

Table 1A. Federal obligations for total research, by detailed field of science & engineering: All agencies, 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	4,900,798	5,123,171	5,547,696	5,581,429	6,175,240	6,729,708	7,619,332
Life sciences, total	1,439,815	1,587,773	1,848,951	1,931,101	2,265,140	2,455,195	2,649,696
Biol & agricultural, total	865,630	942,832	1,079,707	1,123,238	1,316,179	1,452,179	1,535,798
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	542,795	596,717	713,194	758,585	910,836	951,095	1,042,935
Clinical medical	374,252	391,019	464,191	494,240	565,660	550,563	586,666
Other medical	168,543	205,698	249,003	264,345	345,176	400,532	456,269
Life sciences, n.e.c.	31,390	48,224	56,050	49,278	38,125	51,921	70,963
Psychology, total	107,577	108,029	116,326	109,924	133,419	139,192	143,996
Biological aspects	32,345	31,337	36,894	32,407	49,322	37,442	43,816
Social aspects	53,460	54,066	50,725	47,702	51,962	57,069	54,920
Psychological sciences, n.e.c.	21,772	22,626	28,707	29,815	32,135	44,681	45,260
Physical sciences, total	946,246	905,380	1,020,342	981,740	1,016,069	1,096,644	1,258,892
Astronomy	136,455	126,852	136,405	123,085	136,030	168,319	163,093
Chemistry	227,536	205,519	246,837	262,485	280,366	285,554	328,444
Physics	554,570	528,783	573,591	543,236	556,641	594,954	709,263
Physical sciences, n.e.c.	27,685	44,226	63,509	52,934	43,032	47,817	58,092
Environmental sciences, total	485,567	534,346	567,599	580,527	636,327	727,269	769,284
Atmospheric sciences	232,780	259,873	241,330	246,590	288,296	302,248	289,312
Geological sciences	152,809	156,010	161,091	168,390	157,063	191,713	227,162
Oceanography	79,752	95,833	116,453	97,888	120,014	143,792	163,967
Environmental sciences, n.e.c.	20,226	22,630	48,725	67,659	70,954	89,516	88,843
Math & computer sciences, total	94,945	106,599	120,710	114,762	114,268	125,260	157,794
Mathematics	NA	NA	NA	NA	NA	NA	69,871
Computer sciences	NA	NA	NA	NA	NA	NA	73,583
Math & computer sciences, n.e.c.	NA	NA	NA	NA	NA	NA	14,340
Engineering, total	1,539,336	1,486,722	1,450,694	1,370,581	1,563,733	1,717,777	2,068,655
Aeronautical	335,960	290,467	209,467	232,671	336,099	345,070	526,827
Astronautical	177,791	153,208	65,570	45,934	97,471	99,080	179,386
Chemical	109,448	105,482	77,073	71,958	61,453	83,863	88,270
Civil	71,099	76,748	123,290	106,177	103,623	125,596	105,905
Electrical	283,505	277,931	333,660	297,577	269,240	286,968	297,685
Mechanical	178,337	189,159	174,749	212,937	131,712	162,480	185,680
Metallurgy & materials	136,467	157,421	182,066	172,507	190,646	221,846	274,909
Engineering, n.e.c.	246,729	236,306	284,819	230,820	373,489	392,874	409,993
Social sciences, total	212,262	303,986	306,894	298,790	292,196	301,816	392,456
Anthropology	8,642	11,705	13,156	11,814	13,396	13,850	13,588
Economics	77,707	72,782	81,766	88,144	117,976	126,238	137,577
Political science	7,827	4,997	4,581	7,097	8,461	11,693	7,239
Sociology	37,803	105,300	119,378	102,073	64,294	54,907	53,646
Social sciences, n.e.c.	80,283	109,202	88,013	89,662	88,069	95,128	180,406
History	4,631	4,178	4,548	4,890	6,192	6,955	NA
Linguistics	1,712	2,699	3,813	4,187	3,148	3,049	NA
Other social sciences	73,940	102,325	79,652	80,585	78,729	85,124	NA
Other sciences, n.e.c.	75,050	90,336	116,180	194,004	154,088	166,555	178,559

