

Final FY 2002 Appropriations:

Federal R&D Climbs to Record High of \$103.7 Billion; DOD, NIH, and Counter-Terrorism R&D Make Big Gains

*(A Preview of Congressional Action on
Research and Development in the FY 2002 Budget)*

This report is a summary of AAAS estimates and analyses of **final FY 2002 appropriations** for federal R&D. This report is a preview of the forthcoming publication *Congressional Action on Research and Development in the FY 2002 Budget*. (Ordering information is on the last page).

On December 20, more than two months into fiscal year (FY) 2002, President Bush and the 107th Congress reached final agreements on FY 2002 appropriations, including federal support for R&D. President Bush will sign the last few appropriations bills into law shortly. Because of a recession, large tax cuts enacted in June, reconstruction and relief spending after the terrorist attacks, heightened security spending against future terrorist attacks, and war in Afghanistan, the federal budget is returning to budget deficits after four years of surpluses. But with a bipartisan consensus that the federal government must respond effectively to the above challenges, federal spending is set to increase dramatically in FY 2002, including federal support of R&D.

Every year, AAAS analyzes appropriations for R&D as signed into law and provides detailed estimates on the federal investment in R&D for the new fiscal year in the publication *Congressional Action on Research and Development*. The FY 2002 printed edition will be published in mid-January; the full text will be available on line on the AAAS R&D Web site (www.aaas.org/spp/R&D) on January 4. Detailed information on the largest R&D funding agencies, historical tables, and other supplementary materials will also be available on the AAAS R&D Web site. This preview report offers selected highlights from the book.

Highlights of Federal R&D in FY 2002

On December 20, Congress approved the last of the fiscal year (FY) 2002 appropriations bills and adjourned for the year, bringing to a close the FY 2002 budget process nearly three months after the October 1 start of FY 2002. Because of increased attention to national security needs and counter-terrorism activities in the aftermath of the September 11 terrorist attacks and the subsequent war in Afghanistan, and the bipartisan commitment to double the NIH budget over five years, the federal government's research and development (R&D) investments received record increases in the FY 2002 budget.

- **The federal investment in research and development (R&D) exceeds \$100 billion for the first time.** Federal R&D in FY 2002 totals \$103.7 billion, a \$12.3 billion or 13.5 percent increase over FY 2001 that is the largest dollar increase in history and the largest percentage increase in nearly 20 years (see Table 1).

- **There are substantial increases for all the major federal R&D agencies, in contrast to proposed cuts for most agencies in the Bush Administration's April budget request** (see Table 1 and Figure 1). The largest dollar and percentage increases go to the two largest R&D funding agencies, the Department of Defense (DOD) and the National Institutes of Health (NIH), reflecting the high priority placed on defense and health by the Bush Administration and Congress. DOD R&D increases by \$7.4 billion or 17.3 percent to reach \$50.1 billion thanks to dramatic

increases for missile defense development and other DOD investments to respond to U.S. military needs. NIH R&D increases 15.8 percent to \$22.8 billion to fulfill the fourth year of a five-year campaign to double the NIH budget, with additional funds provided to combat bioterrorism. (Details of final agency R&D appropriations will be available next week on the AAAS R&D Web site, or by clicking on the links in the on-line version of this document.)

- **There are large increases for basic and applied research in FY 2002, especially in NIH.** The total federal investment in research is \$48.2 billion, an increase of 11.0 percent or \$4.8 billion over FY 2001 (see Table 2). NIH remains the largest single sponsor of basic and applied research; in FY 2002, NIH alone will fund 46 percent of all federal support of research. All federal agencies receive increases for their research portfolios, especially agencies with defense or counter-terrorism research programs.

- In response to the terrorist attacks of September 11, **terrorism-related R&D nearly triples over last year to \$1.5 billion.** Federal counter-terrorism R&D totals \$1.5 billion in FY 2002 (up from \$579 million in FY 2001), roughly half from regular appropriations and half from emergency appropriations out of a \$40 billion post-September 11 emergency response fund. Although the President and the House had originally proposed no emergency R&D funds to respond to the September 11 attacks, the Senate’s idea of allocating a portion of the \$40 billion fund to counter-terrorism R&D prevailed in the final FY 2002 emergency budget. (A detailed analysis of federal counter-terrorism R&D in FY 2002 appropriations will be available in early January).

