Congressional Research Service

Report RL30139

The National Oceanic and Atmospheric Administration (NOAA): Review of Budget and Issues in the 106th Congress

Wayne A. Morrissey, Science, Technology, and Medicine Division

January 19, 2001

Abstract. This report provides a general overview of the National Oceanic and Atmospheric Administration (NOAA) and a summary of major issues of possible legislative concern for the 106th Congress. These include: National Weather Service modernization, the state of NOAA's research infrastructure, fisheries and endangered species conservation and management, environmental data quality and continuity, NOAA partnerships with public and private entities, new research initiatives in the FY2000 request, and compliance with the Government Performance and Results Act. Also, it identifies expiring authorizations of specific NOAA programs and tracks NOAA appropriations for FY2000.

Order Code RL30139

CRS Report for Congress
Received through the CRS Web

The National Oceanic and Atmospheric Administration (NOAA): Review of Budget and Issues in the 106th Congress

Updated January 19, 2001

Wayne A. Morrissey
Senior Research Assistant
Resources, Science, and Industry Division

ABSTRACT

This report reviews the functions of the National Oceanic and Atmospheric Administration (NOAA), as well as a summarizes budgetary and major legislative issues for the 106th Congress. NOAA legislative issues have included: National Weather Service modernization, the state of NOAA's research infrastructure, fisheries and endangered species conservation and management, environmental data quality and continuity, NOAA partnerships with public and private entities, compliance with the 1993 Government Performance and Results Act, and for the second session, funding for research initiatives in the FY2001 budget request. This report also identifies major authorization legislation, if any, affecting NOAA and tracked appropriations for FY2001and will not be updated. NOAA annual appropriations were also tracked in CRS Report RL30509, *Appropriations for FY2001: Commerce, Justice, and State, the Judiciary and Related Agencies*, and on the CRS web site for congressional staff at [http://www.loc.gov/crs/products/apppage.html].

The National Oceanic and Atmospheric Administration (NOAA): Review of Budget and Issues in the 106th Congress

Summary

For FY2001, the President requested $2.76 billion in appropriations for the National Oceanic and Atmospheric Administration (NOAA). NOAA is the largest agency in the Department of Commerce (DOC), and received just over half of DOC's total budget for FY2001. The NOAA budget request for FY2001 was $417 million greater than FY2000 appropriations, an increase of 18%. Also, it was 10% greater than the $2.5 billion requested by President Clinton for FY2000. For FY2001, the President proposed $1.9 billion for Operations Research and Facilities (ORF), and $635 million for Procurement, Acquisition, and Construction (PAC), NOAA's two major budget divisions. Other NOAA funding totaled some $281 million, including $160 million for Pacific Coastal Salmon Recovery; $100 million for a newly proposed Coastal Impact Assessment Fund; and $10 million for a Fisheries Assistance Fund. In FY2001, NOAA requested new budget authority of $30 million from collection of Navigation Services and Fisheries Management and Enforcement fees. Also, there was a slight change in the reporting structure of NOAA's budget, which had no impact on the overall request. NOAA also analyzes its annual budget request in terms of seven strategic goals for internal financial management, pursuant to the 1993 Government Performance and Results Act (GPRA).

Commerce, State, Justice, and Judiciary Appropriations for FY2001(H.R. 4690) passed the House, amended, on June 26, 2000, approving a total budget authority of $2.23 billion for NOAA. The Senate Appropriations Committee passed H.R. 4690 with an amendment in the nature of a substitute on July 18, 2000, approving $2.69 billion for NOAA. H.R. 4690 was incorporated into H.R. 4292, on October 26, 2000; conferees added $420 million and approved $3.04 billion for NOAA. Additional funding of $61.5 million was approved in the Omnibus Appropriations bill, H.R. 4577, on December 15, 2000, amounting to a total of $3.11 billion in final budget authority for NOAA for FY2001.

The House Committees on Science and Resources and the Senate Committee on Commerce, Science, and Transportation took up authorization legislation for certain NOAA programs for FY2000 - FY2001. Hearings were held on oversight of the National Weather Service Modernization program to address charges of possible degradation of weather services that might affect public safety and weather-related property losses. In the second session of the 106th Congress, Members dealt with NOAA's FY2001 budget request, which increased funding for Presidential environmental initiatives such as: National Disaster Reduction, Land Legacy, South Florida Ecosystems Restoration, Resources Protection, Clean Water, Minority Serving Institutions, and grants proposed under the Coastal Zone Management Act (CZMA). Two new research initiatives were proposed for FY200: *Climate Observation and Services* and *America's Ocean Future*, which continues NOAA's Ocean 2000 Initiatives. Also at issue was Pacific Coastal Salmon Recovery funding and Stellar sea lion protection. Three NOAA authorization bills saw legislative action in the second session. Also, the FY2001 Interior Appropriations Act (P.L. 106-291) authorized $400 million for NOAA for coastal and Great Lake conservation "Land Legacy" activities.

Contents

Agency Structure and FY2001 Budget 1
FY2001 Budget Request 2
Commerce, State, Justice Appropriations FY2001 3
Operations, Research, and Facilities (ORF) 7
Non-ORF Funding 17
Research and Development (R&D) Funding 18

Major Issues 20
Progress of NWS Modernization Efforts 21
Environmental Satellites and Data Quality and Continuity 23
Fisheries and Species Conservation and Management 24
Environmental Initiatives for FY2001 24
Program Support and Infrastructure 25
Sea Grant, NURP, and NOAA Partnerships 27
NOAA Authorization in 106th Congress 28

List of Tables

Table 1. FY2001 Funding for NOAA (millions of dollars) 8
Table 2. R&D Funding for NOAA 20
Table 3. CENR Crosscutting Initiatives Funding Requested for NOAA for FY2001 26

List of Figures

Figure 1. Funding requested for NOAA for FY2001 ($2.76 Billion) 2
Figure 2. House funding request for NOAA FY2001 4
Figure 3. Senate Appropriation Committee funding for NOAA FY2001 . . 5
Figure 4. Final Funding for FY2001 9
Figure 5. NOAA Authorization for FY2000/2001 31

The National Oceanic and Atmospheric Administration (NOAA): Budget Activities and Issues in the 106th Congress

Agency Structure and FY2001 Budget

The National Oceanic and Atmospheric Administration (NOAA) is the federal agency concerned with observation of the Earth's oceans and the atmosphere and oceanic and atmospheric research. NOAA has two overarching missions: 1) Environmental Assessment and Prediction and 2) Environmental Stewardship. The agency was created in 1970, under President Nixon's Executive Reorganization Plan No. 4, and is currently the largest agency in the U.S. Department of Commerce (DOC). NOAA accounts for a little more than half of DOC's total budget (51.2%) for FY2001, and currently receives the largest amount of funding for research and development in DOC. The NOAA budget is funded in the annual Commerce, State, Justice, the Judiciary and Related Agencies (CSJ) Appropriations Act. (DOC appropriations are tracked in CRS Report RL30509, *Appropriations for FY2001: Commerce, Justice, and State, the Judiciary and Related Agencies*. CRS also tracks appropriations on its web site at [http://www.loc.gov/crs/products/apppage.html].)

Five traditional budget lines at NOAA include: the National Ocean Service (NOS); National Marine Fisheries Service (NMFS); Oceanic and Atmospheric Research (OAR); National Weather Service (NWS); National Environmental Satellite Data and Information Service (NESDIS). In addition, there are Program Support (PS) and Facilities and Construction (FAC) budget lines. Together, these comprise NOAA's Operations, Research and Facilities (ORF) account. New in the FY2001 budget was the Office of Marine and Aviation Operations (OMAO) under ORF, which included Fleet Maintenance and Planning (FM&P) and Aircraft Services lines. There are also non-ORF accounts, which include Procurement, Acquisition and Construction (PAC) and "Other Accounts." The latter funds Pacific Coastal Salmon Recovery (PCSR) activities, the Coastal Zone Management Fund (CZMF), and several fisheries funding accounts. One of the latter, for example, is the Promotion and Development of American Fisheries (PDAF) line, which grants funding for products research and development.

NOAA also scores its annual budget in terms of seven strategic goals. In FY1995, the agency adopted a Strategic Plan that is used as an internal budget management tool, and is based on major elements of the 1993 Government Performance and Results Act (GPRA). (See CRS Issue Brief IB94009: *Research and Development: Priority Setting and Consolidation in Science Budgeting*.) Funds requested for FY2001 are targeted toward these strategic goals: 1) Advanced Short-Term Warning & Forecast Services (at $1.4 billion); 2) Implement Seasonal to Inter-annual Climate Forecasts (at $130 million); 3) Predict & Assess Decadal to Centennial

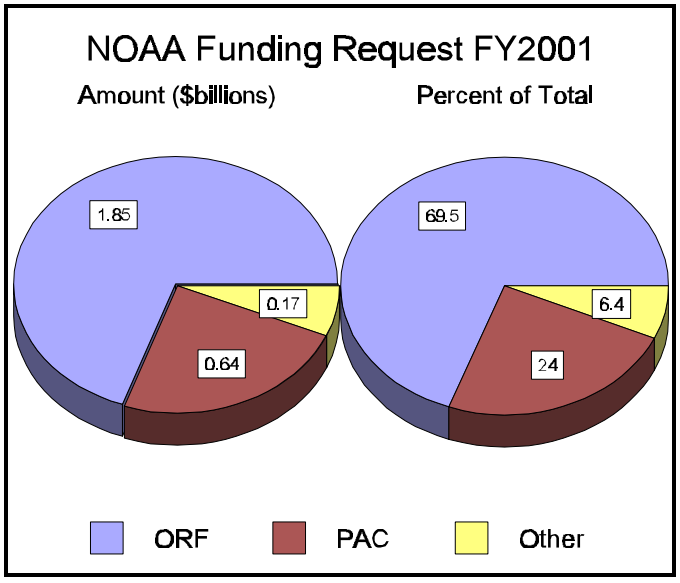
Change (at $114 million); 4) Recover Protected Species (at $278 million); 5) Promote Safe Navigation (at $110 million); 6) Sustain Healthy Coasts (at $488 million); and 7) Build Sustainable Fisheries (at $435 million). The programs to achieve these goals are measured for performance, return on investment in research and operations paid by American taxpayers, and have helped NOAA prioritize future budget requests. In February 2000, NOAA issued "*Business Report 1998-1999*," which reviewed operations, research, products, professional accomplishments, budget outlooks, and performance measures for this period.

Also, NOAA's Legislative Affairs Office maintains a website providing organizational, budgetary, and legislative information and it may be found at [http://www.legislative.noaa.gov/].

