

FY 2009 Appropriations for the National Science Foundation (NSF)

<http://www.nsf.gov/about/budget/fy2009/toc.jsp>

(numbers are in millions)

NSF	FY08 Estimate	President's FY 2009 Request	% change FY08 vs. FY09 Request	House	Senate	CR thru 3-6-09
Research & Related Activities:						
Biological Sciences	612.0	675.0	10.3%			612.0
Computer & Information Science & Engineering (CISE)	534.5	638.7	19.5%			534.5
Engineering	521.3	527.5	19.9%			521.3
Geosciences (GEO)	752.7	848.7	12.8%			752.7
Earth Sciences	156.1	177.7	13.9%			156.1
Ocean Sciences	310.4	353.5	13.9%			310.4
<i>Atmospheric Sciences</i>	229.3	260.6	13.6%			229.3
<i>NCAR</i>	87.5	95.8	9.5%			87.5
<i>ATM Education and Research Grants</i>	105.4	125.2	18.8%			105.4
Mathematical & Physical Sciences (MPS)	1,167.3	1,402.7	20.2%			1,167.3
Astronomical Sciences	217.8	250.0	14.8%			217.8
Office of Cyberinfrastructure	185.3	220.1	18.8%			185.3
Social, Behavioral & Economic Sciences	215.1	233.5	8.5%			215.1
Office of Polar Programs	442.5	490.9	10.9%			442.5
Integrative Activities	232.2	276.0	18.8%			232.2
Major Research Instrumentation	93.9	115.0	22.5%			93.9
Total, Research & Related Activities	4,821.5	5,593.9	16.0%	5,554.0	5,593.9	4,821.5
Education & Human Resources	725.6	790.4	8.9%	840.2	790.4	725.6
Major Research Equipment & Facilities Construction	220.7	147.5	-33.2%	147.5	152.0	220.7
TOTAL, NSF	6,032.0	6,854.1	13.6%	6,854.1	6,854.1	6,032.0

Education and Human Resources:

Program	FY 2008 Estimate	FY 2009 Request	% change FY08 vs. FY09 Request	House	Senate	CR thru 3-6-09
Research on Learning in Formal & Informal Settings	214.0	226.5	5.8%			214.0
Undergraduate Education	211.0	219.8	4.2%			211.0
NSDL	16.25	16.50	1.54%			16.25
Math & Science Partnerships Program	48.5	51.0	5.2%			48.5
Graduate Education	160.1	190.7	19.1%			160.1
Human Resource Development	140.4	153.4	9.2%			140.4
Historically Black Colleges and Universities Undergraduates Program	30.0	31.0	3.3%			30.0

Major Research Equipment and Facilities Construction (MREFC) Account:

Project	FY 2008 Estimate	FY 2009 Request	House	Senate	CR thru 3-6-09
Ongoing Projects					
Atacama Large Millimeter Array (ALMA)	102.1	82.2			
IceCube Neutrino Detector	25.9	11.3			
Advanced Laser Interferometer Gravitational Wave Observatory (AdvLIGO)	32.7	51.4			
New Start					
Advanced Technology Solar Telescope		2.5			

Detail on the Continuing Resolution (9-30-08) – courtesy Lewis-Burke Associates:

The Continuing Resolution (CR) and Disaster Relief and Recovery Supplemental Appropriations Act passed Congress and is expected to be signed into law by the President. The bill funds most agencies and programs at their FY 2008 level.

The CR/Consolidated bill provides funding authority for the entire federal government in the absence of Congressional action on the 12 annual appropriations measures.

- The proposed CR will run through March 6 signaling that there will be no lame duck session after the election.
- Most federal programs will be funded at the FY 2008 level.

- The supplemental funding for federal science agencies approved earlier this year is NOT incorporated into the CR.

The bill also includes the final versions of the Defense, Military Construction/Veterans Affairs, and Homeland Security Appropriations bills, leaving only the eight domestic bills and the State Department and Foreign Operations Appropriations bill to be funded essentially at the current FY 2008 level through March 6.

