



National Center for Science and
Engineering Statistics

Federal Funds for Research and Development: Fiscal Years 2022–23

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General Notes

These tables present the results of volume 72 (FYs 2022–23) of the Survey of Federal Funds for Research and Development. This annual census, completed by the federal agencies that conduct research and development (R&D) programs, is the primary source of information about federal funding for R&D in the United States. Actual data are collected for the fiscal year just completed; estimates are obtained for the current fiscal year.

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TABLE 1

Federal obligations for research and development, by type of R&D, and for R&D plant: FYs 1951–2023

(Dollars in thousands)

Fiscal year	Total	Total R&D	Total research	Basic research	Applied research	Development	R&D plant
1951	1,851,571	1,521,527	NA	NA	NA	NA	330,044
1952	2,216,848	1,909,665	NA	120,945	NA	NA	307,183
1953	2,167,456	1,919,543	NA	115,997	NA	NA	247,913
1954	1,918,046	1,761,840	NA	116,033	NA	NA	156,206
1955	2,251,894	2,044,593	NA	130,068	NA	NA	207,301
1956	3,266,903	2,988,203	851,947	206,441	645,506	2,136,256	278,700
1957	4,389,237	3,932,001	924,547	262,348	662,199	3,007,454	457,236
1958	4,906,015	4,569,722	1,078,807	334,543	744,264	3,490,915	336,293
1959	7,122,610	6,693,510	1,340,253	465,981	874,272	5,353,257	429,100
1960	8,080,015	7,551,746	1,872,509	590,374	1,282,135	5,679,237	528,269
1961	9,607,023	9,058,623	2,477,944	814,513	1,663,431	6,580,679	548,400
1962	11,069,059	10,289,947	3,004,795	986,314	2,018,481	7,285,152	779,112
1963	13,662,879	12,494,611	3,507,903	1,151,753	2,356,150	8,986,708	1,168,268
1964	15,323,870	14,225,354	3,874,452	1,303,000	2,571,452	10,350,902	1,098,516
1965	15,745,852	14,614,249	4,247,230	1,435,469	2,811,761	10,367,019	1,131,603
1966	16,178,640	15,320,334	4,660,247	1,579,181	3,081,066	10,660,087	858,306
1967	17,149,186	16,529,099	4,631,390	1,845,847	2,785,543	11,897,709	620,087
1968	16,525,038	15,921,208	4,781,062	1,840,562	2,940,500	11,140,146	603,830
1969	16,309,900	15,640,888	4,644,890	1,944,773	2,700,117	10,995,998	669,012
1970	15,863,385	15,338,937	4,900,798	1,925,908	2,974,890	10,438,139	524,448
1971	16,153,756	15,542,512	5,123,171	1,980,141	3,143,030	10,419,341	611,244
1972	17,097,951	16,495,895	5,547,696	2,186,937	3,360,759	10,948,199	602,056
1973	17,574,486	16,800,153	5,581,429	2,232,006	3,349,423	11,218,724	774,333
1974	18,176,457	17,410,128	6,175,240	2,387,681	3,787,559	11,234,888	766,329
1975	19,859,548	19,038,818	6,729,708	2,588,427	4,141,281	12,309,110	820,730
1976	21,616,382	20,779,658	7,619,332	2,767,454	4,851,878	13,160,326	836,724
1977	24,817,577	23,450,377	8,514,115	3,258,640	5,255,475	14,936,262	1,367,200
1978	27,140,849	25,845,137	9,606,758	3,698,604	5,908,154	16,238,379	1,295,712
1979	29,620,597	28,145,142	10,535,005	4,192,665	6,342,340	17,610,137	1,475,455
1980	31,386,095	29,830,432	11,597,378	4,674,156	6,923,222	18,233,054	1,555,663
1981	34,589,634	33,103,924	12,212,780	5,041,295	7,171,485	20,891,144	1,485,710
1982	37,822,363	36,432,589	13,022,185	5,481,605	7,540,580	23,410,404	1,389,774
1983	40,009,032	38,711,537	14,253,525	6,260,131	7,993,394	24,458,012	1,297,495
1984	44,012,149	42,224,865	14,978,773	7,067,359	7,911,414	27,246,092	1,787,284
1985	50,180,369	48,359,565	16,133,421	7,818,682	8,314,739	32,226,144	1,820,804
1986	52,951,181	51,412,364	16,502,199	8,153,076	8,349,123	34,910,165	1,538,817
1987	57,099,656	55,253,693	17,940,521	8,942,425	8,998,096	37,313,172	1,845,963
1988	58,826,512	56,769,425	18,650,145	9,473,618	9,176,527	38,119,280	2,057,087
1989	63,571,605	61,406,484	20,765,531	10,602,011	10,163,520	40,640,953	2,165,121
1990	65,831,189	63,559,471	21,622,364	11,285,593	10,336,771	41,937,107	2,271,718
1991	64,147,951	61,295,152	23,968,377	12,170,794	11,797,583	37,326,775	2,852,799
1992	68,577,184	65,592,590	24,490,598	12,489,864	12,000,734	41,101,992	2,984,594
1993	70,414,697	67,314,025	26,890,497	13,399,121	13,491,376	40,423,528	3,100,672
1994	69,450,776	67,235,390	27,411,209	13,523,476	13,887,733	39,824,181	2,215,386
1995	70,442,935	68,186,798	28,434,396	13,877,031	14,557,365	39,752,402	2,256,137
1996	69,399,164	67,653,047	28,259,764	14,464,035	13,795,729	39,393,283	1,746,117
1997	71,753,430	69,826,779	29,365,289	14,941,892	14,423,397	40,461,490	1,926,651
1998	73,913,988	72,100,724	30,922,269	15,613,012	15,309,257	41,178,455	1,813,264
1999	77,386,368	75,340,622	33,527,514	17,443,653	16,083,861	41,813,108	2,045,746
2000	80,403,169	75,910,322	38,470,630	19,569,849	18,900,781	37,439,692	4,492,847
2001	88,562,350	84,492,522	44,713,736	21,958,136	22,755,600	39,778,786	4,069,828

TABLE 1

Federal obligations for research and development, by type of R&D, and for R&D plant: FYs 1951–2023

(Dollars in thousands)

Fiscal year	Total	Total R&D	Total research	Basic research	Applied research	Development	R&D plant
2002	98,013,347	93,708,604	48,006,711	23,668,345	24,338,366	45,701,893	4,304,743
2003	107,794,188	103,527,670	51,071,843	24,751,441	26,320,402	52,455,827	4,266,518
2004	116,068,604	112,074,452	53,357,811	26,120,663	27,237,148	58,716,641	3,994,152
2005	122,619,584	118,848,457	53,738,245	27,140,335	26,597,910	65,110,212	3,771,127
2006	123,854,731	121,729,949	53,535,650	26,584,592	26,951,058	68,194,299	2,124,782
2007	129,431,246	127,262,861	54,093,565	26,865,786	27,227,779	73,169,296	2,168,385
2008	129,049,945	127,106,084	53,893,678	27,153,966	26,739,712	73,212,406	1,943,861
2009	144,758,103	141,090,091	63,691,872	32,879,357	30,812,515	77,398,219	3,668,012
2010	146,967,800	140,354,521	63,727,973	31,795,342	31,932,631	76,626,548	6,613,279
2011	139,703,281	135,532,585	58,064,824	29,313,593	28,751,231	77,467,761	4,170,695
2012	140,670,243	138,524,568	61,986,310	30,958,893	31,027,417	76,538,258	2,145,676
2013	127,625,544	125,720,395	59,532,626	29,779,404	29,753,222	66,187,769	1,905,149
2014	132,778,962	130,561,320	63,191,428	31,587,903	31,603,525	67,369,892	2,217,642
2015	131,578,341	128,753,285	63,825,444	31,527,071	32,298,373	64,927,841	2,825,055
2016	118,273,784	115,832,794	67,104,649	32,292,659	34,811,990	48,728,145	2,440,989
2017	121,626,565	118,974,799	69,871,308	33,271,490	36,599,818	49,103,491	2,651,766
2018	133,277,540	129,424,802	74,587,573	36,195,128	38,392,445	54,837,230	3,852,737
2019	146,800,654	142,424,207	81,117,784	40,017,258	41,100,526	61,306,422	4,376,448
2020	173,552,852	167,402,781	85,304,757	41,546,622	43,758,135	82,098,024	6,150,070
2021	193,896,297	189,613,897	85,896,029	42,266,271	43,629,758	103,717,868	4,282,399
2022	196,595,226	190,421,895	93,807,126	45,392,702	48,414,424	96,614,768	6,173,332
2023 (preliminary)	192,968,839	186,447,980	99,480,903	48,467,014	51,013,890	86,967,076	6,520,860

NA = not available; data were not collected at this level of detail.

Note(s):

Because of rounding, detail may not add to total. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. Beginning with FY 2016, the totals reported for development obligations represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the Department of Defense (DOD) Budget Activity 7 (Operational System Development) obligations. Those funds, previously included in DOD's development obligation totals, support the development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate production funding in the current or subsequent fiscal year. Therefore, the data are not directly comparable with totals reported in previous years. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 2

Summary of federal obligations and outlays for research, experimental development, and R&D plant, by type of R&D, performer, and field of R&D: FYs 2021–23

(Dollars in millions)

Type of R&D, performer, and field	2021	2022	2023 (preliminary)	% change FY 2021– 22	% change FY 2022–23 (preliminary)
Outlays for R&D and R&D plant	178,334	183,064	177,595	2.7	-3.0
R&D	174,529	178,880	171,890	2.5	-3.9
R&D plant	3,805	4,185	5,706	10.0	36.3
Obligations for R&D and R&D plant	193,896	196,595	192,969	1.4	-1.8
R&D	189,614	190,422	186,448	0.4	-2.1
Performer					
Federal agencies ^a	72,826	70,780	52,795	-2.8	-25.4
FFRDCs	14,791	15,381	17,459	4.0	13.5
Businesses	50,225	50,205	57,898	0.0	15.3
Higher education ^b	39,766	42,179	45,431	6.1	7.7
Nonprofit organizations	10,287	10,136	11,174	-1.5	10.2
State and local governments	966	925	895	-4.3	-3.2
Non-U.S. performers	753	818	797	8.6	-2.5
Research	85,896	93,807	99,481	9.2	6.0
Performer					
Federal agencies ^a	17,532	20,651	22,913	17.8	11.0
FFRDCs	10,529	11,133	12,865	5.7	15.6
Businesses	10,790	12,679	11,542	17.5	-9.0
Higher education ^b	37,027	39,069	41,529	5.5	6.3
Nonprofit organizations	8,644	8,797	9,257	1.8	5.2
State and local governments	887	862	850	-2.8	-1.5
Non-U.S. performers	488	615	524	26.2	-14.8
Field of R&D					
Computer and information sciences	5,350	4,831	5,459	-9.7	13.0
Geosciences, atmospheric sciences, and ocean sciences	5,042	5,566	6,712	10.4	20.6
Life sciences	38,249	41,610	42,330	8.8	1.7
Mathematics and statistics	715	904	929	26.4	2.8
Physical sciences	10,048	12,099	12,665	20.4	4.7
Psychology	3,770	4,588	4,880	21.7	6.4
Social sciences	1,370	1,917	2,160	39.9	12.7
Engineering	14,650	15,497	16,758	5.8	8.1
Other fields	6,703	6,796	7,587	1.4	11.6
Basic research	42,266	45,393	48,467	7.4	6.8
Performer					
Federal agencies ^a	6,523	7,820	8,378	19.9	7.1
FFRDCs	5,805	6,731	7,904	16.0	17.4
Businesses	3,785	3,858	4,560	1.9	18.2
Higher education ^b	21,441	22,260	22,751	3.8	2.2
Nonprofit organizations	3,948	3,982	4,114	0.9	3.3
State and local governments	533	544	555	2.0	2.2
Non-U.S. performers	232	199	204	-14.2	2.7
Field of R&D					
Computer and information sciences	2,264	2,298	2,431	1.5	5.8
Geosciences, atmospheric sciences, and ocean sciences	3,057	3,441	3,991	12.6	16.0
Life sciences	19,016	19,052	20,388	0.2	7.0
Mathematics and statistics	503	608	616	20.9	1.2
Physical sciences	8,184	9,449	9,751	15.5	3.2

TABLE 2

Summary of federal obligations and outlays for research, experimental development, and R&D plant, by type of R&D, performer, and field of R&D: FYs 2021–23

(Dollars in millions)

Type of R&D, performer, and field	2021	2022	2023 (preliminary)	% change FY 2021– 22	% change FY 2022–23 (preliminary)
Psychology	1,934	2,288	2,434	18.3	6.4
Social sciences	537	766	822	42.6	7.3
Engineering	3,212	3,739	3,923	16.4	4.9
Other fields	3,558	3,752	4,112	5.5	9.6
Applied research	43,630	48,414	51,014	11.0	5.4
Performer					
Federal agencies ^a	11,008	12,831	14,535	16.6	13.3
FFRDCs	4,724	4,402	4,961	-6.8	12.7
Businesses	7,004	8,822	6,982	25.9	-20.9
Higher education ^b	15,586	16,809	18,778	7.8	11.7
Nonprofit organizations	4,697	4,816	5,143	2.5	6.8
State and local governments	354	319	294	-10.1	-7.6
Non-U.S. performers	256	416	320	62.8	-23.1
Field of R&D					
Computer and information sciences	3,086	2,533	3,029	-17.9	19.6
Geosciences, atmospheric sciences, and ocean sciences	1,985	2,125	2,721	7.0	28.1
Life sciences	19,232	22,558	21,942	17.3	-2.7
Mathematics and statistics	212	296	313	39.3	6.0
Physical sciences	1,864	2,650	2,914	42.2	10.0
Psychology	1,836	2,300	2,446	25.3	6.4
Social sciences	832	1,151	1,338	38.3	16.3
Engineering	11,438	11,758	12,835	2.8	9.2
Other fields	3,145	3,045	3,475	-3.2	14.1
Experimental development	103,718	96,615	86,967	-6.8	-10.0
Performer					
Federal agencies ^a	55,294	50,129	29,882	-9.3	-40.4
FFRDCs	4,263	4,248	4,593	-0.3	8.1
Businesses	39,435	37,526	46,356	-4.8	23.5
Higher education ^b	2,740	3,110	3,902	13.5	25.5
Nonprofit organizations	1,642	1,338	1,917	-18.5	43.2
State and local governments	79	62	45	-21.1	-27.5
Non-U.S. performers	265	202	273	-23.8	34.8
Field of R&D					
Computer and information sciences	3,175	2,442	3,071	-23.1	25.8
Geosciences, atmospheric sciences, and ocean sciences	2,160	724	815	-66.5	12.5
Life sciences	39,394	30,408	5,769	-22.8	-81.0
Mathematics and statistics	292	226	289	-22.6	28.1
Physical sciences	3,552	3,415	4,325	-3.9	26.6
Psychology	364	383	493	5.3	28.8
Social sciences	139	149	209	7.4	40.1
Engineering	44,333	44,427	54,070	0.2	21.7
Other fields	10,310	14,440	17,926	40.1	24.1
R&D plant	4,282	6,173	6,521	44.2	5.6
Performer					
Federal agencies ^a	883	1,096	2,138	24.1	95.1
FFRDCs	2,019	3,437	2,409	70.2	-29.9
Businesses	858	1,020	1,144	18.9	12.1

TABLE 2

Summary of federal obligations and outlays for research, experimental development, and R&D plant, by type of R&D, performer, and field of R&D: FYs 2021–23

(Dollars in millions)

Type of R&D, performer, and field	2021	2022	2023 (preliminary)	% change FY 2021– 22	% change FY 2022–23 (preliminary)
Higher education ^b	360	463	633	28.4	36.7
Nonprofit organizations	155	149	190	-4.3	28.0
State and local governments	6	8	7	21.2	-7.1
Non-U.S. performers	*	1	*	267.1	-62.6

* = amount greater than \$0 but less than \$500,000.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**Because of rounding, detail may not add to total. Percentages are computed using actual dollars reported. FYs 2021 and 2022 data include obligations from supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-3](#) for additional notes associated with the taxonomy changes to the fields listed in this table.**Source(s):**

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 3

Federal obligations and outlays for research, experimental development, and R&D plant, by agency: FYs 2022–23

(Dollars in millions)

Agency	Obligations		Outlays	
	2022	2023 (preliminary)	2022	2023 (preliminary)
All agencies	196,595	192,969	183,064	177,595
Departments				
Department of Agriculture	3,315	3,546	2,958	3,695
Agricultural Marketing Service	10	9	5	5
Agricultural Research Service	1,821	1,900	1,594	2,160
Animal and Plant Health Inspection Service	45	49	45	49
Economic Research Service	88	93	88	93
Forest Service	339	323	306	323
National Agricultural Statistics Service	11	11	11	11
National Institute of Food and Agriculture	986	1,145	908	1,054
Natural Resources Conservation Service	16	16	1	*
Department of Commerce	2,390	4,058	2,336	3,003
Census Bureau	202	312	202	312
National Institute of Standards and Technology	958	1,563	992	1,159
National Oceanic and Atmospheric Administration	1,218	2,169	1,130	1,518
National Telecommunications and Information Administration	13	14	13	14
Department of Defense	72,607	89,221	68,968	81,931
Defense Advanced Research Projects Agency	3,609	4,191	3,703	3,938
Defense Health Agency	2,136	2,562	2,112	2,013
Department of the Air Force	14,029	16,153	13,099	14,779
Department of the Army	12,060	15,518	11,284	14,418
Department of the Navy	17,551	22,157	16,450	20,131
Space Force	4,951	8,626	4,319	8,237
Other defense agencies	18,272	20,014	18,000	18,415
Department of Education	402	354	285	274
Department of Energy	17,977	18,586	15,068	16,766
Advanced Research Projects Agency—Energy	403	470	339	386
Electricity Delivery and Energy Reliability	114	156	111	141
Energy Efficiency and Renewable Energy	1,659	1,828	1,469	1,618
Environmental Management	36	43	22	26
Fossil Energy	588	963	629	798
National Nuclear Security Administration	5,219	5,546	4,630	4,934
Defense Programs	3,456	3,702	3,245	3,114
Naval Nuclear Propulsion Program	1,382	1,419	1,018	1,419
Office of Defense Nuclear Nonproliferation	381	426	366	402
Nuclear Energy	1,176	1,636	866	1,349
Office of Cybersecurity, Energy Security, and Emergency Response	37	63	*	*
Office of Science	8,746	7,882	7,003	7,513
Department of Health and Human Services	74,388	49,677	69,148	45,077
Administration for Children and Families	5	9	4	4
Administration for Community Living	107	113	107	113
Agency for Healthcare Research and Quality	350	374	350	374
Agency for Toxic Substances and Disease Registry	12	12	12	12
Biomedical Advanced Research and Development Authority	28,414	818	28,414	818
Centers for Disease Control and Prevention	565	459	232	190
Centers for Medicare and Medicaid Services	419	427	270	275
Food and Drug Administration	571	641	536	602
Health Resources and Services Administration	40	50	40	36
National Institutes of Health	43,869	46,736	39,148	42,616
Office of the Secretary of Health and Human Services	36	38	36	38

TABLE 3

Federal obligations and outlays for research, experimental development, and R&D plant, by agency: FYs 2022–23

(Dollars in millions)

Agency	Obligations		Outlays	
	2022	2023 (preliminary)	2022	2023 (preliminary)
Office of the Assistant Secretary for Planning and Evaluation	36	38	36	38
Department of Homeland Security	581	599	549	724
Coast Guard	7	7	7	7
Countering Weapons of Mass Destruction Office	66	65	66	65
Cybersecurity and Infrastructure Security Agency	6	9	6	9
Science and Technology Directorate	502	514	470	643
Secret Service	1	4	1	*
Transportation Security Administration	*	*	*	*
Department of the Interior	947	1,050	929	1,037
Bureau of Indian Affairs	5	5	5	5
Bureau of Land Management	12	13	12	13
Bureau of Ocean Energy Management	86	88	66	84
Bureau of Reclamation	29	46	29	46
Bureau of Safety and Environmental Enforcement	14	22	19	21
Fish and Wildlife Service	35	44	35	41
Geological Survey	737	803	737	803
National Park Service	28	28	25	25
Department of Justice	111	139	18	31
Bureau of Prisons	*	*	*	*
Federal Bureau of Investigation	9	21	9	21
Office of Justice Programs	102	118	9	11
Department of Labor	4	4	3	3
Employee Benefits Security Administration	2	2	1	1
Occupational Safety and Health Administration	2	2	2	2
Department of State	65	60	65	60
Department of Transportation	1,111	1,266	701	817
Federal Aviation Administration	511	520	250	340
Federal Highway Administration	383	463	263	237
Federal Motor Carrier Safety Administration	24	15	11	15
Federal Railroad Administration	40	49	46	48
Federal Transit Administration	13	49	27	27
National Highway Traffic Safety Administration	92	96	70	76
Office of the Secretary of Transportation	24	51	25	51
Pipeline and Hazardous Materials Safety Administration	24	22	9	22
Department of the Treasury	47	90	48	90
Bureau of Engraving and Printing	47	90	48	90
Department of Veterans Affairs	1,696	1,930	1,610	1,641
Other agencies				
Administrative Office of the U.S. Courts	1	0	1	0
Agency for Global Media	8	8	8	8
Agency for International Development	221	221	221	221
Appalachian Regional Commission	1	1	1	1
Consumer Product Safety Commission	*	*	*	*
Environmental Protection Agency	531	574	531	574
Federal Trade Commission	3	10	3	10
Library of Congress	3	3	3	3
National Aeronautics and Space Administration	11,750	11,858	12,199	13,141
National Science Foundation	7,425	8,518	6,386	7,297
Nuclear Regulatory Commission	61	83	82	95
Patient-Centered Outcomes Research Trust Fund	522	560	522	560

TABLE 3

Federal obligations and outlays for research, experimental development, and R&D plant, by agency: FYs 2022–23

(Dollars in millions)

Agency	Obligations		Outlays	
	2022	2023 (preliminary)	2022	2023 (preliminary)
Postal Service	14	14	14	14
RESTORE Act Centers of Excellence Research Grants Program	7	23	4	4
Smithsonian Institution	297	316	297	316
Social Security Administration	79	106	79	106
Tennessee Valley Authority	28	94	28	94

* = amount greater than \$0 but less than \$500,000.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations or outlays in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 4

Federal obligations and outlays for research and experimental development, by agency: FYs 2022–23

(Dollars in millions)

Agency	Obligations		Outlays	
	2022	2023 (preliminary)	2022	2023 (preliminary)
All agencies	190,422	186,448	178,880	171,890
Departments				
Department of Agriculture	3,135	3,487	2,849	3,562
Agricultural Marketing Service	10	9	5	5
Agricultural Research Service	1,651	1,858	1,494	2,043
Animal and Plant Health Inspection Service	45	49	45	49
Economic Research Service	88	93	88	93
Forest Service	330	307	297	307
National Agricultural Statistics Service	11	11	11	11
National Institute of Food and Agriculture	986	1,145	908	1,054
Natural Resources Conservation Service	16	16	1	*
Department of Commerce	2,011	2,805	1,934	2,363
Census Bureau	202	312	202	312
National Institute of Standards and Technology	862	1,364	807	1,010
National Oceanic and Atmospheric Administration	936	1,116	914	1,028
National Telecommunications and Information Administration	11	13	11	13
Department of Defense	72,352	88,865	68,717	81,667
Defense Advanced Research Projects Agency	3,609	4,191	3,703	3,938
Defense Health Agency	2,136	2,562	2,112	2,013
Department of the Air Force	13,898	15,883	12,935	14,556
Department of the Army	12,060	15,518	11,284	14,418
Department of the Navy	17,488	22,082	16,425	20,100
Space Force	4,951	8,626	4,319	8,237
Other defense agencies	18,210	20,003	17,938	18,406
Department of Education	402	354	285	274
Department of Energy	13,697	15,106	12,461	13,626
Advanced Research Projects Agency—Energy	403	470	339	386
Electricity Delivery and Energy Reliability	114	156	111	141
Energy Efficiency and Renewable Energy	1,610	1,762	1,426	1,559
Environmental Management	36	43	22	26
Fossil Energy	559	938	610	771
National Nuclear Security Administration	4,011	4,182	3,942	3,866
Defense Programs	2,838	2,938	2,827	2,661
Naval Nuclear Propulsion Program	807	841	749	803
Office of Defense Nuclear Nonproliferation	366	402	366	402
Nuclear Energy	804	1,118	562	875
Office of Cybersecurity, Energy Security, and Emergency Response	37	63	*	*
Office of Science	6,124	6,375	5,449	6,001
Department of Health and Human Services	74,097	49,270	68,926	44,732
Administration for Children and Families	5	9	4	4
Administration for Community Living	107	113	107	113
Agency for Healthcare Research and Quality	350	374	350	374
Agency for Toxic Substances and Disease Registry	12	12	12	12
Biomedical Advanced Research and Development Authority	28,413	818	28,413	818
Centers for Disease Control and Prevention	565	459	232	190
Centers for Medicare and Medicaid Services	419	427	270	275
Food and Drug Administration	561	630	502	564
Health Resources and Services Administration	40	50	40	36
National Institutes of Health	43,589	46,341	38,962	42,309
Office of the Secretary of Health and Human Services	36	38	36	38

TABLE 4

Federal obligations and outlays for research and experimental development, by agency: FYs 2022–23

(Dollars in millions)

Agency	Obligations		Outlays	
	2022	2023 (preliminary)	2022	2023 (preliminary)
Office of the Assistant Secretary for Planning and Evaluation	36	38	36	38
Department of Homeland Security	571	544	537	625
Coast Guard	7	7	7	7
Countering Weapons of Mass Destruction Office	66	65	66	65
Cybersecurity and Infrastructure Security Agency	6	9	6	9
Science and Technology Directorate	491	459	457	544
Secret Service	1	4	1	*
Transportation Security Administration	*	*	*	*
Department of the Interior	940	1,044	916	1,030
Bureau of Indian Affairs	5	5	5	5
Bureau of Land Management	12	13	12	13
Bureau of Ocean Energy Management	86	88	66	84
Bureau of Reclamation	28	44	28	44
Bureau of Safety and Environmental Enforcement	9	17	8	16
Fish and Wildlife Service	35	44	35	41
Geological Survey	737	803	737	803
National Park Service	28	28	25	25
Department of Justice	111	139	18	31
Bureau of Prisons	*	*	*	*
Federal Bureau of Investigation	9	21	9	21
Office of Justice Programs	102	118	9	11
Department of Labor	4	4	3	3
Employee Benefits Security Administration	2	2	1	1
Occupational Safety and Health Administration	2	2	2	2
Department of State	65	60	65	60
Department of Transportation	1,073	1,226	668	779
Federal Aviation Administration	478	486	222	308
Federal Highway Administration	383	463	263	237
Federal Motor Carrier Safety Administration	24	15	11	15
Federal Railroad Administration	36	44	41	44
Federal Transit Administration	13	49	27	27
National Highway Traffic Safety Administration	92	96	69	76
Office of the Secretary of Transportation	24	51	25	51
Pipeline and Hazardous Materials Safety Administration	24	22	9	22
Department of the Treasury	47	72	48	72
Bureau of Engraving and Printing	47	72	48	72
Department of Veterans Affairs	1,696	1,930	1,610	1,641
Other agencies				
Administrative Office of the U.S. Courts	1	0	1	0
Agency for Global Media	8	8	8	8
Agency for International Development	221	221	221	221
Appalachian Regional Commission	1	1	1	1
Consumer Product Safety Commission	*	*	*	*
Environmental Protection Agency	525	572	525	572
Federal Trade Commission	3	10	3	10
Library of Congress	3	3	3	3
National Aeronautics and Space Administration	11,623	11,750	12,137	12,900
National Science Foundation	6,896	7,854	5,989	6,592
Nuclear Regulatory Commission	61	83	82	95
Patient-Centered Outcomes Research Trust Fund	522	560	522	560

TABLE 4

Federal obligations and outlays for research and experimental development, by agency: FYs 2022–23

(Dollars in millions)

Agency	Obligations		Outlays	
	2022	2023 (preliminary)	2022	2023 (preliminary)
Postal Service	14	14	14	14
RESTORE Act Centers of Excellence Research Grants Program	7	23	4	4
Smithsonian Institution	227	242	227	242
Social Security Administration	79	106	79	106
Tennessee Valley Authority	28	94	28	94

* = amount greater than \$0 but less than \$500,000.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations or outlays in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 5

Federal obligations for research and experimental development, by agency and type of R&D: FY 2022

(Dollars in thousands)

