

Table 1A. Federal obligations to universities and colleges for total research, by detailed field of science & engineering: All agencies, fiscal years 1973-2003

[Dollars in thousands]

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Field of science & engineering	1973	1974	1975	1976	1977	1978	1979	1980
Total, all fields	1,591,406	1,856,975	1,971,919	2,154,078	2,453,345	2,771,683	3,116,995	3,463,608
Life sciences, total	871,768	1,102,832	1,151,802	1,247,204	1,399,945	1,605,247	1,796,036	1,984,684
Biol & agricultural, total	491,509	640,260	673,061	727,323	811,910	944,394	1,096,055	1,197,367
Biol (excl environmental)	NA	NA	NA	NA	NA	811,129	946,771	1,036,988
Environmental biology	NA	NA	NA	NA	NA	28,791	39,437	39,462
Agricultural	NA	NA	NA	NA	NA	104,474	109,847	120,917
Medical sciences, total	348,592	432,629	446,929	479,200	538,443	601,340	622,537	709,688
Clinical medical	218,694	249,518	253,697	276,546	305,861	NA	NA	NA
Other medical	129,898	183,111	193,232	202,654	232,582	NA	NA	NA
Life sciences, n.e.c.	31,667	29,943	31,812	40,681	49,592	59,513	77,444	77,629
Psychology, total	46,687	56,955	54,774	58,441	59,243	67,722	89,820	89,364
Biological aspects	18,224	23,611	21,239	23,113	23,007	24,330	27,660	31,749
Social aspects	20,289	22,231	21,286	21,907	20,816	25,411	30,033	33,602
Psychological sciences, n.e.c.	8,174	11,113	12,249	13,421	15,420	17,981	32,127	24,013
Physical sciences, total	234,204	242,934	267,515	278,106	326,085	366,604	402,798	460,974
Astronomy	30,148	30,432	28,410	28,516	34,593	37,417	40,645	45,770
Chemistry	70,612	75,691	89,737	94,224	115,782	123,514	140,147	159,494
Physics	121,985	130,995	143,906	149,624	167,018	198,687	214,738	246,072
Physical sciences, n.e.c.	11,459	5,816	5,462	5,742	8,692	6,986	7,268	9,638
Environmental sciences, total	119,699	130,607	146,057	168,642	205,163	226,541	275,498	297,035
Atmospheric sciences	36,709	32,244	38,537	42,682	50,656	60,605	71,124	86,664
Geological sciences	18,994	34,439	39,940	51,604	55,574	59,767	78,421	83,279
Oceanography	43,863	56,212	60,850	63,513	82,491	92,253	108,785	104,741
Environmental sciences, n.e.c.	20,133	7,712	6,730	10,843	16,442	13,916	17,168	22,351
Math & computer sciences, total	49,357	52,848	57,520	57,609	72,869	79,489	87,531	94,608
Mathematics	NA	NA	NA	30,076	38,274	39,963	41,166	49,025
Computer sciences	NA	NA	NA	26,171	33,932	36,036	42,827	41,312
Math & computer sciences, n.e.c.	NA	NA	NA	1,362	663	3,490	3,538	4,271
Engineering, total	124,228	141,205	167,299	172,317	220,578	240,875	269,590	323,723
Aeronautical	10,526	14,495	15,382	16,719	19,940	23,527	26,624	37,758
Astronautical	3,802	3,195	2,897	3,485	2,903	3,027	2,277	7,317
Chemical	8,850	9,176	15,614	16,063	17,109	24,514	19,231	20,250
Civil	7,104	6,164	4,937	5,385	7,302	8,262	16,965	21,624
Electrical	26,400	27,325	27,970	35,819	51,561	53,160	53,555	77,266
Mechanical	17,994	14,747	14,389	16,714	21,654	22,917	26,405	32,955
Metallurgy & materials	26,190	32,320	37,866	39,864	46,941	49,167	52,320	57,327
Engineering, n.e.c.	23,362	33,783	48,244	38,268	53,168	56,301	72,213	69,226
Social sciences, total	92,616	90,510	91,297	118,866	136,618	146,072	138,211	137,758
Anthropology	4,819	6,627	6,348	5,275	4,931	7,004	7,845	6,387
Economics	25,178	30,087	33,526	32,868	37,771	42,548	45,590	50,611
Political science	1,690	2,392	2,448	2,120	2,787	3,610	5,150	4,292
Sociology	23,182	18,757	12,825	17,014	18,948	21,107	24,163	27,019
Social sciences, n.e.c.	37,747	32,647	36,150	61,589	72,181	71,803	55,463	49,449
History	919	995	1,370	NA	NA	NA	NA	NA
Linguistics	2,740	2,827	2,250	NA	NA	NA	NA	NA
Other social sciences	34,088	28,825	32,530	NA	NA	NA	NA	NA
Other sciences, n.e.c.	52,847	39,084	35,655	52,893	32,844	39,133	57,511	75,462