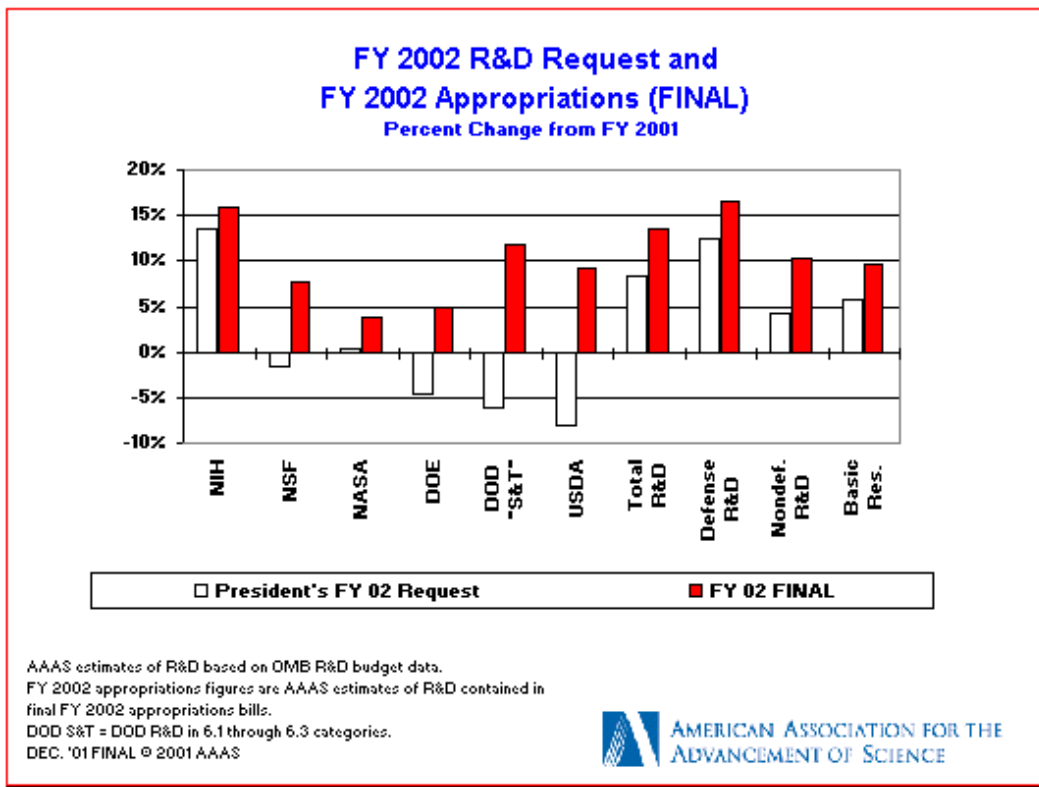


Figure 1. (click on the image to view or download a full-page version of this chart)

- **R&D for all national missions increases, with especially large boosts for defense and health R&D** (see Table 3). In defense, DOD S&T investments exceed \$10 billion for the first time to

reach \$10.5 billion (up 11.8 percent), while funding for missile defense development nearly doubles. In health, the NIH budget remains on track to double between FY 1998 and FY 2003 with a \$3.1 billion increase in R&D to \$22.8 billion, but NIH and the Centers for Disease Control and Prevention (CDC) also receive substantial emergency funds for bioterrorism R&D and improved laboratory facilities. Counter-terrorism R&D funds are responsible for large increases for other missions: agriculture R&D rises 9.4 percent to \$1.9 billion in part to address food safety issues and to improve security at agricultural laboratories that handle pathogens; natural resources and environment R&D rises 11.2 percent to \$2.5 billion in part for R&D on securing drinking water supplies; and transportation R&D climbs 6.7 percent to \$1.8 billion, partially because of a large infusion of emergency funds for the Federal Aviation Administration’s aviation security R&D programs.

- Congress remains committed to funding R&D earmarks, congressionally designated performer-specific R&D projects that are not part of an agency’s spending plan. **R&D earmarks total \$1.5 billion in FY 2002.** The U.S. Department of Agriculture (USDA), DOD, the Department of Energy (DOE), and the National Aeronautics and Space Administration (NASA) have the most earmarks. (A detailed analysis of R&D earmarks in FY 2002 appropriations will be available in early January).