FY2001 Budget Request

The President requested $2.76[1] billion in budget authority for NOAA for FY2001. This amount is $417 million greater than FY2000 appropriations of $2.34 billion, an increase of 18%, and is 10% greater than the $2.5 million requested by the President for FY2000. Of the FY2001 request total, nearly $1.9 billion (69%) was slated for Operations Research and Facilities (ORF), and $635 million (24%) for Procurement, Acquisition, and Construction (PAC). Other NOAA funding requested totals $281 million (7%). The latter included $160 million for Pacific Coastal Salmon Recovery (PCSR); $100 million for a newly proposed Coastal Impact Assessment Fund; and $10 million for a Fisheries Assistance Fund. In addition, NOAA requested additional budget authority of $30 million through collection of new fees for Navigation Services and Fisheries Management and Enforcement. The President requested funding for NOAA's role in Committee on Environment and Natural Resources (CENR) initiatives, which include: National Disaster Reduction (at $110 million); Land Legacy (at $265.8 million); South Florida Ecosystems Restoration Initiative (at $1.6 million); Clean Water (at $6.9

Figure 1. Funding requested for NOAA for FY2001 ($2.76 Billion)



[1]This figure reflects a new FY2001 base, originally reported as $2,77.8 million, but adjusted for a federal spending cut of 0.38 percent that was negotiated between Congress and the President as part of the final CSJ spending agreement for FY2000.

million); DOC Minority Serving Institutions (at $17 million); and grants under the Coastal Zone Management Act (at $92.7 million). New in the FY2001 request were a Climate Observation and Services Initiative (at $28 million) and America's Ocean Future Initiative (formerly "Ocean 2000" initiative increased by $52 million).

For FY2001, the President requested funding for traditional line offices at NOAA as follows: National Ocean Service (NOS) $517 million ($11 million PAC), including $100 million for Coastal Impact Assessment Fund; National Marine Fisheries Service (NMFS) $657 million ($22 million PAC), including $160 million for Pacific Salmon Recovery and $10 million for Fisheries Assistance Fund; Oceanic and Atmospheric Research (OAR) $319 million ($11 million PAC), including $32 million for Climate Observation and Services and $59 million for Sea Grant; National Weather Service (NWS) $710 million ($75 million PAC); National Environmental Satellite Data and Information Service (NESDIS) $613 million ($505 million PAC), including funding for a new satellite operation facility in Suitland, MD; Program Support (PS) $87 million ($16 million PAC), including $17 million for Minority Serving Institutions and $15.8 million for a Commerce Administrative Management System; Facilities (FAC) $9 million ($3 million PAC); and Office of Marine and Aviation Operations (OMAO) (includes Fleet Planning and Maintenance and Aircraft Services), $21 million ($200,000 PAC).

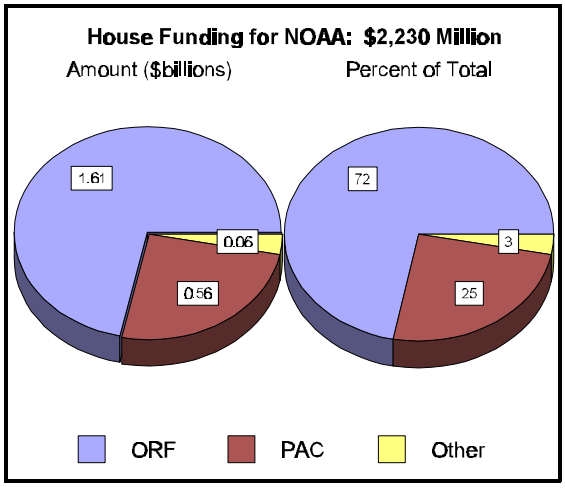
The request for Non-ORF accounts include PAC funded at $635 million for long-term, capital-intensive projects. Funding requested for Other Accounts include the Coastal Zone Management Fund (CZMF), the Promote and Develop American Fisheries (PDAF) funds, for which monies are transferred from the Department of Agriculture, and various other financing accounts for the American fishery industry, for a total request of $165.4 million.

Commerce, State, Justice Appropriations FY2001

On June 26, 2000, the House passed H.R. 4690, approving funding levels recommended by the House Appropriations Committee on June 14, 2000 (H.Rept. 106-680), with one amendment. Budget authority totaled $2.23 billion, which is almost 5% less than FY2000 appropriations and 19% less than the President's request of $2.761 billion for FY2001.

The House approved ORF funding at $1.607 billion, about $30 million less than the President's request. PAC funding was slightly increased with an amendment approved for NMFS, making the final total $566 million for FY2001, about $1.2 million more than House Appropriations Committee recommendations. The balance of other House appropriations for NOAA totaled $63.4 million. Major funding differences between final House approved levels and the President's request include $145 million less for NOS, $50 million less for NMFS, and $38 million less for OAR. Also, the House approved only $58 million of the $160 million requested for PCSR. House budget actions resulted in most NOAA programs being funded at, or slightly below, FY2000 appropriations, with few exceptions. However, some CENR initiatives were not funded because the committee noted funding for many of these programs was not authorized or authorization had expired.

Figure 2. House funding request for NOAA FY2001



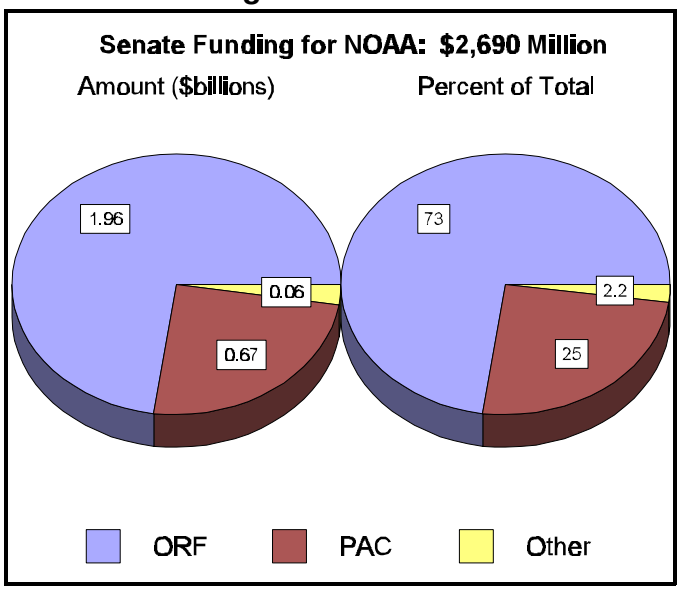
The House funded NOAA line offices as follows: NOS-$260.6 million; NMFS; $405.4 million; OAR-$264.6 million; NWS-$621.7 million; NESDIS-$106.6 million; PS-$58.1 million (includes aircraft services); FM&P-$7 million; and FAC-$11 million. The ORF total is $1,607 million. The House did not approve advanced appropriations for PAC of $6,417.5 million through FY2019. No funding was approved for GLOBE or Climate Observations and Services (OAR), or for Coastal State Grants to mitigate the impacts of offshore drilling activities, for which the House cited $1 billion of mandatory funding they had passed previously in H.R. 701. Moreover, the House did not approve additional budget authority of $30 million for NOAA from collection of proposed fees.

On September 8, 2000, the Senate Appropriations Committee reported H.R. 4960 (S.Rept. 106-404). The Committee approved a total of $2.687 billion for NOAA. This amount was 21% higher than House passed levels for H.R. 4690, about 3% below the Clinton Administration's request, and about 15% greater than FY2000 appropriations. Of this amount, $1,958 million was approved for ORF, with $66.2 million of that to be derived from PDAF. This amount was 22% more than House-approved levels, and 6% greater than the President's FY2001 request for ORF. PAC funding was approved at $669.5 million, which is 5% greater than levels requested by the President and 16% above House approved levels.

Senate Appropriation Committee line totals for NOAA were as follows: $321.3 million for NOS, which is 23% greater than House levels and 21% less than the request; $543.9 million for NMFS, which is 34% greater than House levels and 20% greater than the request; $318.2 million for OAR, which is 20% greater than House levels and about 5% greater than the request for FY2001; $632.5 million for NWS, 1.7% below the House and 0.7% less than the FY2001 request; $112.1 million for NESDIS; $71.3 million for PS; $19 million for FM&P; and $35.3 million for FAC. PAC funding was approved at $669.5 million, which is about 5% greater than the President's request of $635 million for FY2001 and 18.5% greater than House-approved levels of $565 million. PCSR would be funded at $58 million, the same as

House-approved levels. CZMF was approved at $3.2 million, $0.8 million less than the House and President's request. Other fisheries supporting accounts were approved at $1.5 million, slightly higher than House and President's request for FY2001. No funding was approved for GLOBE. The Senate Appropriations Committee concurred with the House and did not approve $100 million for a coastal assessment fund, or $30 million in new budget authority from proposed offsetting fees. However, the Committee did approve $14 million of the $32 million requested for Climate Observation and Services initiative for ocean observations. Sea Grant was funded $64.8 million and underwater research at $17 million, the latter significantly higher than the President's request (funded at $0). Increases were also recommended for aircraft services, fleet maintenance and planning, and $15 million was included for construction of a new NOAA facility in Suitland, MD.

Figure 3. Senate Appropriation Committee funding for NOAA FY2001



Conference Agreement on H.R. 4942, P.L. 106-533, December 21, 2000. With passage of the Interior Appropriations bill for FY2001 on October 11, 2000 (P.L. 106-291), the *Balanced Budget and Emergency Deficit Control Act of 1985* was amended to raise spending caps on certain federal programs. In a section on *Conservation Spending*, subparagraphs *xv-xvii*, dealing with NOAA activities which support coastal and Great Lake conservation, and are directly tied to the President's Land Legacy initiative, funding caps were raised to allow the agency to spend an additional $420 million for a number of NOAA activities, including Pacific Coastal Salmon Recovery, additional funding for Operations, Research and Facilities (ORF), CZMA, National Marine Sanctuaries, National Estuarine Research Reserves Systems, Coral Restoration programs, and Coastal Impact Assistance. Most of this funding had been approved by the Senate Appropriations Committee in its version of H.R. 4690, except for $420 million for coastal and ocean activities.

On October 25, 2000, Conferees on H.R. 4942 reported Appropriations for the District of Columbia for FY2001 (H.Rept. 106-1005). Attached as Title II to this Act is Commerce, Justice, and State Appropriations for FY2001, which became P.L. 106-533 on December 21, 2000. The conference agreement provided NOAA a total funding level of $3,048 million for all NOAA programs. This is about 12% greater than the amount approved by the Senate Appropriations Committee; 27% greater than House-approved levels; 30% greater than FY2000 appropriations of $2,343 million; and about 4.4% less than the President's request for FY2001 (if the $420 million for coastal and ocean activities is included). Operations Research and Facilities funding totaled some $1,869 million, $68 million of which would be derived by transfer from the Promote and Develop Fishery Products and Research Pertaining to American Fisheries (PDAF) and $3.2 million in offsets from the Coastal Zone Management Fund. Procurement, Acquisitions and Construction (PAC) is slated to receive $683 million, including $7.5 million in previous FY deobligations. Other NOAA accounts include funding of $74 million for Pacific Coastal Salmon Recovery; $3.2 million for the Coastal Zone Management Act (ORF); and $1.43 million for other fisheries financing programs.

Conferrees also appropriated $420 million for "Coastal and Ocean Activities," which was authorized in Title VIII of H.R. 4578, Land Conservation Preservation and Infrastructure Improvement, under the Interior Appropriations bill (P.L. 106-291). Some $150 million of this is for a Coastal Impact Assessment and another $135 million is for NOAA programs authorized under Title IX Section 903 of H.R. 4942.