Agency	Total R&D	Basic research	Applied research	Experimental development		
				Total	Advanced technology	Major systems
All agencies	190,421,895	45,392,702	48,414,424	96,614,768	10,138,394	52,047,587
Departments						
Department of Agriculture	3,135,387	1,417,114	1,442,986	275,287	na	na
Agricultural Marketing Service	9,865	0	9,865	0	na	na
Agricultural Research Service	1,650,574	825,287	660,230	165,057	na	na
Animal and Plant Health Inspection Service	44,792	23,598	0	21,194	na	na
Economic Research Service	87,794	0	87,794	0	na	na
Forest Service	329,688	85,255	160,583	83,850	na	na
National Agricultural Statistics Service	11,070	0	6,126	4,944	na	na
National Institute of Food and Agriculture	985,983	468,236	517,747	0	na	na
Natural Resources Conservation Service	15,621	14,738	642	241	na	na
Department of Commerce	2,011,056	273,297	1,416,683	321,077	na	na
Census Bureau	201,701	0	150,213	51,488	na	na
National Institute of Standards and Technology	862,291	273,297	506,911	82,083	na	na
National Oceanic and Atmospheric Administration	935,764	0	748,259	187,505	na	na
National Telecommunications and Information Administration	11,300	0	11,300	0	na	na
Department of Defense	72,351,779	3,149,547	7,016,251	62,185,981	10,138,394	52,047,587
Defense Advanced Research Projects Agency	3,608,857	440,129	1,358,129	1,810,599	1,574,470	236,129
Defense Health Agency	2,136,331	10,713	134,635	1,990,983	1,723,906	267,077
Department of the Air Force	13,898,093	969,884	1,955,684	10,972,525	951,735	10,020,790
Department of the Army	12,059,676	513,592	1,290,220	10,255,864	1,821,172	8,434,692
Department of the Navy	17,487,922	661,985	1,076,932	15,749,004	903,941	14,845,063
Space Force	4,950,769	70,945	104,248	4,775,577	0	4,775,577
Other defense agencies	18,210,131	482,300	1,096,402	16,631,430	3,163,170	13,468,260
Department of Education	401,521	31,589	267,496	102,437	na	na
Department of Energy	13,697,342	6,107,867	5,000,763	2,588,711	na	na
Advanced Research Projects Agency—Energy	402,963	0	201,482	201,482	na	na
Electricity Delivery and Energy Reliability	113,827	7,920	53,394	52,512	na	na
Energy Efficiency and Renewable Energy	1,610,159	0	678,802	931,357	na	na
Environmental Management	35,781	0	11,808	23,973	na	na
Fossil Energy	558,637	0	558,637	0	na	na
National Nuclear Security Administration	4,011,075	121,426	2,672,387	1,217,262	na	na
Defense Programs	2,837,617	0	2,336,964	500,653	na	na
Naval Nuclear Propulsion Program	807,365	0	191,110	616,255	na	na
Office of Defense Nuclear Nonproliferation	366,093	121,426	144,313	100,354	na	na
Nuclear Energy	804,001	0	657,246	146,754	na	na
Office of Cybersecurity, Energy Security, and Emergency Response	36,749	5,126	16,251	15,372	na	na
Office of Science	6,124,150	5,973,395	150,755	0	na	na
Department of Health and Human Services	74,096,906	22,410,508	25,860,920	25,825,478	na	na
Administration for Children and Families	5,228	0	5,228	0	na	na
Administration for Community Living	106,731	0	106,731	0	na	na
Agency for Healthcare Research and Quality	350,400	0	314,345	36,055	na	na
Agency for Toxic Substances and Disease Registry	11,777	0	11,777	0	na	na
Biomedical Advanced Research and Development Authority	28,412,831	0	2,644,021	25,768,810	na	na

TABLE 5

Federal obligations for research and experimental development, by agency and type of R&D: FY 2022

(Dollars in thousands)

Agency	Total R&D	Basic research	Applied research	Experimental development		
				Total	Advanced technology	Major systems
Centers for Disease Control and Prevention	565,368	89,675	460,691	15,002	na	na
Centers for Medicare and Medicaid Services	419,105	419,105	0	0	na	na
Food and Drug Administration	560,910	0	560,910	0	na	na
Health Resources and Services Administration	40,495	2,455	32,429	5,610	na	na
National Institutes of Health	43,588,544	21,899,274	21,689,271	0	na	na
Office of the Secretary of Health and Human Services	35,517	0	35,517	0	na	na
Office of the Assistant Secretary for Planning and Evaluation	35,517	0	35,517	0	na	na
Department of Homeland Security	570,524	69,204	258,612	242,709	na	na
Coast Guard	7,476	0	2,243	5,233	na	na
Countering Weapons of Mass Destruction Office	65,709	8,720	26,159	30,831	na	na
Cybersecurity and Infrastructure Security Agency	5,616	0	3,440	2,176	na	na
Science and Technology Directorate	490,781	60,235	226,771	203,776	na	na
Secret Service	942	250	0	692	na	na
Transportation Security Administration	*	0	*	*	na	na
Department of the Interior	940,042	93,945	691,384	154,714	na	na
Bureau of Indian Affairs	5,000	0	5,000	0	na	na
Bureau of Land Management	12,049	2,004	8,579	1,466	na	na
Bureau of Ocean Energy Management	85,745	0	66,305	19,440	na	na
Bureau of Reclamation	27,723	0	17,705	10,018	na	na
Bureau of Safety and Environmental Enforcement	8,776	1,286	4,770	2,720	na	na
Fish and Wildlife Service	35,000	0	35,000	0	na	na
Geological Survey	737,395	90,655	526,802	119,938	na	na
National Park Service	28,354	0	27,222	1,132	na	na
Department of Justice	111,184	16,931	86,014	8,240	na	na
Bureau of Prisons	5	0	2	3	na	na
Federal Bureau of Investigation	8,887	0	8,887	0	na	na
Office of Justice Programs	102,292	16,931	77,125	8,236	na	na
Department of Labor	3,698	0	3,698	0	na	na
Employee Benefits Security Administration	1,910	0	1,910	0	na	na
Occupational Safety and Health Administration	1,788	0	1,788	0	na	na
Department of State	65,000	7,000	38,000	20,000	na	na
Department of Transportation	1,073,354	2,117	806,251	264,985	na	na
Federal Aviation Administration	477,513	0	260,969	216,544	na	na
Federal Highway Administration	382,519	0	341,879	40,640	na	na
Federal Motor Carrier Safety Administration	23,772	0	21,154	2,618	na	na
Federal Railroad Administration	36,282	0	32,291	3,991	na	na
Federal Transit Administration	13,102	0	11,909	1,192	na	na
National Highway Traffic Safety Administration	91,739	0	91,739	0	na	na
Office of the Secretary of Transportation	24,389	21	24,368	0	na	na
Pipeline and Hazardous Materials Safety Administration	24,038	2,096	21,942	0	na	na
Department of the Treasury	47,481	0	37,082	10,399	na	na
Bureau of Engraving and Printing	47,481	0	37,082	10,399	na	na
Department of Veterans Affairs	1,696,494	665,094	940,865	90,535	na	na

TABLE 5

Federal obligations for research and experimental development, by agency and type of R&D: FY 2022

(Dollars in thousands)

Agency	Total R&D	Basic research	Applied research	Experimental development		
				Total	Advanced technology	Major systems
Other agencies						
Administrative Office of the U.S. Courts	1,443	0	1,443	0	na	na
Agency for Global Media	8,413	0	8,413	0	na	na
Agency for International Development	220,614	0	152,853	67,761	na	na
Appalachian Regional Commission	804	0	804	0	na	na
Consumer Product Safety Commission	165	0	165	0	na	na
Environmental Protection Agency	525,457	0	406,371	119,086	na	na
Federal Trade Commission	2,713	0	2,713	0	na	na
Library of Congress	3,055	0	512	2,543	na	na
National Aeronautics and Space Administration	11,623,146	5,057,913	2,246,909	4,318,325	na	na
National Science Foundation	6,896,067	5,863,175	1,032,892	0	na	na
Nuclear Regulatory Commission	61,399	0	61,399	0	na	na
Patient-Centered Outcomes Research Trust Fund	521,671	0	521,671	0	na	na
Postal Service	13,860	0	13,860	0	na	na
RESTORE Act Centers of Excellence Research Grants Program	6,960	0	6,960	0	na	na
Smithsonian Institution	227,400	227,400	0	0	na	na
Social Security Administration	78,704	0	78,704	0	na	na
Tennessee Valley Authority	28,254	0	11,752	16,502	na	na

* = amount greater than \$0 but less than \$500.

na = not applicable; data were not collected at this level of detail for this agency or subagency.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 6

Preliminary federal obligations for research and experimental development, by agency and type of R&D: FY 2023

(Dollars in thousands)

Agency	Total R&D	Basic research	Applied research	Experimental development		
				Total	Advanced technology	Major systems
All agencies	186,447,980	48,467,014	51,013,890	86,967,076	13,252,966	63,678,608
Departments						
Department of Agriculture	3,487,453	1,602,692	1,618,507	266,254	na	na
Agricultural Marketing Service	9,455	0	9,455	0	na	na
Agricultural Research Service	1,858,000	929,000	743,200	185,800	na	na
Animal and Plant Health Inspection Service	48,801	26,244	0	22,557	na	na
Economic Research Service	92,612	0	92,612	0	na	na
Forest Service	307,000	88,125	165,989	52,885	na	na
National Agricultural Statistics Service	11,387	0	6,376	5,011	na	na
National Institute of Food and Agriculture	1,144,522	543,648	600,874	0	na	na
Natural Resources Conservation Service	15,675	15,675	0	0	na	na
Department of Commerce	2,805,154	311,154	1,755,115	738,885	na	na
Census Bureau	312,229	0	222,038	90,191	na	na
National Institute of Standards and Technology	1,364,475	311,154	605,126	448,195	na	na
National Oceanic and Atmospheric Administration	1,115,850	0	915,351	200,499	na	na
National Telecommunications and Information Administration	12,600	0	12,600	0	na	na
Department of Defense	88,864,613	3,541,126	8,391,914	76,931,574	13,252,966	63,678,608
Defense Advanced Research Projects Agency	4,190,647	517,425	1,677,011	1,996,211	1,839,810	156,401
Defense Health Agency	2,561,708	13,518	164,749	2,383,440	2,106,660	276,781
Department of the Air Force	15,883,030	994,200	2,032,976	12,855,854	1,003,256	11,852,598
Department of the Army	15,518,400	620,430	1,775,695	13,122,276	2,463,948	10,658,328
Department of the Navy	22,081,518	879,264	1,475,266	19,726,988	1,209,055	18,517,933
Space Force	8,626,390	55,037	101,354	8,470,000	430,330	8,039,670
Other defense agencies	20,002,920	461,252	1,164,863	18,376,805	4,199,907	14,176,898
Department of Education	354,214	27,867	235,979	90,367	na	na
Department of Energy	15,106,028	6,523,381	5,785,748	2,796,899	na	na
Advanced Research Projects Agency—Energy	470,000	0	235,000	235,000	na	na
Electricity Delivery and Energy Reliability	155,790	12,530	62,350	80,910	na	na
Energy Efficiency and Renewable Energy	1,761,696	0	724,182	1,037,514	na	na
Environmental Management	43,000	0	14,190	28,810	na	na
Fossil Energy	938,163	0	938,163	0	na	na
National Nuclear Security Administration	4,181,766	123,694	2,864,740	1,193,331	na	na
Defense Programs	2,938,346	0	2,554,182	384,164	na	na
Naval Nuclear Propulsion Program	841,473	0	141,400	700,073	na	na
Office of Defense Nuclear Nonproliferation	401,947	123,694	169,158	109,095	na	na
Nuclear Energy	1,118,026	0	913,953	204,073	na	na
Office of Cybersecurity, Energy Security, and Emergency Response	62,750	12,320	33,170	17,260	na	na
Office of Science	6,374,837	6,374,837	0	0	na	na
Department of Health and Human Services	49,270,146	23,787,817	25,426,706	55,624	na	na
Administration for Children and Families	9,405	0	9,405	0	na	na
Administration for Community Living	112,862	0	112,862	0	na	na
Agency for Healthcare Research and Quality	373,500	0	337,445	36,055	na	na
Agency for Toxic Substances and Disease Registry	11,777	0	11,777	0	na	na
Biomedical Advanced Research and Development Authority	817,834	0	817,834	0	na	na

TABLE 6

Preliminary federal obligations for research and experimental development, by agency and type of R&D: FY 2023

(Dollars in thousands)

Agency	Total R&D	Basic research	Applied research	Experimental development		
				Total	Advanced technology	Major systems
Centers for Disease Control and Prevention	458,625	82,950	360,652	15,023	na	na
Centers for Medicare and Medicaid Services	427,487	427,487	0	0	na	na
Food and Drug Administration	629,764	0	629,764	0	na	na
Health Resources and Services Administration	50,043	2,455	43,043	4,545	na	na
National Institutes of Health	46,340,849	23,274,924	23,065,925	0	na	na
Office of the Secretary of Health and Human Services	38,000	0	38,000	0	na	na
Office of the Assistant Secretary for Planning and Evaluation	38,000	0	38,000	0	na	na
Department of Homeland Security	543,944	69,501	169,286	305,157	na	na
Coast Guard	7,476	0	2,243	5,233	na	na
Countering Weapons of Mass Destruction Office	64,615	9,251	29,753	25,611	na	na
Cybersecurity and Infrastructure Security Agency	8,828	0	4,290	4,538	na	na
Science and Technology Directorate	459,000	60,000	133,000	266,000	na	na
Secret Service	4,025	250	0	3,775	na	na
Transportation Security Administration	*	0	0	*	na	na
Department of the Interior	1,043,599	101,215	776,253	166,131	na	na
Bureau of Indian Affairs	5,000	0	5,000	0	na	na
Bureau of Land Management	13,314	1,587	11,472	255	na	na
Bureau of Ocean Energy Management	88,292	0	71,666	16,626	na	na
Bureau of Reclamation	43,975	0	27,922	16,053	na	na
Bureau of Safety and Environmental Enforcement	17,253	1,000	14,003	2,250	na	na
Fish and Wildlife Service	44,411	0	44,411	0	na	na
Geological Survey	803,000	98,628	574,557	129,815	na	na
National Park Service	28,354	0	27,222	1,132	na	na
Department of Justice	138,873	15,615	108,750	14,508	na	na
Bureau of Prisons	5	0	1	3	na	na
Federal Bureau of Investigation	20,549	0	20,549	0	na	na
Office of Justice Programs	118,319	15,615	88,199	14,505	na	na
Department of Labor	4,066	0	4,066	0	na	na
Employee Benefits Security Administration	2,244	0	2,244	0	na	na
Occupational Safety and Health Administration	1,822	0	1,822	0	na	na
Department of State	60,000	2,000	38,000	20,000	na	na
Department of Transportation	1,226,219	3,753	956,551	265,915	na	na
Federal Aviation Administration	486,135	0	255,833	230,302	na	na
Federal Highway Administration	462,724	0	435,999	26,725	na	na
Federal Motor Carrier Safety Administration	15,000	0	12,000	3,000	na	na
Federal Railroad Administration	44,438	0	39,550	4,888	na	na
Federal Transit Administration	49,000	0	48,000	1,000	na	na
National Highway Traffic Safety Administration	95,500	0	95,500	0	na	na
Office of the Secretary of Transportation	51,443	37	51,406	0	na	na
Pipeline and Hazardous Materials Safety Administration	21,979	3,716	18,263	0	na	na
Department of the Treasury	72,144	0	48,012	24,132	na	na
Bureau of Engraving and Printing	72,144	0	48,012	24,132	na	na
Department of Veterans Affairs	1,929,506	760,629	1,076,012	92,865	na	na

TABLE 6

Preliminary federal obligations for research and experimental development, by agency and type of R&D: FY 2023

(Dollars in thousands)

Agency	Total R&D	Basic research	Applied research	Experimental development		
				Total	Advanced technology	Major systems
Other agencies						
Agency for Global Media	7,917	0	7,917	0	na	na
Agency for International Development	220,614	0	152,853	67,761	na	na
Appalachian Regional Commission	827	0	827	0	na	na
Consumer Product Safety Commission	374	0	374	0	na	na
Environmental Protection Agency	572,136	0	444,513	127,623	na	na
Federal Trade Commission	10,465	0	10,465	0	na	na
Library of Congress	3,164	0	495	2,669	na	na
National Aeronautics and Space Administration	11,750,009	5,089,938	1,740,762	4,919,309	na	na
National Science Foundation	7,854,096	6,388,325	1,465,771	0	na	na
Nuclear Regulatory Commission	82,729	0	82,729	0	na	na
Patient-Centered Outcomes Research Trust Fund	560,397	0	560,397	0	na	na
Postal Service	13,620	0	13,620	0	na	na
RESTORE Act Centers of Excellence Research Grants Program	22,996	0	22,996	0	na	na
Smithsonian Institution	242,000	242,000	0	0	na	na
Social Security Administration	106,316	0	106,316	0	na	na
Tennessee Valley Authority	94,358	0	12,955	81,403	na	na

* = amount greater than \$0 but less than \$500.

na = not applicable; data were not collected at this level of detail for this agency or subagency.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 7

Federal obligations for research and experimental development, by agency and performer: FY 2022

(Dollars in millions)

Agency	Total R&D	Intramural		Extramural				Non-U.S. performers
		Federal agencies ^a	FFRDCs	United States and U.S. territories				
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	190,422	70,780	15,381	50,205	42,179	10,136	925	818
Departments								
Department of Agriculture	3,135	1,845	0	36	1,187	51	10	6
Agricultural Marketing Service	10	10	0	0	0	0	0	0
Agricultural Research Service	1,651	1,392	0	0	230	22	*	6
Animal and Plant Health Inspection Service	45	30	0	0	14	0	0	0
Economic Research Service	88	78	0	0	5	5	0	0
Forest Service	330	297	0	1	24	3	5	*
National Agricultural Statistics Service	11	10	0	0	*	1	0	0
National Institute of Food and Agriculture	986	13	0	34	913	21	5	*
Natural Resources Conservation Service	16	15	0	0	1	0	0	0
Department of Commerce	2,011	1,421	20	105	428	33	2	2
Census Bureau	202	202	0	0	0	0	0	0
National Institute of Standards and Technology	862	668	13	65	97	17	*	2
National Oceanic and Atmospheric Administration	936	540	7	40	331	16	2	*
National Telecommunications and Information Administration	11	11	0	0	0	0	0	0
Department of Defense	72,352	26,647	3,023	36,103	4,622	1,692	26	240
Defense Advanced Research Projects Agency	3,609	299	156	2,355	619	154	*	25
Defense Health Agency	2,136	150	9	437	868	608	0	64
Department of the Air Force	13,898	7,150	564	5,101	765	308	10	0
Department of the Army	12,060	4,487	123	6,487	587	335	*	42
Department of the Navy	17,488	7,481	211	8,365	1,190	193	7	42
Space Force	4,951	414	275	4,206	35	15	6	0
Other defense agencies	18,210	6,666	1,684	9,152	558	81	2	67
Department of Education	402	0	0	34	192	130	45	0
Department of Energy	13,697	1,007	8,706	2,249	1,527	170	35	3
Advanced Research Projects Agency—Energy	403	2	49	190	147	15	0	0
Electricity Delivery and Energy Reliability	114	3	82	13	8	8	*	0
Energy Efficiency and Renewable Energy	1,610	15	997	305	209	80	4	0
Environmental Management	36	0	29	6	0	*	0	0
Fossil Energy	559	363	85	0	80	29	1	*
National Nuclear Security Administration	4,011	384	2,533	1,068	26	0	0	0
Defense Programs	2,838	321	2,211	295	10	0	0	0
Naval Nuclear Propulsion Program	807	56	2	749	1	0	0	0
Office of Defense Nuclear Nonproliferation	366	7	320	24	15	0	0	0
Nuclear Energy	804	42	549	152	54	5	*	2

TABLE 7

Federal obligations for research and experimental development, by agency and performer: FY 2022

(Dollars in millions)

Agency	Total R&D	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Office of Cybersecurity, Energy Security, and Emergency Response	37	0	16	0	21	0	0	0
Office of Science	6,124	198	4,365	515	982	33	30	1
Department of Health and Human Services	74,097	34,595	719	4,971	26,104	6,733	558	416
Administration for Children and Families	5	*	0	0	2	3	0	0
Administration for Community Living	107	0	0	5	77	24	*	0
Agency for Healthcare Research and Quality	350	83	0	133	104	30	*	0
Agency for Toxic Substances and Disease Registry	12	0	0	0	8	3	1	*
Biomedical Advanced Research and Development Authority	28,413	25,769	0	2,322	46	155	0	121
Centers for Disease Control and Prevention	565	96	0	101	248	62	30	29
Centers for Medicare and Medicaid Services	419	0	0	8	2	8	400	0
Food and Drug Administration	561	396	0	14	82	58	3	8
Health Resources and Services Administration	40	2	0	2	31	6	0	0
National Institutes of Health	43,589	8,247	719	2,360	25,504	6,377	123	258
Office of the Secretary of Health and Human Services	36	2	0	25	*	8	0	0
Office of the Assistant Secretary for Planning and Evaluation	36	2	0	25	*	8	0	0
Department of Homeland Security	571	211	59	249	25	23	*	3
Coast Guard	7	0	0	7	0	0	0	0
Countering Weapons of Mass Destruction Office	66	9	21	30	5	0	0	2
Cybersecurity and Infrastructure Security Agency	6	1	0	0	0	4	0	0
Science and Technology Directorate	491	200	39	211	20	19	*	2
Secret Service	1	1	0	*	0	0	0	0
Transportation Security Administration	*	0	*	*	0	0	0	0
Department of the Interior	940	833	*	20	64	6	15	1
Bureau of Indian Affairs	5	0	0	0	0	0	5	0
Bureau of Land Management	12	4	*	*	6	1	*	0
Bureau of Ocean Energy Management	86	57	0	12	10	3	3	1
Bureau of Reclamation	28	20	0	3	4	0	*	*
Bureau of Safety and Environmental Enforcement	9	2	0	4	2	*	0	0
Fish and Wildlife Service	35	35	0	0	0	0	0	0
Geological Survey	737	696	0	1	32	1	7	0

TABLE 7

Federal obligations for research and experimental development, by agency and performer: FY 2022

(Dollars in millions)

Agency	Total R&D	Intramural		Extramural				Non-U.S. performers
		Federal agencies ^a	FFRDCs	United States and U.S. territories				
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
National Park Service	28	17	0	0	11	*	0	0
Department of Justice	111	8	0	15	43	44	1	0
Bureau of Prisons	*	*	0	0	0	0	0	0
Federal Bureau of Investigation	9	*	0	7	1	0	0	0
Office of Justice Programs	102	8	0	8	42	44	1	0
Department of Labor	4	3	0	1	0	0	0	0
Employee Benefits Security Administration	2	1	0	1	0	0	0	0
Occupational Safety and Health Administration	2	2	0	0	0	0	0	0
Department of State	65	65	0	0	0	0	0	0
Department of Transportation	1,073	210	80	404	120	55	200	3
Federal Aviation Administration	478	84	76	237	70	7	1	2
Federal Highway Administration	383	70	2	78	11	27	195	0
Federal Motor Carrier Safety Administration	24	9	2	11	0	1	0	0
Federal Railroad Administration	36	9	0	14	7	5	0	1
Federal Transit Administration	13	7	0	0	2	0	4	0
National Highway Traffic Safety Administration	92	0	0	56	24	12	0	0
Office of the Secretary of Transportation	24	22	0	2	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	24	8	*	7	5	3	0	0
Department of the Treasury	47	3	9	15	0	1	0	21
Bureau of Engraving and Printing	47	3	9	15	0	1	0	21
Department of Veterans Affairs	1,696	1,622	74	0	0	0	0	0
Other agencies								
Administrative Office of the U.S. Courts	1	0	1	0	0	0	0	0
Agency for Global Media	8	1	0	8	0	0	0	0
Agency for International Development	221	23	0	19	53	54	0	71
Appalachian Regional Commission	1	0	0	*	*	*	0	0
Consumer Product Safety Commission	*	*	0	0	0	0	0	0
Environmental Protection Agency	525	273	1	194	46	11	0	0
Federal Trade Commission	3	3	0	0	0	0	0	0
Library of Congress	3	3	0	0	0	0	0	0
National Aeronautics and Space Administration	11,623	1,705	2,340	5,233	2,058	254	7	26
National Science Foundation	6,896	27	315	482	5,690	343	17	22

TABLE 7

Federal obligations for research and experimental development, by agency and performer: FY 2022

(Dollars in millions)

Agency	Total R&D	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Nuclear Regulatory Commission	61	1	32	8	16	1	0	4
Patient-Centered Outcomes Research Trust Fund	522	0	0	0	0	522	0	0
Postal Service	14	0	0	14	0	0	0	0
RESTORE Act Centers of Excellence Research Grants Program	7	0	0	0	0	0	7	0
Smithsonian Institution	227	227	0	0	0	0	0	0
Social Security Administration	79	47	0	21	4	7	0	*
Tennessee Valley Authority	28	0	0	22	0	6	0	0

* = amount greater than \$0 but less than \$500,000.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. Federal agency amounts for the Biomedical Advanced Research and Development Authority are transfers to the other agencies in support of Operation Warp Speed. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 8

Preliminary federal obligations for research and experimental development, by agency and performer: FY 2023

(Dollars in millions)

Agency	Total R&D	Intramural		Extramural				Non-U.S. performers
		Federal agencies ^a	FFRDCs	United States and U.S. territories				
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	186,448	52,795	17,459	57,898	45,431	11,174	895	797
Departments								
Department of Agriculture	3,487	2,105	0	40	1,280	47	10	5
Agricultural Marketing Service	9	9	0	0	*	0	0	0
Agricultural Research Service	1,858	1,664	0	0	173	17	*	5
Animal and Plant Health Inspection Service	49	34	0	0	14	0	0	0
Economic Research Service	93	86	0	0	4	2	0	0
Forest Service	307	270	0	*	29	3	5	*
National Agricultural Statistics Service	11	11	0	0	*	1	0	0
National Institute of Food and Agriculture	1,145	15	0	40	1,059	25	6	*
Natural Resources Conservation Service	16	16	0	0	0	0	0	0
Department of Commerce	2,805	1,792	24	345	572	68	3	1
Census Bureau	312	312	0	0	0	0	0	0
National Institute of Standards and Technology	1,364	853	13	316	131	50	*	1
National Oceanic and Atmospheric Administration	1,116	614	11	29	441	17	3	*
National Telecommunications and Information Administration	13	13	0	0	0	0	0	0
Department of Defense	88,865	32,352	3,105	45,308	5,529	2,213	28	329
Defense Advanced Research Projects Agency	4,191	318	187	2,723	745	186	1	30
Defense Health Agency	2,562	235	6	432	1,004	810	0	74
Department of the Air Force	15,883	7,658	597	6,479	818	321	11	0
Department of the Army	15,518	5,777	156	8,338	753	440	*	54
Department of the Navy	22,082	9,593	282	10,329	1,525	257	9	86
Space Force	8,626	664	305	7,556	76	20	5	0
Other defense agencies	20,003	8,107	1,572	9,452	606	179	2	84
Department of Education	354	0	0	30	169	117	38	0
Department of Energy	15,106	1,449	10,480	1,946	984	209	36	3
Advanced Research Projects Agency—Energy	470	2	58	221	171	18	0	0
Electricity Delivery and Energy Reliability	156	4	112	18	11	11	*	0
Energy Efficiency and Renewable Energy	1,762	17	1,091	334	204	112	4	0
Environmental Management	43	0	35	8	0	*	0	0
Fossil Energy	938	730	91	0	80	37	*	1
National Nuclear Security Administration	4,182	522	2,477	1,076	99	9	0	0
Defense Programs	2,938	460	2,115	277	78	9	0	0
Naval Nuclear Propulsion Program	841	59	1	781	1	0	0	0
Office of Defense Nuclear Nonproliferation	402	3	361	18	20	0	0	0
Nuclear Energy	1,118	59	764	211	75	7	*	2

TABLE 8

Preliminary federal obligations for research and experimental development, by agency and performer: FY 2023

(Dollars in millions)

