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The National Oceanic and Atmospheric Administration (NOAA) Budget for FY2016

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Summary

The National Oceanic and Atmospheric Administration (NOAA) conducts scientific research in areas such as ecosystems, climate, global climate change, weather, and oceans; supplies information and data on the oceans and atmosphere; and manages coastal and marine organisms and environments. In 1970, Reorganization Plan No. 4 created NOAA in the Department of Commerce. Reorganization Plan No. 4 brought together environmental agencies from within the Department of Commerce, such as the National Weather Service, and from other departments and agencies, such as the Department of the Interior's Bureau of Commercial Fisheries and the National Science Foundation's National Sea Grant Program. The reorganization was intended to unify the nation's environmental activities related to oceanic and atmospheric management and research and to provide a systematic approach for monitoring, analyzing, and protecting the environment. One of NOAA's main challenges is related to this diverse mission of science, service, and stewardship. A review of research undertaken by the agency found that "the major challenge for NOAA is connecting the pieces of its research program and ensuring research is linked to the broader science needs of the agency."

The Consolidated and Further Continuing Appropriations Act of 2015 (P.L. 113-235), provided \$5.441 billion for NOAA. President Obama has requested \$5.975 billion for NOAA's FY2016 budget. This amount is \$533.7 million (9.8%) more than the FY2015 enacted appropriation level. On June 3, 2015, the House passed the Commerce, Justice, Science, and Related Agencies Appropriations Act, 2016 (H.R. 2578). The House-passed bill would provide a total of \$5.169 billion for NOAA in FY2016. This amount is \$271.7 million (5.0%) less than the FY2015 enacted appropriation level and \$805.4 million (13.5%) less than the Administration's FY2016 request. On June 16, 2015, the Senate Committee on Appropriations reported the Commerce, Justice, Science, and Related Agencies Appropriations Act, 2016. The Senate committee-reported bill would provide a total of \$5.382 billion for NOAA in FY2016. This amount is \$59.4 million (1.1%) less than the FY2015- enacted appropriation, \$593.1 million (9.9%) less than the Administration's FY2016 request, and \$212.3 million (4.1%) more than the House-passed bill.

The following report provides a summary of actions taken by the Administration and Congress to appropriate funding for NOAA in FY2016. The summary compares the FY2015 enacted appropriations, the FY2016 Administration request, the House-passed bill, and the Senate committee-reported bill for NOAA's accounts, line offices, and selected programs. NOAA's two main accounts are Operations, Research, and Facilities (ORF) and Procurement, Acquisition, and Construction (PAC). NOAA's line offices include the National Ocean Service (NOS); National Marine Fisheries Service (NMFS); Office of Oceanic and Atmospheric Research (OAR); National Weather Service (NWS); and National Environmental Satellite, Data, and Information Service (NESDIS). In addition to NOAA's five line offices, Program Support (PS) provides cross-cutting services for the agency and includes the Office of Marine and Aviation Operations (OMAO), Corporate Services, the Office of Education, and Facilities.

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Introduction

The National Oceanic and Atmospheric Administration (NOAA) conducts scientific research in areas such as ecosystems, climate, global climate change, weather, and oceans; supplies information on the oceans and atmosphere; and manages coastal and marine organisms and environments. In 1970, Reorganization Plan No. 4 created NOAA in the Department of Commerce.¹ Reorganization Plan No. 4 brought together environmental agencies from within the Department of Commerce, such as the National Weather Service, and from other departments and agencies, such as the Department of the Interior's Bureau of Commercial Fisheries and the National Science Foundation's National Sea Grant Program. The reorganization was intended to unify the nation's environmental activities related to oceanic and atmospheric research and to provide a systematic approach for monitoring, analyzing, and protecting the environment. One of NOAA's main challenges is related to this diverse mission of science, service, and stewardship. A review of research undertaken by the agency found that "the major challenge for NOAA is connecting the pieces of its research program and ensuring research is linked to the broader science needs of the agency."²

NOAA's administrative structure has evolved into five line offices: the National Ocean Service (NOS); National Marine Fisheries Service (NMFS); Office of Oceanic and Atmospheric Research (OAR); National Weather Service (NWS); and National Environmental Satellite, Data, and Information Service (NESDIS). In addition to NOAA's five line offices, Program Support (PS) provides cross-cutting services for the agency and includes the Office of Marine and Aviation Operations (OMAO), Corporate Services, the Office of Education, and Facilities.

NOAA's Discretionary Budget and Accounts

The Consolidated and Further Continuing Appropriations Act, 2015 (P.L. 113-235) provided \$5.441 billion for NOAA. President Obama has requested \$5.975 billion for NOAA's FY2016 budget. This amount is \$533.7 million (9.8%) more than the FY2015 enacted appropriation level. On June 3, 2015, the House passed the Commerce, Justice, Science, and Related Agencies Appropriations Act, 2016 (H.R. 2578, H.Rept. 114-130). The House-passed bill would provide a total of \$5.169 billion for NOAA in FY2016. This amount is \$271.7 million (5.0%) less than the FY2015-enacted appropriation level and \$805.4 million (13.5%) less than the Administration's FY2016 request. On June 16, 2015, the Senate Committee on Appropriations reported the Commerce, Justice, Science, and Related Agencies Appropriations Act, 2016. The Senate committee-reported bill (S.Rept. 114-66) would provide a total of \$5.382 billion for NOAA in FY2016. This amount is \$59.4 million (1.1%) less than the FY2015-enacted appropriation, \$593.1 million (9.9%) less than the Administration's FY2016 request, and \$212.3 million (4.1%) more than the level recommended by House-passed bill.