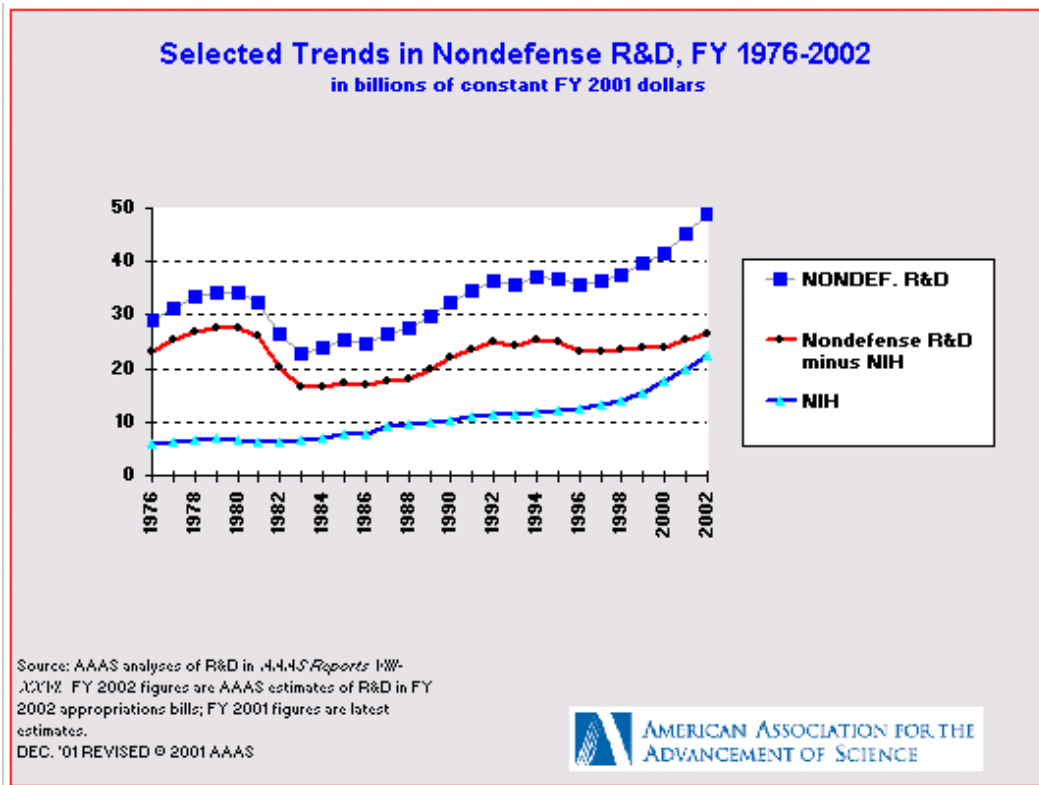


Figure 2. (click on the image to view or download a full-page version of this chart)

- **Nondefense R&D reaches another all-time high in FY 2002**, the sixth year in a row that nondefense R&D has increased in inflation-adjusted terms (see Figure 2). A large part of the recent increases has been due to steady growth in the NIH budget, including increases of approximately 15 percent for four years in a row. As a result, NIH R&D has become nearly as large as all other nondefense agencies’ R&D funding combined. Funding for nondefense R&D excluding NIH has

stagnated in recent years; after steady growth in the 1980s, funding peaked in FY 1994 and then declined sharply as a result of tight budget conditions in the mid-1990s. The FY 2002 increases for non-NIH agencies, while large, just barely brings these agencies back to the funding levels of the early 1990s, and some of these increases are due to emergency counter-terrorism funds that may be one-time appropriations.

- The **“FS&T budget” rises by 11.1 percent in FY 2002** to \$52.4 billion (see Table 4). Most of this increase is due to a 15.7 percent increase to the total NIH budget, although there are increases for all FS&T programs. The Office of Management and Budget (OMB) introduced the FS&T budget in the FY 2002 budget request as a successor to the Clinton Administration’s “21st Century Research Fund.” FS&T is a collection of selected R&D and non-R&D programs that emphasize basic and applied research and the creation of new knowledge or technologies. It also includes some S&T education and training activities but excludes most development, and is designed to be an alternative measure for the federal investment in science and technology.