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

Table 1A. Federal obligations to universities and colleges for total research, by detailed field of science & engineering: All agencies, fiscal years 1973-2003

[Dollars in thousands]

Field of science & engineering	1981	1982	1983	1984	1985	1986	1987	1988
Total, all fields	3,706,877	3,795,700	4,252,253	4,777,369	5,463,524	5,617,363	6,384,158	6,765,643
Life sciences, total	2,117,191	2,204,998	2,459,974	2,800,211	3,239,373	3,251,816	3,824,072	4,029,470
Biol & agricultural, total	1,294,160	1,337,402	1,492,803	1,686,416	1,942,840	1,961,835	2,321,137	2,419,035
Biol (excl environmental)	1,116,265	1,149,436	1,288,444	1,480,070	1,710,125	1,752,121	2,107,345	2,188,319
Environmental biology	38,323	40,920	43,408	95,919	98,816	94,169	96,905	98,935
Agricultural	139,572	147,046	160,951	110,427	133,899	115,545	116,887	131,781
Medical sciences, total	754,112	793,851	876,819	1,012,486	1,163,674	1,171,064	1,361,849	1,514,972
Clinical medical	NA	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	68,919	73,745	90,352	101,309	132,859	118,917	141,086	95,463
Psychology, total	92,715	83,501	99,002	112,798	138,454	148,372	186,631	196,385
Biological aspects	29,645	25,920	28,938	36,895	44,982	47,364	55,571	65,229
Social aspects	32,105	26,944	31,772	32,826	39,856	41,850	54,219	42,686
Psychological sciences, n.e.c.	30,965	30,637	38,292	43,077	53,616	59,158	76,841	88,470
Physical sciences, total	525,167	559,144	596,468	697,754	753,232	751,875	822,507	856,885
Astronomy	47,886	52,595	51,944	68,740	65,908	68,225	71,710	75,085
Chemistry	193,477	189,588	205,714	242,337	269,449	265,663	281,119	294,724
Physics	274,504	305,977	328,780	375,157	402,699	404,723	403,838	424,718
Physical sciences, n.e.c.	9,300	10,984	10,030	11,520	15,176	13,264	65,840	62,358
Environmental sciences, total	280,329	274,684	316,895	319,455	361,141	365,748	400,350	408,097
Atmospheric sciences	82,690	79,713	81,037	96,371	102,816	111,460	114,762	113,357
Geological sciences	71,424	69,022	69,691	77,879	98,621	107,394	111,982	108,893
Oceanography	109,459	112,368	150,590	131,344	150,039	140,572	160,477	158,586
Environmental sciences, n.e.c.	16,756	13,581	15,577	13,861	9,665	6,322	13,129	27,261
Math & computer sciences, total	121,389	139,651	172,379	181,576	251,816	273,903	288,530	305,442
Mathematics	59,485	64,278	72,293	78,406	96,978	105,166	111,538	117,798
Computer sciences	50,169	67,125	80,795	74,195	102,371	111,457	111,039	117,282
Math & computer sciences, n.e.c.	11,735	8,248	19,291	28,975	52,467	57,280	65,953	70,362
Engineering, total	365,346	361,508	408,677	474,193	501,280	608,969	599,755	673,093
Aeronautical	39,277	38,495	41,529	45,025	42,002	60,104	66,900	60,028
Astronautical	8,752	9,582	15,396	10,115	11,330	13,165	14,084	17,825
Chemical	21,896	19,419	23,551	51,231	45,631	51,109	54,597	56,704
Civil	24,910	27,138	30,238	39,085	40,612	36,512	41,100	40,700
Electrical	86,087	88,611	91,665	120,192	118,364	138,513	143,214	139,082
Mechanical	36,331	40,486	49,962	55,302	66,187	82,809	76,282	73,935
Metallurgy & materials	69,505	75,342	85,966	87,675	107,150	133,272	107,790	175,086
Engineering, n.e.c.	78,588	62,435	70,370	65,568	70,004	93,485	95,788	109,733
Social sciences, total	136,377	113,505	125,447	111,122	122,319	111,155	129,172	137,855
Anthropology	5,793	5,846	5,735	6,755	6,987	7,590	8,415	8,150
Economics	48,931	52,647	58,400	32,789	36,548	34,062	39,278	41,512
Political science	4,008	2,688	3,129	4,343	5,178	3,963	3,678	4,498
Sociology	24,937	22,088	25,261	29,203	30,169	27,832	33,651	33,851
Social sciences, n.e.c.	52,708	30,236	32,922	38,032	43,437	37,708	44,150	49,844
History	NA	NA	NA	NA	NA	NA	NA	NA
Linguistics	NA	NA	NA	NA	NA	NA	NA	NA
Other social sciences	NA	NA	NA	NA	NA	NA	NA	NA
Other sciences, n.e.c.	68,363	58,709	73,411	80,260	95,909	105,525	133,141	158,416