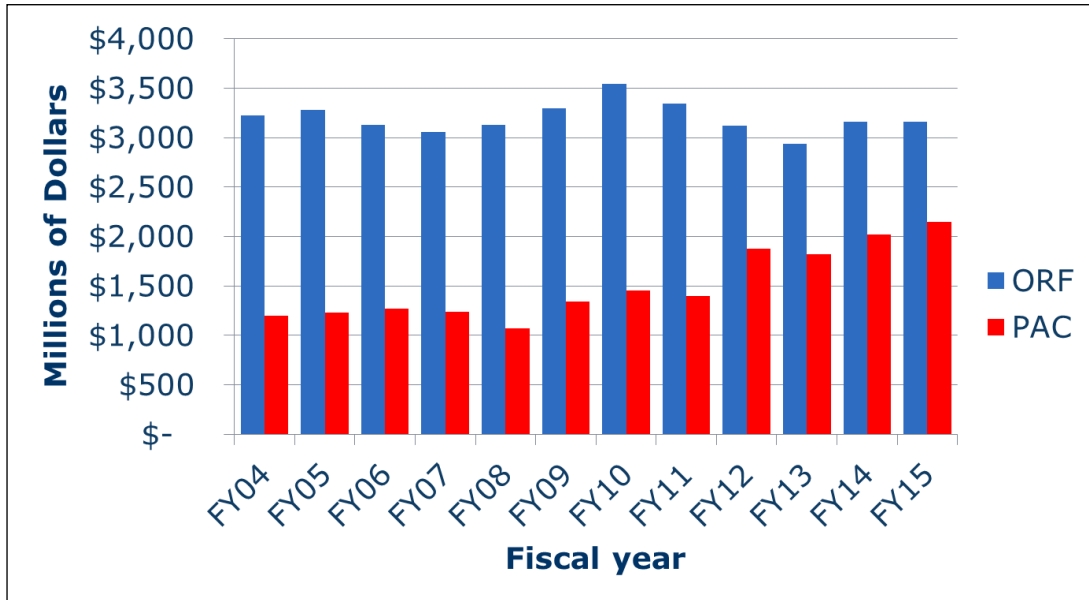
In most years, more than 98% of NOAA's discretionary budget is appropriated to the Operations, Research, and Facilities (ORF) and the Procurement, Acquisition, and Construction (PAC)

¹ "Reorganization Plan No. 4 of 1970," 35 *Federal Register* 15627-15630, October 6, 1970; see also <http://www.lib.noaa.gov/noaainfo/heritage/ReorganizationPlan4.html>.

² Kathryn Sullivan, Under Secretary of Commerce for Oceans and Atmosphere and National Oceanic and Atmospheric Administration (NOAA), Administrator, *NOAA Response to the NOAA Science Advisory Board's Portfolio Review Task Force Report*, NOAA, April 15, 2014, at http://www.sab.noaa.gov/Reports/2014/NOAA.Response.to.PRTF.Report_2014.04.15.pdf.

accounts. Over the last decade, PAC funding has grown because of funding increases for satellite acquisition and ORF funding has remained relatively constant (see **Figure 1**).³ Funding from ORF and PAC is provided across most of NOAA’s line offices and Program Support. There also are several smaller specific appropriations accounts. These are listed below and included in **Table 1**.⁴

Figure 1. NOAA Discretionary Appropriations, FY2004–FY2015
(2014 dollars)



Source: Constant dollars were calculated using Table 10.1. Gross Domestic Product and Deflators Used in the Historical Tables: 1940-2020, from the Office of Management and Budget, “Historical Tables,” at <https://www.whitehouse.gov/omb/budget/Historicals>.

Operations, Research, and Facilities

Operations, Research, and Facilities (ORF) is NOAA’s largest account, and it supports each of the agency’s line offices and PS. The account provides funding for operating expenses including maintenance, salaries, benefits, utilities, grants, contracts, and other programmatic services. For FY2016, the Administration has requested \$3.413 billion for the ORF account.⁵ The request is \$211.0 million (6.6%) more than the FY2015 enacted level of \$3.202 billion. The House-passed bill would provide \$3.150 billion for the NOAA ORF account, which is \$52.5 million (1.6%) less than the FY2015 enacted funding level and \$263.5 million (7.7%) less than the Administration’s FY2016 request. The Senate committee-reported bill would provide a total of \$3.243 billion for the NOAA ORF account in FY2016. This amount is \$40.3 million (1.3%) more than the FY2015 enacted appropriation, \$170.6 million (5.0%) less than the Administration’s FY2016 request, and \$92.8 million (2.9%) more than the level recommended by the House-passed bill.

³ CRS Report R40594, *Landsat: Overview and Issues for Congress*, by (name redacted)

⁴ The accounts included above and in **Table 1** are included in Senate and House Committee on Appropriations reports as discretionary accounts.

⁵ These figures do not reflect the transfer of funds from the Promote and Develop Fishery Products and Research Pertaining to American Fisheries account into Operations, Research, and Facilities (ORF) account.

Procurement, Acquisition, and Construction

The Procurement, Acquisition, and Construction (PAC) account provides funding for capital assets and investments such as the purchase of research vessels or the construction of facilities. PAC funding supports most of the agency's line offices, but the bulk of PAC funding (93.4% in FY2015) is appropriated for NESDIS satellite acquisition and construction. The Administration's FY2016 request would fund the PAC account at \$2.499 billion, a \$319.4 million (14.7%) increase over the FY2015 appropriation of \$2.179 billion. The House-passed bill would provide \$1.960 billion for the NOAA PAC account, which is \$219.2 million (10.1%) less than the FY2015 enacted PAC funding level and \$538.6 million (21.6%) less than the Administration's FY2016 request. The Senate committee-reported bill would provide a total of \$2.079 billion for the NOAA PAC account in FY2016. This amount is \$99.7 million (4.6%) less than the FY2015 enacted appropriation, \$419.2 million (16.8%) less than the Administration's FY2016 request, and \$119.5 million (6.1%) more than the level recommended by the House-passed bill.

