,000 for the NCCOS Competitive Research Program, which will allow NOAA to provide comprehensive national leadership in ocean, coastal, and Great Lakes science by conducting research, monitoring, and assessments to build the strong scientific foundation essential for sustainable use of coastal resources and builds better linkages among the coastal programs of NOS by developing and maintaining a broad base of scientific experts and science capabilities through both intramural and extramural research. NOAA's legislative mandates under the Harmful Algal Bloom and Hypoxia Research and Control Act, the Coastal Zone Management Act, the National Coastal Monitoring Act, the Oceans and Human Health Act, the Coral Reef Conservation Act, and the Great Lakes Task Force Executive Order will continue to be supported by base NCCOS National Program funding.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

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

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(199)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(199)

APPROPRIATION: OPERATIONS, RESEARCH AND FACILITIES
SUBACTIVITY: OCEAN AND COASTAL MANAGEMENT

The objectives of the Ocean and Coastal Management subactivity are to:

- Maintain and improve the quality of the Nation's coastal lands and waters through a national network of federally approved, coordinated, and supported state management programs.
- Maintain the balance between resource protection and coastal-dependent economic activity, including coastal energy development.
- Provide technical assistance to states in the development, implementation, and improvement of state Coastal Zone Management programs and estuarine research reserves.
- Identify areas of the marine environment of special national significance due to their resource or human-use values.
- Implement the framework for a national network of Federal, state, tribal, and local marine protected areas.
- Support and coordinate scientific research on, and monitoring of, resources in protected areas.
- Coordinate the development of information, tools, strategies, and guidance to enhance and expand the protection of marine and estuarine protected areas.
- Protect and manage a system of nationally significant special marine areas through the National Marine Sanctuary System, a comprehensive conservation program.
- Enhance public education, awareness, and understanding of the marine and estuarine environment.
- Facilitate public/private uses of the resources of special marine areas compatible with resource protection.

To achieve these objectives, NOAA conducts activities in several program areas within the Office of Ocean and Coastal Resource Management (OCRM) and the Office of National Marine Sanctuaries (ONMS). These activities are conducted under the authority of the Coastal Zone Management Act (CZMA), the National Marine Sanctuaries Act (NMSA), Executive Order #13158 on Marine Protected Areas, and Presidential Proclamations 8031 and 8337.

The Ocean and Coastal Management subactivity contains two items: Coastal Management and Ocean Management.

COASTAL MANAGEMENT (http://coastalmanagement.noaa.gov)

The Nation's coastal and ocean areas represent some of its most ecologically and economically important regions. Coastal counties are also the most densely populated part of the U.S., an area that is on average two to three times more densely populated than the Nation as a whole. Congress recognized this fact in 1972 when it passed the Coastal Zone Management Act (CZMA). The CZMA declares that it is the national policy "to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through development and implementation of management programs...giving full consideration to ecological, cultural, historic and esthetic values as well as the need for compatible economic development." The importance of these areas and the need for this program has been recognized not only by the CZMA, but more recently by the U.S. Commission on Ocean Policy and the National Ocean Policy.

Responding to this challenge, the CZMA created a national framework for coastal protection through the Coastal Zone Management program and National Estuarine Research Reserve System. In addition, Executive Order #13158 recognized the importance of coastal and marine protection by directing the Federal government to establish, significantly strengthen and expand the national

system of marine protected areas (MPAs), working closely with state, territorial, local and tribal trustees, and other stakeholders.

The Coastal Management program also carries out responsibilities mandated under the Coastal Zone Act Reauthorization Amendments of 1990 (the Coastal Nonpoint Pollution Control Program); the Department of Commerce, Justice, and State Appropriations Act of 2002 and Omnibus Public Land Management Act of 2009 (the Coastal and Estuarine Land Conservation Program), the Ocean Thermal Energy Conversion Act (provides licensing of proposed ocean thermal energy projects); and the Deep Seabed Hard Mineral Resources Act. In addition, this program supports implementation of several Administration policy directives, including: the National Ocean Policy and regionally-based initiatives (Chesapeake Bay and Louisiana/Mississippi Gulf Restoration Working Group). It also supports mandates under the Coral Reef Conservation Act that are implemented through CZMA partnerships (e.g. local coral reef action strategies implemented through state coastal management programs).

Through this program, NOAA provides financial assistance, national policy guidance, technical assistance, and other support to: implement 34 coastal management programs in partnership with states and territories (plus one under development in Illinois); research, education, training and stewardship at 28 National Estuarine Research Reserves; a competitive grant program to protect ecologically significant coastal lands, such as wetlands, natural shorelines and other important habitats that benefit coral reefs, migratory fish, and protected species (the Coastal and Estuarine Land Conservation Program); and a national system of marine protected areas to enhance marine resource protection. The CZMA also requires periodic reviews of approved state coastal and estuarine programs and oversight of loan repayments to the Coastal Zone Management Fund, establishes an awards program to recognize achievement in the field, and requires coordination with other agencies on proposed actions affecting the coastal zone.

This program operates through formal partnerships with states and territories, agreements with other Federal agencies, tribes, and also through a broad range of informal partnerships with non-governmental organizations. It has formal partnerships with 34 states and territories to carry out the CZMP, NERRS, CELCP and Coral Reef local action strategies, as well as interagency agreements and other partnerships with other Federal agencies, including EPA, FEMA, DOI (FWS, NPS, USGS, and BOEMRE), USDA, DOD, and the State Department. OCRM also participates actively on a number of regional ocean governance initiatives, including the Council of Great Lakes Governors, the Northeast Regional Ocean Council, Gulf of Maine Council, Mid-Atlantic Regional Collaborative (MARCO), West Coast Governors Initiative, and the Gulf of Mexico Alliance. Within the Department of Commerce, this program has: developed a partnership with the Economic Development Administration (EDA) to increase collaborative efforts within states and regions to support development and resilience of coastal economies; collaborated with the Census Bureau to determine status and trends in coastal population and the coastal economy; and developed environmental technologies, 13 of which have been awarded patents. The program also has extensive partnerships with non-governmental organizations, such as those representing state governors, state natural resource managers, city and county administrators, land use planners, floodplain managers, the fishing industry, ocean energy industry, and conservation organizations, among others.

The Coastal Zone Management Act specifies how the CZMP and National Estuarine Research Reserve System (NERRS) funds are to be allocated and the cost-share requirements for these programs. Operational funding is awarded through cooperative agreements with a lead state agency responsible for managing each approved coastal program and designated Reserve. Within these amounts, NOAA negotiates the tasks and funding within each cooperative agreement to target efforts at the state or local level that achieve the program's priorities, while leveraging additional state or local funding. In addition to cooperative awards, NOAA provides additional support through

competitive grants for NERRS Graduate Research Fellows and construction and acquisition projects. NOAA has also strengthened the way it allocates funds for system-wide improvements on the basis of merit, and has better aligned programmatic activities to address priority coastal management issues.

COASTAL ZONE MANAGEMENT GRANTS - The purpose of the national Coastal Zone Management (CZM) Program is to maintain and improve the Nation's coastal lands and waters through a national network of federally approved, coordinated, and supported state management programs. This program seeks to maintain the balance between the needs of resource protection and coastal-dependent economic activity. This program recognizes the significance of coastal resources to our Nation's population and economy and promotes improved management of these important assets. Federal matching funds are provided through cooperative agreements to support state CZM functions and community 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). There are currently 34 (out of 35 eligible) coastal and Great Lakes states, territories and commonwealths with federally approved coastal management programs, protecting more than 99 percent of the Nation's 95,331 miles of ocean and Great Lakes coastline. This state-based component is supported by the national CZM Program.

CZM funding is allocated using a formula based on shoreline mileage (60 percent) and coastal population (40 percent) of each state, and adjusted according to requirements for minimum and maximum amounts for each state or territory. Most of the CZM Grant funding is matched on a 1:1 basis (only CZMP enhancement funds do not require match).

In FY 2012, the Coastal Zone Management Program plans to increase effectiveness by better targeting grant funding to address significant national issues. NOAA has been working with the coastal management community to undertake a visioning effort to better define and prioritize those significant national issues. The results of this visioning effort will be reflected in the grants awards process, including increased competition in the Coastal Zone Enhancement grants (Section 309 CZMA).

NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM (NERRS) (http://www.nerrs.noaa.gov/) - NERRS (Section 315 CZMA) is a national network of estuarine protected areas representing the diverse biological and physical characteristics of estuarine systems of the United States. Reserves are owned and operated by state agencies or universities. Reserves serve as living laboratories and local, regional, and national sources of scientific and technical information, training, and education on estuaries. The reserve system serves as a testing ground for the improvement of coastal resource management through direct resource management and restoration, science, and the translation and dissemination of information to coastal decision makers, teachers, students, and the public. There are currently 28 designated reserves in 22 states and territories covering over 1.3 million acres of estuarine lands and waters. NOAA added a 28th reserve in early FY 2011 with the designation of the Lake Superior Reserve in Wisconsin. This new reserve is supported through FY 2010 appropriations. In addition, the Governor of Connecticut has also submitted a request for the designation of a new reserve.

The NERRS allocates funding for site-specific programs as well as system-wide programs that achieve the program's objectives to protect estuarine areas, provide educational opportunities, promote and conduct estuarine research and monitoring, and transfer relevant information to coastal managers. The program is focusing on four priority topics: impacts of land use and population growth; habitat loss and alteration; water quality degradation; and changes in biological communities.

