

**Table 3K. Federal obligations for applied research, by detailed field of science
& engineering: National Aeronautics & Space Administration,
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	672,687	595,387	432,981	443,641	539,810	625,804	929,632
Life sciences, total	24,132	29,306	25,909	24,572	9,806	10,995	16,325
Biol & agricultural, total	11,682	5,582	2,285	3,849	2,009	2,860	1,078
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	2,203	1,429	6,801	8,907	6,887	6,906	14,333
Clinical medical	2,203	0	0	1,286	720	749	875
Other medical	0	1,429	6,801	7,621	6,167	6,157	13,458
Life sciences, n.e.c.	10,247	22,295	16,823	11,816	910	1,229	914
Psychology, total	705	903	4,159	4,112	5,873	7,933	9,702
Biological aspects	705	903	2,215	2,227	1,337	1,058	0
Social aspects	0	0	0	228	4,488	5,719	386
Psychological sciences, n.e.c.	0	0	1,944	1,657	48	1,156	9,316
Physical sciences, total	23,851	16,109	9,708	8,602	10,985	13,801	14,198
Astronomy	5,263	2,151	907	950	1,824	2,292	2,287
Chemistry	1,355	1,406	2,922	1,309	1,910	1,705	519
Physics	17,233	12,552	5,879	6,043	5,357	3,883	6,683
Physical sciences, n.e.c.	0	0	0	300	1,894	5,921	4,709
Environmental sciences, total	89,156	98,093	90,931	105,174	142,851	199,300	158,646
Atmospheric sciences	60,533	68,972	42,033	30,315	60,110	84,179	65,241
Geological sciences	22,339	20,771	30,123	33,333	21,359	25,739	20,074
Oceanography	6,284	8,350	8,911	13,876	14,890	22,300	18,506
Environmental sciences, n.e.c.	0	0	9,864	27,650	46,492	67,082	54,825
Math & computer sciences, total	0	0	0	1,254	718	1,157	906
Mathematics	NA	NA	NA	NA	NA	NA	0
Computer sciences	NA	NA	NA	NA	NA	NA	0
Math & computer sciences, n.e.c.	NA	NA	NA	NA	NA	NA	906
Engineering, total	534,843	446,760	300,176	255,247	367,670	385,554	719,731
Aeronautical	210,921	175,153	98,294	104,203	205,030	205,727	392,393
Astronautical	148,355	131,078	46,988	28,352	75,423	77,586	156,988
Chemical	35,885	30,867	11,353	10,899	220	2,813	8,159
Civil	101	0	0	100	742	256	1,145
Electrical	51,727	42,833	48,474	32,620	19,084	18,196	46,703
Mechanical	19,502	21,616	43,771	39,952	3,925	9,665	28,081
Metallurgy & materials	7,715	10,044	39,421	31,730	43,123	39,493	69,839
Engineering, n.e.c.	60,637	35,169	11,875	7,391	20,123	31,818	16,423
Social sciences, total	0	0	884	1,911	540	896	1,744
Anthropology	0	0	0	0	0	0	0
Economics	0	0	0	65	504	595	1,647
Political science	0	0	0	50	30	211	57
Sociology	0	0	0	20	0	0	0
Social sciences, n.e.c.	0	0	884	1,776	6	90	40
History	0	0	0	0	6	47	NA
Linguistics	0	0	0	0	0	0	NA
Other social sciences	0	0	884	1,776	0	43	NA
Other sciences, n.e.c.	0	4,216	1,214	42,769	1,367	6,168	8,380

