NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

FY 2016

NOAA

Budget Summary

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Layout and Design: Marc Pulliam

From the Desk of Dr. Sullivan

Dear friends of NOAA,

Dr. Kathryn D. Sullivan, Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator

NOAA is America's environmental intelligence agency. We provide timely, reliable, and actionable information—based on sound science—every day to millions of Americans. NOAA's products and services are used by decision makers around the country to better understand risk and prepare for the future. We're helping people, communities, businesses, and governments make smart decisions that directly impact the future of society, the economy, and the environment. The demand for products and services that NOAA provides continues to increase – from the daily weather forecast to seasonal drought outlooks, to decadal sea level rise projections, and much more.

NOAA's FY 2016 budget request of nearly $6.0 billion supports critical investments in our priorities, including: 1) community and economic resilience; 2) National Weather Service (NWS) evolution; 3) observational infrastructure; and 4) organizational excellence.

Providing Information and Services to Make Communities More Resilient

The FY 2016 budget request will improve NOAA's ability to provide people, communities, businesses, and governments with information they can understand and use to make smart decisions, assess risk, and minimize losses. With the foresight provided through environmental intelligence, communities can mitigate coastal flooding through natural shorelines, fishery managers can better account for changing ocean temperatures and acidification, and different economic sectors can position themselves to take advantage of our changing climate. The proposed expansion of the Regional Coastal Resilience Grants program will empower states, territories, tribes, local governments, and public/private partners to improve resilience planning efforts, identify and address their shared risks and vulnerabilities, increase their adaptive capacity, and use tools such as "green infrastructure" to mitigate and minimize the risks associated with climate impacts.

Evolving NOAA's National Weather Service

Impacts from severe storms in the United States cost billions of dollars and claim thousands of lives per year. Becoming a Weather-Ready Nation means not just providing timely, accurate, and reliable weather forecasts, but it also means communicating that information in a way that compels people to act to protect themselves and their interests. The FY 2016 budget will continue efforts already underway to evolve the National Weather Service. Major activities in FY 2016 include overhauling the aging Next Generation Weather Radar infrastructure that underpins our weather forecast and warning services for high-impact events, such as tornadoes. In addition, this request builds on the FY 2015 initiative to improve national hydrologic modeling and forecast capabilities at the National Water Center, which are essential to providing communities improved flood forecasts and inundation mapping. The FY 2016 budget also includes an initiative to improve weather outlooks out to weeks three and four—a time period which is currently poorly forecasted and for which many economic sectors are demanding better insight into probable climate and economic conditions.

Investing in Observational Infrastructure

NOAA's global observing systems are the foundation of the environmental intelligence we provide. The FY 2016 budget includes critical investments in weather satellite systems and the NOAA fleet to preserve—and improve—our ability to generate environmental intelligence. The FY 2016 budget begins a Polar Follow On satellite system

to ensure data continuity for key sensors as the current generation of satellites reaches their end of service. The FY 2016 budget also initiates construction of an Ocean Survey Vessel (OSV), a multi-use platform designed to conduct surveys throughout the U.S. Exclusive Economic Zone. The OSV will have a more diverse range of capabilities and functions than other vessels in the NOAA fleet. Without continued investment, the NOAA fleet is expected to decline to half its current size by 2028, which would impair NOAA's ability to provide the observations and services that communities depend on.

Achieving Organizational Excellence

Each day, NOAA's employees strive to promote organizational excellence and execute our mission with discipline and consistency. We must recruit, retain, reward, and develop the best talent possible and ensure that our customers receive the best service possible. The FY 2016 budget continues critical investments in organizational excellence by bolstering our internal servicing capability and efficiency and investing in the future of NOAA's facilities. These services and facilities are the cornerstone of NOAA's ability to effectively execute its mission of science, service, and stewardship.

Conclusion

In closing, NOAA's FY 2016 budget submission supports our unique role within the federal government. The investments we make today are critical as we strive to provide the environmental intelligence communities have come to rely upon.

Dr. Kathryn Sullivan

Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator

Terminology

The reader should be aware of the specific meaning of several terms as they are used throughout this budget summary:

FY 2014 Spend Plan
Fiscal Year (FY) 2014 Consolidated Appropriations Act, 2014 (P.L. 113-76).

FY 2015 Enacted
Fiscal Year (FY) 2015 Consolidated and Further Continuing Appropriations Act, 2015 (P.L. 113-235).

Adjustments-to-Base
Includes the estimated FY 2016 federal civilian pay raise of 1.3 percent (and the estimated FY 2016 federal military pay raise of 1.3 percent as appropriate). Program totals will provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from GSA. In addition, ATBs include unique/technical adjustments to the base program, for example transfers of base resources between budget lines.

FY 2016 Base
FY 2015 Enacted plus Adjustments-To-Base.

Program Change
Requested increase or decrease over the FY 2016 Base.

FY 2016 Request
FY 2016 Base plus Program Changes.

Chapter 1 | Introduction

Sand dunes and natural vegetation provide critical protection for coastal communities.

In its Fiscal Year (FY) 2016 budget request, the National Oceanic and Atmospheric Administration (NOAA) makes targeted investments in the four agency priorities of Building Community and Economic Resilience, Evolving the National Weather Service (NWS), Improving Observational Infrastructure, and Achieving Organizational Excellence. In particular, this budget requests major initiatives to fortify the NOAA fleet via an Ocean Survey Vessel (OSV) and to advance next-generation polar satellite technology via the Polar Follow On. These investments provide at-sea and spaced-based data that are the foundation upon which the NOAA mission is built. For more information about specific FY 2016 investments, please refer to the following individual line office chapters or the tables in Appendix 2.

NOAA's budget directly aligns with the Environment goal within the Department's "Open for Business Agenda," which reflects Commerce's role as the voice of business and the Administration's focus on economic growth and job creation. Specifically, NOAA helps communities and businesses prepare for and prosper in a changing environment by providing crucial environmental information, products, and services. The budget provides approximately $6.0 billion for NOAA, which will advance the Nation's ability to understand and anticipate changes in the Earth's environment, improve society's ability to make scientifically informed decisions, deliver vital services to bolster the economy and public safety, and conserve and manage ocean and coastal ecosystems and resources.

NOAA appreciates the support of Congress, the Administration, and its broad base of constituents in FY 2014 and FY 2015 and will continue to monitor major milestones and accomplishments related to its programs and activities in the current and future budget execution years. Below are some of NOAA's top accomplishments from 2014, which could not have been achieved without partners in the research, industry, and conservation communities, and in states and local communities:

Implemented High Resolution Rapid Refresh Model

On September 30, 2014, NOAA transitioned to operations the three kilometer High-Resolution Rapid Refresh (HRRR) severe weather forecast model. The HRRR better pinpoints neighborhood-sized threats such as tornadoes, heavy precipitation that can lead to flash flooding, and heavy snowfall, and provides advanced warnings so that residents can take precautions hours in advance. The HRRR model helps forecasters provide more information – and within a quicker timeframe – to air traffic managers and pilots about hazards, such as air turbulence and thunderstorms. The model is run every hour out to 15 hours with a domain slightly larger than the Continental United States and has a spatial resolution four times finer than previous numerical models. NOAA's recent increase in supercomputing capacity enabled the HRRR to better integrate radar data with traditional observations.

Removed 57 Tons of Marine Debris from World Heritage Site

In September-October 2014, a team of 17 NOAA divers operating from the *Oscar Elton Sette* removed 57 tons of marine debris consisting of derelict fishing nets and plastic litter from the Papahānaumokuākea Marine National Monument, a World Heritage Site and one of the largest marine conservation areas in the world. The divers worked out of small boats launched from the Sette systematically surveying coral reefs at Maro Reef, Pearl and Hermes Atoll, and Midway Atoll. NOAA has led this mission every year since 1996 and has removed a total of 904 tons of marine debris, including this year's haul. The nets are an entanglement hazard for monk seals, turtles and seabirds that depend on the shallow coral reef ecosystem for survival. They also break and damage corals as they drift through the currents, catching on anything in their path. Once they have settled, they can smother the corals and prevent growth.

Supported Response to Lake Erie Harmful Algal Bloom

NOAA scientists issued timely forecasts to aid in the response to a bloom of cyanobacteria that contaminated drinking water in Lake Erie on August 2nd, 2014. This event left nearly 400,000 people in Ohio without drinking water for two days. In response to requests from Ohio agencies, NOAA increased the frequency of Lake Erie Harmful Algal Bloom Bulletins from once to twice a week. These bulletins tracked the size and location of blooms and predicted their movement until the bloom season ended in the fall. The August 1st edition of the NOAA bulletin forecasted the intensification of this bloom and enabled Toledo to prepare for a potential hazard.

Continued to End Overfishing and Rebuild Nation's Fish Stocks

In April 2014, in its release of the *Status of U.S. Fisheries, 2013* report, NOAA announced continued progress in ending overfishing and rebuilding fish stocks. The report notes that NOAA removed seven more stocks from the overfishing list and four more stocks from the list of overfished stocks. Additionally, recent

assessments show that two stocks have been rebuilt, bringing the number of stocks rebuilt since 2000 to 34. Published at the same time, *Fisheries Economics of the United States, 2012* showed that the health of commercial and recreational fisheries overall continues to grow, supporting approximately 1.7 million jobs in 2012, up 100,000 from the previous year. This progress demonstrates the strength of the U.S. science-based management model under the Magnuson-Stevens Fishery Conservation and Management Act and underscores the importance of ending overfishing as a key to bolstering the health of the marine environment and coastal economies.

Awarded for Climate.gov Website

In June 2014, NOAA received two Webby wins for the agency's Climate.gov website. The Webby Award is the leading international award honoring excellence on the Internet. The site won in the Government and Green categories and was also selected as the People's Voice Award Winner in the Green category. Climate.gov includes news and information about climate trends, new science results, interactive maps, and learning resources and also supports the Administration's Climate Resilience Toolkit. The goals of the site are to promote public understanding of climate science and climate-related events, make NOAA's data products and services easy to access and use, and provide climate information and tools to local decision-makers.

Revealed Alaska Fisheries at risk from Ocean Acidification

NOAA, in collaboration with the University of Alaska, Bureau of Ocean Energy Management, and other partners, published a study that concluded that Alaska fisheries and communities in certain regions are at high risk from the effects of ocean acidification (OA). The study, "Ocean acidification risk assessment for Alaska's fishery sector," published on July 29, 2014 in *Progress in Oceanography*, showed that many of Alaska's economically valuable marine fisheries, such as red king crab and tanner crab, are located in waters with increasing OA. The economy and livelihood of communities in southeast and southwest Alaska are expected to be particularly vulnerable to these impacts due to their reliance on fisheries. The study recommends stakeholders develop response strategies to address this increasingly widespread environmental challenge.

Listed Threatened Coral Species under the Endangered Species Act

In August 2014, NOAA listed 20 species of coral as threatened under the Endangered Species Act (ESA) to provide additional protections and enable the recovery of corals throughout the Pacific and Caribbean regions. To make these listing determinations, NOAA collected and analyzed an unprecedented amount of scientific data, including information on threats to coral ecosystems, such as climate change (e.g., rising ocean temperatures, ocean acidification, and disease), effects from fishing, and land-based sources of pollution (e.g., sedimentation and nutrient enrichment). NOAA is working with states, territories, and other partners on conservation measures and recovery strategies for the newly listed corals.

Provided Advanced Warnings for Record Cold during Winter "Polar Vortex" Incursion

NOAA accurately predicted the unusual jet stream pattern that occurred in January 2014, known as the "Polar Vortex," more than eight days in advance. The "Polar Vortex" produced the coldest and most persistent frigid temperatures across the central and eastern United States in 20 years. Nearly 180 million people across 20 states experienced dangerous wind chill levels. Along with the extreme cold, heavy snow and ice plagued much of the Midwest, with up to a foot of wind-driven snow falling from Missouri to Michigan. The effective advanced warnings enabled federal, state, local and commercial decision makers to take action. NOAA's weather warnings highlighted dangers from exposure, frozen pipes and indoor fire/carbon monoxide hazards in an attempt to educate the public and mitigate health and property risks from the cold. Although at least 10 people died as a direct result of the cold, NOAA warnings prevented greater calamity by ensuring that communities had the information they needed to take appropriate precautions.

Saved Lives with Cospas-Sarsat System

The international Cospas-Sarsat rescue network was inducted into the Space Foundation's Space Technology Hall of Fame in May 2014 at the 30th Space Symposium. The Search and Rescue Satellite Aided Tracking (SARSAT) system uses NOAA satellites in low-earth and geostationary orbits to detect and locate aviators, mariners, and land-based users in distress. The honor recognizes technologies originally developed for space applications that now improve life on Earth. In FY 2014, 203 people were rescued in the U.S. with the aid of the Cospas-Sarsat system.

Completed World Ocean Atlas

In February 2014, NOAA released the World Ocean Atlas (WOA) 2013. The WOA is a data product of NOAA's Ocean Climate Laboratory. First produced in 1994,

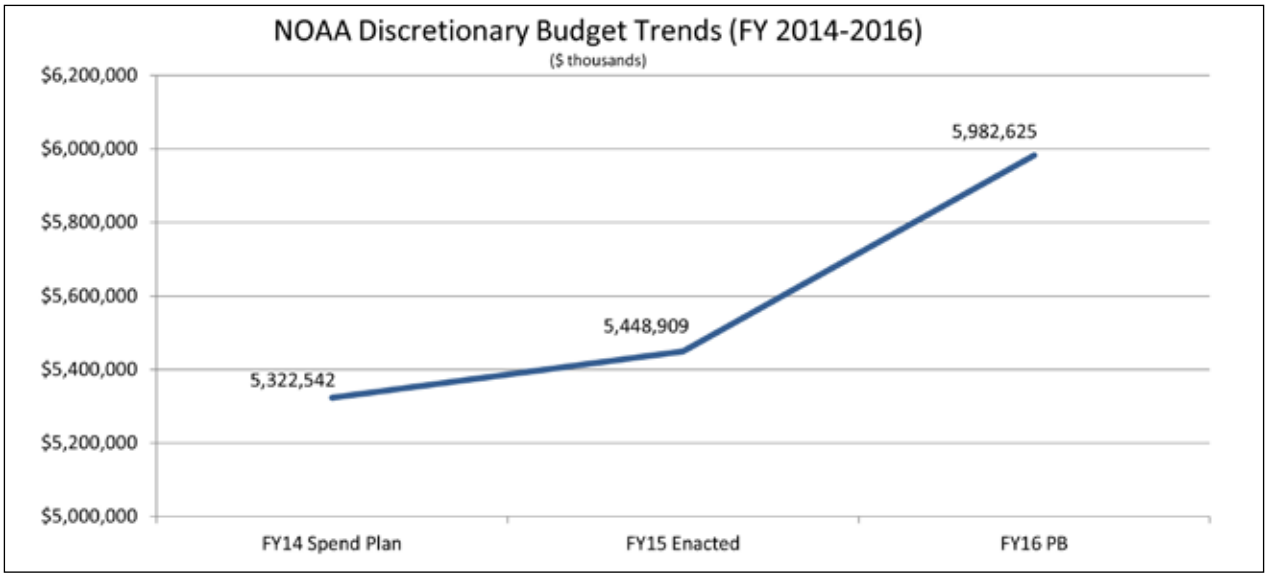
the WOA is a set of objectively analyzed climatological fields of in situ temperature, salinity, dissolved oxygen, Apparent Oxygen Utilization (AOU), percent oxygen saturation, phosphate, silicate, and nitrate at standard depth levels for annual, seasonal and monthly compositing periods for the World Ocean. After the sun, the ocean is the most important driver of weather and climate on the planet. The WOA is an indispensable tool that establishes a crucial baseline of comparison for scientists in their pursuit of understanding the impact of the ocean on the Earth's climate and environment.

Launched First Unmanned Aircraft Directly into the Eye of a Hurricane

In September 2014, a NOAA WP-3D aircraft launched the first-ever successful release of the Coyote, an unmanned aircraft system (UAS), directly into the eye of Hurricane Edouard. Once deployed, the UAS proceeded into the highest wind region of the storm, known as the "eyewall." At an approximate altitude of 2,900 feet, the UAS penetrated Edouard's western eyewall and documented record-breaking winds of 100 kt. as it orbited this high wind region during its historic 28 minute mission. Such deployments of UAS provide unique and groundbreaking insights into a critical region of the storm environment that is typically difficult to observe in sufficient detail since they are too dangerous for manned aircraft. Because the Coyote can fly near the surface of the ocean where warm ocean water fuels a hurricane, it will help provide vital information needed to better understand and predict hurricane intensity.

Opened the Inouye Regional Center in Oahu, Hawaii

From January-March 2014, NOAA moved into the $158 million LEED Gold Inouye Regional Center facility and campus in Hawaii (official occupancy occurred on October 8th, 2014). This effort consolidated nearly all NOAA programs across Oahu (650 employees and equipment at 12 locations) into a government owned multi-building. NOAA initiated disposal actions for the former leased and owned properties and awarded a $15 million design build contract for the Child Development Center, which is scheduled for completion in September 2015. This project has won two national awards for architecture and design, as well as a Hawaii historical society award.



FY 2014 Spend Plan includes $75 million in Fisheries Disaster Assistance Funding.

Chapter 2 | National Ocean Service

Surveying the Arctic. In 2014, NOAA issued a new chart for the Delong terminal serving Red Dog Mine in Alaska.

NOAA's National Ocean Service (NOS) observes, measures, assesses, and manages the Nation's coastal, ocean and Great Lakes areas; protects marine and coastal areas; provides critical navigation products and services (e.g., real time observations, nautical charts); and prepares for and responds to natural disasters and emergencies. The benefits of NOS' products and services include increased coastal economic activity, resilient coastal communities, and enhanced ecosystem services. In FY 2016 NOS is preparing for a future of higher intensity coastal storms, increased demands on the marine transportation system, changing sea levels leading to coastal flooding, and heightened offshore and coastal development.

FY 2016 REQUEST $573,960,000

NOAA requests a total of $573,960,000 in mandatory and discretionary funds to support the continued and enhanced operations of the NOS. This total includes Operations, Research, and Facilities (ORF); Procurement, Acquisition, and Construction (PAC); and other accounts and includes a net increase of $59,419,000 in FY 2016 program changes. In FY 2016, NOS continues to make critical investments in products, services and capabilities that will improve the resilience of the Nation's coasts to immediate hazards and long-term risks.

FY 2016 ORF BUDGET SUMMARY

NOAA requests a total of $547,090,000 to support the Operations, Research, and Facilities of the NOS. This includes a net increase of $59,419,000 in FY 2016 program changes.

ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2016:

Program changes above $1,000,000 are highlighted below. A summary of funding by Program, Project, and Activity (PPA) is located in Appendix 2. Detailed descriptions of all program changes by PPA are located in the NOAA FY 2016 Congressional Justification.

NAVIGATION, OBSERVATIONS, AND POSITIONING $195,500,000

NOAA requests a total of $195,500,000 under the Navigation, Observations, and Positioning sub-program. There are no program changes in this sub-program.

COASTAL SCIENCE AND ASSESSMENT $85,600,000

NOAA requests a net increase of $4,000,000 for a total of $85,600,000 under the Coastal Science and Assessment sub-program. Highlights include:

Robert Mowery, a survey technician on research vessel Bay Hydro II, views the wreck of the (documented) schooner Herbert D. Maxwell, which was discovered by NOAA Coast Survey in the Chesapeake Bay.

Competitive Research: NOAA requests a net increase of $4,000,000 to expand competitive research grants that address coastal ocean issues, including harmful algal blooms, hypoxia, and coastal ecosystem assessment.

Coastal Science, Assessment, Response, and Restoration: Arctic Spill Preparedness: NOAA requests an increase of $1,300,000 to improve oil spill response capacity in the Arctic. Among other activities, this investment will enable: improvement of models to predict oil movement and weathering in ice-covered waters, identification of sensitive ecological resources, better coordination with and preparedness of local communities, and increased research to fill science gaps.

Coastal Science, Assessment, Response, and Restoration: Scientific Support and Emergency Preparedness: NOAA requests a decrease of $1,300,000 to reflect the conclusion of training and preparedness activities at its Gulf of Mexico Disaster Response Center. NOAA will continue to maintain science support for response and restoration in the Gulf region.

OCEAN AND COASTAL MANAGEMENT AND SERVICES $265,990,000

NOAA requests a net increase of $55,419,000 for a total of $265,990,000 under the Ocean and Coastal Management and Services sub-program. Highlights include:

Monohansett Shipwreck in Thunder Bay Sanctuary.