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

Table 1A. Federal obligations for total research, by detailed field of science & engineering: All agencies, 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	8,514,115	9,606,758	10,535,005	11,597,378	12,212,780	13,022,185	14,253,525
Life sciences, total	3,007,749	3,427,133	3,848,281	4,192,335	4,435,640	4,745,499	5,177,931
Biol & agricultural, total	1,777,567	2,024,018	2,320,322	2,507,558	2,711,768	2,811,770	3,064,400
Biol (excl environmental)	NA	1,488,450	1,702,249	1,830,611	1,996,635	2,079,260	2,305,543
Environmental biology	NA	184,873	216,553	229,741	220,316	183,532	193,639
Agricultural	NA	350,695	401,520	447,206	494,817	548,978	565,218
Medical sciences, total	1,138,760	1,287,447	1,380,615	1,536,888	1,609,930	1,773,025	1,927,453
Clinical medical	634,377	NA	NA	NA	NA	NA	NA
Other medical	504,383	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	91,422	115,668	147,344	147,889	113,942	160,704	186,078
Psychology, total	156,201	176,667	197,384	199,009	208,898	218,396	240,871
Biological aspects	57,613	53,412	56,767	59,882	57,511	59,586	63,217
Social aspects	54,508	65,392	83,628	94,805	93,488	98,099	104,670
Psychological sciences, n.e.c.	44,080	57,863	56,989	44,322	57,899	60,711	72,984
Physical sciences, total	1,530,171	1,645,647	1,792,554	2,000,612	2,220,534	2,500,381	2,891,439
Astronomy	197,305	213,601	284,429	285,671	281,027	275,784	357,416
Chemistry	370,722	404,993	443,618	454,536	486,877	481,154	520,291
Physics	866,260	942,436	1,022,741	1,182,546	1,345,638	1,610,508	1,854,566
Physical sciences, n.e.c.	95,884	84,617	41,766	77,859	106,992	132,935	159,166
Environmental sciences, total	906,001	1,024,566	1,100,984	1,260,957	1,121,080	1,148,303	1,251,203
Atmospheric sciences	318,366	319,194	348,716	409,513	373,432	425,829	460,684
Geological sciences	269,430	316,360	358,667	401,755	396,082	357,556	333,537
Oceanography	195,894	223,837	220,479	262,124	261,684	261,278	343,510
Environmental sciences, n.e.c.	122,311	165,175	173,122	187,565	89,882	103,640	113,472
Math & computer sciences, total	195,880	216,280	210,301	240,943	278,925	350,080	419,416
Mathematics	96,414	93,352	84,179	90,926	117,726	128,131	133,511
Computer sciences	89,355	107,267	106,266	128,593	121,520	170,938	214,555
Math & computer sciences, n.e.c.	10,111	15,661	19,856	21,424	39,679	51,011	71,350
Engineering, total	2,112,917	2,421,171	2,571,630	2,830,131	3,071,454	3,386,543	3,516,999
Aeronautical	408,847	482,861	624,897	708,134	709,577	741,158	820,565
Astronautical	158,990	165,138	251,140	302,325	303,936	290,734	321,487
Chemical	104,801	149,431	114,291	96,335	147,624	95,118	144,994
Civil	117,354	142,418	125,006	158,781	159,112	201,919	188,465
Electrical	382,727	432,627	417,865	517,142	556,674	612,186	614,944
Mechanical	199,173	234,146	195,876	207,978	204,646	201,228	266,395
Metallurgy & materials	293,833	285,973	249,346	236,184	255,972	309,129	332,524
Engineering, n.e.c.	447,192	528,577	593,209	603,252	733,913	935,071	827,625
Social sciences, total	426,125	489,486	527,310	523,811	497,427	385,939	435,268
Anthropology	12,379	19,526	17,343	17,179	14,537	14,564	12,799
Economics	142,854	163,180	181,915	192,771	206,722	157,102	165,551
Political science	8,479	8,816	13,916	12,170	10,767	7,534	11,147
Sociology	52,157	60,333	64,523	71,435	64,990	52,005	67,815
Social sciences, n.e.c.	210,256	237,631	249,613	230,256	200,411	154,734	177,956
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.	179,071	205,808	286,561	349,580	378,822	287,044	320,398