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

**Table 3K. Federal obligations for applied research, by detailed field of science
& engineering: National Aeronautics & Space Administration,
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	792,302	865,438	938,389	1,050,531	876,036	871,407	927,787
Life sciences, total	12,861	29,020	38,787	53,705	45,980	40,490	46,744
Biol & agricultural, total	1,699	4,544	8,011	19,267	22,708	18,600	20,529
Biol (excl environmental)	NA	4,544	5,759	6,482	6,640	7,746	9,303
Environmental biology	NA	0	2,248	1,420	1,203	20	0
Agricultural	NA	0	4	11,365	14,865	10,834	11,226
Medical sciences, total	10,433	24,476	29,965	33,548	22,705	21,031	24,647
Clinical medical	982	NA	NA	NA	NA	NA	NA
Other medical	9,451	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	729	0	811	890	567	859	1,568
Psychology, total	10,332	9,664	1,150	1,323	1,134	1,064	1,163
Biological aspects	9,637	747	0	0	0	0	19
Social aspects	477	359	992	1,165	945	912	1,061
Psychological sciences, n.e.c.	218	8,558	158	158	189	152	83
Physical sciences, total	24,564	21,714	12,294	12,253	11,271	8,927	40,401
Astronomy	2,595	1,497	2,436	4,614	5,425	2,981	1,645
Chemistry	1,419	339	1,134	1,491	1,081	1,020	1,684
Physics	13,829	13,059	3,701	3,902	2,162	2,040	30,388
Physical sciences, n.e.c.	6,721	6,819	5,023	2,246	2,603	2,886	6,684
Environmental sciences, total	201,624	234,881	265,069	294,374	162,428	173,509	163,730
Atmospheric sciences	80,268	64,272	72,803	98,246	55,763	75,062	78,845
Geological sciences	23,154	41,211	62,455	67,834	38,543	37,017	5,906
Oceanography	28,361	29,014	24,067	24,975	19,428	240	23,551
Environmental sciences, n.e.c.	69,841	100,384	105,744	103,319	48,694	61,190	55,428
Math & computer sciences, total	23,423	16,183	1,654	1,908	2,025	23,469	39,740
Mathematics	20,557	1,341	1,370	1,179	1,042	2,455	3,197
Computer sciences	2,866	14,842	284	635	860	20,923	34,999
Math & computer sciences, n.e.c.	0	0	0	94	123	91	1,544
Engineering, total	517,320	552,585	618,397	686,334	652,026	622,823	635,314
Aeronautical	238,875	272,628	367,590	415,808	390,962	395,208	398,247
Astronautical	123,833	122,879	187,332	206,609	201,614	167,462	188,951
Chemical	10,859	15,898	13	33	12	45	91
Civil	1,314	1,564	0	0	0	0	0
Electrical	38,703	24,098	1,406	2,203	1,975	14,636	15,985
Mechanical	22,508	34,813	941	1,614	2,240	2,687	2,020
Metallurgy & materials	60,615	54,315	5,114	3,776	4,479	10,387	11,884
Engineering, n.e.c.	20,613	26,390	56,001	56,291	50,744	32,398	18,136
Social sciences, total	533	49	15	30	0	13	0
Anthropology	0	0	0	0	0	0	0
Economics	457	0	0	0	0	0	0
Political science	30	29	15	0	0	0	0
Sociology	0	0	0	0	0	0	0
Social sciences, n.e.c.	46	20	0	30	0	13	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.	1,645	1,342	1,023	604	1,172	1,112	695