R&D Appropriations for Key Agencies

Full information on final funding levels and program details for individual agencies can be found in revised AAAS R&D Funding Updates on the AAAS R&D Web site, available the first week of January. (The on-line version of this document features links to the agency updates). Please see also the agency sections in *Congressional Action on R&D in the FY 2002 Budget*.

- **Department of Defense (DOD) R&D totals \$50.1 billion** - an increase of 17.3 percent or \$7.4 billion from the FY 2001 level of \$42.7 billion, the largest dollar increase in history. Perhaps most prominent is a 66.4 percent rise in R&D funding for the Ballistic Missile Defense Organization (BMDO) to \$7.0 billion. President Bush has stated that the development of a national missile defense system is one of the top priorities of his administration. Basic research (“6.1”) and applied research (“6.2”) also receive substantial increases in funding: basic research rises by 5.0 percent to \$1.4 billion, while applied research rises by 14.6 percent to \$4.2 billion. DOD S&T, which encompasses the “6.1” through “6.3” categories plus medical research, exceeds \$10 billion for the first time to reach \$10.5 billion, meeting the DOD goal of setting aside 3 percent of the DOD budget for S&T. Included in S&T is a \$461 million appropriation outside the regular R&D accounts for congressionally designated medical research.
- **The National Institutes of Health (NIH) budget of \$23.6 billion, including emergency funds, represents a \$3.2 billion or 15.7 percent increase over FY 2001**, keeping NIH on the fourth year of a course toward doubling its budget in five years. Every institute receives an increase greater than 12 percent, and five receive increases greater than 20 percent. The National Institute of Allergy and Infectious Diseases (NIAID) sees its budget jump 22.5 percent to \$2.5 billion, including a separate emergency appropriation of \$155 million for counterterrorism activities including a new biosafety laboratory and bioterrorism R&D. NIH Buildings and Facilities funding more than doubles to \$345 million, partly from emergency funds to boost security of NIH laboratory facilities against terrorist attacks. The National Center for Research Resources (NCRR) receives \$1.0 billion (up 23.8 percent), including \$160 million for the Institutional Development Award (IdeA) program (up from \$100 million in FY 2001) to provide capacity-building assistance to states underrepresented in the NIH portfolio and \$110 million for extramural facilities construction (up from \$75 million). Among other agencies in the Department of Health and Human Services (HHS), the **Centers for Disease Control and Prevention (CDC) is the big winner** with a 33.3 percent increase to \$689 million for its R&D

programs. Most of the increase comes from emergency counterterrorism R&D funds designed to boost CDC's laboratory security and capabilities against bioterrorism, and to fund CDC research on bioterrorism threats, particularly anthrax.

- The **National Aeronautics and Space Administration's (NASA)** total budget of \$14.9 billion in FY 2002 represents a 4.5 percent increase over FY 2001. Total NASA R&D, which excludes the Space Shuttle and its mission support costs, increases 3.8 percent to \$10.3 billion. Although the final NASA budget was approved in November, NASA received an extra \$33 million in emergency R&D funds in December for counterterrorism activities and \$76 million for security upgrades. The troubled International Space Station, now projected to run more than \$4 billion over budget over the next five years, receives \$1.7 billion, a cut of 18.4 percent. The cut mostly reflects the transfer of Space Station research to the Biological and Physical Research (BPR) account. The Science, Aeronautics, and Technology (SAT) account receives \$7.9 billion, 11.6 percent or \$823 million more than FY 2001, with substantial increases for BPR, Space Science, Aero-Space Technology, and Academic Programs.
- The **Department of Energy (DOE)** receives \$8.1 billion for its R&D programs in FY 2002, \$378 million or 4.9 percent more than FY 2001. R&D in DOE's three mission areas of energy, science, and defense all increase over FY 2001, with small increases for energy R&D (up 1.6 percent) and science R&D (up 2.1 percent) and a larger increase for defense R&D (up 8.4 percent), partially because of last-minute emergency appropriations for counter-terrorism R&D. While the Bush Administration proposed drastic cuts in many of DOE's energy R&D programs, the final FY 2002 budget generally keeps funding at FY 2001 levels or provides slight increases. Most Science programs receive funding close to FY 2001 funding levels. In Defense programs, Weapons Activities R&D totals \$2.6 billion, an increase of 9.0 percent, mostly to fund R&D at DOE's three weapons labs which are responsible for the nation's nuclear stockpile. Nonproliferation and Verification R&D jumps 51.2 percent to \$309 million because of emergency appropriations to combat potential nuclear terrorism.
- In the final NSF budget, the **National Science Foundation's (NSF)** R&D funding rises 7.6 percent for a total of \$3.5 billion. Most of NSF's research directorates receive increases greater than 8 percent, in contrast to level or declining funding in the request. The largest budget increases, however, go to NSF's non-R&D programs in education and human resources for a new math and science education partnerships program. The final NSF budget boosts funding for information technology research, nanotechnology research, and the Major Research Instrumentation program. The Major Research Equipment (MRE) account, which funds construction of large-scale scientific facilities, receives \$139 million, \$42 million more than the request because of funding for two projects that were not part of NSF's budget request. Another potential future NSF project, the National Underground Science Laboratory in South Dakota, receives \$10.3 million from another agency, but NSF would have oversight of future plans for the laboratory site, currently an abandoned mine.
- The **U.S. Department of Agriculture (USDA)** receives a large budget boost from emergency funds to combat terrorism. USDA R&D totals \$2.1 billion in FY 2002, a boost of \$180 million or 9.2 percent. USDA's intramural Agricultural Research Service (ARS) receives \$40 million in emergency funds for research on food safety and potential terrorist threats to the food supply and \$73 million in R&D facilities funds to improve security at two ARS laboratories that handle pathogens. Total ARS R&D increases 22.0 percent to