Promote and Develop Fishery Products and Research Pertaining to American Fisheries

The Saltonstall-Kennedy Act of 1954 (15 U.S.C. §713c-3) established a fund to promote U.S. fisheries research and development programs. The Promote and Develop Fishery Products and Research Pertaining to American Fisheries Fund is supported by a permanent appropriation of 30% of the import duties collected by the U.S. Department of Agriculture on fishery-related products.⁶ The American Fisheries Promotion Act of 1980 (P.L. 96-561) amended the Saltonstall-Kennedy Act to authorize a competitive grant program for fisheries research and development projects and a national fisheries research and development program. However, most funding has been used to support fisheries management and research efforts conducted by NMFS. For FY2016, NOAA estimates that the Department of Agriculture will transfer a total of \$143.7 million to NOAA. NOAA has requested that \$13.6 million be used for the Saltonstall-Kennedy grant program. The remaining \$130.2 million would be used to offset the appropriations requirements of the ORF account.⁷ This amount would be \$14.2 million more than the transfer to ORF in FY2015. This transfer is not reflected in the ORF funding levels in **Table 1**.

Pacific Coastal Salmon Recovery Fund

The Pacific Coastal Salmon Recovery Fund (PCSRF) account was established under P.L. 106-113 to support West Coast Pacific salmon recovery efforts by providing grants to the states of Washington, Oregon, Idaho, Nevada, California, and Alaska and to federally recognized tribes of the Columbia River and Pacific Coast. Funds are used for projects necessary for the conservation of salmon and steelhead populations that are listed or at risk of being listed as threatened or endangered under the Endangered Species Act (ESA; P.L. 93-205).⁸ For FY2016, the Administration's request for the PCSRF account is \$58.0 million, which would be a 10.8% decrease from the FY2015 funding level of \$65.0 million. The House-passed bill would provide \$65.0 million for the fund, which is equal to the FY2015 enacted funding level and \$7.0 million

⁶ See out-of-print CRS Report RS21799, *Saltonstall-Kennedy Act: A Summary of the Law and Its Implementation*, available upon request from the author.

⁷ NOAA has requested \$127.7 million for the Fisheries Data Collections, Surveys, and Assessments budget line and \$2.5 million for the Regional Councils and Fisheries Commission budget line.

⁸ P.L. 93-205, 87 Stat. 884. 16 U.S.C. §§1531-1544

(12.1%) more than the Administration's FY2016 request. The Senate committee-reported bill would provide a total of \$65.0 million for the PCSRF in FY2016. This amount is equal to the FY2015 enacted appropriation, \$7.0 million (12.1%) more than the Administration's FY2016 request, and equal to the funding level recommended by the House-passed bill.

Fisheries Finance Program Account

The Fisheries Finance Program provides long-term financing for the costs of construction or reconstruction of fishing vessels, fisheries facilities, aquacultural facilities, and individual fishing quota for certain fisheries.⁹ The program receives annual loan authority from Congress, but it has not required appropriated funds because it has generated a negative subsidy; that is, the credit program generates a positive return of approximately \$6.0 million to the government each fiscal year.

For FY2016, NOAA also has requested \$10.3 million to implement refinancing of the Pacific Coast Groundfish Fishing Capacity Reduction loan as required by the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (P.L. 113-291). Of the \$10.3 million, \$10 million would cover the estimated loss to the government from the reduced payments received under the new loan terms, and \$300,000 would be for the subsidy cost to refinance the loan.¹⁰

Fishermen's Contingency Fund

NOAA compensates commercial fishermen for lost fishing gear, vessels, and resulting economic losses caused by obstructions related to oil and gas exploration, development, and production in any area of the outer continental shelf. Funding for the Fishermen's Contingency Fund is derived from receipts collected pursuant to the Outer Continental Shelf Lands Act Amendments of 1978 (P.L. 95-372). Total funding is limited to \$350,000 per fiscal year and can only be made to the extent authorized in appropriations acts.

Fisheries Disaster Assistance Fund

The Fisheries Disaster Assistance Fund was created to provide assistance for fishery disasters that were declared by the Secretary of Commerce in 2012 and 2013. Fishery disaster assistance is provided under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA; 16 U.S.C. §1861) and the Interjurisdictional Fisheries Act (16 U.S.C. §4107). The fund received an FY2014 appropriation for one-time funding, and annual appropriations for this purpose are not anticipated.

⁹ In some cases the purchasing of fishing vessels, shoreside processing, aquaculture, mariculture facilities, and the purchase of individual fishing quota also are allowed.

¹⁰ H.Rept. 114-112 for H.Res. 260 includes a section stating that it is the sense of Congress that a technical correction to P.L. 113-291 should be enacted to carry out the intent of Section 3095 (the section that authorized refinancing of the buyout). The technical correction could make the appropriations requested by NOAA to refinance the fishing capacity reduction loan unnecessary.