The CR/Consolidated bill also includes a \$23.9 billion disaster aid package to assist victims of hurricanes, floods and wildfires. Another \$7.5 billion is provided to support a \$25 billion loan program through the Department of Energy to assist U.S. auto manufacturers retool to produce energy-efficient and advanced technology vehicles.

The final bill does NOT include language pertaining to offshore drilling for oil and gas resources, which could have held up Congressional action to keep the government funded beginning October 1. In the absence of such language, the existing moratoria carried each year in the Interior and Environment Appropriations bill will expire at midnight on September 30.

Given the extended length of the CR, the bill includes certain adjustments to allow federal benefit payments to be made and critical security-related programs to be adequately supported. The CR provides funding for federal agencies at essentially a freeze level for most programs and under the authorities provided in the FY 2008 appropriations bills. The CR also carries the standard prohibition against initiating or resuming programs, projects or activities that were not provided for during FY 2008.

Detail on the House Mark (7/1/08):

The House Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies passed their Appropriations bill for FY 2009 on Tuesday, June 17th. Overall, the National Science Foundation received \$6.854 billion, an increase of \$789.10 million, or 13%, over the FY '08 Consolidated Appropriations, and equal to the President's request.

Research and Related Activities:

The Research and Related Activities account receives \$5.554 billion, a decrease of \$49.85 million, or 1 percent, below the President's request, and an increase of \$722.67 million, or 15 percent, over the FY '08 Consolidated Appropriations. EPSCoR is provided with \$133 million, an increase of \$19.5 million, or 17 percent, over the request. Of that \$133 million, \$90 million is directed to EPSCoR's research infrastructure improvement (RII) awards, an increase of \$14 million, or 18 percent, over the requested amount.

Education and Human Resources:

The Education and Human Resources account is funded at \$840.260, an increase of \$49.85 million, or 6.3 percent above the requested level of \$790.41 million, and an increase of \$114.66 million, or 16 percent over the FY '08 Consolidated Appropriations.

The following changes from the President's request were made to the account.

- The Robert Noyce Teacher Scholarship Program is provided \$55 million, an increase of \$38.4 million, or 331 percent.
- The Math and Science Partnership Program is provided \$61 million, an increase of \$10 million, or 20 percent.
- The Graduate Research Fellowships Program is provided \$107 million, a decrease of \$10 million, or 8.3 percent.

Additionally, the Committee has established a “Climate Change Education Program” with an initial investment of \$10 million.

Detail on the Senate Mark (6/30/08):

The Senate Appropriations Committee passed the Commerce, Justice, Science, and Related Agencies Appropriations bill for FY 2009 on Thursday, June 19th. Overall, the National Science Foundation received \$6.854 billion, an increase of \$789.10 million, or 13 percent, over the FY '08 Consolidated Appropriations, and equal to the President's request.

Research and Related Activities:

The Research and Related Activities account receives \$5.594 billion, an increase of \$772.52 million, or 16 percent over the FY '08 Consolidated Appropriations, and equal to the President's request. EPSCoR is provided with \$125 million, an increase of \$11.5 million over the request. The Plant Genome program is provided with \$101.22 million, equal to the request. The Astronomy Division was provided with \$252.51 million, an increase of \$2.5 million over the President's request, for late-stage design work on the Advanced Technology Solar Telescope project.

Education and Human Resources:

The Education and Human Resources account is funded at the requested level of \$790.41 million, an increase of \$64.8 million over the FY '08 Consolidated Appropriations. The Robert Noyce Teacher Scholarship Program is provided \$55 million, an increase of \$43.4 million, or 378 percent, over the request.

Major Research Equipment and Facilities Construction:

The Major Research Equipment and Facilities Construction account is funded at \$152.01 million, \$4.5 million above the requested level of \$147.51 million. The Advanced Technology Solar Telescope was provided with \$7 million, \$4.5 million above the President's request. The Committee denied the request for use of the account for late-stage design activities.