\$1.2 billion, including a large boost in Buildings and Facilities funding from \$74 million to \$192 million. The final Agriculture budget prohibits the Initiative for Future Agriculture and Food Systems (IFAFS) program and another small program from spending mandatory R&D funds for competitively awarded research grants. The National Research Initiative, USDA's regular competitive grants program, receives \$120 million, \$15 million more than FY 2001. The final USDA budget boosts funding for congressionally designated research projects, including \$97 million (up 13.5 percent) for Special Research Grants.

- The **Department of Commerce's** R&D programs receive \$1.4 billion in FY 2002, \$153 million or 12.7 percent more than FY 2001, and a substantial \$244 million more than the request. Commerce's two major R&D agencies—the National Institute of Standards and Technology (NIST) and the National Oceanic and Atmospheric Administration (NOAA)—both receive large increases. NOAA R&D rises by 15.3 percent to \$836 million, with large increases across several NOAA accounts, including the National Ocean Service (NOS) and Oceanic and Atmospheric Research (OAR). The final Commerce budget follows the Senate lead in keeping NIST's Advanced Technology Program (ATP) alive with a boost of 26.6 percent in its R&D to \$150 million. The Bush Administration and the House would have all but eliminated the program. Total NIST R&D increases 17.1 percent to \$493 million. NIST's intramural R&D programs rise by 4.3 percent to \$279 million, including some emergency funding for cyber security. Funding for NIST's Construction of Research Facilities account climbs 83 percent to \$64 million, of which \$41 million is reserved for 11 congressionally designated research projects. The FY 2002 increase, after adjusting for inflation, brings Commerce R&D to an all-time high.
- The **Department of the Interior's (DOI)** R&D budget totals \$673 million in FY 2002, an increase of 6.5 percent. Although the President's FY 2002 request caused alarm in the science and engineering community because of its proposed cut of nearly 11 percent for R&D in Interior's U.S. Geological Survey (USGS), the final budget restores the cuts and gives USGS an increase of 3.1 percent over FY 2001 to \$567 million.
- The **Environmental Protection Agency (EPA)** has an FY 2002 R&D budget of \$702 million, a substantial \$93 million or 15.3 percent more than last year. The large increase is due to \$70 million in emergency counterterrorism R&D funds to improve security at EPA labs, assess the vulnerability of drinking water supplies against terrorism, and perform anthrax decontamination. The regular EPA R&D budget funds most R&D programs at the FY 2001 level, but adds nearly 50 congressionally designated research projects to the Science and Technology account and nearly 20 earmarked R&D projects to other EPA accounts.
- **Department of Transportation (DOT)** R&D climbs to an all-time high in FY 2002 of \$853 million, \$106 million or 14.2 percent more than FY 2001. The Federal Aviation Administration (FAA) receives \$50 million in emergency counterterrorism funds to develop better aviation security technologies. FAA receives a total of \$373 million for R&D, a large gain of 23.9 percent because of the emergency funds and also because of guarantees of increased funding for FAA programs which became law last year. Most DOT highway and traffic safety R&D programs increase substantially because of guaranteed funding increases written into a 1998 transportation law.

