

Table 3C. Federal obligations for applied research, by detailed field of science & engineering: Department of Commerce, 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	75,951	97,963	135,466	123,511	121,508	136,311	144,712
Life sciences, total	24,157	29,929	42,122	38,773	30,155	40,980	41,920
Biol & agricultural, total	24,157	29,929	42,052	38,773	30,155	40,980	41,920
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	0	0	70	0	0	0	0
Clinical medical	0	0	0	0	0	0	0
Other medical	0	0	70	0	0	0	0
Life sciences, n.e.c.	0	0	0	0	0	0	0
Psychology, total	987	1,173	567	59	74	71	167
Biological aspects	529	656	97	0	0	0	0
Social aspects	458	517	470	59	74	71	167
Psychological sciences, n.e.c.	0	0	0	0	0	0	0
Physical sciences, total	6,067	7,423	15,927	18,781	18,262	16,175	18,044
Astronomy	0	0	173	335	348	380	320
Chemistry	3,709	3,466	6,398	8,395	7,409	5,120	5,812
Physics	2,352	3,833	9,314	10,051	10,505	10,675	11,912
Physical sciences, n.e.c.	6	124	42	0	0	0	0
Environmental sciences, total	22,090	28,159	38,804	39,034	46,886	53,010	56,872
Atmospheric sciences	15,109	18,715	25,808	22,648	29,867	34,916	36,865
Geological sciences	4,545	6,420	8,844	1,946	917	1,355	1,339
Oceanography	2,436	3,024	4,152	14,440	16,102	16,739	18,668
Environmental sciences, n.e.c.	0	0	0	0	0	0	0
Math & computer sciences, total	927	662	1,065	1,260	1,170	2,187	3,760
Mathematics	NA	NA	NA	NA	NA	NA	1,730
Computer sciences	NA	NA	NA	NA	NA	NA	2,030
Math & computer sciences, n.e.c.	NA	NA	NA	NA	NA	NA	0
Engineering, total	12,854	23,137	31,103	20,073	19,834	16,129	15,806
Aeronautical	0	0	0	0	0	0	0
Astronautical	0	0	0	0	0	0	0
Chemical	956	1,185	1,625	0	80	80	62
Civil	3,967	11,614	7,203	3,540	5,233	5,155	4,959
Electrical	4,357	3,657	10,700	4,290	3,490	2,793	3,007
Mechanical	984	1,242	2,968	1,140	764	823	727
Metallurgy & materials	391	119	1,926	1,243	901	1,076	1,182
Engineering, n.e.c.	2,199	5,320	6,681	9,860	9,366	6,202	5,869
Social sciences, total	7,300	4,806	5,775	5,531	5,127	7,739	6,959
Anthropology	0	0	0	0	0	0	0
Economics	6,904	4,284	5,326	5,405	4,965	7,582	6,739
Political science	0	0	0	0	0	0	0
Sociology	396	522	449	126	162	157	220
Social sciences, n.e.c.	0	0	0	0	0	0	0
History	0	0	0	0	0	0	NA
Linguistics	0	0	0	0	0	0	NA
Other social sciences	0	0	0	0	0	0	NA
Other sciences, n.e.c.	1,569	2,674	103	0	0	20	1,184