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

Table 1A. Federal obligations for total research, by detailed field of science & engineering: All agencies, 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	14,978,773	16,133,421	16,502,199	17,940,521	18,650,145	20,765,531	21,622,364
Life sciences, total	5,635,948	6,362,498	6,464,318	7,341,436	7,724,461	8,495,111	8,829,849
Biol & agricultural, total	3,325,004	3,755,290	3,861,309	4,358,482	4,573,376	5,020,036	5,178,394
Biol (excl environmental)	2,563,089	2,885,652	2,993,384	3,501,982	3,681,723	3,983,195	4,144,632
Environmental biology	249,953	260,305	264,077	289,556	300,983	367,802	342,344
Agricultural	511,962	609,333	603,848	566,944	590,670	669,039	691,418
Medical sciences, total	2,112,838	2,368,494	2,360,421	2,664,766	2,941,013	3,222,523	3,382,350
Clinical medical	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	198,106	238,714	242,588	318,188	210,072	252,552	269,105
Psychology, total	266,672	327,124	333,970	369,513	389,825	421,665	448,601
Biological aspects	80,769	91,197	90,067	98,336	105,259	121,797	130,639
Social aspects	107,767	142,866	143,534	154,462	149,389	149,920	177,453
Psychological sciences, n.e.c.	78,136	93,061	100,369	116,715	135,177	149,948	140,509
Physical sciences, total	2,969,014	3,046,010	3,069,053	3,252,648	3,317,303	3,705,223	3,808,723
Astronomy	382,292	414,743	468,160	522,187	470,838	541,939	597,154
Chemistry	606,411	650,397	662,397	680,267	703,066	782,636	761,675
Physics	1,836,429	1,816,027	1,805,923	1,853,641	1,975,290	2,190,779	2,254,935
Physical sciences, n.e.c.	143,882	164,843	132,573	196,553	168,109	189,869	194,959
Environmental sciences, total	1,275,913	1,403,674	1,481,660	1,511,614	1,606,957	1,773,248	2,174,084
Atmospheric sciences	434,132	485,982	521,305	552,928	587,835	588,036	773,394
Geological sciences	358,990	428,983	443,901	441,737	441,625	542,773	661,114
Oceanography	363,489	398,508	429,660	427,435	460,353	491,907	520,125
Environmental sciences, n.e.c.	119,302	90,201	86,794	89,514	117,144	150,532	219,451
Math & computer sciences, total	440,324	574,898	615,412	640,630	642,884	735,441	840,737
Mathematics	150,983	183,649	184,525	204,477	217,857	236,055	241,339
Computer sciences	214,528	280,270	302,426	297,843	292,714	364,621	562,128
Math & computer sciences, n.e.c.	74,813	110,979	128,461	138,310	132,313	134,765	37,270
Engineering, total	3,624,055	3,617,630	3,738,946	3,906,316	3,956,397	4,442,164	4,226,639
Aeronautical	860,382	737,992	775,567	810,400	801,755	986,805	927,099
Astronautical	396,796	424,742	526,886	624,636	575,371	677,396	580,782
Chemical	144,450	254,334	245,839	215,798	258,074	142,238	241,853
Civil	202,811	216,579	202,947	204,400	214,852	229,779	317,695
Electrical	630,044	626,814	674,419	786,333	731,087	843,097	640,043
Mechanical	190,470	266,995	236,540	233,455	240,771	257,357	268,331
Metallurgy & materials	341,080	439,212	445,041	361,984	456,711	521,001	554,508
Engineering, n.e.c.	858,022	650,962	631,707	669,310	677,776	784,491	696,328
Social sciences, total	436,339	460,014	415,509	480,045	485,794	551,041	629,990
Anthropology	18,579	17,951	13,633	15,244	14,285	13,864	14,386
Economics	147,298	159,652	131,251	148,505	159,528	166,788	197,161
Political science	10,750	14,640	11,630	11,296	12,159	13,489	13,146
Sociology	70,227	66,460	66,969	73,976	81,787	94,079	116,159
Social sciences, n.e.c.	189,485	201,311	192,026	231,024	218,035	262,821	289,138
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.	330,508	341,573	383,331	438,319	526,524	641,638	663,741