Federal NERRS funding (70 percent) is matched by the states (30 percent) for reserve operations, research, monitoring, training, education and facilities construction. Federal NERRS funding (50 percent) for land acquisition is also matched by the states (50 percent). Base funds for NERRS support science, education and stewardship programs, reserves operations, and the "NERRS Science Collaborative." In FY 2009, the program educated more than 11,400 students and teachers about estuaries through NERRS Estuary Live and National Estuaries Day activities; trained more than 7,400 coastal decision makers and completed an external review of the NERRS Coastal Training Program, including a plan to strengthen the program's effectiveness in delivering science to managers; approved updated management plans for four Reserves, as required by the CZMA; and completed site profiles (a complete characterization) for two Reserves.

CZM AND STEWARDSHIP/ CZMA NATIONAL PROGRAM - The programs described above, CZM Grants and NERRS, as well as the NERRS Acquisition and Construction grants (under Procurement, Acquisition and Construction), are implemented with the resources provided in the budget for the CZMA National Program. OCRM staff carry out numerous critical functions necessary to execute these programs, in addition to negotiating, processing, and providing oversight for more than 100 grants and cooperative funding agreements each year. These functions include:

- Providing management assistance to states in the development, implementation, and improvement of state CZM programs and estuarine research reserve management plans, which are assessed or updated every five years to reflect changing circumstances;
- Analyzing national issues and trends in coastal resource management and measuring the results of the CZMA programs;
- Conducting periodic programmatic evaluations of each state CZM program and NERR;
- Reviewing Federal agency actions for compliance with the Federal consistency provisions of Section 307 of the CZMA and providing mediation services when necessary;
- Conducting training, outreach, and education activities concerning coastal issues;
- Providing technical leadership, coordination, and management of NERRS system-wide education, training, research, monitoring, and technology development programs;
- Providing policy guidance and assistance to states on interpretation of CZMA requirements, as well as those of other Federal statutes and programs, and
- Administering outstanding loans and repayments to the Coastal Zone Management Fund from the Coastal Energy Impact Assistance Program.

MARINE PROTECTED AREAS (MPA) PROGRAM (http://mpa.gov/) NOAA's MPA Program, in coordination with the Department of the Interior, fills a long-standing need for objective science, policy, and management tools to advance the effective use of MPAs in meeting diverse conservation and management objectives. The MPA Program is guided by the Framework for the National System of MPAs. Funding for the program supports core staff to provide MPA science, analysis, outreach, training, technical assistance and coordination. The MPA Center's primary goal is to work with MPA programs, managers and stakeholders to develop a comprehensive and integrated national system of MPAs that more effectively conserves and protects significant areas of our natural and cultural marine heritage. Moreover, the Center facilitates coordination among the various Federal, state and tribal MPA programs to improve the effectiveness of existing MPAs and accomplish conservation goals that could not otherwise be achieved. The MPA Center is headquartered in Silver Spring, Maryland, with scientific support in Monterey, California. A diverse MPA Federal Advisory Committee--including representatives of industry, user groups, scientists, and others-- provides advice on the establishment and management of the national system.

Schedule & Milestones:

- Review Final Management Plan and Environmental Impact Statement for the Illinois Coastal Management Program (by Q4, FY 2012)
- Complete revision of 27 NERR management plans by FY 2016
- Complete 100 percent of National Estuarine Research Reserve site profiles by FY 2016
- Work with states/territories toward approval of non-point pollution control programs
- Continue to build and strengthen the National System of MPAs by adding new sites and providing assistance to member programs (FY 2012-2016)

Deliverables:

- Final Management Plan and approval for Illinois Coastal Management Program
- Final Management Plan and designation for Lake Superior NERR in Wisconsin
- Average of 250 sites that provide public access to the coast, added or improved per year through the CZM program
- More than 400 training activities conducted annually for coastal decision makers through the NERRS Coastal Training Program, reaching 7,400 participants for over 60,000 contact hours
- First phase of Ocean Thermal Energy Conversion (OTEC) commercial licensing process completed (FY 2012)
- All U.S. ecoregions represented in the National System of MPAs
- 54 NERRS Graduate Research Fellows conducting research annually on pressing coastal management issues
- Four Federal Consistency trainings and regional workshops held for states, Federal agencies and interest groups to improve understanding and reduce the likelihood of consistency appeals to the Secretary of Commerce

Performance Goals and Measurement Data

Performance Measure: Annual number of new or improved public access sites through CZMP	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	250	250	250	250	250	250
Description: This measure tracks the number of new or improved sites for public access to coastal areas that have resulted from the Coastal Zone Management Program						

Performance Measure: Percentage of NERR System adequately characterized for management	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	86%	89%	93%	96%	100%	100%
Description: This tracks NOAA's progress in characterizing each National Estuarine Research Reserve's resources and condition to guide effective long-term management. Reserves are characterized through site profiles, which summarize the existing state of knowledge about reserve research and monitoring activities and identify research needs that should be addressed in the future. It is measured as the percent of designated Reserves that have completed a site profile.						

Performance Measure: Percentage NERRS Coastal Training Program (CTP) participants intending to apply lessons learned	FY 2011 Target	FY 2012 Target	FY 2013 Target	FY 2014 Target	FY 2015 Target	FY 2016 Target
	79%	79%	79%	79%	79%	79%

Description: A primary goal of the National Estuarine Research Reserve program is to improve coastal decision making by generating and transferring knowledge about coastal ecosystems and priority coastal management issues. This measure tracks the relevance of the information to coastal decision-makers as well as the effectiveness of training programs to transfer knowledge to managers that can be applied to coastal management decisions.

OCEAN MANAGEMENT

The National Marine Sanctuaries Act (NMSA) authorizes the Secretary of Commerce to designate areas of the marine environment of special conservation, recreational, ecological, historical, research, educational, or aesthetic value as national marine sanctuaries and to provide comprehensive management of these areas with the primary objective of resource protection. The NMSA provides NOAA with direct Federal management authority in designated ocean and coastal areas. The Act requires an extensive public process to identify and develop solutions regarding planning, implementation, and evaluation of marine areas, uses, and protections. With the increasing environmental pressures on our Nation's coastal areas, the importance of maintaining a system of marine protected areas is evident. Sanctuaries contain natural resource assets of extraordinary social and economic value. Investments that contribute to the long term health of these natural resources ensure that they can continue to be sustainably and responsibly utilized.

In the Ocean Management Line Item, NOAA administers the National Marine Sanctuary System (NMSS) under authority of the NMSA. The system includes 13 designated national marine sanctuaries, as well as the Papahānaumokuākea Marine National Monument (established by the President on June 15, 2006 as the NWHI Marine National Monument and recently designated as a world heritage site), which is one of the largest marine protected areas in the world (stretching 1,200 miles, about the distance from Chicago to Miami). In addition, in 2009 NOAA was directed to consider incorporating the Rose Atoll Marine National Monument into the Fagatele Bay NMS. The 13 designated sanctuaries include: 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), Thunder Bay Underwater Preserve (MI) and Hawaiian Islands Humpback Whale (HI). The sanctuaries range in size from one-quarter square mile in Fagatele Bay to over 5,300 square miles in Monterey Bay. Together, these sanctuaries encompass over 18,000 square miles of waters and marine habitats. The monuments and sanctuaries protect special habitats, including deep ocean and near-shore coral reefs, live bottom, whale migration corridors, deep sea canyons, areas of deep water upwelling, submerged banks that rise close to the ocean surface, kelp forests, sea grass beds, and special maritime heritage assets. With the increasing environmental pressures on our Nation's coastal areas, the importance of maintaining a system of marine protected areas is evident. The NMSS is increasing our knowledge and understanding of complex marine ecosystems. By monitoring human and natural changes in these sentinel sites, NOAA's marine sanctuaries and marine monuments help preserve the Nation's marine environments.

NATIONAL MARINE SANCTUARY SYSTEM (NMSS) (http://sanctuaries.noaa.gov/)

The ONMS manages and operates the Nation's system of marine sanctuaries and the Papahānaumokuākea Marine National Monument. Individual sanctuary and monument offices are responsible for the daily operation of a wide variety of education, research, monitoring and

management programs. Through extensive public engagement processes, each site undertakes activities including: development, implementation, and systematic review of comprehensive management plans to protect these unique areas; development and implementation of local research and monitoring programs to better understand the resources and potential impacts on those resources; development and implementation of cultural resource programs to survey and inventory resources to ensure their long-term protection; development and implementation of education and outreach activities to inform the public about the value of marine resources and how human activities impact the marine environment; coordinating through partnerships to ensure enforcement of sanctuary regulations; permitting of otherwise prohibited activities to allow valuable research and education activities; management of volunteer programs that monitor and educate on marine resources; and management of citizen advisory councils to ensure that each sanctuary is responsive to community needs. In addition, each site is engaged in a number of partnership relationships with other Federal agencies, state agencies, local universities, and other local institutions.

Regional offices work to capitalize on potential opportunities and partnerships and coordinate with other Federal agencies, many of which operate at a regional level. The regions help to more efficiently coordinate various programs and assets among the sites, regions, and headquarters. The regions also provide an improved basis for program integration with NOAA's evolving ecosystem approach to management and NOAA regional teams for national priorities pertaining to climate change, coastal and marine spatial planning, and regional collaboration.

Programmatic oversight, guidance, and support from the headquarters office ensure that the sites function as a coordinated system. Headquarters functions include the development of programmatic initiatives, such as system-wide research, monitoring, cultural resource, education, and outreach programs; policy development; budget development and tracking; legislative and regulatory initiatives; review and revisions of management plans; development and designation of new sites; and overall guidance and program direction. These functions ensure that the NMSS is an integrated system that has greater national impact than the sum of the individual site actions.

