

Table 1E. Federal obligations for total research, by detailed field of science & engineering: Department of Energy, 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	433,117	428,991	417,122	424,784	464,748	593,431	746,499
Life sciences, total	80,719	79,534	79,223	84,661	89,883	128,721	102,926
Biol & agricultural, total	72,649	71,309	71,054	75,002	79,410	119,805	74,978
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	8,070	8,225	8,169	9,659	10,473	8,916	8,523
Clinical medical	8,070	8,225	8,169	9,659	10,473	8,916	3,957
Other medical	0	0	0	0	0	0	4,566
Life sciences, n.e.c.	0	0	0	0	0	0	19,425
Psychology, total	0	0	0	0	0	0	0
Biological aspects	0	0	0	0	0	0	0
Social aspects	0	0	0	0	0	0	0
Psychological sciences, n.e.c.	0	0	0	0	0	0	0
Physical sciences, total	300,278	294,874	284,885	296,483	320,179	330,974	475,441
Astronomy	0	0	0	0	0	0	0
Chemistry	64,218	60,511	54,087	52,386	61,108	63,642	76,485
Physics	236,060	234,363	230,798	244,097	252,202	264,801	394,237
Physical sciences, n.e.c.	0	0	0	0	6,869	2,531	4,719
Environmental sciences, total	9,462	10,116	14,626	14,200	14,813	16,807	75,174
Atmospheric sciences	5,318	5,812	7,942	7,931	7,493	8,830	14,959
Geological sciences	1,942	2,085	3,711	2,687	1,635	2,956	24,586
Oceanography	2,202	2,219	2,973	2,963	3,557	5,021	13,787
Environmental sciences, n.e.c.	0	0	0	619	2,128	0	21,842
Math & computer sciences, total	5,779	5,309	4,809	4,634	4,018	5,532	5,952
Mathematics	NA	NA	NA	NA	NA	NA	3,862
Computer sciences	NA	NA	NA	NA	NA	NA	2,090
Math & computer sciences, n.e.c.	NA	NA	NA	NA	NA	NA	0
Engineering, total	36,879	39,158	33,579	24,806	35,855	111,397	84,697
Aeronautical	0	0	0	0	0	0	0
Astronautical	0	0	0	0	0	0	0
Chemical	4,589	4,600	4,655	1,074	7,613	24,927	11,876
Civil	0	0	0	0	0	17,000	1,000
Electrical	0	0	0	0	1,295	5,656	100
Mechanical	0	0	0	0	1,363	7,210	2,822
Metallurgy & materials	30,986	33,393	28,057	23,732	24,807	46,928	59,603
Engineering, n.e.c.	1,304	1,165	867	0	777	9,676	9,296
Social sciences, total	0	0	0	0	0	0	2,309
Anthropology	0	0	0	0	0	0	0
Economics	0	0	0	0	0	0	2,309
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	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.	0	0	0	0	0	0	0

