

## Senate Boosts NSF R&D by 4 Percent

(This analysis is part of a series of AAAS R&D Funding Updates on the FY 2002 congressional appropriations process. This analysis includes information on R&D in Senate appropriations for NSF. The complete series of AAAS R&D Funding Updates, including continually updated analyses of R&D by agency in FY 2002 appropriations, is available on the AAAS R&D Web Site (<http://www.aaas.org/spp/R&D>) in the “FY 2002 R&D” or the “What’s New” sections.)

Last week, the Senate Appropriations Committee drafted an FY 2002 VA-HUD appropriations bill that would provide a modest budget increase for the National Science Foundation (NSF). The Senate would provide NSF with \$4.7 billion in FY 2002, \$256 million or 5.8 percent more than FY 2001. This would be more than the Administration’s request of \$4.5 billion, though less than a House committee’s proposed budget of \$4.8 billion. **In the Senate plan, NSF’s R&D funding would rise 4.0 percent for a total of \$3.4 billion. The House is considering an even larger 8.5 percent increase** (see Table). Both the House and the Senate would exceed the request, which called for a slight decline in NSF R&D funding. All three plans would reserve the largest increases for NSF’s non-R&D programs in education and human resources.

The Senate FY 2002 VA-HUD bill would provide \$84 billion for discretionary programs. The bill funds science agencies including NSF, the National Aeronautics and Space Administration (NASA), the Environmental Protection Agency (EPA), and non-R&D programs for veterans and housing. The President requested \$83 billion for the bill’s programs, and thus the Senate had more money to allocate for science programs than the request. The House version of the bill is expected to total \$85 billion (details of House appropriations for NSF will be available shortly).

There was dismay among NSF advocates in April when the Bush Administration requested only a \$56 million or 1.3 percent increase in the total NSF budget, after a 13 percent increase in FY 2001 led to high expectations of substantial increases in the FY 2002 budget. Because the Bush Administration chose to emphasize a large increase for education and human resources programs in NSF, NSF’s R&D programs were actually proposed to decline 1.6 percent in the request. The Senate would award an increase to NSF’s budget and to NSF’s R&D: the Senate VA-HUD bill would exceed the request with \$4.7 billion to NSF, an increase of \$256 million or 5.8 percent. **NSF’s R&D funding, which excludes NSF’s education and training activities and overhead costs, would total \$3.4 billion in the Senate plan, an increase of 4.0 percent or \$131 million (see Table).** This increase is sure to cause some disappointment, however: Senator Barbara Mikulski (D-MD), the chairman of the Senate VA-HUD appropriations subcommittee, and Senator Kit Bond (R-MO), the ranking member, are vocal proponents of a plan to double the NSF budget in five years, and NSF supporters had expected the two to propose far greater increases for NSF in their bill.

The **Research and Related Activities (R&RA)** account, which funds most of NSF’s R&D, would receive \$3.5 billion, 5.1 percent or \$172 million more than FY 2001 in contrast to a requested cut from the Bush Administration. The Senate bill would generally follow NSF’s stated priorities on how to distribute the funds among the research directorates, although there would be additions in several areas. The big winner would be Integrated Activities, which would receive \$108 million for an increase of \$10 million or 10.5 percent. The Senate would add \$25 million to the request of \$50 million for the Major Research Instrumentation program to bring funding back to the FY 2001 level. This program provides funds to address research equipment needs of research institutions, mostly universities; the Senate bill contains language directing NSF to use the additional \$25 million specifically to fund the instrumentation needs of smaller research institutions. The Senate would also boost funding for the Plant Genome Research program, a congressionally initiated program from a few years ago, to \$75 million, \$10 million more than the request and FY 2001.

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The Senate appropriation would boost by \$25 million NSF's participation as the lead agency in the multi-agency in the **Networking and Information Technology R&D** initiative of basic, long-term IT research. The request proposed flat funding for NSF's role in the initiative. The initiative is currently funded at \$1.9 billion across several agencies. The Senate would also boost NSF's lead role in the multi-agency **Nanoscale Science and Engineering** initiative from \$150 million in FY 2001 to \$199 million in FY 2002, an increase of one third. Other agencies' contributions to these initiatives have not been drafted yet.

The **Major Research Equipment** (MRE) account, which funds construction of large-scale scientific facilities, would receive \$109 million, less than the \$122 million FY 2001 funding level but \$13 million more than the request. The amount above the request would go toward construction of the Atacama Large Millimeter Array (ALMA) radio telescope; the request proposed to fund the project out of R&RA instead of Major Research Equipment, but the Senate would fund the project in MRE and would thus free up R&RA funds for more astronomy research. Within MRE, the Senate would provide the requested \$55 million for the Terascale Computing Systems project, part of the Information Technology R&D initiative.

