

**Table 2D. Federal obligations for basic research, by detailed field of science
& engineering: Department of Defense,
fiscal years 1970-2003**

[Dollars in thousands]

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Field of science & engineering	1970	1971	1972	1973	1974	1975	1976
Total, all fields	317,013	322,139	328,774	306,711	302,943	300,065	326,885
Life sciences, total	40,448	39,586	44,400	43,345	38,802	36,197	42,374
Biol & agricultural, total	17,770	17,893	18,863	13,212	14,443	8,996	4,682
Biol (excl environmental)	NA	NA	NA	NA	NA	NA	NA
Environmental biology	NA	NA	NA	NA	NA	NA	NA
Agricultural	NA	NA	NA	NA	NA	NA	NA
Medical sciences, total	22,678	21,693	25,537	30,133	24,307	27,201	37,692
Clinical medical	22,678	21,108	24,955	24,270	20,416	23,041	32,140
Other medical	0	585	582	5,863	3,891	4,160	5,552
Life sciences, n.e.c.	0	0	0	0	52	0	0
Psychology, total	11,256	10,584	11,032	9,602	11,397	9,493	10,600
Biological aspects	1,627	1,684	1,993	1,199	1,787	1,394	1,713
Social aspects	8,858	8,079	7,226	6,465	7,435	6,480	6,936
Psychological sciences, n.e.c.	771	821	1,813	1,938	2,175	1,619	1,951
Physical sciences, total	91,815	85,713	77,464	73,144	71,174	69,688	63,478
Astronomy	11,173	8,820	10,071	9,083	9,098	9,969	9,164
Chemistry	15,771	17,242	16,682	15,157	12,623	13,080	19,114
Physics	60,678	52,795	49,480	47,531	47,772	44,902	34,016
Physical sciences, n.e.c.	4,193	6,856	1,231	1,373	1,681	1,737	1,184
Environmental sciences, total	58,527	61,422	64,750	55,643	59,874	59,675	65,903
Atmospheric sciences	24,677	27,823	29,509	27,419	28,783	27,588	29,329
Geological sciences	4,987	5,897	6,409	6,040	5,673	5,996	6,386
Oceanography	25,910	24,630	25,440	19,307	22,217	23,069	26,495
Environmental sciences, n.e.c.	2,953	3,072	3,392	2,877	3,201	3,022	3,693
Math & computer sciences, total	32,697	29,426	31,759	30,530	21,242	24,167	35,033
Mathematics	NA	NA	NA	NA	NA	NA	16,463
Computer sciences	NA	NA	NA	NA	NA	NA	9,731
Math & computer sciences, n.e.c.	NA	NA	NA	NA	NA	NA	8,839
Engineering, total	80,023	87,907	91,703	92,253	96,457	98,864	107,684
Aeronautical	1,850	4,249	3,673	2,903	10,340	10,730	12,401
Astronautical	6,457	8,029	7,150	6,394	5,580	5,684	5,220
Chemical	5,030	4,828	4,506	4,072	4,149	4,518	5,729
Civil	1,230	1,162	977	929	1,753	860	249
Electrical	19,644	24,305	23,125	22,892	24,169	32,288	35,590
Mechanical	18,523	12,856	17,502	15,928	8,236	9,643	10,828
Metallurgy & materials	23,825	32,393	34,368	38,662	41,460	34,385	37,095
Engineering, n.e.c.	3,464	85	402	473	770	756	572
Social sciences, total	2,247	2,896	2,674	2,094	2,814	1,803	1,446
Anthropology	0	252	0	0	525	0	15
Economics	0	170	0	0	0	0	0
Political science	1,625	923	527	740	91	0	0
Sociology	511	1,185	1,730	1,354	1,877	1,175	1,431
Social sciences, n.e.c.	111	366	417	0	321	628	0
History	0	0	0	0	0	0	NA
Linguistics	111	366	417	0	321	388	NA
Other social sciences	0	0	0	0	0	240	NA
Other sciences, n.e.c.	0	4,605	4,992	100	1,183	178	367

See explanatory information, if any, and SOURCE at end of table.

