

FY 2010 Appropriations for the National Oceanic & Atmospheric Administration (NOAA)

NOAA's FY 2010 "Blue Book" (Budget Request)

(numbers are in millions)

NOAA	FY 2009 Estimate	FY 2010 Request	% change FY09 vs FY10 Req.	House	% change House vs. FY09	Senate	% change Senate vs. FY09	Final	% change FY09 vs. FY10
Line Offices (ORF)									
National Ocean Service	496.9	462.6	-6.9%	481.9	-3.0%	511.5	2.9%	522.2	5.1%
National Marine Fisheries	754.0	890.6	18.1%	915.8	21.4%	872.4	15.7%	904.5	19.9%
Oceanic & Atmos. Research	396.7	394.2	-1.0%	426.7	7.5%	419.8	5.8%	438.7	10.6%
National Weather Service	847.9	867.2	2.3%	857.2	1.1%	889.1	4.8%	892.1	5.2%
NESDIS (ORF & PAC)	990.6	1,256.8	26.9%	1,468.3	48.2%	1,408.4	42.2%	1,398.5	41.1%
Within OAR:									
Climate Research									
Labs & Joint Institutes	51.5	52.6	2.1%	54.8	6.4%	52.6	2.1%	54.8	6.4%
Climate & Data Information	8.3	12.1	45.8%	12.1	45.8%	12.1	45.8%	12.1	45.8%
Competitive Research Program	132.0	144.2	9.2%	149.2	13.0%	144.2	9.2%	144.2	9.2%
Total, Climate Research:	196.5	209.8	6.8%	229.0	16.5%	209.8	6.8%	221.0	12.5%
Weather & Air Quality Research									
Labs & Joint Institutes	49.1	54.4	10.8%	55.1	12.0%	54.4	10.8%	55.1	12.0%
Phased-Array Radar	2.9	3.9	34.5%	3.9	34.5%	3.9	34.5%	3.9	34.5%
USWRP/THORPEX	5.5	5.5	flat	5.5	flat	5.5	flat	5.5	flat
Total, Weather & Air Quality Research:	63.4	63.9	0.8%	64.5	1.7%	63.9	0.8%	64.5	1.7%
Within NWS:									
Local Warnings & Forecasts — Base	601.8	617.8	2.7%	617.8	2.7%	617.8	2.7%	617.8	2.7%
Advanced Hydrological Prediction Services	6.0	6.0	flat	6.0	flat	6.0	flat	6.0	flat
Aviation Weather	5.2	11.3	117.3%	11.3	117.3%	11.3	117.3%	11.3	117.3%
Central Forecast Guidance	67.2	79.5	18.3%	69.5	3.4%	79.5	18.3%	79.5	18.3%

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Cooperative Observer Network	1.8	1.8	flat	1.8	flat	1.8	flat	1.8	flat
NOAA Profiler Network	4.7	4.7	flat	4.7	flat	4.7	flat	4.7	flat
AWIPS (PAC)	19.0	24.3	27.9%	24.0	26.3%	24.0	26.3%	24.0	26.3%
NEXRAD (PAC)	8.3	7.9	-4.8%	.6	-92.7%	7.9	-4.8%	7.9	-4.8%
Radiosonde Replacement (PAC)	4.0	4.0	flat	4.0	flat	4.0	flat	4.0	flat
Within NESDIS:									
GOES-R	465.0	737.0	58.5%	737.0	58.5%	712.5	53.2%	667.5	43.5%
NPOESS	287.9	382.2	32.8%	382.2	32.8%	382.2	32.8%	382.0	32.8%
NOAA Education Programs									
Competitive Educational Grants	8.5	5.0	-41.2%	16.0	88.2%	12.0	41.2%	12.0	41.2%
Minority Serving Institutions	15.0	14.3	-4.7%	14.3	-4.7%	14.3	-4.7%	14.3	-4.7%
Total, NOAA	4,365.2	4,483.7	2.7%	4,603.4	5.4%	4,772.8	9.3%	4,737.5	8.5%

Highlights from the [Conference Report \(12-10-09\)](#):

Yesterday, Congress unveiled a \$446.8 billion Consolidated Appropriations bill which contains six of the seven remaining fiscal year (FY) 2010 spending bills.

The Consolidated Appropriations bill includes a total of \$4.737 billion for the National Oceanic and Atmospheric Administration (NOAA), which is about \$364 million or 8.3 percent above the enacted FY 2009 level and \$254 million or 5.6 percent above the President's request.

Congress continues to direct NOAA to track the division of research funds being distributed between intramural and extramural programs and to "clearly state its expected research outcomes and available funding in order to provide transparency into the competitive grant process for extramural researchers." NOAA is also directed to increase its support for extramural research in future budget requests, something that the academic research community has been urging for years.