The Conference committee approved funding for traditional NOAA budget lines as follows: NOS-$290.7 million; NMFS-$517.9 million; OAR-$323.2 million; NWS-$630.8 million; NESDIS-$125.2 million; PS-$81.3 million; FP&M-$11 million; and FAC-$11.2 million. Conferees reduced Senate-approved funding levels for a number of programs that were authorized under Section 903 of the Act. These include the Pacific Coastal Salmon Recovery Program, CZMA, and additional funding for some ORF programs, such as National Marine Sanctuaries, NERRS, Coral Restoration, and Coastal Impact Assistance. In most cases, final conference approved levels for NOAA are in between House and Senate Appropriations Committee approved totals, with obvious exceptions. For example, the conference committee approved $15 million for Minority Serving Institutions, boosting overall funding for the Program Support budget line. They also approved the Senate Appropriations Committee funding level for the Stellar Sea Lion recovery program under NMFS. Furthermore, the conference committee approved $12.3 million for Climate Observations and Services (about half of the President's request), approved $3 million for GLOBE, and close to or slightly more than the President's request for other climate change research activities. A $10 million increase was targeted for Marine Prediction research under Oceans and Great Lake Programs. Final Sea Grant and NURP- approved funding remained close to Senate Appropriation Committee levels, which were substantially higher than the President's request. The committee also funded the Global Disaster Information Network at $3 million, which was not funded by the House or Senate Appropriations Committee.

Final National Weather Service funding levels remained consistent with the House except for some reductions in base funding for local forecast and warning to offset increased funding for NOAA weather radio transmitters. Other increases were

provided for NESDIS Data and Information Services and Ocean remote sensing. The Conference committee did not approve the Senate Appropriations request for $15 million for a new Suitland, MD facility under the NOAA Facilities account, but approved it instead under the PAC construction account. The FP&M line for FY2001 was reduced by the cost of a new fishery research vessel that was approved instead under PAC. Funding for CAMS was increased $4 million above the agency's request for a total of $19 million. The Pacific Coast Salmon Recovery account realized a $16 million increase under conference committee actions for a total of $74 million. Together, this funding totaled $3,048 million under H.R. 4292 for FY2001.

Conference Agreement on H.R. 4577 and Final Funding for FY2001.

In the conference report that accompanies H.R. 4577, *Making Omnibus Consolidated and Emergency Supplemental Appropriations for FY2001* (H.Rept. 106-1033, December 15, 2000), there was an additional $61.5 million appropriated for NOAA. This funding included $750,000 for ORF for a study by the National Academy of Sciences pursuant to Exploration of the Seas Act (H.R. 2090, Section 4, September 6, 2000); and other funding of $7.5 million for Alaskan Salmon Disaster; $3 million for Hawaii Long Line fishery; and $50 million for Sea Lion Protection. Taken together with appropriations for H.R. 4942 (above), NOAA's total budget authority for FY2001 amounts to $3,109 million.

Operations, Research, and Facilities (ORF)

ORF activities consist of a number of operational and research programs that support NOAA's mission. Some of these contribute to federal crosscutting research activities managed by the White House Council on Science and Technology's Committee on Environment and Natural Resources (CENR), and include the U.S. Global Change Research Program (USGCRP), High Performance Computing (HPC), and many other interagency environmental initiatives. Total ORF funding is adjusted to reflect direct obligations, funding passed through from other federal agencies, reimbursements from previous fiscal years (deobligations), and then financing and offsets from fees, e.g. are subtracted out. ORF line offices are explained in greater detail below.

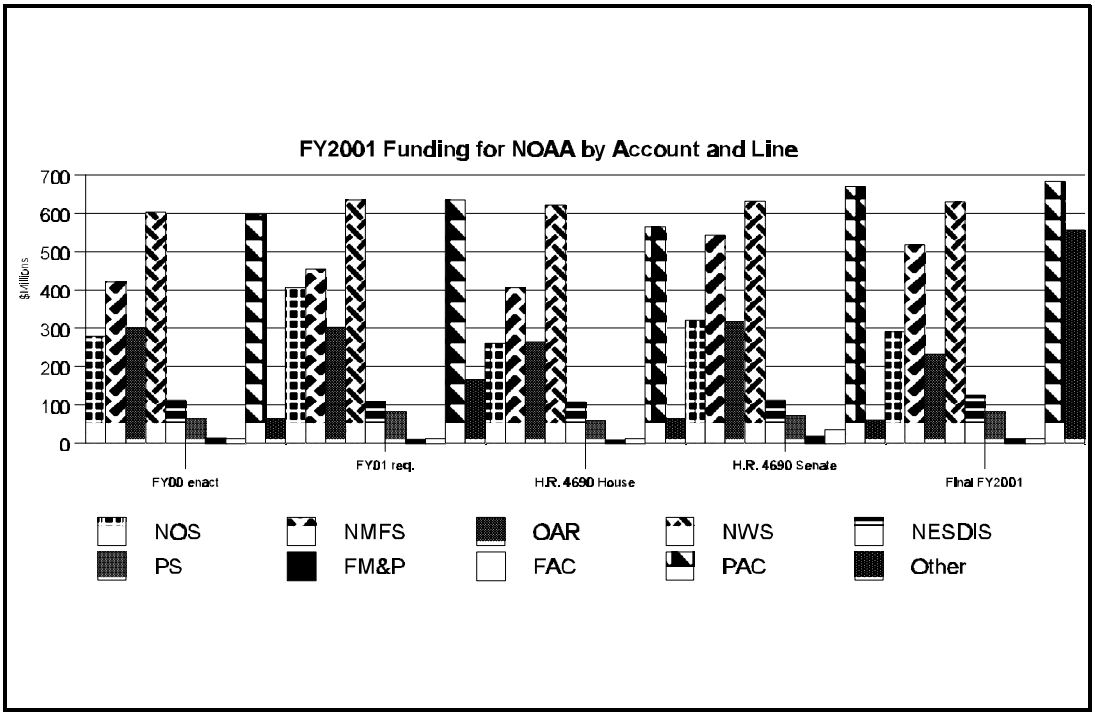
Table 1. FY2001 Funding for NOAA (millions of dollars)

NOAA	FY2000 enact.[1]	FY2001 req.	H.R. 4690 House	H.R. 4690 Senate	H.R. 4942 H.R. 4577 Conf.
Operations, Research, and Facilities (ORF)					
NOS	278.8	405.9	260.6	321.3	291.5
NMFS	421.7	455.4	405.4	543.9	517.9
OAR	300.5	302.5	264.6	318.2	323.2
NWS	603.9	634.9	621.7	632.5	630.8
NESDIS	111.1	108.2	106.6	112.1	125.2
PS	62.6	81.8	58.1	71.3	81.3
FM&P	13.2	9.3	7	19	11.0
FAC	11.0	11.5	11.0	35.3	11.2
direct oblig.	1,802.8	2,009.4	1,735	2,054	1,992
+reimburse	199.4	208	212	226.4	212
financing[2]	-314	-369	-340	-322	-334.3
Total ORF	**1,688**	**1,848**	**1,607**	**1,958**	**1,869**
Non-ORF					
PAC	596	635.2	564.6	669.5	683
Other	63.5	165.4	63.4	59.5	556.9[3]
financing[3]	**(4)**	**(30)**	**(4)**	**--**	**--**
Total	**656**	**771**	**624**	**729**	**1,240**
Total B.A. NOAA[4]*	**2,344**	**2,761**	**2,231**	**2,687**	**3,109**

*Numbers may not add due to rounding.

1. President Clinton signed H.R. 3421 into law on November 29, 1999 (P.L. 106-113).
2. Includes transfers from Promote and Develop American Fisheries (PDAF) account and Coastal Zone Management Fund (CZMF).
3. Includes collection of offsetting fees.

Figure 4. Final Funding for FY2001



4. Additional $420 million in budget authority authorized for NOAA under Section 903 of H.R. 4942 (P.L. 106-533, December 21, 2000) totaling $3,048 million plus additional funding from H.R. 4577; final funding for NOAA for FY2001, $3,109 million.

National Ocean Service Funds requested by the President for NOS under ORF for FY2001 were $406 million (+$11 million for PAC). The President requested $100 million for a Coastal Impact Assessment fund that would enable existing oil and gas producing states to better address the impacts of coastal development and resource use. The resulting total requested for NOS was $517 million, which is 85% ($238 million) greater than FY2000 appropriations of $279 million (H.R. 3194, H.Rept. 106-479), and 57% greater than the President's request of $329 million for NOS for FY2000. Other significant increases requested for FY2001 include $9 million for Coral Reef Conservation and Protection ($15 million total FY2001). Transfers of $4.7 million would be derived from non-ORF accounts, including the Coastal Zone Management Fund (CZMF), and the Damage Assessment and Restoration Revolving Fund (DARF) established under section 1012(a) of the Oil Pollution Act of 1990.

NOS is primarily responsible for NOAA's Marine Mapping, Charting, and Geodetic Services. Its major function is to ensure safe navigation of commercial and recreational marine vessels and to ensure recovery and health of marine ecosystems, and environmental protection and management of the coastal zone environment. NOS would have major responsibilities for implementing President Clinton's America's Ocean Future Initiatives for FY2001.

Collection of a large proportion of marine data has been contracted out to the private sector, as a result of both agency initiative and at the urging of Congress. This

has enabled NOS to catch up on a backlog of nautical charting responsibilities. NOS has also been developing a telemetric National Spatial Reference System (NSRS), which utilizes the Global Positioning Satellites (GPS) as well as traditional surveying methods to provide public users with accurate geodetic measurement. NOS is focusing now on improving accuracy of measurements in the vertical data plane required for automated aeronautical navigation. Aeronautical charting, formerly a responsibility of NOS, was transferred to FAA in FY1999. NOAA still manages and houses these employees. (See 106th Cong., H.R. 1000, Title VI-Transfer of Aeronautical Charting).

According to NOAA, past accomplishments of NOS have included development of a digital bathymetric map for various sections of the ocean floor, and digital updates of many of the nautical charts which serve commercial shipping and recreational boating communities. Also, NOS has played an active role in development of new marine cartographic data collection and display technologies. In FY1992, an interagency Coastal Ocean Science (COS) program was established in NOS to examine coastal estuarine environments, to help protect them from marine pollution, and to ensure the recovery and restoration of healthy marine ecosystems. This included the establishment of a system of regional National Estuarine Research Reserves (NERRS). The President has requested increased funding under the Land Legacy Initiative for NERRS, and the National Marine Sanctuaries system for FY2001. Some funding to support COS has been transferred annually from the Coastal Zone Management Fund (a Non-ORF account).