**Table 2D. Federal obligations for basic research, by detailed field of science
& engineering: Department of Defense,
fiscal years 1970-2003**

[Dollars in thousands]

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Field of science & engineering	1977	1978	1979	1980	1981	1982	1983
Total, all fields	373,254	410,410	471,527	540,341	604,285	686,684	785,620
Life sciences, total	43,397	50,567	61,743	48,704	55,320	74,264	82,468
Biol & agricultural, total	12,770	15,048	17,314	20,184	22,929	31,108	31,426
Biol (excl environmental)	NA	12,233	14,083	15,936	18,833	24,064	22,472
Environmental biology	NA	2,815	3,231	4,248	4,096	7,044	8,954
Agricultural	NA	0	0	0	0	0	0
Medical sciences, total	30,627	34,806	44,429	28,520	32,391	43,156	51,042
Clinical medical	24,613	NA	NA	NA	NA	NA	NA
Other medical	6,014	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	0	713	0	0	0	0	0
Psychology, total	13,436	18,742	20,505	18,490	18,926	21,133	20,741
Biological aspects	977	766	580	264	280	118	59
Social aspects	8,926	10,848	19,925	16,542	15,610	19,010	18,234
Psychological sciences, n.e.c.	3,533	7,128	0	1,684	3,036	2,005	2,448
Physical sciences, total	97,636	98,135	119,387	167,131	194,888	188,694	198,442
Astronomy	8,265	9,205	11,539	11,696	13,390	15,739	15,943
Chemistry	20,875	24,463	28,611	35,672	43,475	51,546	55,568
Physics	54,702	62,147	79,051	111,168	128,368	111,006	117,723
Physical sciences, n.e.c.	13,794	2,320	186	8,595	9,655	10,403	9,208
Environmental sciences, total	56,171	69,632	74,710	83,170	81,557	95,408	103,574
Atmospheric sciences	14,061	17,880	15,369	18,721	20,805	22,581	24,266
Geological sciences	5,868	8,282	11,462	19,164	12,407	13,345	17,233
Oceanography	30,992	35,351	39,616	37,410	40,026	49,538	49,112
Environmental sciences, n.e.c.	5,250	8,119	8,263	7,875	8,319	9,944	12,963
Math & computer sciences, total	29,675	38,386	44,365	47,345	59,320	74,240	101,554
Mathematics	18,836	21,453	23,205	24,094	28,704	37,142	40,402
Computer sciences	10,595	15,401	20,221	20,393	23,839	31,231	45,318
Math & computer sciences, n.e.c.	244	1,532	939	2,858	6,777	5,867	15,834
Engineering, total	131,299	131,382	147,575	169,737	188,146	228,236	254,185
Aeronautical	15,666	18,185	21,336	27,519	28,459	34,288	35,543
Astronautical	3,028	2,853	0	0	807	4,282	10,917
Chemical	11,830	9,092	7,527	9,510	9,282	10,927	11,281
Civil	329	599	811	1,546	2,664	3,177	4,347
Electrical	33,059	34,469	40,358	46,663	50,885	60,977	59,655
Mechanical	19,417	18,655	21,052	23,738	27,288	29,258	32,098
Metallurgy & materials	43,864	44,760	54,255	57,346	65,883	79,464	96,774
Engineering, n.e.c.	4,106	2,769	2,236	3,415	2,878	5,863	3,570
Social sciences, total	1,501	1,651	1,958	4,434	3,961	3,716	3,201
Anthropology	0	0	0	0	0	0	0
Economics	34	94	0	0	0	0	0
Political science	0	0	0	1,174	788	1,393	1,058
Sociology	1,467	1,557	1,892	1,933	2,518	2,210	2,143
Social sciences, n.e.c.	0	0	66	1,327	655	113	0
History	NA	NA	NA	NA	NA	NA	NA
Linguistics	NA	NA	NA	NA	NA	NA	NA
Other social sciences	NA	NA	NA	NA	NA	NA	NA
Other sciences, n.e.c.	139	1,915	1,284	1,330	2,167	993	21,455

See explanatory information, if any, and SOURCE at end of table.