Coastal Management Grants: Regional Coastal Resilience Grants: NOAA requests an increase of $45,000,000 to significantly expand the Regional Coastal Resilience Grant Program. This will allow NOAA to more fully address a broad suite of resilience challenges facing all U.S. coastal regions—including community, ecosystem, and economic resilience. The objectives of this enhanced Regional Coastal Resilience competitive grant program are twofold: 1) to increase the resilience of coastal communities and ecosystems by assisting with planning for and addressing extreme weather events, coastal inundation, climate hazards, changing ocean conditions, and competing uses; and 2) to support regional approaches that leverage existing resources and efforts and promote collaboration across jurisdictions and sectors.

Coastal Zone Management and Services: Ecosystem-based Solutions for Coastal Resilience: NOAA requests an increase of $5,000,000 to assist coastal communities with incorporating green infrastructure into hazard mitigation, resilient coastal development, and post-event rebuilding decisions. In this joint initiative with the National Marine Fisheries Service (NMFS), NOS will deliver practical actionable information to support regional- and community-level planning that incorporates both the technical ingenuity of built infrastructure and the sustainable, protective capacity of ecosystem-based infrastructure solutions. Activities will include economic valuation of ecosystem services, natural resource characterizations and decision support products that depict long-term benefits and tradeoffs of natural vs. built infrastructure solutions. (For more information on this joint initiative between NOS and NMFS, see p. 14 of Chapter 3).

Coastal Zone Management and Services: Capacity to Respond to Extreme Events: NOAA requests an increase of $4,780,000 to provide products and services that help coastal communities prepare for, respond to, and recover more quickly from, natural disasters. Building off recovery efforts in communities impacted by recent major disasters, NOAA will extend its products and services to provide: enhanced real-time inundation observations; improved inundation modeling; targeted technical assistance; and training on risk communication strategies. This funding will mitigate inundation risk to coastal resources, and accelerate recovery from and adaptation to the impacts of extreme events and changing conditions.

Shoreline cleanup of thick surface and subsurface oil residue at Galveston Bay in April following the March 2014 Texas "Y" oil spill.

Coastal Zone Management and Services: AmeriCorps' Resilience Corps Pilot Program Training and Technical Assistance: NOAA requests $2,000,000 to develop and administer a training program for an AmeriCorps' Resilience Corps Pilot Program, which will be managed by the Corporation for National and Community Service, a Federal agency that engages American citizens in service through its core programs, such as AmeriCorps, and is the Nation's largest grant maker for service and volunteering. With this investment, NOAA will train this new AmeriCorps unit to support communities and tribes in: developing vulnerability assessments, coordinating with Federal resilience efforts, and implementing resilience strategies.

Sanctuaries and Marine Protected Areas: NOAA requests a decrease of $1,361,000 to sanctuary operations, including reductions to scalable activities such as vessel operations within the National Marine Sanctuary System. At this level, NOAA will continue to fund mission critical functions and support continued implementation of management plans across the Sanctuary System.

FY 2016 PAC BUDGET SUMMARY

NOAA requests a total of $3,700,000 to support Procurement, Acquisition, and Construction (PAC) activities of the National Ocean Service, unchanged from the FY 2015 Enacted level. These funds support the National Estuarine Research Reserve System (NERRS) Construction and Land Acquisition Program and the National Marine Sanctuaries Construction Program.

MANDATORY FUNDS

Damage Assessment and Restoration Revolving Fund

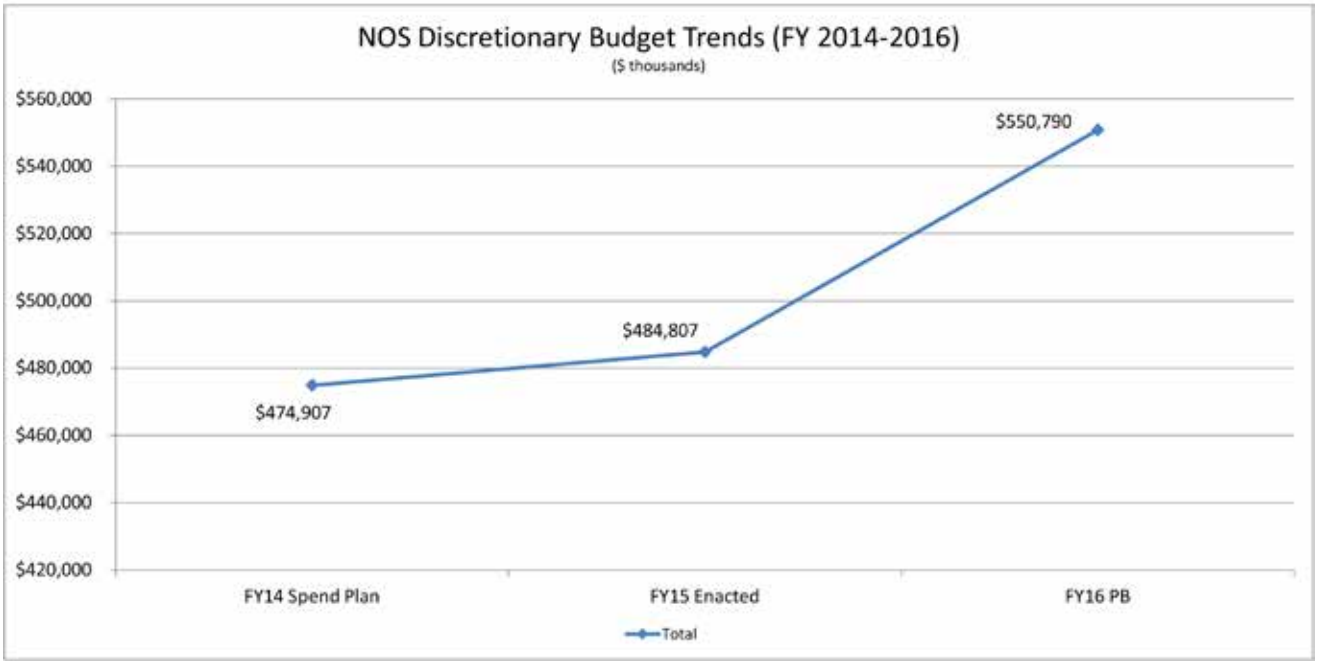
The Damage Assessment and Restoration Revolving Fund was established in 1990 under Section 1012(a) of the Oil Pollution Act to facilitate (1) natural resources damage assessments, and (2) restoration, replacement, or acquisition of injured or lost natural resources, including resources of National Marine Sanctuaries and National Estuarine Research Reserves, tidal wetlands, and other habitats for which NOAA is trustee. The fund receives proceeds from claims against responsible parties as determined through court settlements or agreements.

Sanctuaries Enforcement Asset Forfeiture Fund

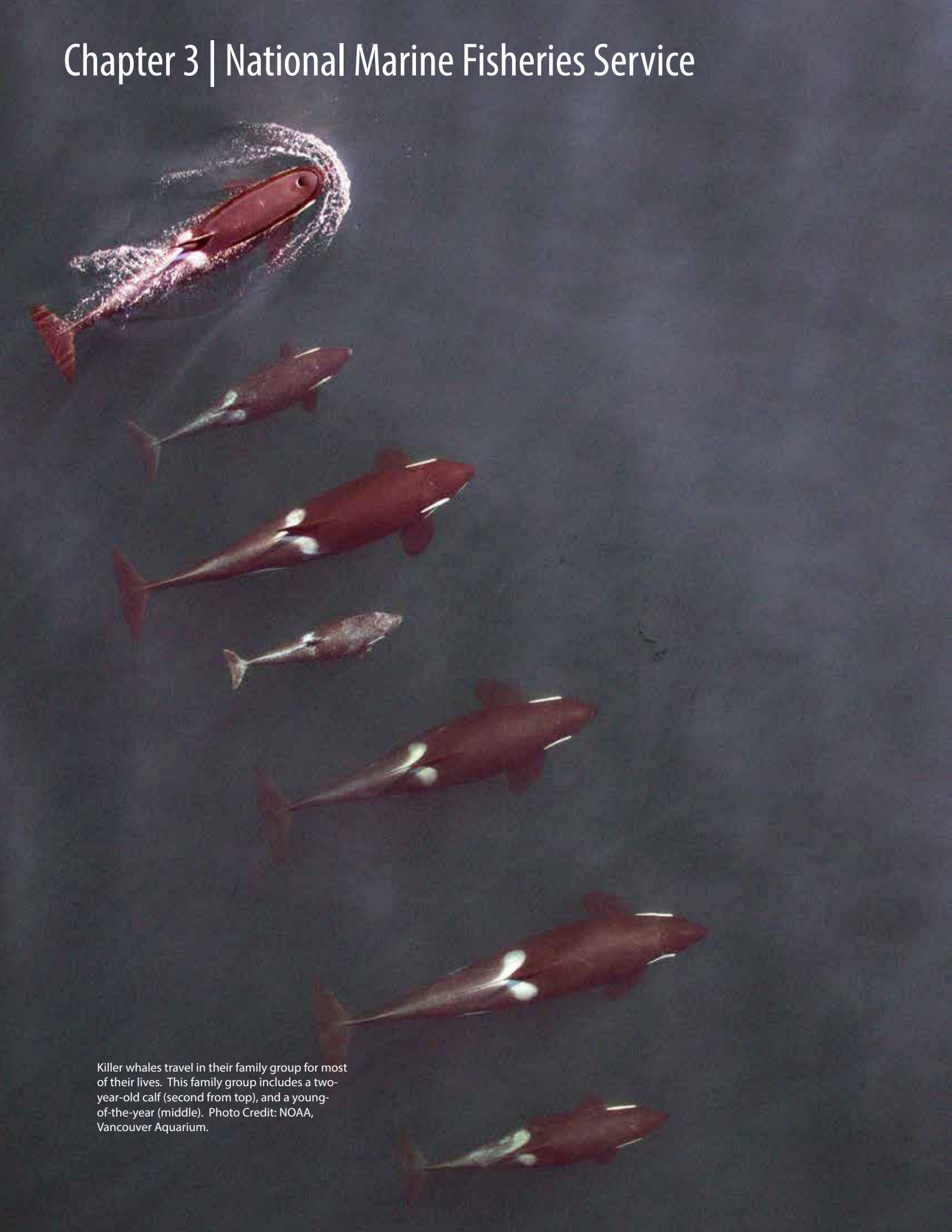
The Sanctuaries Enforcement Asset Forfeiture Fund receives proceeds from civil penalties and forfeiture claims against responsible parties, as determined through court settlements or agreements, for violations of NOAA sanctuary regulations. Penalties received are spent on resource protection within a sanctuary in which the violation occurred.

Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Fund

The Gulf Coast Ecosystem Restoration Science, Observation, Monitoring, and Technology Fund provides funding for the NOAA RESTORE Act. The purpose of this program is to initiate and sustain an integrative, holistic understanding of the Gulf of Mexico ecosystem and support restoration efforts and the long-term sustainability of the ecosystem.



Chapter 3 | National Marine Fisheries Service



Killer whales travel in their family group for most of their lives. This family group includes a two-year-old calf (second from top), and a young-of-the-year (middle). Photo Credit: NOAA, Vancouver Aquarium.

NOAA's National Marine Fisheries Service (NMFS) serves the Nation through a science-based approach to the conservation and management of living marine resources and the promotion of sustainable commercial fisheries and healthy coastal and marine ecosystems. As of December 31, 2014, NMFS manages 469 fish stocks within the U.S. Exclusive Economic Zone (EEZ) as well as invertebrates, sea turtles, marine mammals, and other marine and coastal species, and their habitats.

FY 2016 REQUEST $990,121,000

NOAA requests a total of $990,121,000 in mandatory and discretionary funds to support the continued and enhanced operations of NMFS. This total includes Operations, Research, and Facilities (ORF) and other accounts, including the Pacific Coastal Salmon Recovery Fund, and is composed of a net increase of $54,987,000 in FY 2016 program changes.

In addition to a number of program-related changes, NMFS proposes to restructure its ORF budget Programs, Projects and Activities (PPA) in FY 2016 to improve the coordination and collaboration among activities that service its interwoven missions and mandates. This restructure will better align NMFS' budget to its programmatic and organizational needs, and will provide increased transparency and accountability. Please see the chart below for a detailed crosswalk of the budget line restructure.

Proposed NMFS Budget Restructure (ORF)

CURRENT SUB-PROGRAM	CURRENT PPA	PROPOSED SUB-PROGRAM	PROPOSED PPA
Protected Species Research and Management	Protected Species Research and Management Programs	Protected Resources Science and Management	Marine Mammals, Sea Turtles and Other Species
Protected Species Research and Management	Species Recovery Grants	Protected Resources Science and Management	Marine Mammals, Sea Turtles and Other Species
Protected Species Research and Management	Marine Mammals	Protected Resources Science and Management	Marine Mammals, Sea Turtles and Other Species
Protected Species Research and Management	Marine Turtles	Protected Resources Science and Management	Marine Mammals, Sea Turtles and Other Species
Protected Species Research and Management	Other Protected Species (Marine Fish, Plants, and Invertebrates)	Protected Resources Science and Management	Marine Mammals, Sea Turtles and Other Species
Protected Species Research and Management	Atlantic Salmon	Protected Resources Science and Management	ESA Salmon
Protected Species Research and Management	Pacific Salmon	Protected Resources Science and Management	ESA Salmon
Fisheries Research and Management	Fisheries Research and Management Programs	Protected Resources Science and Management/Fisheries Science and Management/Habitat Conservation and Restoration	Marine Mammals, Sea Turtles and Other Species; Fisheries and Ecosystem Science Programs and Services; Fisheries Management Programs and Services; Habitat Management and Restoration
Fisheries Research and Management	National Catch Share Program	Fisheries Science and Management	Fisheries Management Programs and Services
Fisheries Research and Management	Expand Annual Stock Assessments - Improve Data Collection	Fisheries Science and Management	Fisheries Data Collections, Surveys, and Assessments
Fisheries Research and Management	Economics & Social Sciences Research	Fisheries Science and Management	Fisheries and Ecosystem Science Programs and Services
Fisheries Research and Management	Salmon Management Activities	Fisheries Science and Management	Salmon Management Activities
Fisheries Research and Management	Regional Councils and Fisheries Commissions	Fisheries Science and Management	Regional Councils and Fisheries Commissions

continued on next page

Proposed NMFS Budget Restructure (ORF)

CURRENT SUB-PROGRAM	CURRENT PPA	PROPOSED SUB-PROGRAM	PROPOSED PPA
Fisheries Research and Management	Fisheries Statistics	Fisheries Science and Management	Fisheries Data Collections, Surveys, and Assessments
Fisheries Research and Management	Fish Information Networks	Fisheries Science and Management	Fisheries Data Collections, Surveys, and Assessments
Fisheries Research and Management	Survey and Monitoring Projects	Fisheries Science and Management	Fisheries Data Collections, Surveys, and Assessments; Habitat Management and Restoration
Fisheries Research and Management	Fisheries Oceanography	Fisheries Science and Management	Fisheries and Ecosystem Science Programs and Services
Fisheries Research and Management	American Fisheries Act	Fisheries Science and Management	Fisheries Data Collections, Surveys, and Assessments; Fisheries Management Programs and Services
Fisheries Research and Management	Interjurisdictional Fisheries Grants	Fisheries Science and Management	Regional Councils and Fisheries Commissions
Fisheries Research and Management	National Standard 8	Fisheries Science and Management	Fisheries and Ecosystem Science Programs and Services
Fisheries Research and Management	Reducing Bycatch	Fisheries Science and Management	Observers and Training; Fisheries Management Programs and Services
Fisheries Research and Management	Product Quality and Safety	Fisheries Science and Management	Fisheries Management Programs and Services
Enforcement & Observers/Training	Enforcement	Enforcement	Enforcement
Enforcement & Observers/Training	Observers/Training	Fisheries Science and Management	Observers and Training
Habitat Conservation & Restoration	Sustainable Habitat Management	Habitat Conservation and Restoration	Habitat Management and Restoration
Habitat Conservation & Restoration	Fisheries Habitat Restoration	Habitat Conservation and Restoration	Habitat Management and Restoration
Other Activities Supporting Fisheries	Antarctic Research	Fisheries Science and Management	Fisheries and Ecosystem Science Programs and Services
Other Activities Supporting Fisheries	Aquaculture	Fisheries Science and Management	Fisheries Management Programs and Services
Other Activities Supporting Fisheries	Climate Regimes & Ecosystem Productivity	Fisheries Science and Management	Fisheries and Ecosystem Science Programs and Services
Other Activities Supporting Fisheries	Computer Hardware and Software	Fisheries Science and Management	Fisheries and Ecosystem Science Programs and Services
Other Activities Supporting Fisheries	Cooperative Research	Fisheries Science and Management	Fisheries Data Collections, Surveys, and Assessments
Other Activities Supporting Fisheries	Information Analyses & Dissemination	Fisheries Science and Management	Fisheries and Ecosystem Science Programs and Services
Other Activities Supporting Fisheries	Marine Resources Monitoring, Assessment & Prediction Program	Fisheries Science and Management	Fisheries Data Collections, Surveys, and Assessments
Other Activities Supporting Fisheries	National Environmental Policy Act (NEPA)	Protected Resources Science and Management; Fisheries Science and Management	Marine Mammals, Sea Turtles and Other Species; Fisheries Management Programs and Services
Other Activities Supporting Fisheries	NMFS Facilities Maintenance	Fisheries Science and Management	Fisheries and Ecosystem Science Programs and Services
Other Activities Supporting Fisheries	Regional Studies	Protected Resources Science and Management; Fisheries Science and Management	Fisheries Data Collections, Surveys, and Assessments; Habitat Management and Restoration

FY 2016 ORF BUDGET SUMMARY

NOAA requests a total of $888,236,000 to support the Operations, Research, and Facilities of NMFS, composed of a net increase of $51,687,000 in FY 2016 program changes.

ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2016:

Program changes above $1,000,000 are highlighted below. A summary of funding by Program, Project, and Activity (PPA) is located in Appendix 2. Detailed descriptions of all program changes by PPA are located in the NOAA FY 2016 Congressional Justification.

PROTECED RESOURCES SCIENCE AND MANAGEMENT $214,211,000

NOAA requests a net increase of $29,622,000 in FY 2016 program changes in the Protected Resources Science and Management sub-program for a total of $214,211,000. Highlights include:

Marine Mammals, Sea Turtles and Other Species: Increase Consultation Capacity, ESA recovery: NOAA requests an increase of $13,230,000 to build consultation and permitting capacity mandated by sections 7 and 10 of the Endangered Species Act (ESA) and sections 104 and 101(a)(5) of the Marine Mammal Protection Act (MMPA). With this increased capacity, NOAA will promote species recovery while enabling sustainable economic activity, both of which contribute to community resilience. Specifically, this increase will enable NMFS to reduce the current consultation backlog and expedite permitting and review of public and private development projects that benefit the Nation's economy and create new jobs. NMFS will use $3,230,000 of the total increase amount to work with private, state, territorial and other governmental entities to ensure that their actions can be conducted in a manner that enables the recovery of ESA listed corals.

Marine Mammals, Sea Turtles and Other Species: Species Recovery Grants: NOAA requests an increase of $17,000,000 for the Species Recovery Grants Program, which provides funding to states and tribes to conduct recovery actions for species listed under the ESA. Expanding this competitive grants program will help our partners meet management needs for the growing number of listed species and focus on larger scale, ecosystem-level or multi-state/region projects that have a greater impact on the recovery of listed species. Past recovery actions include assessing and monitoring species status and trends, minimizing bycatch of listed species, conserving habitat, and educating and engaging the public in conservation actions.

Atlantic sturgeon research funded by a Species Recovery Grant under Section 6 of the ESA. Photo Credit: University of Georgia

Marine Mammals, Sea Turtles and Other Species: Prescott Grants: NOAA requests a decrease of $1,909,000 for the John H. Prescott Marine Mammal Rescue Assistance Grant Program. NOAA will continue to award competitive grants to stranding network organizations for the rescue, rehabilitation, or investigation of sick, injured, or distressed live marine mammals and for determining the cause of death or disease in dead marine mammals. NOAA will continue to coordinate technical and veterinary assistance and guidance to the stranding network.

ESA Salmon: Atlantic and Pacific Salmon: NOAA requests an increase of $1,301,000 for ESA salmon recovery. Under this proposal, NOAA will enhance support for a number of activities related to the Maine Department of Marine Resources Atlantic salmon research and management program, such as monitoring changes following dam removals and improving fish passage engineering. NOAA will also expand Pacific salmon monitoring capabilities and increase ESA Section 7 consultation capacity on the West Coast to improve our on-time consultation completion rate in support of the regional economy.