Once again, for FY2001, NOAA proposed to transfer the Great Lakes Environmental Research Lab (GLERL) to NOS, where it is believed it would best support NOS operational programs. Opposition to this proposal was expressed by the House in FY2001 appropriations deliberations, because in FY1999 budget deliberations, Congress requested a master plan for transferring all marine research labs currently under OAR to NOS. Still not having received such a plan, the request was not approved in H.R. 4690. Nor did the House approve a $100 million increase in Coastal Zone Management Grants, but rather reduced ocean and coastal assessment funding requested by NOAA by 36% below the President's request. In its bill report on H.R. 4690 (H.Rept. 106-680), the House noted that over a $ billion in authorizations for such purposes had been passed by the House in H.R. 701. For FY2001, the House approved a total $260.6 million for NOS, while the Senate Appropriations Committee approved $321.3 million. Increases were targeted for data acquisition for nautical charting, ocean assessment and ocean and coastal research. However the Committee did not fund non-point pollution control nor the coastal zone assessment for offshore oil spills, also deferring to H.R. 701. In addition to sums requested by NOAA for NOS, an additional $420 million was appropriated in Section 9 of H.R. 4292 to fund coastal and ocean activities authorized by H.R. 701.

National Marine Fisheries Service (NMFS). The President requested $455 million for NMFS under ORF (+$22 million for PAC) for FY2001. This is 8% ($33 million) greater than the FY2000 appropriation of $422 million approved in H.R. 3421, and the President's request for FY2000 of $420 million.

NMFS is responsible for conservation and management of operational and enforcement activities authorized primarily under the Magnuson-Stevens Fishery

Conservation and Management Act, Marine Mammal Protection Act, and the Endangered Species Act (ESA). (See Figure 4, below.) NMFS research programs are a clear example of how R&D funding is tied directly to the agency's operational responsibilities that are directly linked with American commerce, and in this case the U.S. fishery industry. For example, programs under this budget activity include research programs to restore and rebuild American fishery habitats where some fish stocks have declined. Heightened public attention to this problem drew a large funding increase for NMFS in FY1994, and modest funding levels have been maintained since. In the FY2001 budget, funding of $160 million was requested for Pacific Coastal salmon fisheries, of which $60 million would implement the U.S.-Canada Pacific Salmon Agreement. Other funds of up to $10 million were requested for declining fishery stocks in the North Atlantic and Gulf of Mexico; and nearly $8 million increase was requested for financing the fishery industries.

The largest proportion of spending requested for NMFS for FY2001 was for conservation and management operations, accounting for about 50% of the NMFS budget for FY2001. There was less funding being sought for information collection and analysis in support of fishery stock assessments and the ESA, primarily because of large increases realized in FY2000 appropriations. However, funding for ESA management in general would increase significantly. Also, an additional $16 million was requested for Fishery Research Vessels (FRV) construction to contribute to a 5-year effort to modernize the NOAA marine fleet, an initiative approved by Congress in the FY2000 budget.

In H.R. 4690, the House approved a total of $405.4 million for NMFS, which is about 4% less than FY2000 appropriations and 11% less than the FY2001 request. Significant reductions by the House were targeted at programs that pertain to information collection and analysis, Pacific Coastal Salmon Recovery, and other conservation and management operations relating to endangered species, as well as the President's request for Coral Reef conservation efforts. The Senate Appropriations Committee approved $544 million for NMFS; and increases were primarily targeted at enhancing conservation activities, including $12.3 million for Stellar Sea Lion recovery (with specific language in the Senate bill report (S. Rept. 106-404, September 8, 2000) on how those fund would be dispersed), $39 million for fishery industry information and management programs, and $6 million for State-industry programs. The Committee agreed with the House on proposed funding levels for PCSR, approving $58 million for this activity. H.R. 4292 appropriated a total of $517.9 million for NMFS. P.L. 106-554 (H.R. 4577) Section 209, provided NMFS an additional $50 million, including $20 million for Stellar Sea Lion Protection Measures and Economic Disaster Relief of $30 million for compensation for damages to Alaskan fishing industries.

Over time, agency-backed funding cuts in NMFS have primarily occurred because of NOS assuming more of the coastal ocean science responsibilities under the Coastal Oceans Program (COP). NOAA officials have deemed it more appropriate for NMFS to focus on its fisheries management, endangered species protection, and fishery enforcement responsibilities. (For more detailed information on NMFS see CRS Issue Brief IB10021: *Fishery, Aquaculture, and Marine Mammal Legislation in the 106th Congress*, by Eugene Buck.)

Oceanic and Atmospheric Research (OAR). For FY2001, the President requested $308 million for OAR in ORF (+$11 million in PAC). This is 2% ($7 million) greater that FY2000 appropriations of $301 million, and 9% greater than the President's request of $283 million for FY2000.

Funding for NOAA's so-called "dry and wet" research programs would be divided about 70%-30% between 1) Atmospheric Research and 2) Oceans and Great Lakes Program accounts. All of OAR's research programs are tied directly to NOAA's operational responsibilities; and about 14% of OAR funding is for extramural grants under the National Sea Grant College Program. Substantial increases were realized in the OAR request for FY2000, including funding to improve climate prediction models under a "Climate in the 21st Century" initiative, for solar research and tracking solar (geomagnetic) storm activity, and a research thrust into the "Role of Oceans Processes in Climate." The President signed an executive order in March 1999 to combat non-indigenous species endangering the health of U.S. Coastal, marine and major waterways, for which the Oceans and Great Lakes research component of OAR plays a major role.

NOAA claims OAR weather research programs have continued to improve severe weather forecast and warning capabilities of the National Weather Service. These activities have been funded under the interagency U.S. Weather Research Program. Resultant data has been collected and fed directly into NOAA Weather Operations and experimental models. U.S. Weather research has also improved knowledge about severe storms and the science of weather modification, important for U.S. transportation and agriculture sectors. While NOAA claims its skills at forecasting severe weather events has improved, others have questioned whether fundamental weather services may be deteriorating as a result of NWS technology which has replaced human observations with automated ones. OAR has stressed that the National Weather service has been able to continue to improve its ability to track landfall of hurricanes and better predict storm intensity because of the U.S. Weather Research Program.

Global climate change research in OAR is divided between research in short-term to inter-annual climate fluctuations, and long-term climate research; the former studies the *El Nino* and *La Nina* phenomena, for example, while the latter researches climate changes which occur over decades to centuries, and includes new research on the North Atlantic and Pacific Ocean Decadal Oscillations in the ocean. NOAA participates in the interagency U.S. Global Climate Change Research Program through its Office of Global Programs (OGP), and also in the High Performance Computing initiative in efforts to improve climate change prediction.

More information on issues surrounding the science of global climate change may be found in CRS Issue Brief IB89005: *Global Climate Change*, by Wayne A. Morrissey and John R. Justus, and the CRS Electronic Briefing Book on Global Climate Change at [http://www.congress.gov/brbk/html/ebgcc1.html]

NOAA's climate and air quality research programs play a role in understanding regional air pollution and its ecological effects, and the role of oceans in climate. For FY2001, the president requested an increase of $25 million to fund these activities. OAR has also been instrumental in studying stratospheric ozone

depletion, and in developing substitutes, which do not damage the ozone layer, for environmentally harmful chlorofluorocarbons (CFCs). NOAA's participation in high performance computing efforts is aimed at improving performance of computerized climate-change models, for which a $6 million increase is requested under PAC for supercomputer upgrade at the Geophysical Fluid Dynamics Lab, at Princeton, NJ. Also, under a new Climate Change Observations and Services initiative for FY2001, some $32 million was requested to enhance climate observations, including ocean observations, and to improve climate data and information acquisition and management. Solar weather research at NOAA has been instrumental in supporting the U.S. Space Program, and the telecommunications and electric power industries.

In addition, a suite of 12 NOAA Environmental Research Labs (ERLs) are funded under OAR. (NOS and NMFS also operate federal research labs which are integral to NOAA's mission.) OAR also funds NOAA's participation in the Global Learning and Observation for a Better Environment (GLOBE) program, for which a $2 million increase for a total of $5 million was requested for FY2001.

Ocean and Great Lakes research at NOAA has investigated ways to protect marine, coastal, and estuarine environments from pollution, hypoxia (oxygen deficiency) , and harmful algae blooms, and major inland waterways and the Great Lakes from non-indigenous pest species such as the zebra mussel. For FY2001, the President requested $88 million for these programs. NOAA has promoted and supported state and local research efforts on marine environments and the economy through such activities as the National Sea Grant College Program, for which $60 million was requested. The National Underwater Research Program (NURP), and funds for sea floor observatories accounted for another $11 million of the request. Also, funding of $6 million was requested by the Administration to transfer the Great Lakes Environmental Research Laboratory (GLERL) from OAR to NOS.

H.R. 4690 provided $264.6 million for OAR for FY2001. This is about 13% below the President's request for FY2001of $302.5 million and 12% less than FY2000 appropriations for OAR of $300.5 million. Much of this difference may be attributed to the House not providing funding for a Climate Change Observation and Services initiative or the GLOBE program. The House also decreased funding below FY2000 levels for the remaining Climate and Air Quality Research programs resulting in an overall decrease of 32% for climate research. The National Undersea Research Program (NURP) was not funded; however the Sea Grant program was increased by 3% above requested levels. The House provided OAR funding of $7.1 million for GLERL. The Senate Appropriations Committee in its action on H.R. 4690 restored a number of funding cuts for OAR proposed by the House. This includes higher funding levels than the House and President's request of $65 million for the Sea Grant program, $17 million for NURP, and $14 million of the $28 million requested for Climate Observations and Services, mainly for ocean observations. Conferees on H.R. 4292 approved $323.2 million for OAR, slightly higher than Senate Appropriations Committee funding levels.

National Weather Service (NWS). For FY2001, the President requested $635 million for NWS (+$75 million in PAC), which included an $8 million increase for base operations in Forecast and Warning Services, $15 million for personnel cost increases, and such sums as necessary to complete the 1989 NWS modernization

effort. The request is about 5% ($31 million) greater than the amount of $604 million appropriated for FY2000 (P.L. 106-113), and 3% ($17 million) greater than that requested by the President for FY2000.

For FY2001, funding requested for NWS is 23% of the total NOAA budget. Significant funding level increases have been predominantly driven by efforts to improve, modernize, and automate weather observations and improve public forecasts and warnings of severe weather events. NWS also has been upgrading its Central Computer Facility. NWS began implementing its modernization efforts by deploying a suite of new weather technologies into full-scale operation. The first was the installation of NEXRAD radar at selected sites, and with eventual follow-on of the Automated Surface Observing System (ASOS) at former weather service offices, many of which did not receive NEXRAD Doppler Radar. The latest technological component to be implemented is the Advanced Weather Interactive Processing System (AWIPS), which integrates data from a number of operational environmental monitoring and observing systems to assist in short term forecast and warning of severe weather events. For FY2001 NOAA has requested $7 million to improve the communications capability of AWIPS. Also, $6 million was requested under PAC to continue to expand and upgrade the NOAA Weather Radio (NWR) network.

By FY 2000, the National Weather Service had consolidated 219 of its original manned weather service offices (WSOs) into about 123 new highly-automated Weather Forecast Offices (WFOs). Other major additions to the suite of technologies at WFOs, include an interface with NWS River Forecast Centers (RFCs), which predict flood events. Also NOAA has sought to expand its network of Advanced Hydrological Prediction System (AHPS) flood modeling efforts. The NWS National Centers for Environmental Prediction (NCEP) are also linked to AWIPS to facilitate the issuance national severe storm forecast and warnings from different regions of the United States. NOAA has continued to replace and improve its radiosonde balloon network which collects real-time data about the state of the near-surface atmosphere; and, $7 million was requested for this activity under NWS PAC for FY2001.