Congress also expresses concern about the ability of local and regional governments and the private sector to make investments that will allow them to adapt to climate change. The Commerce Secretary is directed to develop a plan, and deliver to the House and Senate Appropriations Committees by April 1, 2010, for how the needs of the private sector and local and State governments will be addressed by new investments in climate services and the role of a National Climate Service in meeting these needs.

Additionally, reflecting concerns surrounding the recent email breach with regard to climate change data and issues surrounding security of research findings, the Consolidated Appropriations bill includes \$7 million for NOAA's new cyber-security and email communications system, which will

“reduce NOAA’s high-vulnerability to cyber threat and ensure that NOAA’s observing and modeling systems provide high quality information for continuous public use.”

Lastly, in light of concerns surrounding delays in funding for new as well as existing NOAA cooperative institutes (CIs), which are cooperative agreements between the agency and a university partner or group of universities for targeted research, NOAA is directed to provide a report to the House and Senate Appropriations Committees within 60 days of enactment of the Consolidated Appropriations bill detailing the status of existing and expected NOAA CIs, “including current and planned funding and activities on a program by program basis.”

Congress directs NOAA to contract with the National Academy of Public Administration (NAPA) to study organizational options for a National Climate Service within NOAA. The study should:

“[C]onsider how to provide information at the global, regional, and state levels over varying timescales; support interaction among the government and various users, stakeholders, researchers, and information providers of climate information in both the private and public sectors; develop and distribute products and information that will support decision-making to better prepare the nation for climate variability and climate change; coordinate and align existing programs and resources internal and external to NOAA to reduce duplications and leverage existing climate-related resources; and provide estimates on projected funding levels.” NOAA is also directed to provide a report on the potential of ocean fertilization for climate change mitigation and encouraged to support additional research into this area, within the funds provided.

The bill includes \$986 million for the National Weather Service (NWS), an increase of \$27 million or about 3 percent over the FY 2009 level and \$22 million or 2.3 percent over the President’s request. Within this amount, the bill includes \$19 million for the continuation and expansion of the National Mesonet Network Program, \$46.1 million for NEXRAD, and \$39.3 million for AWIPS. NOAA is directed to contract with the National Academy of Sciences for a complete assessment of NWS modernization, which began in the 1980s and 1990s. The report is to address past efforts to modernize the agency as well as “lessons learned” to support future improvements to NWS capabilities.

The Consolidated Appropriations bill includes \$559 million for the National Ocean Service (NOS), which is roughly flat with the FY 2009 level and \$56 million or 11 percent more than the amount requested by the President. The appropriation includes \$33.5 million for the Integrated Ocean Observing System (IOOS), including \$20 million for a competitive, regional ocean observing systems solicitation, \$4 million for a competitive extramural regional test bed for the Atlantic and Gulf coasts, and \$3 million for a consortium for testing and advancing new sensor technologies. Additionally, NOAA is directed to send a report to the House and Senate Appropriations Committees within 30 days on the feasibility of establishing an IOOS-related cooperative institute in the future.

The bill includes about \$1.4 billion for the National Environmental Satellite, Data and Information Service (NESDIS), \$230 million (19 percent) more than FY 2009 and even with the President’s request. Congress continues to express concern with the management of the National Polar-orbiting Operational Environmental Satellite System (NPOESS); however, the full request of \$382 million is provided for FY 2010. For future budgets, Congress suggests that NOAA request “appropriate contingency” funds to avoid additional delays in the project. Additionally, the bill removes the 50/50 NOAA/Department of Defense funding split requirement for the purpose of allowing for “more

creative funding decisions,” and calls for a change in the overall management of NPOESS, particularly enlisting the help of an agency that has “real space acquisition experience,” like NASA.

Excerpts from the Senate Committee Report (6-25-09):

“Following a familiar trend, the administration’s 2010 budget request for NOAA proposes to again underfund one of our Nation’s leading scientific agencies. With a diverse environmental portfolio, talented workforce, and supportive external community base, the Committee is befuddled as to the administration’s motivation for under funding this agency. The agency cannot effectively meet its mission objectives under these circumstances, and is once again forcing the Committee to bridge the financial gap between an unrealistic budget request and sensible recommendation.”