Table I. NOAA Discretionary Accounts

(thousands of dollars)

Accounts	FY2014 Enacted	FY2015 Enacted	FY2016 Request	FY2016 House	Reported by Senate Committee	FY2016 Enacted
Operations, Research, and Facilities	3,272,392	3,202,398	3,413,360	3,149,877	3,242,723	
Promote and Develop Fishery Products Fund ^a	115,000	116,000	130,164	130,164	130,164	
Procurement, Acquisition, and Construction	2,022,864	2,179,225	2,498,679	1,960,034	2,079,494	
Pacific Coastal Salmon Recovery Fund	65,000	65,000	58,000	65,000	65,000	
Fishermen's Contingency Fund	350	350	350	350	350	
Fisheries Disaster Assistance Fund	75,000	0	0	0	0	
Fisheries Finance Program Account	-6,000	-6,000	-6,000	-6,000	-6,000	
Pacific Groundfish Fishing Capacity Reduction Loan	0	0	10,300	0	0	
Total	5,314,606	5,440,973	5,974,689	5,169,261	5,381,567	

Sources: Department of Commerce, *Budget in Brief: Fiscal Year 2016*, U.S. Congress, House Committee on Appropriations, *Commerce, Justice, Science, and Related Agencies Appropriations Bill, 2016*, report to accompany H.R. 2578, 114th Cong., 1st sess., H.Rept. 114-130 (Washington, DC: GPO, 2015); and U.S. Congress, Senate Committee on Appropriations, *Departments of Commerce and Justice, and Science, and Related Agencies Appropriations Bill, 2016*, report to accompany H.R. 2578, 114th Cong., 1st sess., S.Rept. 114-66 (Washington, DC: GPO, 2015).

- a. The Promote and Develop Fishery Product fund is transferred from the U.S. Department of Agriculture and not included in the discretionary appropriations totals. The amounts provided in the table for FY2016 would be transferred into the Operations, Research, and Facilities account for fishery management efforts conducted by the National Marine Fisheries Service.

Funding of NOAA's Line Offices

All of the five line offices and Program Support are funded by the ORF account, and most of the offices also receive funding from the PAC account. In contrast to funding at the account level, most funding for NOAA's line offices is allocated among programs and activities according to agency authorities and priorities. NOS and NMFS authorities are related to coastal and ocean resource management, whereas NWS and NESDIS generally are related to weather and climate. Oceanic and Atmospheric Research (OAR) is the primary center for research within NOAA. In FY2015, more than 92% of OAR's budget is dedicated to research and development. Program Support provides support to activities across NOAA's line offices.

Funding for each line office is provided in **Table 2**. The following summaries also include selected appropriations highlights for each line office.

Table 2. Funding for NOAA’s Line Offices

(thousands of dollars)

NOAA Line Offices	Account	FY2015 Enacted	FY2016 Request	Passed House	Reported by Senate Committee	FY2016 Enacted
National Ocean Service (NOS)	ORF	481,107	547,090	466,500	497,370	
	PAC	3,700	3,700	0	3,700	
National Marine Fisheries Service (NMFS)	ORF	822,138	888,236	830,743	830,572	
	PAC	0	0	0	0	
Oceanic and Atmospheric Research (OAR)	ORF	432,900	484,656	430,704	436,042	
	PAC	13,379	22,379	22,379	20,079	
National Weather Service (NWS)	ORF	954,153	963,563	967,563	977,032	
	PAC	133,300	135,315	135,315	135,315	
National Environmental Satellite, Data, and Information Service (NESDIS)	ORF	188,600	190,344	184,700	189,086	
	PAC	2,034,544	2,189,283	1,802,640	1,918,400	
Program Support (Corporate Services, Education, and Facilities)	ORF	247,900	276,004	210,731	249,154	
	PAC	0	1,000	0	1,000	
Office of Marine and Aviation Operations (OMAO)	ORF	206,600	211,131	206,600	211,131	
	PAC	6,000	158,700	12,700	14,000	

Sources: Department of Commerce, *Budget in Brief: Fiscal Year 2016*, U.S. Congress, House Committee on Appropriations, *Commerce, Justice, Science, and Related Agencies Appropriations Bill, 2016*, report to accompany H.R. 2578, 114th Cong., 1st sess., H.Rept. 114-130 (Washington, DC: GPO, 2015); and U.S. Congress, Senate Committee on Appropriations, *Departments of Commerce and Justice, and Science, and Related Agencies Appropriations Bill, 2016*, report to accompany H.R. 2578, 114th Cong., 1st sess., S.Rept. 114-66 (Washington, DC: GPO, 2015).

National Ocean Service

The National Ocean Service (NOS) manages and protects coastal ocean and Great Lakes areas, provides navigation products and services, and prepares and responds to natural disasters and emergencies. For FY2016, the Administration has requested \$550.8 million for NOS which would be \$66.0 million (13.6%) more than the FY2015 enacted appropriation of \$484.8 million. The House-passed bill would provide NOS with \$466.5 million, \$18.3 million (3.8%) less than the FY2015 enacted funding level and \$84.3 million (15.3%) less than the Administration’s request. The Senate committee-reported bill would provide a total of \$501.1 million for NOS in FY2016. This amount is \$16.3 million (3.4%) more than the FY2015 enacted appropriation, \$49.7 million (9.0%) less than the Administration’s FY2016 request, and \$34.6 million (7.4%) more than the funding level recommended by the House-passed bill.

Most of the requested funding increases for NOS would include programs funded under the authority of the Coastal Zone Management Act (16 U.S.C. §§1451-1464). The Administration has requested \$54.1 million for coastal zone management and services, an increase of \$12.4 million (29.8%) over the FY2015 enacted appropriation level of \$41.7 million. The House-passed bill would fund coastal zone management and services at \$40.0 million, a decrease of \$1.7 million (4.1%) from the FY2015 enacted funding level and \$14.1 million (26.1%) less than the Administration's request. The Senate committee-reported bill would fund coastal zone management and services at \$39.6 million, a decrease of \$2.1 million (5.1%) from the FY2015 appropriation level, \$14.5 million (26.9%) less than the Administration's request, and \$0.4 million (1.1%) less than the House-passed bill.