The House approved $621.7 million for NWS in H.R. 4690, which is about 2% less than the President's request for FY2000 and 3% greater than FY2000 appropriations. A major difference between the House and the President's request is the former's funding for AWIPS/NOAA Port system (real time harbor data) operating costs. The House approved $6.5 million less than requested by the President but still on a par with FY2000 funding. The House approved $3 million for NOAA weather radio transmitters and $2 million for radiosonde replacement. The Senate Appropriations Committee approved $632.5 million for NWS, including a $a 6 million increase for NOAA port. Final funding under H.R. 4292 was slightly below Senate Appropriations Committee funding levels.

National Environmental Satellite Data and Information Service (NESDIS). The President requested $108 million for ORF for NESDIS for FY2001 (+$504 million in PAC). This is 3% (-$3 million) less than the $111 million appropriated by Congress for FY2000, and 5% greater than the President's request of $103 million for FY2000. Among the Administration's priorities for NESDIS is

a request for $4 million in new funds to create a National Environmental Data Archive and Access System (NEDAAC).

NESDIS is responsible for funding launch and final deployment of U.S. polar orbiting environmental satellites (POES), which gather environmental science data by circling the globe from pole-to-pole; and geostationary orbiting environmental satellites (GOES) which more or less stay in one place above Earth's surface and are used for tracking and characterizing major storms in the northern mid-latitudes. Funding of $7 million was requested for NESDIS for FY2001 to invest in a new generation of GOES technology, to improve instrumentation used for hurricane forecasts, and to enhance understanding of deep layer convection and atmospheric moisture content and transport in tropical cyclones.

NESDIS acquires environmental data collected from satellites and ground monitoring stations and has developed environmental data archives and products at its National Climatic (NCDC), Oceans (NODC), and Geophysical Data Centers (NGDC). NOAA is the sole source for collecting and distributing civil weather data, which is mandated under the Land Remote Sensing and Commercialization Act of 1984 (P.L. 98-365). Over time, NOAA has shared responsibilities with NASA to compile data archives from such missions as Landsat 4, 5 & 6; however, NASA has since assumed management of the Landsat program, including Landsat 7 and the Department of the Interior, U.S. Geological Service is responsible for data archives. The President did not request funding for FY2001 for the Regional Climate Centers (RCC), whose climate prediction services, the Clinton Administration claimed, serve only select economic sectors of the U.S. economy. Congress had appropriated $2.5 million for these centers in FY2000.

A major priority for FY2001, NOAA requested $567 million for Satellite Observing Systems, funding to be derived from both ORF and PAC accounts. It has also requested an advanced appropriation of $15 million for construction of a new satellite operation facility in Suitland, MD. Another $6 million was requested for a Global Disaster Information Network (GDIN). NESDIS Environmental and Data Management Systems line would receive $49 million to acquire environmental data and produce information products and services and assessments in the atmospheric, marine, solid earth, and solar-terrestrial sciences. A portion of this funding would also go into preserving and making available historical environmental data as well as developing an environmental information clearinghouse that would make access to environmental satellite data products available to the public. NESDIS currently provides GOES and POES satellite data in the form of visual images, or data sets, for the minimal costs of reproduction for scientific researchers, and at competitive costs for commercial users. Both the House and Senate have stressed the importance of providing funding for preservation of historical satellite data and digital conversion of other products originally produced in paper format and by facsimile.

When H.R. 6490 passed the House is approved a total of $106.6 million for NESDIS, which is slightly less than the President's request but about 4% less than FY2000 appropriations. The House did not provide funding for the Global Disaster Information Network (GDIN), nor separate funding requested for ocean remote sensing activities. However, it did increase funding for environmental data management systems by 20%, and it continued support for Regional Climate Centers.

An additional $498 million was approved for NESDIS for NOAA spacecraft acquisition and launching under NOAA's PAC account. The House also noted its desire to complete the National Polar Orbiting Environmental Satellite System (NPOESS), whose funding of $70 million, it directed, should not be subject to reprogramming under the System Acquisitions line under PAC. The Senate Appropriations Committee in its version of H.R. 4690 concurred mostly with House approved levels. Neither did it fund the Global Disaster Information Network (GDIN), but did approve $3.6 million for Regional Climate Center Services, a higher amount than approved by the House.

Program Support (PS). The President requested $81.8 million for NOAA Program Support (including, $11 million for aircraft services) for FY2001 (+$16 million PAC). This is 24% greater than the $63 million appropriated by Congress in FY2000, and the President's request of $62.6 million for FY 2000. PS would fund NOAA personnel in Administrative Headquarters in Washington, DC, and NOAA's Systems Acquisition Office and Central Administrative Support. Minor, residual funding related to retirements under the Office of NOAA "CORPS" Operations (ONCO) is also addressed under this budget line item. The President requested $17 million for NOAA to build capacity at minority serving institutions (MSI) in the atmospheric, environmental and ocean sciences. MSI is one part of the DOC Center of Excellence Initiative. Another $16 million from PAC was requested for CAMS, the DOC's financial accounting system; CAMS is also funded partially by all other NOAA line offices under ORF.

PS funding remained relatively constant over the period of FY1992-FY1995. However, there was a decline since FY1995, which may be viewed in the context of a general divestiture of NOAA's research fleet, the Clinton Administration efforts to "civilianize" the NOAA CORPS, and efforts to contract out a greater proportion of NOAA marine services (e.g., data collection) to the private sector. Budget authority for Data Collection originally under PS was transferred to NOS, NMFS, and OAR. Also, Congress, in response to a 1994 DOC Inspector General's report, directed NOAA to bid competitively for marine research ship time with private contractors, and to establish closer research coordination with the University National Oceanographic Laboratory System (UNOLS) and the Office of Naval Research (ONR), and the National Science Foundation (NSF) where feasible. For FY2001, NOAA requested some elements of PS to be funded under a new line item: Office of Marine and Aircraft Operations (OMAO). The House, however, chose to fund PS in the traditional manner and approved $58.1 million for it in H.R. 4690. The Senate Appropriations Committee approved $71.3 million for PS, including a $3 million increase for aircraft services; however it did not approve funding for Minority Serving Institutions to train new scientists; the Committee expressed funding such as this was more in the purview of the Department of Education, and not a responsibility for NOAA. Final PS funding under H.R. 4292 was $81.3 million.

Since FY1998, ORF has funded maintenance at existing NOAA labs under a **Facilities and Construction (FAC) account**. For FY2001, the President has requested $6 million for ORF (+$3 million PAC) for FAC. This account funds NOAA maintenance and repairs of facilities, systems maintenance, NOAA's environmental compliance and clean up efforts, and NOAA's responsibility for federal record storage. For FY2001, funding was requested to construct a new national storm

center in Norman, Oklahoma, combining NWS and OAR labs into one facility (to be completed in April 2004), and for renovating existing operational facilities at the University of Oklahoma. Most of this funding would be derived from the PAC account. In addition, the Senate Appropriations Committee approved $15 million for construction of a new NOAA facility in Suitland, MD. FAC would receive $11.2 million from conferees on H.R. 4292.

For FY2001, $9.3 million was requested for research vessel modernization and aircraft services under **Fleet Planning and Management (FP&M).** This is a decrease of $3 million below FY2000 appropriations. NOAA requested funding under a new **Office of Marine and Aviation Operations (OMAO)** line for FY2001; and $16.3 million was requested for Fleet Replacement under PAC. OMAO, as envisioned by NOAA, would be responsible for acquisition, repair, and maintenance of marine and aircraft research vessels, which the NOAA "CORPS" officers pilot. NOAA's participation in search and rescue missions at sea would also be coordinated through this office. Under PAC, funds for design and planning are being requested for construction of a Western Regional Center in Seattle, into which operations of the Pacific Marine Center would be transferred and consolidated ($200,000 PAC). The House approved $7 million for FM&P, while the Senate Appropriations approved a total of $19 million for this activity under H.R. 4690. Final appropriations under H.R. 4292 were $11.2 million.

ORF Totals. Total ORF funding is tallied after adding any authorized carry overs or reimbursements from previous fiscal year funding and authorized transfers from other federal agencies (see below), and then subtracting reductions from financing, which would include decreased interest payments on long-term loans, and offsets from collection of fees exceeding those authorized by Congress, the latter which would go into the General Treasury. For FY2001, including sums appropriated for H.R. 4942 and H.R. 4577 ($750,000 for NOS), this amounted to $1,869 million.

Non-ORF Funding

Procurement, Acquisitions, and Construction (PAC). For FY2001, the President requested $635 million for PAC, which is 7% greater than $593 million Congress approved for FY2000, and less than 1% below the $638 million requested by the President for FY2000. NOAA established the PAC account in FY1998 to fund long-term, capital-intensive expenditures. This includes development and acquisition of environmental satellites, new technological systems, and new facilities planning and construction, and acquisition of new air and marine research vessels.

PAC funding requested for FY2001 is spread among all NOAA programmatic budget line offices under ORF. The PAC account itself is divided among Systems Acquisition, Construction, and Fleet Replacement accounts. In its annual budget submission, NOAA estimates funding for PAC for the current fiscal year and four out-years. The House has calculated out-year requests as advanced appropriations in its budget estimates, and this is reflected in the NOAA request totals for FY2001 prepared by the House Appropriations Committee ($6.42 billion for FY2002-20019). The House, in H.R. 6490, approved $564.7 million for PAC, which includes $7.5 million in previous year deobligations. This amount is $70.5 million below the President's request for FY2001 and $31.4 million below FY2000 appropriations.

Major differences between the President's request and House levels result from the latter's lesser funding for spacecraft launching programs. The Senate Appropriations Committee approved $669.5 million for PAC including an increase of $2 million for CAMS, an increase of $15 million for the National Estuarine Reserve Research System (NERRS), and $19 million for a proposed new construction of a NOAA facility in Alaska. Final appropriations for PAC under H.R. 4292 were $683 million.

Other Accounts. For FY2001, the President requested $289 million for NOAA's Other Accounts. This includes $68 million to be transferred to NMFS from the U.S. Department of Agriculture to fund a **Promote and Develop American Fisheries** (PDAF) account, and $1.9 million which would go to Saltonstall-Kennedy Act Funds. President Clinton requested $160 million for **Pacific Coastal Salmon Recovery Funds** and to fund the Pacific Salmon Treaty. Another $4 million would be transferred from the non-ORF **Coastal Zone Management Fund** (CZMF) to ORF for costs of implementing the 1972 Coastal Zone Management Act. The **Damage Assessment and Restoration Revolving Fund (DARRF)** is collected to facilitate oil and hazardous material release response, damage, assessment, and natural resource restoration activities of NOAA and would provide $1.5 million in offsets for NOS. New for FY2001, the President requested $100 million for a **Coastal Impact Assistance Fund** under NOS, to provide state grants which will help to develop the tools to minimize risks to coastal environments from coastal development including oil and gas activities. There are also a number of other **Fisheries Accounts** that fund and finance different aspects of the U.S. Fishing Industry including its international treaty obligations, insurance, and NOAA liabilities, funds which total about $1.4 million.