Schedule & Milestones:

- Complete development of revised management plans for five sanctuaries through community-based processes – Monitor (FY 2012), Olympic Coast (FY 2012), Fagatele Bay (FY 2012), Flower Garden Banks (FY 2012) and HI/Humpback Whale (FY 2013)
- Develop and begin implementing consistent, long-term monitoring directed at understanding climate change. Develop concept of sanctuaries as sentinel sites for climate change, including monitoring parameters and spatial/temporal scales (FY2012), prototype application at one sanctuary (FY 2013), application at additional sites and/or additional monitoring parameters (FY 2013-2016), data management (FY 2013-2016).

Deliverables:

- Develop and/or expand education and public outreach, including those with multi-cultural communities, related to ecosystems, climate change and human use impacts
- Develop and/or expand partnerships with local communities and businesses to implement sustainable practices for fishing, ecosystem protection and alternative energy technologies
- Habitat restoration and marine debris removal at all sanctuaries Monitoring programs, scientific assessments, technologies, public awareness and mitigation strategies associated with climate change at all sanctuaries
- Maintain marine acoustics programs to determine the distribution of marine mammals and vessel traffic patterns at Stellwagen Bank and Channel Islands sanctuaries

- Develop education initiatives at all sites that protect marine mammals from vessel strikes and conduct disentanglement and rescue operations
- Implement and enforce new education, survey and eradication programs to avoid and mitigate introduction of invasive species in multiple sanctuaries

Performance Goals and Measurement Data

Performance Measure: Number of NMS Sites that maintain or improve water quality, habitat and living marine resources	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	10	10	10	10	12	12

Description: This measure assesses the status of water quality, habitat, and/or living marine resources based on indicators of biodiversity, key species, extracted species, invasive species, health and human impacts. The NMSP and independent evaluators (universities, research institutions SAC research subcommittees, and environmental consultants) evaluate data to determine whether the condition is improving, remaining stable (maintaining), or deteriorating. These outcome-based measures are derived from the National Marine Sanctuaries Act and provide direct and quantifiable evidence to demonstrate Program effectiveness. For each sanctuary, a "condition report" integrates the best available science and scientific interpretation to quantify the status and trends of WQ, habitat and living resource conditions. During the past five years, ONMS has undergone two additional formal external reviews (NAPA and DOC OIG) that have documented successful application and progress toward these performance measures.

PROPOSED LEGISLATION:

The Administration will work with Congress to reauthorize the Coastal Zone Management Act and the National Marine Sanctuaries Act.

PROGRAM CHANGES FOR FY 2012:

Coastal Zone Management Grants: State Information System Modernization (Base Funding: 0 FTE and $68,146,000; Program Change: -0 FTE and -$2,000,000): NOAA requests a decrease of $2,000,000 and 0 FTE for a total of $66,166,000 and 0 FTE In the Consolidated Appropriations Act, 2010, Congress provided an additional $2 million for the Coastal Zone Management grant program for activities including the establishment of a competitive grant program targeted at modernizing and improving State information systems. In FY 2010, NOAA used $1 million of this additional funding to award grants to California, the Commonwealth of the Northern Marianas Islands, Georgia, Maine, Massachusetts and Ohio. These grants were provided as one-time funds to support state efforts to modernize and improve information systems to support coastal decision making pertaining to permitting and land use. The remaining $1 million was used to supplement base funding to support other important coastal issues including climate change and ocean planning. These additional funds are not required in FY 2012, as the President's FY 2012 Request includes sufficient funding for the National CZM grants program to provide for financial assistance, national policy guidance, technical assistance, and other support necessary to implement 34 coastal management programs in partnership with states and territories. In addition, the President's FY 2012 Request includes $6,770,000 to develop an agency-wide capability to conduct and support comprehensive coastal and marine spatial planning (CMSP) in U.S. waters. The requested increase will include regional data integration and planning support ($3,411,000) and building national capacity through data integration, tools and monitoring ($3,359,000).

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(2,000)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(2,000)

Regional Ocean Partnerships (Base Funding: 0 FTE and $0; Program Change: +1 FTE and +$20,000,000): NOAA requests an increase of 1 FTE and $20,000,000 for a total of $20,000,000 and 1 FTE to initiate a targeted competitive grant program to advance regional ocean management through support for regional ocean partnerships including coastal and marine spatial planning.

Proposed Actions:
With the requested increase, NOAA will establish a competitive grants program to advance effective ocean management through regional ocean governance. To this end, the program will help support priority actions identified in the plans of existing regional ocean partnerships (e.g., Gulf of Mexico Alliance, Northeast Regional Ocean Council, Great Lakes Regional Collaboration, and the West Coast Governors' Agreement on Ocean Health), as well as supporting the development and implementation of ocean management plans in other regions (e.g. the Mid-Atlantic Regional Council on the Ocean, the South Atlantic Alliance, Hawaii, and other regions) and addressing regional activities in other parts of the country (e.g. the Pacific and Caribbean territories, and Alaska). Support for these partnerships will include the development of comprehensive coastal and marine spatial plans that are consistent with the U.S. National Framework for Coastal and Marine Spatial Planning (CMSP). Eligible grant recipients will include state, local and tribal governments, institutions of higher learning, and non-profit organizations working with these regional ocean partnerships or member states. Through public processes, regional ocean partnerships have identified priority needs and actions to address critical issues such as: coastal water quality, nutrient loading and clean beaches; wetland and habitat restoration, protection and characterization; environmental education and literacy; coastal community resilience and sustainability (including working waterfronts); sustainable offshore renewable energy; ecosystem based management; coastal scientific information, research, and monitoring; addressing impacts from climate change; and aquatic invasive species. Each year, NOAA will work with the regional ocean partnerships to identify priority areas to focus the funding opportunity. Because CMSP is an important component of regional ocean governance efforts, and is key to the success of many of the priority actions, funding will emphasize the development and implementation of CMSPs consistent with the national goals, principles, and criteria established by the National Ocean Policy. The funds would ensure, through NOAA policy leadership and technical support, that states, territories, and regional ocean partnerships develop objective, consistent and transparent CMSP processes based on sound science and meaningful stakeholder input. In implementing this program, NOAA will coordinate with other Federal agencies involved in regional ocean governance and CMSP efforts, and will consider geographic diversity.

The request also supports NOAA's implementation of this program, including coordination, planning, and implementation with the states, other Federal agencies, and other partners within the regional ocean partnership framework with the provision of necessary support (e.g. science, policies, information, tools and training) to further regional priorities. This grant program will be closely coordinated with other NOAA programs, and the activities supported through the coastal and marine spatial planning increase also requested in FY 2012.

Statement of Need and Economic Benefits:
The Nation's coastal communities and economies depend on healthy coastal resources, which are threatened by fragmented planning and management of societal use of coastal lands and waters. Coastal communities face risks from resource depletion and degradation, associated negative human health impacts, and use of high-hazard areas. Increased demands for offshore energy, aquaculture, and marine transportation, coupled with increased interest in area-based conservation, add to the need to manage expanding and often competing uses of these finite coastal and ocean areas. Climate change is expected to amplify these challenges.

The National Ocean Policy, the Pew Oceans Commission, the U.S. Commission on Ocean Policy, and the Joint Ocean Commission Initiative all call for regional ocean governance mechanisms to address the growing crises facing our oceans. The value of regional approaches to coastal and ocean governance and comprehensive planning is reflected in the rapid engagement by most coastal states in new regional ocean governance partnerships. Regional ocean governance mechanisms facilitate the effective management of ocean and coastal resources across jurisdictional boundaries by improving communications, aligning priorities, and enhancing resource sharing between local, state, and Federal agencies. The benefits of a regional, ecosystem-based collaborative approach are numerous and will result in more efficient and effective governance.

Federal-state partnerships are central to effective regional ocean governance and NOAA's involvement in this governance is critical to overcome the independent and fragmented management regimes that currently exist. Failure to do so, in the face of growing and competing demands on ocean space and resources, will have profound impacts on all ocean users and constituencies. The Federal agencies bring diverse expertise and established experience; coordinating and integrating these capabilities will maximize the impact of Federal resources.

The convergence of increasing population, natural resource use and loss, and increasing coastal hazards will affect the daily lives of Americans as they use products shipped into U.S. ports, consume seafood, and vacation along the coasts. Coastal health and community resilience also can affect the U.S economy in terms of disaster losses, public health issues, and impacts on local economies. Many of these issues are best dealt with from a regional perspective, with regional alliances of states providing the context for priorities and implementing mechanisms.

The socioeconomic need for a regional, ecosystem-based, collaborative approach is compelling, and is strongly linked to NOAA's mission goals. Regional ocean governance supports the management of resources that contribute about $230 billion each year to the national economy in market-based outputs and ecological systems that increase property values and the quality of life in coastal areas (NOEP, 2004. *Ocean-Related GDP with Multipliers, All Ocean Sectors*). This request represents a relatively small investment to preserve such a significant economic contribution. Moreover, supporting regional initiatives to develop science-based, comprehensive coastal and marine spatial plans will yield many tangible benefits, such as: reduced user conflicts, streamlined permitting, synergies among compatible uses, incentives for developing coastal infrastructure and business relevant to planned offshore uses, and more sustainable ecosystems; and the social, cultural and economic services they provide to coastal communities.

Base Resources Assessment:
NOAA does not currently have base resources for this activity in the Ocean and Coastal Management program (Regional Ocean Partnerships is a new initiative).