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

Table 3C. Federal obligations for applied research, by detailed field of science & engineering: Department of Commerce, 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	163,827	180,969	207,558	238,523	233,171	259,188	265,620
Life sciences, total	49,790	48,347	53,899	53,592	55,984	58,827	12,175
Biol & agricultural, total	49,790	48,347	53,899	53,592	55,984	58,659	10,552
Biol (excl environmental)	NA	0	0	0	153	134	23
Environmental biology	NA	0	0	0	531	1,544	2,039
Agricultural	NA	48,347	53,899	53,592	55,300	56,981	8,490
Medical sciences, total	0	0	0	0	0	168	1,623
Clinical medical	0	NA	NA	NA	NA	NA	NA
Other medical	0	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	0	0	0	0	0	0	0
Psychology, total	158	154	104	119	219	133	233
Biological aspects	0	0	0	0	0	0	72
Social aspects	158	154	104	119	219	133	161
Psychological sciences, n.e.c.	0	0	0	0	0	0	0
Physical sciences, total	19,608	26,835	27,624	27,385	30,544	32,645	33,875
Astronomy	173	968	100	114	108	127	133
Chemistry	6,714	7,297	7,345	7,286	8,920	8,820	9,324
Physics	12,721	18,570	20,127	19,910	21,516	23,698	24,418
Physical sciences, n.e.c.	0	0	52	75	0	0	0
Environmental sciences, total	61,652	71,182	79,592	105,540	103,654	119,170	152,866
Atmospheric sciences	37,478	34,931	35,992	40,483	42,514	53,434	50,844
Geological sciences	1,146	1,527	1,797	1,880	1,873	2,484	2,051
Oceanography	23,028	34,379	41,720	63,140	59,190	62,952	94,182
Environmental sciences, n.e.c.	0	345	83	37	77	300	5,789
Math & computer sciences, total	4,748	4,875	5,819	7,739	9,963	12,443	11,302
Mathematics	1,839	3,828	4,474	4,659	5,770	5,820	5,648
Computer sciences	2,909	1,047	1,345	1,909	2,504	4,749	3,711
Math & computer sciences, n.e.c.	0	0	0	1,171	1,689	1,874	1,943
Engineering, total	21,301	21,901	29,665	37,680	26,673	30,242	35,774
Aeronautical	0	20	29	85	0	0	0
Astronautical	0	0	0	0	0	0	0
Chemical	444	389	766	720	1,023	1,880	1,313
Civil	5,137	5,474	8,682	12,084	3,620	5,333	8,817
Electrical	3,738	4,364	7,557	13,112	10,950	10,006	8,488
Mechanical	1,269	1,505	3,049	1,487	1,730	1,284	2,082
Metallurgy & materials	1,693	2,295	2,465	4,586	4,609	5,952	6,855
Engineering, n.e.c.	9,020	7,854	7,117	5,606	4,741	5,787	8,219
Social sciences, total	5,826	7,633	10,743	6,435	4,087	3,624	7,635
Anthropology	0	0	0	0	0	0	0
Economics	5,610	7,424	10,463	6,186	3,678	3,262	6,178
Political science	0	0	140	89	116	184	1,076
Sociology	216	209	140	160	293	178	219
Social sciences, n.e.c.	0	0	0	0	0	0	162
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.	744	42	112	33	2,047	2,104	11,760

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

Table 3C. Federal obligations for applied research, by detailed field of science & engineering: Department of Commerce, 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	276,088	300,952	312,936	312,800	311,472	321,879	345,612
Life sciences, total	13,446	14,633	17,113	12,634	12,274	14,401	14,303
Biol & agricultural, total	12,404	12,495	15,583	11,630	10,999	12,969	12,917
Biol (excl environmental)	0	0	2,599	2,035	0	0	0
Environmental biology	6,420	2,320	2,697	2,818	5,097	6,685	5,975
Agricultural	5,984	10,175	10,287	6,777	5,902	6,284	6,942
Medical sciences, total	1,042	2,138	1,530	1,004	1,275	1,432	1,386
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	0	0	0	0	0
Psychology, total	212	232	234	210	236	185	342
Biological aspects	46	49	50	0	0	0	163
Social aspects	166	183	184	210	236	185	179
Psychological sciences, n.e.c.	0	0	0	0	0	0	0
Physical sciences, total	36,939	35,208	35,096	34,227	40,503	39,498	42,246
Astronomy	146	73	84	141	134	116	145
Chemistry	10,543	10,457	10,859	15,269	15,316	15,228	15,556
Physics	26,250	24,678	24,153	18,817	25,053	24,144	26,545
Physical sciences, n.e.c.	0	0	0	0	0	10	0
Environmental sciences, total	160,743	183,463	200,976	205,349	193,780	200,434	217,305
Atmospheric sciences	59,870	67,686	62,452	59,256	46,141	50,856	56,694
Geological sciences	2,277	2,470	4,491	5,957	4,424	4,246	4,991
Oceanography	90,477	104,506	128,965	136,696	140,881	142,738	152,814
Environmental sciences, n.e.c.	8,119	8,801	5,068	3,440	2,334	2,594	2,806
Math & computer sciences, total	12,334	11,858	11,452	11,964	12,766	12,734	12,660
Mathematics	7,277	6,213	5,646	5,456	5,485	4,940	4,460
Computer sciences	3,305	2,624	3,390	4,168	4,752	5,368	4,938
Math & computer sciences, n.e.c.	1,752	3,021	2,416	2,340	2,529	2,426	3,262
Engineering, total	33,224	38,148	37,970	37,422	44,726	47,888	51,565
Aeronautical	0	0	0	0	0	0	0
Astronautical	0	0	0	0	0	0	0
Chemical	1,469	1,660	2,145	2,131	1,966	2,555	2,828
Civil	7,057	6,651	4,843	4,492	4,567	4,502	5,860
Electrical	9,048	11,001	9,682	9,766	11,052	10,956	11,320
Mechanical	1,969	2,803	649	721	909	1,233	1,496
Metallurgy & materials	5,068	5,421	6,355	7,290	9,463	10,619	10,924
Engineering, n.e.c.	8,613	10,612	14,296	13,022	16,769	18,023	19,137
Social sciences, total	7,640	4,942	5,068	7,146	3,175	2,844	3,226
Anthropology	0	0	0	0	0	0	0
Economics	6,373	3,587	3,680	6,130	2,313	2,003	2,333
Political science	598	637	656	457	333	567	624
Sociology	227	247	248	241	283	12	0
Social sciences, n.e.c.	442	471	484	318	246	262	269
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.	11,550	12,468	5,027	3,848	4,012	3,895	3,965