Agency	Total R&D	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Office of Cybersecurity, Energy Security, and Emergency Response	63	0	46	0	17	0	0	0
Office of Science	6,375	116	5,807	78	328	16	31	0
Department of Health and Human Services	49,270	9,531	765	3,239	27,721	7,113	580	320
Administration for Children and Families	9	*	0	0	2	8	0	0
Administration for Community Living	113	0	0	3	89	20	*	0
Agency for Healthcare Research and Quality	374	83	0	144	116	30	*	0
Agency for Toxic Substances and Disease Registry	12	0	0	0	8	3	1	*
Biomedical Advanced Research and Development Authority	818	143	0	484	42	137	0	12
Centers for Disease Control and Prevention	459	87	1	45	214	51	36	25
Centers for Medicare and Medicaid Services	427	0	0	8	2	9	408	0
Food and Drug Administration	630	445	0	16	92	65	3	9
Health Resources and Services Administration	50	2	0	2	41	4	0	0
National Institutes of Health	46,341	8,768	765	2,509	27,115	6,779	131	274
Office of the Secretary of Health and Human Services	38	2	0	27	*	9	0	0
Office of the Assistant Secretary for Planning and Evaluation	38	2	0	27	*	9	0	0
Department of Homeland Security	544	192	63	232	32	23	*	2
Coast Guard	7	0	0	7	0	0	0	0
Countering Weapons of Mass Destruction Office	65	8	22	23	12	0	0	0
Cybersecurity and Infrastructure Security Agency	9	5	0	0	*	4	0	0
Science and Technology Directorate	459	177	41	201	20	19	*	2
Secret Service	4	3	0	1	0	0	0	0
Transportation Security Administration	*	0	*	*	*	*	0	0
Department of the Interior	1,044	910	*	25	81	8	19	*
Bureau of Indian Affairs	5	0	0	0	0	0	5	0
Bureau of Land Management	13	7	*	*	4	2	*	0
Bureau of Ocean Energy Management	88	70	0	8	4	4	2	*
Bureau of Reclamation	44	30	0	6	7	0	1	*
Bureau of Safety and Environmental Enforcement	17	2	0	10	5	*	0	0
Fish and Wildlife Service	44	44	0	0	0	0	0	0
Geological Survey	803	742	0	1	47	1	11	0

TABLE 8

Preliminary federal obligations for research and experimental development, by agency and performer: FY 2023

(Dollars in millions)

Agency	Total R&D	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
National Park Service	28	14	0	0	14	0	0	0
Department of Justice	139	7	0	29	55	47	1	0
Bureau of Prisons	*	*	0	0	0	0	*	0
Federal Bureau of Investigation	21	0	0	21	0	0	0	0
Office of Justice Programs	118	7	0	9	55	47	1	0
Department of Labor	4	3	0	1	0	0	0	0
Employee Benefits Security Administration	2	1	0	1	0	0	0	0
Occupational Safety and Health Administration	2	2	0	0	0	0	0	0
Department of State	60	60	0	0	0	0	0	0
Department of Transportation	1,226	240	85	421	298	43	137	3
Federal Aviation Administration	486	84	81	242	69	8	0	2
Federal Highway Administration	463	72	2	84	180	13	113	0
Federal Motor Carrier Safety Administration	15	8	2	4	0	2	0	0
Federal Railroad Administration	44	12	0	17	9	6	0	*
Federal Transit Administration	49	13	0	0	12	0	24	0
National Highway Traffic Safety Administration	96	0	0	58	25	12	0	0
Office of the Secretary of Transportation	51	45	0	6	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	22	6	*	10	4	3	0	0
Department of the Treasury	72	3	8	27	0	1	0	34
Bureau of Engraving and Printing	72	3	8	27	0	1	0	34
Department of Veterans Affairs	1,930	1,855	74	0	0	0	0	0
Other agencies								
Agency for Global Media	8	1	0	7	0	0	0	0
Agency for International Development	221	23	0	19	53	55	0	70
Appalachian Regional Commission	1	0	0	*	0	*	0	0
Consumer Product Safety Commission	*	*	0	0	0	0	0	0
Environmental Protection Agency	572	286	0	205	65	16	0	0
Federal Trade Commission	10	10	0	0	0	0	0	0
Library of Congress	3	3	0	0	0	0	0	0
National Aeronautics and Space Administration	11,750	1,645	2,468	5,288	2,115	235	0	0
National Science Foundation	7,854	30	344	589	6,446	401	20	25
Nuclear Regulatory Commission	83	1	44	12	21	0	0	5

TABLE 8

Preliminary federal obligations for research and experimental development, by agency and performer: FY 2023

(Dollars in millions)

Agency	Total R&D	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Patient-Centered Outcomes Research Trust Fund	560	0	0	0	0	560	0	0
Postal Service	14	0	0	14	0	0	0	0
RESTORE Act Centers of Excellence Research Grants Program	23	0	0	0	0	0	23	0
Smithsonian Institution	242	242	0	0	0	0	0	0
Social Security Administration	106	53	0	34	9	10	0	0
Tennessee Valley Authority	94	0	0	87	0	8	0	0

* = amount greater than \$0 but less than \$500,000.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.**Source(s):**

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 9

Federal obligations for extramural R&D and R&D plant, by type of agreement and agency: FY 2022

(Dollars in thousands)

Agency	Total R&D and R&D plant		R&D		R&D plant	
	Contracts	Grants	Contracts	Grants	Contracts	Grants
All agencies	52,896,980	53,004,750	51,882,247	52,379,068	1,014,733	625,682
Departments						
Department of Agriculture	295,445	995,151	295,445	995,151	0	0
Agricultural Research Service	258,690	0	258,690	0	0	0
Animal and Plant Health Inspection Service	0	14,386	0	14,386	0	0
Economic Research Service	9,756	0	9,756	0	0	0
Forest Service	26,298	6,390	26,298	6,390	0	0
National Agricultural Statistics Service	701	0	701	0	0	0
National Institute of Food and Agriculture	0	973,378	0	973,378	0	0
Natural Resources Conservation Service	0	997	0	997	0	0
Department of Commerce	54,723	515,403	54,723	515,403	0	0
National Institute of Standards and Technology	26,432	154,562	26,432	154,562	0	0
National Oceanic and Atmospheric Administration	28,291	360,841	28,291	360,841	0	0
Department of Defense	36,226,198	6,482,355	36,200,003	6,482,355	26,195	0
Defense Advanced Research Projects Agency	94,626	3,059,558	94,626	3,059,558	0	0
Defense Health Agency	512,963	1,463,519	512,963	1,463,519	0	0
Department of the Air Force	5,268,248	925,326	5,258,242	925,326	10,006	0
Department of the Army	7,450,047	0	7,450,047	0	0	0
Department of the Navy	9,171,316	637,720	9,158,402	637,720	12,914	0
Space Force	4,256,529	5,389	4,256,529	5,389	0	0
Other defense agencies	9,472,469	390,843	9,469,194	390,843	3,275	0
Department of Education	55,358	346,164	55,358	346,164	0	0
Department of Energy	2,592,807	2,228,407	1,771,861	2,212,829	820,946	15,578
Advanced Research Projects Agency—Energy	18,128	333,663	18,128	333,663	0	0
Electricity Delivery and Energy Reliability	29,310	0	29,310	0	0	0
Energy Efficiency and Renewable Energy	597,698	0	597,698	0	0	0
Environmental Management	6,686	0	6,686	0	0	0
Fossil Energy	0	110,718	0	110,718	0	0
National Nuclear Security Administration	1,898,757	15,050	1,078,782	15,050	819,976	0
Defense Programs	550,379	0	304,923	0	245,456	0
Naval Nuclear Propulsion Program	1,324,656	0	750,136	0	574,520	0
Office of Defense Nuclear Nonproliferation	23,722	15,050	23,722	15,050	0	0
Nuclear Energy	21,620	192,943	20,650	191,666	971	1,278
Office of Cybersecurity, Energy Security, and Emergency Response	20,607	355	20,607	355	0	0
Office of Science	0	1,575,678	0	1,561,378	0	14,300
Department of Health and Human Services	5,614,098	33,332,542	5,614,005	33,168,699	93	163,843
Administration for Children and Families	0	4,863	0	4,863	0	0
Administration for Community Living	0	106,731	0	106,731	0	0
Agency for Healthcare Research and Quality	46,783	220,634	46,783	220,634	0	0
Agency for Toxic Substances and Disease Registry	0	11,777	0	11,777	0	0
Biomedical Advanced Research and Development Authority	2,644,314	0	2,644,221	0	93	0
Centers for Disease Control and Prevention	177,636	292,149	177,636	292,149	0	0
Centers for Medicare and Medicaid Services	399,808	19,297	399,808	19,297	0	0
Food and Drug Administration	0	164,458	0	164,458	0	0
Health Resources and Services Administration	1,605	36,572	1,605	36,572	0	0
National Institutes of Health	2,318,555	32,467,460	2,318,555	32,303,616	0	163,843
Office of the Secretary of Health and Human Services	25,397	8,601	25,397	8,601	0	0
Office of the Assistant Secretary for Planning and Evaluation	25,397	8,601	25,397	8,601	0	0
Department of Homeland Security	257,724	43,297	257,002	43,297	722	0

TABLE 9

Federal obligations for extramural R&D and R&D plant, by type of agreement and agency: FY 2022

(Dollars in thousands)

Agency	Total R&D and R&D plant		R&D		R&D plant	
	Contracts	Grants	Contracts	Grants	Contracts	Grants
Coast Guard	7,476	0	7,476	0	0	0
Countering Weapons of Mass Destruction Office	21,665	14,443	21,665	14,443	0	0
Cybersecurity and Infrastructure Security Agency	4,274	0	4,274	0	0	0
Science and Technology Directorate	224,137	28,854	223,415	28,854	722	0
Secret Service	171	0	171	0	0	0
Transportation Security Administration	*	0	*	0	0	0
Department of the Interior	39,308	73,087	34,215	73,087	5,092	0
Bureau of Indian Affairs	0	5,000	0	5,000	0	0
Bureau of Land Management	7,504	0	7,504	0	0	0
Bureau of Ocean Energy Management	16,314	11,942	16,314	11,942	0	0
Bureau of Reclamation	3,695	5,183	2,845	5,183	850	0
Bureau of Safety and Environmental Enforcement	10,745	0	6,503	0	4,242	0
Geological Survey	1,050	40,005	1,050	40,005	0	0
National Park Service	0	10,957	0	10,957	0	0
Department of Justice	28,709	74,374	28,709	74,374	0	0
Federal Bureau of Investigation	8,838	0	8,838	0	0	0
Office of Justice Programs	19,870	74,374	19,870	74,374	0	0
Department of Labor	1,009	0	1,009	0	0	0
Employee Benefits Security Administration	1,009	0	1,009	0	0	0
Department of Transportation	533,050	287,099	496,151	287,099	36,899	0
Federal Aviation Administration	291,362	59,558	257,986	59,558	33,376	0
Federal Highway Administration	98,882	211,874	98,882	211,874	0	0
Federal Motor Carrier Safety Administration	12,895	0	12,895	0	0	0
Federal Railroad Administration	29,925	0	26,903	0	3,023	0
Federal Transit Administration	0	5,959	0	5,959	0	0
National Highway Traffic Safety Administration	87,324	4,915	86,824	4,915	500	0
Office of the Secretary of Transportation	2,269	0	2,269	0	0	0
Pipeline and Hazardous Materials Safety Administration	10,392	4,794	10,392	4,794	0	0
Department of the Treasury	35,621	510	35,621	510	0	0
Bureau of Engraving and Printing	35,621	510	35,621	510	0	0
Other agencies						
Agency for Global Media	7,622	0	7,622	0	0	0
Agency for International Development	19,348	178,637	19,348	178,637	0	0
Appalachian Regional Commission	804	0	804	0	0	0
Environmental Protection Agency	199,586	57,595	193,786	57,595	5,800	0
National Aeronautics and Space Administration	6,590,803	1,105,526	6,471,850	1,105,526	118,953	0
National Science Foundation	266,655	6,732,795	266,624	6,286,534	32	446,261
Nuclear Regulatory Commission	12,344	15,592	12,344	15,592	0	0
Patient-Centered Outcomes Research Trust Fund	0	521,671	0	521,671	0	0
Postal Service	13,860	0	13,860	0	0	0
RESTORE Act Centers of Excellence Research Grants Program	0	6,960	0	6,960	0	0
Social Security Administration	23,655	7,584	23,655	7,584	0	0
Tennessee Valley Authority	28,254	0	28,254	0	0	0

* = amount greater than \$0 but less than \$500.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 10

Department of Defense obligations for research, development, test, and evaluation, by agency and performer: FY 2022

(Dollars in millions)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Department of Defense								
RDT&E	115,948	30,856	4,050	74,042	4,905	1,814	26	255
Total research	10,166	3,744	866	2,472	2,478	526	17	62
Basic research	3,150	650	158	523	1,531	238	16	34
Applied research	7,016	3,094	708	1,949	947	288	1	28
Total experimental development ^c	62,186	22,903	2,156	33,631	2,143	1,167	8	178
Advanced technology	10,138	3,428	592	3,874	1,303	807	2	134
Major systems	52,048	19,475	1,565	29,757	841	359	6	44
Total operational system development ^d	43,596	4,209	1,028	37,939	283	122	0	16
Defense Advanced Research Projects Agency								
RDT&E	3,609	299	156	2,355	619	154	*	25
Total research	1,798	98	100	923	512	143	*	21
Basic research	440	16	24	141	201	48	0	10
Applied research	1,358	83	76	783	310	95	*	11
Total experimental development ^c	1,811	201	56	1,432	107	11	0	4
Advanced technology	1,574	128	56	1,269	107	10	0	4
Major systems	236	73	0	163	*	*	0	0
Total operational system development ^d	0	0	0	0	0	0	0	0
Defense Health Agency								
RDT&E	2,157	153	9	454	868	609	0	64
Total research	145	26	2	32	36	43	0	7
Basic research	11	1	*	2	2	6	0	0
Applied research	135	25	2	30	34	37	0	7
Total experimental development ^c	1,991	124	8	405	832	565	0	57
Advanced technology	1,724	96	7	212	818	533	0	57
Major systems	267	28	1	193	14	31	0	0
Total operational system development ^d	20	2	0	17	*	1	0	0
Department of the Air Force								
RDT&E	40,283	9,229	1,075	28,856	802	312	10	*
Total research	2,926	2,053	47	31	586	197	10	0
Basic research	970	251	0	20	529	160	10	0
Applied research	1,956	1,803	47	11	57	37	*	0
Total experimental development ^c	10,973	5,097	517	5,070	179	110	0	0
Advanced technology	952	814	2	60	30	45	0	0
Major systems	10,021	4,283	515	5,009	149	65	0	0
Total operational system development ^d	26,385	2,079	510	23,755	37	4	0	*

TABLE 10

Department of Defense obligations for research, development, test, and evaluation, by agency and performer: FY 2022

(Dollars in millions)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Department of the Army								
RDT&E	13,365	5,082	128	7,140	589	373	*	54
Total research	1,804	562	9	778	398	47	0	10
Basic research	514	105	*	138	250	13	0	7
Applied research	1,290	458	8	639	149	34	0	3
Total experimental development ^c	10,256	3,924	115	5,709	189	288	*	32
Advanced technology	1,821	670	20	921	103	98	0	10
Major systems	8,435	3,255	95	4,788	85	190	*	23
Total operational system development ^d	1,305	595	5	653	2	38	0	12
Department of the Navy								
RDT&E	20,881	8,512	249	10,501	1,330	240	7	42
Total research	1,739	596	20	304	730	61	7	22
Basic research	662	218	1	31	383	9	6	14
Applied research	1,077	378	19	272	348	51	1	8
Total experimental development ^c	15,749	6,885	192	8,061	459	132	*	19
Advanced technology	904	311	9	395	101	88	0	1
Major systems	14,845	6,574	183	7,666	359	44	*	18
Total operational system development ^d	3,394	1,032	38	2,136	140	47	0	1
Space Force								
RDT&E	9,996	530	343	9,046	50	21	6	0
Total research	175	105	11	55	4	0	0	0
Basic research	71	6	6	55	4	0	0	0
Applied research	104	99	6	0	0	0	0	0
Total experimental development ^c	4,776	309	264	4,151	31	15	6	0
Advanced technology	0	0	0	0	0	0	0	0
Major systems	4,776	309	264	4,151	31	15	6	0
Total operational system development ^d	5,045	116	67	4,840	15	6	0	0
Other defense agencies								
RDT&E	25,657	7,051	2,091	15,690	647	106	2	70
Total research	1,579	304	678	349	212	34	0	2
Basic research	482	54	127	136	163	1	0	2
Applied research	1,096	250	551	214	49	33	0	*
Total experimental development ^c	16,631	6,362	1,007	8,803	346	47	2	65
Advanced technology	3,163	1,409	499	1,016	143	32	2	62
Major systems	13,468	4,953	507	7,787	204	14	*	3
Total operational system development ^d	7,447	385	407	6,538	89	25	0	3

* = amount greater than \$0 but less than \$500,000.

FFRDC = federally funded research and development center; RDT&E = research, development, test, and evaluation.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

^c Department of Defense (DOD) development obligations have been reported in two categories, advanced technology and major systems, since volume 44 (FYs 1994–96). As of volume 66 (FYs 2016–17), the definition of major systems development was changed to represent DOD Budget Activities 4 through 6 instead of Budget Activities 4 through 7.

^d Funding for DOD's Operational System Development (Budget Activity 7) was first reported as a separate category for volume 66.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 11

Preliminary Department of Defense obligations for research, development, test, and evaluation, by agency and performer: FY 2023

(Dollars in millions)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Department of Defense								
RDT&E	139,019	36,855	4,151	89,410	5,879	2,351	28	345
Total research	11,933	4,260	929	3,049	2,981	615	20	78
Basic research	3,541	737	166	542	1,769	265	19	43
Applied research	8,392	3,524	763	2,507	1,211	350	2	35
Total experimental development ^c	76,932	28,092	2,177	42,259	2,548	1,598	7	251
Advanced technology	13,253	4,644	585	5,224	1,552	1,095	2	150
Major systems	63,679	23,448	1,591	37,035	996	503	5	101
Total operational system development ^d	50,155	4,503	1,045	44,102	350	138	0	16
Defense Advanced Research Projects Agency								
RDT&E	4,191	318	187	2,723	745	186	1	30
Total research	2,194	120	122	1,132	620	174	1	25
Basic research	517	18	28	166	237	57	0	12
Applied research	1,677	102	94	966	383	118	1	13
Total experimental development ^c	1,996	198	65	1,591	126	12	0	5
Advanced technology	1,840	149	65	1,483	126	12	0	5
Major systems	156	48	0	108	*	*	0	0
Total operational system development ^d	0	0	0	0	0	0	0	0
Defense Health Agency								
RDT&E	2,585	237	6	451	1,005	811	0	74
Total research	178	46	2	35	36	51	0	8
Basic research	14	2	*	3	2	7	0	0
Applied research	165	44	2	32	34	44	0	8
Total experimental development ^c	2,383	189	4	397	968	759	0	67
Advanced technology	2,107	123	4	239	953	722	0	67
Major systems	277	66	*	158	16	36	0	0
Total operational system development ^d	23	2	0	20	*	1	0	0
Department of the Air Force								
RDT&E	44,884	9,843	1,086	32,777	842	325	11	0
Total research	3,027	2,135	49	36	596	201	11	0
Basic research	994	261	0	24	535	164	11	0
Applied research	2,033	1,875	49	12	60	37	*	0
Total experimental development ^c	12,856	5,522	548	6,443	223	120	0	0
Advanced technology	1,003	847	10	69	34	43	0	0
Major systems	11,853	4,675	538	6,374	189	77	0	0
Total operational system development ^d	29,001	2,185	489	26,299	24	4	0	0

TABLE 11

Preliminary Department of Defense obligations for research, development, test, and evaluation, by agency and performer: FY 2023

(Dollars in millions)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Department of the Army								
RDT&E	16,778	6,352	161	8,968	755	477	*	66
Total research	2,396	756	12	1,047	506	62	0	12
Basic research	620	127	*	167	301	16	0	9
Applied research	1,776	630	11	880	204	47	0	3
Total experimental development ^c	13,122	5,021	144	7,290	247	377	*	42
Advanced technology	2,464	906	27	1,246	140	132	0	13
Major systems	10,658	4,115	118	6,044	107	245	*	29
Total operational system development ^d	1,260	574	5	631	2	37	0	11
Department of the Navy								
RDT&E	25,767	10,755	332	12,571	1,696	317	9	87
Total research	2,355	788	27	417	1,000	83	9	31
Basic research	879	271	1	43	524	13	8	19
Applied research	1,475	517	25	374	476	70	1	11
Total experimental development ^c	19,727	8,805	255	9,913	525	173	*	55
Advanced technology	1,209	421	12	516	138	121	0	1
Major systems	18,518	8,384	243	9,397	387	53	*	54
Total operational system development ^d	3,686	1,162	50	2,242	171	60	0	1
Space Force								
RDT&E	14,566	830	350	13,259	102	20	5	*
Total research	156	97	12	47	0	0	0	0
Basic research	55	4	4	47	0	0	0	0
Applied research	101	93	8	0	0	0	0	0
Total experimental development ^c	8,470	567	294	7,509	76	20	5	0
Advanced technology	430	29	10	366	26	0	0	0
Major systems	8,040	538	284	7,143	50	20	5	0
Total operational system development ^d	5,940	166	44	5,703	26	*	0	*
Other defense agencies								
RDT&E	30,248	8,520	2,029	18,660	734	214	2	88
Total research	1,626	317	706	335	223	43	0	3
Basic research	461	55	133	93	170	9	0	3
Applied research	1,165	262	573	242	53	34	0	*
Total experimental development ^c	18,377	7,790	867	9,117	383	136	2	82
Advanced technology	4,200	2,169	459	1,305	137	64	2	64
Major systems	14,177	5,621	408	7,812	246	72	*	18
Total operational system development ^d	10,246	413	457	9,208	128	35	0	4

* = amount greater than \$0 but less than \$500,000.

FFRDC = federally funded research and development center; RDT&E = research, development, test, and evaluation.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education include both public and private institutions as well as University Affiliated Research Centers.

^c Department of Defense (DOD) development obligations have been reported in two categories, advanced technology and major systems, since volume 44 (FYs 1994–96). As of volume 66 (FYs 2016–17), the definition of major systems development was changed to represent DOD Budget Activities 4 through 6 instead of Budget Activities 4 through 7.

^d Funding for DOD's Operational System Development (Budget Activity 7) was first reported as a separate category for volume 66.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 12

Federal obligations for federal agency performance of R&D, by agency, type of R&D, and R&D plant: FY 2022

(Dollars in thousands)

Agency	Total R&D and R&D plant	Type of R&D			R&D plant	
		Total R&D	Basic research	Applied research		Experimental development
All agencies	71,875,584	70,779,628	7,819,749	12,831,123	50,128,755	1,095,957
Departments						
Department of Agriculture	2,024,231	1,844,791	812,842	790,232	241,717	179,440
Agricultural Marketing Service	9,865	9,865	0	9,865	0	0
Agricultural Research Service	1,561,946	1,391,885	695,942	556,754	139,188	170,061
Animal and Plant Health Inspection Service	30,406	30,406	16,367	0	14,039	0
Economic Research Service	78,038	78,038	0	78,038	0	0
Forest Service	306,379	297,000	79,502	133,647	83,850	9,379
National Agricultural Statistics Service	10,368	10,368	0	5,729	4,639	0
National Institute of Food and Agriculture	12,605	12,605	6,406	6,199	0	0
Natural Resources Conservation Service	14,624	14,624	14,624	0	0	0
Department of Commerce	1,800,510	1,421,085	236,945	1,022,823	161,317	379,425
Census Bureau	201,701	201,701	0	150,213	51,488	0
National Institute of Standards and Technology	764,396	668,238	236,945	419,118	12,175	96,158
National Oceanic and Atmospheric Administration	821,613	539,846	0	442,192	97,654	281,767
National Telecommunications and Information Administration	12,800	11,300	0	11,300	0	1,500
Department of Defense	26,825,786	26,646,859	649,651	3,094,419	22,902,790	178,926
Defense Advanced Research Projects Agency	299,095	299,095	15,558	82,729	200,809	0
Defense Health Agency	150,381	150,381	779	25,189	124,413	0
Department of the Air Force	7,271,156	7,150,397	250,648	1,802,710	5,097,039	120,759
Department of the Army	4,486,537	4,486,537	104,741	457,720	3,924,076	0
Department of the Navy	7,530,625	7,480,763	217,775	377,777	6,885,212	49,862
Space Force	413,685	413,685	6,238	98,646	308,800	0
Other defense agencies	6,674,307	6,666,002	53,911	249,649	6,362,442	8,305
Department of Energy	1,082,164	1,007,045	200,262	643,554	163,229	75,119
Advanced Research Projects Agency--Energy	1,873	1,873	0	937	937	0
Electricity Delivery and Energy Reliability	2,607	2,607	181	1,223	1,203	0
Energy Efficiency and Renewable Energy	15,500	15,500	0	6,534	8,966	0
Fossil Energy	391,570	362,570	0	362,570	0	29,000
National Nuclear Security Administration	420,864	384,082	1,868	234,957	147,257	36,782
Defense Programs	358,195	321,413	0	232,777	88,636	36,782
Naval Nuclear Propulsion Program	55,579	55,579	0	0	55,579	0
Office of Defense Nuclear Nonproliferation	7,090	7,090	1,868	2,180	3,043	0
Nuclear Energy	44,174	42,200	0	37,333	4,867	1,973
Office of Science	205,576	198,213	198,213	0	0	7,364
Department of Health and Human Services	34,722,554	34,595,044	4,193,698	4,591,790	25,809,556	127,510
Administration for Children and Families	365	365	0	365	0	0
Agency for Healthcare Research and Quality	82,983	82,983	0	46,928	36,055	0
Biomedical Advanced Research and Development Authority	25,769,549	25,768,610	0	0	25,768,610	938
Centers for Disease Control and Prevention	95,584	95,584	34,922	55,771	4,890	0
Food and Drug Administration	406,867	396,452	0	396,452	0	10,415

TABLE 12

Federal obligations for federal agency performance of R&D, by agency, type of R&D, and R&D plant: FY 2022

(Dollars in thousands)

Agency	Total R&D and R&D plant	Type of R&D				R&D plant
		Total R&D	Basic research	Applied research	Experimental development	
Health Resources and Services Administration	2,317	2,317	850	1,467	0	0
National Institutes of Health	8,363,371	8,247,214	4,157,926	4,089,288	0	116,157
Office of the Secretary of Health and Human Services	1,519	1,519	0	1,519	0	0
Office of the Assistant Secretary for Planning and Evaluation	1,519	1,519	0	1,519	0	0
Department of Homeland Security	210,759	210,759	5,572	96,580	108,607	0
Countering Weapons of Mass Destruction Office	9,000	9,000	0	7,000	2,000	0
Cybersecurity and Infrastructure Security Agency	1,342	1,342	0	1,342	0	0
Science and Technology Directorate	199,647	199,647	5,322	88,238	106,087	0
Secret Service	771	771	250	0	521	0
Department of the Interior	834,471	832,691	86,720	611,830	134,141	1,780
Bureau of Land Management	4,496	4,496	677	3,057	762	0
Bureau of Ocean Energy Management	57,489	57,489	0	42,651	14,838	0
Bureau of Reclamation	20,495	19,695	0	13,257	6,438	800
Bureau of Safety and Environmental Enforcement	3,253	2,273	567	1,512	194	980
Fish and Wildlife Service	35,000	35,000	0	35,000	0	0
Geological Survey	696,341	696,341	85,476	499,641	111,223	0
National Park Service	17,397	17,397	0	16,712	685	0
Department of Justice	8,101	8,101	4,318	3,180	603	0
Bureau of Prisons	5	5	0	2	3	0
Federal Bureau of Investigation	49	49	0	49	0	0
Office of Justice Programs	8,048	8,048	4,318	3,130	600	0
Department of Labor	2,689	2,689	0	2,689	0	0
Employee Benefits Security Administration	901	901	0	901	0	0
Occupational Safety and Health Administration	1,788	1,788	0	1,788	0	0
Department of State	65,000	65,000	7,000	38,000	20,000	0
Department of Transportation	210,856	209,837	997	180,036	28,804	1,019
Federal Aviation Administration	83,661	83,650	0	63,964	19,686	11
Federal Highway Administration	69,885	69,885	0	65,577	4,309	0
Federal Motor Carrier Safety Administration	9,252	9,252	0	6,634	2,618	0
Federal Railroad Administration	10,388	9,379	0	8,381	999	1,009
Federal Transit Administration	7,142	7,142	0	5,950	1,192	0
Office of the Secretary of Transportation	22,120	22,120	21	22,099	0	0
Pipeline and Hazardous Materials Safety Administration	8,407	8,407	976	7,431	0	0
Department of the Treasury	2,500	2,500	0	2,500	0	0
Bureau of Engraving and Printing	2,500	2,500	0	2,500	0	0
Department of Veterans Affairs	1,622,181	1,622,181	665,094	940,865	16,222	0
Other agencies						
Agency for Global Media	791	791	0	791	0	0
Agency for International Development	22,630	22,630	0	18,441	4,189	0
Consumer Product Safety Commission	165	165	0	165	0	0
Environmental Protection Agency	272,958	272,958	0	211,102	61,856	0

TABLE 12

Federal obligations for federal agency performance of R&D, by agency, type of R&D, and R&D plant: FY 2022

(Dollars in thousands)

Agency	Total R&D and R&D plant	Type of R&D			R&D plant
		Total R&D	Basic research	Applied research	
Federal Trade Commission	2,713	2,713	0	2,713	0
Library of Congress	3,055	3,055	0	512	2,543
National Aeronautics and Space Administration	1,705,422	1,705,422	702,660	529,581	473,181
National Science Foundation	110,546	27,409	26,592	818	0
Nuclear Regulatory Commission	1,038	1,038	0	1,038	0
Smithsonian Institution	297,000	227,400	227,400	0	69,600
Social Security Administration	47,465	47,465	0	47,465	0

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 13
Federal agency obligations for interagency fund transfers for R&D: FY 2022

(Dollars in thousands)

Transferred from agency	Total transferred	Transferred to agency														
		DHS	DOC	DOD	DOE	DOI	DOJ	DOL	DOT	ED	HHS	NASA	NSF	USDA	VA	Other ^a
All agencies	31,387,117	7,092	83,257	29,475,588	834,179	171,737	6,062	32,832	10,209	862	49,217	119,656	42,761	37,550	14,419	501,695
Departments																
Department of Agriculture	19,624	0	0	96	6,956	837	0	0	0	0	*	0	0	11,735	0	0
Department of Commerce	17,838	0	1,320	8,792	223	395	0	0	2	0	0	3,633	2,631	99	0	744
Department of Defense	4,605,911	6,177	42,408	3,492,592	571,267	6,985	2,450	5	5,461	862	15,376	100,216	9,821	21,152	123	331,017
Department of Energy	28,922	0	2,586	10,732	16	4,239	175	166	0	0	476	220	4,284	0	0	6,027
Department of Health and Human Services	25,979,110	366	4,663	25,742,936	15,131	121,216	0	0	0	0	1,829	8,383	16,034	449	14,296	53,808
Department of Homeland Security	171,870	549	0	90,999	19,496	9,183	2,929	0	0	0	0	1,599	2,397	0	0	44,719
Department of the Interior	23,108	0	8,194	3,205	4,122	0	0	0	0	0	0	5,015	1,989	465	0	118
Department of Justice	3,596	0	2,248	549	0	0	500	0	0	0	0	0	300	0	0	0
Department of State	58,000	0	0	10,000	0	0	0	0	0	0	28,000	0	0	0	0	20,000
Department of Transportation	19,225	0	4,751	5,168	1,215	1,691	8	0	3,594	0	0	471	0	1,251	0	1,076
Department of the Treasury	2,500	0	500	2,000	0	0	0	0	0	0	0	0	0	0	0	0
Department of Veterans Affairs	2,350	0	135	2,015	0	0	0	0	0	0	200	0	0	0	0	0
Other agencies																
Agency for International Development	11,888	0	811	2,900	0	0	0	0	0	0	1,977	0	0	500	0	5,700
Environmental Protection Agency	23,490	0	0	30	21,212	518	0	0	0	0	1,160	86	0	39	0	445
National Aeronautics and Space Administration	360,563	0	10,413	101,093	193,645	24,818	0	0	1,152	0	0	0	5,252	1,859	0	22,331
National Science Foundation	10,617	0	4,491	2,482	898	1,588	0	0	0	0	75	0	0	0	0	1,083
Nuclear Regulatory Commission	1,038	0	738	0	0	267	0	0	0	0	0	34	0	0	0	0
Social Security Administration	47,465	0	0	0	0	0	0	32,661	0	0	123	0	54	0	0	14,627

* = amount greater than \$0 but less than \$500.