FISHERIES SCIENCE AND MANAGEMENT
$546,122,000

NOAA requests a net increase of $17,544,000 in FY 2016 program changes in the Fisheries Science and Management sub-program for a total of $546,122,000. Highlights include:

Fisheries and Ecosystem Science Programs and Services: Electronic Monitoring and Reporting: NOAA requests an increase of $5,596,000 for Electronic Monitoring and Reporting. This increase will support the development, testing, and installation of electronic monitoring and reporting technologies across the country. The goal is to deliver cost-effective and sustainable electronic data collection solutions that enhance monitoring of catch and bycatch in U.S. fisheries.

Fisheries and Ecosystem Science Programs and Services: Ecosystem-based Solutions for Fisheries Management: NOAA requests an increase of $5,000,000 for the NMFS component of this integrated, cross-disciplinary, and cross-line office scientific initiative that will promote understanding of the importance of inshore and offshore habitat to the productivity and recovery of fisheries and protected species. Working through the NOAA Habitat Conservation Team, NMFS and NOS will implement this program jointly. For more information on this joint initiative, please see p. 8, Chapter 2.

Fisheries Data Collections, Surveys, and Assessments: Expand Annual Stock Assessments: NOAA requests an increase of $2,815,000 to address critical gaps in its stock assessment program and strengthen its stock assessment capacity in each region. This funding will also enable NMFS to expand implementation of the Next Generation Stock Assessment framework, which incorporates ecosystem factors affecting key fish stocks (e.g., climate, habitat) into stock assessments wherever needed and uses advanced technologies to better inform fishery management.

Fisheries Management Programs and Services: Management and Regulatory Support for Electronic Technologies: NOAA requests an increase of $1,450,000 to establish the regulatory framework needed to integrate electronic technologies into fishery-dependent data collection. As electronic monitoring pilot projects are completed, NOAA and the Fishery Management Councils will have a clearer picture of how the increased use of these technologies will work in practice, and what steps are needed to implement changes in the fishery management regulations. The final step of integrating successful pilot project results into the management framework is necessary for electronic monitoring solutions to provide timely and cost efficient data.

Fisheries Management Programs and Services: National Catch Share Program: NOAA requests an increase of $2,216,000 to develop and implement new catch share programs. The implementation of catch share programs can yield efficiencies that lower fisheries management costs and increase the profitability of fisheries over time.

Fisheries Management Programs and Services: Support for Domestic Seafood Production and Jobs through Aquaculture: NOAA requests an increase of $2,000,000 to conduct research and regulatory activities that support safe and sustainable aquaculture development. This funding will increase the U.S. seafood supply and will create jobs and increase trade opportunities by further developing a robust and sustainable U.S. marine aquaculture industry. This effort is in cooperation with the Office of Oceanic and Atmospheric Research (OAR) and their aquaculture programs and proposed budget initiative (see p. 21, Chapter 4).

Finfish aquaculture has high potential to contribute to the domestic supply of safe and sustainable seafood.

NOAA's efforts to restore marshland and set back dikes on the Skagit River, WA are helping to protect neighboring farmland and roads from flooding while also improving fish access to new and existing habitat. Photo Credit: Marlin Greene/One Earth Images

Salmon Management Activities: NOAA requests a decrease of $2,896,000. At the requested level, NOAA will provide $15,922,000 to continue support of Mitchell Act hatchery reforms to bring the programs into compliance and consistency with the Endangered Species Act. NMFS will continue to meet its obligations under the Mitchell Act by supporting the operations and maintenance of Columbia River hatcheries.

ENFORCEMENT $70,018,000

NOAA requests a net increase of $3,850,000 in FY 2016 program changes in the Enforcement sub-program for a total of $70,018,000. Highlights include:

Enforcement: Leveling the Playing Field for U.S. Fisherman – Combating Illegal, Unreported and Unregulated Fishing and Seafood Fraud: NOAA requests an increase of $3,000,000 to strengthen efforts to detect and deter Illegal, Unreported and Unregulated (IUU) fishing and enforce restrictions on imports of illegally-harvested and improperly-documented seafood. These efforts will enhance international cooperation and help block the entry of IUU-caught fish into the stream of commerce and, ultimately, into the U.S. market.

HABITAT CONSERVATION AND RESTORATION $57,885,000

NOAA requests a net increase of $671,000 in FY 2016 program changes in the Habitat Conservation and Restoration sub-program for a total of $57,885,000. Highlights include:

Habitat Management and Restoration: Increase Consultation and Essential Fish Habitat Implementation Capacity: NOAA requests an increase of $5,671,000 to build capacity for Magnuson-Stevens Act (MSA) Essential Fish Habitat (EFH) consultations. With increased capacity, NOAA will reduce delays and streamline permitting and review timeframes for public and private development projects that benefit the Nation's economy and create new jobs.

Habitat Management and Restoration: Coastal Resiliency Ecosystem Grants: NOAA requests a decrease of $5,000,000 for coastal resiliency ecosystem grants funded under this budget line to consolidate funds for this activity in FY 2016 with the National Ocean Service's request for an expanded Regional Coastal Resilience Program (see p. 8, Chapter 2). NOS is requesting a total of $50,000,000 to expand the Regional Coastal Resilience grants program, which will allow NOAA to more fully address a broad suite of resilience challenges facing all U.S. coastal regions—including community, ecosystem, and economic resilience. The objectives of this enhanced Regional Coastal Resilience competitive grant program are twofold: 1) to increase the resilience of coastal communities and ecosystems by assisting with planning for and addressing extreme weather events, coastal inundation, climate hazards, changing ocean conditions, and competing uses; and 2) to support regional approaches that leverage existing resources and efforts and promote collaboration across jurisdictions and sectors.

DISCRETIONARY FUNDS

FISHERMEN'S CONTINGENCY FUND

The Fishermen's Contingency Fund allows NOAA to compensate U.S. commercial fishermen for damage or loss of fishing gear, vessels, or revenues caused by oil and gas-related obstructions in any area of the Outer

North Pacific Long Line electronic monitoring (EM) is a tool to monitor bycatch on Pacific halibut longline vessels on standard Alaska Fisheries Science Center Observer sampling trips.

Continental Shelf. The funds are derived from fees collected annually by the Secretary of the Interior.

FOREIGN FISHING OBSERVER FUND

The Foreign Fishing Observer Fund is financed through fees collected from owners and operators of foreign fishing vessels fishing within the U.S. EEZ (such fishing requires a permit issued under the MSA). The fund is used by NOAA to pay salaries, administrative costs, data editing and entry costs, and other costs incurred for these observers.

FISHERIES FINANCE PROGRAM ACCOUNT

The Fisheries Finance Program is a national loan program that makes long-term, fixed- rate financing available to U.S. citizens who otherwise qualify for financing or refinancing for the construction, reconstruction, reconditioning, or the purchasing of fishing vessels, shoreside processing, aquaculture, mariculture facilities, or individual fishing quota. The FY 2016 President's Request includes up to $24,000,000 in obligations for Individual Fishing Quota direct loans and up to $100,000,000 in obligations of traditional direct loans. Additionally, as required under Section 3095 of the 2015 National Defense Authorization Act and section 504(b) of the Federal Credit Reform Act (FCRA), the Budget requests $10,000,000 to cover the estimated loss to the government from the reduced payments received under the new loan terms compared with the current payments for the Pacific Coast Groundfish Fishing Capacity Reduction Loan. The Budget also requests $300,000 for the subsidy cost to refinance the loan of up to $30,000,000 for a total of $10,300,000 in FY 2016.

PACIFIC COASTAL SALMON RECOVERY FUND

The Pacific Coastal Salmon Recovery Fund was established by Congress in FY 2000 to protect, restore, and conserve Pacific salmonids and their habitats. NMFS provides competitive funding to states and tribes of the Pacific Coast region. Eligible applicants include the states of Washington, Oregon, California, Idaho, Nevada and Alaska and federally recognized tribes of the Columbia River and Pacific Coast (including Alaska). The FY 2016 President's Request includes $58,000,000 for this account which is $7,000,000 below the enacted level in FY 2015. In 2016 NOAA will continue to ensure that riparian buffer protection and restoration receives priority for funding. NOAA will also continue ongoing collaborative work with the U.S. Department of Agriculture and the U.S. Environmental Protection Agency to jointly identify and target the highest priority salmon habitat restoration areas in the region for federal outreach and funding.

MARINE MAMMAL UNUSUAL MORTALITY EVENT FUND

An unusual mortality event is defined under the Marine Mammal Protection Act (MMPA) as "a stranding that is unexpected; involves a significant die-off of any marine mammal population; and demands immediate response." This fund supports efforts to examine carcasses and live stranded animals allowing understanding of threats and stressors and the ability to determine when a situation is "unusual."

MANDATORY FUNDS

PROMOTE AND DEVELOP AMERICAN FISHERY PRODUCTS & RESEARCH PERTAINING TO AMERICAN FISHERIES FUND

The American Fisheries Promotion Act (AFPA) of 1980 amended the Saltonstall-Kennedy (S-K) Act to authorize a grants program for fisheries research and development projects to be carried out with the funds in the Promote and Develop account. Funds are derived from a transfer from the Department of Agriculture to NOAA from duties on imported fisheries products. An amount equal to 30 percent of these duties is made available to NOAA and, after transfers, is available to carry out the purposes of the AFPA and the S-K program.

FISHERIES ENFORCEMENT ASSET FORFEITURE FUND

Section 311(e)(1) of the MSA authorizes the Secretary of Commerce to pay certain enforcement-related expenses from fines, penalties and forfeiture proceeds received for violations of the MSA, MMPA, National Marine Sanctuaries Act, or any other marine resource law enforced by the Secretary. NOAA has established a Civil Monetary Penalty/Asset Forfeiture Fund.

FISHERIES FINANCE PROGRAM ACCOUNT

The mandatory component of the Fisheries Finance Program Account authority is subject to the Federal Credit Reform Act of 1990 (FCRA) (2 U.S.C. 661). The FCRA requires estimated loan costs to be appropriated in cash when Congress authorizes annual credit ceilings.

FEDERAL SHIP FINANCING FUND

This account manages the loan guarantee portfolio that existed prior to the enactment of the FCRA.

ENVIRONMENTAL IMPROVEMENT AND RESTORATION FUND

The Environmental Improvement and Restoration Fund was created by the Department of the Interior and Related Agencies Appropriations Act of 1998 for the purpose of carrying out marine research activities in the North Pacific.

LIMITED ACCESS SYSTEM ADMINISTRATION FUND

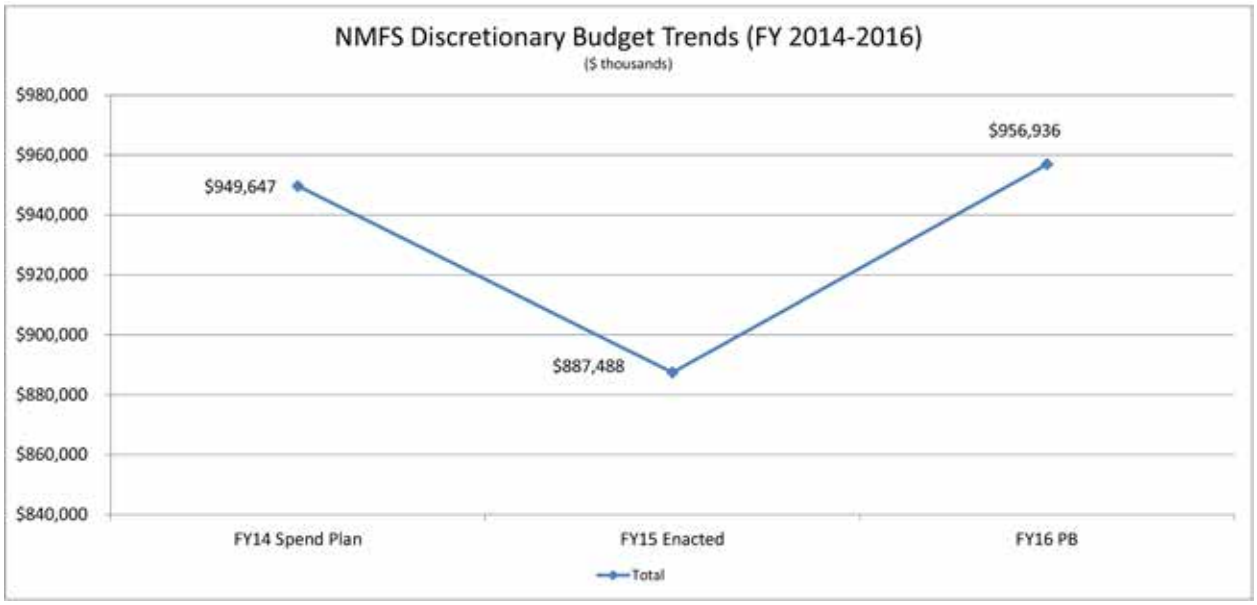
Under the authority of the MSA Section 304(d)(2)(A), NMFS must collect a fee to recover incremental costs of management, data collection, and enforcement of Limited Access Privilege programs. Fees are deposited into the Limited Access System Administration Fund. Fees shall not exceed three percent of the ex-vessel value of fish harvested under any such program.

WESTERN PACIFIC SUSTAINABLE FISHERIES FUND

Section 204(e) of the 2006 amendments to the MSA authorizes the establishment of the Western Pacific Sustainable Fisheries Fund to allow foreign fishing within the U.S. EEZ in the Western Pacific through a Pacific Insular Area Fishery Agreement.

NORTH PACIFIC OBSERVER FUND

The restructured North Pacific Groundfish Observer Program places all vessels and processors in the groundfish and halibut fisheries off Alaska into one of two observer coverage categories: (1) a full coverage category, and (2) a partial coverage category. In the partial coverage category, landings from all vessels will be assessed a 1.25 percent fee on standard ex-vessel prices of the landed weight of groundfish and halibut. Money generated by this fee will pay for observer coverage in the partial coverage category in the following year.



FY 2014 Spend Plan includes $75 million in Fisheries Disaster Assistance Funding.

Chapter 4 | Office of Oceanic and Atmospheric Research

Increasing acidity in the oceans might increase the growth of harmful algal species such as Pseudo-nitzschia and Alexandrium.

NOAA's Office of Oceanic and Atmospheric Research (OAR) is the central research line office that integrates research across NOAA. OAR's science enables NOAA to fulfill its diverse mission, both today and into the future. OAR supports laboratories and programs across the United States and collaborates with external partners, including 16 NOAA-funded Cooperative Institutes and 33 Sea Grant Institutions. OAR research contributes to accurate weather forecasts, enables communities to plan for and respond to climate events such as drought, and enhances the protection and management of the Nation's coastal and ocean resources.

FY 2016 REQUEST $507,035,000

In FY 2016, NOAA requests a total of $507,035,000 to support the continued and enhanced operations of OAR. OAR's FY 2016 request supports its activities to provide climate products and information to communities, conduct research to enhance severe weather forecast capability, and develop tools and technologies to monitor ocean acidification. This total includes Operations, Research, and Facilities (ORF) and Procurement, Acquisition, and Construction (PAC) accounts and is composed of a net increase of $ 54,126,000 in FY 2016 program changes.

FY 2016 ORF BUDGET SUMMARY

NOAA requests a total of $484,656,000 to support the Operations, Research and Facilities for OAR, composed of a net increase of $45,126,000 in FY 2016 program changes.

ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2016:

Program changes above $1,000,000 are highlighted below. A summary of funding by Program, Project, and Activity (PPA) is located in Appendix 2. Detailed descriptions of all program changes by PPA are located in the NOAA FY 2016 Congressional Justification.

CLIMATE RESEARCH $188,760,000

NOAA requests a net increase of $29,231,000 in FY 2016 program changes in the Climate Research sub-program for a total of $188,760,000. Highlights include:

Climate Laboratories and Cooperative Institutes: U.S. Global Change Research Program: NOAA requests an increase of $3,440,000 to implement research and other activities in support of the U.S. Global Change Research Program's priority areas, including extreme weather, water, and climate events, such as heat waves; droughts and floods; and marine ecosystem "tipping points." Improved observations and understanding associated with these priority research areas are critical to promoting community resilience in a changing climate.

Climate Laboratories and Cooperative Institutes: Greenhouse Gas Monitoring in Support of the President's Climate Action Plan: NOAA requests an increase of $ 2,975,000 to build upon its Atmospheric Baseline Observatories, Global Reference Networks for atmospheric composition, and the North American Carbon Observation and Analysis System to deliver policy-relevant information on the full suite of greenhouse gas emissions, including carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and the full suite of chlorofluorocarbon (CFC) replacements.

Climate Laboratories and Cooperative Institutes: Atmospheric Baseline Observatories: NOAA requests an increase of $3,000,000 to continue data records collected at Atmospheric Baseline Observatories (ABOs). ABOs document trends and distributions of atmospheric constituents influencing global climate, ozone depletion, and changes in baseline air quality. With this proposed investment, NOAA will be able to continue full operations at all six ABOs, which are at risk due to the

The South Pole Observatory is one of six Atmospheric Baseline Observatories (ABOs) that are stationed from north to south, covering the hemispheric scale. The ABOs are critical to documenting trends and distributions of atmospheric constituents including global climate, ozone depletion, and changes in baseline air quality.

combination of rising costs at remote sites and a decline in support from the National Science Foundation.

Regional Climate Data and Information: Assessments: NOAA requests an increase of $3,970,000 to support climate assessments at national and regional scales in compliance with The Global Change Research Act of 1990. The Act requires the President (through a federal interagency body) to prepare and submit to Congress regular climate assessments that examine the latest climate research, uncertainty, effects of global change, and emerging trends.

Regional Climate Data and Information: Regional Integrated Sciences and Assessments: NOAA requests an increase of $5,852,000 to expand its regional research and information services and competitive grants to manage climate risks in two additional regions – the Mid-Atlantic and the Midwest. For example, a Regional Integrated Sciences and Assessment (RISA) team could help Mid-Atlantic coastal communities prepare for and respond to coastal flooding from storms, such as Hurricane Sandy. A Midwest RISA could help farmers cope with the effects of drought and flooding in the Missouri River basin.

Regional Climate Data and Information: NOAA Arctic Research Program - Arctic Observing Network: NOAA requests an increase of $2,190,000 to support further development of NOAA's Arctic Observing Network and informational products related to Arctic Ocean changes, sea-ice extent, ecosystem evolution, and Arctic to mid-latitude weather-climate linkages.

Regional Climate Data and Information: Climate Resilience Toolkit in support of the President's Climate Action Plan via the Climate.gov Portal: NOAA requests an increase of $2,300,000 to support continued development of a Climate Resilience Toolkit (CRT), which will provide public online access to actionable climate data, information, and tools to help communities plan for impacts of climate change. Specifically, NOAA will work with relevant agencies to improve the CRT, which will include a more intuitive and user-friendly interface for access to climate data, information and tools across the federal government, as well as a climate literacy learning center for formal and informal educators.

Climate Competitive Research: Impacts of Climate on Fish Stocks: NOAA requests an increase of $5,504,000 to award competitive grants for research that improves understanding of the impacts of climate variability and change on fish stocks, prey availability, and habitat. This research investment will develop valuable information, decision-support tools, and training to build capacity for the integration of climate information into fisheries management. Enhancing early-warning and management of the impacts of climate variability and change will help minimize economic disruption for the many communities, citizens, and livelihoods across the Nation that depend on healthy fisheries.

Eric Moglia, of NOAA's Cooperative Institute for Research in Environmental Sciences, pumps air from sampling flasks to test them for leaks before preparing them for shipment to some 80 sites around the world. Photo Credit: Willfred von Dauster, NOAA

WEATHER & AIR CHEMISTRY RESEARCH $97,340,000

NOAA requests a net increase of $4,612,000 in FY 2016 program changes in the Weather & Air Chemistry Research sub-program for a total of $97,340,000. Highlights include:

U.S. Weather Research Program: Improving the Airborne Detection and Understanding of Severe Weather: NOAA requests an increase of $5,000,000 to research and develop aircraft-based hazardous weather observing systems to generate improved information about severe storms (e.g., hurricanes) for more accurate public warnings and forecasts in order to help strengthen the Nation's climate resiliency. Specifically, this investment will help NOAA and its partners develop an aircraft-based dual-polarization phased array radar system capable of doubling the amount of storm detail that can currently be gathered.