The House approved $58 million for PCSR, as did the Senate, which is equivalent to FY2000 appropriations and $102 million below the President's request for this activity for FY2001. Moreover, this funding is subject to express authorization of the Congress. None of the $60 million requested for U.S.-Canada salmon treaty implementation was approved. The House approved $68 million and $4 million, respectively, for PDAF and CZMF, and anticipates damage fund credits of $20 million from DARRF for FY2001. Neither the House nor the Senate Appropriations Committee approved $100 million requested for the Coastal Impact Assessment fund, deferring to H.R. 701. Other fisheries supporting accounts were approved at $1.4 million by the House and Senate Appropriations Committee. Section 9 of H.R. 4292 appropriated $420 million for coastal and ocean activities of which $150 million would be for coastal impact assistance , $135 million for ocean, coastal and conservation activities, and $135 million of which is for various NOAA programs. In addition, H.R. 4577, Section 206, General provisions appropriated $61.5 million for NOAA, of which $7.5 million is for PCSR (Section 207), $3 million for Hawaii Long Line fishery (Section 208), and $50 million is for Sea Lion protection (Section 209). This resulted in a final appropriation of $556.9 million for Other Accounts for FY2001.

Research and Development (R&D) Funding

NOAA's funding for R&D in the FY2001 budget would be distributed across all budget line offices; however, R&D is not accounted for as a line item in the annual budget itself. An R&D Crosscut is prepared separately by NOAA's Office of Finance

and Administration (OFA), to supplement the President's annual budget request, but it is often not finalized until some time after the budget submission. (See Table 2, below.) NOAA's budget office does not report on congressional funding for R&D programs for any particular fiscal year until final annual appropriations are known and reported by the conference committee approving Commerce, State, Justice Appropriations. A little less than half of annual NOAA R&D funding goes to OAR and its 12 environmental research labs, which support operational and research activities in weather, climate, and atmospheric and oceanic research. OAR also funds grants under the Oceans and Great Lakes research budget lines, including the National Sea Grant College program and the National Underwater Research Program (NURP). NMFS receives slightly less than OAR in R&D funding and, combined, these two budget lines account for about 86% of all NOAA R&D funding. Remaining R&D funding is distributed to other ORF research programs and facilities (including other NOAA laboratories) and provides for most of ORF data acquisition activities. R&D facilities are funded under NOS, NMFS, OAR, NWS, and NESDIS budget lines. For FY2001, NOAA proposed a new Office of Marine and Aviation Operations (OMAO) budget line that would fund R&D for Aircraft Services (now under PS) and R&D funding for marine research vessel acquisition (traditionally under FM&P).

For FY2001, the President has requested $605 million for R&D, which is about 22% of NOAA's budget. This included $37 million requested for R&D equipment and facilities construction under FAC. This amount is about 7% greater than FY2000 appropriations of $602 million, and about 9% greater than FY1999 appropriations for R&D of $551 million. NOAA provides R&D funding to line offices from both ORF and PAC accounts. R&D funding for FY2001 would be distributed as follows: NOS-$41 million; NMFS-$229 million; OAR-$268 million; NWS-$23 million; NESDIS-$9 million; OMAO-$18 million; PAC-$16 million; and Facilities (R&D)-$27 million, Other (PADF) $1.4 million.

The American Association for the Advancement of Sciences (AAAS) reported in December 2000 that the House approved $522 million for R&D at NOAA in H.R. 4690, which is almost 12% less than that appropriated by Congress for FY2000 and 14% less than the FY2001 request. AAAS reported that the Senate Appropriations Committee approved $605 million in its version of H.R. 4690, which is about 2.5% more than FY2000 appropriations and the same as the President's request for FY2001. Final appropriations for R&D for FY2001, as a result of passage of H.R. 4292, was $636 million, with about $38 million of that amount slated for R&D facilities.

There is substantial overlap in funding between Presidential R&D directives under the White House Committee on Environment and Natural Resources (CENR) and NOAA's R&D programs. (See Table 3, below.) For more information on federally-funded research and development, see CRS Issue Brief IB10051, *Research and Development Funding: Fiscal Year 2001*. NOAA's 2001 R&D budget funded a number of research initiatives proposed by the White House Committee on Environment and Natural Resources (CENR). These include National Disaster Reduction (NDRI); Land Legacy; the Coastal Zone Management Act (CZMA); South Florida Ecosystems Restoration; Clean Water; and new for FY2001, the Climate Observation and Services Initiative and America's Ocean Future. Other National Science and Technology Council (NSTC) priorities for which NOAA would contribute R&D funding include the Integrated Sciences for Ecosystem Challenges (ISEC), the

U.S. Global Change Research Program (USGCRP) and High Performance Computing (HPC) research. (See Tables 2 and 3, below.)

The House, in its report on H.R. 4690 (H.Rept. 106-680), noted that many of the President's requests for ongoing or new environmental initiatives were not previously authorized by Congress or their authorization had expired. Consequently, only partial funding, in some cases, or no funding at all, was approved by the House for the programs in question. The Senate Appropriations Committee, however, did fund most of these initiatives, albeit in some cases at a lower level than requested by the President. Conferees on H.R. 4292 were somewhat more generous, approving almost $30 million more for R&D than the Senate Appropriations Committee. Much of this additional funding would be derived under Title 9 of this Act, which appropriated an additional $420 million for NOAA for Coastal and Ocean Activities, and included add-ons totaling $135 million for various NOAA programs under ORF.

Table 2. R&D Funding for NOAA

($millions)

Source: NOAA Budget Office, FY2001 Congressional Preparation, R&D.

Fiscal Year	FY1999	FY2000	FY2001 (approp.)
Operations, Research, and Facilities (ORF)			
R&D Facilities	**13**	**13**	**27**
NOS	31	36	41
NMFS	223	250	229
OAR	253	257	268
NWS	18	20	23
NESDIS	8	9	9
OMAO (FM&P)	14	19	18
Total ORF	**547**	**591**	**588**
Non-ORF			
PAC	6	9	16
Other	3	1	32
Total Non-ORF	**9**	**10**	**48**
NOAA R&D	**556**	**601**	**636**

Major Issues

Many of the issues for NOAA in the second session of the 106th Congress arose because of implementation of programs authorized in previous fiscal years. Some

issues emerged as a result of experience with NOAA's operational programs, and public feedback on the progress of efforts with NWS modernization, *El Nino/La Nina* forecasting, and research on other short-term climate fluctuations. Still others related to funding of NOAA programs, which Members of Congress have claimed are not expressly authorized under law. Also of concern was the rate of recovery and extended conservation of American fisheries, as well as levels of funding provided for endangered species protection and enforcement. NOAA is statutorily mandated to collect and maintain environmental and civilian weather data for purposes of scientific research, to provide severe storm forecast and warning, and to produce environmental data products from satellite data, and each of these activities requires annual appropriations. Also, Congress has directed NOAA to expand partnerships and share mission responsibilities for data collection and other activities with the private sector, whenever feasible.

In the second session of the 106th Congress, the prevailing issue seemed to be the extent to which federal funding would be available to support several environmental protection initiatives involving NOAA and other federal agencies proposed by the President in his FY2001 budget. The Clinton Administration claimed these CENR initiatives would 1) expand NOAA's role in environmental protection – by devising ways to restore health to ailing marine and coastal ecosystems; and 2) enhance NOAA's contribution to certain sectors of the American economy such as the U.S. Fishing, Agriculture, Telecommunications and Insurance industries.

The Clinton Administration claims the benefit from such investments would be avoiding costs to taxpayers resulting from severe weather events and certain natural disasters, such as flooding and, enhanced environmental knowledge through scientific research, and a better understanding of natural phenomena that may affect U.S. commerce. For the most part, the House and Senate aligned with the Administration for FY2001 in their priority to complete National Weather Service modernization. This is true to a lesser extent with some of the other environmental priorities of the Clinton Administration that were proposed.

NOAA, like other federal agencies, is facing an aging research infrastructure, which includes buildings, equipment, and research vessels, and has pursued efforts over the past several fiscal years to modernize its research capabilities and facilities. NOAA's Chief Financial Officer is required to plan for long-term capital acquisition expenditures at the agency and to report these in NOAA's annual budget request under the Procurement, Acquisitions, and Construction (PAC) account. In addition, NOAA has been challenged by some in Congress to find cost savings, improve internal management efficiency, and demonstrate accountable results for its federal spending — as many federal agencies have been. Consequently, NOAA, as an agency of the Department of Commerce, has implemented aspects of such laws as the 1993 Government Performance and Results Act (GPRA) to improve its internal management and financial practices, and is regularly reporting performance results on a schedule that coincides with DOC GPRA requirements.

Progress of NWS Modernization Efforts

The National Weather Service (NWS) is nearing completion of its weather forecast and warning modernization effort. NWS has succeeded in consolidating and

closing most of its former Weather Service Offices (WSOs), which it credits to deployment of a variety of new technologies for public forecast and warning of severe weather events in new highly-automated NWS Weather Forecast Offices (WFOs).

However, some in Congress are concerned that NWS coverage necessary for public warning of severe weather events has deteriorated as human observations are replaced by automated ones. For example, Senate hearings in FY1999 resulted in the retention of NWS Central Regional Headquarters (CRH) – currently responsible for the Midwest, and Central Plains and Gulf States – rather than consolidating it with Eastern Regional Headquarters in Miami, Florida. CRH has been a key player in tracking and forecasting hurricanes and tornadoes in a region particularly prone to such severe weather. Furthermore, Congress has called for highly prescriptive measures to be taken before allowing NWS to close WSOs, including certification of no deterioration in existing weather services, including consultation with the Secretary of Commerce with a Modernization Transition Committee (MTC) prior to closure of any weather forecast offices. (See P.L. 102-567, Title VII, Weather Service Modernization: Section 705, for existing law.) H.R. 1553, the National Weather Service and Related Agencies Authorization Act, proposed changes in this Act dealing with NOAA competition with the private sector for providing weather forecasts and warnings. (See **NOAA Authorization** below.)

Over time, NOAA has encountered problems with some private contractors who have provided the integral technological components of NWS modernization. Congressional hearings have been held since FY1997 to examine schedule delays and cost overruns. For example, the Automated Surface Observing System (ASOS), described as the "senses" of new WFOs, has required major rebuilds of its software and recalibration of some of its sensors. The Advanced Weather Interactive Processing System (AWIPS), described as the "brain" of NWS modernization, is the last major – and some say most critical – technological component. NWS has stated that AWIPS will bring weather modernization efforts to fruition. Congress has questioned the schedule of implementation and final costs of AWIPS and has mandated funding caps since FY1998. For FY2001, congressional funding for NWS emphasized full deployment of AWIPS in all WFOs. NWS and the Modernization Transition Committee continued to assess the performance of the suite of modernization technologies in operation, with respect to determining whether there has been any degradation in services. The MTC was disbanded in December 1999, after having reported its findings and recommendations to the Secretary of Commerce.