DHS = Department of Homeland Security; DOC = Department of Commerce; DOD = Department of Defense; DOE = Department of Energy; DOI = Department of the Interior; DOJ = Department of Justice; DOL = Department of Labor; DOT = Department of Transportation; ED = Department of Education; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation; USDA = Department of Agriculture; VA = Department of Veterans Affairs.

^a Includes funds from the Departments of State and the Treasury; the Agency for International Development; the Appalachian Regional Commission; the Environmental Protection Agency; the Library of Congress; the National Archives and Records Administration; the Nuclear Regulatory Commission; the Postal Service; the Smithsonian Institution; and the Social Security Administration.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 14

Federal agency obligations for interagency fund transfers for R&D plant: FY 2022

(Dollars in thousands)

Transferred from agency	Total transferred	Transferred to agency								
		DOC	DOD	DOI	DOT	EPA	NASA	NRC	NSF	Other ^a
All agencies	86,579	1,829	61,905	2,761	164	117	707	42	150	18,904
Departments										
Department of Commerce	482	0	0	0	0	0	332	0	150	0
Department of Defense	1,389	0	1,389	0	0	0	0	0	0	0
Department of Energy	1,476	1,422	12	0	0	0	0	42	0	0
Department of Health and Human Services	938	0	0	0	0	0	0	0	0	938
Department of the Interior	636	0	519	0	0	117	0	0	0	0
Department of Transportation	145	0	145	0	0	0	0	0	0	0
Other agencies										
National Science Foundation	81,514	407	59,840	2,761	164	0	375	0	0	17,966

DOC = Department of Commerce; DOD = Department of Defense; DOI = Department of the Interior; DOT = Department of Transportation; EPA = Environmental Protection Agency; NASA = National Aeronautics and Space Administration; NRC = Nuclear Regulatory Commission; NSF = National Science Foundation.

^a Includes funds transferred to the General Services Administration and the Office of Personnel Management.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 15

Federal obligations for research and experimental development and for R&D plant to federally funded research and development centers, by agency and type of administrator: FY 2022

(Dollars in thousands)

Agency	R&D				R&D plant			
	Total	Industry-administered FFRDCs	University-administered FFRDCs	Nonprofit-administered FFRDCs	Total	Industry-administered FFRDCs	University-administered FFRDCs	Nonprofit-administered FFRDCs
All agencies	15,380,951	4,328,059	6,688,760	4,364,133	3,436,961	686,135	1,499,111	1,251,715
Departments								
Department of Commerce	19,845	0	6,787	13,058	0	0	0	0
National Institute of Standards and Technology	13,058	0	0	13,058	0	0	0	0
National Oceanic and Atmospheric Administration	6,787	0	6,787	0	0	0	0	0
Department of Defense	3,022,562	348,347	1,373,140	1,301,075	50,538	0	50,538	0
Defense Advanced Research Projects Agency	155,578	64,227	52,026	39,325	0	0	0	0
Defense Health Agency	9,467	3,114	0	6,354	0	0	0	0
Department of the Air Force	564,128	98,819	50,857	414,452	0	0	0	0
Department of the Army	123,092	22,170	22,614	78,308	0	0	0	0
Department of the Navy	211,036	64,805	46,973	99,259	0	0	0	0
Space Force	275,166	4,776	38,712	231,678	0	0	0	0
Other defense agencies	1,684,093	90,437	1,161,958	431,699	50,538	0	50,538	0
Department of Energy	8,705,607	3,251,486	2,688,746	2,765,374	3,368,327	686,135	1,440,572	1,241,619
Advanced Research Projects Agency—Energy	49,299	15,227	12,393	21,679	0	0	0	0
Electricity Delivery and Energy Reliability	81,910	20,080	4,801	57,028	0	0	0	0
Energy Efficiency and Renewable Energy	996,961	134,240	197,676	665,045	48,601	0	0	48,601
Environmental Management	29,095	25,805	895	2,395	0	0	0	0
Fossil Energy	85,349	38,834	13,484	33,032	0	0	0	0
National Nuclear Security Administration	2,533,161	2,323,398	21,622	188,141	351,146	337,776	38	13,332
Defense Programs	2,211,281	2,122,591	443	88,247	336,211	333,041	38	3,132
Naval Nuclear Propulsion Program	1,650	1,560	0	90	0	0	0	0
Office of Defense Nuclear Nonproliferation	320,231	199,247	21,180	99,804	14,935	4,735	0	10,200
Nuclear Energy	549,485	422,428	40,152	86,905	367,962	348,208	0	19,754

TABLE 15

Federal obligations for research and experimental development and for R&D plant to federally funded research and development centers, by agency and type of administrator: FY 2022

(Dollars in thousands)

Agency	R&D			R&D plant				
	Total	Industry-administered FFRDCs	University-administered FFRDCs	Nonprofit-administered FFRDCs	Total	Industry-administered FFRDCs	University-administered FFRDCs	Nonprofit-administered FFRDCs
Office of Cybersecurity, Energy Security, and Emergency Response	15,787	7,477	0	8,310	0	0	0	0
Office of Science	4,364,560	263,997	2,397,724	1,702,840	2,600,618	151	1,440,535	1,159,932
Department of Health and Human Services	719,159	654,612	25,502	39,045	0	0	0	0
National Institutes of Health	719,159	654,612	25,502	39,045	0	0	0	0
Department of Homeland Security	59,466	31,181	2,750	25,535	10,096	0	0	10,096
Countering Weapons of Mass Destruction Office	20,601	12,550	2,750	5,301	0	0	0	0
Science and Technology Directorate	38,866	18,631	0	20,234	10,096	0	0	10,096
Transportation Security Administration	*	0	0	*	0	0	0	0
Department of the Interior	49	0	49	0	0	0	0	0
Bureau of Land Management	49	0	49	0	0	0	0	0
Department of Transportation	80,267	0	1,670	78,597	0	0	0	0
Federal Aviation Administration	76,319	0	0	76,319	0	0	0	0
Federal Highway Administration	1,878	0	1,225	653	0	0	0	0
Federal Motor Carrier Safety Administration	1,625	0	0	1,625	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	445	0	445	0	0	0	0	0
Department of the Treasury	8,850	5,900	0	2,950	0	0	0	0
Bureau of Engraving and Printing	8,850	5,900	0	2,950	0	0	0	0
Department of Veterans Affairs	74,313	0	0	74,313	0	0	0	0
Other agencies								
Administrative Office of the U.S. Courts	1,443	0	0	1,443	0	0	0	0
Environmental Protection Agency	1,118	225	430	463	0	0	0	0
National Aeronautics and Space Administration	2,340,349	20,896	2,277,659	41,795	8,000	0	8,000	0

TABLE 15

Federal obligations for research and experimental development and for R&D plant to federally funded research and development centers, by agency and type of administrator: FY 2022

(Dollars in thousands)

Agency	R&D			R&D plant				
	Total	Industry-administered FFRDCs	University-administered FFRDCs	Nonprofit-administered FFRDCs	Total	Industry-administered FFRDCs	University-administered FFRDCs	Nonprofit-administered FFRDCs
National Science Foundation	315,499	0	310,333	5,166	*	0	*	0
Nuclear Regulatory Commission	32,425	15,413	1,693	15,319	0	0	0	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 16

Federal obligations for research and experimental development to federally funded research and development centers, by FFRDC and agency: FY 2022

(Dollars in thousands)

FFRDC	Total	DHS	DOC	DOD	DOE	HHS	NASA	NSF	Other ^a
All FFRDCs	15,380,951	59,466	19,845	3,022,562	8,705,607	719,159	2,340,349	315,499	198,464
Administered by industrial firms	4,328,059	31,181	0	348,347	3,251,486	654,612	20,896	0	21,538
Frederick National Laboratory for Cancer Research	654,356	9,917	0	0	0	644,439	0	0	0
Idaho National Laboratory	496,903	2,536	0	34,435	452,085	0	250	0	7,596
Lawrence Livermore National Laboratory	1,139,545	13,528	0	60,442	1,057,302	3,123	1,913	0	3,236
Los Alamos National Laboratory	923,009	3,100	0	36,797	856,545	5,834	18,732	0	2,000
Sandia National Laboratories	990,269	1,600	0	164,785	813,963	1,215	0	0	8,705
Savannah River National Laboratory	123,978	500	0	51,887	71,590	0	0	0	0
Administered by universities and colleges ^b	6,688,760	2,750	6,787	1,373,140	2,688,746	25,502	2,277,659	310,333	3,842
Ames Laboratory	34,996	0	0	0	34,947	0	0	0	49
Argonne National Laboratory	776,723	100	0	969	768,410	4,228	449	0	2,568
Fermi National Accelerator Laboratory	320,213	0	0	0	320,213	0	0	0	0
Green Bank Observatory	15,530	0	0	0	0	0	0	15,530	0
Jet Propulsion Laboratory	2,281,720	0	0	6,062	0	0	2,275,658	0	0
Lawrence Berkeley National Laboratory	954,580	0	0	4,751	930,520	17,758	1,552	0	0
Lincoln Laboratory	1,076,266	2,000	0	1,074,266	0	0	0	0	0
NSF's National Optical-Infrared Astronomy Research Laboratory	56,388	0	0	0	0	0	0	56,388	0
National Center for Atmospheric Research	116,625	0	6,787	679	0	0	0	109,159	0
National Radio Astronomy Observatory	102,712	0	0	0	0	0	0	102,712	0
National Solar Observatory	26,715	0	0	170	0	0	0	26,545	0
Princeton Plasma Physics Laboratory	104,751	0	0	0	104,751	0	0	0	0
SLAC National Accelerator Laboratory	371,157	650	0	2,913	364,077	3,517	0	0	0
Software Engineering Institute	283,330	0	0	283,330	0	0	0	0	0
Thomas Jefferson National Accelerator Facility	167,054	0	0	0	165,829	0	0	0	1,225
Administered by nonprofit institutions ^c	4,364,133	25,535	13,058	1,301,075	2,765,374	39,045	41,795	5,166	173,085
Aerospace FFRDC	592,047	0	0	545,377	11,210	0	35,274	186	0
Arroyo Center	33,675	0	0	33,675	0	0	0	0	0
Brookhaven National Laboratory	571,657	525	0	0	558,804	5,802	5,991	0	535
CMS Alliance to Modernize Healthcare	16,909	0	0	0	0	16,909	0	0	0
Center for Advanced Aviation System Development	13,146	0	0	13,146	0	0	0	0	0
Center for Communications and Computing	20,910	0	0	20,910	0	0	0	0	0
Center for Enterprise Modernization	50,440	0	0	50,440	0	0	0	0	0
Center for Naval Analyses	44,659	0	0	44,659	0	0	0	0	0
Center for Nuclear Waste Regulatory Analyses	22,513	0	0	20,992	0	0	0	0	1,522
Homeland Security Operational Analysis Center	8,066	8,066	0	0	0	0	0	0	0
Homeland Security Systems Engineering and Development Institute	13,827	10,877	0	0	0	0	0	0	2,950
Judiciary Engineering and Modernization Center	75,756	0	0	0	0	0	0	0	75,756
NSEC—Bedford, MA	126,297	0	0	49,979	0	0	0	0	76,319
NSEC—McLean, VA	150,384	0	0	150,384	0	0	0	0	0
National Biodefense Analysis and Countermeasures Center	2	0	0	2	0	0	0	0	0
National Cybersecurity Center of Excellence	16,866	0	13,058	3,808	0	0	0	0	0
National Defense Research Institute	14,774	0	0	14,774	0	0	0	0	0

TABLE 16

Federal obligations for research and experimental development to federally funded research and development centers, by FFRDC and agency: FY 2022

(Dollars in thousands)

FFRDC	Total	DHS	DOC	DOD	DOE	HHS	NASA	NSF	Other ^a
National Renewable Energy Laboratory	427,283	0	0	6,179	421,104	0	0	0	0
Oak Ridge National Laboratory	1,281,667	2,400	0	6,794	1,262,292	598	0	0	9,584
Pacific Northwest National Laboratory	559,924	2,901	0	22,903	511,965	15,736	0	0	6,420
Project Air Force	50,582	0	0	50,582	0	0	0	0	0
Science and Technology Policy Institute	16,277	767	0	10,000	0	0	530	4,980	0
Systems and Analyses Center	256,470	0	0	256,470	0	0	0	0	0

DHS = Department of Homeland Security; DOC = Department of Commerce; DOD = Department of Defense; DOE = Department of Energy; FFRDC = federally funded research and development center; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation.

^a Includes data for the Departments of the Interior, Transportation, the Treasury, and Veterans Affairs; the Administrative Office of the U.S. Courts; the Environmental Protection Agency; and the Nuclear Regulatory Commission.

^b Includes university consortia.

^c Other than universities and colleges.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 17

Federal obligations for R&D plant to federally funded research and development centers, by FFRDC and agency: FY 2022

(Dollars in thousands)

FFRDC	Total	DHS	DOD	DOE	NASA	NSF
All FFRDCs	3,436,961	10,096	50,538	3,368,327	8,000	*
Administered by industrial firms	686,135	0	0	686,135	0	0
Idaho National Laboratory	348,252	0	0	348,252	0	0
Lawrence Livermore National Laboratory	216,367	0	0	216,367	0	0
Los Alamos National Laboratory	77,458	0	0	77,458	0	0
Sandia National Laboratories	39,081	0	0	39,081	0	0
Savannah River National Laboratory	4,977	0	0	4,977	0	0
Administered by universities and colleges ^a	1,499,111	0	50,538	1,440,572	8,000	*
Ames Laboratory	29,418	0	0	29,418	0	0
Argonne National Laboratory	125,703	0	0	125,703	0	0
Fermi National Accelerator Laboratory	551,747	0	0	551,747	0	0
Jet Propulsion Laboratory	8,000	0	0	0	8,000	0
Lawrence Berkeley National Laboratory	307,434	0	0	307,434	0	0
Lincoln Laboratory	50,538	0	50,538	0	0	0
NSF's National Optical-Infrared Astronomy Research Laboratory	*	0	0	0	0	*
Princeton Plasma Physics Laboratory	51,074	0	0	51,074	0	0
SLAC National Accelerator Laboratory	271,209	0	0	271,209	0	0
Thomas Jefferson National Accelerator Facility	103,988	0	0	103,988	0	0
Administered by nonprofit institutions ^b	1,251,715	10,096	0	1,241,619	0	0
Aerospace FFRDC	242	0	0	242	0	0
Brookhaven National Laboratory	351,013	0	0	351,013	0	0
Homeland Security Operational Analysis Center	5,076	5,076	0	0	0	0
Homeland Security Systems Engineering and Development Institute	5,019	5,019	0	0	0	0
National Renewable Energy Laboratory	48,601	0	0	48,601	0	0
Oak Ridge National Laboratory	812,805	0	0	812,805	0	0
Pacific Northwest National Laboratory	28,958	0	0	28,958	0	0

* = amount greater than \$0 but less than \$500.

DHS = Department of Homeland Security; DOD = Department of Defense; DOE = Department of Energy; FFRDC = federally funded research and development center; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation.

^a Includes university consortia.^b Other than universities and colleges.**Note(s):**

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 18

Federal obligations to federally funded research and development centers, by sponsoring agency, type of R&D, and R&D plant: FY 2022

(Dollars in thousands)

FFRDC	Total R&D and R&D plant	Type of R&D				R&D plant
		Total R&D	Basic research	Applied research	Experimental development	
All agencies sponsoring FFRDCs	18,817,912	15,380,951	6,730,777	4,402,075	4,248,099	3,436,961
Departments						
Department of Commerce	16,866	16,866	0	13,058	3,808	0
National Cybersecurity Center of Excellence	16,866	16,866	0	13,058	3,808	0
Department of Defense	2,700,177	2,649,396	153,125	642,850	1,853,421	50,781
Aerospace FFRDC	592,289	592,047	19,375	25,826	546,845	242
Arroyo Center	33,675	33,675	0	0	33,675	0
Center for Communications and Computing	20,910	20,910	557	9,773	10,580	0
Center for Naval Analyses	44,659	44,659	208	1,944	42,507	0
Lincoln Laboratory	1,126,805	1,076,266	127,598	360,880	587,789	50,538
NSEC—Bedford, MA	126,297	126,297	0	3,647	122,650	0
NSEC—McLean, VA	150,384	150,384	366	17,555	132,463	0
National Defense Research Institute	14,774	14,774	1,200	3,092	10,482	0
Project Air Force	50,582	50,582	0	43,092	7,490	0
Software Engineering Institute	283,330	283,330	146	12,946	270,237	0
Systems and Analyses Center	256,470	256,470	3,674	164,093	88,702	0
Department of Energy	12,611,792	9,243,708	4,535,532	3,256,758	1,451,418	3,368,084
Ames Laboratory	64,414	34,996	31,907	2,980	110	29,418
Argonne National Laboratory	902,426	776,723	632,838	79,550	64,334	125,703
Brookhaven National Laboratory	922,670	571,657	553,158	9,791	8,707	351,013
Fermi National Accelerator Laboratory	871,960	320,213	319,351	70	792	551,747
Idaho National Laboratory	845,155	496,903	10,742	372,532	113,628	348,252
Lawrence Berkeley National Laboratory	1,262,014	954,580	802,822	77,778	73,980	307,434
Lawrence Livermore National Laboratory	1,355,912	1,139,545	92,875	899,544	147,126	216,367
Los Alamos National Laboratory	1,000,466	923,009	141,181	647,466	134,361	77,458
National Renewable Energy Laboratory	475,884	427,283	30,459	169,840	226,984	48,601
Oak Ridge National Laboratory	2,094,472	1,281,667	916,947	183,947	180,774	812,805
Pacific Northwest National Laboratory	588,882	559,924	256,444	164,320	139,160	28,958
Princeton Plasma Physics Laboratory	155,825	104,751	104,535	216	0	51,074
SLAC National Accelerator Laboratory	642,366	371,157	363,685	4,965	2,507	271,209
Sandia National Laboratories	1,029,350	990,269	103,915	615,598	270,756	39,081
Savannah River National Laboratory	128,955	123,978	8,964	26,885	88,129	4,977
Thomas Jefferson National Accelerator Facility	271,042	167,054	165,707	1,276	70	103,988
Department of Health and Human Services	671,265	671,265	336,780	334,485	0	0
CMS Alliance to Modernize Healthcare	16,909	16,909	8,488	8,421	0	0
Frederick National Laboratory for Cancer Research	654,356	654,356	328,292	326,065	0	0
Department of Homeland Security	31,991	21,895	10,537	10,553	805	10,096
Homeland Security Operational Analysis Center	13,142	8,066	4,138	3,125	803	5,076
Homeland Security Systems Engineering and Development Institute	18,847	13,827	6,399	7,428	0	5,019
National Biodefense Analysis and Countermeasures Center	2	2	0	0	2	0
Department of Justice	75,756	75,756	0	1,443	74,313	0

TABLE 18

Federal obligations to federally funded research and development centers, by sponsoring agency, type of R&D, and R&D plant: FY 2022

(Dollars in thousands)

FFRDC	Total R&D and R&D plant	Type of R&D			R&D plant	
		Total R&D	Basic research	Applied research		Experimental development
Judiciary Engineering and Modernization Center	75,756	75,756	0	1,443	74,313	0
Department of Transportation	13,146	13,146	0	0	13,146	0
Center for Advanced Aviation System Development	13,146	13,146	0	0	13,146	0
Departments of Treasury and Veterans Affairs, and the Social Security Administration	50,440	50,440	1,523	3,122	45,795	0
Center for Enterprise Modernization	50,440	50,440	1,523	3,122	45,795	0
Other agencies						
National Aeronautics and Space Administration	2,289,720	2,281,720	1,377,899	126,555	777,266	8,000
Jet Propulsion Laboratory	2,289,720	2,281,720	1,377,899	126,555	777,266	8,000
National Science Foundation	334,246	334,246	315,382	6,019	12,845	*
Green Bank Observatory	15,530	15,530	15,530	0	0	0
NSF's National Optical-Infrared Astronomy Research Laboratory	56,388	56,388	56,388	0	0	*
National Center for Atmospheric Research	116,625	116,625	109,159	5,557	1,909	0
National Radio Astronomy Observatory	102,712	102,712	102,712	0	0	0
National Solar Observatory	26,715	26,715	26,545	0	170	0
Science and Technology Policy Institute	16,277	16,277	5,049	461	10,767	0
Nuclear Regulatory Commission	22,513	22,513	0	7,232	15,281	0
Center for Nuclear Waste Regulatory Analyses	22,513	22,513	0	7,232	15,281	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 19

Federal obligations for research and experimental development to federally funded research and development centers, by sponsoring agency and funding agency: FY 2022

(Dollars in thousands)

FFRDC	Total R&D	Funding agency							
		DHS	DOC	DOD	DOE	HHS	NASA	NSF	Other ^a
All agencies sponsoring FFRDCs	15,380,951	59,466	19,845	3,022,562	8,705,607	719,159	2,340,349	315,499	198,464
Departments									
Department of Commerce	16,866	0	13,058	3,808	0	0	0	0	0
National Cybersecurity Center of Excellence	16,866	0	13,058	3,808	0	0	0	0	0
Department of Defense	2,649,396	2,000	0	2,524,407	11,210	0	35,274	186	76,319
Aerospace FFRDC	592,047	0	0	545,377	11,210	0	35,274	186	0
Arroyo Center	33,675	0	0	33,675	0	0	0	0	0
Center for Communications and Computing	20,910	0	0	20,910	0	0	0	0	0
Center for Naval Analyses	44,659	0	0	44,659	0	0	0	0	0
Lincoln Laboratory	1,076,266	2,000	0	1,074,266	0	0	0	0	0
NSEC—Bedford, MA	126,297	0	0	49,979	0	0	0	0	76,319
NSEC—McLean, VA	150,384	0	0	150,384	0	0	0	0	0
National Defense Research Institute	14,774	0	0	14,774	0	0	0	0	0
Project Air Force	50,582	0	0	50,582	0	0	0	0	0
Software Engineering Institute	283,330	0	0	283,330	0	0	0	0	0
Systems and Analyses Center	256,470	0	0	256,470	0	0	0	0	0
Department of Energy	9,243,708	27,840	0	392,855	8,694,397	57,811	28,887	0	41,917
Ames Laboratory	34,996	0	0	0	34,947	0	0	0	49
Argonne National Laboratory	776,723	100	0	969	768,410	4,228	449	0	2,568
Brookhaven National Laboratory	571,657	525	0	0	558,804	5,802	5,991	0	535
Fermi National Accelerator Laboratory	320,213	0	0	0	320,213	0	0	0	0
Idaho National Laboratory	496,903	2,536	0	34,435	452,085	0	250	0	7,596
Lawrence Berkeley National Laboratory	954,580	0	0	4,751	930,520	17,758	1,552	0	0
Lawrence Livermore National Laboratory	1,139,545	13,528	0	60,442	1,057,302	3,123	1,913	0	3,236
Los Alamos National Laboratory	923,009	3,100	0	36,797	856,545	5,834	18,732	0	2,000
National Renewable Energy Laboratory	427,283	0	0	6,179	421,104	0	0	0	0
Oak Ridge National Laboratory	1,281,667	2,400	0	6,794	1,262,292	598	0	0	9,584
Pacific Northwest National Laboratory	559,924	2,901	0	22,903	511,965	15,736	0	0	6,420
Princeton Plasma Physics Laboratory	104,751	0	0	0	104,751	0	0	0	0
SLAC National Accelerator Laboratory	371,157	650	0	2,913	364,077	3,517	0	0	0
Sandia National Laboratories	990,269	1,600	0	164,785	813,963	1,215	0	0	8,705
Savannah River National Laboratory	123,978	500	0	51,887	71,590	0	0	0	0
Thomas Jefferson National Accelerator Facility	167,054	0	0	0	165,829	0	0	0	1,225
Department of Health and Human Services	671,265	9,917	0	0	0	661,348	0	0	0
CMS Alliance to Modernize Healthcare	16,909	0	0	0	0	16,909	0	0	0
Frederick National Laboratory for Cancer Research	654,356	9,917	0	0	0	644,439	0	0	0
Department of Homeland Security	21,895	18,943	0	2	0	0	0	0	2,950
Homeland Security Operational Analysis Center	8,066	8,066	0	0	0	0	0	0	0
Homeland Security Systems Engineering and Development Institute	13,827	10,877	0	0	0	0	0	0	2,950
National Biodefense Analysis and Countermeasures Center	2	0	0	2	0	0	0	0	0
Department of Justice	75,756	0	0	0	0	0	0	0	75,756
Judiciary Engineering and Modernization Center	75,756	0	0	0	0	0	0	0	75,756
Department of Transportation	13,146	0	0	13,146	0	0	0	0	0

TABLE 19

Federal obligations for research and experimental development to federally funded research and development centers, by sponsoring agency and funding agency: FY 2022

(Dollars in thousands)

FFRDC	Total R&D	Funding agency							
		DHS	DOC	DOD	DOE	HHS	NASA	NSF	Other ^a
Center for Advanced Aviation System Development	13,146	0	0	13,146	0	0	0	0	0
Departments of Treasury and Veterans Affairs, and the Social Security Administration	50,440	0	0	50,440	0	0	0	0	0
Center for Enterprise Modernization	50,440	0	0	50,440	0	0	0	0	0
Other agencies									
National Aeronautics and Space Administration	2,281,720	0	0	6,062	0	0	2,275,658	0	0
Jet Propulsion Laboratory	2,281,720	0	0	6,062	0	0	2,275,658	0	0
National Science Foundation	334,246	767	6,787	10,849	0	0	530	315,313	0
Green Bank Observatory	15,530	0	0	0	0	0	0	15,530	0
NSF's National Optical-Infrared Astronomy Research Laboratory	56,388	0	0	0	0	0	0	56,388	0
National Center for Atmospheric Research	116,625	0	6,787	679	0	0	0	109,159	0
National Radio Astronomy Observatory	102,712	0	0	0	0	0	0	102,712	0
National Solar Observatory	26,715	0	0	170	0	0	0	26,545	0
Science and Technology Policy Institute	16,277	767	0	10,000	0	0	530	4,980	0
Nuclear Regulatory Commission	22,513	0	0	20,992	0	0	0	0	1,522
Center for Nuclear Waste Regulatory Analyses	22,513	0	0	20,992	0	0	0	0	1,522

DHS = Department of Homeland Security; DOC = Department of Commerce; DOD = Department of Defense; DOE = Department of Energy; FFRDC = federally funded research and development center; HHS = Department of Health and Human Services; NASA = National Aeronautical and Space Administration; NSF = National Science Foundation.

