

AAAS Analysis of R&D in the FY 2003 Budget

Table 1. R&D in the FY 2003 Budget by Agency
(budget authority in millions of dollars)

	FY 2001 Actual	FY 2002 Estimate	FY 2003 Budget	Change FY 02-03	
				Amount	Percent
Total R&D (Conduct and Facilities)					
Defense (military)	42,740	49,639	54,827	5,188	10.5%
<i>S&T (6.1-6.3 + medical)</i>	9,365	10,341	9,957	-384	-3.7%
<i>All Other DOD R&D</i>	33,375	39,298	44,870	5,572	14.2%
Health and Human Services	21,045	24,141	27,551	3,410	14.1%
<i>Nat'l Institutes of Health</i>	19,807	22,795	26,452	3,657	16.0%
NASA	9,887	10,232	10,676	444	4.3%
Energy	7,733	8,361	8,323	-38	-0.5%
<i>NNSA and other defense</i>	3,462	3,839	3,947	108	2.8%
<i>Energy and Science programs</i>	4,271	4,522	4,376	-146	-3.2%
Nat'l Science Foundation	3,320	3,526	3,651	125	3.5%
Agriculture	2,181	2,334	2,118	-216	-9.3%
Commerce	1,030	1,096	1,100	4	0.3%
<i>NOAA</i>	561	611	605	-6	-1.1%
<i>NIST</i>	413	460	483	23	5.0%
Interior	621	660	628	-32	-4.8%
Transportation	718	778	736	-42	-5.4%
Environ. Protection Agency	574	592	627	35	5.9%
Veterans Affairs	719	761	810	49	6.5%
Education	264	268	311	43	16.0%
All Other	702	763	689	-74	-9.7%
Total R&D	91,534	103,150	112,047	8,897	8.6%
Defense R&D	46,202	53,478	58,774	5,297	9.9%
Nondefense R&D	45,332	49,672	53,273	3,601	7.2%
<i>Nondefense R&D excluding NIH</i>	25,525	26,877	26,821	-56	-0.2%
Basic Research	21,376	23,635	25,499	1,864	7.9%
Applied Research	22,451	25,050	26,370	1,320	5.3%
Development	42,959	49,390	55,235	5,845	11.8%
R&D Facilities and Equipment	4,749	5,075	4,943	-132	-2.6%

Source: AAAS, based on OMB data for R&D for FY 2003, agency budget justifications, and information from agency budget offices.

All years include homeland security and other emergency appropriations.

All years adjusted to include proposals to fully fund federal retiree costs.

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Table 2. Research in the FY 2003 Budget
(budget authority in millions of dollars)

	FY 2001	FY 2002	FY 2003	Change FY 02-03	
	Actual	Estimate	Budget	Amount	Percent
BASIC RESEARCH					
Defense (military)	1,287	1,376	1,365	-11	-0.8%
Health and Human Services	11,642	13,193	14,379	1,185	9.0%
<i>Nat'l Institutes of Health</i>	11,639	13,190	14,376	1,185	9.0%
NASA	1,695	1,967	2,361	395	20.1%
Energy	2,390	2,424	2,519	94	3.9%
Nat'l Science Foundation	2,852	3,058	3,205	147	4.8%
Agriculture	801	860	880	20	2.3%
Commerce (NIST)	50	52	73	21	40.4%
Interior	56	58	55	-3	-4.4%
Transportation	17	13	25	12	92.6%
Environ. Protection Agency	104	107	101	-6	-5.3%
Smithsonian	108	111	114	3	2.7%
Veterans Affairs	289	329	351	23	6.9%
All Other	84	87	70	-17	-19.5%
Total Basic Research	21,376	23,635	25,499	1,864	7.9%
<i>Basic research excluding NIH</i>	9,737	10,445	11,123	679	6.5%
RESEARCH (basic + applied)					
Defense (military; incl. medical)	5,393	5,926	5,213	-713	-12.0%
Health and Human Services	20,735	23,610	26,636	3,027	12.8%
<i>Nat'l Institutes of Health</i>	19,561	22,346	25,578	3,232	14.5%
NASA	4,294	4,824	5,549	725	15.0%
Energy	4,697	5,155	5,188	32	0.6%
Nat'l Science Foundation	3,032	3,250	3,404	154	4.7%
Agriculture	1,845	1,846	1,826	-20	-1.1%
Commerce	825	887	883	-4	-0.4%
NOAA	511	546	546	0	0.0%
NIST	306	334	328	-6	-1.8%
Interior	590	628	596	-32	-5.1%
Transportation	461	517	506	-10	-2.0%
Environ. Protection Agency	474	489	531	41	8.5%
Veterans Affairs	704	745	794	48	6.5%
Education	174	180	213	33	18.3%
Agency for Int'l Develop.	249	268	182	-86	-32.1%
Smithsonian	108	111	114	3	2.7%
All Other	246	249	235	-14	-5.6%
Total Research	43,826	48,685	51,869	3,184	6.5%
<i>Total research excluding NIH</i>	24,265	26,339	26,291	-48	-0.2%

Source: AAAS, based on OMB data for R&D for FY 2003, agency budget justifications, and information from agency budget offices.

All years include homeland security and other emergency appropriations.