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

**Table 3K. Federal obligations for applied research, by detailed field of science
& engineering: National Aeronautics & Space Administration,
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	954,700	1,032,700	1,152,300	1,255,530	1,218,862	1,461,400	1,423,765
Life sciences, total	39,561	50,147	62,121	71,074	72,453	84,095	104,337
Biol & agricultural, total	11,243	10,188	10,262	9,350	16,261	19,399	30,616
Biol (excl environmental)	11,072	9,825	9,921	9,116	16,189	19,100	25,167
Environmental biology	47	247	280	184	7	261	5,449
Agricultural	124	116	61	50	65	38	0
Medical sciences, total	27,291	29,412	31,803	31,353	33,167	40,280	46,205
Clinical medical	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	1,027	10,547	20,056	30,371	23,025	24,416	27,516
Psychology, total	192	1,376	1,614	1,161	1,180	5,156	7,135
Biological aspects	20	0	0	25	27	0	0
Social aspects	0	1,200	1,537	987	1,030	5,073	7,005
Psychological sciences, n.e.c.	172	176	77	149	123	83	130
Physical sciences, total	25,645	76,293	82,684	74,324	70,317	88,621	84,084
Astronomy	1,420	12,816	13,698	12,456	10,783	15,250	15,312
Chemistry	1,908	6,141	6,251	5,416	3,309	6,980	8,244
Physics	16,485	42,214	45,943	39,032	40,488	45,173	35,468
Physical sciences, n.e.c.	5,832	15,122	16,792	17,420	15,737	21,218	25,060
Environmental sciences, total	128,409	139,938	149,726	139,866	155,587	175,375	201,779
Atmospheric sciences	61,005	72,177	78,153	73,193	87,051	98,275	148,614
Geological sciences	4,660	7,569	9,292	8,684	7,774	10,350	7,336
Oceanography	20,083	19,779	19,466	17,530	25,832	32,617	40,200
Environmental sciences, n.e.c.	42,661	40,413	42,815	40,459	34,930	34,133	5,629
Math & computer sciences, total	40,212	43,227	33,751	46,780	45,601	53,318	46,166
Mathematics	4,345	6,377	10,736	16,245	19,025	26,662	22,629
Computer sciences	32,138	32,937	19,741	26,815	23,332	25,927	23,314
Math & computer sciences, n.e.c.	3,729	3,913	3,274	3,720	3,244	729	223
Engineering, total	720,053	718,279	818,642	909,273	870,213	1,046,740	974,627
Aeronautical	410,241	372,850	377,119	353,387	366,790	444,529	453,964
Astronautical	273,438	318,091	413,699	513,824	445,948	540,420	440,842
Chemical	0	121	94	157	576	2,000	5,749
Civil	0	42	0	0	7	0	0
Electrical	13,186	2,878	2,026	1,778	2,026	2,314	5,147
Mechanical	1,900	2,099	2,162	4,789	6,952	7,473	8,559
Metallurgy & materials	8,119	8,512	9,300	12,797	10,220	7,546	26,794
Engineering, n.e.c.	13,169	13,686	14,242	22,541	37,694	42,458	33,572
Social sciences, total	0	2,637	3,336	12,425	3,026	2,450	0
Anthropology	0	0	0	0	0	0	0
Economics	0	3	3	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.	0	2,634	3,333	12,425	3,026	2,450	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.	628	803	426	627	485	5,645	5,637

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

**Table 3K. Federal obligations for applied research, by detailed field of science
& engineering: National Aeronautics & Space Administration,
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	1,665,587	1,491,134	1,748,641	1,876,650	2,067,896	1,897,097	2,090,120
Life sciences, total	129,427	108,516	159,436	171,922	184,692	172,391	186,394
Biol & agricultural, total	42,595	42,953	54,960	58,979	64,988	63,998	64,469
Biol (excl environmental)	32,284	34,757	49,924	53,561	59,094	57,421	58,569
Environmental biology	10,271	8,196	5,036	5,418	5,894	5,784	5,900
Agricultural	40	0	0	0	0	793	0
Medical sciences, total	65,898	57,440	97,395	105,346	111,318	100,256	113,626
Clinical medical	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	20,934	8,123	7,081	7,597	8,386	8,137	8,299
Psychology, total	9,043	8,430	13,429	14,505	15,447	14,584	15,697
Biological aspects	0	0	0	0	0	0	0
Social aspects	8,863	8,273	12,479	13,502	14,247	13,043	14,125
Psychological sciences, n.e.c.	180	157	950	1,003	1,200	1,541	1,572
Physical sciences, total	86,199	69,822	75,552	74,725	119,213	86,927	93,943
Astronomy	19,117	7,718	10,406	6,790	32,872	20,148	20,551
Chemistry	8,293	10,392	6,076	6,248	8,465	7,179	7,322
Physics	39,670	36,624	48,484	50,432	64,859	47,429	53,656
Physical sciences, n.e.c.	19,119	15,088	10,586	11,255	13,017	12,171	12,414
Environmental sciences, total	267,342	249,002	276,096	293,741	338,560	301,600	392,785
Atmospheric sciences	161,588	139,495	157,086	166,870	193,825	164,039	252,474
Geological sciences	17,778	22,018	23,715	24,360	33,168	28,137	28,699
Oceanography	76,900	81,299	76,330	82,334	88,311	87,462	89,211
Environmental sciences, n.e.c.	11,076	6,190	18,965	20,177	23,256	21,962	22,401
Math & computer sciences, total	52,358	45,271	48,098	51,869	55,709	52,085	56,294
Mathematics	22,687	15,684	3,294	3,559	3,784	3,775	3,850
Computer sciences	26,890	25,163	7,142	7,583	8,832	8,328	8,495
Math & computer sciences, n.e.c.	2,781	4,424	37,662	40,727	43,093	39,982	43,949
Engineering, total	1,114,549	1,003,574	1,170,995	1,264,612	1,347,714	1,263,743	1,338,178
Aeronautical	559,431	499,556	755,988	816,266	870,829	788,513	882,874
Astronautical	472,169	438,017	337,856	365,192	387,313	386,798	394,534
Chemical	4,273	4,885	454	472	608	537	548
Civil	0	0	0	0	0	40	40
Electrical	9,880	9,951	15,410	16,629	17,798	17,684	18,214
Mechanical	9,794	5,176	6,653	7,121	7,956	7,679	7,833
Metallurgy & materials	34,116	26,428	28,178	30,377	32,685	32,250	3,289
Engineering, n.e.c.	24,886	19,561	26,456	28,555	30,525	30,242	30,846
Social sciences, total	36	0	0	0	0	0	0
Anthropology	0	0	0	0	0	0	0
Economics	36	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.	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.	6,633	6,519	5,035	5,276	6,561	5,767	6,829