U.S. Weather Research Program: Research to Improve Mid-Range Operational Weather Outlooks: NOAA requests $3,936,000 to begin a collaborative effort between OAR and NWS to improve the accuracy of weather outlooks out to three to four weeks (i.e., in the

Tending oyster aquaculture longlines in New England. NOAA is partnering on pilot projects to train commercial fishermen on aquaculture techniques.

"mid-range"), where expertise does not currently exist. Increasing capability in developing mid-range outlooks will assist decision-makers in sectors ranging from food security and public health to emergency management and national security. Addressing this challenge will require a sustained scientific research and research-to-operations effort. For more information on this joint initiative between OAR and NWS, see p. 26 in Chapter 5.

Weather and Air Chemistry Laboratories and Cooperative Institutes: Warn-On Forecast: NOAA requests an increase of $1,730,000 to accelerate implementation of forecasting capabilities to improve the accuracy of warnings, extend lead times, and enhance decision support services for high impact weather, like tornados and flash floods, critical for building a Weather-Ready Nation. The requested funding will accelerate the research, development, and transition into operations of a prototype Warn-on-Forecast modeling system for high-impact weather. This is intended to help NOAA extend average tornado warning lead times beyond current targets.

Weather and Air Chemistry Laboratories and Cooperative Institutes: Vortex-Southeast: NOAA requests a decrease of $5,542,000 to terminate the Vortex-SE project in FY 2016. NOAA was provided funding in the Consolidated and Further Continuing Appropriations Act, 2015 to initiate this project to understand how environmental factors that are characteristic of the southeastern United States affect the formation, intensity, and storm path of tornadoes in this region.

OCEAN, COASTAL, AND GREAT LAKES RESEARCH $186,412,000

NOAA requests a net increase of $11,180,000 in FY 2016 program changes in the Ocean, Coastal, & Great Lakes sub-program for a total of $186,412,000. Highlights include:

Ocean, Coastal and Great Lakes Research Laboratories and Cooperative Institutes: Autonomous Underwater Vehicle Demonstration: NOAA requests a decrease of $2,000,000 to reduce support for an Autonomous Underwater Vehicle demonstration. NOAA will maintain its fleet of autonomous vehicles and other alternative technologies, while continuing to support a competitive process open to NOAA laboratories and Cooperative Institutes, but will reduce the funding available for ongoing development, testing, and evaluation activities.

National Sea Grant College Program: National Sea Grant College Program Base: NOAA requests a decrease of $1,431,000 to reduce the amount of research funding available for competitively awarded projects.

National Sea Grant College Program: Marine Aquaculture Program: NOAA requests an increase of $2,500,000 to provide competitive grants to support aquaculture research, extension activities, and tech-

nology transfer to develop a sustainable aquaculture industry. Domestic marine aquaculture is poised to emerge as a significant provider of seafood and coastal jobs over the next several years. This initiative dovetails with NMFS' increase of $2,000,000 to facilitate efficient and effective permitting in support of a sustainable aquaculture industry. For more information on this joint initiative between OAR and NMFS, see p. 14 in Chapter 3.

Ocean Exploration and Research Program: Ocean Exploration: NOAA requests a decrease of $8,780,000 to reduce the number of days for the Extended Continental Shelf mapping effort and decrease the number of missions for the *EV Nautilus* program and the *Okeanos Explorer*.

Integrated Ocean Acidification Program: Integrated Ocean Acidification: NOAA requests an increase of $21,422,000 to improve understanding of the impacts of ocean and coastal acidification and to develop tools and adaptive strategies for affected industries and stakeholders, such as the U.S. shellfish industry. This investment will allow NOAA to develop advanced technologies, enhance the U.S. Ocean Acidification Observing System, develop models to better understand carbonate chemistry dynamics and impacts, and provide valuable data and products for coastal resource managers and other stakeholders.

FY 2016 PAC Budget Summary

NOAA requests a total of $22,379,000 to support Procurement, Acquisition, and Construction activities of the Office of Oceanic and Atmospheric Research, composed of a net increase of $9,000,000 in FY 2016 program changes.

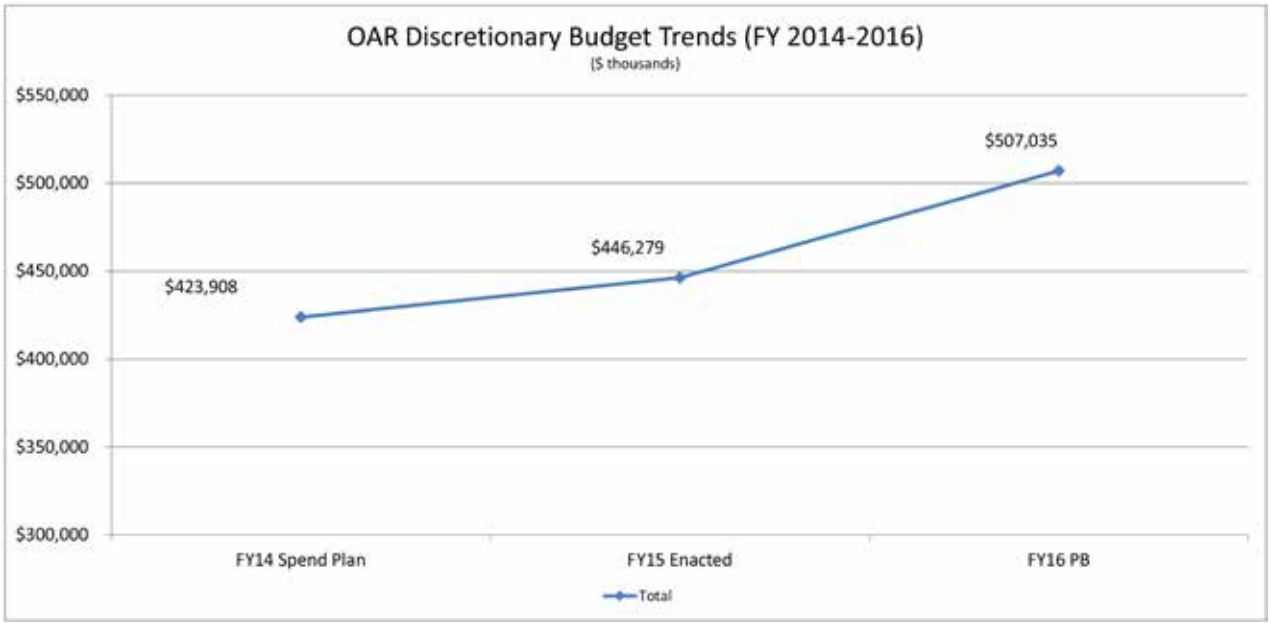
PAC PROGRAM CHANGE HIGHLIGHTS FOR FY 2016:

Program changes above $1,000,000 are highlighted below. A summary of funding by Program, Project, and Activity (PPA) is located in Appendix 2. Detailed descriptions of all program changes by PPA are located in the NOAA FY 2016 Congressional Justification.

SYSTEMS ACQUISITION $22,379,000

NOAA requests a net increase of $9,000,000 in FY 2016 program changes in the Systems Acquisition sub-program for a total of $22,379,000. Highlights include:

Research Supercomputing: High Performance Computing Software Engineering: NOAA requests an increase of $9,000,000 to begin recapitalization of the Research and Development High-Performance Computing (HPC) systems (i.e., Gaea) located at Oak Ridge National Laboratory in Oak Ridge, Tennessee and to establish a permanent source of funding that would allow NOAA to maintain regular refresh and recapitalization of supercomputing resources. A portion of the increase would be used to provide additional HPC capacity to support regional sea level rise modeling.



Remotely Operated Vehicle being deployed from NOAA Ship *Reuben Lasker*. Photo Credit: Paul Hillman.

Chapter 5 | National Weather Service

This image taken by the GOES-12 satellite on Saturday, October 17, 2009 shows Huricane Rick as a Category Five hurricane with maximum sustained winds of 180 mph. With these winds Rick became the second most powerful hurricane on record in the Eastern Pacific behind Hurricane Linda in 1997.

NOAA's National Weather Service (NWS) provides weather, water, and climate forecasts and warnings for the protection of life and property and enhancement of the national economy. NWS is the official and authoritative U.S. voice for issuing warnings during life-threatening weather situations. NWS forecasters issue public, aviation, marine, fire weather, climate, space weather, river and flood forecasts and warnings every day. Each year, NWS collects approximately 76 billion observations and issues approximately 1.5 million forecasts and 50,000 warnings. NWS data and products are publicly available through a national information database.

FY 2016 REQUEST $1,098,878,000

In FY 2016, NOAA requests a total of $1,098,878,000 to support NWS' advancements to weather, water, and climate products and services and to continue to evolve and modernize the NWS. This total includes Operations, Research, and Facilities (ORF) and Procurement, Acquisition, and Construction (PAC) accounts and is composed of a net decrease of $7,918,000 in FY 2016 program changes.

FY 2016 ORF BUDGET SUMMARY

NOAA requests a total of $963,563,000 to support ORF activities of the NWS, composed of a net decrease of $12,933,000 in FY 2016 program changes.

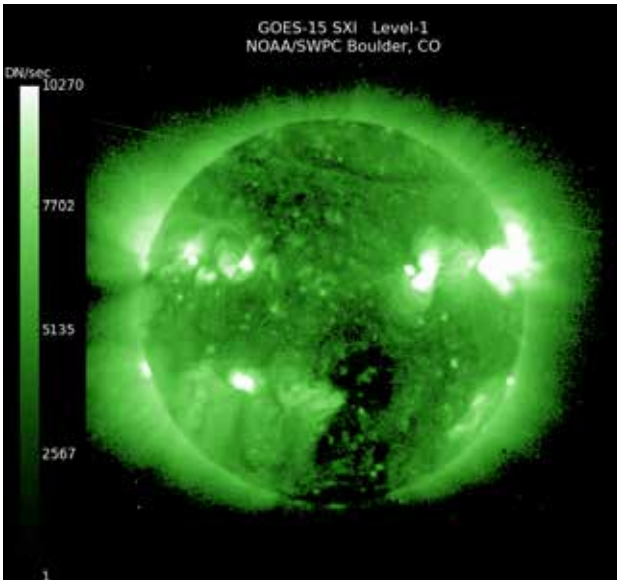
ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2016:

Program changes above $1,000,000 are highlighted below. A summary of funding by PPA is located in Appendix 2. Detailed descriptions of all program changes by PPA are located in the NOAA FY 2016 Congressional Justification.

OBSERVATIONS $204,876,000

NOAA requests a net decrease of $7,633,000 in FY 2016 program changes for a total of $204,876,000 in the Observations sub-program. Highlights include:

Observations: Radiosonde Supply: NOAA requests an increase of $1,014,000 to fully fund the acquisition cost of radiosondes for twice daily launches at all 102 NWS Upper Air observing stations. Radiosondes provide atmospheric profiles of pressure, temperature, relative humidity, and winds. These data are critical inputs for weather prediction models and NWS forecaster operations supporting severe storm, aviation and marine forecasts; and climate and other research uses. In addition to these requested funds, in FY 2016, NWS proposes to transfer the Radiosonde Replacement System from PAC to ORF to consolidate all radiosonde acquisition within the ORF Observations PPA.



An X-ray image of the Sun captured by a NOAA satellite. Three successive coronal mass ejections (CMEs) exploded from a bright region near the far right.

Observations: Space Weather Observations: NOAA requests an increase of $1,000,000 to support annual operating costs associated with the use of the Global Oscillations Network Group (GONG) data for space weather prediction. Data from the GONG's six ground based observatories are a critical input to NOAA's Space Weather Prediction Center (SWPC) solar wind models, which provide advanced warning of earth directed Coronal Mass Ejections that cause geomagnetic storms.

Observations: National Mesonet Program: NOAA requests a decrease of $10,500,000 for the National Mesonet Program to restore funding to the amount included in the FY 2015 President's Budget. NOAA will continue to administer the National Mesonet Program and is using FY 2015 funding to continue to ingest data from mesonets, which can identify small scale features at the surface, such as changes in wind speed/direction, temperature, and pressure, each of which can indicate rapidly deteriorating weather conditions not shown by other observations.

CENTRAL PROCESSING $87,902,000

NOAA requests a net decrease of $10,100,000 in FY 2016 program changes for a total of $87,902,000 in the Central Processing sub-program. Highlights include:

NWS Incident Meteorologist supporting New York City emergency services.

Central Processing: Establishment of Regional Enterprise Application Development and Integration Teams: NOAA requests a decrease of $10,100,000 to reflect efficiencies achieved by transitioning to a new information technology (IT) service delivery model for forecast offices through remote software support. NOAA proposes to continue IT support for the field in the form of Regional Enterprise Application Development and Integration (READI) teams located in each of the six NWS Regions. This consolidation is part of the NWS evolution, as establishing the READI teams will provide sustainable IT delivery operations and allow NOAA to take advantage of significant technological advancements.

ANALYZE, FORECAST, AND SUPPORT $489,845,000

NOAA requests a net decrease of $3,700,000 in FY 2016 program changes for a total of $489,845,000 in the Analyze, Forecast, and Support sub-program. Highlights include:

Analyze, Forecast and Support: National Water Center Operations and Maintenance: NOAA requests an increase of $2,000,000 to support National Water Center (NWC) operations and maintenance (O&M). The NWC, located in Tuscaloosa, Alabama, does not have a sustained line of O&M to support its current and growing operations. NWS' Hydrological Services and Warnings program is headquartered at the NWC and provides state-of-the-science hydrologic analysis, forecast information, and decision support services to address the Nation's growing water resources challenges. The NWC also serves as a cornerstone for Integrated Water Resources Science and Services and as a central hub to integrate and advance national and regional hydrologic field operations and services.

Analyze, Forecast and Support: National Tsunami Hazard Mitigation Program Grants: NOAA requests a decrease of $6,000,000 in the National Tsunami Hazard Mitigation Program grants, which would eliminate grant funding to partners for education, outreach, and awareness programs in FY 2016. NOAA will maintain its strong forecast and warning program through the operations of its two Tsunami Warning Centers and continued administration of the TsunamiReady™ Program.

DISSEMINATION $46,743,000

NOAA requests a total of $46,743,000 in the Dissemination sub-program. There are no program changes in this sub-program.

SCIENCE AND TECHNOLOGY INTEGRATION $134,197,000

NOAA requests a net increase of $8,500,000 in FY 2016 program changes for a total of $134,197,000 in the Science and Technology Integration sub-program. Highlights include:

Science and Technology Integration: Mid-Range Weather Outlooks: NOAA requests an increase of $5,000,000 to begin efforts to extend weather and water skill beyond current limits (i.e., 10-14 days). Multiple sectors, ranging from food security and public health, to emergency management and national security, need skilled weather and water outlooks out to weeks three and four, or in the "mid-range." This increase will help

NOAA, through collaborative efforts between NWS and OAR, cultivate critical expertise in creating mid-range outlooks; this expertise does not currently exist. Addressing this challenge will require sustained scientific research and research-to-operations (R2O) efforts. Funding for this initiative, along with the corresponding and complementary increase requested in OAR (see p. 20 of Chapter 4), will ultimately allow for 30-day operational weather outlooks and longer lead severe storm outlooks.

Science and Technology Integration: Enhanced Water Prediction Capability: NOAA requests an increase of $2,000,000 to expand hydrologic forecast services to provide improved flood forecasts and inundation mapping. This initiative builds on work started in FY 2015 by expanding centralized modeling science and technology to enable seamless and consistent prediction of flash floods and urban flood inundation mapping. Ultimately, NWS flood modeling outputs will be linked with FEMA's Hazus database, allowing for estimation of economic impacts associated with flash floods and urban flood inundation. These capabilities are key to providing nationally consistent flash flood services and dynamic flood inundation maps that illustrate the predicted locations and depths of urban flooding.

Science and Technology Integration: Space Weather Numerical Model Transition to Operations: NOAA requests an increase of $1,500,000 to augment R2O activities for critical space weather numerical model development and related operations and maintenance. This investment will advance the Sun to Earth suite of numerical models to improve operational forecasts of space weather. These numerical models will either be updated or transitioned to operations with this investment, providing an upgraded Sun to Earth Suite. NOAA will accomplish these activities with assistance from other federal agencies, academia, and private industry. This will ensure that a continuous stream of advancements is made to the existing space weather modeling suite.

FY 2016 PAC Budget Summary

NOAA requests a total of $135,315,000 to support Procurement, Acquisition, and Construction activities of the NWS, composed of a net increase of $5,015,000 in FY 2016 program changes.

PAC PROGRAM CHANGE HIGHLIGHTS FOR FY 2016:

Program changes above $1,000,000 are highlighted below. A summary of funding by PPA is located in Appendix 2. Detailed descriptions of all program changes by PPA are located in the NOAA FY 2016 Congressional Justification.

The Medford OR NEXRAD is located on Mount Ashland alongside the Ski Resort with the same name.

SYSTEMS ACQUISITION $126,665,000

NOAA requests a net increase of $8,365,000 in FY 2016 program changes for a total of $126,665,000 in the Systems Acquisition sub-program. Highlights include:

Observations: Next Generation Weather Radar Service Life Extension Program: NOAA requests a planned increase of $7,420,000 to continue implementation of a Service Life Extension Program, which will extend the utility of existing Next Generation Weather Radar (NEXRAD) infrastructure through 2030. NEXRAD underpins the severe weather forecast and warning services for high-impact events that are critical to maintaining a Weather-Ready Nation. This effort began in FY 2015 and will continue through FY 2022. Without this continued investment, NEXRAD availability will degrade beginning in 2020, resulting in radar outages and gaps and negatively impacting tornado and flash flood warnings.

Observations (Budget Authority in Thousands)	
FY 2016 REQUEST	$16,720
FY 2017	$25,255
FY 2018	$22,953
FY 2019	$12,909
FY 2020	$12,199

Iowa Flooding.

Central Processing: Sustain Supercomputing: NOAA requests an increase of $1,761,000 for the continued procurement, operations and maintenance of NOAA's Weather and Climate Operational Supercomputing System. In 2015, NOAA announced plans to boost its computing power by more than tenfold by 2016. The requested funding provides 24/7, 365 day operational support resources for current weather and climate forecasting capabilities, numerical environmental prediction model products, and dissemination of operational products as required by the NWS mission. Operational products from this system are distributed to other government agencies, the military, and the general public and include national and global weather, water, climate and space weather guidance; forecasts; warnings; and analyses.

Central Processing: Slow Advanced Weather Interactive Processing System II Extended: NOAA requests a decrease of $1,500,000 to slow implementation of new Advanced Weather Interactive Processing System (AWIPS) II Extended tools and capabilities. AWIPS II Extended will add new tools and capabilities for data delivery; improve collaboration capabilities to support collaboration among NWS operational units and NOAA trusted partners; improve means to generate information to support decision makers; and improve ways for forecasters to access and visualize meteorological information. The proposed reduction will not affect the planned deployment schedule for AWIPS II to the Weather Forecast Offices (WFOs). Rather it will slow development work for the applications and tools that will work in the AWIPS II environment.

Dissemination: Improve Dissemination Reliability: NOAA requests an increase of $9,700,000, by reinvesting the planned decrease for the Re-architected NWS Telecommunications Gateway, to reduce single points of failure and increase website capacity to NWS Field Offices. Recent events have shown vulnerabilities in NWS dissemination infrastructure. This investment will help NOAA build second entries into many Forecast Offices and Centers to eliminate single points of failure, making facilities less vulnerable to network outages. Additionally, this investment will provide centralized, high capacity websites with 100 percent backup capabilities to keep up with growing requirements and increased demand during severe weather events.

Dissemination: Ground Readiness Project: NOAA requests an increase of $1,400,000 to continue to build the necessary infrastructure required to ensure utilization of the substantial increase in environmental satellite, radar, and model data that will improve weather warnings and forecasts. The expected increase in critical environmental data far exceeds the capacity of the organization's current IT infrastructure. The Ground Readiness Project upgrades will help ensure that the full life- and property-saving potential of NOAA's satellite, model and radar investments are realized.

Dissemination: Re-architected NWS Telecommunications Gateway: NOAA requests a planned decrease of $10,416,000 to reflect the completion in FY 2016 of a re-architected National Weather Service Telecommunications Gateway (NWSTG) at the primary and backup site. The re-architected NWSTG capability will enable modern, scalable, extensible, and reliable dissemination

Central Processing (Budget Authority in Thousands)	
FY 2016 REQUEST	$64,261
FY 2017	$64,261
FY 2018	$64,261
FY 2019	$64,261
FY 2020	$64,261

Dissemination (Budget Authority in Thousands)	
FY 2016 REQUEST	$45,684
FY 2017	$34,619
FY 2018	$24,919
FY 2019	$24,919
FY 2020	$24,919

NWS Weather Forecast Office in Norman, OK.

and infrastructure services using current best practices. It will also ensure NOAA is poised to accommodate future data increases driven by new satellites, increases in environmental model prediction capabilities, and radar data.