The full report offers 17 detailed funding tables, several charts, a chronology of the events in the FY 2002 budget process, an analysis of funding trends, and analyses of the impacts of the FY 2002 budget on each of the major R&D funding agencies. Individual agency analyses, historical tables, agency funding tables, and charts of recent funding trends are also available on the AAAS R&D Web site in the “FY 2002 R&D” section (URL at the end of this report).

Publication Information

The AAAS publication *Congressional Action on Research and Development in the FY 2002 Budget*, from which this preview report is excerpted, will be available in mid-January from AAAS. **The full report, and supplementary material including detailed agency funding analyses, historical tables, and charts illustrating recent R&D funding trends, will be available on-line on January 4.** Ordering information is as follows:

Congressional Action on Research and Development in the FY 2002 Budget,
Kei Koizumi, Paul H. Turner, 2001. \$10.95; \$8.75 to AAAS members.

We are accepting advance orders for the report. Please send a check or purchase order and mailing information directly to AAAS Science and Policy Programs, 1200 New York Ave., NW #823, Washington, DC 20005 to receive the report as soon as it is published. The publication will be mailed automatically to all participants in the 26th AAAS Colloquium on Science and Technology Policy (May 2001). After publication, the report may be ordered from the AAAS Distribution Center. Address: AAAS Distribution Center, P.O. Box 521, Annapolis Junction, MD 20701. For VISA / Mastercard orders call 1-800-222-7809 (8:30 AM - 5:00 PM ET). Fax orders to 301-206-9789. For shipments to CA and DC, add applicable sales tax. For shipments to Canada, add the GST. Please allow 2-3 weeks for delivery. Please add \$4.00 for postage and handling per order. Orders must be prepaid by check or accompanied by purchase order payable to AAAS.

- December 28, 2001

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Table 1. R&D by Agency in FY 2002 Appropriations (FINAL as of December 26)

Table 1. Total R&D by Agency
Congressional Action on R&D in the FY 2002 Budget (FINAL - Dec. 26, 2001)
(budget authority in millions of dollars)

	FY 2001 Estimate	FY 2002 Request	Action by Congress				
			FY 2002 Approved	Chg. from Request Amount	Chg. from Request Percent	Chg. from FY 2001 Amount	Chg. from FY 2001 Percent
Defense (military)	42,743	48,454	50,134	1,680	3.5%	7,390	17.3%
("S&T" 6.1,6.2,6.3 + Medical)	9,420	8,827	10,527	1,700	19.3%	1,107	11.8%
(All Other DOD R&D)	33,324	39,627	39,607	-20	-0.1%	6,283	18.9%
National Aeronautics & Space Admin.	9,925	9,967	10,301	334	3.4%	375	3.8%
Energy	7,744	7,399	8,122	723	9.8%	378	4.9%
Health and Human Services	20,859	23,496	24,145	650	2.8%	3,287	15.8%
(National Institutes of Health)	19,710	22,395	22,822	428	1.9%	3,113	15.8%
National Science Foundation	3,279	3,226	3,527	301	9.3%	249	7.6%
Agriculture	1,959	1,801	2,139	338	18.8%	180	9.2%
Interior	631	593	673	80	13.5%	41	6.5%
Transportation	747	798	853	55	6.9%	106	14.2%
Environmental Protection Agency	609	569	702	133	23.4%	93	15.3%
Commerce	1,201	1,110	1,354	244	22.0%	153	12.7%
(NOAA)	726	772	836	64	8.3%	111	15.3%
(NIST)	421	313	493	180	57.6%	72	17.1%
Education	265	259	265	6	2.5%	0	0.1%
Agency for Int'l Development	200	193	204	11	5.7%	4	2.0%
Department of Veterans Affairs	703	722	733	11	1.5%	30	4.3%
Nuclear Regulatory Commission	50	67	68	1	2.0%	18	36.6%
Smithsonian	118	118	119	1	0.7%	1	0.7%
All Other	336	285	355	70	24.4%	19	5.6%
Total R&D	91,371	99,057	103,694	4,638	4.7%	12,324	13.5%
Defense R&D	46,243	51,996	53,928	1,932	3.7%	7,685	16.6%
Nondefense R&D	45,128	47,061	49,766	2,706	5.7%	4,638	10.3%
Nondefense R&D minus NIH	25,418	24,666	26,944	2,278	9.2%	1,526	6.0%
Basic Research	22,015	23,302	24,141	839	3.6%	2,126	9.7%
Applied Research	21,450	22,013	24,105	2,092	9.5%	2,655	12.4%
Total Research	43,464	45,314	48,246	2,932	6.5%	4,782	11.0%
"FS&T"	47,138	49,572	52,373	2,802	5.7%	5,235	11.1%

