

NSF Gets Small Budget Boost in House

AAAS R&D Funding Update on R&D in House FY 2006 NSF Appropriations

Highlights

- The National Science Foundation (NSF) budget, after declining in 2005, would receive a modest increase of 3.1 percent to \$5.6 billion in the latest House plan, far short of the \$8.5 billion authorized by law.
- The House would add \$38 million to the request for NSF's budget primarily for education programs, but \$18 million less than the request for NSF's R&D activities. NSF's R&D would increase 2.3 percent to \$4.2 billion (see Table), with the House adding to the request for research grants but subtracting from R&D facilities construction.
- **Most NSF research directorates would receive increases between 2 and 3 percent in 2006** (see Table).
- Although the House would add \$70 million to the request, most of NSF's education and training programs would suffer steep cuts for the second year in a row.
- The Major Research Equipment and Facilities Construction (MREFC) account would climb from \$174 million to \$193 million.
- **The small increases for the research directorates would squeeze NSF funding of competitively awarded research grants.** NSF expects to make awards to just one in five applications this year.

NSF R&D in FY 2006 House Appropriations

On June 7, the House Appropriations Committee approved its version of the FY 2006 Science, State, Justice, and Commerce appropriations bill (HR 2682). The House bill would provide NSF with a total budget of \$5.6 billion in FY 2006, \$171 million or 3.1 percent above this year's budget. An NSF authorization bill calling for a doubling of the NSF budget between FY 2002 and FY 2007 was signed into law in December 2002, but the FY 2006 House appropriation would fall almost \$3 billion short of the \$8.5 billion authorized funding level for FY 2006. In an extremely tight budget situation, the House found \$38 million more than the request to shore up funding for NSF's education programs. (For details of R&D in the FY 2006 request, please see Chapter 7 of *AAAS Report XXX: R&D FY 2006* or the February 28 AAAS R&D Funding Update.)

Because of an extensive reorganization of appropriations bill jurisdictions, in FY 2006 the National Science Foundation (NSF) and NASA will be funded for the first time with the Departments of Commerce, State, and Justice. NSF and NASA were formerly funded in the now defunct VA-HUD appropriations bill alongside the Departments of Veterans Affairs and Housing and Urban Development. As a result, the former Commerce, Justice, and State appropriations bill now has "Science" in its name. The Senate Appropriations Committee, however, has proposed a different reorganization for its new Commerce, Justice, and Science bill: although Commerce, Justice, NASA, and NSF will still be funded together in the Senate, the Senate bill excludes the Department of State. The differing jurisdictions in the House and the Senate bills will make agreeing on a final (conference) bill extremely difficult.

An NSF authorization bill calling for a doubling of the NSF budget between FY 2002 and FY 2007 was signed into law in December 2002 at a time when the federal budget had just come from four years of

surpluses, but with the return of budget deficits NSF appropriations have fallen far short of authorized amounts (see Figure 1). The gap widens in the FY 2006 House appropriation to nearly \$3 billion, the distance between the \$5.6 billion appropriation and the \$8.5 billion authorized level, putting the NSF doubling goal well out of reach in these tough budgetary times.