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

Table 1A. Federal obligations to universities and colleges for total research, by detailed field of science & engineering: All agencies, fiscal years 1973-2003

[Dollars in thousands]

Field of science & engineering	1989	1990	1991	1992	1993	1994	1995	1996
Total, all fields	7,472,527	7,786,999	8,533,195	8,645,718	9,544,259	9,917,836	9,957,076	10,343,365
Life sciences, total	4,395,848	4,531,711	4,967,297	5,011,126	5,500,452	5,743,699	5,642,443	6,018,581
Biol & agricultural, total	2,627,973	2,668,819	2,907,436	2,903,743	3,055,135	3,144,372	2,999,296	3,240,568
Biol (excl environmental)	2,334,373	2,406,847	2,610,574	2,577,484	2,745,460	2,815,578	2,676,217	2,953,493
Environmental biology	141,548	127,929	149,317	162,085	160,458	166,859	166,724	148,059
Agricultural	152,052	134,043	147,545	164,174	149,217	161,935	156,355	139,016
Medical sciences, total	1,645,894	1,728,615	1,929,661	2,023,805	2,336,436	2,507,825	2,468,957	2,583,311
Clinical medical	NA	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	121,981	134,277	130,200	83,578	108,881	91,502	174,190	194,702
Psychology, total	218,068	237,474	256,144	129,030	287,486	314,793	281,553	257,470
Biological aspects	78,186	78,718	86,055	11,192	13,384	10,010	11,587	22,734
Social aspects	51,790	70,671	79,442	22,026	16,761	17,549	17,549	10,118
Psychological sciences, n.e.c.	88,092	88,085	90,647	95,812	257,341	287,234	248,326	224,618
Physical sciences, total	929,635	1,001,514	1,070,744	1,150,622	1,172,630	1,168,476	1,193,942	1,126,675
Astronomy	78,398	82,167	104,389	197,058	120,137	132,617	166,937	192,513
Chemistry	297,704	317,381	339,576	351,834	347,925	376,675	362,997	364,033
Physics	485,699	546,293	590,911	573,549	607,988	600,831	589,830	511,618
Physical sciences, n.e.c.	67,834	55,673	35,868	28,181	96,580	58,353	74,178	58,511
Environmental sciences, total	460,488	488,755	558,617	584,682	590,370	637,208	614,996	656,856
Atmospheric sciences	122,416	129,912	147,110	166,002	159,562	174,077	208,879	158,133
Geological sciences	135,426	138,327	176,658	170,884	188,506	205,493	171,196	136,644