The Administration also requested \$116.1 million for coastal management grants, an increase of \$45.0 million (63.2%) over the FY2015 enacted appropriation level of \$71.1 million. The increase would expand funding for regional coastal resilience grants from \$5.0 million in FY2015 to \$50 million in FY2016.¹¹ Managing development in high-hazard areas is a key element of most state plans funded under the CZMA, and in 2015, NOAA established the Regional Coastal Resilience Grants program to build community, ecosystem, and economic resilience in coastal areas.¹² The House-passed bill recommends \$65.0 million for coastal management grants, a decrease of \$6.1 million (8.6%) from the FY2015 enacted funding level and \$51.1 million (44.0%) less than the Administration's request. The Senate committee-reported bill would fund coastal zone management grants at \$75.0 million, an increase of \$3.9 million (5.4%) over the FY2015 appropriation level, \$41.1 million (35.4%) less than the Administration's request, and \$10.0 million (15.4%) more than the House-passed bill. The Senate Committee on Appropriations would maintain funding for regional coastal resilience grants at \$5.0 million.¹³

National Marine Fisheries Service

The National Marine Fisheries Service (NMFS) is the lead federal agency for management and conservation of living marine resources and their habitat. The Administration has requested \$888.2 million for NMFS, an increase of \$66.1 million (8.0%) from the FY2015-enacted funding level of \$822.1 million. In addition, the Administration has requested that \$130.2 million be transferred into ORF from the Promote and Develop Fishery Products fund. The Administration's request also includes the following accounts that are related to fisheries: \$58.0 million for the Pacific Coastal Salmon Recovery Fund; \$350,000 for the Fishermen's Contingency Fund; and \$10.3 million for the Fisheries Finance Program.¹⁴ The House-passed bill would fund NMFS at \$830.7 million, an increase of \$8.6 million (1.0%) over the FY2015 enacted appropriation level and \$57.5 million (6.5%) less than the Administration's request. The Senate committee-reported bill would provide a total of \$830.6 million for NMFS in FY2016. This amount is \$8.5 million (1.0%) more than the FY2015 enacted appropriation, \$57.6 million (6.5%) less than the Administration's FY2016 request, and \$0.1 million less than the House-passed bill.

¹¹ The cross-cutting Coastal Ecosystem Resiliency Grants Program that was funded under the National Marine Fisheries Service in FY2015 now would be included under regional coastal resilience grant funding in FY2016.

¹² Under CZMA's voluntary program, coastal states and territories develop management plans. Once these plans are federally approved, states become eligible for grants, and federal actions in the coastal zone are required to be consistent with state plans. However, regional coastal resilience grants would not require an approved state CZMA program.

¹³ The House Committee on Appropriations does not mention funding of regional coastal resilience grants in H.Rept. 114-130.

¹⁴ For more information concerning these programs, see "NOAA's Discretionary Budget and Accounts, above.

NOAA's Office of Protected Resources supports protection of endangered species and marine mammals under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA; 16 U.S.C. §§ 1361 et seq.). NOAA proposes a total of \$214.2 million for protected resources science and management, an increase of \$33.5 million (18.5%) over the FY2015 appropriation of \$180.7 million. The NOAA request includes a net increase of \$13.2 million for consultation and permitting requirements of the ESA and MMPA, and it includes an increase of \$17.0 million for the Species Recovery Grants, which supports states' and tribes' recovery efforts for species listed under the ESA. The House-passed bill recommends \$180.2 million for protected species science and management, a decrease of \$0.5 million (0.3%) from the FY2015 enacted funding level and \$34.0 million (15.9%) less than the Administration's request. The Senate committee-reported bill would fund protected resources science and management at \$182.0 million, an increase of \$1.3 million (0.7%) over the FY2015 appropriation level, \$32.2 million (15.0%) less than the Administration's request, and \$1.8 million (1.0%) more than the House-passed bill.

Most of the funding for fisheries science and management supports activities related to federal fisheries management under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA; 16 U.S.C. §§ 1801 et seq.). According to NOAA, funding specific to the MSFCMA is approximately \$551 million in FY2015.¹⁵ Most of this funding is included in the budget lines under fisheries science and management. The Administration has requested \$546.1 million for fisheries science and management, \$26.1 million (5.0%) more than the FY2015 enacted appropriation of \$520.0 million. The House-passed bill recommends \$529.7 million for fisheries science and management, an increase of \$9.7 million (1.9%) over the FY2015 enacted funding level and \$16.4 million (3.0%) less than the Administration's request. The Senate committee-reported bill would fund fisheries science and management at \$529.6 million, an increase of \$9.6 million (1.8%) over the FY2015 appropriation level, \$16.5 million (3.0%) less than the Administration's request, and nearly the same as the House-passed bill.

Oceanic and Atmospheric Research

Oceanic and Atmospheric Research (OAR) is the primary center for research and development within NOAA. OAR conducts research in several major areas: weather and air chemistry; climate research; and ocean, coasts, and the Great Lakes. For FY2016, the Administration has requested \$507.0 million for OAR, which would be \$60.7 million (13.6%) more than the FY2015 enacted appropriation of \$446.3 million. The House-passed bill would fund OAR at \$453.1 million, \$6.8 million (1.5%) more than the FY2015 appropriation level and \$53.9 million (10.6%) less than the Administration's request. The Senate committee-reported bill would fund OAR at \$456.1 million, an increase of \$9.8 million (2.2%) over the FY2015 enacted appropriation level, \$50.9 million (10.0%) less than the Administration's request, and \$3.0 million (0.7%) more than the House-passed bill.

The mission of OAR's climate research subprogram is to monitor and understand Earth's climate system. The Administration has requested \$188.8 million for climate research, \$30.8 (19.5%) million more than the FY2015 appropriation level of \$158.0 million. Climate research includes funding for laboratories and cooperative institutes, regional climate data and information, and climate competitive research.¹⁶ The House-passed bill recommends \$128.0 million for climate

¹⁵ According to NOAA, not all project, program, and activity lines related to fisheries are singularly focused on Magnuson-Stevens Fishery Conservation and Management Act activities, and in those cases PPAs are allocated accordingly.