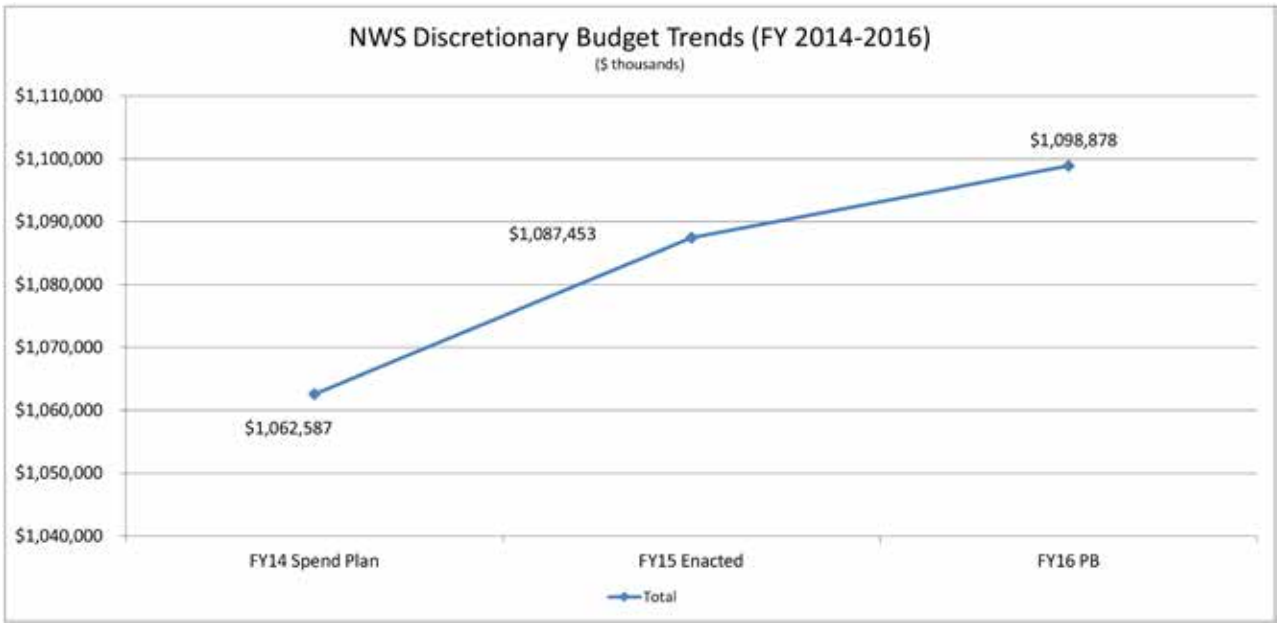
NWS CONSTRUCTION $8,650,000

NOAA requests a net decrease of $3,350,000 in FY 2016 program changes for a total of $8,650,000 in the NWS Construction sub-program. Highlights include:

Facilities Construction and Major Repairs: Weather Forecast Office and River Forecast Center Relocations: NOAA requests an increase of $4,710,000, to continue tenant improvements and support costs associated with WFO and River Forecast Center (RFC) relocations as well as structural repairs to improve conditions at WFOs and RFCs.

Facilities Construction and Major Repairs: Relocation of the National Logistics Supply Center/National Reconditioning Center: NOAA requests a decrease of $8,060,000 to reflect the completion of the National Logistics Supply Center/National Reconditioning Center relocation from the Bannister Federal Complex in Kansas City, Missouri. FY 2015 funds were used for this one-time relocation, which will be complete in 2016.

Facilities Construction and Major Repairs (Budget Authority in Thousands)	
FY 2016 REQUEST	$8,650
FY 2017	$3,159
FY 2018	$3,159
FY 2019	$3,159
FY 2020	$3,159



Chapter 6 | National Environmental Satellite Data, and Information Service

This January 8, 2015 image from the Suomi NPP satellite's Day/Night Band shows the eastern part of the U.S. clearly for the most part, highlighting the snow on the ground from a storm system.

The National Environmental Satellite, Data, and Information Service (NESDIS) is responsible for providing timely access to global environmental data from satellites and other sources to promote, protect, and enhance the Nation's economy, security, environment, and quality of life. Along with launching and operating NOAA's satellites, NESDIS manages the product development and distribution of the corresponding data. NOAA satellites support the weather forecasting enterprise by providing the timely, high quality data upon which model outputs are based. While providing real-time operations and data services, NESDIS also works to develop the next generation of satellites in order to continue meeting its primary mission essential functions without incurring gaps in coverage.

FY 2016 REQUEST $2,379,627,000

NOAA requests a total of $2,379,627,000 to support the continued and enhanced operations of NESDIS. This total includes Operations, Research, and Facilities (ORF) and Procurement, Acquisition, and Construction (PAC) accounts and includes a net increase of $154,838,000 in FY 2016 program changes. The FY 2016 President's Budget Request for NESDIS supports continued development of the Geostationary Environmental Operational Satellite – R Series (GOES-R) and the Joint Polar Satellite System (JPSS), as well as a significant investment in the subsequent mission to JPSS-2, the Polar Follow On (PFO). A FY 2016 start for PFO is critical to maintain continuity of polar observations and puts NOAA on a path toward a robust polar constellation.

FY 2016 ORF BUDGET SUMMARY

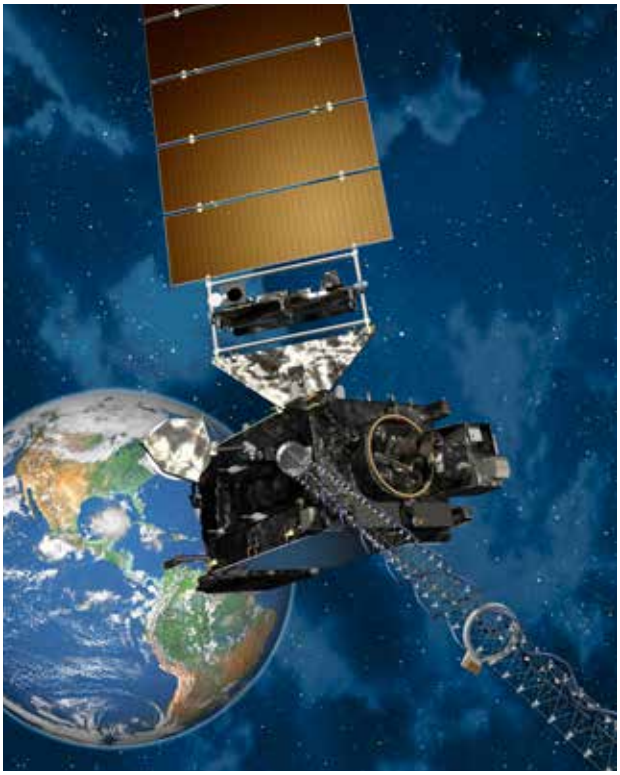
NOAA requests a total of $190,344,000 to support the Operations, Research, and Facilities of NESDIS, composed of a net increase of $6,249,000 in FY 2016 program changes.

ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2016:

Program changes above $1,000,000 are highlighted below. A summary of funding by PPA is located in Appendix 2. Detailed descriptions of all program changes by PPA are located in the NOAA FY 2016 Congressional Justification.

ENVIRONMENTAL SATELLITE OBSERVING SYSTEMS $131,097,000

NOAA requests a net increase of $5,182,000 in FY 2016 program changes for a total of $131,097,000 under the Environmental Satellite Observing Systems sub-program. Highlights include:



A rendering of the GOES-R satellite.

Data Center Operations: NOAA requests an increase of $4,582,000 to operate and maintain the Comprehensive Large Array-Data Stewardship System (CLASS). Requested funds provide operations and maintenance (O&M) for the core capabilities of CLASS. This request funds the transition of the CLASS system from the current test and development environment to full operations. CLASS provides NOAA with long-term safe archival storage capacity and provides the general public with access to the preserved data. CLASS data volumes have increased by 380% from FY 2012 to FY 2016. CLASS begins the transition from development to Full Operational Capability (FOC) in FY 2016 and completes the transition in FY 2017. Full funding of the core operational capabilities is essential to ensure that NESDIS can expand the archive of data, supporting the increasing user demand.

NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION $59,247,000

NOAA requests a net increase of $1,067,000 in FY 2016 program changes for a total of $59,247,000 under the National Centers for Environmental Information sub-program. Highlights include:

Big Earth Data Initiative: NOAA requests an increase of $1,067,000 to make its environmental data holdings more easily accessible to other U.S. agencies and the

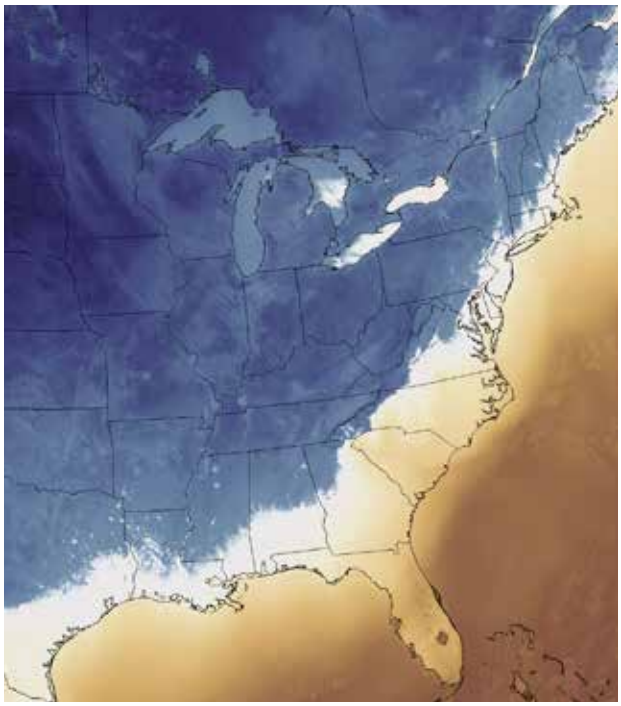
Nation. Requested funding in the FY 2016 President's Budget would further enable easy, open, and transparent access to NOAA's weather, climate, oceanographic and geophysical data and derived environmental information and would improve the usability of NOAA's data, consistent with other data initiatives across the government. These data and information directly contribute to the Nation's management of its environmental resources and support a broad range of environmental intelligence applications. Funding will directly contribute to modernizing search, discovery and access methods; providing descriptive information for all data and information products; and supporting the services necessary to transform NOAA's data into machine readable information.

FY 2016 PAC BUDGET SUMMARY

NOAA requests a total of $2,189,283 to support the Procurement, Acquisitions, and Construction activities of NESDIS, composed of a net increase of $148,589,000 in FY 2016 program changes.

PAC PROGRAM CHANGE HIGHLIGHTS FOR FY 2016:

Program changes above $1,000,000 are highlighted below. A summary of funding by PPA is located in Appendix 2. Detailed descriptions of all program changes by PPA are located in the NOAA FY 2016 Congressional Justification.



This image from the High Resolution Rapid Refresh model shows the minimum surface air temperature expected from November 13 - 14, 2014. Areas shaded blue are at or below freezing.

SYSTEMS ACQUISITION
$2,188,357,000

NOAA requests a net increase of $148,527,000 in FY 2016 program changes for a total of $2,188,357,000 in the Systems Acquisition sub-program. Highlights include:

Geostationary Operational Environmental Satellite Systems-R Series (GOES-R): NOAA requests a decrease of $109,047,000 to the GOES-R program. The remaining $871,791,000 will allow NOAA to continue satellite engineering development, production, integration, and launch activities associated with the four-satellite GOES-R program to meet required operational capabilities through 2036. The reduction includes $94,047,000 in a planned reduction according to the established budget profile. Additionally, the FY 2016 request is further decreased by $15,000,000 achieved by a one week reduction in carryover available to the GOES-R program from FY 2016 into FY 2017. The reduction remains within the bounds of the NASA best practices for six to eight weeks of carryover and does not change the program's content or baseline life cycle cost. The remaining GOES-R funding is needed to maintain instruments, satellite, and ground system developments that are all currently under contract to keep the GOES-R program on schedule to meet the launch commitment dates (LCD) of the 2nd Quarter FY 2016 for GOES-R and 3rd Quarter FY 2017 for GOES-S. Remaining funding will also be used to continue development activities necessary to maintain GOES-T and GOES-U launch schedules.

GOES-R (Budget Authority in Thousands)	
FY 2015 & PRIOR	$6,087,084
FY 2016	$871,791
FY 2017	$786,684
FY 2018	$523,049
FY 2019	$364,032
FY 2020	$266,865
CTC	$1,928,554
TOTAL	$10,828,059

Jason-3: NOAA requests a planned decrease of $15,717,000 to the Jason-3 program. This level of funding allows NOAA to continue post launch operations of the Jason-3 satellite in partnership with European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) and Centre National d`Etudes Spatiales (CNES), NOAA's European and French partners. This

funding will support routine post-launch operations of the Jason-3 satellite to include ingestion, processing and distribution of the data, and essential engineering services to sustain operations in the event of space or ground based anomalies. Remaining funding of $7,458,000 will be used to complete the evaluation of the Jason-3 satellite and instrument performance during the calibration and validation of all satellite data and will support continued Jason-3 satellite operations per our international commitments with EUMETSAT and CNES. The Jason-3 mission provides continuity of precise measurement of sea surface heights. Future ocean altimetry missions will be the responsibility of NASA as part of a new framework for Earth-observing satellite responsibilities in which NOAA will be responsible only for satellite missions that contribute directly to its ability to issue weather and space weather forecasts and warnings to protect life and property.

Jason-3 (Budget Authority in Thousands)	
FY 2015 & PRIOR	$148,006
FY 2016	$7,458
FY 2017	$7,288
FY 2018	$7,265
FY 2019	$7,196
FY 2020	$0
CTC	$0
TOTAL	$177,213

Joint Polar Satellite System (JPSS): NOAA requests a decrease of $107,301,000 to JPSS. The remaining $808,966,000 allows NOAA to operate and sustain the Suomi National Polar-orbiting Partnership satellite (S-NPP) Program and continue development of the instruments, ground system, and spacecraft for JPSS-1 and JPSS-2. The reduction includes $82,301,000 in a planned reduction consistent with the 2013 Program baseline. The FY 2016 request is further decreased by $25,000,000, achieved by reducing the amount of carryover available to the JPSS program from FY 2016 into FY 2017 by one week. This reduction remains within the bounds of the NASA best practice of six to eight weeks of carryover, and does not change the program's content or baselined life cycle cost. The remaining funding will keep JPSS on schedule to meet the LCD of no later than Q2 FY 2017 for JPSS-1 and to meet the LCD of Q1 FY 2022 for JPSS-2.

JPSS (Budget Authority in Thousands)	
FY 2015 & PRIOR	$6,852,002
FY 2016	$808,966
FY 2017	$797,246
FY 2018	$735,777
FY 2019	$558,803
FY 2020	$439,506
CTC	$1,129,825
TOTAL	$11,322,125

The JPSS-1 satellite.

Polar Follow On (PFO): NOAA requests an increase of $380,000,000 to initiate the PFO. PFO is critical to continuing NOAA's polar weather satellite observations after JPSS-2. PFO will achieve robustness in the polar weather constellation as early as FY 2023 and minimize the potential for gaps in polar weather data. The PFO implements a strategic procurement and management plan that will allow NOAA to move the polar satellite mission toward robustness as expeditiously as possible while realizing significant efficiencies and cost savings. The PFO consists of two primary missions: JPSS-3 and JPSS-4. The request also invests in an Earth Observing

The DSCOVR satellite.

Nanosatellite-Microwave (EON-MW), which is a miniature microwave sounder that approximates the atmospheric profiling capabilities of the Advanced Technology Microwave Sounder (ATMS) instrument, and provides some mitigation in the event of a launch or instrument failure on JPSS-1. Polar orbiting satellites provide the primary input (up to 85%) of the data needed for NOAA's Numerical Weather Prediction models, the underpinnings of high impact weather forecasts. These data are increasingly important to emergency managers in the public and private sectors and are key inputs to critical decisions related to protection of life and property, such as evacuations and the staging of resources.

Solar Irradiance, Data, and Rescue (SIDAR): NOAA requests a decrease of $6,800,000 with $500,000 remaining to plan the accommodation of the Argos Advanced Data Collection System (A-DCS) and Search and Rescue Satellite-Aided Tracking (SARSAT) instruments for launch in FY 2019. A-DCS is part of the Argos data collection and location system. Argos has the ability to geographically locate a source of data from anywhere on Earth. NOAA relies on the Argos system to collect worldwide ocean data from moored and drifting buoys and submerged floats. Argos transmitters are also deployed on a large number of marine mammals and sea turtles to track their migrations. SARSAT provides satellite search and rescue services to detect and locate mariners, aviators, and recreational enthusiasts in distress almost anywhere in the world. SARSAT is credited with saving over 35,000 people worldwide, including more than 7,400 people in the U.S., from the time of its

Polar Follow-On* (Budget Authority in Thousands)	
FY 2015 & PRIOR	
FY 2016	$370,000
FY 2017	$430,000
FY 2018	$589,000
FY 2019	$579,000
FY 2020	$577,000
CTC	TBD
TOTAL	TBD

EON-MW (Budget Authority in Thousands)	
FY 2015 & PRIOR	
FY 2016	$10,000
FY 2017	$8,000
FY 2018	$5,000
FY 2019	$2,000
FY 2020	$2,000
CTC	$0
TOTAL	$27,000

*The preliminary phasing of funds provided in the budget profile is based on an Initial Formulation Estimate, and is subject to change.

inception in 1982. The Solar Irradiance measurements initially conceived as a part of SIDAR have been taken up by NASA, including the transfer of TSIS-1 to NASA beginning in FY 2016.

SIDAR (Budget Authority in Thousands)	
FY 2015 & PRIOR	$7,300
FY 2016	$500
FY 2017	TBD
FY 2018	TBD
FY 2019	TBD
FY 2020	TBD
CTC	TBD
TOTAL	$7,800

Deep Space Climate Observatory (DSCOVR): NOAA requests a planned decrease of $17,900,000 with $3,200,000 remaining to support routine post-launch maintenance and operations of the refurbished DSCOVR satellite. NOAA proposes the FY 2016 reduction according to the established DSCOVR budget profile. The funding request will sustain engineering support and provide mission operations, ground systems maintenance, data processing, data archiving, on-orbit support, and enhancements to the ground system. The DSCOVR satellite maintains the Nation's real-time solar wind monitoring capabilities that are critical to the detection of space weather events such as geomagnetic storms, which can disrupt public infrastructure systems (e.g., power grids, telecommunications, aviation). Solar wind observations are the only data source to support 15- to 45-minute lead time for geomagnetic storm warnings.

DSCOVR (Budget Authority in Thousands)	
FY 2015 & PRIOR	$97,094
FY 2016	$3,200
FY 2017	$2,400
FY 2018	$2,069
FY 2019	$0
FY 2020	$0
CTC	$0
TOTAL	$104,763

Space Weather Follow On: NOAA requests an increase of $2,500,000 to analyze options from the Analysis of Alternatives (AoA) for critical space weather observations and to initiate development of the Space Weather Follow On program. The mission design life for the DSCOVR spacecraft ends in FY 2019. Thus, NOAA will initiate plans and studies in FY 2016 to ensure data continuity for solar wind data. The lack of a DSCOVR replacement will diminish NOAA's ability to provide timely and accurate geomagnetic storm warnings and other space weather services, leaving the U.S public infrastructure more vulnerable to impending space weather storms.

Space Weather FO (Budget Authority in Thousands)	
FY 2015 & PRIOR	$0
FY 2016	$2,500
FY 2017	*
FY 2018	*
FY 2019	*
FY 2020	*
CTC	*
TOTAL	*

To Be Provided with FY 2017 President's Budget

COSMIC 2/Global Navigation Satellite System Radio Occultation (GNSS RO): GNSS RO Ground System: NOAA requests an increase of $3,300,000 for ground reception and processing of GNSS RO satellite data. This request will help NOAA complete all IT security testing and verification in preparation for the COSMIC-2 launches. All University Corporation for Atmospheric Research (UCAR) processing functions will be tested and certified for operations by National Centers for Environmental Prediction (NCEP) in advance of the FY 2016 and FY

GNSS RO Ground System (Budget Authority in Thousands)	
FY 2015 & PRIOR	$8,797
FY 2016	$10,100
FY 2017	$8,100
FY 2018	$8,100
FY 2019	$8,100
FY 2020	$8,100
CTC	$23,200
TOTAL	$74,497

COSMIC is the first constellation of satellites to use radio occultation.