Oceanography	176,935	181,984	135,524	149,286	146,706	147,912	111,021	209,824
Environmental sciences, n.e.c.	25,711	38,532	99,325	98,510	95,596	109,726	123,900	152,255
Math & computer sciences, total	344,809	414,929	398,710	477,677	490,134	540,132	535,117	650,571
Mathematics	115,208	129,191	121,910	150,445	135,887	141,038	133,154	135,970
Computer sciences	158,790	281,950	251,720	319,883	337,829	380,379	376,162	488,260
Math & computer sciences, n.e.c.	70,811	3,788	25,080	7,349	16,418	18,715	25,801	26,341
Engineering, total	749,156	712,715	828,843	836,083	887,988	954,599	1,090,788	1,079,626
Aeronautical	71,724	84,045	58,261	56,924	52,135	63,207	52,598	47,546
Astronautical	19,790	20,215	21,888	25,073	20,447	20,708	19,726	17,901
Chemical	41,902	58,523	75,554	69,770	65,369	60,402	70,621	60,640
Civil	46,290	42,885	48,139	39,808	37,734	37,351	51,737	44,924
Electrical	151,536	138,159	142,787	148,535	195,695	190,046	173,686	163,830
Mechanical	87,536	77,484	98,472	99,091	117,327	125,724	134,381	90,576
Metallurgy & materials	194,090	165,529	213,765	183,407	200,562	272,781	317,940	303,756
Engineering, n.e.c.	136,288	125,875	169,977	213,475	198,719	184,380	270,099	350,453
Social sciences, total	155,254	175,261	213,691	174,609	216,015	200,495	204,488	184,623
Anthropology	8,031	8,098	8,660	7,987	6,965	6,614	11,512	9,821
Economics	45,585	49,214	50,900	61,086	58,844	54,759	59,826	55,606
Political science	5,397	5,507	5,980	4,527	4,494	4,979	7,303	5,177
Sociology	43,423	57,559	92,667	43,173	34,091	27,631	16,305	12,038
Social sciences, n.e.c.	52,818	54,883	55,484	57,836	111,621	106,512	109,542	101,981
History	NA	NA	NA	NA	NA	NA	NA	NA
Linguistics	NA	NA	NA	NA	NA	NA	NA	NA
Other social sciences	NA	NA	NA	NA	NA	NA	NA	NA
Other sciences, n.e.c.	219,269	224,640	239,149	281,889	399,184	358,434	393,749	368,963

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

Table 1A. Federal obligations to universities and colleges for total research, by detailed field of science & engineering: All agencies, fiscal years 1973-2003

[Dollars in thousands]