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

Table 1E. Federal obligations for total research, by detailed field of science & engineering: Department of Energy, 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	891,266	1,102,243	1,131,846	1,277,326	1,413,605	1,696,088	1,961,127
Life sciences, total	114,863	135,116	138,087	146,069	147,500	162,393	146,205
Biol & agricultural, total	81,231	98,019	91,188	99,552	101,926	113,877	103,902
Biol (excl environmental)	NA	96,019	87,954	92,395	101,926	109,814	95,707
Environmental biology	NA	0	0	3,356	0	0	0
Agricultural	NA	2,000	3,234	3,801	0	4,063	8,195
Medical sciences, total	9,028	6,000	7,310	7,285	20,405	22,104	21,867
Clinical medical	2,100	NA	NA	NA	NA	NA	NA
Other medical	6,928	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	24,604	31,097	39,589	39,232	25,169	26,412	20,436
Psychology, total	0	0	0	0	0	0	0
Biological aspects	0	0	0	0	0	0	0
Social aspects	0	0	0	0	0	0	0
Psychological sciences, n.e.c.	0	0	0	0	0	0	0
Physical sciences, total	552,766	615,841	663,352	792,100	870,387	1,013,658	1,224,018
Astronomy	0	0	0	0	0	300	0
Chemistry	76,302	76,111	72,340	84,313	83,706	105,396	117,599
Physics	469,244	539,664	574,661	690,503	766,895	902,562	1,085,801
Physical sciences, n.e.c.	7,220	66	16,351	17,284	19,786	5,400	20,618
Environmental sciences, total	84,765	90,660	102,563	117,392	82,648	79,356	84,409
Atmospheric sciences	13,433	13,890	15,503	15,937	25,044	27,021	23,916
Geological sciences	28,389	31,898	31,531	32,617	37,955	35,042	42,852
Oceanography	13,354	12,438	13,094	14,284	10,001	11,213	6,971
Environmental sciences, n.e.c.	29,589	32,434	42,435	54,554	9,648	6,080	10,670
Math & computer sciences, total	6,839	7,698	9,233	11,644	14,721	15,105	22,155
Mathematics	4,445	4,809	5,711	7,176	8,173	8,209	9,821
Computer sciences	2,394	2,889	3,522	3,020	3,048	6,351	8,490
Math & computer sciences, n.e.c.	0	0	0	1,448	3,500	545	3,844
Engineering, total	119,347	230,756	204,169	193,120	270,199	420,776	440,219
Aeronautical	0	0	0	0	0	0	0
Astronautical	0	0	2,025	0	0	2,539	0
Chemical	15,250	41,953	12,173	14,412	30,633	1,061	51,933
Civil	3,700	4,114	0	1,030	20,696	43,770	35,240
Electrical	2,402	17,570	6,767	14,760	13,737	45,095	26,188
Mechanical	4,754	1,286	1,796	25,589	16,981	7,387	75,772
Metallurgy & materials	76,548	90,622	86,188	48,940	52,044	61,166	62,629
Engineering, n.e.c.	16,693	75,211	95,220	88,389	136,108	259,758	188,457
Social sciences, total	2,686	325	2,906	2,269	3,950	3,405	5,941
Anthropology	0	0	0	0	0	0	0
Economics	1,551	120	0	0	0	0	0
Political science	0	0	557	0	0	0	0
Sociology	135	205	0	0	0	0	0
Social sciences, n.e.c.	1,000	0	2,349	2,269	3,950	3,405	5,941
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.	10,000	21,847	11,536	14,732	24,200	1,395	38,180