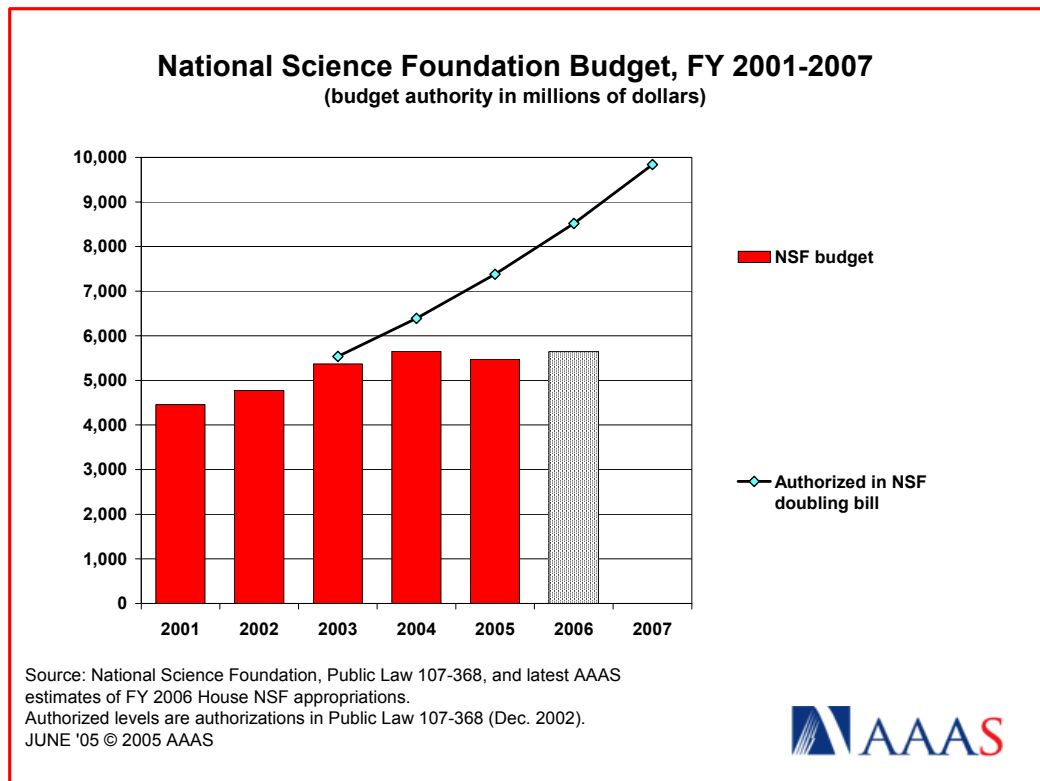


Figure 1. (click on the image for PDF)

NSF’s R&D funding, which excludes NSF’s education and training activities and overhead costs, would total \$4.2 billion in the House bill, an increase of \$95 million or 2.3 percent that would bring NSF R&D funding roughly to the 2004 level after cuts in 2005 (see Table).

The House would add 1 percent to the request for programs in the **Research and Related Activities (R&RA)** account, which funds most of NSF’s R&D. R&RA funding would increase \$157 million or 3.7 percent to \$4.4 billion, \$44 million more than the request. **The House appropriation should allow for increases between 2 and 3 percent for most of NSF’s research directorates**, but coming after budget cuts in 2005 **most NSF research programs would be barely above 2004 funding levels.**

The largest increase among the directorates would be a 13.5 percent boost to Polar Programs. The Polar increase would fund a proposed transfer of \$48 million in non-R&D Coast Guard costs for icebreakers to the NSF budget. Icebreaker ships necessary for research access to the Arctic and Antarctic have traditionally been funded by the Coast Guard, but in the FY 2006 budget request NSF would take over funding for these ships. So far, the House Appropriations Committee has agreed to this transfer in both the Coast Guard and NSF appropriations. Many in the polar research community are concerned about the financial implications of this transfer, partly for the extra costs in FY 2006 but mostly because of the far larger costs looming in the future to renovate or replace these aging icebreakers within a tight NSF budget. In language accompanying the bill, the House Appropriations Committees shares these concerns and instructs NSF to begin formulating long-term alternatives to meeting icebreaking needs.

The Integrative Activities (IA) account within R&RA would increase by \$6 million to \$136 million. Within the IA account, funding for the Major Research Instrumentation (MRI) program would stay at \$90 million in FY 2006 after falling from \$110 million in 2004. The MRI program awards competitive grants to universities and colleges to purchase laboratory equipment and instrumentation; in response to congressional concerns, at least \$20 million of the funding would go toward minority-serving institutions. Also in IA, Science of Learning Centers is a relatively new program for learning research across disciplines, with \$23 million next year compared to \$20 million this year.

The House would trim the request for Major Research Equipment and Facilities Construction (MREFC) account, but would still provide a \$20 million boost over the current funding level. The \$193 million MREFC appropriation would be an 11.3 percent increase. The House would agree with the NSF proposal to have no new starts in FY 2006, and would fund four out of the five existing projects. While the House would provide funding close to the request for the Scientific Ocean Drilling Vessel, the Atacama Large Millimeter Array, EarthScope, and the IceCube Neutrino Observatory projects, the House would not fund the Rare Symmetry Violating Processes (RSVP) project.

The House would try to restore funding to steep proposed cuts in NSF's education programs. NSF proposed an **Education and Human Resources (EHR)** budget of just \$737 million, down a dramatic \$104 million from this year after an identical cut in the 2005 budget. The House would add back \$70 million for a budget of \$807 million, which would still be 4.1 percent below FY 2005. The House would leave in place a 24 percent proposed cut from NSF's contribution to the **Math and Science Partnerships (MSP)** program, but would provide \$175 million for Elementary, Secondary and Informal Education, \$34 million more than the request and \$7 million less than this year. The bill would also turn a proposed 43 percent cut in Research, Evaluation and Communication programs into a more modest but still significant 17 percent cut to \$50 million. The House would also provide \$150 million for Undergraduate Education, less than the \$154 million current funding level but a big improvement over a requested cut down to \$135 million. The FY 2006 House appropriation contains \$97 million for the Experimental Program to Stimulate Competitive Research (EPSCoR), up slightly from this year. EPSCoR assists research institutions and states that have traditionally been underrepresented in federal R&D funding to build research capacity. The program is currently open to 24 states, Puerto Rico, and the U.S. Virgin Islands.