NSF's **Education and Human Resources** programs would receive \$872 million, an amount equal to the request and \$87 million or 11.0 percent above FY 2001. The heart of the Administration's request was \$200 million for a new Math and Science Partnerships program to encourage academic institutions and schools to work together to improve math and science education. Although half of the program was proposed as new money, the other half would have come out of existing EHR programs. The Senate would trim the request for the program to \$130 million, restoring funding to other EHR programs. The Senate would expect NSF to rely on revenues from H-1B visa fees for another \$60 million for the partnerships.

The Senate again takes NSF to task for not providing sufficient support for smaller research institutions and minorities, and would add funding for NSF programs in these areas. The Senate would boost funding for the Experimental Program to Stimulate Competitive Research (EPSCoR) from \$75 million to \$85 million and add another \$10 million to fund the Office of Innovative Partnerships. Both programs assist research institutions and states that have traditionally been underrepresented in federal R&D funding. The Senate also encourages consideration of an application from Rhode Island to be eligible for the EPSCoR program.

The House and Senate versions of the VA-HUD bill are due for floor debate and approval before the August congressional recess. A House-Senate conference committee to produce the final version of the bill is not expected to meet until September. The House appropriation for NSF is higher than the Senate, so it is likely that the final funding levels for NSF will be higher than the Senate-proposed levels.

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**Table. National Science Foundation  
Senate Appropriations Committee Action on R&D in the FY 2002 Budget  
(budget authority in millions of dollars)**

	FY 2001 Estimate	FY 2002 Request	Action by Senate				
			<b>FY 2002 Senate</b>	Chg. from Request Amount	Chg. from Request Percent	Chg. from FY 2001 Amount	Chg. from FY 2001 Percent
Research and Related Activities <sup>1</sup> :							
Mathematical and Physical Sciences	851	864	<b>907</b>	43	5.0%	56	6.6%
Engineering	431	431	<b>456</b>	25	5.7%	25	5.8%
Biological Sciences	485	483	<b>507</b>	24	5.0%	22	4.5%
Geosciences	562	559	<b>575</b>	16	2.9%	13	2.3%
Computer and Info. Science and Eng.	478	470	<b>509</b>	39	8.2%	31	6.5%
Social, Behavioral and Econ. Scis.	164	163	<b>168</b>	5	2.9%	4	2.1%
US Polar Programs	273	277	<b>285</b>	8	2.9%	11	4.2%
Integrative Activities	98	81	<b>108</b>	27	33.9%	10	10.5%
<b>Total Research and Related Activities <sup>1</sup></b>	<b>3,343</b>	<b>3,327</b>	<b>3,514</b>	<b>188</b>	<b>5.6%</b>	<b>172</b>	<b>5.1%</b>
Major Research Equipment	122	96	<b>109</b>	13	13.0%	-13	-10.5%
Education and Human Resources R&D	139	139	<b>139</b>	0	0.0%	0	0.0%
Less Non-R&D in R&RA <sup>1</sup>	-325	-336	<b>-353</b>	-17	5.0%	-28	8.6%
<b>Total NSF R&amp;D</b>	<b>3,279</b>	<b>3,226</b>	<b>3,410</b>	<b>183</b>	<b>5.7%</b>	<b>131</b>	<b>4.0%</b>
Non-R&D Programs and Activities:							
Non-R&D in R&RA <sup>1</sup>	325	336	<b>353</b>	17	5.0%	28	8.6%
Other Education and Human Res.	646	733	<b>733</b>	0	0.0%	87	13.4%
Salaries and Expenses	161	170	<b>170</b>	0	0.0%	10	5.9%
Inspector General	6	7	<b>7</b>	0	0.0%	0	7.8%
<b>Total NSF Non-R&amp;D Activities</b>	<b>1,138</b>	<b>1,246</b>	<b>1,263</b>	<b>17</b>	<b>1.4%</b>	<b>125</b>	<b>11.0%</b>
<b>Total NSF Budget</b>	<b>4,417</b>	<b>4,473</b>	<b>4,673</b>	<b>200</b>	<b>4.5%</b>	<b>256</b>	<b>5.8%</b>

AAAS estimates based on FY 2002 appropriations bills. Includes conduct of R&D and R&D facilities.

FY 2001 and FY 2002 request figures based on OMB R&D data and supplemental agency budget data.

Figures are rounded to the nearest million. Changes calculated from unrounded figures.

<sup>1</sup> R&RA funds are not appropriated by directorate. The FY 2002 Senate directorate figures are preliminary AAAS estimates based on language in the FY 2002 Senate appropriations bill.

**July 12, 2001 - Senate Appropriations Committee-approved figures.**

**These appropriations may be amended or rejected on the Senate floor.**