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Field of science & engineering	1997	1998	1999	2000	2001	Preliminary	
						2002	2003
Total, all fields	10,780,033	11,310,714	12,776,067	15,588,828	18,136,093	19,765,895	21,706,082
Life sciences, total	6,566,059	7,005,369	8,091,196	9,357,175	12,212,548	13,599,085	15,179,058
Biol & agricultural, total	3,820,244	4,069,294	4,685,742	6,615,615	10,393,323	NA	NA
Biol (excl environmental)	3,500,584	3,739,058	4,288,328	6,162,879	9,890,754	NA	NA
Environmental biology	146,578	158,273	194,666	233,778	217,361	NA	NA
Agricultural	173,082	171,963	202,748	218,958	285,208	NA	NA
Medical sciences, total	2,537,336	2,714,380	3,141,633	2,194,375	1,602,535	NA	NA
Clinical medical	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	208,479	221,695	263,821	547,185	216,690	NA	NA
Psychology, total	283,399	297,318	325,569	898,333	353,927	403,077	460,847
Biological aspects	25,103	23,104	14,246	6,623	11,061	NA	NA
Social aspects	14,129	11,891	11,855	14,873	6,219	NA	NA
Psychological sciences, n.e.c.	244,167	262,323	299,468	876,837	336,647	NA	NA
Physical sciences, total	1,163,863	1,204,162	1,322,760	1,561,163	1,525,488	1,580,209	1,683,551
Astronomy	168,004	173,413	196,996	228,334	268,214	NA	NA
Chemistry	340,896	331,412	380,705	622,461	486,916	NA	NA
Physics	522,066	577,136	628,655	575,746	576,401	NA	NA
Physical sciences, n.e.c.	132,897	122,201	116,404	134,622	193,957	NA	NA
Environmental sciences, total	672,091	652,121	696,105	910,361	913,987	957,963	995,816
Atmospheric sciences	205,787	165,621	202,584	186,733	189,353	NA	NA
Geological sciences	124,194	171,276	143,948	136,327	151,264	NA	NA
Oceanography	215,405	197,197	240,596	233,993	258,810	NA	NA
Environmental sciences, n.e.c.	126,705	118,027	108,977	353,308	314,560	NA	NA
Math & computer sciences, total	571,595	624,106	662,983	792,873	943,482	973,008	1,040,430
Mathematics	118,167	132,516	131,264	211,490	169,702	NA	NA
Computer sciences	429,357	470,433	506,284	568,127	724,950	NA	NA
Math & computer sciences, n.e.c.	24,071	21,157	25,435	13,256	48,830	NA	NA
Engineering, total	988,013	992,421	1,046,107	1,283,447	1,374,247	1,377,398	1,409,044
Aeronautical	49,321	62,107	72,452	69,915	65,397	NA	NA
Astronautical	17,567	8,819	40,957	43,765	24,402	NA	NA
Chemical	62,679	73,351	74,586	80,232	71,488	NA	NA
Civil	45,100	46,297	44,815	50,770	51,118	NA	NA
Electrical	146,348	177,287	192,238	181,805	238,582	NA	NA
Mechanical	76,197	76,403	77,957	72,344	101,542	NA	NA
Metallurgy & materials	261,206	246,636	241,172	280,503	336,551	NA	NA
Engineering, n.e.c.	329,595	301,521	301,930	504,113	485,167	NA	NA
Social sciences, total	197,440	189,508	231,398	321,422	279,101	288,473	299,924
Anthropology	10,794	10,733	11,031	11,637	11,812	NA	NA
Economics	58,675	48,465	52,305	66,005	73,846	NA	NA
Political science	5,389	5,077	5,325	5,541	6,620	NA	NA
Sociology	14,521	13,846	14,472	19,735	17,105	NA	NA
Social sciences, n.e.c.	108,061	111,387	148,265	218,504	169,718	NA	NA
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.	337,573	345,709	399,949	464,054	533,313	586,682	637,412

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

NOTES: This table shows obligations from the Departments of Agriculture, Defense, Energy, and Health & Human Services; the National Aeronautics & Space Administration; and the National Science Foundation; they represent approximately 97 percent of total Federal research obligations to universities and colleges in fiscal years 2001, 2002, and 2003.

Beginning in fiscal year 2000, the National Aeronautics & Space Administration reclassified Space Station as a physical asset and Space Station Research as equipment, and transferred funding for the program from R&D to R&D plant.

Beginning in the fiscal year 2000, the National Institutes of Health classified all of its development activities as research.

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