^a Includes data for the Departments of Transportation, Veterans Affairs, the Interior, and the Treasury; the Administrative Office of the U.S. Courts; the Environmental Protection Agency; and the Nuclear Regulatory Commission.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 20

Federal obligations for R&D plant to federally funded research and development centers, by sponsoring agency and funding agency: FY 2022

(Dollars in thousands)

FFRDC	Total R&D	Funding agency				
		DHS	DOD	DOE	NASA	NSF
All agencies sponsoring FFRDCs	3,436,961	10,096	50,538	3,368,327	8,000	*
Departments						
Department of Defense	50,781	0	50,538	242	0	0
Aerospace FFRDC	242	0	0	242	0	0
Lincoln Laboratory	50,538	0	50,538	0	0	0
Department of Energy	3,368,084	0	0	3,368,084	0	0
Ames Laboratory	29,418	0	0	29,418	0	0
Argonne National Laboratory	125,703	0	0	125,703	0	0
Brookhaven National Laboratory	351,013	0	0	351,013	0	0
Fermi National Accelerator Laboratory	551,747	0	0	551,747	0	0
Idaho National Laboratory	348,252	0	0	348,252	0	0
Lawrence Berkeley National Laboratory	307,434	0	0	307,434	0	0
Lawrence Livermore National Laboratory	216,367	0	0	216,367	0	0
Los Alamos National Laboratory	77,458	0	0	77,458	0	0
National Renewable Energy Laboratory	48,601	0	0	48,601	0	0
Oak Ridge National Laboratory	812,805	0	0	812,805	0	0
Pacific Northwest National Laboratory	28,958	0	0	28,958	0	0
Princeton Plasma Physics Laboratory	51,074	0	0	51,074	0	0
SLAC National Accelerator Laboratory	271,209	0	0	271,209	0	0
Sandia National Laboratories	39,081	0	0	39,081	0	0
Savannah River National Laboratory	4,977	0	0	4,977	0	0
Thomas Jefferson National Accelerator Facility	103,988	0	0	103,988	0	0
Department of Homeland Security	10,096	10,096	0	0	0	0
Homeland Security Operational Analysis Center	5,076	5,076	0	0	0	0
Homeland Security Systems Engineering and Development Institute	5,019	5,019	0	0	0	0
Other agencies						
National Aeronautics and Space Administration	8,000	0	0	0	8,000	0
Jet Propulsion Laboratory	8,000	0	0	0	8,000	0
National Science Foundation	*	0	0	0	0	*
NSF's National Optical-Infrared Astronomy Research Laboratory	*	0	0	0	0	*

* = amount greater than \$0 but less than \$500.

DHS = Department of Homeland Security; DOD = Department of Defense; DOE = Department of Energy; FFRDC = federally funded research and development center; NASA = National Aeronautical and Space Administration; NSF = National Science Foundation.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 21

Federal obligations for research, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	93,807,126	20,650,872	11,132,852	12,679,304	39,068,958	8,797,459	862,390	615,291
Departments								
Department of Agriculture	2,860,100	1,603,074	0	35,667	1,156,873	48,884	9,793	5,809
Agricultural Marketing Service	9,865	9,865	0	0	0	0	0	0
Agricultural Research Service	1,485,517	1,252,696	0	0	207,271	19,977	80	5,492
Animal and Plant Health Inspection Service	23,598	16,367	0	0	7,231	0	0	0
Economic Research Service	87,794	78,038	0	0	5,166	4,590	0	0
Forest Service	245,837	213,150	0	1,364	23,774	2,568	4,716	267
National Agricultural Statistics Service	6,126	5,729	0	0	54	343	0	0
National Institute of Food and Agriculture	985,983	12,605	0	34,303	912,622	21,406	4,997	50
Natural Resources Conservation Service	15,379	14,624	0	0	755	0	0	0
Department of Commerce	1,689,980	1,259,768	18,615	56,188	333,042	18,561	1,770	2,036
Census Bureau	150,213	150,213	0	0	0	0	0	0
National Institute of Standards and Technology	780,207	656,063	13,058	32,558	72,283	4,007	206	2,033
National Oceanic and Atmospheric Administration	748,259	442,192	5,557	23,630	260,759	14,554	1,563	4
National Telecommunications and Information Administration	11,300	11,300	0	0	0	0	0	0
Department of Defense	10,165,798	3,744,069	866,086	2,472,200	2,478,391	525,756	17,421	61,874
Defense Advanced Research Projects Agency	1,798,258	98,286	100,045	923,469	511,653	143,425	450	20,929
Defense Health Agency	145,348	25,968	1,807	31,873	36,008	43,065	0	6,627
Department of the Air Force	2,925,568	2,053,358	47,324	31,210	586,149	197,235	10,291	0
Department of the Army	1,803,812	562,461	8,564	777,840	398,152	47,010	0	9,786
Department of the Navy	1,738,918	595,551	19,506	303,907	730,135	60,813	6,680	22,325
Space Force	175,192	104,884	11,298	54,563	4,446	0	0	0
Other defense agencies	1,578,702	303,560	677,543	349,337	211,848	34,208	0	2,207
Department of Education	299,085	0	0	20,593	148,400	96,494	33,598	0
Department of Energy	11,108,630	843,816	7,586,563	1,211,822	1,319,094	112,278	33,067	1,991
Advanced Research Projects Agency—Energy	201,482	937	24,650	94,950	73,287	7,659	0	0
Electricity Delivery and Energy Reliability	61,315	1,404	44,122	7,106	4,206	4,286	190	0
Energy Efficiency and Renewable Energy	678,802	6,534	420,293	128,772	88,000	33,552	1,650	0
Environmental Management	11,808	0	9,601	2,124	0	83	0	0
Fossil Energy	558,637	362,570	85,349	0	80,418	28,708	1,143	449

TABLE 21

Federal obligations for research, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
National Nuclear Security Administration	2,793,813	236,825	2,144,591	387,541	24,857	0	0	0
Defense Programs	2,336,964	232,777	1,910,517	183,863	9,807	0	0	0
Naval Nuclear Propulsion Program	191,110	0	1,650	189,460	0	0	0	0
Office of Defense Nuclear Nonproliferation	265,739	4,048	232,423	14,218	15,050	0	0	0
Nuclear Energy	657,246	37,333	484,214	76,251	53,634	4,622	196	997
Office of Cybersecurity, Energy Security, and Emergency Response	21,377	0	9,184	0	12,194	0	0	0
Office of Science	6,124,150	198,213	4,364,560	515,077	982,499	33,369	29,888	544
Department of Health and Human Services	48,271,429	8,785,488	719,159	4,965,088	26,101,914	6,725,870	558,175	415,734
Administration for Children and Families	5,228	365	0	0	1,800	3,063	0	0
Administration for Community Living	106,731	0	0	4,898	77,027	24,338	468	0
Agency for Healthcare Research and Quality	314,345	46,928	0	133,403	103,809	30,110	95	0
Agency for Toxic Substances and Disease Registry	11,777	0	0	0	7,529	2,500	1,250	498
Biomedical Advanced Research and Development Authority	2,644,021	0	0	2,322,179	46,050	154,611	0	121,181
Centers for Disease Control and Prevention	550,366	90,694	0	95,186	246,564	59,564	30,043	28,316
Centers for Medicare and Medicaid Services	419,105	0	0	8,163	2,081	8,395	400,466	0
Food and Drug Administration	560,910	396,452	0	14,100	82,155	57,680	2,819	7,704
Health Resources and Services Administration	34,884	2,317	0	1,605	30,121	841	0	0
National Institutes of Health	43,588,544	8,247,214	719,159	2,360,157	25,504,332	6,376,613	123,034	258,035
Office of the Secretary of Health and Human Services	35,517	1,519	0	25,397	447	8,155	0	0
Office of the Assistant Secretary for Planning and Evaluation	35,517	1,519	0	25,397	447	8,155	0	0
Department of Homeland Security	327,816	102,152	36,707	162,160	18,274	6,234	162	2,127
Coast Guard	2,243	0	0	2,243	0	0	0	0
Countering Weapons of Mass Destruction Office	34,878	7,000	7,001	14,600	4,720	0	0	1,558
Cybersecurity and Infrastructure Security Agency	3,440	1,342	0	0	0	2,098	0	0
Science and Technology Directorate	287,005	93,560	29,707	145,317	13,554	4,136	162	569

TABLE 21

Federal obligations for research, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Secret Service	250	250	0	0	0	0	0	0
Transportation Security Administration	*	0	0	*	0	0	0	0
Department of the Interior	785,328	698,550	0	14,398	52,182	5,377	14,164	657
Bureau of Indian Affairs	5,000	0	0	0	0	0	5,000	0
Bureau of Land Management	10,583	3,734	0	242	5,337	1,071	199	0
Bureau of Ocean Energy Management	66,305	42,651	0	7,604	9,798	3,149	2,517	585
Bureau of Reclamation	17,705	13,257	0	3,100	1,128	0	148	72
Bureau of Safety and Environmental Enforcement	6,056	2,079	0	2,825	1,011	142	0	0
Fish and Wildlife Service	35,000	35,000	0	0	0	0	0	0
Geological Survey	617,457	585,117	0	627	24,517	896	6,300	0
National Park Service	27,222	16,712	0	0	10,391	119	0	0
Department of Justice	102,945	7,498	0	12,225	42,446	40,229	547	0
Bureau of Prisons	2	2	0	0	0	0	0	0
Federal Bureau of Investigation	8,887	49	0	7,488	1,350	0	0	0
Office of Justice Programs	94,056	7,448	0	4,737	41,096	40,229	547	0
Department of Labor	3,698	2,689	0	1,009	0	0	0	0
Employee Benefits Security Administration	1,910	901	0	1,009	0	0	0	0
Occupational Safety and Health Administration	1,788	1,788	0	0	0	0	0	0
Department of State	45,000	45,000	0	0	0	0	0	0
Department of Transportation	808,368	181,033	7,595	282,933	116,220	54,077	163,452	3,059
Federal Aviation Administration	260,969	63,964	3,647	117,017	67,047	6,584	425	2,285
Federal Highway Administration	341,879	65,577	1,878	77,556	11,141	26,785	158,942	0
Federal Motor Carrier Safety Administration	21,154	6,634	1,625	11,484	0	1,411	0	0
Federal Railroad Administration	32,291	8,381	0	12,176	6,526	4,435	0	773
Federal Transit Administration	11,909	5,950	0	0	1,875	0	4,084	0
National Highway Traffic Safety Administration	91,739	0	0	55,559	24,237	11,942	0	0
Office of the Secretary of Transportation	24,389	22,120	0	2,269	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	24,038	8,407	445	6,872	5,394	2,920	0	0
Department of the Treasury	37,082	2,500	8,850	10,786	0	510	0	14,436
Bureau of Engraving and Printing	37,082	2,500	8,850	10,786	0	510	0	14,436
Department of Veterans Affairs	1,605,959	1,605,959	0	0	0	0	0	0

TABLE 21

Federal obligations for research, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Other agencies								
Administrative Office of the U.S. Courts	1,443	0	1,443	0	0	0	0	0
Agency for Global Media	8,413	791	0	7,622	0	0	0	0
Agency for International Development	152,853	18,441	0	8,296	32,549	30,635	0	62,932
Appalachian Regional Commission	804	0	0	445	162	197	0	0
Consumer Product Safety Commission	165	165	0	0	0	0	0	0
Environmental Protection Agency	406,371	211,102	1,118	136,557	46,217	11,378	0	0
Federal Trade Commission	2,713	2,713	0	0	0	0	0	0
Library of Congress	512	512	0	0	0	0	0	0
National Aeronautics and Space Administration	7,304,822	1,232,240	1,538,792	2,747,920	1,514,032	246,583	5,981	19,274
National Science Foundation	6,896,067	27,409	315,499	481,807	5,689,744	342,738	17,301	21,568
Nuclear Regulatory Commission	61,399	1,038	32,425	7,917	15,592	753	0	3,674
Patient-Centered Outcomes Research Trust Fund	521,671	0	0	0	0	521,671	0	0
Postal Service	13,860	0	0	13,860	0	0	0	0
RESTORE Act Centers of Excellence Research Grants Program	6,960	0	0	0	0	0	6,960	0
Smithsonian Institution	227,400	227,400	0	0	0	0	0	0
Social Security Administration	78,704	47,465	0	20,763	3,825	6,532	0	119
Tennessee Valley Authority	11,752	0	0	9,049	0	2,703	0	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 22

Preliminary federal obligations for research, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	99,480,903	22,913,186	12,865,470	11,541,852	41,529,097	9,257,095	849,857	524,347
Departments								
Department of Agriculture	3,221,199	1,865,020	0	40,272	1,255,774	45,356	10,366	4,412
Agricultural Marketing Service	9,455	9,443	0	0	12	0	0	0
Agricultural Research Service	1,672,200	1,497,499	0	0	155,453	15,068	60	4,119
Animal and Plant Health Inspection Service	26,244	18,697	0	0	7,547	0	0	0
Economic Research Service	92,612	86,001	0	0	4,309	2,301	0	0
Forest Service	254,115	217,112	0	450	29,000	2,818	4,500	235
National Agricultural Statistics Service	6,376	5,963	0	0	94	319	0	0
National Institute of Food and Agriculture	1,144,522	14,630	0	39,822	1,059,359	24,849	5,806	57
Natural Resources Conservation Service	15,675	15,675	0	0	0	0	0	0
Department of Commerce	2,066,269	1,525,643	18,971	57,794	435,398	24,944	2,354	1,164
Census Bureau	222,038	222,038	0	0	0	0	0	0
National Institute of Standards and Technology	916,280	781,456	13,257	32,410	78,237	9,530	230	1,160
National Oceanic and Atmospheric Administration	915,351	509,549	5,714	25,384	357,161	15,415	2,125	4
National Telecommunications and Information Administration	12,600	12,600	0	0	0	0	0	0
Department of Defense	11,933,040	4,260,247	928,935	3,048,973	2,980,628	615,385	20,409	78,462
Defense Advanced Research Projects Agency	2,194,436	120,443	122,126	1,131,955	619,876	174,251	556	25,228
Defense Health Agency	178,268	45,716	2,364	35,033	36,056	51,412	0	7,687
Department of the Air Force	3,027,176	2,135,493	48,584	35,593	595,733	201,071	10,703	0
Department of the Army	2,396,124	756,476	11,723	1,047,218	505,975	62,485	0	12,247
Department of the Navy	2,354,530	787,865	26,721	416,694	1,000,208	83,308	9,151	30,583
Space Force	156,391	97,282	11,652	47,457	0	0	0	0
Other defense agencies	1,626,115	316,972	705,766	335,022	222,780	42,857	0	2,717
Department of Education	263,846	0	0	18,167	130,916	85,866	28,898	0
Department of Energy	12,309,129	1,317,610	9,280,032	782,028	766,281	128,115	33,124	1,939
Advanced Research Projects Agency—Energy	235,000	1,092	28,750	110,746	85,479	8,933	0	0
Electricity Delivery and Energy Reliability	74,880	1,715	53,884	8,679	5,137	5,234	232	0
Energy Efficiency and Renewable Energy	724,182	6,971	448,391	137,381	83,683	45,994	1,761	0
Environmental Management	14,190	0	11,494	2,554	0	142	0	0
Fossil Energy	938,163	729,761	90,939	0	79,678	37,193	39	553

TABLE 22

Preliminary federal obligations for research, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
National Nuclear Security Administration	2,988,434	410,267	2,132,945	338,610	98,107	8,505	0	0
Defense Programs	2,554,182	408,708	1,872,495	186,416	78,057	8,505	0	0
Naval Nuclear Propulsion Program	141,400	0	980	140,420	0	0	0	0
Office of Defense Nuclear Nonproliferation	292,852	1,559	259,470	11,774	20,050	0	0	0
Nuclear Energy	913,953	51,915	673,337	106,033	74,583	6,427	272	1,386
Office of Cybersecurity, Energy Security, and Emergency Response	45,490	0	33,445	0	12,045	0	0	0
Office of Science	6,374,837	115,889	5,806,847	78,025	327,569	15,687	30,820	0
Department of Health and Human Services	49,214,523	9,489,778	765,193	3,232,634	27,719,730	7,106,835	580,013	320,339
Administration for Children and Families	9,405	35	0	0	1,820	7,550	0	0
Administration for Community Living	112,862	0	0	3,299	89,109	20,022	432	0
Agency for Healthcare Research and Quality	337,445	46,928	0	144,403	115,908	30,111	95	0
Agency for Toxic Substances and Disease Registry	11,777	0	0	0	7,529	2,500	1,250	498
Biomedical Advanced Research and Development Authority	817,834	143,362	0	483,869	41,760	136,694	0	12,148
Centers for Disease Control and Prevention	443,602	82,459	624	38,176	213,178	48,659	35,793	24,714
Centers for Medicare and Medicaid Services	427,487	0	0	8,326	2,123	8,563	408,475	0
Food and Drug Administration	629,764	445,118	0	15,831	92,240	64,760	3,165	8,650
Health Resources and Services Administration	45,498	2,294	0	2,373	40,830	0	0	0
National Institutes of Health	46,340,849	8,767,957	764,569	2,509,184	27,114,755	6,779,252	130,803	274,329
Office of the Secretary of Health and Human Services	38,000	1,625	0	27,172	478	8,725	0	0
Office of the Assistant Secretary for Planning and Evaluation	38,000	1,625	0	27,172	478	8,725	0	0
Department of Homeland Security	238,787	57,318	35,310	117,743	24,359	3,328	161	568
Coast Guard	2,243	0	0	2,243	0	0	0	0
Countering Weapons of Mass Destruction Office	39,004	5,000	9,000	13,000	12,004	0	0	0
Cybersecurity and Infrastructure Security Agency	4,290	3,868	0	0	422	0	0	0
Science and Technology Directorate	193,000	48,200	26,310	102,500	11,933	3,328	161	568

TABLE 22

Preliminary federal obligations for research, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Secret Service	250	250	0	0	0	0	0	0
Department of the Interior	877,468	766,188	0	21,835	65,647	7,020	16,429	348
Bureau of Indian Affairs	5,000	0	0	0	0	0	5,000	0
Bureau of Land Management	13,059	6,728	0	203	3,885	2,183	60	0
Bureau of Ocean Energy Management	71,666	55,800	0	6,718	4,036	3,867	1,027	218
Bureau of Reclamation	27,922	20,130	0	5,195	1,818	0	649	130
Bureau of Safety and Environmental Enforcement	15,003	1,870	0	8,757	4,376	0	0	0
Fish and Wildlife Service	44,411	44,411	0	0	0	0	0	0
Geological Survey	673,185	623,638	0	962	37,921	971	9,693	0
National Park Service	27,222	13,611	0	0	13,611	0	0	0
Department of Justice	124,365	3,485	0	25,160	53,506	41,612	602	0
Bureau of Prisons	1	1	0	0	0	0	0	0
Federal Bureau of Investigation	20,549	0	0	20,549	0	0	0	0
Office of Justice Programs	103,814	3,484	0	4,611	53,506	41,612	602	0
Department of Labor	4,066	2,936	0	1,130	0	0	0	0
Employee Benefits Security Administration	2,244	1,114	0	1,130	0	0	0	0
Occupational Safety and Health Administration	1,822	1,822	0	0	0	0	0	0
Department of State	40,000	40,000	0	0	0	0	0	0
Department of Transportation	960,304	209,027	7,434	291,174	293,911	42,058	114,226	2,473
Federal Aviation Administration	255,833	62,705	3,575	114,055	65,728	7,530	0	2,240
Federal Highway Administration	435,999	67,695	1,959	83,805	179,783	12,531	90,226	0
Federal Motor Carrier Safety Administration	12,000	5,000	1,500	4,000	0	1,500	0	0
Federal Railroad Administration	39,550	10,779	0	15,254	7,674	5,609	0	233
Federal Transit Administration	48,000	12,000	0	0	12,000	0	24,000	0
National Highway Traffic Safety Administration	95,500	0	0	58,307	25,225	11,968	0	0
Office of the Secretary of Transportation	51,443	45,279	0	6,164	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	21,979	5,569	400	9,590	3,500	2,920	0	0
Department of the Treasury	48,012	3,238	7,700	14,552	0	500	0	22,022
Bureau of Engraving and Printing	48,012	3,238	7,700	14,552	0	500	0	22,022
Department of Veterans Affairs	1,836,641	1,836,641	0	0	0	0	0	0
Other agencies								
Agency for Global Media	7,917	748	0	7,170	0	0	0	0

TABLE 22

Preliminary federal obligations for research, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Agency for International Development	152,853	18,441	0	8,296	32,549	30,635	0	62,932
Appalachian Regional Commission	827	0	0	435	0	392	0	0
Consumer Product Safety Commission	374	374	0	0	0	0	0	0
Environmental Protection Agency	444,513	222,552	0	141,044	64,930	15,986	0	0
Federal Trade Commission	10,465	10,465	0	0	0	0	0	0
Library of Congress	495	495	0	0	0	0	0	0
National Aeronautics and Space Administration	6,830,700	956,298	1,434,447	3,073,815	1,229,526	136,614	0	0
National Science Foundation	7,854,096	30,134	343,758	588,507	6,445,932	400,749	20,277	24,738
Nuclear Regulatory Commission	82,729	1,399	43,689	11,682	21,009	0	0	4,950
Patient-Centered Outcomes Research Trust Fund	560,397	0	0	0	0	560,397	0	0
Postal Service	13,620	0	0	13,620	0	0	0	0
RESTORE Act Centers of Excellence Research Grants Program	22,996	0	0	0	0	0	22,996	0
Smithsonian Institution	242,000	242,000	0	0	0	0	0	0
Social Security Administration	106,316	53,147	0	33,903	9,000	10,266	0	0
Tennessee Valley Authority	12,955	0	0	11,919	0	1,036	0	0

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 23

Federal obligations for research, by detailed field of R&D: FYs 2022–23

(Dollars in thousands)

Field	2022	2023 (preliminary)
All fields	93,807,126	99,480,903
Computer and information sciences	4,830,950	5,459,495
Geosciences, atmospheric sciences, and ocean sciences	5,565,684	6,711,960
Atmospheric science and meteorology	960,358	NA
Geological and earth sciences	621,825	NA
Ocean sciences and marine sciences	1,126,528	NA
Other geosciences, atmospheric sciences, and ocean sciences	2,856,972	NA
Life sciences	41,609,665	42,330,253
Agricultural sciences	1,267,942	NA
Biological and biomedical sciences	21,327,313	NA
Health sciences	14,706,573	NA
Natural resources and conservation	247,345	NA
Other life sciences	4,060,493	NA
Mathematics and statistics	904,053	928,920
Physical sciences	12,099,233	12,664,756
Astronomy and astrophysics	1,112,508	NA
Chemistry	2,014,370	NA
Materials science	533,427	NA
Physics	3,676,934	NA
Other physical sciences	4,761,994	NA
Psychology	4,587,769	4,880,104
Biological aspects	29,043	NA
Social aspects	48,189	NA
Other psychological sciences	4,510,537	NA
Social sciences	1,916,873	2,160,428
Anthropology	56,750	NA
Economics	245,314	NA
Political science and government	8,114	NA
Sociology, demography, and population studies	101,869	NA
Other social sciences	1,504,826	NA
Engineering	15,496,600	16,758,257
Aerospace, aeronautical, and astronautical engineering	2,391,391	NA
Bioengineering and biomedical engineering	148,465	NA
Chemical engineering	748,538	NA
Civil engineering	644,269	NA
Electrical, electronics, and communications engineering	872,079	NA
Industrial and manufacturing engineering	2,074,579	NA
Mechanical engineering	429,384	NA
Metallurgical and materials engineering	546,020	NA
Other engineering	7,641,875	NA
Other fields	6,796,301	7,586,730
Business management and business administration	105,617	NA
Communication and communications technologies	21,340	NA
Education research	1,063,331	NA
Humanities	1	NA
Law	6,229	NA
Social work	0	NA
Visual and performing arts	0	NA
All other fields	5,599,782	NA

NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 24

Federal obligations for research, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	93,807,126	4,830,950	5,565,684	41,609,665	904,053	12,099,233	4,587,769	1,916,873	15,496,600	6,796,301
Departments										
Department of Agriculture	2,860,100	19,399	24,172	2,256,782	8,816	133,362	10,632	192,417	108,014	106,506
Agricultural Marketing Service	9,865	0	0	9,865	0	0	0	0	0	0
Agricultural Research Service	1,485,517	1,931	6,536	1,364,744	0	95,370	0	3,565	13,370	0
Animal and Plant Health Inspection Service	23,598	0	0	23,598	0	0	0	0	0	0
Economic Research Service	87,794	0	0	0	0	0	0	87,794	0	0
Forest Service	245,837	0	4,980	189,548	0	6,467	0	35,687	9,155	0
National Agricultural Statistics Service	6,126	6,126	0	0	0	0	0	0	0	0
National Institute of Food and Agriculture	985,983	11,342	12,656	653,648	8,816	31,524	10,632	65,370	85,489	106,506
Natural Resources Conservation Service	15,379	0	0	15,379	0	0	0	0	0	0
Department of Commerce	1,689,980	248,546	624,857	91,477	12,909	282,550	0	87,589	325,010	17,041
Census Bureau	150,213	72,996	0	0	7,685	0	0	69,532	0	0
National Institute of Standards and Technology	780,207	171,527	10,153	34,468	5,023	254,588	0	796	303,652	0
National Oceanic and Atmospheric Administration	748,259	4,023	614,704	57,009	201	27,962	0	17,260	10,058	17,041
National Telecommunications and Information Administration	11,300	0	0	0	0	0	0	0	11,300	0
Department of Defense	10,165,798	1,814,420	546,911	937,656	109,971	418,127	103,715	47,072	4,864,353	1,323,572
Defense Advanced Research Projects Agency	1,798,258	994,693	94,937	256,577	5,188	60,419	17,241	14,435	326,379	28,389
Defense Health Agency	145,348	0	0	144,769	0	0	0	0	0	579
Department of the Air Force	2,925,568	55,457	0	17,961	6,260	60,131	402	2,454	2,353,740	429,163
Department of the Army	1,803,812	180,524	12,811	302,066	40,193	43,501	67,052	2,461	629,192	526,012
Department of the Navy	1,738,918	170,188	410,770	65,551	11,250	102,629	11,280	10,889	772,284	184,076
Space Force	175,192	0	0	0	0	0	0	0	175,192	0
Other defense agencies	1,578,702	413,558	28,393	150,734	47,080	151,446	7,741	16,833	607,566	155,351
Department of Education	299,085	0	0	0	0	0	0	0	0	299,085
Department of Energy	11,108,630	1,626,887	343,692	539,457	67,837	5,133,287	0	0	2,931,097	466,374
Advanced Research Projects Agency--Energy	201,482	6,122	823	10,697	0	23,559	0	0	160,281	0
Electricity Delivery and Energy Reliability	61,315	0	0	0	0	0	0	0	61,315	0
Energy Efficiency and Renewable Energy	678,802	0	0	0	0	0	0	0	678,802	0
Environmental Management	11,808	0	11,808	0	0	0	0	0	0	0
Fossil Energy	558,637	0	53,071	0	0	88,823	0	0	416,744	0