Schedules and Milestones:
FY 2012

- Issue FFO and complete ROP competitive funding process
- Hold workshop(s) with ROPs to share ideas and progress on achieving priorities; and to identify opportunities for collaboration

FY 2012+

- Assist ROPs with improving data management and decision support tools to support Regional Ocean Partnership priorities and build CMSP capacity

- Develop performance measurement system to support National Ocean Policy and ROP implementation

Deliverables:

FY2012

- Enter into up to ten cooperative agreement awards to support Regional Ocean Partnership coordination and development
- Enter into up to five cooperative agreement awards to implement Regional Ocean Partnership priorities supportive of the National Ocean Policy

FY2012+

- At least five to ten regions have improved capacity for coordination and communication
- At least three regions have improved data management and decision support tools to support Regional Ocean Partnership priorities and build CMSP capacity

FY 2013+

- Initiation of a performance measurement system at the regional and national levels for National Ocean Policy priorities including CMSP

Performance Goals and Measurement Data

Performance Measure: Implement priority activities identified in regional action plans (cumulative).	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	N/A	24	44	64	82	97
Without Increase	12	14	14	16	16	16

Description: Regional ocean partnerships will make progress in achieving the actions within integrated plans that have clearly identified goals and objectives for long term ocean health and sustainability and engage academic, non-governmental organizations and private interests. These efforts will build upon the existing accomplishments of the regional ocean partnerships including the Gulf of Mexico Alliance (without increase targets are based on activities implemented using funds appropriated in FY 2008 – FY 2011 for Gulf of Mexico Alliance activities). In addition, the program will adopt one or more of the outcome-based measures that will be developed pursuant to the regional CMSP plans. Per the Ocean Policy Task Force, possible measures of conservation may include, but are not limited to, indicators of ecosystem health such as the status of native species diversity and abundance, habitat diversity and connectivity, and key species (i.e., species known to drive the structure and function of ecosystems). In addition, socio-economic measures may include but are not limited to: the economic value or productivity of certain economic sectors, such as commercial and recreational fisheries, aquaculture, and offshore energy; the number of recreation days; and the time required for permit applications to complete the regulatory process.

PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

Title:	Location	Grade	Number of Positions	Annual Salary	Total Salaries
Program Analyst	Silver Spring, MD	ZA-04	1	89,033	89,033
Total			1		89,033
less Lapse		0%	0		0
Total full-time permanent (FTE)			1		89,033
2011 Pay Adjustment (0%)					0
2012 Pay Adjustment (0%)					0
TOTAL					89,033

Personnel Data	Number
Full-Time Equivalent Employment	
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

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

	Object Class	2012 Increase
11	Personnel compensation	
11.1	Full-time permanent	89
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	89
12	Civilian personnel benefits	26
13	Benefits for former personnel	0
21	Travel and transportation of persons	90
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental Payments to others	0
23.3	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	15
25.1	Advisory and assistance services	0
25.2	Other services	750
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	10
31	Equipment	20
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	19,000
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	20,000

Working Waterfronts Grant Program (Base Funding: 0 FTE and $0; Program Change: +0 FTE and +$8,000,000): NOAA requests an increase of $8,000,000 and 0 FTE for a total of $8,000,000 and 0 FTE to create a Working Waterfronts grant program.

Proposed Actions:
NOAA proposes to create an $8,000,000 National Working Waterfronts grant program for FY 2012 to assist fishing-dependent coastal communities adversely affected by changes in the fishing industry on which they depend. Numerous communities that traditionally relied on robust fishing fleets are finding it necessary to transition their economies and workforces in order to support more economically and biologically sustainable conditions. This program will assist distressed fishing communities and displaced fishermen by providing resources for communities to engage in planning, capacity building, and other activities to support economic diversity, resource conservation, and human and economic capital growth. The program will benefit a broad variety of coastal communities impacted by fishery management programs necessary to end overfishing and rebuild fish stocks, as well as environmental conditions that are changing the distribution and abundance of marine fisheries.

Specifically, NOAA requests to use the funds for competitive external funding opportunities to support demonstrably affected fishing-dependent coastal communities as follows:

- **Socio-economic Studies ($1M):** To undertake socio-economic studies that will improve the understanding of stakeholder needs and support economic transition in fishing communities. Research grants are anticipated to be available in the range of $100,000 to $250,000 each.
- **Community-based Planning/Capacity Building ($1.5M):** To develop community-based economic strategies, develop and undertake planning and stakeholder processes, and build capacity at the local level. Grants are expected to be available in the amount of $100,000 to $250,000 each.
- **Economic Development and Transition Implementation Projects ($5M):** To implement community-based projects that support development and transition to a more diversified local economy. Grants are estimated to be available from $500,000 to $1,000,000 each.
- **Management support ($0.5M):** To develop the grants program, run the competitive review process, administer awards, and provide annual updates on the program.

As envisioned, the program will have the flexibility to fund research, planning, capacity building and “on-the-ground” implementation projects depending upon the demonstrated local and state need, and will complement Federal programs that provide direct assistance to fishermen and effectively contribute to improving the sustainability of fisheries. The specific projects funded will be unique to each community, based on the maturity of the communities’ planning processes and capabilities, the demographics of the community, and their ability to meet the criteria outlined in the Federal Funding Opportunity (FFO).

This grant program will be implemented as a NOAA partnership between NOS, NMFS, and OAR (Sea Grant), with the assistance of the Department of Commerce’s (DOC) Economic Development Administration (EDA). DOC will work with other agencies such as the Department of Labor and the Department of Health and Human Services in order to help leverage interagency programs to help increase the economic vitality and adaptive capacity of coastal fishing communities. The program will be competitive, narrowly focused on defined fishery-dependent communities, and flexible to encourage innovative ideas and approaches to help coastal communities to protect traditional water-dependent uses, while diversifying their economies and growing jobs. Diversification of local economies can provide fishermen and

associated industries with a broader array of job opportunities that are water-related. Numerous communities have taken advantage of planning processes to reprioritize coastal uses, expand their economic base, and create a "road map" for future economic growth. This program will further these efforts.

Statement of Need and Economic Benefits:
Coastal counties cover only 17 percent of the nation's land area, however they support over 50 percent of the U.S. population and generate nearly 60 percent of the U.S. gross domestic product from activities including commercial and sport fishing, maritime transportation, recreation, and tourism. The gross domestic product in coastal states was valued at $11.4 trillion in 2007. The nation's coasts directly support the ecological, economic, and cultural well-being of the United States. The health and productivity of coastal communities, in turn, depend upon the ecosystems in which they are located and which generate benefits such as sustainable fisheries, storm protection, and healthy beaches. In particular, the economic base of many coastal communities has depended on an active fishing industry. For example, commercial and recreational fisheries result in $162.9 billion in sales impacts in the U.S. economy each year.[1] However, a number of U.S. fisheries are under-performing biologically and economically. The present productivity of U.S. fishery resources is 24 percent below the long term sustainable yield of 12.4 million tons.[2] Fishing communities will benefit from a more robust and sustainable waterfront economy.

NOAA has the expertise, capabilities, and authorities to effectively administer a Working Waterfronts grant program. Authorities include:

- Coastal Zone Management Act (CZMA) (16 U.S.C. §§ 1451-1466) - provides the basis for protecting, restoring, and responsibly developing the nation's diverse coastal communities and resources. The CZMA takes a comprehensive approach to coastal resource management—balancing the often competing and occasionally conflicting demands of coastal resource use, economic development, and conservation. The CZMA specifically identifies economic development, giving consideration to issues such as coastal-dependent uses, redevelopment of deteriorating urban waterfronts and ports, public access, fisheries development and aquaculture, and restoration of historic, cultural, and aesthetic coastal features.

- Sea Grant Act (33 USCS §§1121-1131) - establishes a program to provide for the understanding and wise use of ocean, coastal, and Great Lakes resources and the environment; foster economic competitiveness; and promote public stewardship and wise economic development of the coastal ocean and its margins, the Great Lakes, and the exclusive economic zone.

Base Resources Assessment:
NOAA does not currently have base resources for this activity in the Ocean and Coastal Management program (the Working Waterfronts program is a new initiative for FY 2012). Although the Agency does not currently have base resources for this activity, NOAA has considerable experience and capability in working with coastal communities on working waterfront issues.

[1] NMFS, 2010. Fisheries Economics of the U.S., 2008. NOAA Tech Memo NMFS-F/SPO-109, 177 p.

[2] NMFS, 2009 Our living oceans: Report on the status of U.S. living marine resources, 6th edition. NOAA Tech Memo NMFS-F/SPO-80, 369 p.

Schedule and Milestones:

- Develop and publish an annual Federal Funding Opportunity (FFO) for a competitive grants program, including program objectives, funding criteria, and the selection process (FY 2012 – FY 2016, 1st Quarter)
- Review, rank, and select applications for funding (FY 2012–2016, 2nd Quarter)
- Fund selected projects (FY 2012– 2016, 4th Quarter)
- Annual summaries of Working Waterfront Grant Program accomplishments (FY 2013 – 2016)

Deliverables:

- Socio-economic information to support economic development in fishing communities (FY 2013 – 2016)
- Community-based economic development strategies (FY 2013 – 2016)
- Implementation projects supporting the transition and sustainability of local economies (FY 2012 – 2016)
- Sustained partnerships with economic development partners at Federal and state levels

Performance Goals and Measurement Data

Performance Measure: Number of socio-economic studies developed supporting economic development in fishing communities (cumulative)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	NA	0	4	8	12	16
Without Increase	0	0	0	0	0	0
Description: Socio-economic studies provide the basis for understanding stakeholder needs and the impacts to local and regional economies that result from changes in fishery management strategies and other environmental conditions. These studies provide the foundation for planning, strategies and capacity building related to economic development.						

Performance Measure: Number of economic development strategies, planning processes and capacity building activities implemented at the local level. (cumulative)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	NA	0	6	12	18	24
Without Increase	0	0	0	0	0	0
Description: Economic development strategies, planning processes and capacity building activities tailored to local needs provide a vision and "road map" for economic transition in fishing communities.						