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

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

December 26, 2001 - Based on approved FY 2002 appropriations bills.

Includes emergency appropriations for counterterrorism and national security.

Table 2. Basic and Applied Research in FY 2002 Final Appropriations (FINAL - December 26)

Table 2. Estimated Research by Agency
Congressional Action on R&D in the FY 2002 Budget (FINAL - Dec. 26, 2001)
(budget authority in millions of dollars)

	FY 2001 Estimate	FY 2002 Request	Action by Congress				
			FY 2002 Approved	Chg. from Request Amount	Chg. from Request Percent	Chg. from FY 2001 Amount	Chg. from FY 2001 Percent
Basic Research:							
Health and Human Services	11,537	12,973	13,133	160	1.2%	1,595	13.8%
<i>National Institutes of Health</i>	11,535	12,971	13,132	161	1.2%	1,596	13.8%
National Science Foundation	2,796	2,799	3,030	231	8.3%	234	8.4%
Department of Defense	1,317	1,304	1,383	79	6.0%	65	5.0%
Department of Energy	2,372	2,347	2,450	103	4.4%	78	3.3%
National Aeronautics & Space Admin.	2,556	2,466	2,607	141	5.7%	51	2.0%
Department of Agriculture	743	717	795	78	10.9%	52	7.0%
Department of the Interior	57	54	59	5	9.2%	2	3.6%
Smithsonian	105	102	103	1	0.8%	-2	-2.1%
Environmental Protection Agency	105	98	122	24	24.6%	17	16.3%
Department of Commerce (NIST)	42	40	43	4	9.0%	2	4.3%
All Other	385	402	416	14	3.6%	31	8.1%
Total Est. Basic Research	22,015	23,302	24,141	839	3.6%	2,126	9.7%
RESEARCH (basic and applied):							
Health and Human Services	20,575	23,046	23,539	493	2.1%	2,964	14.4%
<i>National Institutes of Health</i>	19,478	21,988	22,348	360	1.6%	2,870	14.7%
National Science Foundation	3,016	3,017	3,266	249	8.3%	250	8.3%
Department of Defense	5,405	5,028	6,056	1,028	20.4%	651	12.0%
Department of Energy	4,597	4,474	4,802	329	7.3%	206	4.5%
National Aeronautics & Space Admin.	4,243	4,277	4,523	246	5.7%	280	6.6%
Department of Agriculture	1,664	1,545	1,693	148	9.5%	29	1.7%
Department of the Interior	594	557	629	72	12.9%	35	5.9%
Environmental Protection Agency	475	442	552	110	24.8%	77	16.3%
Department of Commerce	995	987	1,136	149	15.1%	142	14.3%
NOAA	692	741	772	31	4.2%	80	11.6%
NIST	296	239	358	118	49.5%	62	20.9%
Department of Transportation	477	530	563	33	6.3%	86	18.0%
Department of Veterans Affairs	689	707	718	11	1.5%	29	4.2%
Department of Education	167	169	173	4	2.5%	6	3.7%
All Other	568	535	596	61	11.4%	28	4.9%
TOTAL EST. RESEARCH	43,464	45,314	48,246	2,932	6.5%	4,782	11.0%

AAAS estimates of basic and applied research in FY 2002 appropriations bills.

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

December 26, 2001 - Based on enacted FY 2002 appropriations bills.

Includes emergency appropriations for counterterrorism and national security.