Also, for FY2001, the President requested $17.3 million for upgrading existing AWIPS technology under PAC to include communications enhancements. In H.R. 4690, the House approved $16 million for this activity, but the Senate Appropriations Committee approved the full amount requested by the Administration. H.R. 4292 approved $16.3 million for this activity.

NOAA also has requested funding to continue to expand a national Advanced Hydrological [flood] Prediction System (AHPS), and to replace its aging balloon radiosonde network, critical for measuring the state of the atmosphere and validating environmental satellite measurements. At the direction of Congress, NWS has eliminated certain agricultural weather-related services such as fruit frost and fire warnings that benefit specific (and limited) user communities.

In FY1999 and in FY2000, Congress restored funding to fill critical positions in NWS headquarters that are involved with its base operations; $15.4 million was requested by the House for this purpose in FY2001, and slightly more was approved by the Senate Appropriations Committee. In addition, in FY2000, authority was given to NWS to implement funding and programmatic recommendations contained in a NOAA review and a study conducted by General John Kelly, later Director of NWS.[2] In FY2001, NOAA will seek to fully implement recommendations of this study.

Environmental Satellites and Data Quality and Continuity

Once again for FY2001, NOAA is requesting funding to improve the technological capabilities of its geostationary orbiting environmental satellites (GOES). NOAA believes that existing satellite technology that enables observations might be improved and lead to a significant improvement in skill in the agency's severe weather forecast and warning capabilities. In FY1995, to save agency costs, Congress directed NOAA to cease R&D spending on improvements for GOES satellite technology. It instead authorized off-the-shelf technology for the next several ensuing GOES launches.

NOAA has also expressed concerns about NESDIS funding levels given its statutory requirements to collect long-term series of meaningful Earth sciences data and weather measurements from space. Continued funding is reportedly critical because of past experiences which have resulted in data gaps due to satellite or sensor malfunctioning, or launch failure, or scheduling. This is deemed especially important given the lack of redundancy of equipment to prevent such gaps. The House approved some $497 million for these purposes for FY2001, and the Senate Appropriations Committee approved $504 million, an amount that President Clinton had requested. H.R. 4292 approved $581 million for this activity.

Cost savings for NESDIS have been anticipated through consolidation of NOAA Polar Orbiting Environmental Satellites (POES) activities into a joint National Polar Orbiting Environmental Satellite Service (NPOESS) jointly managed by NOAA, NASA, and DOD. Of late, the largest proportion of funding for NPOESS at NOAA is found under the PAC account. For FY2001, the House gave completion of NPOESS funding a priority at the risk of full funding for other satellite spacecraft and launching activities.

A network of Regional Climate Services Centers (RCSC) has been funded for the past several fiscal years under NESDIS; however, the Clinton Administration has proposed elimination of this activity since the FY1996 budget, and continues to do so in FY2001. The Administration claims these operations, not unlike agricultural weather services, would provide the benefit of climate prognostications for specific segments of the economy, but would not benefit American taxpayers as a whole. Those currently receiving such services counter that avoiding losses through accurate prediction of climate, which might allow businesses and agricultural commerce to

[2]NOAA, National Weather Service. *An Assessment of the Fiscal Requirements to Operate the Modernized National Weather Service during Fiscal Years 1998 and 1999.* Washington, DC: 1998.

adapt to potential climate change, creates a savings for the public as a whole in potential costs of goods and services. The House has continued to support RCSC under the NESDIS budget line and approved at $2.75 million in H.R. 4690.
The Senate Appropriations Committee approved $3.6 million for this activity. Final appropriations under H.R. 4292 were $2.9 million.

Fisheries and Species Conservation and Management

In FY2001, NOAA will be engaged in continuing efforts to rebuild and assist in recovery of a number of U.S. fishery stocks. Under statutory mandate, the Endangered Species Act (ESA-P.L. 100-478), NOAA is required to protect certain endangered marine fishery species and marine mammals. Listing of threatened and endangered species under ESA has resulted in widespread harvest restrictions (quotas) for commercial and game species, such as trout and salmon. Constituent pressure and congressional support, especially in the Pacific Northwest and New England coasts, have combined to ensure funding for FY2001 to preserve certain species considered vital natural resources in these regions.

For FY2001, $160 million is requested by the Clinton Administration for the Pacific Coast Salmon Recovery Fund, and associated Pacific Salmon Treaty responsibilities. About $229 million total was requested for all conservation management activities under NMFS. NOAA is also continuing efforts under the Marine Mammal Protection Act (P.L. 100-328), to protect and recover marine mammal species, including whales and Stellar sea lions, and declining numbers of sea turtles. Although prior efforts have met with varying degrees of success, NOAA insists that continued, consistent funding and reauthorization of public laws which provide funding for these programs are vital to the success of its mission. The House, however, reduced funding for conservation activities in general in H.R. 4690, approving a total of $185.7 million for that activity; the Senate Appropriations Committee approved $261.7 million for conservation management activities significantly increasing the overall amount approved for NMFS.

Of particularly high notoriety during final budget negotiations for NOAA were Stellar sea lions. The Senate Appropriations Committee approved $12.3 million in H.R. 4690 for a Stellar sea lion recovery plan under NMFS (S.Rept. 106-404). Additional amounts of $50 million were also included under H.R. 4577, Section 209. Of this amount, $20 million was for the Secretary of Commerce to develop and implement a coordinated, comprehensive research and recovery program for the Stellar sea lion; and $30 million was for Economic Disaster relief, appropriated to the Secretary of Commerce to make available as direct payment to the Southwest Alaska Municipal Conference, which represents fishing interests claiming economic losses because of Stellar sea lion recovery efforts. (For more programmatic and policy issues information on NMFS, see CRS Issue Briefs IB10021, *Fishery, Aquaculture, and Marine Mammal Legislation in the 106th Congress*, and IB10009, *Endangered Species: Continuing Controversy*.)

Environmental Initiatives for FY2001

Accompanying his FY2001 budget submission for the United States Government, President Clinton announced several environmental initiatives and

requested funding for continued U.S. research on oceans and the atmosphere proposed to respond to critical research and operational needs in these areas. (See Table 3, below.) Some of these initiatives include: Land Legacy; the Year of the Ocean/America's Ocean Future; Resources Protection; Natural Disaster Reduction; Climate Observations and Services, Clean Water and others. Funding would be provided for a vast array of environmental projects from coral reef protection, to improving models of Earth's climate, restoring fisheries habitats, and reducing collateral damages from severe weather events. As important as the Clinton Administration and some in Congress believe these programs may be, there has been stiff competition for federal scientific research funding and other discretionary spending in the FY2001 budget. (See also, CRS Report 98-1002, *Oceans and Coastal Resources Issues*.) The House noted its intent not to fund any of these proposals which had not been previously authorized under law or for which authorization has expired. However, the Senate Appropriations Committee has funded many of these activities, although not for the full amount requested by the President.

Program Support and Infrastructure

The President requested $81.8 million for PS for FY2001. As a result of legislative deliberations and an economic feasibility study prepared for the 105th Congress, NOAA decided not to abolish its CORPS of uniformed officers, all of whom were extended full military retirement benefits in FY2000, under the Defense Authorization Act (P.L. 106-65). Also, In FY2000, Congress raised the ceiling of how many uniformed officers may be employed by NOAA (as many as 250 were authorized for FY2000), and authorized new hiring to replace critical vacancies. Pursuant to congressional mandate, NOAA has sold some of its marine fleet to the American states that primarily benefitted from their use. Currently, NOAA contracts out approximately 50% of its marine services and data collection to the private sector, and shares research ship time aboard academic research vessels through the University National Oceans Laboratory System (UNOLS) and U.S. Navy and NSF ships.

Congress continues to ask whether this shared time can be further increased, and whether partnerships with the private sector can be expanded. In FY2000, NOAA requested funding to develop five ships of a new generation of fishery research vessels (FRVs) to improve its fish stock assessments; one new ship per year would be requested through FY2005, and funding would be shared with the National Science Foundation (NSF). There are differences in the way the President is requesting funding for some of these activities for FY2001. He proposed a new line for Office Marine and Aviation Operations; however, the House approved $58 million and Senate Appropriations Committee approved $71.3 million, and both chose to fund these activities under traditional budget lines. (See OMAO, above.)

Table 3. CENR Crosscutting Initiatives Funding Requested for NOAA for FY2001

($Millions)

Initiative	ORF Line Offices	FY2000 Enacted	FY2001 Request
Lands Legacy	NOS/NMFS/PAC/Other	165	483
Year of the Ocean/ America's Ocean Future	NOS/NMFS/OAR/PAC	75	72
Resources Protection	NMFS/OAR/NESDIS/PAC	141	103
South Florida	NOS/NMFS	4	5
Clean Water	NOS	14	22
Natural Disaster Reduc.	NWS/NESDIS/OAR/PAC	613	716
Climate Observation and Services/Climate Reference Network	OAR/NWS	–	28
Minority Serving Institutions	PS	1	17
GLOBE	OAR	3	5
Integrated Science for Ecosystem Challenges	NOAA	28	45
U.S. Global Change Research Program	NOAA	67	93
High Performance Computing	NOAA(PAC)	5	7
Total NSTC/CENR request for NOAA		**1116**	**1595**

Once again in FY2001, as in the past two fiscal years, NOAA has requested authority to collect new fees ($30 million) to expedite updating a backlog of nautical charts – some of which have not been revised since 1945. The agency claims such activities are critical for safe navigation in commercial and recreational marine environments, and it has remained an agency priority (and one of NOAA's Strategic Goals) over the past few fiscal years. Although annual appropriations have been provided to NOS decrease the charting backlog, Congress has not thus far granted NOAA additional budget authority from collection of new mapping and charting fees, or from proposed fishery users fees. For FY2001, both the House and Senate Appropriations Committees did not approve additional budget authority for NOAA in H.R. 4690. That decision was affirmed by conferees on H.R. 4292.

Sea Grant, NURP, and NOAA Partnerships

NOAA's Sea Grant College Program and the National Undersea Research Program (NURP) fall under OAR's Ocean and Great Lakes programs. For FY2001, $59.3 million and $5.8 million, respectively, are being requested by President Clinton for these activities. Although these two programs perennially have been slated for funding cuts by the Administration, NOAA constituents argue that such programs create strong, beneficial ties among NOAA, states, local, and tribal governments, and stakeholder communities, and are beneficial for local economies. Nevertheless, until the FY2001 budget, NOAA had asserted that these grant programs might be operated as effectively with less funding. Over the past several fiscal years, Sea Grant and NURP funding has been restored to historic levels by the Senate. For the first time in several years, NOAA is requesting an increase for FY2001 for the Sea Grant Program. The House approved $61.3 million for the Sea Grant Program but zeroed out funding for NURP, whereas the Senate Appropriations Committee approved $64.5 million for Sea Grant and $17 million for NURP. Final amounts approved under H.R. 4292 were $62.3 million and 17.8 million, respectively.