TABLE 24

Federal obligations for research, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Administrative Office of the U.S. Courts	1,443	1,443	0	0	0	0	0	0	0	0
Agency for Global Media	8,413	0	0	0	0	0	0	8,413	0	0
Agency for International Development	152,853	0	0	146,214	0	0	0	5,329	0	1,310
Appalachian Regional Commission	804	0	0	0	0	0	0	804	0	0
Consumer Product Safety Commission	165	0	0	0	0	0	0	0	165	0
Environmental Protection Agency	406,371	5,566	167,490	160,543	3,090	9,703	0	2,348	57,632	0
Federal Trade Commission	2,713	0	0	0	0	0	0	2,713	0	0
Library of Congress	512	0	0	0	0	512	0	0	0	0
National Aeronautics and Space Administration	7,304,822	0	1,740,610	100,254	0	3,569,584	0	0	1,847,442	46,931
National Science Foundation	6,896,067	961,874	1,034,143	792,464	267,961	1,326,313	33,174	186,317	1,051,629	1,242,194
Nuclear Regulatory Commission	61,399	372	0	0	0	0	0	0	61,027	0
Patient-Centered Outcomes Research Trust Fund	521,671	0	0	521,671	0	0	0	0	0	0
Postal Service	13,860	0	0	0	0	0	0	0	13,860	0
RESTORE Act Centers of Excellence Research Grants Program	6,960	0	0	0	0	0	0	0	0	6,960
Smithsonian Institution	227,400	0	24,650	74,230	0	42,360	0	25,420	47,500	13,240
Social Security Administration	78,704	0	0	0	0	0	0	78,704	0	0
Tennessee Valley Authority	11,752	0	0	0	0	0	0	0	11,752	0

* = amount greater than \$0 but less than \$500.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 25

Preliminary federal obligations for research, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	99,480,903	5,459,495	6,711,960	42,330,253	928,920	12,664,756	4,880,104	2,160,428	16,758,257	7,586,730
Departments										
Department of Agriculture	3,221,199	21,720	19,840	2,549,502	10,233	150,730	12,340	209,390	123,753	123,694
Agricultural Marketing Service	9,455	0	0	9,455	0	0	0	0	0	0
Agricultural Research Service	1,672,200	2,174	0	1,543,608	0	107,355	0	4,013	15,050	0
Animal and Plant Health Inspection Service	26,244	0	0	26,244	0	0	0	0	0	0
Economic Research Service	92,612	0	0	0	0	0	0	92,612	0	0
Forest Service	254,115	0	5,147	195,930	0	6,685	0	36,889	9,463	*
National Agricultural Statistics Service	6,376	6,376	0	0	0	0	0	0	0	0
National Institute of Food and Agriculture	1,144,522	13,170	14,693	758,764	10,233	36,590	12,340	75,875	99,240	123,619
Natural Resources Conservation Service	15,675	0	0	15,500	0	100	0	0	0	75
Department of Commerce	2,066,269	296,541	759,153	105,501	16,868	326,133	0	160,109	362,891	39,074
Census Bureau	222,038	74,195	0	0	8,432	0	0	139,410	0	0
National Institute of Standards and Technology	916,280	217,213	12,228	43,247	5,899	292,926	0	5,012	337,733	2,021
National Oceanic and Atmospheric Administration	915,351	5,132	746,924	62,254	2,536	33,207	0	15,687	12,558	37,052
National Telecommunications and Information Administration	12,600	0	0	0	0	0	0	0	12,600	0
Department of Defense	11,933,040	2,163,821	716,918	1,145,503	138,487	487,641	117,408	65,117	5,517,069	1,581,076
Defense Advanced Research Projects Agency	2,194,436	1,213,153	116,282	310,563	6,099	86,142	8,796	17,824	400,960	34,617
Defense Health Agency	178,268	0	0	175,075	0	0	0	0	3,025	168
Department of the Air Force	3,027,176	57,660	0	18,679	6,510	62,536	418	2,293	2,432,751	446,330
Department of the Army	2,396,124	237,220	16,816	398,516	53,492	53,276	89,189	2,973	859,061	685,582
Department of the Navy	2,354,530	233,425	562,712	62,211	15,411	140,592	15,452	14,917	1,057,645	252,165
Space Force	156,391	0	0	0	0	0	0	0	156,391	0
Other defense agencies	1,626,115	422,363	21,108	180,459	56,973	145,095	3,553	27,111	607,236	162,216
Department of Education	263,846	0	0	0	0	0	0	0	0	263,846
Department of Energy	12,309,129	1,724,667	387,342	611,152	17,898	5,715,656	0	0	3,367,954	484,460
Advanced Research Projects Agency--Energy	235,000	7,141	959	12,476	0	27,478	0	0	186,945	0
Electricity Delivery and Energy Reliability	74,880	0	0	0	0	0	0	0	74,880	0
Energy Efficiency and Renewable Energy	724,182	0	0	0	0	0	0	0	724,182	0
Environmental Management	14,190	0	14,190	0	0	0	0	0	0	0
Fossil Energy	938,163	0	89,125	0	0	149,168	0	0	699,870	0

TABLE 25

Preliminary federal obligations for research, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Department of the Interior	877,468	5,974	705,248	85,311	0	7,031	0	31,519	39,925	2,460
Bureau of Indian Affairs	5,000	0	0	5,000	0	0	0	0	0	0
Bureau of Land Management	13,059	0	0	13,059	0	0	0	0	0	0
Bureau of Ocean Energy Management	71,666	5,974	43,958	0	0	4,253	0	15,021	0	2,460
Bureau of Reclamation	27,922	0	0	0	0	0	0	0	27,922	0
Bureau of Safety and Environmental Enforcement	15,003	0	223	0	0	2,778	0	0	12,003	0
Fish and Wildlife Service	44,411	0	0	44,411	0	0	0	0	0	0
Geological Survey	673,185	0	661,068	12,117	0	0	0	0	0	0
National Park Service	27,222	0	0	10,724	0	0	0	16,498	0	0
Department of Justice	124,365	444	0	6,830	293	14,087	2,681	78,896	584	20,549
Bureau of Prisons	1	0	0	0	0	0	0	1	0	0
Federal Bureau of Investigation	20,549	0	0	0	0	0	0	0	0	20,549
Office of Justice Programs	103,814	444	0	6,830	293	14,087	2,681	78,894	584	0
Department of Labor	4,066	0	0	0	0	0	0	4,066	0	0
Employee Benefits Security Administration	2,244	0	0	0	0	0	0	2,244	0	0
Occupational Safety and Health Administration	1,822	0	0	0	0	0	0	1,822	0	0
Department of State	40,000	0	0	38,000	0	0	0	2,000	0	0
Department of Transportation	960,304	21,764	15,056	27,405	4,865	15,200	16,965	33,745	801,443	23,861
Federal Aviation Administration	255,833	12,570	15,056	7,621	4,865	0	16,965	0	178,805	19,952
Federal Highway Administration	435,999	0	0	0	0	0	0	0	435,999	0
Federal Motor Carrier Safety Administration	12,000	0	0	0	0	12,000	0	0	0	0
Federal Railroad Administration	39,550	0	0	0	0	0	0	0	39,550	0
Federal Transit Administration	48,000	3,000	0	0	0	0	0	15,000	28,000	2,000
National Highway Traffic Safety Administration	95,500	6,158	0	19,784	0	0	0	18,275	51,283	0
Office of the Secretary of Transportation	51,443	37	0	0	0	0	0	0	51,406	0
Pipeline and Hazardous Materials Safety Administration	21,979	0	0	0	0	3,200	0	470	16,400	1,909
Department of the Treasury	48,012	0	0	0	0	48,012	0	0	0	0
Bureau of Engraving and Printing	48,012	0	0	0	0	48,012	0	0	0	0
Department of Veterans Affairs	1,836,641	0	0	1,836,641	0	0	0	0	0	0
Other agencies										
Agency for Global Media	7,917	0	0	0	0	0	0	7,917	0	0

TABLE 25
Preliminary federal obligations for research, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Agency for International Development	152,853	0	0	146,214	0	0	0	5,329	0	1,310
Appalachian Regional Commission	827	0	0	0	0	0	0	827	0	0
Consumer Product Safety Commission	374	0	0	0	0	0	0	0	374	0
Environmental Protection Agency	444,513	6,088	183,210	175,611	3,380	10,614	0	2,568	63,041	0
Federal Trade Commission	10,465	0	0	0	0	10,465	0	0	0	0
Library of Congress	495	0	0	0	0	495	0	0	0	0
National Aeronautics and Space Administration	6,830,700	0	2,093,774	34,420	0	3,214,579	0	0	1,396,851	91,076
National Science Foundation	7,854,096	1,109,329	1,132,636	865,361	292,192	1,451,395	36,149	203,685	1,256,113	1,507,237
Nuclear Regulatory Commission	82,729	530	0	0	0	0	0	0	82,199	0
Patient-Centered Outcomes Research Trust Fund	560,397	0	0	560,397	0	0	0	0	0	0
Postal Service	13,620	0	0	0	0	0	0	0	13,620	0
RESTORE Act Centers of Excellence Research Grants Program	22,996	0	0	0	0	0	0	0	0	22,996
Smithsonian Institution	242,000	0	30,150	74,730	0	45,560	0	28,420	47,500	15,640
Social Security Administration	106,316	0	0	0	0	0	0	106,316	0	0
Tennessee Valley Authority	12,955	0	0	0	0	0	0	0	12,955	0

* = amount greater than \$0 but less than \$500.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 26

Federal obligations for basic research, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	45,392,702	7,819,749	6,730,777	3,857,770	22,260,098	3,981,842	543,639	198,828
Departments								
Department of Agriculture	1,417,114	812,842	0	17,883	554,375	23,228	5,677	3,110
Agricultural Research Service	825,287	695,942	0	0	115,150	11,098	45	3,051
Animal and Plant Health Inspection Service	23,598	16,367	0	0	7,231	0	0	0
Forest Service	85,255	79,502	0	250	3,012	156	2,300	35
National Institute of Food and Agriculture	468,236	6,406	0	17,633	428,868	11,974	3,332	23
Natural Resources Conservation Service	14,738	14,624	0	0	114	0	0	0
Department of Commerce	273,297	236,945	0	1,991	32,162	1,840	0	359
National Institute of Standards and Technology	273,297	236,945	0	1,991	32,162	1,840	0	359
Department of Defense	3,149,547	649,651	157,923	523,176	1,531,224	237,639	16,004	33,930
Defense Advanced Research Projects Agency	440,129	15,558	23,809	140,932	201,279	48,150	0	10,403
Defense Health Agency	10,713	779	258	1,823	1,743	6,110	0	0
Department of the Air Force	969,884	250,648	0	20,277	528,832	159,847	10,279	0
Department of the Army	513,592	104,741	373	138,492	249,573	13,153	0	7,260
Department of the Navy	661,985	217,775	968	31,445	382,598	9,404	5,725	14,071
Space Force	70,945	6,238	5,696	54,563	4,446	0	0	0
Other defense agencies	482,300	53,911	126,820	135,644	162,753	975	0	2,197
Department of Education	31,589	0	0	427	26,666	3,960	537	0
Department of Energy	6,107,867	200,262	4,473,639	368,620	1,000,966	33,923	29,913	544
Electricity Delivery and Energy Reliability	7,920	181	5,700	918	543	554	25	0
National Nuclear Security Administration	121,426	1,868	101,178	3,380	15,000	0	0	0
Office of Defense Nuclear Nonproliferation	121,426	1,868	101,178	3,380	15,000	0	0	0
Office of Cybersecurity, Energy Security, and Emergency Response	5,126	0	2,202	0	2,924	0	0	0
Office of Science	5,973,395	198,213	4,364,560	364,322	982,499	33,369	29,888	544
Department of Health and Human Services	22,410,508	4,193,698	361,018	1,196,472	12,842,865	3,213,516	472,125	130,814
Centers for Disease Control and Prevention	89,675	34,922	0	1,905	37,609	4,061	9,896	1,281
Centers for Medicare and Medicaid Services	419,105	0	0	8,163	2,081	8,395	400,466	0
Health Resources and Services Administration	2,455	850	0	1,605	0	0	0	0
National Institutes of Health	21,899,274	4,157,926	361,018	1,184,799	12,803,175	3,201,060	61,763	129,534
Department of Homeland Security	69,204	5,572	15,320	36,589	11,665	58	0	0

TABLE 26

Federal obligations for basic research, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				Non-U.S. performers
		Federal agencies ^a	FFRDCs	United States and U.S. territories				
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Countering Weapons of Mass Destruction Office	8,720	0	0	4,000	4,720	0	0	0
Science and Technology Directorate	60,235	5,322	15,320	32,589	6,946	58	0	0
Secret Service	250	250	0	0	0	0	0	0
Department of the Interior	93,945	86,720	0	417	5,570	312	925	0
Bureau of Land Management	2,004	677	0	125	990	131	81	0
Bureau of Safety and Environmental Enforcement	1,286	567	0	170	549	0	0	0
Geological Survey	90,655	85,476	0	122	4,031	181	844	0
Department of Justice	16,931	4,318	0	480	7,221	4,913	0	0
Office of Justice Programs	16,931	4,318	0	480	7,221	4,913	0	0
Department of State	7,000	7,000	0	0	0	0	0	0
Department of Transportation	2,117	997	445	675	0	0	0	0
Office of the Secretary of Transportation	21	21	0	0	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	2,096	976	445	675	0	0	0	0
Department of Veterans Affairs	665,094	665,094	0	0	0	0	0	0
Other agencies								
National Aeronautics and Space Administration	5,057,913	702,660	1,406,932	1,422,072	1,305,903	202,600	5,486	12,260
National Science Foundation	5,863,175	26,592	315,499	288,967	4,941,482	259,852	12,973	17,810
Smithsonian Institution	227,400	227,400	0	0	0	0	0	0

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 27

Preliminary federal obligations for basic research, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	48,467,014	8,377,974	7,904,213	4,560,136	22,750,751	4,114,384	555,443	204,113
Departments								
Department of Agriculture	1,602,692	955,545	0	20,674	595,848	22,392	5,904	2,329
Agricultural Research Service	929,000	831,944	0	0	86,363	8,371	34	2,289
Animal and Plant Health Inspection Service	26,244	18,697	0	0	7,547	0	0	0
Forest Service	88,125	81,792	0	200	4,000	120	2,000	13
National Institute of Food and Agriculture	543,648	7,437	0	20,474	497,938	13,901	3,871	27
Natural Resources Conservation Service	15,675	15,675	0	0	0	0	0	0
Department of Commerce	311,154	269,766	0	2,204	36,751	2,037	0	397
National Institute of Standards and Technology	311,154	269,766	0	2,204	36,751	2,037	0	397
Department of Defense	3,541,126	736,715	165,950	542,380	1,769,317	265,251	18,533	42,981
Defense Advanced Research Projects Agency	517,425	18,290	27,990	165,682	236,628	56,606	0	12,229
Defense Health Agency	13,518	1,975	*	2,558	2,022	6,963	0	0
Department of the Air Force	994,200	260,674	0	23,569	535,250	164,018	10,690	0
Department of the Army	620,430	126,530	451	167,301	301,489	15,890	0	8,770
Department of the Navy	879,264	270,742	1,326	43,077	524,119	12,882	7,843	19,276
Space Force	55,037	3,940	3,640	47,457	0	0	0	0
Other defense agencies	461,252	54,564	132,543	92,736	169,810	8,893	0	2,706
Department of Education	27,867	0	0	376	23,524	3,494	473	0
Department of Energy	6,523,381	116,176	5,926,213	82,380	351,191	16,563	30,859	0
Electricity Delivery and Energy Reliability	12,530	287	9,017	1,452	860	876	39	0
National Nuclear Security Administration	123,694	0	101,291	2,903	19,500	0	0	0
Office of Defense Nuclear Nonproliferation	123,694	0	101,291	2,903	19,500	0	0	0
Office of Cybersecurity, Energy Security, and Emergency Response	12,320	0	9,058	0	3,262	0	0	0
Office of Science	6,374,837	115,889	5,806,847	78,025	327,569	15,687	30,820	0
Department of Health and Human Services	23,787,817	4,452,351	383,696	1,269,386	13,645,237	3,413,807	484,339	139,001
Centers for Disease Control and Prevention	82,950	32,386	0	230	35,680	3,103	10,221	1,330
Centers for Medicare and Medicaid Services	427,487	0	0	8,326	2,123	8,563	408,475	0
Health Resources and Services Administration	2,455	850	0	1,605	0	0	0	0
National Institutes of Health	23,274,924	4,419,115	383,696	1,259,224	13,607,434	3,402,141	65,643	137,671
Department of Homeland Security	69,501	5,450	15,310	35,500	13,184	57	0	0

TABLE 27

Preliminary federal obligations for basic research, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Countering Weapons of Mass Destruction Office	9,251	0	0	3,000	6,251	0	0	0
Science and Technology Directorate	60,000	5,200	15,310	32,500	6,933	57	0	0
Secret Service	250	250	0	0	0	0	0	0
Department of the Interior	101,215	92,884	0	287	6,390	454	1,201	0
Bureau of Land Management	1,587	614	0	0	716	258	0	0
Bureau of Safety and Environmental Enforcement	1,000	441	0	132	427	0	0	0
Geological Survey	98,628	91,829	0	155	5,247	196	1,201	0
Department of Justice	15,615	1,741	0	527	7,943	5,404	0	0
Office of Justice Programs	15,615	1,741	0	527	7,943	5,404	0	0
Department of State	2,000	2,000	0	0	0	0	0	0
Department of Transportation	3,753	1,153	400	1,100	1,100	0	0	0
Office of the Secretary of Transportation	37	37	0	0	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	3,716	1,116	400	1,100	1,100	0	0	0
Department of Veterans Affairs	760,629	760,629	0	0	0	0	0	0
Other agencies								
National Aeronautics and Space Administration	5,089,938	712,591	1,068,887	2,290,472	916,189	101,799	0	0
National Science Foundation	6,388,325	28,973	343,758	314,849	5,384,078	283,127	14,134	19,405
Smithsonian Institution	242,000	242,000	0	0	0	0	0	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**Because of rounding, detail may not add to total. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.**Source(s):**

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 28

Federal obligations for basic research, by detailed field of R&D: FYs 2022–23

(Dollars in thousands)

Field	2022	2023 (preliminary)
All fields	45,392,702	48,467,014
Computer and information sciences	2,297,975	2,430,647
Geosciences, atmospheric sciences, and ocean sciences	3,441,026	3,991,137
Atmospheric science and meteorology	557,055	NA
Geological and earth sciences	301,619	NA
Ocean sciences and marine sciences	518,836	NA
Other geosciences, atmospheric sciences, and ocean sciences	2,063,516	NA
Life sciences	19,051,906	20,388,014
Agricultural sciences	648,071	NA
Biological and biomedical sciences	9,780,292	NA
Health sciences	6,611,208	NA
Natural resources and conservation	44,034	NA
Other life sciences	1,968,301	NA
Mathematics and statistics	608,303	615,566
Physical sciences	9,449,069	9,750,710
Astronomy and astrophysics	1,112,416	NA
Chemistry	1,259,787	NA
Materials science	354,766	NA
Physics	2,657,930	NA
Other physical sciences	4,064,171	NA
Psychology	2,287,935	2,433,629
Biological aspects	18,240	NA
Social aspects	13,872	NA
Other psychological sciences	2,255,823	NA
Social sciences	765,995	822,119
Anthropology	36,142	NA
Economics	58,014	NA
Political science and government	126	NA
Sociology, demography, and population studies	33,158	NA
Other social sciences	638,555	NA
Engineering	3,738,817	3,923,050
Aerospace, aeronautical, and astronautical engineering	292,696	NA
Bioengineering and biomedical engineering	84,152	NA
Chemical engineering	124,326	NA
Civil engineering	70,467	NA
Electrical, electronics, and communications engineering	211,045	NA
Industrial and manufacturing engineering	45,372	NA
Mechanical engineering	134,990	NA
Metallurgical and materials engineering	201,087	NA
Other engineering	2,574,682	NA
Other fields	3,751,677	4,112,141
Business management and business administration	26,968	NA
Communication and communications technologies	515	NA
Education research	356,719	NA
Humanities	1	NA
Law	6,135	NA
Social work	0	NA
Visual and performing arts	0	NA
All other fields	3,361,340	NA

NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 29

Federal obligations for basic research, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	45,392,702	2,297,975	3,441,026	19,051,906	608,303	9,449,069	2,287,935	765,995	3,738,817	3,751,677
Departments										
Department of Agriculture	1,417,114	7,031	11,619	1,198,472	3,343	73,097	311	33,980	54,998	34,263
Agricultural Research Service	825,287	1,073	3,631	758,191	0	52,983	0	1,981	7,428	0
Animal and Plant Health Inspection Service	23,598	0	0	23,598	0	0	0	0	0	0
Forest Service	85,255	0	2,687	65,152	0	3,610	0	9,701	4,104	0
National Institute of Food and Agriculture	468,236	5,958	5,300	336,793	3,343	16,503	311	22,299	43,466	34,263
Natural Resources Conservation Service	14,738	0	0	14,738	0	0	0	0	0	0
Department of Commerce	273,297	11,617	1,000	14,202	4,034	199,003	0	0	43,442	0
National Institute of Standards and Technology	273,297	11,617	1,000	14,202	4,034	199,003	0	0	43,442	0
Department of Defense	3,149,547	471,897	171,672	299,038	70,378	194,370	38,702	26,950	1,034,268	842,272
Defense Advanced Research Projects Agency	440,129	254,990	15,976	105,736	5,188	11,273	4,887	0	34,674	7,406
Defense Health Agency	10,713	0	0	10,713	0	0	0	0	0	0
Department of the Air Force	969,884	29,162	0	9,326	6,142	44,200	401	2,452	457,642	420,558
Department of the Army	513,592	66,744	4,851	102,281	10,843	39,188	18,381	2,461	40,883	227,960
Department of the Navy	661,985	47,081	134,285	42,994	11,250	60,246	8,489	6,248	204,400	146,993
Space Force	70,945	0	0	0	0	0	0	0	70,945	0
Other defense agencies	482,300	73,920	16,561	27,988	36,954	39,463	6,544	15,789	225,725	39,355
Department of Education	31,589	0	0	0	0	0	0	0	0	31,589
Department of Energy	6,107,867	1,012,161	272,035	527,670	53,106	3,741,232	0	0	40,103	461,560
Electricity Delivery and Energy Reliability	7,920	0	0	0	0	0	0	0	7,920	0
National Nuclear Security Administration	121,426	1,537	2,445	983	4,862	105,108	0	0	491	6,000
Office of Defense Nuclear Nonproliferation	121,426	1,537	2,445	983	4,862	105,108	0	0	491	6,000
Office of Cybersecurity, Energy Security, and Emergency Response	5,126	5,126	0	0	0	0	0	0	0	0
Office of Science	5,973,395	1,005,499	269,590	526,687	48,244	3,636,124	0	0	31,691	455,560
Department of Health and Human Services	22,410,508	2,403	300,648	15,404,442	210,184	534,395	2,214,757	472,698	1,701,044	1,569,937

TABLE 29

Federal obligations for basic research, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Centers for Disease Control and Prevention	89,675	2,403	0	58,077	87	1,646	408	84	11,620	15,349
Centers for Medicare and Medicaid Services	419,105	0	0	419,105	0	0	0	0	0	0
Health Resources and Services Administration	2,455	0	0	2,455	0	0	0	0	0	0
National Institutes of Health	21,899,274	0	300,648	14,924,805	210,097	532,749	2,214,349	472,614	1,689,424	1,554,588
Department of Homeland Security	69,204	17,003	10,007	2,118	0	5,358	0	0	25,707	9,010
Countering Weapons of Mass Destruction Office	8,720	1,919	0	1,500	0	5,301	0	0	0	0
Science and Technology Directorate	60,235	14,834	10,007	618	0	58	0	0	25,707	9,010
Secret Service	250	250	0	0	0	0	0	0	0	0
Department of the Interior	93,945	0	58,354	34,386	0	748	0	0	458	0
Bureau of Land Management	2,004	0	0	2,004	0	0	0	0	0	0
Bureau of Safety and Environmental Enforcement	1,286	0	81	0	0	748	0	0	458	0
Geological Survey	90,655	0	58,273	32,382	0	0	0	0	0	0
Department of Justice	16,931	0	0	0	0	500	1,000	15,431	0	0
Office of Justice Programs	16,931	0	0	0	0	500	1,000	15,431	0	0
Department of State	7,000	0	0	0	0	0	0	7,000	0	0
Department of Transportation	2,117	21	0	0	0	445	0	265	840	546
Office of the Secretary of Transportation	21	21	0	0	0	0	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	2,096	0	0	0	0	445	0	265	840	546
Department of Veterans Affairs	665,094	0	0	665,094	0	0	0	0	0	0
Other agencies										
National Aeronautics and Space Administration	5,057,913	0	1,574,702	45,611	0	3,350,331	0	0	73,525	13,744
National Science Foundation	5,863,175	775,841	1,016,339	786,642	267,259	1,307,231	33,164	184,250	716,932	775,516
Smithsonian Institution	227,400	0	24,650	74,230	0	42,360	0	25,420	47,500	13,240

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 30

Preliminary federal obligations for basic research, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	48,467,014	2,430,647	3,991,137	20,388,014	615,566	9,750,710	2,433,629	822,119	3,923,050	4,112,141
Departments										
Department of Agriculture	1,602,692	8,128	8,932	1,357,684	3,882	82,632	364	38,146	63,070	39,854
Agricultural Research Service	929,000	1,208	0	857,560	0	59,642	0	2,230	8,361	0
Animal and Plant Health Inspection Service	26,244	0	0	26,244	0	0	0	0	0	0
Forest Service	88,125	0	2,778	67,345	0	3,732	0	10,027	4,243	*
National Institute of Food and Agriculture	543,648	6,921	6,154	391,035	3,882	19,158	364	25,889	50,467	39,779
Natural Resources Conservation Service	15,675	0	0	15,500	0	100	0	0	0	75
Department of Commerce	311,154	14,750	2,034	16,871	4,797	222,673	0	0	50,029	0
National Institute of Standards and Technology	311,154	14,750	2,034	16,871	4,797	222,673	0	0	50,029	0
Department of Defense	3,541,126	569,795	223,156	335,984	87,693	221,825	42,157	36,063	1,062,267	962,187
Defense Advanced Research Projects Agency	517,425	299,771	18,781	124,305	6,099	13,252	5,746	0	40,763	8,707
Defense Health Agency	13,518	0	0	13,121	0	0	0	0	397	0
Department of the Air Force	994,200	30,329	0	9,699	6,388	45,968	417	2,290	461,729	437,380
Department of the Army	620,430	80,628	5,860	123,558	13,099	47,340	22,205	2,973	49,388	275,380
Department of the Navy	879,264	64,496	183,956	31,310	15,411	82,530	11,629	8,559	280,006	201,365
Space Force	55,037	0	0	0	0	0	0	0	55,037	0
Other defense agencies	461,252	94,571	14,559	33,990	46,695	32,735	2,161	22,241	174,947	39,355
Department of Education	27,867	0	0	0	0	0	0	0	0	27,867
Department of Energy	6,523,381	975,405	279,003	598,676	4,703	4,168,214	0	0	12,920	484,460
Electricity Delivery and Energy Reliability	12,530	0	0	0	0	0	0	0	12,530	0
National Nuclear Security Administration	123,694	2,085	1,958	0	4,703	109,308	0	0	390	5,250
Office of Defense Nuclear Nonproliferation	123,694	2,085	1,958	0	4,703	109,308	0	0	390	5,250
Office of Cybersecurity, Energy Security, and Emergency Response	12,320	12,320	0	0	0	0	0	0	0	0
Office of Science	6,374,837	961,000	277,045	598,676	0	4,058,906	0	0	0	479,210
Department of Health and Human Services	23,787,817	0	320,188	16,345,958	223,295	568,352	2,353,873	502,303	1,806,471	1,667,377

TABLE 30

Preliminary federal obligations for basic research, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Centers for Disease Control and Prevention	82,950	0	654	53,676	0	2,138	425	0	10,922	15,135
Centers for Medicare and Medicaid Services	427,487	0	0	427,487	0	0	0	0	0	0
Health Resources and Services Administration	2,455	0	0	2,455	0	0	0	0	0	0
National Institutes of Health	23,274,924	0	319,534	15,862,339	223,295	566,214	2,353,448	502,303	1,795,549	1,652,242
Department of Homeland Security	69,501	17,201	10,000	2,600	0	5,057	0	0	25,643	9,000
Countering Weapons of Mass Destruction Office	9,251	2,251	0	2,000	0	5,000	0	0	0	0
Science and Technology Directorate	60,000	14,700	10,000	600	0	57	0	0	25,643	9,000
Secret Service	250	250	0	0	0	0	0	0	0	0
Department of the Interior	101,215	0	96,915	3,362	0	581	0	0	356	0
Bureau of Land Management	1,587	0	0	1,587	0	0	0	0	0	0
Bureau of Safety and Environmental Enforcement	1,000	0	63	0	0	581	0	0	356	0
Geological Survey	98,628	0	96,853	1,775	0	0	0	0	0	0
Department of Justice	15,615	0	0	0	0	550	1,100	13,965	0	0
Office of Justice Programs	15,615	0	0	0	0	550	1,100	13,965	0	0
Department of State	2,000	0	0	0	0	0	0	2,000	0	0
Department of Transportation	3,753	37	0	0	0	1,000	0	470	1,700	546
Office of the Secretary of Transportation	37	37	0	0	0	0	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	3,716	0	0	0	0	1,000	0	470	1,700	546
Department of Veterans Affairs	760,629	0	0	760,629	0	0	0	0	0	0
Other agencies										
National Aeronautics and Space Administration	5,089,938	0	1,913,388	34,420	0	3,009,949	0	0	71,949	60,232
National Science Foundation	6,388,325	845,331	1,107,370	857,100	291,196	1,424,316	36,135	200,753	781,146	844,977
Smithsonian Institution	242,000	0	30,150	74,730	0	45,560	0	28,420	47,500	15,640

* = amount greater than \$0 but less than \$500.