“ *[NPOESS]*.—The NPOESS program has struggled for years with cost overruns and schedule delays resulting in a high risk of gaps occurring to our Nation’s weather and climate satellite coverage. A recent independent review team tasked with assessing all aspects of the program found many overarching flaws, ultimately determining that NPOESS is a program with a low probability of success. This conclusion reinforces the Committee’s lack of confidence in the management of this important program. Although the administration provides the Committee with updates on the program’s milestones and setbacks, the Committee has not received long-term, realistic budget projections that coincide with a reformed strategic plan. Changes to the overall management structure are needed to bring the program back in line, which includes modifying the relationship between NOAA and the Department of Defense, and to enlist more help from an agency with real space acquisition experience, such as NASA.

“The administration has not responded to any recommendations from the recent review team, and the Committee was told that it could not expect any management changes until after the 2010 budget is passed. Recognizing how critical this satellite program is to forecasting our Nation’s weather, the Committee’s recommendation fully funds the budget request for 2010 based on current information. However, the program’s long-term projections for success are dubious, and if NPOESS is to ultimately achieve its mission, the administration needs to disengage from its auto-pilot management style, start making responsible decisions and regain control of this unwieldy program. Within 30 days of enactment of this act, the administration is directed to provide the Committee with a new inter-agency management plan for NPOESS addressing all of the recommendations from every recent internal and external review.”

National Mesonet Program.—

“The Committee is disappointed that the fiscal year 2010 budget request ignored the 2009 National Research Council report, “Observing Weather and Climate From The Ground Up: A Nationwide Network of Networks”, which called for the establishment of a federally funded national mesonet program and expects NOAA to include in its fiscal year 2011 budget a robust and expanded national mesonet program. Further, the Committee notes it required NOAA to submit a plan 90 days after enactment of the fiscal year 2009 Omnibus Appropriations on implementation of the national mesonet program, a deadline with which the Agency has not complied. The Committee expects this plan to be submitted within 30 days of the Committee filing its report on the fiscal year 2010 Commerce, Justice, science and related agencies appropriations bill.”

Excerpts from the House Committee Report (6-9-09):

“The Committee supports NOAA’s efforts toward the creation of a National Climate Service and

directs the agency to accelerate its current efforts with the additional funding provided in OAR and elsewhere within the bill.”

“The recommendation provides \$229,040,000 for Climate Research, which is \$19,200,000 above the request. Within that amount, \$5,000,000 is provided to fund a research grant competition relating to understanding and forecasting climate. The competition is to be open to all researchers at colleges, universities, corporations, other private sector entities, and NOAA and other government agency laboratories, and may cover field and laboratory measurements, modeling, data analysis, and data assimilation. Following a process similar to that employed by the National Science Foundation, proposal selection shall be based on research manager judgments of science priorities and peer reviews. Within the recommendation, the Committee provides \$12,000,000 for regional climate assessments through OAR's Regional Integrated Sciences and Assessment program, and directs NOAA to expand the program to cover additional regions.”

“*NOAA Education Program.*-The NOAA Education program recommendation includes \$31,323,000 to ensure a robust program. NOAA education is particularly powerful in grades K-12 and the Committee received testimony that children need to be reached by the age of ten if they are to consider technical and scientific occupations. The Committee thus provides an increase of \$7,000,000 above the request for competitive educational grants, to ensure that at least 15 percent of applications are successful. In addition, \$3,000,000 is provided for the GLOBE Program. NOAA is instructed to work with NASA, which is similarly directed, during fiscal year 2010 to transition program responsibility for GLOBE from NASA to NOAA. The Committee expects the budget request for fiscal year 2011 to include full funding for GLOBE as a NOAA education program.”

“*Research and Development (R&D) tracking and outcomes.*-The Committee continues Its direction that NOAA track the division of R&D funds between intramural and extramural research, and assure consistency and clarity in the collection and reporting of data. In addition, NOAA is directed to clearly state its expected research outcomes and available funding in order to provide transparency into the competitive grant process for extramural researchers. The Committee further directs NOAA to increase extramural research funding in future requests to build broad community support and leverage external funding for mission-oriented research.”

“*National Environmental Satellite, Data and Information Service (NESDIS).*-The Committee remains concerned about the impact of the GOES-R out-year costs on NOAA's traditional mission areas. However, the Committee is particularly concerned with NPOESS' management structure and projected life-cycle cost growth of \$1 to \$2 billion dollars, as well as additional schedule slips. The Committee notes that this situation has been developing for some time and is the result of a dysfunctional tri-agency management approach. The Committee anticipates a change in management structure to be announced by the Administration soon. Accordingly, the Committee recommendation deletes the 50/50 NOAA/DoD funding -split requirement from the bill language. This step will allow for more creative-funding decisions to avert the critical climate and weather data gaps that are sure to occur if a management solution is not identified soon.”

