

## Commerce R&D Falls Despite Big Proposed Gains For NIST Labs

### AAAS R&D Funding Update on R&D in the FY 2007 Commerce Budget

(This analysis is a preview of the Dept. of Commerce section in the forthcoming *AAAS Report XXXI: Research and Development FY 2007*, a comprehensive look at the President's budget for R&D in FY 2007. This analysis contains revised AAAS estimates of Commerce R&D, different from figures originally presented in the President's budget. More tables and continually updated supplemental materials on R&D in the FY 2007 budget can be found on the AAAS R&D Web site at <http://www.aaas.org/spp/rd>.)

#### Highlights

- **The intramural research activities of the National Institute of Standards and Technology (NIST) would be favored with substantial proposed increases in the 2007 budget** as part of the President's American Competitiveness Initiative. NIST's Scientific and Technical Research Services (STRS) would see its R&D funding increase 21.3 percent to \$382 million, while intramural Construction of Research Facilities (CRF) R&D would jump 41 percent to \$68 million.

- **But proposed cuts in other Commerce R&D programs would more than offset the proposed gains.** Total Commerce R&D would fall 0.9 percent to \$1.1 billion (see Table II-14).

- Once again, **the Bush Administration proposes to eliminate NIST's external Advanced Technology Program (ATP)**, already on its last legs at roughly a quarter of historical levels. The proposed budget would also slash the non-R&D Hollings Manufacturing Extension Partnership (MEP) program to less than half current funding levels.

- **R&D in the National Oceanic and Atmospheric Administration (NOAA) would fall sharply by \$39 million or 6.3 percent** down to \$578 million (see Table II-14), primarily but not exclusively from the proposed elimination of 2006 earmarks.

#### Commerce R&D in the FY 2007 Budget

President Bush's proposed FY 2007 budget proposes substantial increases for key physical sciences research agencies as part of an "American Competitiveness Initiative" (ACI) that was first previewed in his State of the Union address in response to a growing wave of concern about the state of U.S. innovation. The ACI proposes to double funding for three key physical sciences agencies over the next decade, and the 2007 budget requests the first installment of this ambitious plan. The National Institute of Standards and Technology (NIST) in the Department of Commerce is one of the three favored agencies (the others are the DOE Office of Science, and the National Science Foundation), and would receive a substantial increase in the 2007 budget after years of flat or declining funding.

The increases would go only to NIST's intramural laboratories and intramural construction, and would be offset by steep cuts in NIST's external programs. Commerce's other main R&D agency, the National Oceanic and Atmospheric Administration (NOAA) whose portfolio is oriented toward environmental R&D rather than the physical sciences, would be in line for R&D funding cuts like most domestic programs in the declining overall domestic budget. **Total Commerce R&D would fall 0.9 percent or \$10 million to \$1.1 billion** (see Table II-14), with cuts in NOAA R&D and NIST external R&D offsetting large proposed increases for NIST's intramural portfolio.

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The NIST laboratories in Maryland and Colorado would be stars in the 2007 R&D budget as part of the President's American Competitiveness Initiative (ACI). NIST intramural research would climb 21.3 percent to \$382 million within the Scientific and Technical Research and Services (STRS) account, while construction funding for NIST research facilities would jump 41 percent to \$68 million. The large proposed increases would allow for more of everything: there would be increases for R&D across the broad range of NIST programs, including hydrogen, nanotechnology, neutron research, measurement science and technology, cybersecurity, and bioimaging. On the construction side, the large increase would allow for major renovations at NIST's Boulder (CO) site, repair for aging facilities, and construction of NIST's Center for Neutron Research.

But once again, the increased investments for the NIST laboratories would be offset by cuts in other NIST programs, even though they all support the physical sciences and related research. **The Bush Administration once again proposes to eliminate NIST's extramural Advanced Technology Program (ATP)**, as it has in the past several budget requests. The ATP has a total budget of \$79 million in FY 2006, down by nearly half from the previous year, and can only fund previously awarded grants because it has no money available for new grants in 2006. Congress has repeatedly saved the program from termination, and will be asked to do so again in the 2007 appropriations process. In another repeat of previous requests, the budget would cut the non-R&D Hollings Manufacturing Extension Partnership (MEP) by 56 percent down to \$46 million. MEP is a program to operate a nationwide network of extension centers to disseminate better manufacturing technologies to small- and medium-sized manufacturers on a cost-shared basis with state governments and with users. The \$105 million current budget for MEP is slightly off the previous year's funding level, but in line with historical trends; the request would phase out the federal contribution to this federal-state partnership and leave MEP center funding heavily in state hands, a move that Congress has strongly resisted in past budgets.