Once again, for FY2001, NOAA requested to transfer its Great Lakes Environmental Research Laboratory (GLERL) from OAR to NOS, although Congress did not approve the request in FY1999 or FY2000. Congress has noted once again for FY2001 that it is still waiting for a master plan from NOAA that would transfer all marine research labs from OAR to NOS. Some debate has also ensued over proposals in a pending NOAA authorization bill (H.R. 1552), that would transfer funding authority for a number of marine research and coastal science programs from NOS to OAR. (See **NOAA Authorization** below.)

Government Performance and Results Act (GPRA).

Over the past several years, recommendations have been made by the Department of Commerce's Inspector General, and by Congress, for NOAA to reduce its operating costs and improve efficiency of its internal management. Beginning in 1994, with its FY1995 budget submission, NOAA started implementing aspects of a 5-year Strategic Plan which closely reflects requirements of the 1993 Government Performance and Results Act (GPRA). The Strategic Plan is updated annually and is used for NOAA's own internal budgeting purposes. A feature of NOAA's Strategic Plan is that it analyzes the annual budget request in an alternative manner that emphasizes goals and measures of performance. Therefore, in addition to traditional budget line offices, NOAA has redefined its mission in terms of 7 strategic goals: 1) Advance Short-Term Warning & Forecast Services; 2) Implement Seasonal to Inter-annual Climate Forecasts; 3) Predict & Assess Decadal to Centennial Change; 4) Recover Protected Species; 5) Promote Safe Navigation; 6) Sustain Healthy Coasts; and 7) Build Sustainable Fisheries. NOAA claims these 7 goals were chosen as a means to measure the agency's performance, to assess taxpayer return on investment in research, and to prioritize future budget requests. NOAA earned the status of being selected by OMB to be one of 13 pilot agencies under GPRA. NOAA's 1995 Strategic Plan was instrumental as a model for fully implementing aspects of GPRA in the Department of Commerce. (For more information on GPRA, see CRS Report 97-1028, *Government Performance and Results Act: Implementation and Issues of*

Possible Concern, 106th Congress. See also, "Observation on the Fiscal Year 1999 Annual Program Performance Report and Fiscal Years 2000 and 2001 Annual Performance Plans for Selected Science Agencies at the Department of Commerce," Letter report B-286123, GAO/GGD-00-197R, Washington, DC, GAO, September 25, 2000.)

NOAA Authorization in 106th Congress

NOAA does not have an "Organic Act" which mandates that funding for the agency as a whole be authorized statutorily on any sort of regular basis. In fact, the last time funding for the agency as a whole was authorized was in 1992, under P.L. 102-567, NASA Authorization Act, Title VI, when the specifics of an implementation plan for the NWS Weather Modernization Initiative were laid out. Many public laws reauthorize specific NOAA programs, and reference to these may be found in other CRS reports which have been cited throughout this report as well as in NOAA's annual budget justification for FY2001. Figure 4, below, gives examples of some laws which were due to be reauthorized in the second session of the 106th Congress.

Budget Authority for NOAA programs fall primarily under the jurisdiction of the House Science and Resources Committees and the Senate Committee on Commerce, Science, and Transportation. NOAA's "wet" and "dry" programs have traditionally been authorized under separate authorizing legislation. Three bills and one public law in the 106th Congress related to agency-wide authorization for NOAA for FY2000 and FY2001 and beyond. These include H.R. 1552, H.R. 1553, S. 1639, and P.L. 106-291. On March 9, 2000, the House Science Committee urged the House Budget Committee to meet program authorization levels found in the NOAA authorizations bills, H.R. 1552 and H.R. 1553, that were passed by the House Science Committee.

With passage of the Interior Appropriations bill for FY2001 (P.L. 106-291), on October 11, 2000, the *Balanced Budget and Emergency Deficit Control Act of 1985* was amended to raise spending caps on certain Federal programs. A section on *Conservation Spending*, subparagraphs *xv-xvii*, dealt with NOAA activities which support coastal and Great Lake conservation, and are directly tied to the President's Land Legacy initiative. Funding caps were raised to allow the agency to spend an additional $400 million for a number of activities, including Operations, Research and Facilities (ORF), Pacific Coastal Salmon Recovery, Coastal Zone Managment Act, National Marine Sanctuaries, National Estuarine Research Reserves Systems, Coral Restoration programs, and Coastal Impact Assistance.

Although much of this funding was approved by the Senate Appropriations Committee in its version of H.R. 4690, seen as specific increases for specific programs, it was the conferees on H.R. 4292 Section 903 that appropriated an additional $420 million in budget authority for Coastal and Ocean Activities at NOAA for FY2001. Also, $3 million was appropriated for NOAA's National Severe Storm Laboratory (NWS) for aviation weather research in collaboration with the Federal Aviation Administration (FAA) under Department of Transportation Appropriations for FY2001 under H.R. 4292. Furthermore, in H.R. 4577, $750,000 was authorized for NOS to prepare a report for Congress pursuant to the Exploration of the Seas Act

(H.R. 2090); and $61.5 million was authorized under Section 206-209 for Alaska Salmon disaster, Hawaii long line fishery, and protection of Stellar sea lions.

H.R. 1552 (Calvert). The Marine Research and Related Environmental Research and Development Programs Authorization Act of 1999, was jointly referred to the House Science Committee and House Resources Committees on April 26, 1999. This House Science Committee bill would have authorize $647 million over two years (FY2000-FY2001) for NOAA's "wet programs" under NOS, NMFS, OAR, Great Lakes and Undersea Research, including the National Sea Grant College Program, and other funding for Program Support and PAC. Under Section 7 of H.R. 1552, Fleet Maintenance and Planning, NOAA would be required to coordinate its marine research needs and assessment of its data requirements with those of NSF, as per the "NOAA Fisheries Data Acquisition Plan" in order to take advantage of cost sharing of marine research vessels for which $100 million would be authorized over two years. NSF was directed to consult with the U.S. Navy and UNOLS when assessing marine environmental R&D needs. H.R. 1552 further called for an independent audit of NOAA Aircraft Services.

H.R. 1552 was approved by the House Science Committee on April 29, 1999, however, a total of $315 million was authorized after consultation with the House Resources Committee. (See House Resources Committee actions, below.) Also, The House Science Committee requested a final report, which was originally requested by the House Resources Committee, concerning results of a NOAA CORPS study on outsourcing with the private sector for marine services and recommendations on proposed rules for awarding merit-based government contracts.

H.R. 1552, amended, was marked up by the House Resources Committee on June 30, 1999, and ordered reported (H.Rept. 106-987, part 1). During debate on this measure, the House Resources Committee claimed jurisdiction over certain fisheries and hydrography provisions of the original House Science Committee authorizing legislation, and passed a substitute amendment authorizing greater funding for those programs dropped from the original bill (H.Rept. 106-987, part 2–Partial NOAA Programs Authorization Act of 1999). Consequently, the House Resources Committee approved $186 million for NOAA "wet programs" under its jurisdiction and recommended transfer of the Coastal Ocean Program (COP) from NOS to OAR, which it claimed would increase total authorization levels for marine environmental research, national undersea research, and acquisition of data.

Opponents of the proposed transfer argued that NOS had been reorganizing over the past two years and had been gearing up to effectively accommodate COP. H.R. 1552 was prepared by the House for floor action on October 25, 2000, but no further action on this bill occurred.

H.R. 1553 (Calvert). National Weather Service and Related Agencies Authorization Act of 1999, introduced April 26, 1999, was ordered to be reported by the House Science Committee on April 29, 1999. On May 5, 1999, the Science Committee approved H.R. 1553, National Weather Service and Related Agencies Authorization Act of FY1999, and proposed total of $173.3 million for NOAA "dry programs," including those of NWS, NESDIS, OAR, and relevant activities under Program Support, and the PAC account. The committee reported the measure on May

18, 1999 (H.Rept.106-146). The bill passed the House as an amendment in the nature of a substitute on May 19, 1999, and it was sent to the Senate Commerce, Science and Transportation Committee on May 20, 1999, but saw no further legislative action.

H.R. 1553 would have authorize $1.4 billion in funding for FY2000-FY2001 programs for NWS, OAR atmospheric research, and satellite activities of NESDIS. Also H.R. 1553 outlined the statutory duties of the National Weather Service *vis a vis* competition with the private sector, and set eligibility guidelines for awarding of merit-based government contracts. Funding authorized for NWS would assist the agency in completing its weather modernization effort, and other funding would be authorized for NOAA's short-term (inter-annual and seasonal) and long-term (decadal to century) climate change research. Funding authorized for NESDIS was intended to ensure continuity of space-based environmental satellite research, and facilitate availability of those data and information to the public.

S. 1639 (Frist). Earth, Wind, and Fire Authorization Act (S.Rept. 106-384). Title II of this bill, *National Weather Service and Related Agencies Authorization Act*, is similar to H.R. 1553, and authorizes appropriations for FY 2001 through 2003, allowing the Secretary of Commerce to fund certain operational and research functions of NOAA under jurisdiction of the Senate Committee on Commerce including activities of NWS, NESDIS, and OAR. Section 205 of this bill directs NOAA to provide information on its website about all grants authorized by this Act. S. 1369 was introduced September 24, 1999, and referred to the Senate Committee on Commerce. Committee ordered the bill reported with an amendment in the nature of a substitute on April 13, 2000. S. 1639 was reported as part of the Earth, Wind and Fire Authorization Act by the Senate Commerce, Science and Transportation Committee on August 25, 2000 (S.Rept. 106-384). In this report, the Committee made note of not including language concerning the existing relationships [regarding competition] between NWS and the private sector, a controversial provision which was part of H.R. 1553, above. The Senate passed S. 1639 on October 17, 2000, and the bill was prepared for House floor actions. However, no further legislative action occurred on this bill after that time.

Figure 5. NOAA Authorization for FY2000/2001

NOAA Reauthorization Required in FY2000/2001
(thousands of dollars)

Reauthorization was required for expenditures under the following public laws and was requested during the second session of the 106th Congress:

National Oceanic and Atmospheric Administration	FY2000 Enacted	FY2001 Base	FY2001 Request
National Marine Fisheries Service Endangered Species Act P.L. 100-478 (expired 9/92)	55,470	55,515	64,914
National Marine Fisheries Service Marine Mammal Protection Act, P.L. 97-58 as amended by P.L. 103-238 (expired 9/99)	26,067	28,014	29,238
National Marine Fisheries Service Magnuson-Stevens Fisheries Conservation and Management Act, P.L. 104-297 (expired 9/99)	170,169	175,018	209,875
National Marine Fisheries Service NOAA Marine Fisheries Program Authorization Act, P.L. 104-297	133,463	133,722	120,108
National Marine Fisheries Service Interjurisdictional Fisheries Act P.L. 104-297	3,190	3,190	3,190
National Marine Fisheries Service Anadromous Fishery Conservation & Management Act P.L. 104-297	2,342	2,342	2,100
National Ocean Service Coastal Zone Management Act P.L. 92-953 (expired 9/99)	62,500	60,850	96,200
National Ocean Service National Marine Sanctuaries Act P.L. 92-532	25,000	25,000	35,000
National Ocean Service Coastal Nonpoint Source Program P.L. 101-506	2,500	2,500	4,500

Other legislation for FY2001: proposal to transfer the Seafood Inspection Program to the Food and Drug Administration.