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

Table 3C. Federal obligations for applied research, by detailed field of science & engineering: Department of Commerce, 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	415,374	561,392	544,874	678,161	853,060	813,064	768,823
Life sciences, total	68,242	97,883	93,588	111,153	150,274	160,883	138,944
Biol & agricultural, total	65,659	96,224	88,806	105,677	130,149	144,084	112,662
Biol (excl environmental)	10,269	22,981	16,626	22,474	37,594	57,932	24,386
Environmental biology	41,451	60,576	58,872	62,369	70,708	70,621	64,969
Agricultural	13,939	12,667	13,308	20,834	21,847	15,531	23,307
Medical sciences, total	2,583	1,659	4,344	4,785	19,284	16,799	21,586
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	438	691	841	0	4,696
Psychology, total	374	217	257	221	228	139	205
Biological aspects	0	0	0	0	0	0	0
Social aspects	374	217	257	221	228	139	0
Psychological sciences, n.e.c.	0	0	0	0	0	0	205
Physical sciences, total	44,205	49,432	55,344	67,595	74,408	78,415	76,068
Astronomy	140	0	0	1,651	0	0	0
Chemistry	16,812	18,851	19,764	24,862	31,883	34,655	31,427
Physics	27,253	29,854	35,575	41,077	41,787	43,322	44,142
Physical sciences, n.e.c.	0	727	5	5	738	438	499
Environmental sciences, total	184,690	252,525	224,712	301,811	290,536	258,424	256,984
Atmospheric sciences	74,854	105,426	68,679	96,990	140,884	107,209	111,920
Geological sciences	7,618	4,149	5,391	4,089	43,368	36,631	3,840
Oceanography	97,906	139,714	147,560	191,983	95,930	104,934	133,215
Environmental sciences, n.e.c.	4,312	3,236	3,082	8,749	10,354	9,650	8,009
Math & computer sciences, total	25,994	33,792	37,686	47,646	101,673	75,625	76,444
Mathematics	8,943	11,252	11,394	11,794	12,390	12,775	10,538
Computer sciences	13,481	19,148	22,669	31,274	83,341	56,543	58,463
Math & computer sciences, n.e.c.	3,570	3,392	3,623	4,578	5,942	6,307	7,443
Engineering, total	59,014	77,500	86,062	99,869	179,671	181,557	165,623
Aeronautical	0	0	0	0	0	0	0
Astronautical	0	124	0	0	0	0	0
Chemical	3,508	4,017	5,656	4,773	11,354	12,844	18,494
Civil	5,237	4,522	5,959	8,382	11,637	10,274	13,626
Electrical	14,294	19,842	23,183	27,769	55,798	49,028	49,957
Mechanical	2,683	2,772	4,839	5,128	5,612	4,378	3,703
Metallurgy & materials	13,627	18,729	21,945	25,661	55,597	66,247	46,308
Engineering, n.e.c.	19,665	27,494	24,480	28,156	39,673	38,786	33,535
Social sciences, total	12,050	16,165	15,205	16,777	18,827	19,124	18,225
Anthropology	0	0	0	0	0	0	0
Economics	4,590	4,812	4,165	4,320	5,362	5,479	4,946
Political science	4,189	6,389	6,325	6,561	7,690	7,709	7,092
Sociology	2,987	4,737	4,473	5,536	5,229	5,936	5,578
Social sciences, n.e.c.	284	227	242	360	546	0	609
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.	20,805	33,878	32,020	33,089	37,443	38,897	36,330