2019 launches. Additionally, the increase will support the complete operational testing and validation of the Numerical Weather Prediction Models (NWP) for COSMIC-2. This testing requires up to 12 months of joint operations between NCEP and UCAR before the system can be deemed operational at NWS in support of the first COSMIC-2 launch. The COSMIC-2 ground system allows NOAA flexibility to acquire RO data from sources including other governmental organizations and commercial operators.

COSMIC-2/Global Navigation Satellite System Radio Occultation (GNSS RO): COSMIC-2 Sensors: NOAA requests an increase of $9,900,000 for the procurement of the second set of six COSMIC-2 radio occultation (RO) sensors to be launched in FY 2019. The COSMIC-2 constellation will consist of 12 total RO sensors. The first six satellites will be placed in a low earth equatorial orbit in FY 2016, and are currently in production. This funding request will support the acquisition of the second set of six satellites, which will be placed in a low earth polar orbit in FY 2019. These two different orbits of the COSMIC-2 constellation work together to provide global coverage of atmospheric and ionospheric observations, which improves the overall accuracy of NOAA's operational weather models. NWS has determined that the COSMIC mission provides the highest quality and most timely RO data available. Additionally, the acquisition and launch of the polar orbiting COSMIC-2 sensors will help to mitigate the impacts of a potential gap in sounding data in the polar orbit as COSMIC-2 RO data provides unique advantages that can be leveraged to improve data collected from existing NOAA sensors such as ATMS and CrIS (Cross-track Infrared Sounder).

GNSS RO/COSMIC-2: RO SENSORS (Budget Authority in Thousands)	
FY 2015 & PRIOR	$0
FY 2016	$9,900
FY 2017	$8,100
FY 2018	$700
FY 2019	$700
FY 2020	$700
CTC	$2,200
TOTAL	$22,300

Satellite Ground Services (SGS): NOAA requests an increase of $2,717,000 to continue the planning and transition of the independent ground services into a unified set of common ground services for NOAA's environmental satellite systems. This funding will sustain SGS program activities implemented within the FY 2015 Congressional approval of the NOAA reorganization. The goal of the SGS program is to leverage existing ground systems to provide new products and services and to develop a future set of common ground services that can be executed across NOAA's satellites. The funding request is needed to accelerate prototyping of software elements that can be used by multiple applications and to evaluate hardware options for technology refresh action. These activities are a critical step toward setting the foundation for an enterprise ground system that will ultimately generate cost savings and interface efficiencies across NOAA.

SGS (Budget Authority in Thousands)	
FY 2015 & PRIOR	$55,808
FY 2016	$58,525
FY 2017	$58,525
FY 2018	$58,525
FY 2019	$58,525
FY 2020	$58,525
CTC	N/A
TOTAL	RECURRING

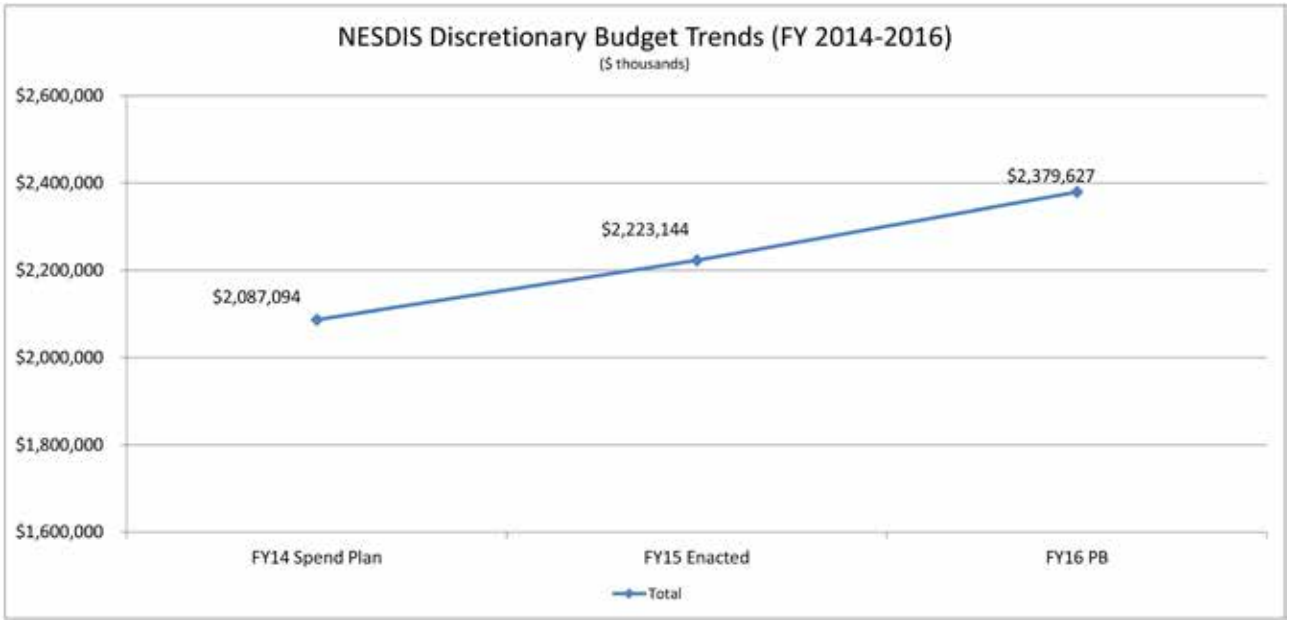
System Architecture and Advanced Planning (SAAP): NOAA requests an increase of $1,587,000 to establish and lead the system engineering processes necessary to meet NESDIS' mission assurance needs. The funding increase is needed to provide adequate end-to-end validation of the GOES-R and JPSS-1 mission requirements to ensure the NESDIS' systems and products meet the

operational needs identified by the user community. Funding this activity in FY 2016 is critical for GOES-R to complete development activities and to certify end-to-end validation of the GOES-R products and ground system prior to launch. Remaining funding will be used to support planning for the full development of next generation satellite and ground architectures. NESDIS architecture planning is integral to the long-term continuity of satellite products used for environmental monitoring and prediction at an affordable cost.

SAAP (Budget Authority in Thousands)	
FY 2015 & PRIOR	$3,000
FY 2016	$4,929
FY 2017	$4,929
FY 2018	$4,929
FY 2019	$4,929
FY 2020	$4,929
CTC	N/A
TOTAL	RECURRING

Projects, Planning and Analysis (PPA): NOAA requests an increase of $5,288,000 to continue project management, on-orbit anomaly support and sustainment of existing operational systems, and to integrate science planning and operational science product development for NOAA satellite missions. NOAA is currently preparing three critical instruments for launch on the EUMETSAT satellite, Metop-C, including the Advanced Very High Resolution Radiometer (AVHRR); Advanced Microwave Sounding Unit (AMSU-A); and Space Environment Monitor (SEM). This funding request will allow NOAA to calibrate the SEM instrument on schedule for shipping to Europe for satellite Dynamics and Electro-Magnetic Compatibility Testing. Without this funding request, NOAA will be unable to meet schedule obligations to ensure the accommodation of the SEM instrument on MetOp C in Q1 FY 2019.

PPA (Budget Authority in Thousands)	
FY 2015 & PRIOR	$25,200
FY 2016	$30,488
FY 2017	$33,488
FY 2018	$33,488
FY 2019	$33,488
FY 2020	$33,488
CTC	N/A
TOTAL	RECURRING



Chapter 7 | Program Support

NOAA Ship *Nancy Foster*. Photo Credit: ENS Conor Maginn

NOAA's Program Support services are the backbone of NOAA's programs and mission. These offices – including Corporate Services, Office of Education, and Office of Marine and Aviation Operations (OMAO) – provide the planning, administrative, financial, procurement, information technology, human resources, acquisitions and grants, and infrastructure services that are essential to safe, timely, and effective execution of the NOAA mission. NOAA Corporate Services provides centralized executive management, as well as policy formulation and direction, to all of NOAA's Staff and Line Offices. NOAA's Office of Education provides advice and counsel to the Under Secretary of Commerce for Oceans and Atmosphere in matters pertaining to education. The NOAA Facility Program is the focal point for facility planning, project planning formulation and development, and project management oversight to support critical NOAA mission requirements. OMAO supports an array of specialized ships and aircraft that play a critical role in the in-situ collection of oceanographic, atmospheric, hydrographic, and fisheries data in support of NOAA's environmental and scientific missions. OMAO also administers the NOAA-wide Diving Program and Small Boat Program and is composed of civilians and the NOAA Commissioned Corps uniformed officers.

FY 2016 REQUEST $677,040,000

In FY 2016, NOAA requests a total of $677,040,000 to position NOAA's Program Support for more effective execution of NOAA's diverse mission. This total includes Operations, Research, and Facilities (ORF) and Procurement, Acquisition, and Construction (PAC) accounts and is composed of a net increase of $148,841,000 in FY 2016 program changes.

The FY 2016 request supports critical investments in NOAA's Corporate Services and fleet. NOAA's Program Support requires additional funds to ensure sound execution of programs and activities related to NOAA's diverse mission. NOAA's FY 2016 request seeks to strengthen NOAA Corporate Services by integrating new Departmental business systems at NOAA and improving performance in the human resources and acquisitions business lines. The NOAA ship fleet will decline by 50 percent – from 16 to 8 active ships between FY 2016 and FY 2028 – without additional investment, leaving it unable to successfully support NOAA's at-sea data collection activities, which serve as the basis for management decisions and products and services on which communities depend. To ensure the continuity of NOAA's at-sea data collection capacity into the future, the FY 2016 request makes critical investments in capital improvements for the entire ship fleet and in one Ocean Survey Vessel (OSV).

FY 2016 ORF BUDGET SUMMARY

NOAA requests a total of $487,135,000 to support the Operations, Research, and Facilities of the Program Support functions. This includes a net decrease of $4,859,000 in FY 2016 program changes.

The Inouye Regional Center (IRC) is located on historic Ford Island, Naval Station Pearl Harbor, Honolulu, Hawaii. The IRC combines new facilities with the historic preservation of four historic buildings culminating into a campus which is environmentally sustainable, state of the art and Leadership in Environmental and Energy Design (LEED) Gold Certified.

NOAA WP-3D N43RF USAF.

ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2016:

Program changes above $1,000,000 are highlighted below. A summary of funding by Program, Project, and Activity (PPA) is located in Appendix 2. Detailed descriptions of all program changes by PPA are located in the NOAA FY 2016 Congressional Justification.

CORPORATE SERVICES $234,506,000

NOAA requests a net increase of $4,341,000 in FY 2016 program changes for a total of $234,506,000 in the Corporate Services sub-program. Highlights include:

NOAA-Wide Corporate Services and Agency Management Base: NOAA requests an increase of $4,341,000 for a total of $118,973,000 for the implementation of the new Departmental business systems and to improve performance of the Corporate Services functions across NOAA. This request will support NOAA Corporate Services to improve performance in the human resources and acquisition and grants business lines.

OFFICE OF EDUCATION $16,431,000

NOAA requests a net decrease of $11,200,000 in FY 2016 program changes for a total of $16,431,000 in the Office of Education sub-program. Within this funding, NOAA will use $2,031,000 for Office of Education operations and $14,400,000 to support the Educational Partnership Program. Highlights include:

NOAA Bay-Watershed Education and Training (B-WET) Regional Programs: NOAA requests a decrease of $7,200,000 for B-WET. In FY 2016, NOAA will continue to provide watershed educational experience for students through other programs including those within National Marine Sanctuaries and National Estuarine Research Reserves.

Office of Education: NOAA requests a decrease of $4,000,000 to the Office of Education to terminate NOAA's Competitive Education Grant Program.

FACILITIES $25,067,000

NOAA requests a net increase of $2,000,000 in FY 2016 program changes for a total of $25,067,000 in the Facilities sub-program. Highlights include:

NOAA Facilities Management & Construction and Safety: NOAA requests an increase of $2,000,000 to excess surplus facilities and address deferred maintenance needs at corporate campuses to ensure safe and sustainable facilities for future mission success. Addressing deferred maintenance allows NOAA to reduce the financial impact of inefficient buildings and building systems while potentially reducing energy costs and mitigating the financial and safety risk from the effects of climate change. With these funds, NOAA will begin to identify excess and dispose of surplus facilities, eliminating arrangements that are not cost effective and disposing of excess and underutilized assets. NOAA will work closely with the General Services Administration to ensure excessing is done effectively and in accordance with regulations.

MARINE OPERATIONS & MAINTENANCE $178,838,000

NOAA requests a total of $178,838,000 in the Marine Operations and Maintenance sub-program. There are no program changes in this sub-program. This program funds centralized management for NOAA's 16 active research and survey ships. In FY 2016, funding will provide approximately 3,220 Days at Sea (DAS) to support NOAA's highest-priority programs.

AVIATION OPERATIONS $32,293,000

NOAA requests a total of $32,293,000 in the Aviation Operations sub-program. There are no program changes in this sub-program. This program funds centralized management for NOAA's research and survey aircraft. In FY 2016, funding will provide approximately 4,063 flight hours to support NOAA's highest-priority programs.

FY 2016 PAC BUDGET SUMMARY

NOAA requests a total of $159,700,000 to support the Procurement, Acquisition, and Construction (PAC) functions of Program Support. This includes an increase of $153,700,000 in FY 2016 program changes.

PAC PROGRAM CHANGE HIGHLIGHTS FOR FY 2016

Program changes above $1,000,000 are highlighted below. A summary of funding by Program, Project, and Activity (PPA) is located in Appendix 2. Detailed descriptions of all program changes by PPA are located in the NOAA FY 2016 Congressional Justification.

CONSTRUCTION $1,000,000

NOAA requests a net increase of $1,000,000 in FY 2016 program changes for a total of $1,000,000 in the Construction sub-program.

NOAA Construction: NOAA requests an increase of $1,000,000 to conduct a Planning and Design study that will evaluate the feasibility of extending the temporary berth of the fisheries survey vessel *Henry B. Bigelow* at the Naval Station Newport pier.

NOAA Construction (Budget Authority in Thousands)	
FY 2016 REQUEST	$1,000
FY 2017	$0
FY 2018	$0
FY 2019	$0
FY 2020	$0

OMAO FLEET REPLACEMENT $158,700,000

NOAA requests a net increase of $152,700,000 in FY 2016 program changes for a total of $158,700,000 in the OMAO Fleet Replacement sub-program. Highlights include:

New Vessel Construction: NOAA requests an increase of $147,000,000 to begin development of one Ocean Survey Vessel (OSV), a multi-use platform designed to conduct surveys throughout the U.S. Exclusive Economic Zone, which is the area extending 200 nautical miles offshore where the U.S. has jurisdiction over natural resources. The OSV has a more diverse range of capabilities and functions than other vessels in the NOAA fleet and is capable of meeting a variety of NOAA's missions, such as:

- surveying marine mammal populations;
- collecting samples and observations to support ecosystem-based management activities;
- conducting oceanographic and climate research;
- mapping the ocean floor to update nautical charts; and
- servicing National Weather Service's buoys.

With this investment, NOAA will leverage the Navy's existing Auxiliary General Oceanographic Research Vessel system specifications, which will reduce design risk, provide cost savings and increase the ability for cross-government research opportunities.

New Vessel Construction (Budget Authority in Thousands)	
FY 2016 REQUEST	$147,000
FY 2017	$0
FY 2018	$6,200
FY 2019	$0
FY 2020	$0

Fleet Capital Improvements and Technology Infusion: NOAA requests an increase of $5,700,000 to support the Progressive Lifecycle Maintenance Program. Funds will continue to improve the material condition

Fleet Capital Improvements and Tech Infusion (Budget Authority in Thousands)	
FY 2016 REQUEST	$11,700
FY 2017	$11,700
FY 2018	$11,700
FY 2019	$11,700
FY 2020	$11,700

NOAA Flight Director Rich Henning at his station aboard N42RF. Photo Credit: David Hall.

and maximize the service life of the NOAA ship fleet by stabilizing capital investment in regular upgrades and replacements of mission support equipment and technology infusions, such as data processing capacity. This investment will help ensure the continuity and reliability of the NOAA fleet to support the agency's diverse at-sea observation and data collection needs.

DISCRETIONARY FUNDS

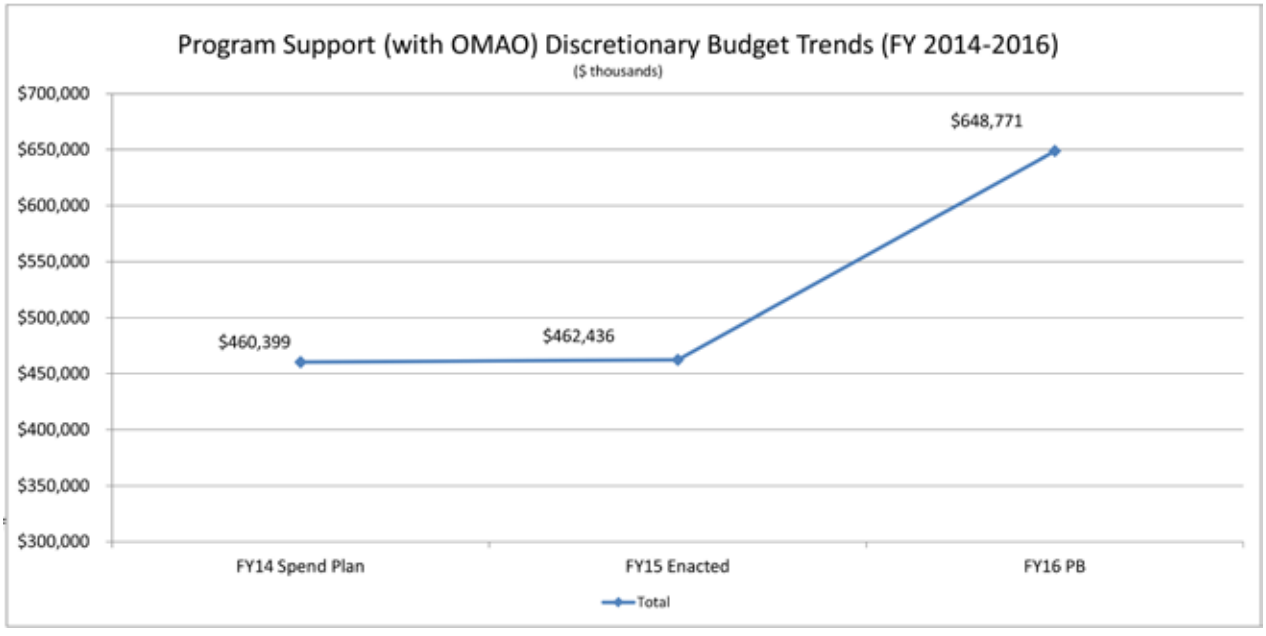
MEDICARE-ELIGIBLE RETIREE HEALTHCARE FUND CONTRIBUTION

The FY 2003 Department of Defense Authorization Act requires all uniformed services, including NOAA, to participate in an accrual fund for Medicare-eligible retirees. Payments into this accrual fund will cover the future health care benefits of present, active-duty NOAA officers and their dependents and annuitants. FY 2016, payments to the accrual fund are estimated to be $1,936,000.

MANDATORY FUNDS

NOAA CORPS COMMISSIONED OFFICERS RETIREMENT

The retirement system for the uniformed services provides a measure of financial security after release from active duty for service members and their survivors. It is an important factor in the choice of a career in the uniformed services and is mandated by Federal statutes under Title 10, United States Code. NOAA transfers retirement pay funds to the Coast Guard, which handles the payment function for retirees and annuitants. Health care funds for non-Medicare-eligible retirees, dependents, and annuitants are transferred to the U.S. Public Health Service, which administers the health care program.



Flags flying from mast of NOAA Ship *Nancy Foster*. Photo Credit: ENS Conor Maginn

Appendix 1 | Proposed Changes to General Provisions

NOAA Ship *Rainier*.

NOAA seeks the following changes to the General Provisions in its FY 2016 budget submission. For a more detailed discussion of the justification for these proposed changes, please consult the FY 2016 Congressional Justification.