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

Table 3K. Federal obligations for applied research, by detailed field of science & engineering: National Aeronautics & Space Administration, fiscal years 1970-2003

[Dollars in thousands]

Field of science & engineering	1998	1999	2000	2001	Preliminary	
					2002	2003
Total, all fields	2,389,858	2,317,028	1,658,538	2,706,640	3,084,248	3,310,346
Life sciences, total	191,784	185,939	133,096	217,104	247,508	265,652
Biol & agricultural, total	68,519	66,430	48,052	78,026	NA	NA
Biol (excl environmental)	62,627	60,718	43,463	70,928	NA	NA
Environmental biology	5,892	5,712	4,089	6,673	NA	NA
Agricultural	0	0	500	425	NA	NA
Medical sciences, total	113,800	110,332	78,976	128,358	NA	NA
Clinical medical	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	9,465	9,177	6,068	10,720	NA	NA
Psychology, total	16,919	16,403	1,848	19,162	21,835	23,436
Biological aspects	0	0	416	273	NA	NA
Social aspects	15,316	14,849	145	17,346	NA	NA
Psychological sciences, n.e.c.	1,603	1,554	1,287	1,543	NA	NA
Physical sciences, total	106,082	102,849	139,725	120,143	136,905	146,941
Astronomy	25,215	24,447	83,604	105,629	NA	NA
Chemistry	8,471	8,212	5,879	8,607	NA	NA
Physics	60,937	59,080	42,290	2,431	NA	NA
Physical sciences, n.e.c.	11,459	11,110	7,952	3,476	NA	NA
Environmental sciences, total	393,295	381,309	273,353	445,427	507,570	544,778
Atmospheric sciences	271,291	263,024	188,478	307,251	NA	NA
Geological sciences	26,661	25,849	18,502	30,195	NA	NA
Oceanography	72,627	70,414	50,402	82,254	NA	NA
Environmental sciences, n.e.c.	22,716	22,022	15,971	25,727	NA	NA
Math & computer sciences, total	57,816	56,054	40,124	65,480	74,615	80,085
Mathematics	2,688	2,606	1,865	3,044	NA	NA
Computer sciences	8,665	8,401	6,013	13,500	NA	NA
Math & computer sciences, n.e.c.	46,463	45,047	32,246	48,936	NA	NA
Engineering, total	1,615,868	1,566,625	1,063,679	1,830,058	2,085,270	2,238,142
Aeronautical	1,024,065	992,857	647,128	1,159,808	NA	NA
Aeronautical	531,359	515,166	368,758	601,792	NA	NA
Chemical	442	429	440	501	NA	NA
Civil	28	27	0	32	NA	NA
Electrical	14,158	13,727	9,826	16,035	NA	NA
Mechanical	9,465	9,177	6,569	10,720	NA	NA
Metallurgy & materials	3,301	3,200	8,023	3,739	NA	NA
Engineering, n.e.c.	33,050	32,042	22,935	37,431	NA	NA
Social sciences, total	0	0	0	100	100	100
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	0	0	NA	NA
Social sciences, n.e.c.	0	0	0	100	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.	8,094	7,849	6,713	9,166	10,445	11,212

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.

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