Table 3. Major Functional Categories of R&D in FY 2002 Appropriations (FINAL)

**Table 3. Major Functional Categories of R&D
Congressional Action on R&D in the FY 2002 Budget (FINAL - Dec. 26, 2001)
(budget authority in millions of dollars)**

	FY 2001 Estimate	FY 2002 Request	Action by Congress				
			FY 2002 Approved	Chg. from Request		Chg. from FY 2001	
				Amount	Percent	Amount	Percent
Defense ¹	46,243	51,996	53,928	1,932	3.7%	7,685	16.6%
Nondefense ²	45,128	47,061	49,766	2,706	5.7%	4,638	10.3%
Space	8,999	9,077	9,368	292	3.2%	369	4.1%
Health	21,506	24,173	24,818	646	2.7%	3,312	15.4%
Energy	1,340	994	1,379	384	38.7%	38	2.9%
General Science	6,234	6,156	6,545	389	6.3%	312	5.0%
Natural Resources & Environ.	2,272	2,230	2,528	297	13.3%	255	11.2%
Agriculture	1,713	1,551	1,874	322	20.8%	161	9.4%
Transportation	1,673	1,688	1,785	98	5.8%	112	6.7%
Commerce	475	337	517	180	53.5%	42	8.8%
International	216	206	217	11	5.3%	1	0.5%
All Other	700	649	736	87	13.3%	36	5.1%
Total R&D	91,371	99,057	103,694	4,638	4.7%	12,324	13.5%

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

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

Classifications generally follow the government's budget function categories except health (which here includes health R&D in HHS and VA).

¹ Includes DOD R&D and atomic energy defense R&D in DOE.

² Includes all R&D not in defense (domestic and international discretionary programs).

December 26, 2001 - Based on enacted FY 2002 appropriations bills.

Includes emergency appropriations for counterterrorism and national security.

**Table 4. "FS&T Budget" by Agency
Congressional Action on R&D in the FY 2002 Budget (FINAL - Dec. 26, 2001)
(budget authority in millions of dollars)**

	FY 2001 Estimate	FY 2002 Request	Action by Congress				
			FY 2002 Approved	Chg. from Request Amount	Percent	Chg. from FY 2001 Amount	Percent
Health and Human Services	20,361	23,112	23,556	444	1.9%	3,195	15.7%
<i>(National Institutes of Health)</i>	20,361	23,112	23,556	444	1.9%	3,195	15.7%
National Science Foundation	4,417	4,473	4,789	317	7.1%	373	8.4%
Department of Energy	4,912	4,654	5,217	563	12.1%	305	6.2%
National Aeronautics & Space Admin.	6,934	7,038	7,283	245	3.5%	349	5.0%
Department of Defense	4,993	4,963	5,595	632	12.7%	601	12.0%
<i>(Basic Research)</i>	1,317	1,304	1,383	79	6.0%	65	5.0%
<i>(Applied Research)</i>	3,676	3,659	4,212	553	15.1%	536	14.6%
Agriculture	1,836	1,767	1,877	110	6.2%	41	2.2%
Commerce	808	711	930	219	30.8%	122	15.1%
<i>(OAR in NOAA)</i>	315	330	356	26	7.9%	41	13.0%
<i>(NIST minus MEP)</i>	493	381	574	193	50.6%	81	16.4%
Interior (USGS)	883	813	914	101	12.4%	31	3.5%
Environmental Protection Agency	732	677	825	148	21.8%	93	12.8%
Veterans Affairs	350	360	371	11	3.1%	21	6.0%
Education	364	368	378	10	2.8%	14	3.9%
Transportation	548	635	638	3	0.5%	90	16.4%
Total "FS&T"	47,138	49,572	52,373	2,802	5.7%	5,235	11.1%

AAAS estimates of FS&T in FY 2002 appropriations bills,

OMB data from the *Budget of the U.S. Government FY 2002: Analytical Perspectives* Chapter 7.

The programs in the Federal Science and Technology Budget do not correspond to definitions of R&D.

The FS&T Budget contains selected R&D and non-R&D programs with an emphasis on basic and applied research and the creation of new knowledge or technologies. The programs in this table were selected by OMB, and differ from the original definitions of FS&T proposed by the National Academy of Sciences.

December 26, 2001 - Based on approved FY 2002 appropriations bills.

Includes emergency appropriations for counterterrorism and national security.