Performance Measure: Number of projects funded to support economic development and transition in fishing communities (cumulative)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	NA	5	10	15	20	25
Without Increase	0	0	0	0	0	0
Description: Community-based implementation projects to support development and transition to a more sustainable local economy.						

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

	Object Class	2012 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	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	50
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental Payments to others	0
23.3	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	450
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	7,500
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	8,000

National Estuarine Research Reserves (NERRS) (Base Funding: 0 FTE and $23,500,000; Program Change: -0 FTE and -$1,174,000): NOAA requests a decrease of $1,174,000 and 0 FTE for a total of $22,326,000 and 0 FTE for National Estuarine Research Reserves (NERRS) operational funding. The Consolidated Appropriations Act, 2010, provided additional funding for NERRS operations to implement the approved management plans of 27 reserves. This additional funding is no long required as the FY 2012 President's Budget provides for sufficient funding to support essential operations at NERRS reserves throughout the Nation. The NERRS allocates funding for site-specific programs as well as system-wide programs that achieve the program's objectives to protect estuarine areas (more than 1.3 million acres), provide educational opportunities, promote and conduct estuarine research and monitoring, and transfer relevant information to coastal managers. The program is focusing on four priority topics: impacts of land use and population growth; habitat loss and alteration; water quality degradation; and changes in biological communities. Base funds for NERRS support science, education and stewardship programs, reserves operations, and the NERRS Science Collaborative.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	(1,174)
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	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	(1,174)

Marine Protected Areas (Base Funding: 0 FTE and $3,000,000; Program Change: -0 FTE and -$872,000): NOAA requests a decrease of $872,000 and 0 FTE for a total of $2,128,000 for the Marine Protected Areas (MPA) program. The Consolidation Appropriations Act, 2010, provided additional funding for the MPA program to help support the MPA priorities identified for FY 2010 action including: strengthening marine conservation through the national system partnership; planning for the future of the national system partnership; and engaging stakeholders and the public in support of the national system and marine conservation. This additional funding is no longer required as the President's FY 2012 Request provides sufficient funding to support MPA science, analysis, outreach, training, technical assistance and coordination. NOAA's MPA Program, in coordination with the Department of the Interior, fills a long-standing need for objective science, policy, and management tools to advance the effective use of MPAs in meeting diverse conservation and management objectives. The MPA Program is guided by the Framework for the National System of MPAs.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	(872)
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	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	(872)

Energy Licensing and Appeals (Base Funding: 4 FTE and $1,900,000; Program Change: -0 FTE and -$1,200,000): NOAA requests a decrease of $1,200,000 and 0 FTE for a total of $700,000 and 4 FTE.

Proposed Actions:
NOAA requests a decrease of $1,200,000 and 0 FTE for Energy Licensing and Appeals. The requested resources are sufficient for NOAA to meet its responsibilities under the Federal Consistency provisions of the Coastal Zone Management Act (CZMA). The requested resources will also be used for NOAA's permitting responsibilities under the Ocean Thermal Energy Conversion Act (OTECA). Resources will allow NOAA to augment policy, management, and legal capabilities and to support critically needed technical and scientific expertise. Specifically, NOAA will provide technical and management support to states, industry, and other stakeholders on siting and Federal Consistency issues relating to offshore energy development. NOAA will also coordinate with other federal agencies that have responsibilities for offshore energy and support the initiation of a commercial permitting process for Ocean Thermal Energy Conversion (OTEC) facilities.

Statement of Need and Economic Benefits:
Developing a successful offshore energy sector is important to the U.S for energy security, military readiness, and global competitiveness. Renewable coastal and ocean energy efforts are growing exponentially -- to exploit the enormous power available from wind, tides, currents, and thermal differences, as well as to avoid the issues associated with terrestrial energy development. However, energy projects have the potential for significant biological, physical, and socio-economic impacts. Information to determine these impacts, especially for those employing new or emerging technologies, is critically needed.

NOAA is a key agency in the ocean energy arena through several legislative mandates, including ocean planning and Federal Consistency under the CZMA, and direct permitting responsibilities for commercial OTEC facilities under OTECA. Federal agencies, states, and industry need NOAA to help them plan commercially-feasible ocean energy projects, and are increasingly requesting NOAA's direct involvement.

Approximately two-thirds of U.S. coastal and Great Lake states and territories are seriously considering offshore energy development options. In 2010, eleven states and the Federal government announced plans to form a consortium to coordinate and expedite the creation of an offshore wind industry in the Atlantic Ocean. In particular, it was noted that proactive planning is needed to make the federal permitting process more streamlined and predictable, to avoid conflict, and to prevent the loss of the most suitable and feasible locations. States will use CZMA funds and authorities in many of these offshore wind development efforts; this will require NOAA oversight, particularly in site planning and development of state policies. Furthermore, the Department of Energy (DOE) is receiving proposals for OTEC demonstration projects at a commercial scale. In order to make the demonstration projects compatible with commercial licensing requirements, NOAA needs to have protocols incorporated into the DOE demonstration certification criteria. The U.S. Navy is currently investing in OTEC technology development, while industry is investing in the construction of a pilot facility in 2013 (with plans to develop a full-scale commercial plant in the following years). Regulatory certainty is critical to OTEC (due to the high costs of development and associated investment risks). Final OTEC programmatic rulemaking will require the establishment of baseline information, monitoring and modeling criteria that OTEC developers need to collect in order to assess environmental impacts of the facilities, and preparation of an environmental impact statement. NOAA will work with partners on strategies for supporting these efforts.

Base Resource Assessment:
The base resources for this activity are described in the Ocean and Coastal Management base narrative.

Schedule and Milestones:
- Develop a proposed programmatic rule for reviewing OTECA license applications (FY 2011 - 2012)
- Initiate efforts to establish baseline information, monitoring and modeling criteria that OTEC developers need to collect in order to assess environmental impacts of OTEC facilities (FY 2012-2016)

Deliverables:
- Proposed OTEC rule for commercial OTEC license permits (FY 2013)

Performance Goals and Measurement Data

Performance Measure: Average number of days required to review and approve or deny proposed changes to state enforceable policies.	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Decrease	100	100	100	90	90	90
Without Decrease	75	75	60	60	60	60
Description: Before new or amended enforceable policies, such as laws and regulations, of a coastal state or territory can be used for Federal Consistency, it must be submitted to NOAA for review and approval. This measure tracks NOAA's efforts to reduce the time needed to review and reach a decision on proposed changes to state enforceable policies.						

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(1,200)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(1,200)

Marine Sanctuary Program (Base Funding: 182 FTE and $50,087,000; Program Change: -0 FTE and -$4,051,000): NOAA requests a decrease of $4,051,000 and 0 FTE for a total of $46,036,000 and 0 FTE for the Marine Sanctuary Program. In the Consolidated Appropriations Act, 2010, Congress provided $4,051,000 in additional funding for the Marine Sanctuary Program to operate the national program and implement and review management plans across the system of national marine sanctuaries. This additional funding is no longer required as the President's FY 2012 Request includes sufficient funds for the National Marine Sanctuaries Program (NMSP) to provide support for essential operations for the Nation's system of 13 marine sanctuaries and the Papahānaumokuākea Marine National monument.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	(4,051)
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	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	(4,051)

Congressionally Directed Projects (Base Funding: 0 FTE and $15,620,000; Program Change: -0 FTE and -$15,620,000): NOAA requests a decrease of $15,620,000 to terminate the funding level that would continue under an annualized FY 2011 continuing resolution associated with the Congressionally directed projects identified in the Conference Report that accompanied the Consolidated Appropriations Act, 2010.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Account: Operations, Research and Facilities

	Object Class	2012 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	Civilian personnel benefits	0
13	Benefits for former personnel	0
21	Travel and transportation of persons	(6)
22	Transportation of things	0
23.1	Rental payments to GSA	0
23.2	Rental Payments to others	0
23.3	Communications, utilities and miscellaneous charges	(6)
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	(2,705)
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	(56)
31	Equipment	(97)
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(12,750)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(15,620)

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APPROPRIATION: PROCUREMENT ACQUISITION AND CONSTRUCTION
SUBACTIVITY: PROCUREMENT ACQUISITION AND CONSTRUCTION

The NOS Procurement, Acquisition, & Construction subactivity includes three line items.

Coastal and Estuarine Land Conservation Program (http://coastalmanagement.noaa.gov/land/welcome.html)
The Coastal and Estuarine Land Conservation Program (CELCP) provides grants to state and local governments to protect important coastal and estuarine areas that have significant conservation, recreation, ecological, historical or aesthetic values, or are threatened by conversion from their natural or recreational state. The Federal grants require matching funds, which leverage additional state, local or private contributions. NOAA has developed and issued guidelines delineating criteria for grant awards and a process for conducting a national competitive grants program under the CELCP. Through this program, NOAA supports efforts to protect important stream corridors and habitats, reduce the flow of polluted runoff into coastal waters, lessen the impacts of coastal flooding from severe storm events, and provide opportunities for coastal recreation and nature-based tourism. This program is authorized by the Coastal and Estuarine Land Conservation Act of 2009, which requires that 15 percent of funds be allocated to projects that benefit a National Estuarine Research Reserve (NERR). These funds supplement those in the NERRS construction/acquisition line by supporting land acquisition in the watershed of the reserve.

The Outyear Funding Estimates are provided with the program change requested for this activity.