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

Table 1A. Federal obligations for total research, by detailed field of science & engineering: All agencies, 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	23,968,377	24,490,598	26,890,497	27,411,209	28,434,396	28,259,764	29,365,289
Life sciences, total	9,621,981	9,910,481	10,772,095	11,284,348	11,811,035	12,064,328	12,661,324
Biol & agricultural, total	5,597,871	5,633,586	6,059,320	6,102,967	6,402,544	6,629,921	6,544,034
Biol (excl environmental)	4,457,803	4,435,052	4,789,907	4,745,811	4,925,399	5,309,947	5,320,190
Environmental biology	459,747	510,987	556,492	629,923	806,850	703,960	582,523
Agricultural	680,321	687,547	712,921	727,233	670,295	616,014	641,321
Medical sciences, total	3,460,299	3,909,934	4,404,435	4,862,125	4,972,195	4,973,353	5,532,730
Clinical medical	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	563,811	366,961	308,340	319,256	436,296	461,054	584,560
Psychology, total	482,400	298,129	550,682	548,355	622,596	525,009	545,366
Biological aspects	140,192	34,615	37,200	48,121	58,816	62,808	57,759
Social aspects	197,457	100,946	134,739	116,821	156,303	83,430	96,688
Psychological sciences, n.e.c.	144,751	162,568	378,743	383,413	407,477	378,771	390,919
Physical sciences, total	4,235,336	4,439,162	4,426,961	4,253,469	4,278,334	3,922,951	4,149,179
Astronomy	631,657	739,057	686,281	747,590	764,458	728,958	774,740
Chemistry	828,420	896,179	843,155	874,448	863,510	881,115	845,777
Physics	2,460,930	2,578,194	2,638,367	2,443,142	2,451,210	1,991,294	2,067,632
Physical sciences, n.e.c.	314,329	225,732	259,158	188,289	199,156	321,584	461,030
Environmental sciences, total	2,149,783	2,207,616	2,608,489	2,838,192	2,854,437	3,019,710	3,045,653
Atmospheric sciences	802,700	767,276	984,118	1,095,008	1,135,553	1,085,721	1,164,349
Geological sciences	728,749	735,671	797,865	837,954	848,307	784,267	691,791
Oceanography	398,579	458,908	467,350	496,767	407,317	574,300	597,702
Environmental sciences, n.e.c.	219,755	245,761	359,156	408,463	463,260	575,422	591,811
Math & computer sciences, total	903,705	1,160,294	1,225,416	1,301,620	1,579,053	1,571,584	1,671,848
Mathematics	227,616	318,666	290,785	342,321	258,607	254,460	301,632
Computer sciences	584,941	771,777	826,085	830,187	1,013,851	1,119,827	1,264,678
Math & computer sciences, n.e.c.	91,148	69,851	108,546	129,112	306,595	197,297	105,538
Engineering, total	4,944,471	4,976,967	5,499,419	5,479,428	5,708,441	5,680,939	5,690,260
Aeronautical	1,016,232	874,592	1,193,030	1,222,704	1,248,257	1,249,363	1,352,714
Astronautical	653,094	630,408	493,978	499,068	546,530	526,559	596,293
Chemical	304,303	297,478	245,526	238,181	246,145	215,149	234,978
Civil	304,987	330,240	251,994	277,946	339,430	300,152	275,607
Electrical	729,905	759,007	881,462	741,792	756,299	669,704	622,213
Mechanical	335,514	337,246	466,868	378,091	412,485	294,014	254,596
Metallurgy & materials	710,667	727,206	695,691	851,399	815,331	988,975	860,657
Engineering, n.e.c.	889,769	1,020,790	1,270,870	1,270,247	1,343,964	1,437,023	1,493,202
Social sciences, total	727,290	689,699	674,889	647,387	678,708	654,560	696,334
Anthropology	15,982	14,097	13,739	16,227	21,718	18,330	20,977
Economics	187,423	211,560	204,716	193,308	206,513	194,206	205,229
Political science	17,022	22,556	29,220	25,372	22,332	16,668	14,052
Sociology	183,979	80,688	76,703	68,107	47,833	41,201	25,868
Social sciences, n.e.c.	322,884	360,798	350,511	344,373	380,312	384,155	430,208
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.	903,411	808,250	1,132,546	1,058,410	901,792	820,683	905,325