1. NOAA Cost Recovery Language

SEC. 110. *To carry out the responsibilities of the National Oceanic and Atmospheric Administration (NOAA), the Administrator of NOAA is authorized to: (1) enter into grants and cooperative agreements with; (2) use on a non-reimbursable basis land, services, equipment, personnel, and facilities provided by; and (3) receive and expend funds made available on a consensual basis from: a Federal agency, State or subdivision thereof, local government, tribal government, territory, or possession or any subdivisions thereof, foreign government, international or intergovernmental organization, public or private organization, or individual: Provided, That funds received for permitting and related regulatory activities pursuant to this section shall be deposited under the heading "National Oceanic and Atmospheric Administration—Operations, Research, and Facilities" and shall remain available until expended for such purposes: Provided further, That all funds within this section and their corresponding uses are subject to section 505 of this Act.*

Justification
NOAA proposes to clarify NOAA's ability to receive and expend funds from, and to engage in agreements with, external entities to carry out its responsibilities related to permitting and other regulatory activities.

2. Availability for New Vessel Construction funds (under Procurement, Acquisition and Construction)

For procurement, acquisition and construction of capital assets, including alteration and modification costs, of the National Oceanic and Atmospheric Administration, $2,498,679,000, to remain available until September 30, 2018, except that funds provided for the acquisition and construction of vessels and that funds provided for construction of facilities shall remain available until expended.

Justification
NOAA proposes language that would extend the period of availability of Procurement, Acquisition and Construction funds for vessel acquisition and construction from three fiscal years until expended.

Appendix 2 | Control Table

NATIONAL OCEAN SERVICE

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Navigation, Observations and Positioning						
Navigation, Observations and Positioning	135,789	137,961	3,039	141,000	0	141,000
Hydrographic Survey Priorities/Contracts	24,961	25,000	0	25,000	0	25,000
IOOS Regional Observations	28,456	29,500	0	29,500	0	29,500
Total, Navigation, Observations and Positioning	**189,206**	**192,461**	**3,039**	**195,500**	**0**	**195,500**
Coastal Science and Assessment						
Coastal Science, Assessment, Response and Restoration	70,390	71,000	1,600	72,600	0	72,600
Competitive Research	8,986	9,000	0	9,000	4,000	13,000
Total, Coastal Science and Assessment	**79,376**	**80,000**	**1,600**	**81,600**	**4,000**	**85,600**
Ocean and Coastal Management and Services						
Coastal Zone Management and Services	40,936	41,700	664	42,364	11,780	54,144
Coastal Management Grants	66,043	71,146	0	71,146	45,000	116,146
Coral Reef Program	25,960	26,000	100	26,100	0	26,100
National Estuarine Research Reserve System	21,267	21,300	0	21,300	0	21,300
Sanctuaries and Marine Protected Areas	48,425	48,500	1,161	49,661	(1,361)	48,300
Total, Ocean and Coastal Management and Services	**202,631**	**208,646**	**1,925**	**210,571**	**55,419**	**265,990**
Total, National Ocean Service - ORF	**471,213**	**481,107**	**6,564**	**487,671**	**59,419**	**547,090**
Other National Ocean Service Accounts						
Total, National Ocean Service - PAC	3,694	3,700	0	3,700	0	3,700
Total, National Ocean Service - Other	23,259	50,931	(27,761)	23,170	0	23,170
GRAND TOTAL NOS	**498,166**	**535,738**	**(21,197)**	**514,541**	**59,419**	**573,960**

NATIONAL MARINE FISHERIES SERVICE

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Protected Resources Science and Management						
Marine Mammals, Sea Turtles & Other Species	114,104	115,219	2,170	117,389	28,321	145,710
ESA Salmon	64,400	65,500	1,700	67,200	1,301	68,501
Total, Protected Resources Science and Management	**178,504**	**180,719**	**3,870**	**184,589**	**29,622**	**214,211**
Fisheries Science and Management						
Fisheries and Ecosystem Science Programs and Services	131,134	132,189	2,653	134,842	11,475	146,317
Fisheries Data Collections, Surveys and Assessments	156,990	158,271	2,165	160,436	2,815	163,251
Observers and Training	43,586	43,655	611	44,266	484	44,750
Fisheries Management Programs and Services	120,548	120,458	2,243	122,701	5,666	128,367
Salmon Management Activities	30,153	30,200	158	30,358	(2,896)	27,462
Regional Councils and Fisheries Commissions	34,446	35,238	737	35,975	0	35,975
Total, Fisheries Science and Management	**516,857**	**520,011**	**8,567**	**528,578**	**17,544**	**546,122**
Enforcement						
Enforcement	62,899	65,000	1,168	66,168	3,850	70,018
Total, Enforcement	**62,899**	**65,000**	**1,168**	**66,168**	**3,850**	**70,018**
Habitat Conservation & Restoration						
Habitat Management and Restoration	51,037	56,408	806	57,214	671	57,885
Subtotal, Habitat Conservation & Restoration	**51,037**	**56,408**	**806**	**57,214**	**671**	**57,885**
Total, National Marine Fisheries Service - ORF	**809,297**	**822,138**	**14,411**	**836,549**	**51,687**	**888,236**
Other National Marine Fisheries Service Accounts						
Total, National Marine Fisheries Service - PAC	0	0	0	0	0	0
Total, National Marine Fisheries Service - Other	193,476	136,056	(37,471)	98,585	3,300	101,885
GRAND TOTAL NMFS	**1,002,773**	**958,194**	**(23,060)**	**935,134**	**54,987**	**990,121**

OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Climate Research						
Laboratories & Cooperative Institutes						
Laboratories & Cooperative Institutes	58,858	60,000	1,078	61,078	9,415	70,493
Subtotal, Laboratories & Cooperative Institutions	**58,858**	**60,000**	**1,078**	**61,078**	**9,415**	**70,493**
Regional Climate Data & Information						
Regional Climate Data & Information	36,943	38,000	125	38,125	14,312	52,437
Subtotal, Regional Climate Data & Information	**36,943**	**38,000**	**125**	**38,125**	**14,312**	**52,437**
Climate Competitive Research						
Climate Competitive Research	58,407	60,000	326	60,326	5,504	65,830
Subtotal, Climate Competitive Research	**58,407**	**60,000**	**326**	**60,326**	**5,504**	**65,830**
Total, Climate Research	**154,208**	**158,000**	**1,529**	**159,529**	**29,231**	**188,760**
Weather & Air Chemistry Research						
Laboratories & Cooperative Institutes						
Laboratories & Cooperative Institutes	63,900	70,000	2,086	72,086	(3,982)	68,104
Subtotal, Laboratories & Cooperative Institutes	**63,900**	**70,000**	**2,086**	**72,086**	**(3,982)**	**68,104**
Weather & Air Chemistry Research Programs						
U.S. Weather Research Program (USWRP)	4,193	7,300	(158)	7,142	8,936	16,078
Tornado Severe Storm Research / Phased Array Radar	12,980	13,500	0	13,500	(342)	13,158
Subtotal, Weather & Air Chemistry Research Programs	**17,173**	**20,800**	**(158)**	**20,642**	**8,594**	**29,236**
Total, Weather & Air Chemistry Research	**81,073**	**90,800**	**1,928**	**92,728**	**4,612**	**97,340**
Ocean, Coastal, and Great Lakes Research						
Laboratories & Cooperative Institutes						
Laboratories & Cooperative Institutes	26,201	27,000	2,546	29,546	(2,531)	27,015
Subtotal, Laboratories & Cooperative Institutes	**26,201**	**27,000**	**2,546**	**29,546**	**(2,531)**	**27,015**
National Sea Grant College Program						
National Sea Grant College Program Base	62,702	62,800	83	62,883	(1,431)	61,452
Marine Aquaculture Program	4,493	4,500	0	4,500	2,500	7,000
Subtotal, National Sea Grant College Program	**67,195**	**67,300**	**83**	**67,383**	**1,069**	**68,452**

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FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Ocean Exploration and Research						
Ocean Exploration and Research	25,960	28,000	124	28,124	(8,780)	19,344
Subtotal, Ocean Exploration and Research	**25,960**	**28,000**	**124**	**28,124**	**(8,780)**	**19,344**
Other Ecosystems Programs						
Integrated Ocean Acidification	5,991	8,500	83	8,583	21,422	30,005
Cross-NOAA Science and Technology	0	0	0	0	0	0
Subtotal, Other Ecosystems Programs	**5,991**	**8,500**	**83**	**8,583**	**21,422**	**30,005**
Sustained Ocean Observations and Monitoring						
Sustained Ocean Observations and Monitoring	40,936	41,300	296	41,596	0	41,596
Subtotal, Sustained Ocean Observations and Monitoring	**40,936**	**41,300**	**296**	**41,596**	**0**	**41,596**
Total, Ocean, Coastal, & Great Lakes Research	**166,283**	**172,100**	**3,132**	**175,232**	**11,180**	**186,412**
Innovative Research & Technology						
High Performance Computing Initiatives	11,981	12,000	41	12,041	103	12,144
Total, Innovative Research & Technology	**11,981**	**12,000**	**41**	**12,041**	**103**	**12,144**
Total, Office of Oceanic and Atmospheric Research - ORF	**413,545**	**432,900**	**6,630**	**439,530**	**45,126**	**484,656**
Other Office of Oceanic and Atmospheric Research Accounts						
Total, Office of Ocean and Atmospheric Research - PAC	10,363	13,379	0	13,379	9,000	22,379
Total, Office of Oceanic and Atmospheric Research - Other	0	0	0	0	0	0
GRAND TOTAL OAR	**423,908**	**446,279**	**6,630**	**452,909**	**54,126**	**507,035**

NATIONAL WEATHER SERVICE

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Observations	205,022	210,777	1,732	212,509	(7,633)	204,876
Central Processing	100,069	96,617	1,385	98,002	(10,100)	87,902
Analyze, Forecast and Support	474,729	483,060	10,485	493,545	(3,700)	489,845
Dissemination	46,259	40,099	6,644	46,743	0	46,743
Science and Technology Integration	123,066	123,600	2,097	125,697	8,500	134,197
Total, National Weather Service - ORF	**949,145**	**954,153**	**22,343**	**976,496**	**(12,933)**	**963,563**
Other National Weather Service Accounts						
Total, National Weather Service - PAC	113,442	133,300	(3,000)	130,300	5,015	135,315
Total, National Weather Service - Other	0	0	0	0	0	0
GRAND TOTAL NWS	**1,062,587**	**1,087,453**	**19,343**	**1,106,796**	**(7,918)**	**1,098,878**

NATIONAL ENVIRONMENTAL SATELLITE, DATA AND INFORMATION SERVICE

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Environmental Satellite Observing Systems						
Office of Satellite and Product Operations (OSPO)						
Satellite and Product Operations	83,869	84,000	4,499	88,499	4,582	93,081
NSOF Operations	7,988	8,500	500	9,000	0	9,000
Subtotal, Office of Satellite and Product Operations (OSPO)	**91,857**	**92,500**	**4,999**	**97,499**	**4,582**	**102,081**
Product Development, Readiness & Application						
Product Development, Readiness & Application	24,459	26,000	316	26,316	0	26,316
Subtotal, Product Development, Readiness & Application	**24,459**	**26,000**	**316**	**26,316**	**0**	**26,316**
Commercial Remote Sensing Regulatory Affairs	998	1,000	0	1,000	200	1,200
Office of Space Commercialization	599	600	0	600	400	1,000
Group on Earth Observations (GEO)	499	500	0	500	0	500
Total, Environmental Satellite Observing Systems	**118,412**	**120,600**	**5,315**	**125,915**	**5,182**	**131,097**
National Centers for Environmental Information						
National Centers for Environmental Information	66,463	68,000	(9,820)	58,180	1,067	59,247
Total, National Centers for Environmental Information	**66,463**	**68,000**	**(9,820)**	**58,180**	**1,067**	**59,247**
Total, NESDIS - ORF	**184,875**	**188,600**	**(4,505)**	**184,095**	**6,249**	**190,344**
Other NESDIS Accounts						
Total, NESDIS - PAC	1,902,219	2,034,544	6,150	2,040,694	148,589	2,189,283
Total, NESDIS - Other	0	0	0	0	0	0
GRAND TOTAL NESDIS	**2,087,094**	**2,223,144**	**1,645**	**2,224,789**	**154,838**	**2,379,627**

PROGRAM SUPPORT

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Corporate Services						
Under Secretary and Associate Offices						
Under Secretary and Associate Offices Base	26,958	27,000	188	27,188	0	27,188
Subtotal, Under Secretary and Associate Offices	**26,958**	**27,000**	**188**	**27,188**	**0**	**27,188**
NOAA Wide Corporate Services & Agency Management						
NOAA Wide Corporate Services & Agency Management Base	110,828	112,000	2,632	114,632	4,341	118,973
DOC Accounting System	9,984	10,000	223	10,223	0	10,223
Payment to the DOC Working Capital Fund	46,204	40,000	29,822	69,822	0	69,822
Subtotal, NOAA Wide Corporate Services & Agency Management	**167,016**	**162,000**	**32,677**	**194,677**	**4,341**	**199,018**
IT Security						
IT Security	8,287	8,300	0	8,300	0	8,300
Subtotal, IT Security	**8,287**	**8,300**	**0**	**8,300**	**0**	**8,300**
Total, Corporate Services	**202,261**	**197,300**	**32,865**	**230,165**	**4,341**	**234,506**
Office of Education						
BWET Regional Programs	7,189	7,200	0	7,200	(7,200)	0
Education Partnership Program/Minority Serving Institutions (EPP/MSI)	14,378	14,400	(14,400)	0	0	0
Office of Education	5,591	6,000	14,431	20,431	(4,000)	16,431
Total, Office of Education	**27,158**	**27,600**	**31**	**27,631**	**(11,200)**	**16,431**
Facilities						
NOAA Facilities Management & Construction and Safety	22,964	23,000	67	23,067	2,000	25,067
Subtotal, NOAA Facilities Management, Construction & Maintenance	**22,964**	**23,000**	**67**	**23,067**	**2,000**	**25,067**
Total, Facilities	**22,964**	**23,000**	**67**	**23,067**	**2,000**	**25,067**
Total, Program Support - ORF	**252,383**	**247,900**	**32,963**	**280,863**	**(4,859)**	**276,004**
Total, Program Support - PAC	**0**	**0**	**0**	**0**	**1,000**	**1,000**
Total, Program Support - ORF and PAC	**252,383**	**247,900**	**32,963**	**280,863**	**(3,859)**	**277,004**
Marine Operations & Maintenance						

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FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Marine Operations & Maintenance	169,736	175,000	3,838	178,838	0	178,838
Total, Marine Operations & Maintenance	**169,736**	**175,000**	**3,838**	**178,838**	**0**	**178,838**
Aviation Operations						
Aircraft Services	31,152	31,600	693	32,293	0	32,293
Total, Aviation Operations	**31,152**	**31,600**	**693**	**32,293**	**0**	**32,293**
Total, OMAO - ORF	**200,888**	**206,600**	**4,531**	**211,131**	**0**	**211,131**
Total, OMAO - PAC	**5,192**	**6,000**	**0**	**6,000**	**152,700**	**158,700**
Total, OMAO - Other	**30,205**	**30,205**	**0**	**30,205**	**0**	**30,205**
Total, OMAO - ORF, PAC and Other	**236,285**	**242,805**	**4,531**	**247,336**	**152,700**	**400,036**
Total, Program Support and OMAO - ORF	**453,271**	**454,500**	**37,494**	**491,994**	**(4,859)**	**487,135**
Other Program Support and OMAO Accounts						
Total, Program Support - PAC	5,192	6,000	0	6,000	153,700	159,700
Total, Program Support - Other	30,205	30,205	0	30,205	0	30,205
GRAND TOTAL PS	**488,668**	**490,705**	**37,494**	**528,199**	**148,841**	**677,040**

ORF SUMMARY LINE OFFICE DIRECT OBLIGATIONS

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
National Ocean Service	471,213	481,107	6,564	487,671	59,419	547,090
National Marine Fisheries Service	809,297	822,138	14,411	836,549	51,687	888,236
Office of Oceanic and Atmospheric Research	413,545	432,900	6,630	439,530	45,126	484,656
National Weather Service	949,145	954,153	22,343	976,496	(12,933)	963,563
National Environmental Satellite, Data and Information Service	184,875	188,600	(4,505)	184,095	6,249	190,344
Program Support	453,271	454,500	37,494	491,994	(4,859)	487,135
SUBTOTAL LO DIRECT OBLIGATIONS	**3,281,346**	**3,333,398**	**82,937**	**3,416,335**	**144,689**	**3,561,024**

ORF ADJUSTMENTS

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
SUBTOTAL LO DIRECT OBLIGATIONS	**3,281,346**	**3,333,398**	**82,937**	**3,416,335**	**144,689**	**3,561,024**
FINANCING						
De-Obligations	(15,000)	(15,000)	(2,500)	(17,500)	0	(17,500)
Unobligated Balance, SOY	0	0	0	0	0	0
Rescission	0	0	0	0	0	0
Total ORF Financing	**(15,000)**	**(15,000)**	**(2,500)**	**(17,500)**	**0**	**(17,500)**
SUBTOTAL BUDGET AUTHORITY	**3,266,346**	**3,318,398**	**80,437**	**3,398,835**	**144,689**	**3,543,524**
TRANSFERS						
Transfer from P&D to ORF	(115,000)	(116,000)	(14,164)	(130,164)	0	(130,164)
Total ORF Transfers	**(108,954)**	**(116,000)**		**(130,164)**	**0**	**(130,164)**
SUBTOTAL APPROPRIATION	**3,157,392**	**3,202,398**	**66,273**	**3,268,671**	**144,689**	**3,413,360**

PROCUREMENT, ACQUISITION, AND CONSTRUCTION

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
NOS						
NERRS Construction						
National Estuarine Research Reserve Construction (NERRS)	1,697	1,700	0	1,700	0	1,700
Subtotal, NERRS Construction	**1,697**	**1,700**	**0**	**1,700**	**0**	**1,700**
Marine Sanctuaries Construction						
Marine Sanctuaries Base	1,997	2,000	0	2,000	0	2,000
Subtotal, Marine Sanctuary Construction	**1,997**	**2,000**	**0**	**2,000**	**0**	**2,000**
Subtotal, NOS Construction	**3,694**	**3,700**	**0**	**3,700**	**0**	**3,700**
Total, NOS - PAC	**3,694**	**3,700**	**0**	**3,700**	**0**	**3,700**
Total, NMFS - PAC	**0**	**0**	**0**	**0**	**0**	**0**
OAR						
Systems Acquisition						
Research Supercomputing/ CCRI	10,363	13,379	0	13,379	9,000	22,379
Subtotal, OAR Systems Acquisition	**10,363**	**13,379**	**0**	**13,379**	**9,000**	**22,379**
Total, OAR - PAC	**10,363**	**13,379**	**0**	**13,379**	**9,000**	**22,379**
NWS						
Systems Acquisition						
Observations	5,640	12,300	(3,000)	9,300	7,420	16,720
Central Processing	65,658	64,000	0	64,000	261	64,261
Dissemination	34,156	45,000	0	45,000	684	45,684
Subtotal, NWS Systems Acquisition	**105,454**	**121,300**	**(3,000)**	**118,300**	**8,365**	**126,665**
Construction						
Facilities Construction and Major Repairs	7,988	12,000	0	12,000	(3,350)	8,650
Subtotal, NWS Construction	**7,988**	**12,000**	**0**	**12,000**	**(3,350)**	**8,650**
Total, NWS - PAC	**113,442**	**133,300**	**(3,000)**	**130,300**	**5,015**	**135,315**