**Table 2D. Federal obligations for basic research, by detailed field of science
& engineering: Department of Defense,
fiscal years 1970-2003**

[Dollars in thousands]

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Field of science & engineering	1984	1985	1986	1987	1988	1989	1990
Total, all fields	847,857	861,407	923,915	907,599	876,922	947,927	947,621
Life sciences, total	90,282	103,791	104,437	95,486	90,128	98,534	99,076
Biol & agricultural, total	33,254	38,212	39,871	42,897	44,600	45,332	41,732
Biol (excl environmental)	24,094	32,508	34,075	36,211	40,508	40,136	32,202
Environmental biology	9,160	5,704	5,796	6,686	4,092	5,196	9,530
Agricultural	0	0	0	0	0	0	0
Medical sciences, total	56,998	65,579	64,566	52,589	44,808	53,202	55,846
Clinical medical	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	30	0	0	0	720	0	1,498
Psychology, total	23,404	32,223	31,848	29,859	37,447	31,552	35,603
Biological aspects	6,360	6,913	7,040	7,155	5,878	9,420	9,518
Social aspects	14,517	22,558	22,204	20,301	15,142	5,792	11,058
Psychological sciences, n.e.c.	2,527	2,752	2,604	2,403	16,427	16,340	15,027
Physical sciences, total	212,219	185,510	191,975	177,648	159,057	175,102	170,103
Astronomy	15,737	13,050	14,494	14,090	10,961	11,032	10,352
Chemistry	60,005	70,138	73,304	68,019	62,496	69,150	65,547
Physics	126,607	88,501	90,548	84,877	82,367	88,722	87,118
Physical sciences, n.e.c.	9,870	13,821	13,629	10,662	3,233	6,198	7,086
Environmental sciences, total	110,081	119,746	132,542	135,816	138,773	142,629	140,189
Atmospheric sciences	27,530	32,549	40,954	36,965	35,722	33,979	34,347
Geological sciences	18,158	43,713	44,139	40,809	38,759	38,972	40,742
Oceanography	52,635	42,780	46,593	57,007	64,053	68,863	63,167
Environmental sciences, n.e.c.	11,758	704	856	1,035	239	815	1,933
Math & computer sciences, total	108,904	100,252	109,308	104,012	107,860	119,084	136,521
Mathematics	43,081	48,055	52,168	48,331	44,882	47,069	47,824
Computer sciences	44,223	39,674	39,839	38,293	41,897	54,810	85,197
Math & computer sciences, n.e.c.	21,600	12,523	17,301	17,388	21,081	17,205	3,500
Engineering, total	280,271	305,193	342,870	354,614	340,671	374,077	357,966
Aeronautical	39,020	35,556	43,071	42,019	32,016	34,738	38,415
Astronautical	9,414	3,826	6,513	6,328	4,845	4,893	3,978
Chemical	12,685	18,699	18,574	17,008	14,822	6,716	5,192
Civil	4,936	5,163	10,739	11,363	12,951	17,096	14,700
Electrical	89,439	105,511	114,144	130,132	105,613	113,237	98,933
Mechanical	33,235	46,774	44,309	40,585	34,077	50,074	44,033
Metallurgy & materials	87,472	88,470	104,916	106,907	125,822	132,060	145,824
Engineering, n.e.c.	4,070	1,194	604	272	10,525	15,263	6,891
Social sciences, total	1,823	0	0	0	0	0	0
Anthropology	0	0	0	0	0	0	0
Economics	0	0	0	0	0	0	0
Political science	0	0	0	0	0	0	0
Sociology	1,823	0	0	0	0	0	0
Social sciences, n.e.c.	0	0	0	0	0	0	0
History	NA	NA	NA	NA	NA	NA	NA
Linguistics	NA	NA	NA	NA	NA	NA	NA
Other social sciences	NA	NA	NA	NA	NA	NA	NA
Other sciences, n.e.c.	20,873	14,692	10,935	10,164	2,986	6,949	8,163

See explanatory information, if any, and SOURCE at end of table.