¹⁶ Climate competitive research funds climate science through a competitive selection process that involves collaboration among NOAA's offices and its academic partners.

research, \$30.0 million (19.0%) less than FY2015 enacted funding level and \$60.8 million (32.2%) less than the Administration's request. The Senate committee-reported bill would fund climate research at \$153.0 million, a decrease of \$5 million (3.2%) from the FY2015 appropriation level, \$35.8 million (18.9%) less than the Administration's request, and \$25.0 million (19.5%) more than the House-passed bill.

The objectives of the weather and air chemistry research subprogram are to provide accurate and timely warnings and forecasts of high-impact weather events and the scientific basis for management decisions related to weather, water, and air quality. The Administration has requested \$97.3 million for weather and air chemistry research, \$6.5 million (7.2%) more than the FY2015 appropriation level of \$90.8 million. The House-passed bill recommends \$120.5 million for weather and air chemistry research, \$29.7 million (32.7%) more than the FY2015 enacted funding level and \$23.2 million (23.8%) more than the Administration's request. A large portion of this increase was included in an amendment that would increase funding for weather research by \$21.0 million.¹⁷ The additional funding generally supports activities that would be authorized in House-passed H.R. 1581, the Weather Research and Forecasting Innovation Act of 2015. The Senate committee-reported bill would fund weather and air chemistry at \$91.2 million, \$0.4 million (0.4%) more than FY2015 appropriation level, \$6.1 million (6.4%) less than the Administration's request, and \$29.3 million (24.3%) less than the House-passed bill.

The NOAA Ocean Acidification Program (OAP) was established by the Federal Ocean Acidification Research and Monitoring Act (P.L. 111-11). OAP coordinates NOAA activities related to monitoring, research, and other efforts consistent with the *Strategic Plan for the Research and Monitoring of Ocean Acidification*.¹⁸ The Administration has requested \$30.0 million for OAP, \$21.5 million (253%) more than the FY2015 appropriation level of \$8.5 million. The House-passed bill recommends \$8.4 million for OAP, a small decrease of \$54.0 thousand (0.6%) from the FY2015 enacted funding level and \$21.6 million (71.9%) less than the Administration's request. The Senate committee-reported bill would fund OAP at \$11.0 million, \$2.5 million (29.4%) more than FY2015 appropriation level, \$19.0 million (63.3%) less than the Administration's request, and \$2.6 million (30.2%) more than the House-passed bill.

National Weather Service

The National Weather Service (NWS) provides weather, water, and climate forecasts. For FY2016, the Administration has requested \$1,098.9 million for NWS, which would be \$11.4 million (1.1%) more than FY2015 appropriation of \$1,087.5 million. The House-passed bill would provide the NWS with \$1,102.9 million, an increase of \$15.4 million (1.4%) over the 2015 enacted funding level and \$4.0 million (0.4%) more than the Administration's request. The Senate committee-reported bill would provide a total of \$1,112.4 million for NWS in FY2016. This amount is \$24.9 million (2.3%) more than the FY2015 enacted appropriation, \$13.5 million (1.2%) more than the Administration's FY2016 request, and \$9.5 million (0.9%) more than the House-passed bill.

Generally, ORF and PAC NWS accounts and the main program areas identified in the budget would be funded in FY2016 at similar levels under the Administration's request, the House-passed bill, and the Senate Appropriations Committee-reported bill (see **Table 3**).

¹⁷ H.Amdt. 282 to H.R. 2478 would reduce the funding for NOAA corporate services by \$21.0 million and increase funding for weather and air chemistry research in Oceanic and Atmospheric Research by \$21 million.

¹⁸ Interagency Working Group on Ocean Acidification, *Strategic Plan for Federal Research and Monitoring of Ocean Acidification*, National Science and Technology Council, Washington, DC, March 2014.

Table 3. National Weather Service Funding
(thousands of dollars)

Program	FY2015 Enacted	FY2016 Request	House FY2016	Senate Committee	FY2016 Enacted
Observation	210,777	204,876	204,876	206,376	
Central Processing	96,617	87,902	92,902	92,871	
Analyze, Forecast, and Support	483,060	489,845	488,845	495,845	
Dissemination	40,099	46,743	46,743	46,743	
Science and Tech. Integration	123,600	134,197	134,197	135,197	
Total ORF	954,153	963,563	967,563	977,032	
Total PAC	133,300	135,315	135,315	135,315	
Total NWS	1,087,453	1,098,878	1,102,878	1,112,347	

Sources: Department of Commerce, *Budget in Brief: Fiscal Year 2016*, U.S. Congress, House Committee on Appropriations, *Commerce, Justice, Science, and Related Agencies Appropriations Bill, 2016*, report to accompany H.R. 2578, 114th Cong., 1st sess., H.Rept. 114-130 (Washington, DC: GPO, 2015); and U.S. Congress, Senate Committee on Appropriations, *Departments of Commerce and Justice, and Science, and Related Agencies Appropriations Bill, 2016*, report to accompany H.R. 2578, 114th Cong., 1st sess., S.Rept. 114-66 (Washington, DC: GPO, 2015).

National Environmental Satellite Data and Information Service

The NOAA Administrator identified satellite operations as one of the greatest challenges that the agency faces. NESDIS acquires and manages environmental satellites and provides access to global environmental data. These data are used for weather forecasts; warnings of major weather events; environmental monitoring; climate investigations and studies; and search and rescue. For FY2016, the Administration has requested \$2,379.6 million for NESDIS, an increase of \$156.5 million (7.0%) over the FY2015 enacted appropriation of \$2,223.1 million. The House-passed bill recommends \$1,987.3 million for NESDIS, \$235.8 million (10.6%) less than the FY2015 enacted funding level and \$392.3 million (16.5%) less than the Administration's request. The Senate committee-reported bill would provide a total of \$2,107.5 million for NESDIS in FY2016. This amount is \$115.6 million (5.2%) less than the FY2015 enacted appropriation, \$272.1 million (11.4%) less than the Administration's FY2016 request, and \$120.2 million (6.0%) more than the House-passed bill.