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FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
NESDIS						
Systems Acquisition						
Geostationary Systems - R	940,416	980,838	0	980,838	(109,047)	871,791
Jason-3	35,171	23,175	0	23,175	(15,717)	7,458
Joint Polar Satellite System (JPSS)	819,575	916,267	0	916,267	(107,301)	808,966
Polar Follow-on	0	0	0	0	380,000	380,000
Solar Irradiance, Data and Rescue (SIDAR)	0	7,300	0	7,300	(6,800)	500
DSCOVR	23,638	21,100	0	21,100	(17,900)	3,200
Space Weather Follow-on	0	0	0	0	2,500	2,500
COSMIC 2/GNSS RO	1,997	6,800	0	6,800	13,200	20,000
Satellite Ground Services	49,708	50,000	5,808	55,808	2,717	58,525
System Architecture and Advanced Planning	4,587	3,000	342	3,342	1,587	4,929
Projects, Planning and Analysis	26,402	25,200	0	25,200	5,288	30,488
Subtotal, NESDIS Systems Acquisition	**1,901,494**	**2,033,680**	**6,150**	**2,039,830**	**148,527**	**2,188,357**
Construction						
Satellite CDA Facility	1,725	2,166	0	2,166	62	2,228
Subtotal, NESDIS Construction	**1,725**	**2,166**	**0**	**2,166**	**62**	**2,228**
Transfer to OIG	(1,000)	(1,302)	0	(1,302)	0	(1,302)
Total, NESDIS - PAC	**1,902,219**	**2,034,544**	**6,150**	**2,040,694**	**148,589**	**2,189,283**
Program Support						
Construction						
NOAA Construction	0	0	0	0	1,000	1,000
Subtotal, Construction	**0**	**0**	**0**	**0**	**1,000**	**1,000**
Total, Program Support - PAC	**0**	**0**	**0**	**0**	**1,000**	**1,000**
OMAO						
OMAO - Fleet Replacement						
Fleet Capital Improvements & Tech Infusion (Vessel Equip & Tech Refresh)	5,192	6,000	0	6,000	5,700	11,700
New Vessel Construction	0	0	0	0	147,000	147,000
Subtotal, OMAO Fleet Replacement	**5,192**	**6,000**	**0**	**6,000**	**152,700**	**158,700**
Total, OMAO - PAC	**5,192**	**6,000**	**0**	**6,000**	**152,700**	**158,700**
GRAND TOTAL PAC	**2,034,910**	**2,190,923**	**3,150**	**2,194,073**	**316,304**	**2,510,377**

PAC ADJUSTMENTS

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
SUBTOTAL DIRECT OBLIGATIONS	**2,034,910**	**2,190,923**	**3,150**	**2,194,073**	**316,304**	**2,510,377**
FINANCING						
Deobligations	(7,000)	(13,000)	0	(13,000)	0	(13,000)
Unobligated Balance Adj. SOY (start of year)	0	0	0	0	0	0
Unobligated Balance End of Year	0	0	0	0	0	0
Total PAC Financing	**(7,000)**	**(13,000)**	**0**	**(13,000)**	**0**	**(13,000)**
SUBTOTAL BUDGET AUTHORITY	**2,027,910**	**2,177,923**	**3,150**	**2,181,073**	**316,304**	**2,497,377**
TRANSFERS						
Transfer from ORF to PAC	(6,046)	0	0	0	0	0
Transfer to OIG	1,000	1,302	0	1,302	0	1,302
Total PAC Transfers/Rescissions	**(5,046)**	**1,302**	**0**	**1,302**	**0**	**1,302**
SUBTOTAL APPROPRIATION	**2,022,864**	**2,179,225**	**3,150**	**2,182,375**	**316,304**	**2,498,679**

OTHER ACCOUNTS (DISCRETIONARY)

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
NMFS						
Fishermen's Contingency Fund Obligations	350	350	0	350	0	350
Fishermen's Contingency Fund Budget Authority	350	350	0	350	0	350
Fishermen's Contingency Fund Appropriations	350	350	0	350	0	350
Foreign Fishing Observer Fund Obligations	0	0	0	0	0	0
Foreign Fishing Observer Fund Budget Authority	0	0	0	0	0	0
Foreign Fishing Observer Fund Appropriation	0	0	0	0	0	0
Fisheries Finance Program Account Obligations	0	0	0	0	10,300	10,300
Fisheries Finance Program Account Budget Authority	0	0	0	0	10,300	10,300
Fisheries Finance Program Account Appropriation	0	0	0	0	10,300	10,300
Promote and Develop Fisheries Obligations	0	0	0	0	0	0
Promote and Develop Fisheries Budget Authority	(115,000)	(116,000)	(14,164)	(130,164)	0	(130,164)
Promote and Develop Fisheries Appropriation	0	0	0	0	0	0
Pacific Coastal Salmon Fund Obligations	65,000	65,000	0	65,000	(7,000)	58,000
Pacific Coastal Salmon Fund Budget Authority	65,000	65,000	0	65,000	(7,000)	58,000
Pacific Coastal Salmon Fund Appropriation	65,000	65,000	0	65,000	(7,000)	58,000
Marine Mammal Unusual Mortality Event Fund Obligations	0	0	50	50	0	50
Marine Mammal Unusual Mortality Event Fund Budget Authority	0	0	0	0	0	0
Marine Mammal Unusual Mortality Event Fund Appropriation	0	0	0	0	0	0
Fisheries Disaster Assistance Fund Obligations	75,000	0	0	0	0	0
Fisheries Disaster Assistance Fund Budget Authority	75,000	0	0	0	0	0
Fisheries Disaster Assistance Fund Appropriation	75,000	0	0	0	0	0
Subtotal, NMFS Other Discretionary Direct Obligation	**140,350**	**65,350**	**50**	**65,400**	**3,300**	**68,700**
Subtotal, NMFS Other Discretionary Budget Authority	**25,350**	**(50,650)**	**(14,164)**	**(64,814)**	**3,300**	**(61,514)**
Subtotal, NMFS Other Discretionary Appropriation	**140,350**	**65,350**	**0**	**65,350**	**3,300**	**68,650**
OMAO						
Medicare Eligible Retiree Healthcare Fund Acct Obligations	1,936	1,936	0	1,936	0	1,936
Medicare Eligible Retiree Healthcare Fund Acct Budget Authority	1,936	1,936	0	1,936	0	1,936

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FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Medicare Eligible Retiree Healthcare Fund Acct Appropriations	1,936	1,936	0	1,936	0	1,936
Subtotal, OMAO Other Discretionary Direct Obligations	1,936	1,936	0	1,936	0	1,936
Subtotal, OMAO Other Discretionary Budget Authority	1,936	1,936	0	1,936	0	1,936
Subtotal, OMAO Other Discretionary Appropriation	1,936	1,936	0	1,936	0	1,936
TOTAL, OTHER DISCRETIONARY DIRECT OBLIGATIONS	142,286	67,286	50	67,336	3,300	70,636
TOTAL, OTHER DISCRETIONARY BUDGET AUTHORITY	27,286	(48,714)	(14,164)	(62,878)	3,300	(59,578)
TOTAL, OTHER DISCRETIONARY APPROPRIATION	**142,286**	**67,286**	**0**	**67,286**	**3,300**	**70,586**

GRAND TOTAL SUMMARY DISCRETIONARY APPROPRIATIONS

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Operations, Research and Facilities	3,157,392	3,202,398	66,273	3,268,671	144,689	3,413,360
Procurement, Acquisition and Construction	2,022,864	2,179,225	3,150	2,182,375	316,304	2,498,679
Coastal Zone Management Fund	0	0	0	0	0	0
Fisherman's Contingency Fund	350	350	0	350	0	350
Foreign Fishing Observer Fund	0	0	0	0	0	0
Fisheries Financing Program Account	0	0	0	0	10,300	10,300
Pacific Coastal Salmon Fund	65,000	65,000	0	65,000	(7,000)	58,000
Fisheries Disaster Assistance Fund	75,000	0	0	0	0	0
Marine Mammal Unusual Mortality Event Fund	0	0	0	0	0	0
Medicare Eligible Retiree Health Care Fund	1,936	1,936	0	1,936	0	1,936
GRAND TOTAL DISCRETIONARY APPROPRIATION	**5,322,542**	**5,448,909**	**69,423**	**5,518,332**	**464,293**	**5,982,625**

SUMMARY OF DISCRETIONARY RESOURCES

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Discretionary Direct Obligations						
ORF Direct Obligations	3,281,346	3,333,398	82,937	3,416,335	144,689	3,561,024
PAC Direct Obligations	2,034,910	2,190,923	3,150	2,194,073	316,304	2,510,377
OTHER Direct Obligations	142,286	67,286	50	67,336	3,300	70,636
TOTAL Discretionary Direct Obligations	**5,458,542**	**5,591,607**	**86,137**	**5,677,744**	**464,293**	**6,142,037**
Discretionary Budget Authority						
ORF Budget Authority	3,266,346	3,318,398	80,437	3,398,835	144,689	3,543,524
PAC Budget Authority	2,027,910	2,177,923	3,150	2,181,073	316,304	2,497,377
OTHER Budget Authority	27,286	(48,714)	(14,164)	(62,878)	3,300	(59,578)
TOTAL Discretionary Budget Authority	**5,321,542**	**5,447,607**	**69,423**	**5,517,030**	**464,293**	**5,981,323**
Discretionary Appropriations						
ORF Appropriations	3,157,392	3,202,398	66,273	3,268,671	144,689	3,413,360
PAC Appropriations	2,022,864	2,179,225	3,150	2,182,375	316,304	2,498,679
OTHER Appropriations	142,286	67,286	0	67,286	3,300	70,586
TOTAL Discretionary Appropriation	**5,322,542**	**5,448,909**	**69,423**	**5,518,332**	**464,293**	**5,982,625**

OTHER ACCOUNTS (MANDATORY)

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
NOS						
Damage Assessment & Restoration Revolving Fund Obligations	20,633	48,611	(27,643)	20,968	0	20,968
Damage Assessment & Restoration Revolving Fund Budget Authority	5,424	6,170	(202)	5,968	0	5,968
Damage Assessment & Restoration Revolving Fund Appropriation	0	0	0	0	0	0
Sanctuaries Enforcement Asset Forfeiture Fund Obligations	929	242	(118)	124	0	124
Sanctuaries Enforcement Asset Forfeiture Fund Budget Authority	928	242	(118)	124	0	124
Sanctuaries Enforcement Asset Forfeiture Fund Appropriation	1,000	183	(63)	120	0	120
Gulf Coast Ecosystem Restoration Fund Obligations	1,697	2,078	0	2,078	0	2,078
Gulf Coast Ecosystem Restoration Fund Budget Authority	1,697	2,078	0	2,078	0	2,078
Gulf Coast Ecosystem Restoration Fund Appropriation	1,819	2,078	0	2,078	0	2,078
Subtotal, NOS Other Mandatory Direct Obligations	**23,259**	**50,931**	**(27,761)**	**23,170**	**0**	**23,170**
Subtotal, NOS Other Mandatory Budget Authority	**8,049**	**8,490**	**(320)**	**8,170**	**0**	**8,170**
Subtotal, NOS Other Mandatory Appropriation	**2,819**	**2,261**	**(63)**	**2,198**	**0**	**2,198**
NMFS						
Promote and Develop Fisheries Obligations	12,187	26,615	(13,041)	13,574	0	13,574
Promote and Develop Fisheries Budget Authority	120,774	142,615	1,123	143,738	0	143,738
Promote and Develop Fisheries Appropriation	0	0	0	0	0	0
Fisheries Finance Program Account Obligations	14,629	22,757	(22,757)	0	0	0
Fisheries Finance Program Account Budget Authority	14,629	22,757	(22,757)	0	0	0
Fisheries Finance Program Account Appropriation	14,629	22,757	(22,757)	0	0	0
Federal Ship Financing Obligations	0	0	0	0	0	0
Federal Ship Financing Budget Authority	0	0	0	0	0	0
Federal Ship Financing Appropriation	0	0	0		0	0
Environmental Improve & Restoration Fund Obligations	9,087	1,311	(977)	334	0	334
Environmental Improve & Restoration Fund Budget Authority	9,087	1,311	1,910	3,221	0	3,221
Environmental Improve & Restoration Fund Appropriation	9,792	1,414	2,057	3,471	0	3,471

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FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
Limited Access System Administration Fund Obligations	9,338	10,893	632	11,525	0	11,525
Limited Access System Administration Fund Budget Authority	8,998	11,710	(1,437)	10,273	0	10,273
Limited Access System Administration Fund Appropriation	9,718	11,855	(1,706)	10,149	0	10,149
Western Pacific Sustainable Fisheries Fund Obligations	218	322	(72)	250	0	250
Western Pacific Sustainable Fisheries Fund Budget Authority	160	322	(72)	250	0	250
Western Pacific Sustainable Fisheries Fund Appropriation	250	250	0	250	0	250
Fisheries Enforcement Asset Forfeiture Fund Obligations	3,769	4,052	(52)	4,000	0	4,000
Fisheries Enforcement Asset Forfeiture Fund Budget Authority	3,712	4,068	(68)	4,000	0	4,000
Fisheries Enforcement Asset Forfeiture Fund Appropriation	4,000	4,000	0	4,000	0	4,000
North Pacific Observer Fund Obligations	3,898	4,756	(1,254)	3,502	0	3,502
North Pacific Observer Fund Budget Authority	3,898	4,756	(1,254)	3,502	0	3,502
North Pacific Observer Fund Appropriation	4,200	4,800	(1,400)	3,400	0	3,400
Subtotal, NMFS Other Mandatory Direct Obligations	**53,126**	**70,706**	**(37,521)**	**33,185**	**0**	**33,185**
Subtotal, NMFS Other Mandatory Budget Authority	**161,258**	**187,539**	**(22,555)**	**164,984**	**0**	**164,984**
Subtotal, NMFS Other Mandatory Appropriation	**42,589**	**45,076**	**(23,806)**	**21,270**	**0**	**21,270**
OMAO						
NOAA Corp Commissioned Officers Retirement Obligations	28,269	28,269	0	28,269	0	28,269
NOAA Corp Commissioned Officers Retirement Budget Authority	28,269	28,269	0	28,269	0	28,269
NOAA Corp Commissioned Officers Retirement Budget Appropriation	28,269	28,269	0	28,269	0	28,269
Subtotal, OMAO Other Mandatory Direct Obligations	**28,269**	**28,269**	**0**	**28,269**	**0**	**28,269**
Subtotal, OMAO Other Mandatory Budget Authority	**28,269**	**28,269**	**0**	**28,269**	**0**	**28,269**
Subtotal, OMAO Other Mandatory Appropriation	**28,269**	**28,269**	**0**	**28,269**	**0**	**28,269**
TOTAL, OTHER MANDATORY DIRECT OBLIGATIONS	**104,654**	**149,906**	**(65,282)**	**84,624**	**0**	**84,624**
TOTAL, OTHER MANDATORY BUDGET AUTHORITY	**197,576**	**224,298**	**(22,875)**	**201,423**	**0**	**201,423**
TOTAL, OTHER MANDATORY APPROPRIATION	**73,677**	**75,606**	**(23,869)**	**51,737**	**0**	**51,737**

*Obligations and Budget Authority for mandatory accounts have been updated in FY14 to reflect the Popup of FY13 sequestered funds and in FY15 to reflect FY15 sequestration and the Popup of FY14 sequestered funds.

NOAA SUMMARY

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
TOTAL Direct Obligations (Discretionary & Mandatory)	5,563,196	5,741,513	20,855	5,762,368	464,293	6,226,661
TOTAL Budget Authority (Discretionary & Mandatory)	5,519,118	5,671,905	46,548	5,718,453	464,293	6,182,746
TOTAL Appropriation (Discretionary & Mandatory)	5,396,219	5,524,515	45,554	5,570,069	464,293	6,034,362
Reimbursable Financing	416,687	406,969	(164,969)	242,000	0	242,000
TOTAL OBLIGATIONS (Direct & Reimbursable)	**5,979,883**	**6,148,482**	**(144,114)**	**6,004,368**	**464,293**	**6,468,661**
Offsetting Receipts	(6,000)	(5,439)	1,604	(3,835)	0	(3,835)
TOTAL OBLIGATIONS (Direct, Reimbursable & Offsetting Receipts)	**5,973,883**	**6,143,043**	**(142,510)**	**6,000,533**	**464,293**	**6,464,826**

LINE OFFICE SUMMARY

FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
National Ocean Service						
ORF	471,213	481,107	6,564	487,671	59,419	547,090
PAC	3,694	3,700	0	3,700	0	3,700
OTHER	23,259	50,931	(27,761)	23,170	0	23,170
TOTAL, NOS	**498,166**	**535,738**		**514,541**	**59,419**	**573,960**
National Marine Fisheries Service						
ORF	809,297	822,138	14,411	836,549	51,687	888,236
PAC	0	0	0	0	0	0
OTHER	193,476	136,056	(37,471)	98,585	3,300	101,885
TOTAL, NMFS	**1,002,773**	**958,194**		**935,134**	**54,987**	**990,121**
Oceanic and Atmospheric Research						
ORF	413,545	432,900	6,630	439,530	45,126	484,656
PAC	10,363	13,379	0	13,379	9,000	22,379
OTHER	0	0	0	0	0	0
TOTAL, OAR	**423,908**	**446,279**	**6,630**	**452,909**	**54,126**	**507,035**
National Weather Service						
ORF	949,145	954,153	22,343	976,496	(12,933)	963,563
PAC	113,442	133,300	(3,000)	130,300	5,015	135,315
OTHER	0	0	0	0	0	0
TOTAL, NWS	**1,062,587**	**1,087,453**	**19,343**	**1,106,796**	**(7,918)**	**1,098,878**
National Environmental Satellite, Data and Information Service						
ORF	184,875	188,600	(4,505)	184,095	6,249	190,344
PAC	1,902,219	2,034,544	6,150	2,040,694	148,589	2,189,283
OTHER	0	0	0	0	0	0
TOTAL, NESDIS	**2,087,094**	**2,223,144**	**1,645**	**2,224,789**	**154,838**	**2,379,627**
Program Support / Corporate Services						
ORF	202,261	197,300	32,865	230,165	4,341	234,506
PAC	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
SUBTOTAL, PS / Corporate Services	**202,261**	**197,300**	**32,865**	**230,165**	**4,341**	**234,506**
Program Support / NOAA Education Program						
ORF	27,158	27,600	31	27,631	(11,200)	16,431
PAC	0	0	0	0	0	0

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FY 2016 PROPOSED OPERATING PLAN ($ IN THOUSANDS)	FY 2014 Spend Plan	FY 2015 Enacted	FY 2016 Total ATBs	FY 2016 Base	FY 2016 Program Changes	FY 2016 Estimate
OTHER	0	0	0	0	0	0
SUBTOTAL, PS / NOAA Education Program	**27,158**	**27,600**	**31**	**27,631**	**(11,200)**	**16,431**
Program Support / Facilities						
ORF	22,964	23,000	67	23,067	2,000	25,067
PAC	0	0	0	0	1,000	1,000
OTHER	0	0	0	0	0	0
SUBTOTAL, PS / Facilities	**22,964**	**23,000**	**67**	**23,067**	**3,000**	**26,067**
Program Support / Corp Srv, Edu, Fac						
ORF	252,383	247,900	32,963	280,863	(4,859)	276,004
PAC	0	0	0	0	1,000	1,000
OTHER	0	0	0	0	0	0
TOTAL, PS / Corp Srv, Edu, Fac	**252,383**	**247,900**	**32,963**	**280,863**	**(3,859)**	**277,004**
Program Support / Office of Marine and Aviation Operations						
ORF	200,888	206,600	4,531	211,131	0	211,131
PAC	5,192	6,000	0	6,000	152,700	158,700
OTHER	30,205	30,205	0	30,205	0	30,205
TOTAL, PS / OMAO	**236,285**	**242,805**	**4,531**	**247,336**	**152,700**	**400,036**
Total PS ORF	453,271	454,500	37,494	491,994	(4,859)	487,135
Total PS PAC	5,192	6,000	0	6,000	153,700	159,700
Total PS Other	30,205	30,205	0	30,205	0	30,205
TOTAL, PS	**488,668**	**490,705**	**37,494**	**528,199**	**148,841**	**677,040**
DIRECT OBLIGATIONS						
ORF	3,281,346	3,333,398	82,937	3,416,335	144,689	3,561,024
PAC	2,034,910	2,190,923	3,150	2,194,073	316,304	2,510,377
OTHER	246,940	217,192	(65,232)	151,960	3,300	155,260
TOTAL, DIRECT OBLIGATIONS	**5,563,196**	**5,741,513**	**20,855**	**5,762,368**	**464,293**	**6,226,661**
ORF Adjustments (Deobligations/Rescissions)	**(15,000)**	**(15,000)**	**(2,500)**	**(17,500)**	**0**	**(17,500)**
ORF Transfers	**(108,954)**	**(116,000)**		**(130,164)**	**0**	**(130,164)**
PAC Adjustments (Deobligations/Rescissions)	**(7,000)**	**(13,000)**	**0**	**(13,000)**	**0**	**(13,000)**
PAC Transfers	**(5,046)**	**1,302**	**0**	**1,302**	**0**	**1,302**
OTHER Discretionary Adjustments	**0**	**0**	**(50)**	**(50)**	**0**	**(50)**
Mandatory Accounts Excluded	**(104,654)**	**(149,906)**	**65,282**	**(84,624)**	**0**	**(84,624)**
TOTAL, DISCRETIONARY APPROPRIATIONS	**5,322,542**	**5,448,909**	**69,423**	**5,518,332**	**464,293**	**5,982,625**

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