National Estuarine Research Reserve System Construction/Acquisition (http://www.nerrs.noaa.gov/)
The National Estuarine Research Reserve System (NERRS) is a Federal-state partnership established under the CZMA designed to protect and understand valuable estuarine resources through research and education. For PAC, NERRS funding is matched 70:30 (Federal: State) for facilities construction and 1:1 for land acquisition. Reserves are publicly owned lands and onsite facilities that provide opportunities for researchers as well as the public to better understand these estuarine areas. Supplementing or updating facilities at the 28 reserves will be carried on in conjunction with the development of system-wide construction plans. All construction activities are carried out based on current needs for implementing core NERRS programs and external opportunities for partnerships. When available, reserves will acquire additional nearby critical habitat within, or adjacent to a reserve boundary as identified in reserve management plans to increase protection and provide places for conducting long-term science, education, and demonstration programs. The facilities and land of the reserves are owned and managed by the states in this Federal-state partnership. NERRS construction and land acquisition projects are selected on a competitive basis.

The Outyear Funding Estimates are provided with the program change requested for this activity.

National Marine Sanctuary Program Construction/Acquisition (http://sanctuaries.noaa.gov/)
NOAA administers the National Marine Sanctuary System under authority of the National Marine Sanctuaries Act. The Office of National Marine Sanctuaries manages and operates the Nation's system of 13 Marine Sanctuaries and the Papahānaumokuākea Marine National Monument. The program is implementing a comprehensive facilities plan that prioritizes needs and opportunities at individual sites for constructing exhibits, collaborative education and visibility projects, and operational needs. In order to establish better understanding and appreciation for sanctuary and other ocean and coastal resources by the public, the program is constructing a network of exhibits, signage, and kiosks. Whenever possible, sanctuaries will 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 conservation issues. These facilities serve as important windows into the resources of the Sanctuaries and act as a storefront for public interaction with NOAA programs. The goal of these exhibits is to share with the public these ocean treasures. In addition to these efforts, PAC funding supports operational facility requirements for NOAA-owned facilities, including safety improvements, ADA (Americans with Disabilities Act) upgrades, and replacement and repair.

The Outyear Funding Estimates are provided with the program change requested for this activity.

Schedule & Milestones:

- Conduct national competitions annually for CELCP and NERRS Acquisition/Construction to select projects for funding and report acres protected through the programs (FY 2012-2016)
- Conduct national competitions annually for NERRS Acquisition/Construction to select projects for funding and report acres protected through the program (FY 2012-2016)
- Completion of sanctuary administrative facilities and visitor centers at Gulf of the Farallones, GFNMS (FY 2012), Kihei, HI/HW (FY 2012), UC Santa Barbara, CINMS (FY 2012), Santa Cruz, MBNMS (FY 2012), Monterey Bay NMS (FY 2013), Key Largo, FKNMS (FY 2014), Kauai, HI/HW (FY 2015), and Savannah, GRNMS (FY 2016)

Deliverables:

- Average of 4,000 additional acres of coastal habitat acquired or put under easement annually through the CELCP and CZMP to conserve natural resources of national and state importance

Performance Goals and Measurement Data

Performance Measure: Annual number acres acquired or designated for long-term conservation (CELCP and NERRS)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
	~4,100	~4,000	TBD	TBD	TBD	TBD

Description: This measure tracks NOAA's success through the National Estuarine Research Reserve System (NERRS), Coastal Zone Management (CZM) Program and Coastal and Estuarine Land Conservation Program (CELCP) programs in protecting habitats identified in the Coastal Zone Management Act as priorities. The measure tracks the number of acres acquired with NOAA funds by state or local government agencies from willing sellers for long-term protection of important coastal habitats and opportunities for recreational access to the coast through the CZM Program and, CELCP, or the number of acres designated for long-term protection by NOAA and state partners through the NERRS. This measure parallels Measure 18d, however targets are represented in a different manner. The Annual Performance Plan targets for this measure represent the number of acres acquired or designated for long-term conservation in a given year. In the President's Budget, however, the targets represent the number of acres that are estimated to be acquired or designated with the expected funding appropriated for that year, although the actual acquisition or designation may occur in a later year.

PROGRAM CHANGES FOR FY 2012:

Coastal and Estuarine Land Conservation Program (Base Funding: 1 FTE and $20,000,000; Program Change: +0 FTE and +$5,000,000): NOAA requests an increase of $5,000,000 and 0 FTE for a total of $25,000,000 and 1 FTE to conserve high priority coastal and estuarine lands that have significant ecological value and support NOAA's stewardship requirements.

Proposed Actions:
With this increase, NOAA will provide funding for additional land conservation projects identified through a competitive selection process, based on habitat types or geographic areas identified by coastal states as having high ecological, conservation, recreational, historic or aesthetic value that are threatened by development, such as tidal or freshwater wetlands, stream buffers, and floodplains. The Program gives priority to lands which can be effectively managed and protected and have significant ecological value. This increase of $5,000,000 for land conservation grants will support approximately 2-4 additional conservation projects per year. This funding will also enable NOAA to ensure that conservation projects satisfy the requirements of NEPA and meet Federal appraisal standards.

Statement of Need and Economic Benefits
Coastal counties are home to almost 153 million people, about 53 percent of the total U.S. population and by 2015 the coastal population is estimated to reach 165 million (*Population Trends Along the Coastal United States: 1980-2008*, NOAA 2004). As the coastal population continues to increase, there are many competing demands for limited coastal areas and growing pressure to develop the remaining lands. Coastal lands and estuaries are ecologically productive and economically important. They serve as nursery habitat for the Nation's commercial fish and shellfish as well as nesting and foraging habitat for coastal birds, filter pollutants from storm water runoff, control flooding after severe storm events, and provide opportunities for coastal recreation and nature-based tourism. NOAA has found that the demand for funding to conserve these important coastal and estuarine areas is significantly higher than the amounts available in recent years. This increase will enhance NOAA's ability to fund high priority projects each year, conserving additional important coastal and estuarine land areas.

Base Resource Assessment:
The base resources for this activity are described in the Ocean and Coastal Management base narrative.

Schedule and Milestones:
- Conduct national competitions annually for CELCP and NERRS Acquisition to select projects for funding and report acres protected through the programs (FY 2012-2016)

Deliverables:

- Average of 5,300 additional acres of coastal habitat acquired or put under easement annually through the CELCP and CZMP to conserve natural resources of national and state importance

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2011 & Prior	FY 2012	FY 2013	FY 2015	FY 2015	FY 2016	Estimate to complete	Total Program Estimate
CELCP								
Change from FY 2011 CR		+5000						
Total Request	271,424	25,000	TBD	TBD	TBD	TBD	N/A	N/A

Performance Goals and Measurement Data

Performance Measure Annual number acres acquired or designated for long-term conservation (Measure 18d -CELCP contribution only)	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Increase	n/a	~5,300	TBD	TBD	TBD	TBD
Without Increase	~4,000	~4,000	~2,000	~2,000	~2,000	~2,000

Description: Measure 18d tracks NOAA's success through the National Estuarine Research Reserve System (NERRS), Coastal Zone Management (CZM) Program and Coastal and Estuarine Land Conservation Program (CELCP) programs in protecting habitats identified in the Coastal Zone Management Act as priorities. The measure tracks the number of acres acquired with NOAA funds by state or local government agencies from willing sellers for long-term protection of important coastal habitats and opportunities for recreational access to the coast through the CZM Program and, CELCP, or the number of acres designated for long-term protection by NOAA and state partners through the NERRS. The protected acres represent the number of acres expected to be protected with the funding provided in a fiscal year. Values above are a subset of measure 18d corresponding to funds provided for the CELCP program.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Procurement, Acquisition and Construction

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	250
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	4,750
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	5,000

National Estuarine Research Reserve System (NERRS) (PAC) (Base Funding: 0 FTE and $3,890,000; Program Change: -0 FTE and -$2,200,000): NOAA requests a decrease of $2,200,000 and 0 FTE for a total of $1,690,000 and 0 FTE to support new acquisition and construction activities.

Proposed Actions:
NOAA requests a decrease in NERRS Construction and Land Acquisition. In FY 2012 NOAA is requesting an increase for the Coastal & Estuarine Land Conservation Program (CELCP). Under the Omnibus Public Lands Act, no less than 15 percent of CELCP funds shall be available for acquisitions benefitting NERRS. The remaining $1.69 million will be competitively awarded for high priority NERRS construction activities.

Statement of Need and Economic Benefits:
The Nation's coastal and ocean areas represent some of its most ecologically and economically important regions. Coastal counties are also the most densely populated part of the U.S., an area that is on average two to three times more densely populated than the Nation as a whole. Congress recognized this fact in 1972 when it passed the Coastal Zone Management Act (CZMA). The CZMA declares that it is the national policy "to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through development and implementation of management programs...giving full consideration to ecological, cultural, historic and esthetic values as well as the need for compatible economic development." The importance of these areas and the need for this program has been recognized not only by the CZMA, but more recently by the National Ocean Policy, which adopted the nine priorities identified in the Final Recommendations of the Interagency Ocean Policy Task Force through Executive Order 13547 (July 19, 2010).

The CZMA established a national framework for coastal protection, including creation of the National Estuarine Research Reserve System (Section 315 CZMA), a national network of estuarine protected areas representing the diverse biological and physical characteristics of estuarine systems of the United States. Reserves are owned and operated by state agencies or universities. Reserves serve as living laboratories and local, regional, and national sources of scientific and technical information, training, and education on estuaries. The reserve system serves as a testing ground for the improvement of coastal resource management through direct resource management and restoration, science, and the translation and dissemination of information to coastal decision makers, teachers, students, and the public.

Federal NERRS funding (70 percent) is matched by the states (30 percent) for Reserve operations, research, monitoring, training, education and facilities construction. Federal NERRS funding (50 percent) for land acquisition is also matched by the states (50 percent).

Base Resource Assessment:
The base resources for this activity are described in the Procurement, Acquisition and Construction base narrative.