**Table 2D. Federal obligations for basic research, by detailed field of science
& engineering: Department of Defense,
fiscal years 1970-2003**

[Dollars in thousands]

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Field of science & engineering	1991	1992	1993	1994	1995	1996	1997
Total, all fields	994,154	1,098,945	1,268,238	1,200,652	1,248,330	1,137,866	1,022,870
Life sciences, total	115,725	140,130	161,063	179,092	132,485	104,299	89,389
Biol & agricultural, total	55,635	74,781	67,930	90,073	67,590	61,519	48,819
Biol (excl environmental)	45,239	45,362	44,799	42,428	43,742	41,320	34,056
Environmental biology	10,396	29,419	22,961	47,645	23,848	20,199	14,763
Agricultural	0	0	170	0	0	0	0
Medical sciences, total	60,090	65,349	85,133	87,900	61,170	38,268	37,131
Clinical medical	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	0	0	8,000	1,119	3,725	4,512	3,439
Psychology, total	25,310	26,115	28,197	24,156	30,325	33,381	28,604
Biological aspects	7,895	8,372	12,472	10,230	12,997	23,347	21,778
Social aspects	10,841	11,935	10,227	8,638	9,579	2,757	2,848
Psychological sciences, n.e.c.	6,574	5,808	5,498	5,288	7,749	7,277	3,978
Physical sciences, total	180,311	199,600	205,573	203,298	205,896	169,670	157,229
Astronomy	4,951	9,516	15,097	13,635	7,775	2,559	1,904
Chemistry	68,638	78,700	76,135	80,867	90,135	81,302	68,557
Physics	97,605	102,485	110,892	105,769	101,088	71,722	72,887
Physical sciences, n.e.c.	9,117	8,899	3,449	3,027	6,898	14,087	13,881
Environmental sciences, total	152,295	174,697	169,235	194,443	159,110	162,711	135,109
Atmospheric sciences	29,040	36,376	35,196	44,705	39,098	42,015	35,006
Geological sciences	47,854	44,243	54,104	76,233	41,300	23,191	9,330
Oceanography	73,974	71,076	72,229	71,364	69,223	67,234	62,574
Environmental sciences, n.e.c.	1,427	23,002	7,706	2,141	9,489	30,271	28,199
Math & computer sciences, total	132,439	148,986	165,291	156,709	212,885	144,284	139,957
Mathematics	33,059	53,882	52,454	59,623	56,528	48,812	28,486
Computer sciences	69,775	92,376	111,745	93,408	152,903	75,862	89,164
Math & computer sciences, n.e.c.	29,605	2,728	1,092	3,678	3,454	19,610	22,307
Engineering, total	360,671	393,093	455,592	431,163	492,892	499,851	439,879
Aeronautical	26,787	32,909	27,449	38,454	34,203	28,086	19,577
Astronautical	7,110	10,368	2,492	4,069	4,335	13,743	8,967
Chemical	4,606	10,866	12,198	9,460	6,991	8,869	9,084
Civil	22,090	13,607	11,012	9,591	10,473	10,281	7,708
Electrical	88,130	116,654	144,687	149,537	151,505	156,334	123,804
Mechanical	54,196	61,155	89,369	88,759	93,464	79,149	70,658
Metallurgy & materials	151,542	137,913	138,262	119,152	158,929	131,750	100,202
Engineering, n.e.c.	6,210	9,621	30,123	12,141	32,992	71,639	99,879
Social sciences, total	824	3,205	18,434	1,530	0	0	329
Anthropology	0	0	0	70	0	0	0
Economics	0	0	0	0	0	0	0
Political science	0	0	0	0	0	0	0
Sociology	0	0	0	0	0	0	0
Social sciences, n.e.c.	824	3,205	18,434	1,460	0	0	329
History	NA	NA	NA	NA	NA	NA	NA
Linguistics	NA	NA	NA	NA	NA	NA	NA
Other social sciences	NA	NA	NA	NA	NA	NA	NA
Other sciences, n.e.c.	26,579	13,119	64,853	10,261	14,737	23,670	32,374

See explanatory information, if any, and SOURCE at end of table.