Note(s):Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 31

Federal obligations for applied research, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	48,414,424	12,831,123	4,402,075	8,821,535	16,808,860	4,815,617	318,751	416,463
Departments								
Department of Agriculture	1,442,986	790,232	0	17,784	602,498	25,656	4,116	2,700
Agricultural Marketing Service	9,865	9,865	0	0	0	0	0	0
Agricultural Research Service	660,230	556,754	0	0	92,120	8,879	36	2,441
Economic Research Service	87,794	78,038	0	0	5,166	4,590	0	0
Forest Service	160,583	133,647	0	1,114	20,762	2,412	2,416	232
National Agricultural Statistics Service	6,126	5,729	0	0	54	343	0	0
National Institute of Food and Agriculture	517,747	6,199	0	16,670	483,754	9,432	1,665	27
Natural Resources Conservation Service	642	0	0	0	642	0	0	0
Department of Commerce	1,416,683	1,022,823	18,615	54,197	300,880	16,721	1,770	1,677
Census Bureau	150,213	150,213	0	0	0	0	0	0
National Institute of Standards and Technology	506,911	419,118	13,058	30,567	40,120	2,167	206	1,674
National Oceanic and Atmospheric Administration	748,259	442,192	5,557	23,630	260,759	14,554	1,563	4
National Telecommunications and Information Administration	11,300	11,300	0	0	0	0	0	0
Department of Defense	7,016,251	3,094,419	708,163	1,949,023	947,167	288,117	1,417	27,944
Defense Advanced Research Projects Agency	1,358,129	82,729	76,236	782,537	310,374	95,275	450	10,527
Defense Health Agency	134,635	25,189	1,549	30,051	34,264	36,955	0	6,627
Department of the Air Force	1,955,684	1,802,710	47,324	10,933	57,316	37,388	12	0
Department of the Army	1,290,220	457,720	8,191	639,348	148,579	33,856	0	2,526
Department of the Navy	1,076,932	377,777	18,538	272,462	347,537	51,410	955	8,254
Space Force	104,248	98,646	5,602	0	0	0	0	0
Other defense agencies	1,096,402	249,649	550,723	213,692	49,096	33,233	0	10
Department of Education	267,496	0	0	20,167	121,735	92,533	33,061	0
Department of Energy	5,000,763	643,554	3,112,924	843,202	318,128	78,355	3,154	1,446
Advanced Research Projects Agency—Energy	201,482	937	24,650	94,950	73,287	7,659	0	0
Electricity Delivery and Energy Reliability	53,394	1,223	38,422	6,188	3,663	3,732	166	0
Energy Efficiency and Renewable Energy	678,802	6,534	420,293	128,772	88,000	33,552	1,650	0
Environmental Management	11,808	0	9,601	2,124	0	83	0	0
Fossil Energy	558,637	362,570	85,349	0	80,418	28,708	1,143	449
National Nuclear Security Administration	2,672,387	234,957	2,043,413	384,161	9,857	0	0	0
Defense Programs	2,336,964	232,777	1,910,517	183,863	9,807	0	0	0

TABLE 31

Federal obligations for applied research, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Naval Nuclear Propulsion Program	191,110	0	1,650	189,460	0	0	0	0
Office of Defense Nuclear Nonproliferation	144,313	2,180	131,245	10,838	50	0	0	0
Nuclear Energy	657,246	37,333	484,214	76,251	53,634	4,622	196	997
Office of Cybersecurity, Energy Security, and Emergency Response	16,251	0	6,982	0	9,270	0	0	0
Office of Science	150,755	0	0	150,755	0	0	0	0
Department of Health and Human Services	25,860,920	4,591,790	358,141	3,768,616	13,259,050	3,512,354	86,050	284,920
Administration for Children and Families	5,228	365	0	0	1,800	3,063	0	0
Administration for Community Living	106,731	0	0	4,898	77,027	24,338	468	0
Agency for Healthcare Research and Quality	314,345	46,928	0	133,403	103,809	30,110	95	0
Agency for Toxic Substances and Disease Registry	11,777	0	0	0	7,529	2,500	1,250	498
Biomedical Advanced Research and Development Authority	2,644,021	0	0	2,322,179	46,050	154,611	0	121,181
Centers for Disease Control and Prevention	460,691	55,771	0	93,281	208,955	55,503	20,147	27,035
Food and Drug Administration	560,910	396,452	0	14,100	82,155	57,680	2,819	7,704
Health Resources and Services Administration	32,429	1,467	0	0	30,121	841	0	0
National Institutes of Health	21,689,271	4,089,288	358,141	1,175,358	12,701,157	3,175,553	61,271	128,502
Office of the Secretary of Health and Human Services	35,517	1,519	0	25,397	447	8,155	0	0
Office of the Assistant Secretary for Planning and Evaluation	35,517	1,519	0	25,397	447	8,155	0	0
Department of Homeland Security	258,612	96,580	21,387	125,571	6,609	6,176	162	2,127
Coast Guard	2,243	0	0	2,243	0	0	0	0
Countering Weapons of Mass Destruction Office	26,159	7,000	7,001	10,600	0	0	0	1,558
Cybersecurity and Infrastructure Security Agency	3,440	1,342	0	0	0	2,098	0	0
Science and Technology Directorate	226,771	88,238	14,387	112,728	6,609	4,078	162	569
Transportation Security Administration	*	0	0	*	0	0	0	0
Department of the Interior	691,384	611,830	0	13,981	46,612	5,065	13,238	657
Bureau of Indian Affairs	5,000	0	0	0	0	0	5,000	0
Bureau of Land Management	8,579	3,057	0	117	4,347	940	118	0

TABLE 31

Federal obligations for applied research, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Bureau of Ocean Energy Management	66,305	42,651	0	7,604	9,798	3,149	2,517	585
Bureau of Reclamation	17,705	13,257	0	3,100	1,128	0	148	72
Bureau of Safety and Environmental Enforcement	4,770	1,512	0	2,655	461	142	0	0
Fish and Wildlife Service	35,000	35,000	0	0	0	0	0	0
Geological Survey	526,802	499,641	0	505	20,486	715	5,455	0
National Park Service	27,222	16,712	0	0	10,391	119	0	0
Department of Justice	86,014	3,180	0	11,745	35,225	35,316	547	0
Bureau of Prisons	2	2	0	0	0	0	0	0
Federal Bureau of Investigation	8,887	49	0	7,488	1,350	0	0	0
Office of Justice Programs	77,125	3,130	0	4,257	33,875	35,316	547	0
Department of Labor	3,698	2,689	0	1,009	0	0	0	0
Employee Benefits Security Administration	1,910	901	0	1,009	0	0	0	0
Occupational Safety and Health Administration	1,788	1,788	0	0	0	0	0	0
Department of State	38,000	38,000	0	0	0	0	0	0
Department of Transportation	806,251	180,036	7,150	282,258	116,220	54,077	163,452	3,059
Federal Aviation Administration	260,969	63,964	3,647	117,017	67,047	6,584	425	2,285
Federal Highway Administration	341,879	65,577	1,878	77,556	11,141	26,785	158,942	0
Federal Motor Carrier Safety Administration	21,154	6,634	1,625	11,484	0	1,411	0	0
Federal Railroad Administration	32,291	8,381	0	12,176	6,526	4,435	0	773
Federal Transit Administration	11,909	5,950	0	0	1,875	0	4,084	0
National Highway Traffic Safety Administration	91,739	0	0	55,559	24,237	11,942	0	0
Office of the Secretary of Transportation	24,368	22,099	0	2,269	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	21,942	7,431	0	6,197	5,394	2,920	0	0
Department of the Treasury	37,082	2,500	8,850	10,786	0	510	0	14,436
Bureau of Engraving and Printing	37,082	2,500	8,850	10,786	0	510	0	14,436
Department of Veterans Affairs	940,865	940,865	0	0	0	0	0	0
Other agencies								
Administrative Office of the U.S. Courts	1,443	0	1,443	0	0	0	0	0
Agency for Global Media	8,413	791	0	7,622	0	0	0	0
Agency for International Development	152,853	18,441	0	8,296	32,549	30,635	0	62,932

TABLE 31

Federal obligations for applied research, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Appalachian Regional Commission	804	0	0	445	162	197	0	0
Consumer Product Safety Commission	165	165	0	0	0	0	0	0
Environmental Protection Agency	406,371	211,102	1,118	136,557	46,217	11,378	0	0
Federal Trade Commission	2,713	2,713	0	0	0	0	0	0
Library of Congress	512	512	0	0	0	0	0	0
National Aeronautics and Space Administration	2,246,909	529,581	131,860	1,325,847	208,129	43,982	495	7,014
National Science Foundation	1,032,892	818	0	192,840	748,262	82,886	4,329	3,758
Nuclear Regulatory Commission	61,399	1,038	32,425	7,917	15,592	753	0	3,674
Patient-Centered Outcomes Research Trust Fund	521,671	0	0	0	0	521,671	0	0
Postal Service	13,860	0	0	13,860	0	0	0	0
RESTORE Act Centers of Excellence Research Grants Program	6,960	0	0	0	0	0	6,960	0
Social Security Administration	78,704	47,465	0	20,763	3,825	6,532	0	119
Tennessee Valley Authority	11,752	0	0	9,049	0	2,703	0	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.**Source(s):**

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 32

Preliminary federal obligations for applied research, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	51,013,890	14,535,212	4,961,257	6,981,716	18,778,346	5,142,711	294,414	320,234
Departments								
Department of Agriculture	1,618,507	909,475	0	19,598	659,926	22,963	4,462	2,083
Agricultural Marketing Service	9,455	9,443	0	0	12	0	0	0
Agricultural Research Service	743,200	665,555	0	0	69,090	6,697	27	1,831
Economic Research Service	92,612	86,001	0	0	4,309	2,301	0	0
Forest Service	165,989	135,319	0	250	25,000	2,698	2,500	222
National Agricultural Statistics Service	6,376	5,963	0	0	94	319	0	0
National Institute of Food and Agriculture	600,874	7,192	0	19,348	561,421	10,948	1,935	30
Department of Commerce	1,755,115	1,255,878	18,971	55,590	398,647	22,908	2,354	767
Census Bureau	222,038	222,038	0	0	0	0	0	0
National Institute of Standards and Technology	605,126	511,691	13,257	30,206	41,487	7,493	230	762
National Oceanic and Atmospheric Administration	915,351	509,549	5,714	25,384	357,161	15,415	2,125	4
National Telecommunications and Information Administration	12,600	12,600	0	0	0	0	0	0
Department of Defense	8,391,914	3,523,532	762,986	2,506,593	1,211,311	350,134	1,876	35,481
Defense Advanced Research Projects Agency	1,677,011	102,153	94,136	966,273	383,248	117,646	556	12,998
Defense Health Agency	164,749	43,741	2,364	32,475	34,033	44,449	0	7,687
Department of the Air Force	2,032,976	1,874,818	48,584	12,024	60,483	37,054	13	0
Department of the Army	1,775,695	629,947	11,272	879,918	204,486	46,596	0	3,477
Department of the Navy	1,475,266	517,123	25,395	373,617	476,090	70,426	1,308	11,307
Space Force	101,354	93,342	8,012	0	0	0	0	0
Other defense agencies	1,164,863	262,408	573,223	242,286	52,970	33,964	0	11
Department of Education	235,979	0	0	17,791	107,392	82,372	28,425	0
Department of Energy	5,785,748	1,201,434	3,353,820	699,648	415,090	111,552	2,265	1,939
Advanced Research Projects Agency—Energy	235,000	1,092	28,750	110,746	85,479	8,933	0	0
Electricity Delivery and Energy Reliability	62,350	1,428	44,867	7,226	4,277	4,358	193	0
Energy Efficiency and Renewable Energy	724,182	6,971	448,391	137,381	83,683	45,994	1,761	0
Environmental Management	14,190	0	11,494	2,554	0	142	0	0
Fossil Energy	938,163	729,761	90,939	0	79,678	37,193	39	553
National Nuclear Security Administration	2,864,740	410,267	2,031,654	335,707	78,607	8,505	0	0
Defense Programs	2,554,182	408,708	1,872,495	186,416	78,057	8,505	0	0
Naval Nuclear Propulsion Program	141,400	0	980	140,420	0	0	0	0

TABLE 32

Preliminary federal obligations for applied research, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Office of Defense Nuclear Nonproliferation	169,158	1,559	158,179	8,871	550	0	0	0
Nuclear Energy	913,953	51,915	673,337	106,033	74,583	6,427	272	1,386
Office of Cybersecurity, Energy Security, and Emergency Response	33,170	0	24,387	0	8,783	0	0	0
Department of Health and Human Services	25,426,706	5,037,427	381,497	1,963,248	14,074,493	3,693,028	95,674	181,338
Administration for Children and Families	9,405	35	0	0	1,820	7,550	0	0
Administration for Community Living	112,862	0	0	3,299	89,109	20,022	432	0
Agency for Healthcare Research and Quality	337,445	46,928	0	144,403	115,908	30,111	95	0
Agency for Toxic Substances and Disease Registry	11,777	0	0	0	7,529	2,500	1,250	498
Biomedical Advanced Research and Development Authority	817,834	143,362	0	483,869	41,760	136,694	0	12,148
Centers for Disease Control and Prevention	360,652	50,072	624	37,946	177,498	45,556	25,572	23,384
Food and Drug Administration	629,764	445,118	0	15,831	92,240	64,760	3,165	8,650
Health Resources and Services Administration	43,043	1,445	0	768	40,830	0	0	0
National Institutes of Health	23,065,925	4,348,842	380,873	1,249,960	13,507,321	3,377,111	65,160	136,658
Office of the Secretary of Health and Human Services	38,000	1,625	0	27,172	478	8,725	0	0
Office of the Assistant Secretary for Planning and Evaluation	38,000	1,625	0	27,172	478	8,725	0	0
Department of Homeland Security	169,286	51,868	20,000	82,243	11,175	3,271	161	568
Coast Guard	2,243	0	0	2,243	0	0	0	0
Countering Weapons of Mass Destruction Office	29,753	5,000	9,000	10,000	5,753	0	0	0
Cybersecurity and Infrastructure Security Agency	4,290	3,868	0	0	422	0	0	0
Science and Technology Directorate	133,000	43,000	11,000	70,000	5,000	3,271	161	568
Department of the Interior	776,253	673,305	0	21,548	59,257	6,567	15,229	348
Bureau of Indian Affairs	5,000	0	0	0	0	0	5,000	0
Bureau of Land Management	11,472	6,115	0	203	3,169	1,925	60	0
Bureau of Ocean Energy Management	71,666	55,800	0	6,718	4,036	3,867	1,027	218
Bureau of Reclamation	27,922	20,130	0	5,195	1,818	0	649	130

TABLE 32

Preliminary federal obligations for applied research, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Bureau of Safety and Environmental Enforcement	14,003	1,430	0	8,624	3,949	0	0	0
Fish and Wildlife Service	44,411	44,411	0	0	0	0	0	0
Geological Survey	574,557	531,809	0	808	32,674	774	8,493	0
National Park Service	27,222	13,611	0	0	13,611	0	0	0
Department of Justice	108,750	1,744	0	24,633	45,563	36,208	602	0
Bureau of Prisons	1	1	0	0	0	0	0	0
Federal Bureau of Investigation	20,549	0	0	20,549	0	0	0	0
Office of Justice Programs	88,199	1,743	0	4,084	45,563	36,208	602	0
Department of Labor	4,066	2,936	0	1,130	0	0	0	0
Employee Benefits Security Administration	2,244	1,114	0	1,130	0	0	0	0
Occupational Safety and Health Administration	1,822	1,822	0	0	0	0	0	0
Department of State	38,000	38,000	0	0	0	0	0	0
Department of Transportation	956,551	207,874	7,034	290,074	292,811	42,058	114,226	2,473
Federal Aviation Administration	255,833	62,705	3,575	114,055	65,728	7,530	0	2,240
Federal Highway Administration	435,999	67,695	1,959	83,805	179,783	12,531	90,226	0
Federal Motor Carrier Safety Administration	12,000	5,000	1,500	4,000	0	1,500	0	0
Federal Railroad Administration	39,550	10,779	0	15,254	7,674	5,609	0	233
Federal Transit Administration	48,000	12,000	0	0	12,000	0	24,000	0
National Highway Traffic Safety Administration	95,500	0	0	58,307	25,225	11,968	0	0
Office of the Secretary of Transportation	51,406	45,242	0	6,164	0	0	0	0
Pipeline and Hazardous Materials Safety Administration	18,263	4,453	0	8,490	2,400	2,920	0	0
Department of the Treasury	48,012	3,238	7,700	14,552	0	500	0	22,022
Bureau of Engraving and Printing	48,012	3,238	7,700	14,552	0	500	0	22,022
Department of Veterans Affairs	1,076,012	1,076,012	0	0	0	0	0	0
Other agencies								
Agency for Global Media	7,917	748	0	7,170	0	0	0	0
Agency for International Development	152,853	18,441	0	8,296	32,549	30,635	0	62,932
Appalachian Regional Commission	827	0	0	435	0	392	0	0
Consumer Product Safety Commission	374	374	0	0	0	0	0	0
Environmental Protection Agency	444,513	222,552	0	141,044	64,930	15,986	0	0

TABLE 32

Preliminary federal obligations for applied research, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Federal Trade Commission	10,465	10,465	0	0	0	0	0	0
Library of Congress	495	495	0	0	0	0	0	0
National Aeronautics and Space Administration	1,740,762	243,707	365,560	783,343	313,337	34,815	0	0
National Science Foundation	1,465,771	1,161	0	273,658	1,061,854	117,622	6,143	5,333
Nuclear Regulatory Commission	82,729	1,399	43,689	11,682	21,009	0	0	4,950
Patient-Centered Outcomes Research Trust Fund	560,397	0	0	0	0	560,397	0	0
Postal Service	13,620	0	0	13,620	0	0	0	0
RESTORE Act Centers of Excellence Research Grants Program	22,996	0	0	0	0	0	22,996	0
Social Security Administration	106,316	53,147	0	33,903	9,000	10,266	0	0
Tennessee Valley Authority	12,955	0	0	11,919	0	1,036	0	0

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 33

Federal obligations for applied research, by detailed field of R&D: FYs 2022–23

(Dollars in thousands)

Field	2022	2023 (preliminary)
All fields	48,414,424	51,013,890
Computer and information sciences	2,532,975	3,028,848
Geosciences, atmospheric sciences, and ocean sciences	2,124,657	2,720,823
Atmospheric science and meteorology	403,303	NA
Geological and earth sciences	320,206	NA
Ocean sciences and marine sciences	607,692	NA
Other geosciences, atmospheric sciences, and ocean sciences	793,456	NA
Life sciences	22,557,759	21,942,239
Agricultural sciences	619,871	NA
Biological and biomedical sciences	11,547,021	NA
Health sciences	8,095,365	NA
Natural resources and conservation	203,311	NA
Other life sciences	2,092,191	NA
Mathematics and statistics	295,750	313,354
Physical sciences	2,650,164	2,914,046
Astronomy and astrophysics	92	NA
Chemistry	754,582	NA
Materials science	178,661	NA
Physics	1,019,004	NA
Other physical sciences	697,824	NA
Psychology	2,299,833	2,446,475
Biological aspects	10,802	NA
Social aspects	34,317	NA
Other psychological sciences	2,254,714	NA
Social sciences	1,150,878	1,338,309
Anthropology	20,608	NA
Economics	187,300	NA
Political science and government	7,988	NA
Sociology, demography, and population studies	68,711	NA
Other social sciences	866,272	NA
Engineering	11,757,783	12,835,206
Aerospace, aeronautical, and astronautical engineering	2,098,696	NA
Bioengineering and biomedical engineering	64,313	NA
Chemical engineering	624,212	NA
Civil engineering	573,802	NA
Electrical, electronics, and communications engineering	661,033	NA
Industrial and manufacturing engineering	2,029,207	NA
Mechanical engineering	294,395	NA
Metallurgical and materials engineering	344,933	NA
Other engineering	5,067,193	NA
Other fields	3,044,624	3,474,589
Business management and business administration	78,649	NA
Communication and communications technologies	20,826	NA
Education research	706,613	NA
Humanities	*	NA
Law	93	NA
Social work	0	NA
Visual and performing arts	0	NA
All other fields	2,238,443	NA

* = amount greater than \$0 but less than \$500.

NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 34
Federal obligations for applied research, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	48,414,424	2,532,975	2,124,657	22,557,759	295,750	2,650,164	2,299,833	1,150,878	11,757,783	3,044,624
Departments										
Department of Agriculture	1,442,986	12,368	12,553	1,058,311	5,473	60,265	10,321	158,437	53,016	72,243
Agricultural Marketing Service	9,865	0	0	9,865	0	0	0	0	0	0
Agricultural Research Service	660,230	858	2,905	606,553	0	42,387	0	1,585	5,942	0
Economic Research Service	87,794	0	0	0	0	0	0	87,794	0	0
Forest Service	160,583	0	2,292	124,396	0	2,857	0	25,987	5,050	0
National Agricultural Statistics Service	6,126	6,126	0	0	0	0	0	0	0	0
National Institute of Food and Agriculture	517,747	5,383	7,355	316,855	5,473	15,022	10,321	43,071	42,023	72,243
Natural Resources Conservation Service	642	0	0	642	0	0	0	0	0	0
Department of Commerce	1,416,683	236,929	623,857	77,275	8,876	83,548	0	87,589	281,568	17,041
Census Bureau	150,213	72,996	0	0	7,685	0	0	69,532	0	0
National Institute of Standards and Technology	506,911	159,911	9,153	20,266	989	55,586	0	796	260,210	0
National Oceanic and Atmospheric Administration	748,259	4,023	614,704	57,009	201	27,962	0	17,260	10,058	17,041
National Telecommunications and Information Administration	11,300	0	0	0	0	0	0	0	11,300	0
Department of Defense	7,016,251	1,342,523	375,239	638,618	39,593	223,757	65,013	20,122	3,830,085	481,300
Defense Advanced Research Projects Agency	1,358,129	739,703	78,961	150,841	0	49,147	12,353	14,435	291,705	20,984
Defense Health Agency	134,635	0	0	134,056	0	0	0	0	0	579
Department of the Air Force	1,955,684	26,295	0	8,634	117	15,931	1	2	1,896,098	8,605
Department of the Army	1,290,220	113,779	7,961	199,785	29,350	4,313	48,671	0	588,309	298,052
Department of the Navy	1,076,932	123,108	276,485	22,557	0	42,384	2,791	4,641	567,884	37,083
Space Force	104,248	0	0	0	0	0	0	0	104,248	0
Other defense agencies	1,096,402	339,637	11,832	122,745	10,126	111,983	1,197	1,044	381,841	115,997
Department of Education	267,496	0	0	0	0	0	0	0	0	267,496
Department of Energy	5,000,763	614,726	71,656	11,787	14,731	1,392,055	0	0	2,890,994	4,814
Advanced Research Projects Agency--Energy	201,482	6,122	823	10,697	0	23,559	0	0	160,281	0
Electricity Delivery and Energy Reliability	53,394	0	0	0	0	0	0	0	53,394	0
Energy Efficiency and Renewable Energy	678,802	0	0	0	0	0	0	0	678,802	0
Environmental Management	11,808	0	11,808	0	0	0	0	0	0	0
Fossil Energy	558,637	0	53,071	0	0	88,823	0	0	416,744	0
National Nuclear Security Administration	2,672,387	587,358	3,563	1,090	14,731	1,272,650	0	0	792,996	0

TABLE 34

Federal obligations for applied research, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Defense Programs	2,336,964	580,794	0	0	0	1,159,282	0	0	596,888	0
Naval Nuclear Propulsion Program	191,110	0	0	0	0	0	0	0	191,110	0
Office of Defense Nuclear Nonproliferation	144,313	6,564	3,563	1,090	14,731	113,368	0	0	4,997	0
Nuclear Energy	657,246	0	0	0	0	0	0	0	657,246	0
Office of Cybersecurity, Energy Security, and Emergency Response	16,251	16,251	0	0	0	0	0	0	0	0
Office of Science	150,755	4,995	2,392	0	0	7,023	0	0	131,531	4,814
Department of Health and Human Services	25,860,920	36,305	309,542	18,589,078	216,671	530,388	2,201,430	675,885	1,694,076	1,607,544
Administration for Children and Families	5,228	0	0	0	0	0	0	5,228	0	0
Administration for Community Living	106,731	0	0	0	0	0	0	106,731	0	0
Agency for Healthcare Research and Quality	314,345	36,189	0	176,074	8,400	0	7,799	20,813	803	64,267
Agency for Toxic Substances and Disease Registry	11,777	0	11,777	0	0	0	0	0	0	0
Biomedical Advanced Research and Development Authority	2,644,021	0	0	2,644,021	0	0	0	0	0	0
Centers for Disease Control and Prevention	460,691	116	0	393,960	189	2,749	516	39,514	20,050	3,597
Food and Drug Administration	560,910	0	0	560,910	0	0	0	0	0	0
Health Resources and Services Administration	32,429	0	0	32,429	0	0	0	0	0	0
National Institutes of Health	21,689,271	0	297,765	14,781,684	208,082	527,640	2,193,115	468,082	1,673,223	1,539,680
Office of the Secretary of Health and Human Services	35,517	0	0	0	0	0	0	35,517	0	0
Office of the Assistant Secretary for Planning and Evaluation	35,517	0	0	0	0	0	0	35,517	0	0
Department of Homeland Security	258,612	70,789	10,835	8,202	0	32,643	0	0	86,489	49,654
Coast Guard	2,243	563	3	0	0	0	0	0	1,678	0
Countering Weapons of Mass Destruction Office	26,159	6,000	0	4,000	0	16,159	0	0	0	0
Cybersecurity and Infrastructure Security Agency	3,440	2,647	0	0	0	0	0	0	793	0
Science and Technology Directorate	226,771	61,580	10,833	4,202	0	16,484	0	0	84,018	49,654
Transportation Security Administration	*	*	0	0	0	0	0	0	0	0
Department of the Interior	691,384	3,431	354,839	273,934	0	6,278	0	28,137	20,861	3,904
Bureau of Indian Affairs	5,000	0	0	5,000	0	0	0	0	0	0
Bureau of Land Management	8,579	0	0	8,579	0	0	0	0	0	0

TABLE 34

Federal obligations for applied research, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Bureau of Ocean Energy Management	66,305	3,431	42,477	0	0	4,854	0	11,639	0	3,904
Bureau of Reclamation	17,705	0	0	0	0	0	0	0	17,705	0
Bureau of Safety and Environmental Enforcement	4,770	0	190	0	0	1,424	0	0	3,156	0
Fish and Wildlife Service	35,000	0	0	35,000	0	0	0	0	0	0
Geological Survey	526,802	0	312,172	214,631	0	0	0	0	0	0
National Park Service	27,222	0	0	10,724	0	0	0	16,498	0	0
Department of Justice	86,014	408	0	6,209	266	12,306	1,438	55,968	531	8,887
Bureau of Prisons	2	0	0	0	0	0	0	2	0	0
Federal Bureau of Investigation	8,887	0	0	0	0	0	0	0	0	8,887
Office of Justice Programs	77,125	408	0	6,209	266	12,306	1,438	55,967	531	0
Department of Labor	3,698	0	0	0	0	0	0	3,698	0	0
Employee Benefits Security Administration	1,910	0	0	0	0	0	0	1,910	0	0
Occupational Safety and Health Administration	1,788	0	0	0	0	0	0	1,788	0	0
Department of State	38,000	0	0	38,000	0	0	0	0	0	0
Department of Transportation	806,251	22,083	14,933	26,589	6,347	23,292	21,622	20,665	647,113	23,606
Federal Aviation Administration	260,969	15,467	14,933	7,580	6,347	0	21,622	0	175,577	19,443
Federal Highway Administration	341,879	0	0	0	0	0	0	0	341,879	0
Federal Motor Carrier Safety Administration	21,154	0	0	0	0	21,154	0	0	0	0
Federal Railroad Administration	32,291	0	0	0	0	0	0	0	32,291	0
Federal Transit Administration	11,909	700	0	0	0	0	0	3,107	5,303	2,800
National Highway Traffic Safety Administration	91,739	5,916	0	19,009	0	0	0	17,559	49,255	0
Office of the Secretary of Transportation	24,368	0	0	0	0	0	0	0	24,368	0
Pipeline and Hazardous Materials Safety Administration	21,942	0	0	0	0	2,138	0	0	18,441	1,363
Department of the Treasury	37,082	0	0	0	0	37,082	0	0	0	0
Bureau of Engraving and Printing	37,082	0	0	0	0	37,082	0	0	0	0
Department of Veterans Affairs	940,865	0	0	940,865	0	0	0	0	0	0
Other agencies										
Administrative Office of the U.S. Courts	1,443	1,443	0	0	0	0	0	0	0	0
Agency for Global Media	8,413	0	0	0	0	0	0	8,413	0	0
Agency for International Development	152,853	0	0	146,214	0	0	0	5,329	0	1,310
Appalachian Regional Commission	804	0	0	0	0	0	0	804	0	0