Schedule and Milestones:
- Conduct national competitions annually for NERRS Acquisition/Construction to select projects for funding and report acres protected through the program (FY 2012-2016)

Deliverables:
- Two to five competitively awarded projects annually

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2011 & Prior	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	Estimate to Complete	Total Program Estimate
National Estuarine Research Reserve Construction and Land Acquisition								
Change from FY 2011 CR		-2,200						
Total Request	95,246	1,690	TBD	TBD	TBD	TBD	N/A	N/A

Performance Goals and Measurement Data

Performance Measure: Annual number acres acquired or designated for long-term conservation of NERRS	**FY 2011 Target**	**FY 2012 Target**	**FY 2013 Target**	**FY 2014 Target**	**FY 2015 Target**	**FY 2016 Target**
With Decrease	n/a	0	TBD	TBD	TBD	TBD
Without Decrease	~100	TBD	TBD	TBD	TBD	TBD
Description: Acres acquired or designated with NERRS PAC funding for long-term protection/conservation within NERRS sites.						

*NERRS PAC funding is awarded to a mix of acquisition and construction projects. Outyear targets are labeled "TBD" as the percentage of funding going to acquisition or construction related projects varies each year. In FY 2011, only one acquisition project is currently being considered for funding.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Procurement, Acquisition and Construction

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	0
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(2,200)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(2,200)

Marine Sanctuaries Construction (Base Funding: 0 FTE and $13,000,000; Program Change: 0 FTE and -$7,505,000): NOAA requests a decrease of $7,505,000 and 0 FTE for a total of $5,495,000 and 0 FTE for Marine Sanctuaries construction. In the Consolidated Appropriations Act, 2010, Congress provided $7,505,000 in additional funds for construction projects in the National Marine Sanctuaries Program. These additional funds are not required in FY 2012 as the President's FY 2012 Request includes $5,495,000 for the National Marine Sanctuaries Program (NMSP) construction base to provide support for essential facilities support at the Nation's system of 13 Marine Sanctuaries and the Papahānaumokuākea Marine National Monument. In FY 2012, the Office of National Marine Sanctuaries plans to support construction related activities at Crissy Field, Kehei, and Cordell Banks, in addition to funding the Stellwagen Banks Marine Operations Center, Flower Garden Banks renovations, and the completion of Galveston projects which are currently underway The program is implementing a comprehensive facilities plan that prioritizes needs and opportunities at individual sites for constructing exhibits, collaborative education and visibility projects, and operational needs. PAC funding supports operational facility requirements for NOAA-owned facilities, including safety improvements, Americans with Disabilities Act (ADA) upgrades, and replacement and repair. National Marine Sanctuaries sites provide cooperative centers where the public and environmental decision makers can gain direct, objective and focused information on conservation issues.

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2011 & Prior	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	Estimate to Complete	Total Program Estimate
National Marine Sanctuaries Construction Base								
Change from FY 2011 CR		-7,505						
Total Request	109,856	5,495	TBD	TBD	TBD	TBD	N/A	N/A

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Procurement, Acquisition and Construction

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	(7,505)
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	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	(7,505)

Congressionally Directed Projects (Base Funding: 0 FTE and $4,000,000; Program Change: -0 FTE and -$4,000,000): NOAA requests a decrease of $4,000,000 to terminate the funding level that would continue under an annualized FY 2011 continuing resolution associated with the Congressionally directed projects identified in the Conference Report that accompanied the Consolidated Appropriations Act, 2010.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Account: Procurement, Acquisition and Construction

	Object Class	2012 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	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	Communications, utilities and miscellaneous charges	0
24	Printing and reproduction	0
25.1	Advisory and assistance services	0
25.2	Other services	(443)
25.3	Purchases of goods & services from Gov't accounts	0
25.4	Operation and maintenance of facilities	0
25.5	Research and development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	0
31	Equipment	0
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	(3,557)
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	(4,000)

APPROPRIATION: Damage Assessment and Restoration Revolving Fund

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. Through the Revolving Fund, NOAA:

- Retains funds that are recovered through settlement or awarded by a court for restoration of injured natural resources, and retains reasonable costs of conducting spill response and damage assessments that are recovered by NOAA through negotiated settlement, court award, or other reimbursement.

- Ensures funds 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) natural resource damage assessment while the Departments of Commerce and Justice seek full reimbursement from potentially responsible parties; and (2) 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.

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Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010 Enacted	16	16	3,000	15,600
less: Obligations from prior year balances	0	0	0	0
less: Unobligated balance transferred, DOI	0	0	0	0
plus: 2012 Adjustments to Base	0	0	0	0
FY 2012 Base	16	16	3,000	15,600
plus: 2012 Program Changes	0	0	0	0
FY 2012 Estimate	16	16	3,000	15,600

		FY 2010 Actuals		FY 2011 Currently Available		FY 2012 Base Program		FY 2012 Estimate		Increase/ Decrease	
Comparison by activity/subactivity		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Damage Assessment and Restoration Revolving Fund	Pos/BA	16	3,222	16	3,300	16	3,000	16	3,000	0	0
	FTE/OBL	7	8,755	16	55,326	16	15,600	16	15,600	0	0
Total: Damage Assessment and Restoration Revolving Fund	Pos/BA	16	3,222	16	3,300	16	3,000	16	3,000	0	0
	FTE/OBL	7	8,755	16	55,326	16	15,600	16	15,600	0	0

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2010 Actuals		FY 2011 Currently Available		FY 2012 Base Program		FY 2012 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Mandatory Obligation	7	8,755	16	55,326	16	15,600	16	15,600	0	0
Total Obligations	**7**	**8,755**	**16**	**55,326**	**16**	**15,600**	**16**	**15,600**	**0**	**0**
Adjustments to Obligations:										
Federal funds	0	(100)	0	0	0	0	0	0	0	0
New offsetting collections	0	(4,662)	0	(16,600)	0	(7,600)	0	(7,600)	0	0
Recoveries	0	(184)	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	(26,725)	0	(30,426)	0	0	0	0	0	0
Unobligated balance, transferred (From DOI)	0	(4,288)	0	(5,000)	0	(5,000)	0	(5,000)	0	0
Unobligated balance, EOY	0	30,426	0	0	0	0	0	0	0	0
Total Budget Authority	**7**	**3,222**	**16**	**3,300**	**16**	**3,000**	**16**	**3,000**	**0**	**0**
Financing from Transfers and Other:										
Transfer from Other Accounts	0	0	0	0	0	0	0	0	0	0
Transfer to/from Dept of Interior	0	(3,222)	0	(3,300)	0	(3,000)	0	(3,000)	0	0
Net Appropriation	**7**	**0**	**16**	**0**	**16**	**0**	**16**	**0**	**0**	**0**

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	2,010 Actuals	2011 Currently Available	2012 Base	2012 Estimate	Increase/ (Decrease) over 2012 Base
11	Personnel compensation					
11.1	Full-time permanent	1,373	1,373	1,373	1,373	0
11.3	Other than full-time permanent	8	8	8	8	0
11.5	Other personnel compensation	29	29	29	29	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	1,410	1,410	1,410	1,410	0
12.1	Civilian personnel benefits	552	552	552	552	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	210	210	210	210	0
22	Transportation of things	4	4	4	4	0
23.1	Rental payments to GSA	130	130	130	130	0
23.2	Rental payments to others	6	6	6	6	0
24	Printing and reproduction	4	4	4	4	0
25.1	Advisory and assistance services	844	844	844	844	0
25.2	Other services	3,458	50,029	10,303	10,303	0
25.3	Other purchases of goods and services from Govt accounts	182	182	182	182	0
26	Supplies and materials	146	146	146	146	0
31	Equipment	144	144	144	144	0
41	Grants, subsidies and contributions	1,652	1,652	1,652	1,652	0
42	Insurance claims and indemnities	1	1	1	1	0
43	Interest and dividends	12	12	12	12	0
99	**Total Obligations**	8,755	55,326	15,600	15,600	0

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2,010 Actuals	2011 Currently Available	2012 Base	2012 Estimate
Less collections	(4,762)	(16,600)	(7,600)	(7,600)
Less recoveries	(184)	0	0	0
Less unobligated balance, SOY	(26,725)	(30,426)	0	0
Plus unobligated balance, EOY	30,426	0	0	0
Plus unobligated balance transferred	(4,288)	(5,000)	(5,000)	(5,000)
Total Budget Authority	3,222	3,300	3,000	3,000
Transfers:				
Transfer from Other Accounts	0	0	0	0
Transfer from DOI	(3,222)	(3,300)	(3,000)	(3,000)
Discretionary Budget Authority	0	0	0	0
Personnel Data				
Full-Time equivalent Employment:				
Full-time permanent	7	16	16	16
Other than full-time permanent	0	0	0	0
Total	7	16	16	16
Authorized Positions:				
Full-time permanent	16	16	16	16
Other than full-time permanent	0	0	0	0
Total	16	16	16	16

Appropriation: Coastal Zone Management Fund

Section 308 of the Coastal Zone Management Act authorizes the CZMF to be used for the following purposes:

- Expenses incident to the administration of the Coastal Zone Management Act;
- Projects to address management issues which are regional in scope, including interstate projects;
- Demonstration projects which have high potential for improving coastal zone management, especially at the local level;
- Emergency grants to state coastal zone management agencies to address unforeseen or disaster-related circumstances;
- Appropriate awards recognizing excellence in coastal management;
- Program Development Grants; and
- Financial support to coastal States for use in investigating and applying the public trust doctrine to implement State management programs.

Loans under this program were made prior to 1992, but balances were not transferred to the General Fund in accordance with the Federal Credit Reform Act of 1990 (FCRA), even though the account effectively serves as a liquidating account. To resolve this inconsistency, the Budget proposes to cancel all balances in the Coastal Zone Management Fund, make future payments to the Fund subject to FCRA, and eliminate the annual transfer from this account to the Operations, Research, and Facilities account.