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Table 3. AAAS Analysis of the Outyear Projections for R&D in the FY 2003 Budget
(budget authority in millions of dollars)

	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	% Change FY 02-07	
	Estimate	Budget	Projected	Projected	Projected	Projected	current \$	constant \$
Total R&D (Conduct and Facilities)								
Defense (military) *	49,639	54,827	58,066	61,789	60,009	59,065	19.0%	8.7%
Health & Human Services	24,141	27,551	28,136	28,761	29,431	30,104	24.7%	13.9%
<i>Nat'l Institutes of Health</i>	22,795	26,452	27,009	27,610	28,254	28,916	26.8%	15.9%
NASA	10,232	10,676	11,144	11,370	11,815	12,240	19.6%	9.3%
Energy	8,361	8,323	8,470	8,627	8,798	8,974	7.3%	-1.9%
<i>Defense</i>	3,839	3,947	4,003	4,062	4,127	4,192	9.2%	-0.2%
<i>Nondefense</i>	4,522	4,376	4,468	4,565	4,671	4,782	5.8%	-3.4%
Nat'l Science Foundation	3,526	3,651	3,728	3,811	3,900	3,991	13.2%	3.4%
Agriculture	2,334	2,118	2,286	2,273	2,319	2,373	1.7%	-7.1%
Commerce	1,096	1,100	1,122	1,147	1,172	1,199	9.4%	-0.1%
Interior	660	628	641	654	668	682	3.4%	-5.5%
Transportation	778	736	750	763	779	797	2.5%	-6.4%
Environ. Protection Agcy.	592	627	640	653	669	685	15.7%	5.7%
Veterans Affairs	761	810	826	844	863	883	16.1%	6.1%
All Other	1,031	1,000	1,016	1,033	1,052	1,071	3.9%	-5.1%
Total R&D	103,150	112,047	116,824	121,726	121,476	122,065	18.3%	8.1%
Defense R&D	53,478	58,774	62,069	65,851	64,136	63,257	18.3%	8.1%
Nondefense R&D	49,672	53,273	54,755	55,874	57,340	58,808	18.4%	8.2%
<i>Nondef. R&D minus NIH</i>	<i>26,877</i>	<i>26,821</i>	<i>27,746</i>	<i>28,264</i>	<i>29,086</i>	<i>29,892</i>	<i>11.2%</i>	<i>1.6%</i>

Source: AAAS analyses of defense and nondefense R&D, based on detailed budget account projections in the Public Budget Database of the *Budget of the United States Government FY 2003*.

FY 2002 figures represent latest agency estimates of R&D. FY 2003 figures represent latest revised agency requests. Constant dollar conversions based on GDP deflators from OMB.

The detailed analysis of nondefense R&D containing agency details and methodology and other outyear projections data are available on the World Wide Web at <http://www.aaas.org/spp/R&D/> in the "Guide to R&D Funding Data" section (see "Outyear Projections").

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Table 4. Major Functional Categories of R&D
(budget authority in millions of dollars)

	FY 2001	FY 2002	FY 2003	Change FY 02-03		% Share of Total ('03)
	Actual	Estimate	Budget	Amount	Percent	
Defense ¹	46,202	53,478	58,774	5,297	9.9%	52.5%
Nondefense ²	45,332	49,672	53,273	3,601	7.2%	47.5%
Space	8,951	9,297	9,839	542	5.8%	8.8%
Health	21,735	24,877	28,307	3,430	13.8%	25.3%
Energy	1,320	1,565	1,415	-150	-9.6%	1.3%
General Science	6,353	6,574	6,710	136	2.1%	6.0%
Environment ³	2,138	2,211	2,181	-30	-1.4%	1.9%
Agriculture	1,826	2,013	1,824	-189	-9.4%	1.6%
Transportation	1,654	1,713	1,573	-140	-8.2%	1.4%
Commerce	468	484	494	10	2.1%	0.4%
International	252	268	182	-86	-32.1%	0.2%
All Other	634	670	748	78	11.6%	0.7%
Total R&D	91,534	103,150	112,047	8,897	8.6%	100.0%

Source: Authors' estimates based on data from OMB and agency budget justifications.

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

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

¹ Includes DOD and defense R&D in DOE.

² Includes all R&D not in defense.

³ Includes natural resources R&D.

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Table 5. Interagency Science and Technology Initiatives
(budget authority in millions)

	FY 2001	FY 2002	FY 2003	Change FY 02-03	
	Actual	Estimate	Budget	Amount	Percent
Nanoscale Science, Engineering and Technology					
National Science Foundation	150	199	221	22	11.1%
Defense	125	180	201	21	11.7%
Energy	88	91	139	48	52.9%
NASA	22	46	51	5	10.9%
Commerce	33	38	44	6	16.5%
National Institutes of Health	40	41	43	2	5.9%
Other (EPA, DOT, Justice)	8	10	11	1	10.1%
Total Nanotechnology	466	604	710	106	17.5%
Networking and Information Technology R&D					
Commerce	38	43	42	-1	-2.3%
Defense	310	320	306	-14	-4.4%
Energy	326	312	313	1	0.3%
Environ. Protection Agency	4	2	2	0	0.0%
Health and Human Services	277	310	336	26	8.4%
NASA	177	181	213	32	17.7%
National Science Foundation	636	676	678	2	0.3%
Total IT R&D	1,768	1,844	1,890	46	2.5%
U.S. Global Change Research Program					
National Science Foundation	181	188	188	0	0.0%
Energy	116	120	126	6	5.0%
Commerce (NOAA)	93	100	100	0	0.0%
Agriculture	51	56	66	10	17.9%
Interior	27	28	28	0	0.0%
Environ. Protection Agency	23	21	22	1	4.8%
Health and Human Services	54	60	68	8	13.3%
Smithsonian	7	7	7	0	0.0%
NASA	1,176	1,090	1,109	19	1.7%
Total USGCRP	1,728	1,670	1,714	44	2.6%

Source: OMB supporting data for FY 2003 Budget.