Table 2D. Federal obligations for basic research, by detailed field of science & engineering: Department of Defense, fiscal years 1970-2003

[Dollars in thousands]

Field of science & engineering	1998	1999	2000	2001	Preliminary	
					2002	2003
Total, all fields	1,030,839	1,040,210	1,230,119	2,009,309	1,849,627	1,737,389
Life sciences, total	115,682	146,031	230,060	575,561	501,535	304,605
Biol & agricultural, total	45,028	59,053	61,064	88,475	NA	NA
Biol (excl environmental)	36,728	44,004	44,419	74,471	NA	NA
Environmental biology	8,300	15,049	16,645	13,629	NA	NA
Agricultural	0	0	0	375	NA	NA
Medical sciences, total	67,516	61,105	98,404	422,102	NA	NA
Clinical medical	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	3,138	25,873	70,592	64,984	NA	NA
Psychology, total	25,153	5,709	17,880	13,257	19,021	17,437
Biological aspects	18,874	2,316	5,016	9,869	NA	NA
Social aspects	2,304	0	7,930	0	NA	NA
Psychological sciences, n.e.c.	3,975	3,393	4,934	3,388	NA	NA
Physical sciences, total	159,621	143,727	154,054	223,662	218,627	210,273
Astronomy	6,270	2,140	0	6,314	NA	NA
Chemistry	68,396	63,387	67,492	87,676	NA	NA
Physics	73,778	66,492	70,988	105,146	NA	NA
Physical sciences, n.e.c.	11,177	11,708	15,574	24,526	NA	NA
Environmental sciences, total	137,121	146,334	152,570	161,675	153,160	160,156
Atmospheric sciences	23,840	15,005	18,193	17,479	NA	NA
Geological sciences	8,386	3,193	3,116	8,310	NA	NA
Oceanography	57,045	118,687	119,723	133,756	NA	NA
Environmental sciences, n.e.c.	47,850	9,449	11,538	2,130	NA	NA
Math & computer sciences, total	137,169	121,478	137,506	205,236	208,631	215,555
Mathematics	26,882	20,243	32,121	27,301	NA	NA
Computer sciences	84,957	65,129	85,819	100,405	NA	NA
Math & computer sciences, n.e.c.	25,330	36,106	19,566	77,530	NA	NA
Engineering, total	450,095	421,959	485,676	715,430	612,361	695,964
Aeronautical	21,494	65,738	69,108	158,471	NA	NA
Astronautical	4,843	2,534	16,810	2,343	NA	NA
Chemical	9,786	10,564	8,420	11,505	NA	NA
Civil	8,541	6,635	20,581	4,982	NA	NA
Electrical	167,575	141,002	133,468	194,708	NA	NA
Mechanical	72,885	66,035	62,208	97,896	NA	NA
Metallurgy & materials	110,146	92,836	101,376	143,356	NA	NA
Engineering, n.e.c.	54,825	36,615	73,705	102,169	NA	NA
Social sciences, total	0	0	415	188	7,274	1,195
Anthropology	0	0	0	0	NA	NA
Economics	0	0	0	0	NA	NA
Political science	0	0	0	0	NA	NA
Sociology	0	0	415	0	NA	NA
Social sciences, n.e.c.	0	0	0	188	NA	NA
History	NA	NA	NA	NA	NA	NA
Linguistics	NA	NA	NA	NA	NA	NA
Other social sciences	NA	NA	NA	NA	NA	NA
Other sciences, n.e.c.	5,998	54,972	51,958	114,300	129,018	132,204

KEY: NA = Not applicable (indicates that the data collected for this table were not recorded at that level in that particular fiscal year, or that the agency or subagency did not exist as such or in that organization in that year)
n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Funds for Research and Development: Fiscal Years 2001, 2002, and 2003