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

Table 3C. Federal obligations for applied research, by detailed field of science & engineering: Department of Commerce, fiscal years 1970-2003

[Dollars in thousands]

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Field of science & engineering	1998	1999	2000	2001	Preliminary	
					2002	2003
Total, all fields	767,400	798,872	849,554	763,411	835,075	866,357
Life sciences, total	146,121	140,678	160,897	173,571	170,543	152,488
Biol & agricultural, total	131,091	128,832	152,948	166,279	NA	NA
Biol (excl environmental)	31,044	33,221	40,451	30,814	NA	NA
Environmental biology	75,544	72,002	85,070	122,006	NA	NA
Agricultural	24,503	23,609	27,427	13,459	NA	NA
Medical sciences, total	11,312	8,201	6,719	6,083	NA	NA
Clinical medical	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	3,718	3,645	1,230	1,209	NA	NA
Psychology, total	402	1,265	0	0	0	0
Biological aspects	0	0	0	0	NA	NA
Social aspects	0	0	0	0	NA	NA
Psychological sciences, n.e.c.	402	1,265	0	0	NA	NA
Physical sciences, total	75,399	84,509	84,222	76,911	80,364	82,353
Astronomy	0	0	0	0	NA	NA
Chemistry	31,901	37,146	36,458	25,982	NA	NA
Physics	43,295	47,232	46,946	49,813	NA	NA
Physical sciences, n.e.c.	203	131	818	1,116	NA	NA
Environmental sciences, total	249,895	291,707	304,326	278,287	340,814	374,042
Atmospheric sciences	105,181	115,966	114,783	112,734	NA	NA
Geological sciences	4,180	7,717	4,420	34,225	NA	NA
Oceanography	126,409	106,278	145,773	90,433	NA	NA
Environmental sciences, n.e.c.	14,125	61,746	39,350	40,895	NA	NA
Math & computer sciences, total	76,404	75,236	76,171	73,141	73,568	71,187
Mathematics	12,610	12,509	14,777	4,624	NA	NA
Computer sciences	56,336	57,290	54,914	59,274	NA	NA
Math & computer sciences, n.e.c.	7,458	5,437	6,480	9,243	NA	NA
Engineering, total	155,147	145,920	153,252	151,094	159,734	179,216
Aeronautical	0	5	0	0	NA	NA
Astronautical	0	0	0	0	NA	NA
Chemical	5,794	4,656	5,562	4,386	NA	NA
Civil	23,003	14,857	15,290	18,435	NA	NA
Electrical	41,333	41,416	45,079	52,962	NA	NA
Mechanical	3,188	3,264	3,097	4,965	NA	NA
Metallurgy & materials	36,082	33,009	36,603	37,907	NA	NA
Engineering, n.e.c.	45,747	48,713	47,621	32,439	NA	NA
Social sciences, total	21,448	19,289	22,554	10,407	10,052	7,071
Anthropology	0	0	0	0	NA	NA
Economics	5,414	5,018	5,982	2,389	NA	NA
Political science	8,228	8,011	9,242	1,544	NA	NA
Sociology	6,499	6,260	7,330	772	NA	NA
Social sciences, n.e.c.	1,307	0	0	5,702	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.	42,584	40,268	48,132	0	0	0

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