FY2015 funding for NESDIS satellite systems acquisition and construction is 93.4% of NOAA's PAC account funding and 37.4% of NOAA's total appropriation. The Administration's FY2016 request for NESDIS satellite system acquisition and construction is \$2,189.3 million, which would be an increase of \$154.8 million (7.6%) over the FY2015 appropriation of \$2,034.5 million.¹⁹ The House-passed bill recommends \$1,802.6 million for NESDIS satellite system acquisition and construction, \$231.9 million (11.4%) less than the FY2015 enacted funding level and \$386.7 million (17.7%) less than the Administration's request. The Senate committee-reported bill would provide a total of \$1,918.4 million for NESDIS satellite system acquisition and construction in FY2016. This amount is \$116.1 million (5.7%) less than the FY2015 enacted

¹⁹ Satellite systems acquisition and construction includes all NESDIS satellite-related funding in the NOAA PAC account.

appropriation, \$270.9 million (12.4%) less than the Administration's FY2016 request, and \$115.8 million (6.4%) more than the House-passed bill.

For FY2016, the Administration has requested \$380.0 million for a new program called the Polar Follow-On. The House-passed bill does not include funding for this program, while the Senate Committee-reported bill would provide \$135.0 million for it. The Polar Follow-On program would support efforts to ensure the future continuity of NOAA's polar satellite system. Polar-orbiting satellites constantly circle the earth in a north-south orbit. Data from polar-orbiting satellites are the primary input for weather prediction models. Currently, coverage is provided by the NOAA Suomi National Polar orbiting satellite, two defense meteorological satellites, and a European satellite. The Joint Polar Satellite System (JPSS) will replace current coverage with the launch of JPSS-1 in 2017 and JPSS-2 in 2021.²⁰ JPSS will provide global environmental data such as cloud imagery, sea surface temperature, atmospheric profiles of temperature and moisture, atmospheric ozone concentrations, Arctic sea ice monitoring, search and rescue, and other data and services. The Polar Follow-On would extend operations of the overall polar satellite system (potentially to 2038) and support launch readiness dates for JPSS-3 (2024) and JPSS-4 (2026). According to NOAA, the Polar Follow-On would reduce the risk of a JPSS gap following the launch of JPSS-2.

The Administration request, House-passed bill, and Senate Appropriations Committee-reported bill would provide identical funding levels for the following satellite acquisition programs:

- the Geostationary Operational Environmental Satellite – R (GOES-R) at \$871.8 million, which reflects a planned decrease in funding of \$109.0 million from the FY2015 enacted level;
- the JPSS at \$808.9 million, which reflects a planned decrease in funding of \$82.3 million and a \$25.0 million reduction in the amount of planned carryover from FY2016 to FY2017;
- the JASON-3, a satellite altimetry mission that provides precise measurement of sea surface heights, at \$7.5 million, which reflects a planned decrease in funding from \$23.2 million in FY2015; and
- DSCOVR, a satellite that maintains real-time solar wind monitoring to detect space weather events such as geomagnetic storms, at \$3.2 million, which reflects a planned decrease in funding from \$21.1 million in FY2015.

The Administration's request and the House-passed bill would fund the Constellation Observing System for Meteorology, Ionosphere, and Climate (COSMIC-2) at \$20 million. This amount is \$13.2 million more than the FY2015 enacted funding level of \$6.8 million.²¹ However, the Senate committee-reported bill would fund COSMIC-2 at \$10.1 million. COSMIC-2 would replace the current COSMIC system, which reached its design life in 2011.²²

NOAA's FY2016 request and the House-passed bill would provide \$2.5 million of new funding for the Space Weather Follow-On. This program would analyze options for the next space weather satellite because the design life of the DSCOVR spacecraft ends in 2019. The Senate

²⁰ An ongoing concern is a likely gap in coverage as the Suomi nears the end of its design life.

²¹ COSMIC-2 was developed as a research effort to explore relatively inexpensive atmospheric sounding techniques for enhancing weather predictions. COSMIC-2 is a continuation of the partnership between the United States (NOAA and the U.S. Air Force) and Taiwan.

²² The system would be composed of an operational constellation of 12 identical global navigation satellite system radio occultation satellites. See <http://www.cosmic.ucar.edu/cosmic2/>.

Committee on Appropriations did not fund the space weather follow-on, but it instructed NOAA to submit a report to the committee detailing space weather data needs, options for collecting data, costs of these data, project timelines, and the impact of a space weather gap after 2019.

Program Support and the Office of Marine and Aviation Operations

Program Support (PS) provides management and services to most of NOAA's staff and line offices. The Program Support budget category generally is divided into two main areas: the Office of Marine and Aviation Operations (OMAO) and PS, which includes Corporate Services, the Office of Education, and Facilities.

For FY2016, the Administration has requested \$277.0 million for Corporate Services, the Office of Education, and Facilities, which would be an increase of \$29.1 million (11.7%) over the FY2015 appropriation of \$247.9 million. The House-passed bill recommends \$210.7 million for PS, a decrease of \$37.2 million (15.0%) from the FY2015 enacted funding level and \$66.3 million (23.9%) less than the Administration's request. The Senate committee-reported bill would provide a total of \$250.1 million for PS in FY2016. This amount is \$2.2 million (0.9%) more than the FY2015 enacted appropriation, \$26.9 million (9.7%) less than the Administration's FY2016 request, and \$39.4 million (18.7%) more than the House-passed bill.