The cuts to NIST's external programs leave the total NIST budget down a steep \$171 million or 22.7 percent to \$581 million. Among the proposed cuts are \$126 million in non-R&D congressionally earmarked projects in places far away from NIST facilities that were inserted into the normally R&D and internal Construction of Research Facilities account in 2006. Because the budget cuts disproportionately affect the non-R&D earmarks and the non-R&D MEP in the 2007 budget, total NIST R&D would increase 6.4 percent to \$451 million.

**National Oceanic and Atmospheric Administration (NOAA) R&D would fall \$39 million or 6.3 percent down to \$578 million** (see Table II-14), primarily but not entirely due to the proposed elimination of a bumper crop of 2006 congressional earmarks in 2007. Within the NOAA budget, the largest research office is Office of Oceanic and Atmospheric Research (OAR), whose budget would fall from \$380 million down to \$349 million. In OAR, the entire cut would be from eliminating earmarks, allowing for increases in OAR core programs. Climate Research would increase from \$170 million to \$182 million, including a 14 percent boost to \$126 million for competitively awarded research programs after a reorganization and a cut in 2006. The National Sea Grant College Program would hold steady at \$55 million after a cut in 2006, as would the core Weather and Air Quality Research program at \$41 million. (These NOAA data are preliminary, and will be revised shortly to reflect more detailed NOAA data on R&D in the budget.)

### **Impacts of Commerce R&D**

**Despite the good news for NIST's laboratories, a broader look at all Commerce R&D investments shows that the 2007 budget would continue a steady fall in Commerce R&D for most of this decade** (see Figure 1). Since 2002, the Commerce R&D budget has declined in real terms every year, and would fall 23 percent below the 2002 funding level. Both NOAA and NIST have lost ground over the last several years.

The differing missions of NOAA and NIST mean that Commerce has a diverse research portfolio in terms of science and engineering disciplines. NOAA funds environmental sciences and life sciences research related to its oceanic and atmospheric missions, which are not favored in the ACI, while NIST funds more ACI-relevant engineering, physical sciences, mathematics, and computer sciences research. Although

Commerce is not the leading funding source for any of the science and engineering disciplines, the department does provide key support for specific areas in oceanography, atmospheric sciences, standards research, measurement technologies, and physics most closely related to NIST and NOAA missions.