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

Table 1A. Federal obligations for total research, by detailed field of science & engineering: All agencies, fiscal years 1970-2003

[Dollars in thousands]

Field of science & engineering	1998	1999	2000	2001	Preliminary	
					2002	2003
Total, all fields	30,922,269	33,527,514	38,470,630	44,713,736	49,808,767	53,376,884
Life sciences, total	13,557,574	15,422,452	17,964,701	23,057,305	25,868,385	28,672,784
Biol & agricultural, total	7,073,840	8,047,666	12,375,003	14,116,442	NA	NA
Biol (excl environmental)	5,706,572	6,477,638	10,740,022	12,379,954	NA	NA
Environmental biology	604,483	720,612	740,025	728,802	NA	NA
Agricultural	762,785	849,416	894,956	1,007,686	NA	NA
Medical sciences, total	5,996,325	6,801,169	4,463,771	6,585,198	NA	NA
Clinical medical	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	487,409	573,617	1,125,927	2,355,665	NA	NA
Psychology, total	590,968	632,623	1,626,660	741,926	838,637	955,171
Biological aspects	41,592	18,034	8,191	13,639	NA	NA
Social aspects	97,490	66,644	56,017	59,799	NA	NA
Psychological sciences, n.e.c.	451,886	547,945	1,562,452	668,488	NA	NA
Physical sciences, total	4,209,679	4,066,156	4,787,950	4,600,770	5,145,158	5,200,445
Astronomy	732,150	757,859	880,267	759,195	NA	NA
Chemistry	819,030	814,936	1,225,601	1,024,918	NA	NA
Physics	2,131,758	2,221,916	2,405,361	2,461,747	NA	NA
Physical sciences, n.e.c.	526,741	271,445	276,721	354,910	NA	NA
Environmental sciences, total	3,061,979	3,095,261	3,328,771	3,251,676	3,667,503	3,878,793
Atmospheric sciences	1,174,426	1,176,493	1,104,344	1,113,559	NA	NA
Geological sciences	603,316	660,169	639,155	673,782	NA	NA
Oceanography	559,794	656,599	673,034	681,084	NA	NA
Environmental sciences, n.e.c.	724,443	602,000	912,238	783,251	NA	NA
Math & computer sciences, total	1,836,842	1,980,628	2,205,594	2,610,603	2,751,255	2,866,091
Mathematics	334,063	345,312	432,927	396,381	NA	NA
Computer sciences	1,398,740	1,516,077	1,659,570	2,022,782	NA	NA
Math & computer sciences, n.e.c.	104,039	119,239	113,097	191,440	NA	NA
Engineering, total	5,895,423	6,263,420	6,346,381	8,197,018	8,951,400	9,160,639
Aeronautical	1,596,427	1,609,733	1,463,898	2,430,055	NA	NA
Astronautical	631,111	620,596	514,988	752,732	NA	NA
Chemical	190,147	203,170	196,519	199,036	NA	NA
Civil	244,126	328,510	239,220	288,422	NA	NA
Electrical	639,349	698,721	744,787	889,720	NA	NA
Mechanical	249,551	240,404	289,300	319,249	NA	NA
Metallurgy & materials	789,098	788,027	918,102	1,080,822	NA	NA
Engineering, n.e.c.	1,555,614	1,774,259	1,979,567	2,236,982	NA	NA
Social sciences, total	806,129	854,873	1,050,392	1,008,632	1,027,186	1,050,327
Anthropology	18,186	18,305	15,883	15,606	NA	NA
Economics	230,450	216,560	249,492	234,064	NA	NA
Political science	20,224	20,164	22,583	19,518	NA	NA
Sociology	100,831	83,832	90,608	95,471	NA	NA
Social sciences, n.e.c.	436,438	516,012	671,826	643,973	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.	963,675	1,212,101	1,160,181	1,245,806	1,559,243	1,592,634

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: During the Vol. 45 (fiscal years 1995-97) survey cycle, the National Aeronautics & Space Administration made a statistical adjustment to the 1994 and 1995 field of science and engineering values to diminish a computational error introduced by its software.

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