

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

[Dollars in thousands]

Page 1 of 5

Field of science & engineering	1970	1971	1972	1973	1974	1975	1976
Total, all fields	146,448	152,094	148,833	149,628	195,244	280,673	400,709
Life sciences, total	43,120	43,607	43,909	47,585	75,731	107,682	78,545
Biol & agricultural, total	35,050	35,382	35,740	37,926	65,258	98,766	50,597
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	69,312	71,431	68,380	75,591	82,975	88,082	208,040
Astronomy	0	0	0	0	0	0	0
Chemistry	25,202	23,776	19,435	13,437	13,272	14,448	22,667
Physics	44,110	47,655	48,945	62,154	66,598	73,553	180,654
Physical sciences, n.e.c.	0	0	0	0	3,105	81	4,719
Environmental sciences, total	9,462	10,116	14,626	14,200	14,320	14,438	72,300
Atmospheric sciences	5,318	5,812	7,942	7,931	7,346	8,830	14,959
Geological sciences	1,942	2,085	3,711	2,687	1,635	587	21,712
Oceanography	2,202	2,219	2,973	2,963	3,211	5,021	13,787
Environmental sciences, n.e.c.	0	0	0	619	2,128	0	21,842
Math & computer sciences, total	0	0	0	0	0	0	0
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	0
Engineering, total	24,554	26,940	21,918	12,252	22,218	70,471	39,515
Aeronautical	0	0	0	0	0	0	0
Astronautical	0	0	0	0	0	0	0
Chemical	4,350	4,375	4,438	0	7,537	24,927	11,876
Civil	0	0	0	0	0	17,000	1,000
Electrical	0	0	0	0	920	5,656	100
Mechanical	0	0	0	0	1,363	7,210	2,822
Metallurgy & materials	18,900	21,400	16,613	12,252	11,898	6,002	14,421
Engineering, n.e.c.	1,304	1,165	867	0	500	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 3E. Federal obligations for applied research, by detailed field of science & engineering: Department of Energy, fiscal years 1970-2003

[Dollars in thousands]

Page 2 of 5

Field of science & engineering	1977	1978	1979	1980	1981	1982	1983
Total, all fields	501,816	661,709	668,878	754,190	827,265	1,053,877	1,193,409
Life sciences, total	89,042	105,372	110,629	116,692	115,858	125,747	116,710
Biol & agricultural, total	55,410	68,275	63,730	70,375	70,484	77,431	74,407
Biol (excl environmental)	NA	66,275	60,496	63,218	70,484	73,368	66,212
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	39,032	24,969	26,212	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	258,943	290,454	317,745	359,960	390,165	482,809	584,806
Astronomy	0	0	0	0	0	300	0
Chemistry	14,560	28,178	14,629	22,205	13,722	29,868	13,306
Physics	237,163	262,210	286,915	321,271	357,157	447,741	550,882
Physical sciences, n.e.c.	7,220	66	16,201	16,484	19,286	4,900	20,618
Environmental sciences, total	81,225	86,700	96,370	109,166	73,254	69,924	72,822
Atmospheric sciences	13,433	13,890	15,503	15,937	25,044	27,021	23,916
Geological sciences	24,849	27,938	25,388	24,891	28,861	25,610	31,265
Oceanography	13,354	12,438	13,094	14,284	10,001	11,213	6,971
Environmental sciences, n.e.c.	29,589	32,434	42,385	54,054	9,348	6,080	10,670
Math & computer sciences, total	0	300	599	1,448	3,500	3,545	8,344
Mathematics	0	0	99	0	0	0	0
Computer sciences	0	300	500	0	0	3,000	4,500
Math & computer sciences, n.e.c.	0	0	0	1,448	3,500	545	3,844
Engineering, total	59,920	161,515	129,107	150,553	216,338	367,052	367,523
Aeronautical	0	0	0	0	0	0	0
Astronautical	0	0	2,025	0	0	2,539	0
Chemical	14,177	40,663	10,642	14,201	28,450	1,061	38,440
Civil	3,700	4,114	0	1,030	20,696	43,770	35,240
Electrical	2,402	17,570	6,271	14,383	13,737	44,595	25,676
Mechanical	4,754	1,286	1,412	23,431	13,581	3,486	70,433
Metallurgy & materials	18,194	22,671	13,748	14,124	12,735	20,562	18,254
Engineering, n.e.c.	16,693	75,211	95,009	83,384	127,139	251,039	179,480
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	17,043	11,522	14,102	24,200	1,395	37,263