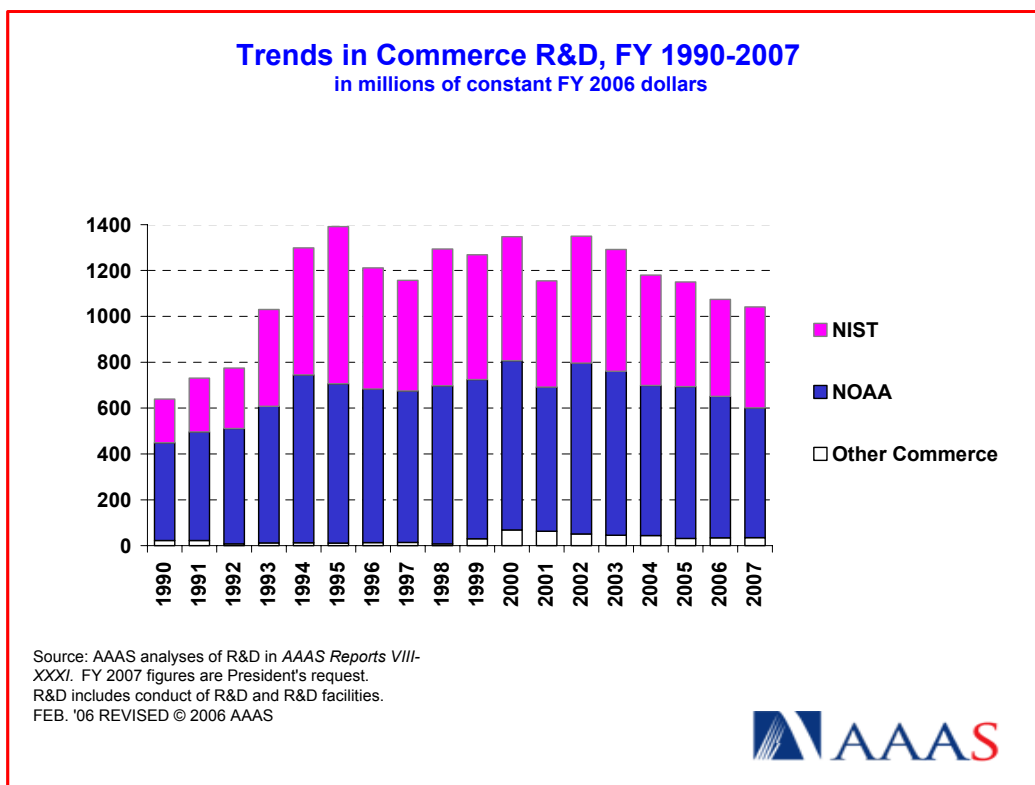


Figure 1. (click on the image for PDF)

### Outlook for the Commerce Budget

Because the American Competitiveness Initiative is a high priority in the FY 2007 budget, NIST would receive an increase even as most other domestic agencies face cuts within a declining domestic budget. Looking to the future, the Bush Administration's outyear budget projections show that in the push to reduce the budget deficit in half over the next few years, funding for most domestic programs would decline each year to 2011, but funding for NIST and the other two ACI programs would continue to increase in the outyears. The projections show NIST's intramural STRS account increasing steadily from \$463 million in 2007 up to \$653 million by 2011, accompanied by similar increases in the construction account. The gains would be offset somewhat by the elimination of the ATP, but even after adjusting for inflation all NIST R&D would gain 35 percent over the next five years. NOAA R&D, however, would share the fate of other R&D agencies that are not part of the ACI; projections show its R&D falling 19 percent after inflation over the next five years. Although budgets are always determined one year at a time, and Congress has not even acted on the first installment for 2007, Congress has so far been supportive of the Administration's proposed 2007 increase for NIST. But in past years, Congress has had to temper its support for NIST intramural programs by shifting funds to shore up requested cuts in ATP, MEP, and NOAA funding. If a similar scenario takes place in 2007 appropriations, then the Commerce R&D budget may end up more evenly distributed when appropriations are done.

(More materials on R&D in the FY 2007 budget, historical data and charts, and more information on AAAS Report XXXI: *Research and Development FY 2007*, can be found on the AAAS R&D Web site at <http://www.aaas.org/spp/rd>.)

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Table II-14. Department of Commerce R&D

**Table II-14.** R&D in the Department of Commerce  
(budget authority in millions of dollars)

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Budget	Change FY 06-07 Amount Percent	
National Oceanic and Atmospheric Administration (NOAA - Non R&D excluded)					
<b>Total NOAA R&amp;D</b>	646	617	<b>578</b>	-39	-6.3%
National Institute of Standards and Technology (NIST - Non-R&D components excluded)					
Scientific & Technical Research	304	315	<b>382</b>	67	21.3%
Advanced Tech. Program R&D	111	60	<b>0</b>	-60	-100.0%
Construction of Res. Facils. *	30	48	<b>68</b>	20	40.9%
<b>Total NIST R&amp;D</b>	444	423	<b>450</b>	27	6.5%
<i>STRS Non-R&amp;D Activities</i>	75	80	<b>85</b>	5	6.3%
<i>ATP Non-R&amp;D Activities</i>	29	19	<b>0</b>	-19	-100.0%
<i>Non-R&amp;D Construction</i>	43	125	<b>0</b>	-125	-100.0%
<i>Manuf. Extens. Partnership</i>	108	105	<b>46</b>	-58	-55.7%
<i>Total NIST Budget</i>	699	752	<b>581</b>	-171	-22.7%
Dept. Administration	1	1	<b>1</b>	0	0.0%
Nat'l Telecomm. & Info. Admin.	7	7	<b>6</b>	-1	-14.3%
Bureau of the Census	23	26	<b>29</b>	3	11.5%
<b>Total Commerce R&amp;D</b>	1,121	1,074	<b>1,064</b>	-10	-0.9%

Source: OMB data for R&D, NOAA and NIST R&D documents, and agency documents.

\* - Excludes congressional earmarks of \$43 mil. (2005) and \$126 mil. (2006).

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

**Please see Chapter 13 for a discussion of Commerce R&D.**

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