NOAA requested \$16.4 million for the Office of Education, a decrease of \$11.2 million (40.6%) from the FY2015 enacted funding level of \$27.6 million. The House-passed bill recommends \$23.6 million for the NOAA education program, \$4.0 million (14.5%) less than the FY2015 enacted funding level, and \$7.2 million (43.9%) more than the Administration's request.²³ The Senate committee-reported bill would provide a total of \$26.6 million for the Office of Education in FY2016. This amount is \$1.0 million (3.6%) less than the FY2015 enacted appropriation, \$10.2 million (62.2%) more than the Administration's FY2016 request, and \$3.0 million (12.7%) more than the House-passed bill.

OMAO manages and operates aircraft and ships used for collecting data in support of NOAA's environmental and scientific mission. For FY2016, the Administration has requested \$369.8 million for OMAO, \$157.2 million (74.0%) more than the FY2015 appropriation of \$212.6 million. The House-passed bill recommends \$219.3 million for OMAO, \$6.7 million (3.1%) more than the FY2015 enacted funding level and \$150.5 million (40.7%) less than the Administration's request. The Senate committee-reported bill would provide a total of \$225.1 million for OMAO in FY2016. This amount is \$12.5 million (5.9%) more than the FY2015 enacted appropriation, \$144.7 million (39.1%) less than the Administration's FY2016 request, and \$5.8 million (2.7%) more than the House-passed bill. The House-passed bill and the Senate committee-reported bill do not include NOAA's request for \$147.0 million to begin construction of a new oceanographic research vessel.

²³ The House Committee on Appropriations added \$7.2 million above the requested amount to continue the B-WET regional programs. Bay-Watershed Education and Training supports environmental education by providing competitive grant funding opportunities.

Other Considerations

House Amendments

Three amendments were included in the House-passed bill to restrict funding for specific NOAA activities. H.Amdt. 339 would restrict funding to enforce Amendment 40 of the Gulf of Mexico Red Snapper Fishery Management Plan. Red snapper are highly valued by recreational and commercial fishermen. Allocation generally involves the distribution of red snapper among fishing sectors (commercial and recreational) and among groups within a given sector (private and charter recreational fishermen). Historically, the recreational sector including charter and private fishermen landed fish under the same quota. Amendment 40 divides the recreational quota between the federal for-hire component (charter) (42.3%) and the private angling component (57.7%).²⁴ Some private recreational fishermen claim that the charter component will gain a disproportionate share of the recreational quota under this arrangement.

H.Amdt. 346 would restrict funding to further implement coastal and marine spatial planning and ecosystem-based management components of the National Ocean Policy developed under Executive Order 13547. On July 19, 2010, President Obama signed Executive Order 13547, which established a national policy for stewardship of the ocean, coasts, and Great Lakes. The President established the National Ocean Council (NOC) to coordinate and implement the national ocean policy. On April 16, 2013, the NOC released the *National Ocean Policy Implementation Plan*, which describes specific federal actions needed for enacting the policy. The Administration has presented the National Ocean Policy as a planning framework that operates within existing authorities. Some have questioned whether the Administration's proposal to implement such a policy is a new regulatory program and whether the Administration has the statutory authority to take these actions. Some also have asserted that marine spatial planning and ecosystem-based management may exclude some activities from ocean areas, such as recreational fishing and oil and gas development.

H.Amdt. 354 would prohibit the use of funds for NOAA to implement recovery plans for salmon and steelhead populations listed under the ESA if the recovery plans do not address predation by non-native species. Some introduced fish species, such as striped bass and largemouth bass prey on native species such as juvenile salmon. This amendment attempts to encourage managers to address the management of introduced species and their predation on salmon as a factor related to salmon recovery.

Department of Commerce Reorganization

In his FY2016 budget request, President Obama has asked Congress to provide him with the authority to submit fast-track proposals to reorganize or consolidate federal programs and agencies. One such reorganization proposes to consolidate federal business and trade programs into one department. The Administration asserts that reorganization would create a more efficient and effective department that would promote U.S. competitiveness, exports, business, and jobs. Most Department of Commerce agencies would become part of the new department. NOAA would be incorporated into the Department of the Interior (DOI) to strengthen stewardship and conservation efforts and to enhance scientific resources. No additional information regarding how NOAA and DOI programs might be integrated has been given. A similar proposal for presidential

²⁴ For-hire businesses without a federal permit will be managed as part of the private component.

authority and reorganization of federal business and trade programs was made in 2012, but there appeared to be little congressional support for the proposal.

Consolidation of Budget Lines

There has been a general trend to consolidate budget line items in NOAA's budget. In FY2016, NOAA is proposing to further restructure budget line items by combining program, project, and activity (PPA) lines. The largest changes would be to the NMFS budget. According to NOAA, restructuring would better align the NMFS budget to its programmatic and organizational needs and provide increased transparency and accountability. For example, seven PPAs under the Protected Species Research and Management program areas would be combined into two PPAs—Marine Mammals, Sea Turtles, and Other Species; and ESA Salmon. Also in NMFS, the Fisheries Research and Management subprogram, which currently has 15 PPAs, would be changed to Fisheries Science and Management, which would have 6 PPAs. Consolidating PPAs could make the reprogramming of funds among related programs easier for the agency. However, the level of detail and allocation of funds among different activities that currently have distinct PPAs might become more difficult to discern in the NOAA budget justification. For example, Pacific and Atlantic salmon would be combined in one PPA; currently they have separate budget lines. The Senate Committee on Appropriations report to accompany H.R. 2578 (S.Rept. 114-66) would adopt all of the budget structure revisions proposed in the NOAA budget request except for the proposal to consolidate Atlantic and Pacific salmon into a single PPA.

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