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

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

[Dollars in thousands]

Page 3 of 5

Field of science & engineering	1984	1985	1986	1987	1988	1989	1990
Total, all fields	1,194,457	1,198,445	1,080,653	1,029,386	1,050,559	1,020,779	1,065,687
Life sciences, total	110,343	98,802	85,451	89,027	104,148	57,291	44,288
Biol & agricultural, total	70,941	60,786	51,623	54,960	58,354	18,891	5,481
Biol (excl environmental)	67,426	55,517	50,745	54,390	57,829	16,748	4,731
Environmental biology	3,494	5,269	548	322	350	1,943	425
Agricultural	21	0	330	248	175	200	325
Medical sciences, total	20,434	21,565	22,624	21,729	33,117	36,899	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.	18,968	16,451	11,204	12,338	12,677	1,501	1,917
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	603,519	606,093	529,421	530,797	529,404	589,366	548,123
Astronomy	0	0	0	0	0	0	0
Chemistry	32,031	40,637	35,294	26,323	37,256	78,272	60,450
Physics	569,863	561,546	490,106	501,368	486,370	503,569	476,712
Physical sciences, n.e.c.	1,625	3,910	4,021	3,106	5,778	7,525	10,961
Environmental sciences, total	74,856	67,481	67,866	61,945	61,001	64,185	162,816
Atmospheric sciences	25,747	29,122	31,463	28,251	32,219	9,136	8,851
Geological sciences	28,954	24,066	28,630	23,365	20,612	36,948	46,262
Oceanography	10,572	9,784	3,619	3,723	4,352	0	0
Environmental sciences, n.e.c.	9,583	4,509	4,154	6,606	3,818	18,101	107,703
Math & computer sciences, total	8,926	19,028	5,121	5,754	4,756	4,736	4,804
Mathematics	0	13,838	0	371	0	0	0
Computer sciences	5,600	5,190	4,684	5,090	4,756	4,736	4,804
Math & computer sciences, n.e.c.	3,326	0	437	293	0	0	0
Engineering, total	359,293	405,614	390,233	327,378	342,525	294,351	295,486
Aeronautical	0	0	182	0	0	0	0
Astronautical	0	0	0	174	0	0	0
Chemical	34,527	114,799	102,577	65,138	98,337	3,303	77,775
Civil	40,601	44,676	41,741	36,670	30,721	29,253	26,570
Electrical	31,488	31,476	33,561	27,385	23,214	22,292	20,718
Mechanical	7,196	14,594	6,710	12,220	8,756	891	2,091
Metallurgy & materials	19,725	17,404	29,516	21,044	18,212	19,676	17,009
Engineering, n.e.c.	225,756	182,665	175,946	164,747	163,285	218,936	151,323
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.	32,384	1,427	2,561	14,485	8,725	10,850	10,170

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

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

[Dollars in thousands]