More Detail on President’s FY 2010 Request (May 7, 2009)

Proposed Increases:

Within OAR's Climate Research Program:

- An additional \$4.0 million to implement long-term monitoring of ocean acidification
- An increase of \$6.5 million is provided for climate research including the National Integrated Drought Information System, development of a Climate Model Portal, expansion of the U.S. Climate Reference Network to Alaska, and funding to develop decadal climate predictions.

Within OAR's Weather & Air Quality Program

- An additional \$2.0 million for the Weather Research and Forecast (WRF) Model Developmental Testbed Center (DTC)
- An additional \$2.5 million for Severe Weather Forecast Improvements to enable forecast offices to issue tornado warnings with a 30-minute lead-time or greater. This effort will leverage National Science Foundation funding of \$5M to \$10M between FY'09-'10. VORTEX-II will use a mix of new operational observation systems (e.g., dual-polarized radar) and prototype future systems (e.g., Phased-Array Radar (PAR), gap-filling radar, mobile mesonet surface observations, UAS systems) to observe thunderstorm microphysics as never before. The intended outcome is to learn the mechanics of how tornadoes form, or "tornadogenesis".

Within the National Weather Service:

- An increase of \$7.0 million for the acquisition and installation of a NEXRAD Doppler radar to eliminate the coverage gap identified by the National Weather Service in Western Washington. Filling this gap will improve the analysis and prediction of winter storms systems and precipitation estimates.
- An additional \$6.1 million is provided to improve aviation weather services and support the Next Generation Air Transportation System (NextGen). Funding will begin development of a Weather Information Database, a central repository of weather information, products, and services for aviation users and customers.
- An additional \$2.7 million for Space Weather Warnings and Services.

Within National Environmental Satellite, Data, and Information Service

- An additional \$272 million for the GOES-R series satellites. The series will provide an uninterrupted, continuous flow of environmental and weather data and information.
- An increase of \$94.2 million to continue development of the NPOESS system. NPOESS will provide global environmental data such as sea surface temperature, atmospheric profiles temperature and moisture and atmospheric ozone concentrations for use in numerical weather prediction models. Additionally, the request provides \$20 million to begin development of a new satellite altimetry mission (Jason-3) that will provide measurements to help determine global sea-level rise, a key indicator of climate change.

Restoration of Climate Sensors

NOAA will continue the development of two climate sensors, Total Solar Irradiance Sensor (TSIS) and the Clouds Earth's Radiant Energy System (CERES). TSIS and CERES sensors were

de-manifested from the National Polar-orbiting Operational Environmental Satellite System (NPOESS) as a result of the Nunn-McCurdy restructuring of the program. However, because of the Nation's critical need for climate measurements, they have since been remanifested on the initial NPOESS satellite, C1. Work on the Ozone Mapping and Profiler Suite (OMPS), and Aerosol Polarimeter Sensor (APS) is anticipated to begin in FY 2011 and continue in FY 2012, through FY 2015 for integration on subsequent NPOESS satellites.

Program Support/Education

The request provides a \$4.0 million increase for a national competitive education grant program. This program will fund development of curriculums and environmental educators for formal and informal education.

Proposed activities supported by \$600 million for the NOAA Procurement, Acquisition, and Construction account include:

- NOAA Climate Computing and Modeling (\$170 million): \$170 million to accelerate and enhance NOAA's High Performance Computing capabilities to directly improve capabilities for weather and climate modeling and climate change research. NOAA will start two computing systems in separate locations that will improve the accuracy of seasonal climate and global climate change assessments. The two HPC sites will be selected by a competitive process and create jobs in manufacturing, construction, and software engineering.
- Accelerate Satellite Observations (\$74 million): \$74 million to accelerate development of the National Polar-orbiting Operational Environmental Satellite System (NPOESS) and climate sensors for these satellites. Funding will allow critical development activities and mitigate both cost and schedule risk for this joint Department of Commerce/Department of Defense program. Funding will also be spent on developing instruments that monitor the sun's energy incident on the Earth and the Earth's radiation budget, both crucial measurements for monitoring factors that affect climate change.

NESDIS is expected to receive Recovery Act funds for the National Polar-orbiting Operational Environmental Satellite System (NPOESS) and Climate Sensors programs.

Detail on President's FY 2010 Request (March 2, 2009):

On February 26, President Obama released his preliminary FY 2010 budget request, which only unveiled numbers for programs at their highest levels. No top line level for NOAA, however, was released. The only details include the following:

- Would provide more than \$1.3 billion for the National Oceanic and Atmospheric Administration for weather satellites and climate sensors
- Would support ocean research and advance climate research within NOAA

Additional details about the FY 2010 budget are expected to be unveiled in April.