NSF Funding Mechanisms

The small increases for the research directorates in the House appropriation would squeeze NSF funding of competitively awarded research grants. The success rate for NSF research grant applications would be 21 percent in FY 2006 in the request, essentially unchanged from 2005 and 2004. The modest 1 percent boost over the request in the House appropriation would do little to alter this projection. ENG expects to fund only 18 percent of its research grant applications, while CISE would fund 16 percent; both directorates' success rates would be up from just 15 percent last year and this year.

Next Steps and Possible Impacts

NSF has enjoyed mostly steady budget growth over the past several decades, as shown in Figure 2, but in recent times NSF's budget has stagnated and even declined. After declines in the mid-1990s in the push toward a balanced budget, growth resumed after FY 1998 and momentum began to build to double the budget over five years, culminating in the NSF authorization bill of December 2002. But when the budget surplus years of 1998-2001 were followed by the current string of budget deficits, budget growth slowed down to just ahead of the inflation rate in FY 2004 and reversed with FY 2005 budget cuts. The FY 2006 House appropriation would keep NSF R&D just ahead of inflation but would fail to recover the lost ground from last year's budget cuts. As noted earlier, these smaller increases or cuts in recent years have put the NSF budget further and further behind the authorized doubling path and have created downward pressures on NSF grant sizes and success rates. While there is strong political will in the House to approve a budget more consistent with the authorized funding track, in drafting the House NSF appropriation lawmakers were again stymied by self-imposed tight restraints on overall domestic discretionary spending they approved earlier in the year.

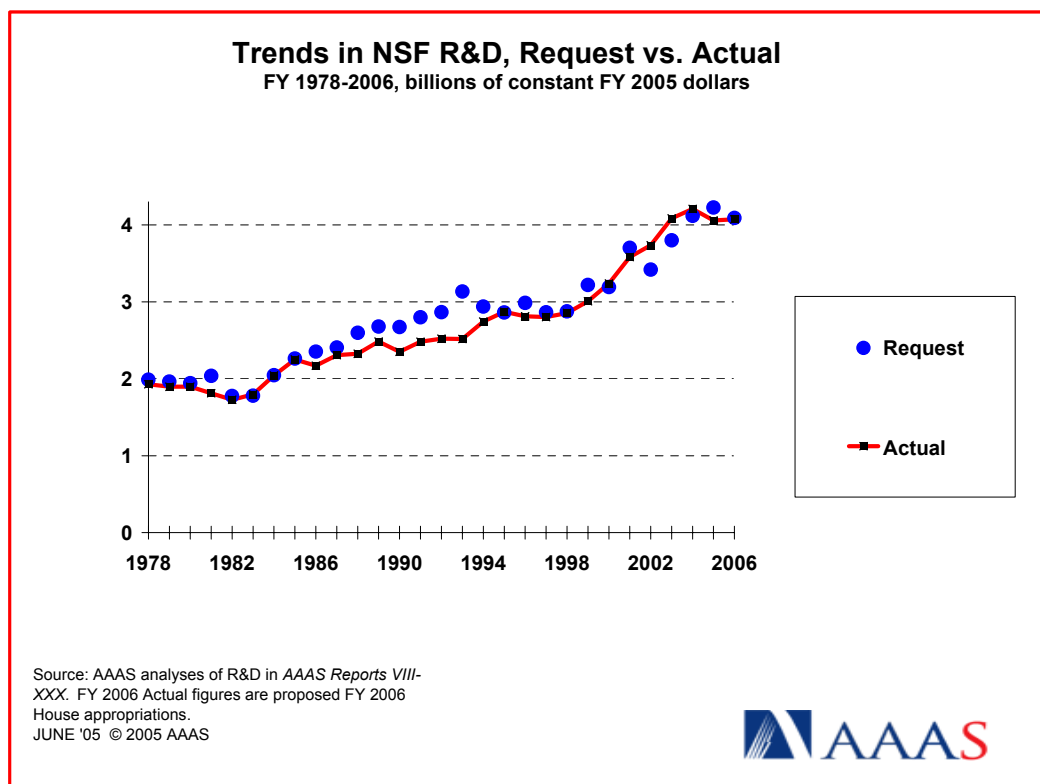


Figure 2. (click on the image for PDF)

The House is expected to debate and approve the Science, State, Justice, and Commerce appropriations bill the week of June 13. The Senate Appropriations Committee is expected to draft its version later this month.