Detail on President's FY 2009 Request (Feb. 4, 2008):

Note: Other than the top-line budget numbers (highlighted above in yellow), the FY08 numbers are estimates. To date, they have not been officially "approved" as part of the process of agencies' requirement to submit their operating plans to OMB and Appropriations Committees. The FY08 numbers for Research and Related Activities, Education and Human Resources, and for MREFC, *are* the final numbers.

Major Research Equipment and Facilities Construction (MREFC)

Total MREFC funding decreases by \$73.2 million (33 percent) in FY 2009. Support continues for three ongoing projects (the Atacama Large Millimeter Array, the IceCube Neutrino Observatory, and

the Advanced Laser Interferometer Gravitational Wave Observatory). Also included is \$2.5 million for design activities for the Advanced Technology Solar Telescope. Three projects (the Alaska Region Research Vessel, the National Ecological Observatory Network, and the Ocean Observatories Initiative) are not slated for additional MREFC funding in FY 2009, as each is currently completing design activities.

NSF's Cross-Foundation Investments

- **Cyber-enabled Discovery and Innovation (CDI)**, initiated in FY 2008, increases to \$100.0 million (from \$47.9 million)
- **Science and Engineering Beyond Moore's Law (SEBML)**: \$20.0 million
- **Adaptive Systems Technology (AST)**: \$15.0 million
- **Dynamics of Water Processes in the Environment (WATER)**: \$10.0 million. **WATER** will increase fundamental understanding of the Earth's freshwater systems and provide the scientific basis for decision-making about water resources. Major efforts in FY 2009 include fundamental research on the complex processes and feedbacks that affect the vulnerability and resilience of freshwater systems to climate and environmental change.

Research Grants: NSF anticipates supporting an additional 1,370 research grants. This will help to increase the funding rate to 23 percent from 21 percent.

ATM priorities for FY 2009:

- **Natural Hazards:** Building on years of research to understand and predict weather and space weather phenomena, these research activities will be augmented to better understand and predict extreme events such as cyclone formation and life cycle;
- **Biogeochemical Cycles:** Research in this area includes an emphasis on understanding the sources, sinks, and processes which control the atmospheric abundance and distribution of carbon, water, and other environmentally important elements;
- **Environmental Modeling:** Support for new data assimilation and innovative mathematical and statistical techniques will improve predictions of fundamental space, atmospheric, and Earth system processes;
- **Cyberinfrastructure and Numerical Models:** Improvements in this area will allow new discoveries, greater access to atmospheric data, and improved understanding of the atmospheric environment; and
- **Interagency and International Programs:** ATM will continue support of these programs, including the Climate Change Science Program, the U.S. Weather Research Program, the National Space Weather Program and cooperative international science programs.
- ATM will accelerate investment in NCAR to significantly increase progress towards understanding the Earth system and improve research infrastructure capabilities available to the atmospheric sciences community.

Climate Change Science Program (CCSP)

CCSP in FY09 is up 7.5% (from \$205.2M to \$220.6M). A total of \$15.1 million will continue support for research to address ecological rates of change and related impacts on species diversity. This includes support for programs that specifically address terrestrial ecosystem responses to climate change through experimental modeling and laboratory studies, including research through the Long Term Ecological Research (LTER) program. Within GEO: enhance understanding of the dynamics

among natural and human systems, generate the knowledge needed to preserve, manage, and enhance the environment, as well as to support national and international policy-making activities. Directly contributing to the Administration's R&D priorities, specific activities include programs focused on understanding past climate variability, elucidating how carbon and nitrogen cycle through the earth, atmosphere, and oceans, and efforts to develop and refine computational models of Earth system processes. In FY 2009, increased emphasis will be placed on understanding the Earth's water cycle and on climate-driven aspects of disruptive environmental events, such as hurricanes and severe storms.