PROPOSED LEGISLATION:

All balances in the Coastal Zone Management Fund, whether unobligated or unavailable, are hereby permanently cancelled, and notwithstanding Section 308(b) of the Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1456a), any future payments to the Fund made pursuant to sections 307 (16 U.S.C. 1456) and 308 (16 U.S.C. 1456a) of the Coastal Zone Management Act of 1972, as amended, shall, in this fiscal year and any future fiscal years, be treated in accordance with the Federal Credit Reform Act of 1990, as amended.

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010 Enacted	0	0	(1,500)	0
less: Obligations from prior year balances	0	0	0	0
less: Unobligated balance transferred, DOI	0	0	0	0
plus: 2012 Adjustments to Base	0	0	0	0
FY 2012 Base	0	0	(1,500)	0
plus: 2012 Program Changes	0	0	0	0
FY 2012 Estimate	0	0	(1,500)	0

		FY 2010 Actuals		FY 2011 Currently Available		FY 2012 Base Program		FY 2012 Estimate		Increase/ Decrease	
Comparison by activity/subactivity		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Zone	Pos/BA	0	(284)	0	(1,500)	0	(1,500)	0	(1,500)	0	0
Management Fund	FTE/OBL	0	0	0	0	0	0	0	0	0	0
Total: Coastal Zone	Pos/BA	0	(284)	0	(1,500)	0	(1,500)	0	(1,500)	0	0
Management Fund	FTE/OBL	0	0	0	0	0	0	0	0	0	0

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2010 Actuals		FY 2011 Currently Available		FY 2012 Base Program		FY 2012 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Adjustments to Obligations:										
New offsetting collections	0	(284)	0	(1,500)	0	(1,500)	0	(1,500)	0	0
Recoveries	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	0	0	0	0	0	0	0	0	0
Unobligated balance, EOY	0	0	0	0	0	0	0	0	0	0
Total Budget Authority	**0**	**(284)**	**0**	**(1,500)**	**0**	**(1,500)**	**0**	**(1,500)**	**0**	**0**
Financing from Transfers and Other:										
Spending authority previously unavailable	0	0	0	0	0	0	0	0	0	0
Previously unavailable/unobligated balances	0	(2,716)	0	(1,500)	0	(1,500)	0	0	0	1,500
Transfer to ORF	0	3,000	0	(1,500)	0	(1,500)	0	0	0	1,500
Transfer to Treasury	0	3,000	0	3,000	0	3,000	0	1,500	0	(1,500)
Net Appropriation	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	2010 Actuals	2011 Currently Available	2012 Base	2012 Estimate	Increase/ (Decrease) over 2012 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
24	Printing and reproduction	0	0	0	0	0
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services	0	0	0	0	0
25.3	Other purchases of goods and services from Govt accounts	0	0	0	0	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	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
99	**Total Obligations**	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2010 Actuals	2011 Currently Available	2012 Base	2012 Estimate	Increase/ (Decrease) over 2012 Base
Less prior year recoveries	0	0	0	0	0
Less unobligated balance, SOY	0	0	0	0	0
Plus unobligated balance, EOY	0	0	0	0	0
Offsetting collections, mandatory	(284)	0	0	0	0
Total Budget Authority	(284)	0	0	0	0
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

APPROPRIATION: COASTAL IMPACT ASSISTANCE PROGRAM

Congress authorized the Coastal Impact Assistance Program (CIAP) under §903 of the FY 2001 Commerce, State, Justice appropriations act to assist states in mitigating the impacts from Outer Continental Shelf (OCS) oil and gas production. Congress appropriated $150,000,000 in fiscal year 2001 to seven coastal states -- Alaska, California, Texas, Louisiana, Mississippi, Alabama, and Florida -- to implement this program. Funds were expended according to Coastal Impact Assistance Plans developed by the states.

The National Ocean Service (NOS) within the National Oceanic and Atmospheric Administration (NOAA) was charged with implementing this program at the Federal level.

FY 2001 was the only year NOAA received an appropriation for these activities, but NOAA continues to receive deobligations from this grant program, which are deposited in this account.

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Impact Assistance Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010 Enacted	0	0	0	0
less: obligations from prior year	0	0	0	0
plus: 2012 Adjustments to Base	0	0	0	0
FY 2012 Base	0	0	0	0
plus: 2012 Program Changes	0	0	0	0
FY 2012 Estimate	0	0	0	0

		FY 2010 Actuals		FY 2011 Currently Available		FY 2012 Base Program		FY 2012 Estimate		Increase/ Decrease	
Comparison by activity/subactivity		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Impact Assistance Fund	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	155	0	0	0	0	0	0	0	0
Total: Coastal Impact Assistance Fund	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	155	0	0	0	0	0	0	0	0

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Impact Assistance Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2010 Actuals		FY 2011 Currently Available		FY 2012 Base Program		FY 2012 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	0	155	0	68	0	0	0	0	0	0
Total Obligations	**0**	**155**	**0**	**68**	**0**	**0**	**0**	**0**	**0**	**0**
Adjustments to Obligations:										
Non-Federal Sources	0	0	0	0	0	0	0	0	0	0
Recoveries	0	(68)	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	(155)	0	(68)	0	0	0	0	0	0
Unobligated balance, EOY	0	68	0	0	0	0	0	0	0	0
Total Budget Authority	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Financing from Transfers and Other:										
Net Appropriation	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Impact Assistance Fund
SUMMARY OF RESOURCE REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	2010 Actuals	2011 Currently Available	2012 Base	2012 Estimate	Increase/ (Decrease) over 2012 Base
11.9	Total personnel compensation	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
25.2	Other services	155	68	0	0	0
41	Grants, subsidies and contributions	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	155	68	0	0	0
	Non-Federal Sources	0	0	0	0	0
	Less prior year recoveries	(68)	0	0	0	0
	Less unobligated balance, SOY	(155)	(68)	0	0	0
	Plus unobligated balance, EOY	68	0	0	0	0
	Total Budget Authority	0	0	0	0	0
	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

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APPROPRIATION: SANCTUARIES ASSET FORFEITURE FUND

The Sanctuaries Enforcement Asset Forfeiture Fund receives proceeds from civil penalties and forfeiture claims against responsible parties, as determined through court settlements or agreements, for violations of NOAA sanctuary regulations. Penalties received are held in sanctuary site-specific accounts from year to year (technically reimbursables), as the funds are spent on resource protection within the sanctuary site where the penalty or forfeiture occurred. Funds are expended for resource protection purposes which may include all aspects of law enforcement (from equipment to labor), community oriented policing programs, and other resource protection and management measures such as the installation of mooring buoys or restoration of injured resources.

PROPOSED LEGISLATION:

Provided further, There is established in the Treasury a non-interest bearing fund to be known as the “Sanctuaries Enforcement Asset Forfeiture Fund,” which shall consist of all sums received as fines, penalties, and forfeitures of property for violations of any provisions of 16 U.S.C. 1437: Provided further, All unobligated balances that have been collected pursuant to 16 U.S.C. 1437 shall be transferred from the Operations, Research, and Facilities account into the Sanctuaries Enforcement Asset Forfeiture Fund and shall remain available until expended.

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Sanctuaries Asset Forfeiture Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010 Enacted	0	0	0	0
less: obligations from prior year	0	0	0	0
plus: 2012 Adjustments to Base	0	0	1,000	1,000
FY 2012 Base	0	0	1,000	1,000
plus: 2012 Program Changes	0	0	0	0
FY 2012 Estimate	0	0	1,000	1,000

		FY 2010 Actuals		FY 2011 Currently Available		FY 2012 Base Program		FY 2012 Estimate		Increase/ Decrease	
Comparison by activity/subactivity		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Sanctuaries Asset Forfeiture Fund	Pos/BA	0	0	0	0	0	1,000	0	1,000	0	0
	FTE/OBL	0	0	0	0	0	1,000	0	1,000	0	0
Total: Sanctuaries Asset Forfeiture Fund	Pos/BA	0	0	0	0	0	1,000	0	1,000	0	0
	FTE/OBL	0	0	0	0	0	1,000	0	1,000	0	0

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Sanctuaries Asset Forfeiture Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2010 Actuals		FY 2011 Currently Available		FY 2012 Base Program		FY 2012 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Total Obligations	**0**	**0**	**0**	**0**	**0**	**1,000**	**0**	**1,000**	**0**	**0**
Adjustments to Obligations:										
Non-Federal Sources	0	0	0	0	0	0	0	0	0	0
Recoveries	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	0	0	0	0	0	0	0	0	0
Unobligated balance, EOY	0	0	0	0	0	0	0	0	0	0
Total Budget Authority	**0**	**0**	**0**	**0**	**0**	**1,000**	**0**	**1,000**	**0**	**0**
Financing from Transfers and Other:						(1,000)		(1,000)		
Net Appropriation	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Department of Commerce
National Oceanic and Atmospheric Administration
Sanctuaries Asset Forfeiture Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar Amounts in Thousands)

	Object Class	2010 Actuals	2011 Currently Available	2012 Base	2012 Estimate	Increase/ (Decrease) over 2012 Base
11.9	Total Personnel Compensation	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
25.2	Other services	0	0	1,000	1,000	0
41	Grants, subsidies and contributions	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**Total Obligations**	0	0	1,000	1,000	0
	Non-Federal Sources	0	0	0	0	0
	Less prior year recoveries	0	0	0	0	0
	Less unobligated balance, SOY	0	0	0	0	0
	Plus unobligated balance, EOY	0	0	0	0	0
	Total Budget Authority	0	0	1,000	1,000	0
	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

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