(This analysis is one of a series of AAAS R&D Funding Updates on FY 2006 congressional appropriations. The complete series of AAAS R&D Funding Updates, including continually updated analyses of R&D in FY 2006 appropriations, is available on the AAAS R&D Web Site (<http://www.aaas.org/spp/rd>) in the “FY 2006 R&D” or the “What’s New” sections.)

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Table. NSF R&D in FY 2006 House Appropriations

**Table. National Science Foundation
House Appropriations Committee Action on R&D in the FY 2006 Budget
(budget authority in millions of dollars)**

| | FY 2005 Estimate | FY 2006 Request | FY 2006 House | House Action | | Chg. from FY 2005 | |
|---|---------------------|--------------------|------------------|-----------------------------|---------|-------------------|---------|
| | | | | Chg. from Request Amount | Percent | Amount | Percent |
| Research and Related Activities (R&RA) 1/ : | | | | | | | |
| Mathematical and Physical Sciences | 1,070 | 1,086 | 1,097 | 11 | 1.0% | 27 | 2.6% |
| Engineering | 561 | 581 | 587 | 6 | 1.0% | 25 | 4.5% |
| Biological Sciences | 577 | 582 | 588 | 6 | 1.0% | 11 | 1.9% |
| Geosciences | 694 | 709 | 716 | 7 | 1.0% | 22 | 3.2% |
| Computer and Info. Science and Eng. | 614 | 621 | 627 | 6 | 1.0% | 13 | 2.1% |
| Social, Behavioral and Econ. Scis. | 197 | 199 | 201 | 2 | 1.0% | 4 | 2.0% |
| International Programs | 34 | 35 | 35 | 0 | 1.0% | 1 | 3.4% |
| US Polar Programs 2/ | 344 | 387 | 391 | 4 | 1.0% | 47 | 13.5% |
| Integrative Activities | 130 | 135 | 136 | 1 | 1.0% | 6 | 4.9% |
| Total R&RA 1/ | 4,221 | 4,333 | 4,378 | 44 | 1.0% | 157 | 3.7% |
| Major Research Equipment | 174 | 250 | 193 | -57 | -22.7% | 20 | 11.3% |
| Education and Human Resources R&D | 140 | 115 | 126 | 11 | 9.5% | -14 | -10.1% |
| Less Non-R&D in R&RA 1/ | -477 | -529 | -545 | -16 | 3.1% | -68 | 14.2% |
| TOTAL NSF R&D | 4,057 | 4,170 | 4,152 | -18 | -0.4% | 95 | 2.3% |
| Non-R&D Programs and Activities: | | | | | | | |
| Non-R&D in R&RA 1/ | 477 | 529 | 545 | 16 | 3.1% | 68 | 14.2% |
| Other Education and Human Res. | 701 | 622 | 681 | 59 | 9.5% | -20 | -2.9% |
| (Total E.H.R. Budget) | 841 | 737 | 807 | 70 | 9.5% | -34 | -4.1% |
| Salaries and Expenses | 223 | 269 | 250 | -19 | -7.1% | 27 | 12.0% |
| National Science Board | 4 | 4 | 4 | 0 | 0.0% | 0 | 0.8% |
| Inspector General | 10 | 12 | 12 | 0 | 0.0% | 1 | 14.7% |
| Total NSF Non-R&D Activities | 1,416 | 1,435 | 1,491 | 56 | 3.9% | 76 | 5.4% |
| Total NSF Budget | 5,473 | 5,605 | 5,643 | 38 | 0.7% | 171 | 3.1% |

AAAS estimates based on FY 2006 appropriations bills. Includes conduct of R&D and R&D facilities.

FY 2005 and FY 2006 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.

1 R&RA funds are not appropriated by directorate. The FY 2006 House directorate figures are AAAS estimates based on report language in the FY 2006 appropriations bill.

2 FY 2006 Request and FY 2006 House figures include transfer of polar icebreakers costs from the Coast Guard.

**June 14, 2005 - AAAS estimates of House Appropriations Committee-approved bills.
These figures may be amended or rejected by the full House.**