Page 4 of 5

Field of science & engineering	1991	1992	1993	1994	1995	1996	1997
Total, all fields	1,587,177	1,676,131	1,685,383	1,679,243	1,825,581	1,432,497	1,596,836
Life sciences, total	124,281	136,485	60,720	86,084	80,512	73,892	52,298
Biol & agricultural, total	4,914	7,841	8,911	11,932	30,080	28,660	0
Biol (excl environmental)	4,164	7,006	7,385	9,152	28,239	24,660	0
Environmental biology	425	460	1,128	2,233	1,841	4,000	0
Agricultural	325	375	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.	3,780	4,552	2,894	3,343	3,058	0	0
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	670,588	750,262	788,253	741,826	718,246	496,422	564,417
Astronomy	0	0	12,229	14,235	0	0	0
Chemistry	60,943	90,309	106,659	110,963	86,946	124,629	106,474
Physics	458,015	574,817	570,575	538,857	548,415	159,142	223,042
Physical sciences, n.e.c.	151,630	85,136	98,790	77,771	82,885	212,651	234,901
Environmental sciences, total	113,560	111,971	156,494	155,229	233,979	223,614	149,296
Atmospheric sciences	4,510	7,216	8,653	11,846	8,996	34,989	0
Geological sciences	39,935	28,229	61,077	35,582	48,677	34,807	0
Oceanography	198	0	492	554	1,410	3,380	215
Environmental sciences, n.e.c.	68,917	76,526	86,272	107,247	174,896	150,438	149,081
Math & computer sciences, total	82,745	120,763	116,819	104,958	109,596	199,140	299,256
Mathematics	0	0	800	1,750	489	0	0
Computer sciences	64,395	91,552	82,549	72,915	80,396	187,290	298,956
Math & computer sciences, n.e.c.	18,350	29,211	33,470	30,293	28,711	11,850	300
Engineering, total	551,426	538,863	548,245	545,995	620,242	417,723	508,049
Aeronautical	0	0	0	0	0	0	0
Astronautical	0	0	0	803	11,633	0	0
Chemical	104,528	99,154	77,221	100,578	98,937	75,217	95,924
Civil	32,303	25,169	32,288	36,512	52,478	37,701	37,152
Electrical	42,473	38,344	42,653	41,735	50,721	24,817	24,264
Mechanical	32,455	26,873	23,695	21,313	21,877	514	213
Metallurgy & materials	6,161	5,399	3,172	9,964	4,083	32,759	34,022
Engineering, n.e.c.	333,506	343,924	369,216	335,090	380,513	246,715	316,474
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.	44,577	17,652	14,352	44,219	62,506	21,706	23,520

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

Table 3E. Federal obligations for applied 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	1,758,706	1,787,991	1,925,018	2,297,630	2,806,517	2,833,055
Life sciences, total	62,995	62,306	83,158	95,263	157,661	79,514
Biol & agricultural, total	9,300	9,300	9,295	10,763	NA	NA
Biol (excl environmental)	2,300	2,300	2,325	5,613	NA	NA
Environmental biology	7,000	7,000	6,970	5,150	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.	0	0	570	0	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	639,325	334,846	448,208	509,526	589,864	542,829
Astronomy	0	0	0	0	NA	NA
Chemistry	99,002	52,563	55,840	61,105	NA	NA
Physics	232,069	202,403	307,631	339,197	NA	NA
Physical sciences, n.e.c.	308,254	79,880	84,737	109,224	NA	NA
Environmental sciences, total	124,425	80,219	63,062	69,275	71,735	63,824
Atmospheric sciences	0	0	0	511	NA	NA
Geological sciences	0	0	0	6,228	NA	NA
Oceanography	240	490	0	0	NA	NA
Environmental sciences, n.e.c.	124,185	79,729	63,062	62,536	NA	NA
Math & computer sciences, total	374,127	488,686	602,298	677,478	670,654	677,389
Mathematics	0	0	0	0	NA	NA
Computer sciences	374,127	483,726	600,998	676,732	NA	NA
Math & computer sciences, n.e.c.	0	4,960	1,300	746	NA	NA
Engineering, total	538,684	802,832	716,388	935,396	1,311,927	1,464,778
Aeronautical	0	0	500	772	NA	NA
Astronautical	0	0	0	0	NA	NA
Chemical	86,720	90,348	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	717	761	739	342	NA	NA
Metallurgy & materials	30,071	69,609	59,534	68,642	NA	NA
Engineering, n.e.c.	357,967	565,570	496,549	698,096	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.	19,150	19,102	11,904	10,692	4,676	4,721

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