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

Table 1E. Federal obligations for total research, by detailed field of science & engineering: Department of Energy, 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	2,024,889	2,141,037	2,040,321	2,097,851	2,235,367	2,431,681	2,570,483
Life sciences, total	143,830	157,468	143,591	160,759	185,244	222,917	214,162
Biol & agricultural, total	99,814	119,224	107,586	123,275	134,842	169,743	160,410
Biol (excl environmental)	96,299	113,738	106,303	122,705	133,752	167,098	159,430
Environmental biology	3,494	5,486	953	322	520	2,445	655
Agricultural	21	0	330	248	570	200	325
Medical sciences, total	20,434	21,565	22,624	21,729	33,117	37,279	36,890
Clinical medical	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	23,582	16,679	13,381	15,755	17,285	15,895	16,862
Psychology, total	0	0	0	0	0	0	0
Biological aspects	0	0	0	0	0	0	0
Social aspects	0	0	0	0	0	0	0
Psychological sciences, n.e.c.	0	0	0	0	0	0	0
Physical sciences, total	1,291,898	1,342,173	1,266,554	1,345,859	1,426,963	1,597,751	1,577,130
Astronomy	0	0	0	0	0	0	0
Chemistry	140,455	142,969	145,906	145,522	162,903	213,381	189,183
Physics	1,149,753	1,195,202	1,116,378	1,197,231	1,258,282	1,376,845	1,376,074
Physical sciences, n.e.c.	1,690	4,002	4,270	3,106	5,778	7,525	11,873
Environmental sciences, total	88,091	87,558	89,636	89,339	86,524	145,933	278,595
Atmospheric sciences	25,747	29,434	32,706	28,665	32,391	37,945	64,653
Geological sciences	42,124	41,237	46,503	46,543	43,037	82,821	99,825
Oceanography	10,572	11,216	5,559	5,869	6,839	6,559	5,990
Environmental sciences, n.e.c.	9,648	5,671	4,868	8,262	4,257	18,608	108,127
Math & computer sciences, total	23,565	40,004	42,962	44,281	47,115	46,863	53,523
Mathematics	9,519	24,069	13,216	28,431	31,216	29,877	30,714
Computer sciences	10,720	15,935	29,228	15,450	15,899	16,986	22,809
Math & computer sciences, n.e.c.	3,326	0	518	400	0	0	0
Engineering, total	439,029	511,283	494,151	442,201	479,524	406,129	435,646
Aeronautical	0	0	216	0	0	0	0
Astronautical	0	0	0	238	0	0	0
Chemical	46,089	136,625	121,576	88,865	134,505	4,493	105,874
Civil	40,601	45,143	42,444	37,228	30,721	29,253	26,570
Electrical	31,957	32,317	34,698	28,161	23,514	22,592	21,118
Mechanical	14,777	30,149	20,506	30,335	26,629	16,165	17,697
Metallurgy & materials	68,743	68,448	82,825	77,094	78,449	78,001	78,454
Engineering, n.e.c.	236,862	198,601	191,886	180,280	185,706	255,625	185,933
Social sciences, total	5,136	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	0	0	0	0	0	0	0
Social sciences, n.e.c.	5,136	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.	33,340	2,551	3,427	15,412	9,997	12,088	11,427

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

Table 1E. Federal obligations for total research, by detailed field of science & engineering: Department of Energy, 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	3,273,630	3,412,535	3,440,214	3,282,466	3,459,934	3,362,153	3,567,697
Life sciences, total	285,359	305,861	246,275	255,196	256,121	244,691	220,896
Biol & agricultural, total	152,853	164,116	183,079	171,951	201,057	192,181	163,701
Biol (excl environmental)	151,736	162,982	180,678	169,171	198,884	187,181	162,701
Environmental biology	614	460	2,003	2,233	2,173	5,000	1,000
Agricultural	503	674	398	547	0	0	0
Medical sciences, total	115,587	124,092	48,915	70,809	47,374	45,232	52,298
Clinical medical	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	16,919	17,653	14,281	12,436	7,690	7,278	4,897
Psychology, total	0	0	0	0	0	0	0
Biological aspects	0	0	0	0	0	0	0
Social aspects	0	0	0	0	0	0	0
Psychological sciences, n.e.c.	0	0	0	0	0	0	0
Physical sciences, total	1,837,775	1,923,033	1,997,984	1,809,158	1,799,182	1,681,374	1,756,798
Astronomy	0	0	12,566	14,235	0	0	0
Chemistry	187,630	219,290	246,344	225,567	216,712	266,988	236,888
Physics	1,497,100	1,618,395	1,634,384	1,485,254	1,499,497	1,201,667	1,282,212
Physical sciences, n.e.c.	153,045	85,348	104,690	84,102	82,973	212,719	237,698
Environmental sciences, total	238,469	244,054	304,605	303,852	382,213	430,733	350,843
Atmospheric sciences	72,812	83,610	92,565	106,463	97,680	123,264	88,941
Geological sciences	90,313	75,269	116,720	81,599	100,277	89,703	57,374
Oceanography	5,006	6,217	7,539	7,337	8,158	11,622	7,310
Environmental sciences, n.e.c.	70,338	78,958	87,781	108,453	176,098	206,144	197,218
Math & computer sciences, total	142,703	209,073	205,837	201,777	223,195	288,685	411,502
Mathematics	37,048	63,547	68,983	81,910	489	0	86,759
Computer sciences	87,305	116,315	103,384	89,574	97,179	201,015	318,568
Math & computer sciences, n.e.c.	18,350	29,211	33,470	30,293	125,527	87,670	6,175
Engineering, total	723,603	711,344	668,627	665,052	735,085	694,022	802,536
Aeronautical	0	0	0	0	0	0	0
Astronautical	0	0	0	803	17,493	0	1,600
Chemical	142,265	135,139	103,630	131,185	121,443	92,325	119,367
Civil	32,303	25,477	32,288	36,512	52,740	37,900	37,166
Electrical	42,873	38,744	43,083	42,235	51,369	24,817	24,264
Mechanical	49,062	43,405	39,997	37,057	37,590	17,602	16,685
Metallurgy & materials	72,898	67,117	66,956	71,762	63,626	263,726	275,859
Engineering, n.e.c.	384,202	401,462	382,673	345,498	390,824	257,652	327,595
Social sciences, total	0	135	500	932	500	0	0
Anthropology	0	0	370	420	500	0	0
Economics	0	135	130	512	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.	45,721	19,035	16,386	46,499	63,638	22,648	25,122

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

Table 1E. Federal obligations for total research, by detailed field of science & engineering: Department of Energy, fiscal years 1970-2003

[Dollars in thousands]

Field of science & engineering	1998	1999	2000	2001	Preliminary	
					2002	2003
Total, all fields	3,787,511	3,919,814	4,100,855	4,593,167	5,236,368	5,375,579
Life sciences, total	255,805	255,047	286,456	301,280	403,831	345,820
Biol & agricultural, total	197,619	197,262	207,287	212,005	NA	NA
Biol (excl environmental)	189,119	188,762	198,817	205,310	NA	NA
Environmental biology	8,500	8,500	8,470	6,695	NA	NA
Agricultural	0	0	0	0	NA	NA
Medical sciences, total	53,695	53,006	73,293	84,500	NA	NA
Clinical medical	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	4,491	4,779	5,876	4,775	NA	NA
Psychology, total	0	0	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.	0	0	0	0	NA	NA
Physical sciences, total	1,868,593	1,632,032	1,808,135	1,937,483	2,102,411	2,049,034
Astronomy	0	0	0	0	NA	NA
Chemistry	236,788	189,606	202,089	227,317	NA	NA
Physics	1,321,650	1,362,546	1,521,309	1,600,366	NA	NA
Physical sciences, n.e.c.	310,155	79,880	84,737	109,800	NA	NA
Environmental sciences, total	350,010	311,748	296,028	296,638	316,240	319,650
Atmospheric sciences	90,544	94,793	108,190	108,421	NA	NA
Geological sciences	84,298	87,173	84,135	82,261	NA	NA
Oceanography	4,244	5,358	9,300	7,353	NA	NA
Environmental sciences, n.e.c.	170,924	124,424	94,403	98,603	NA	NA
Math & computer sciences, total	494,617	613,570	714,465	824,160	819,725	837,429
Mathematics	93,586	102,332	93,926	119,326	NA	NA
Computer sciences	395,801	506,278	619,239	703,591	NA	NA
Math & computer sciences, n.e.c.	5,230	4,960	1,300	1,243	NA	NA
Engineering, total	797,891	1,087,340	982,395	1,221,963	1,588,485	1,817,905
Aeronautical	0	0	500	772	NA	NA
Astronautical	0	0	0	0	NA	NA
Chemical	91,325	94,270	89,557	91,452	NA	NA
Civil	37,979	45,707	41,812	45,753	NA	NA
Electrical	25,230	30,837	27,697	30,339	NA	NA
Mechanical	17,499	17,453	14,377	16,891	NA	NA
Metallurgy & materials	260,618	331,177	311,903	338,535	NA	NA
Engineering, n.e.c.	365,240	567,896	496,549	698,221	NA	NA
Social sciences, total	0	0	0	0	0	0
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	0	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.	20,595	20,077	13,376	11,643	5,676	5,741

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

NOTE: Data shown for fiscal years 1970-74 and 1975-76 represent obligations of the Atomic Energy Commission and the Energy Research & Development Administration, respectively. In fiscal year 1982 the Bonneville Power Administration became part of the Department of Energy.

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