TABLE 34

Federal obligations for applied research, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Consumer Product Safety Commission	165	0	0	0	0	0	0	0	165	0
Environmental Protection Agency	406,371	5,566	167,490	160,543	3,090	9,703	0	2,348	57,632	0
Federal Trade Commission	2,713	0	0	0	0	0	0	2,713	0	0
Library of Congress	512	0	0	0	0	512	0	0	0	0
National Aeronautics and Space Administration	2,246,909	0	165,909	54,643	0	219,253	0	0	1,773,917	33,187
National Science Foundation	1,032,892	186,032	17,804	5,821	702	19,082	10	2,067	334,697	466,677
Nuclear Regulatory Commission	61,399	372	0	0	0	0	0	0	61,027	0
Patient-Centered Outcomes Research Trust Fund	521,671	0	0	521,671	0	0	0	0	0	0
Postal Service	13,860	0	0	0	0	0	0	0	13,860	0
RESTORE Act Centers of Excellence Research Grants Program	6,960	0	0	0	0	0	0	0	0	6,960
Social Security Administration	78,704	0	0	0	0	0	0	78,704	0	0
Tennessee Valley Authority	11,752	0	0	0	0	0	0	0	11,752	0

* = amount greater than \$0 but less than \$500.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 35

Preliminary federal obligations for applied research, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	51,013,890	3,028,848	2,720,823	21,942,239	313,354	2,914,046	2,446,475	1,338,309	12,835,206	3,474,589
Departments										
Department of Agriculture	1,618,507	13,591	10,908	1,191,817	6,351	68,098	11,975	171,244	60,682	83,840
Agricultural Marketing Service	9,455	0	0	9,455	0	0	0	0	0	0
Agricultural Research Service	743,200	966	0	686,048	0	47,713	0	1,784	6,689	0
Economic Research Service	92,612	0	0	0	0	0	0	92,612	0	0
Forest Service	165,989	0	2,369	128,585	0	2,953	0	26,862	5,220	0
National Agricultural Statistics Service	6,376	6,376	0	0	0	0	0	0	0	0
National Institute of Food and Agriculture	600,874	6,249	8,538	367,729	6,351	17,431	11,975	49,987	48,773	83,840
Department of Commerce	1,755,115	281,790	757,118	88,630	12,070	103,460	0	160,109	312,862	39,074
Census Bureau	222,038	74,195	0	0	8,432	0	0	139,410	0	0
National Institute of Standards and Technology	605,126	202,463	10,194	26,376	1,102	70,253	0	5,012	287,704	2,021
National Oceanic and Atmospheric Administration	915,351	5,132	746,924	62,254	2,536	33,207	0	15,687	12,558	37,052
National Telecommunications and Information Administration	12,600	0	0	0	0	0	0	0	12,600	0
Department of Defense	8,391,914	1,594,027	493,762	809,519	50,794	265,815	75,251	29,054	4,454,801	618,890
Defense Advanced Research Projects Agency	1,677,011	913,382	97,501	186,257	0	72,890	3,050	17,824	360,196	25,910
Defense Health Agency	164,749	0	0	161,954	0	0	0	0	2,628	168
Department of the Air Force	2,032,976	27,331	0	8,980	122	16,568	1	2	1,971,022	8,950
Department of the Army	1,775,695	156,592	10,956	274,958	40,393	5,936	66,984	0	809,673	410,201
Department of the Navy	1,475,266	168,929	378,755	30,901	0	58,061	3,823	6,358	777,639	50,800
Space Force	101,354	0	0	0	0	0	0	0	101,354	0
Other defense agencies	1,164,863	327,793	6,549	146,470	10,278	112,360	1,392	4,871	432,290	122,861
Department of Education	235,979	0	0	0	0	0	0	0	0	235,979
Department of Energy	5,785,748	749,262	108,340	12,476	13,194	1,547,442	0	0	3,355,034	0
Advanced Research Projects Agency--Energy	235,000	7,141	959	12,476	0	27,478	0	0	186,945	0
Electricity Delivery and Energy Reliability	62,350	0	0	0	0	0	0	0	62,350	0
Energy Efficiency and Renewable Energy	724,182	0	0	0	0	0	0	0	724,182	0
Environmental Management	14,190	0	14,190	0	0	0	0	0	0	0
Fossil Energy	938,163	0	89,125	0	0	149,168	0	0	699,870	0
National Nuclear Security Administration	2,864,740	708,951	4,065	0	13,194	1,370,796	0	0	767,734	0
Defense Programs	2,554,182	694,538	0	0	0	1,237,149	0	0	622,495	0

TABLE 35

Preliminary federal obligations for applied research, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Naval Nuclear Propulsion Program	141,400	0	0	0	0	0	0	0	141,400	0
Office of Defense Nuclear Nonproliferation	169,158	14,413	4,065	0	13,194	133,647	0	0	3,840	0
Nuclear Energy	913,953	0	0	0	0	0	0	0	913,953	0
Office of Cybersecurity, Energy Security, and Emergency Response	33,170	33,170	0	0	0	0	0	0	0	0
Department of Health and Human Services	25,426,706	49,307	328,442	17,707,417	221,410	562,747	2,340,689	718,221	1,794,401	1,704,074
Administration for Children and Families	9,405	0	0	0	0	0	0	9,405	0	0
Administration for Community Living	112,862	0	0	0	0	0	0	112,862	0	0
Agency for Healthcare Research and Quality	337,445	49,189	0	192,974	0	0	7,799	20,813	803	65,867
Agency for Toxic Substances and Disease Registry	11,777	0	11,777	0	0	0	0	0	0	0
Biomedical Advanced Research and Development Authority	817,834	0	0	817,834	0	0	0	0	0	0
Centers for Disease Control and Prevention	360,652	118	0	303,901	120	1,617	574	39,348	14,173	801
Food and Drug Administration	629,764	0	0	629,764	0	0	0	0	0	0
Health Resources and Services Administration	43,043	0	0	43,043	0	0	0	0	0	0
National Institutes of Health	23,065,925	0	316,665	15,719,902	221,290	561,130	2,332,315	497,792	1,779,425	1,637,406
Office of the Secretary of Health and Human Services	38,000	0	0	0	0	0	0	38,000	0	0
Office of the Assistant Secretary for Planning and Evaluation	38,000	0	0	0	0	0	0	38,000	0	0
Department of Homeland Security	169,286	42,110	10,003	11,700	0	31,003	0	0	45,471	29,000
Coast Guard	2,243	563	3	0	0	0	0	0	1,678	0
Countering Weapons of Mass Destruction Office	29,753	7,050	0	7,700	0	15,003	0	0	0	0
Cybersecurity and Infrastructure Security Agency	4,290	3,497	0	0	0	0	0	0	793	0
Science and Technology Directorate	133,000	31,000	10,000	4,000	0	16,000	0	0	43,000	29,000
Department of the Interior	776,253	5,974	608,333	81,949	0	6,449	0	31,519	39,569	2,460
Bureau of Indian Affairs	5,000	0	0	5,000	0	0	0	0	0	0
Bureau of Land Management	11,472	0	0	11,472	0	0	0	0	0	0
Bureau of Ocean Energy Management	71,666	5,974	43,958	0	0	4,253	0	15,021	0	2,460
Bureau of Reclamation	27,922	0	0	0	0	0	0	0	27,922	0

TABLE 35

Preliminary federal obligations for applied research, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Bureau of Safety and Environmental Enforcement	14,003	0	160	0	0	2,196	0	0	11,647	0
Fish and Wildlife Service	44,411	0	0	44,411	0	0	0	0	0	0
Geological Survey	574,557	0	564,215	10,342	0	0	0	0	0	0
National Park Service	27,222	0	0	10,724	0	0	0	16,498	0	0
Department of Justice	108,750	444	0	6,830	293	13,537	1,582	64,930	584	20,549
Bureau of Prisons	1	0	0	0	0	0	0	1	0	0
Federal Bureau of Investigation	20,549	0	0	0	0	0	0	0	0	20,549
Office of Justice Programs	88,199	444	0	6,830	293	13,537	1,582	64,929	584	0
Department of Labor	4,066	0	0	0	0	0	0	4,066	0	0
Employee Benefits Security Administration	2,244	0	0	0	0	0	0	2,244	0	0
Occupational Safety and Health Administration	1,822	0	0	0	0	0	0	1,822	0	0
Department of State	38,000	0	0	38,000	0	0	0	0	0	0
Department of Transportation	956,551	21,728	15,056	27,405	4,865	14,200	16,965	33,275	799,743	23,315
Federal Aviation Administration	255,833	12,570	15,056	7,621	4,865	0	16,965	0	178,805	19,952
Federal Highway Administration	435,999	0	0	0	0	0	0	0	435,999	0
Federal Motor Carrier Safety Administration	12,000	0	0	0	0	12,000	0	0	0	0
Federal Railroad Administration	39,550	0	0	0	0	0	0	0	39,550	0
Federal Transit Administration	48,000	3,000	0	0	0	0	0	15,000	28,000	2,000
National Highway Traffic Safety Administration	95,500	6,158	0	19,784	0	0	0	18,275	51,283	0
Office of the Secretary of Transportation	51,406	0	0	0	0	0	0	0	51,406	0
Pipeline and Hazardous Materials Safety Administration	18,263	0	0	0	0	2,200	0	0	14,700	1,363
Department of the Treasury	48,012	0	0	0	0	48,012	0	0	0	0
Bureau of Engraving and Printing	48,012	0	0	0	0	48,012	0	0	0	0
Department of Veterans Affairs	1,076,012	0	0	1,076,012	0	0	0	0	0	0
Other agencies										
Agency for Global Media	7,917	0	0	0	0	0	0	7,917	0	0
Agency for International Development	152,853	0	0	146,214	0	0	0	5,329	0	1,310
Appalachian Regional Commission	827	0	0	0	0	0	0	827	0	0
Consumer Product Safety Commission	374	0	0	0	0	0	0	0	374	0
Environmental Protection Agency	444,513	6,088	183,210	175,611	3,380	10,614	0	2,568	63,041	0
Federal Trade Commission	10,465	0	0	0	0	10,465	0	0	0	0

TABLE 35

Preliminary federal obligations for applied research, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Library of Congress	495	0	0	0	0	495	0	0	0	0
National Aeronautics and Space Administration	1,740,762	0	180,386	0	0	204,630	0	0	1,324,902	30,844
National Science Foundation	1,465,771	263,997	25,266	8,261	996	27,079	14	2,933	474,967	662,259
Nuclear Regulatory Commission	82,729	530	0	0	0	0	0	0	82,199	0
Patient-Centered Outcomes Research Trust Fund	560,397	0	0	560,397	0	0	0	0	0	0
Postal Service	13,620	0	0	0	0	0	0	0	13,620	0
RESTORE Act Centers of Excellence Research Grants Program	22,996	0	0	0	0	0	0	0	0	22,996
Social Security Administration	106,316	0	0	0	0	0	0	106,316	0	0
Tennessee Valley Authority	12,955	0	0	0	0	0	0	0	12,955	0

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 36

Federal obligations for experimental development, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	96,614,768	50,128,755	4,248,099	37,525,513	3,109,857	1,338,144	62,184	202,216
Departments								
Department of Agriculture	275,287	241,717	0	0	30,473	2,477	9	610
Agricultural Research Service	165,057	139,188	0	0	23,030	2,220	9	610
Animal and Plant Health Inspection Service	21,194	14,039	0	0	7,155	0	0	0
Forest Service	83,850	83,850	0	0	0	0	0	0
National Agricultural Statistics Service	4,944	4,639	0	0	47	257	0	0
Natural Resources Conservation Service	241	0	0	0	241	0	0	0
Department of Commerce	321,077	161,317	1,230	49,155	94,591	14,150	630	3
Census Bureau	51,488	51,488	0	0	0	0	0	0
National Institute of Standards and Technology	82,083	12,175	0	32,557	24,248	13,104	0	0
National Oceanic and Atmospheric Administration	187,505	97,654	1,230	16,599	70,343	1,047	630	3
Department of Defense, total experimental development	62,185,981	22,902,790	2,156,475	33,631,063	2,143,238	1,166,514	8,210	177,691
Defense Advanced Research Projects Agency	1,810,599	200,809	55,533	1,432,017	107,476	10,547	0	4,217
Defense Health Agency	1,990,983	124,413	7,660	405,137	831,735	564,703	0	57,335
Department of the Air Force	10,972,525	5,097,039	516,803	5,069,548	178,763	110,372	0	0
Department of the Army	10,255,864	3,924,076	114,529	5,708,750	188,654	287,555	2	32,299
Department of the Navy	15,749,004	6,885,212	191,531	8,061,065	459,451	132,304	195	19,248
Space Force	4,775,577	308,800	263,868	4,151,493	30,799	14,508	6,107	0
Other defense agencies	16,631,430	6,362,442	1,006,551	8,803,053	346,359	46,526	1,906	64,592
Department of Defense, advanced technology	10,138,394	3,427,616	591,558	3,873,681	1,302,518	807,159	1,879	133,984
Defense Advanced Research Projects Agency	1,574,470	127,900	55,533	1,269,296	107,464	10,060	0	4,217
Defense Health Agency	1,723,906	95,918	6,795	212,453	818,090	533,315	0	57,335
Department of the Air Force	951,735	814,298	1,730	60,243	30,046	45,419	0	0
Department of the Army	1,821,172	669,549	19,739	920,985	103,332	97,884	0	9,681
Department of the Navy	903,941	310,742	8,529	394,735	100,771	88,082	0	1,083
Other defense agencies	3,163,170	1,409,209	499,230	1,015,969	142,815	32,399	1,879	61,668
Department of Defense, major systems	52,047,587	19,475,174	1,564,918	29,757,382	840,720	359,355	6,331	43,707
Defense Advanced Research Projects Agency	236,129	72,909	0	162,721	12	487	0	0
Defense Health Agency	267,077	28,495	865	192,684	13,645	31,388	0	0

TABLE 36

Federal obligations for experimental development, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Department of the Air Force	10,020,790	4,282,741	515,073	5,009,306	148,717	64,953	0	0
Department of the Army	8,434,692	3,254,526	94,789	4,787,764	85,322	189,670	2	22,618
Department of the Navy	14,845,063	6,574,470	183,002	7,666,330	358,680	44,222	195	18,164
Space Force	4,775,577	308,800	263,868	4,151,493	30,799	14,508	6,107	0
Other defense agencies	13,468,260	4,953,233	507,321	7,787,084	203,544	14,126	28	2,924
Department of Education	102,437	0	0	13,650	43,452	33,447	11,887	0
Department of Energy	2,588,711	163,229	1,119,044	1,037,613	208,107	57,587	2,430	702
Advanced Research Projects Agency—Energy	201,482	937	24,650	94,950	73,287	7,659	0	0
Electricity Delivery and Energy Reliability	52,512	1,203	37,788	6,086	3,602	3,671	163	0
Energy Efficiency and Renewable Energy	931,357	8,966	576,668	176,683	120,741	46,035	2,264	0
Environmental Management	23,973	0	19,493	4,312	0	168	0	0
National Nuclear Security Administration	1,217,262	147,257	388,570	680,074	1,360	0	0	0
Defense Programs	500,653	88,636	300,763	111,244	10	0	0	0
Naval Nuclear Propulsion Program	616,255	55,579	0	559,326	1,350	0	0	0
Office of Defense Nuclear Nonproliferation	100,354	3,043	87,807	9,504	0	0	0	0
Nuclear Energy	146,754	4,867	65,271	75,508	348	55	3	702
Office of Cybersecurity, Energy Security, and Emergency Response	15,372	0	6,604	0	8,768	0	0	0
Department of Health and Human Services	25,825,478	25,809,556	0	6,287	2,215	7,103	0	317
Agency for Healthcare Research and Quality	36,055	36,055	0	0	0	0	0	0
Biomedical Advanced Research and Development Authority	25,768,810	25,768,610	0	100	100	0	0	0
Centers for Disease Control and Prevention	15,002	4,890	0	6,187	1,222	2,386	0	317
Health Resources and Services Administration	5,610	0	0	0	893	4,717	0	0
Department of Homeland Security	242,709	108,607	22,759	86,713	6,441	16,938	80	1,171
Coast Guard	5,233	0	0	5,233	0	0	0	0
Countering Weapons of Mass Destruction Office	30,831	2,000	13,600	15,231	0	0	0	0
Cybersecurity and Infrastructure Security Agency	2,176	0	0	0	0	2,176	0	0
Science and Technology Directorate	203,776	106,087	9,159	66,077	6,441	14,762	80	1,171
Secret Service	692	521	0	171	0	0	0	0

TABLE 36

Federal obligations for experimental development, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				Non-U.S. performers
		Federal agencies ^a	FFRDCs	United States and U.S. territories				
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Transportation Security Administration	*	0	*	*	0	0	0	0
Department of the Interior	154,714	134,141	49	6,081	12,309	946	1,188	0
Bureau of Land Management	1,466	762	49	0	401	244	10	0
Bureau of Ocean Energy Management	19,440	14,838	0	4,387	170	45	0	0
Bureau of Reclamation	10,018	6,438	0	381	3,199	0	0	0
Bureau of Safety and Environmental Enforcement	2,720	194	0	1,100	1,101	325	0	0
Geological Survey	119,938	111,223	0	213	6,991	332	1,178	0
National Park Service	1,132	685	0	0	447	0	0	0
Department of Justice	8,240	603	0	2,920	913	3,661	142	0
Bureau of Prisons	3	3	0	0	0	0	0	0
Office of Justice Programs	8,236	600	0	2,920	913	3,661	142	0
Department of State	20,000	20,000	0	0	0	0	0	0
Department of Transportation	264,985	28,804	72,672	121,504	3,856	974	37,002	173
Federal Aviation Administration	216,544	19,686	72,672	119,875	3,033	433	671	173
Federal Highway Administration	40,640	4,309	0	0	0	0	36,331	0
Federal Motor Carrier Safety Administration	2,618	2,618	0	0	0	0	0	0
Federal Railroad Administration	3,991	999	0	1,629	822	541	0	0
Federal Transit Administration	1,192	1,192	0	0	0	0	0	0
Department of the Treasury	10,399	0	0	3,994	0	0	0	6,405
Bureau of Engraving and Printing	10,399	0	0	3,994	0	0	0	6,405
Department of Veterans Affairs	90,535	16,222	74,313	0	0	0	0	0
Other agencies								
Agency for International Development	67,761	4,189	0	11,051	20,782	23,444	0	8,294
Environmental Protection Agency	119,086	61,856	0	57,230	0	0	0	0
Library of Congress	2,543	2,543	0	0	0	0	0	0
National Aeronautics and Space Administration	4,318,325	473,181	801,557	2,485,546	543,480	7,106	606	6,849
Tennessee Valley Authority	16,502	0	0	12,707	0	3,795	0	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. Federal intramural amounts for the Biomedical Advanced Research and Development Authority are transfers to the other agencies in support of Operation Warp Speed. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 37

Preliminary federal obligations for experimental development, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				Non-U.S. performers
		Federal agencies ^a	FFRDCs	United States and U.S. territories				
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	86,967,076	29,881,617	4,593,431	46,355,780	3,901,762	1,916,879	45,107	272,500
Departments								
Department of Agriculture	266,254	239,674	0	0	24,209	1,906	7	458
Agricultural Research Service	185,800	166,389	0	0	17,273	1,674	7	458
Animal and Plant Health Inspection Service	22,557	15,703	0	0	6,854	0	0	0
Forest Service	52,885	52,885	0	0	0	0	0	0
National Agricultural Statistics Service	5,011	4,696	0	0	83	232	0	0
Department of Commerce	738,885	266,759	5,165	286,746	136,756	42,615	840	4
Census Bureau	90,191	90,191	0	0	0	0	0	0
National Institute of Standards and Technology	448,195	71,633	0	283,135	52,805	40,622	0	0
National Oceanic and Atmospheric Administration	200,499	104,935	5,165	3,611	83,951	1,993	840	4
Department of Defense, total experimental development	76,931,574	28,091,956	2,176,543	42,259,218	2,548,227	1,597,739	7,377	250,514
Defense Advanced Research Projects Agency	1,996,211	197,746	64,892	1,590,985	125,582	12,078	0	4,928
Defense Health Agency	2,383,440	188,942	3,952	396,775	968,407	758,856	0	66,508
Department of the Air Force	12,855,854	5,522,059	548,062	6,443,008	222,583	120,142	0	0
Department of the Army	13,122,276	5,020,991	144,354	7,290,441	247,058	377,337	2	42,094
Department of the Navy	19,726,988	8,805,411	254,812	9,912,549	525,237	173,396	267	55,316
Space Force	8,470,000	566,769	293,810	7,508,778	75,935	19,759	4,949	0
Other defense agencies	18,376,805	7,790,038	866,661	9,116,683	383,425	136,171	2,159	81,667
Department of Defense, advanced technology	13,252,966	4,644,302	585,431	5,223,979	1,552,394	1,094,894	2,000	149,965
Defense Advanced Research Projects Agency	1,839,810	149,455	64,892	1,483,206	125,574	11,755	0	4,928
Defense Health Agency	2,106,660	122,631	3,768	238,745	952,617	722,389	0	66,508
Department of the Air Force	1,003,256	846,869	9,949	69,418	33,530	43,489	0	0
Department of the Army	2,463,948	905,865	26,706	1,246,044	139,803	132,432	0	13,098
Department of the Navy	1,209,055	421,380	11,684	515,800	138,045	120,662	0	1,484
Space Force	430,330	29,104	9,565	366,141	25,520	0	0	0
Other defense agencies	4,199,907	2,168,998	458,866	1,304,625	137,304	64,166	2,000	63,947
Department of Defense, major systems	63,678,608	23,447,654	1,591,112	37,035,239	995,833	502,845	5,377	100,548
Defense Advanced Research Projects Agency	156,401	48,291	0	107,779	8	323	0	0
Defense Health Agency	276,781	66,310	183	158,030	15,790	36,467	0	0
Department of the Air Force	11,852,598	4,675,189	538,113	6,373,590	189,053	76,653	0	0

TABLE 37

Preliminary federal obligations for experimental development, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				Non-U.S. performers
		Federal agencies ^a	FFRDCs	United States and U.S. territories				
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Department of the Army	10,658,328	4,115,126	117,648	6,044,397	107,255	244,904	2	28,996
Department of the Navy	18,517,933	8,384,031	243,128	9,396,749	387,191	52,734	267	53,833
Space Force	8,039,670	537,665	284,245	7,142,637	50,415	19,759	4,949	0
Other defense agencies	14,176,898	5,621,040	407,795	7,812,058	246,121	72,005	159	17,720
Department of Education	90,367	0	0	12,042	38,332	30,777	9,216	0
Department of Energy	2,796,899	131,078	1,199,764	1,164,092	217,364	80,848	2,777	976
Advanced Research Projects Agency—Energy	235,000	1,092	28,750	110,746	85,479	8,933	0	0
Electricity Delivery and Energy Reliability	80,910	1,853	58,223	9,377	5,550	5,656	251	0
Energy Efficiency and Renewable Energy	1,037,514	9,987	642,397	196,822	119,891	65,895	2,522	0
Environmental Management	28,810	0	23,336	5,186	0	288	0	0
National Nuclear Security Administration	1,193,331	111,377	343,603	736,961	1,390	0	0	0
Defense Programs	384,164	51,681	242,008	90,475	0	0	0	0
Naval Nuclear Propulsion Program	700,073	58,525	0	640,158	1,390	0	0	0
Office of Defense Nuclear Nonproliferation	109,095	1,171	101,595	6,329	0	0	0	0
Nuclear Energy	204,073	6,768	90,765	104,999	484	77	4	976
Office of Cybersecurity, Energy Security, and Emergency Response	17,260	0	12,690	0	4,570	0	0	0
Department of Health and Human Services	55,624	40,896	0	6,529	1,705	6,494	0	0
Agency for Healthcare Research and Quality	36,055	36,055	0	0	0	0	0	0
Centers for Disease Control and Prevention	15,023	4,841	0	6,529	1,267	2,386	0	0
Health Resources and Services Administration	4,545	0	0	0	438	4,108	0	0
Department of Homeland Security	305,157	134,502	27,300	114,417	8,000	19,688	79	1,171
Coast Guard	5,233	0	0	5,233	0	0	0	0
Countering Weapons of Mass Destruction Office	25,611	2,611	13,000	10,000	0	0	0	0
Cybersecurity and Infrastructure Security Agency	4,538	850	0	0	0	3,688	0	0
Science and Technology Directorate	266,000	128,450	14,300	98,000	8,000	16,000	79	1,171
Secret Service	3,775	2,591	0	1,184	0	0	0	0
Transportation Security Administration	*	0	*	*	*	*	0	0
Department of the Interior	166,131	144,216	1	3,332	15,627	720	2,235	0
Bureau of Land Management	255	83	1	0	64	97	10	0

TABLE 37

Preliminary federal obligations for experimental development, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				Non-U.S. performers
		Federal agencies ^a	FFRDCs	United States and U.S. territories				
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Bureau of Ocean Energy Management	16,626	14,582	0	1,524	20	5	495	0
Bureau of Reclamation	16,053	10,194	0	642	5,217	0	0	0
Bureau of Safety and Environmental Enforcement	2,250	160	0	910	911	269	0	0
Geological Survey	129,815	118,632	0	256	8,848	349	1,730	0
National Park Service	1,132	566	0	0	566	0	0	0
Department of Justice	14,508	3,700	0	4,199	1,005	5,445	159	0
Bureau of Prisons	3	0	0	0	0	0	3	0
Office of Justice Programs	14,505	3,700	0	4,199	1,005	5,445	156	0
Department of State	20,000	20,000	0	0	0	0	0	0
Department of Transportation	265,915	30,844	77,289	129,697	4,279	1,205	22,417	184
Federal Aviation Administration	230,302	20,937	77,289	128,205	3,226	461	0	184
Federal Highway Administration	26,725	4,309	0	0	0	0	22,417	0
Federal Motor Carrier Safety Administration	3,000	3,000	0	0	0	0	0	0
Federal Railroad Administration	4,888	1,598	0	1,493	1,053	744	0	0
Federal Transit Administration	1,000	1,000	0	0	0	0	0	0
Department of the Treasury	24,132	0	0	12,132	0	0	0	12,000
Bureau of Engraving and Printing	24,132	0	0	12,132	0	0	0	12,000
Department of Veterans Affairs	92,865	18,552	74,313	0	0	0	0	0
Other agencies								
Agency for International Development	67,761	4,189	0	11,051	20,782	24,544	0	7,194
Environmental Protection Agency	127,623	63,879	0	63,745	0	0	0	0
Library of Congress	2,669	2,669	0	0	0	0	0	0
National Aeronautics and Space Administration	4,919,309	688,703	1,033,055	2,213,689	885,476	98,386	0	0
Tennessee Valley Authority	81,403	0	0	74,891	0	6,512	0	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 38

Federal obligations for experimental development, by detailed field of R&D: FYs 2022–23

(Dollars in thousands)

Field	2022	2023 (preliminary)
All fields	96,614,768	86,967,076
Computer and information sciences	2,441,587	3,071,243
Geosciences, atmospheric sciences, and ocean sciences	724,394	814,607
Atmospheric science and meteorology	161,652	NA
Geological and earth sciences	98,794	NA
Ocean sciences and marine sciences	97,043	NA
Other geosciences, atmospheric sciences, and ocean sciences	366,905	NA
Life sciences	30,408,047	5,768,626
Agricultural sciences	69,277	NA
Biological and biomedical sciences	27,943,626	NA
Health sciences	2,126,858	NA
Natural resources and conservation	60,942	NA
Other life sciences	207,343	NA
Mathematics and statistics	225,671	289,090
Physical sciences	3,415,031	4,324,792
Astronomy and astrophysics	649,952	NA
Chemistry	500,846	NA
Materials science	29,435	NA
Physics	645,248	NA
Other physical sciences	1,589,550	NA
Psychology	383,043	493,460
Biological aspects	0	NA
Social aspects	1,951	NA
Other psychological sciences	381,092	NA
Social sciences	149,433	209,299
Anthropology	5,546	NA
Economics	15,792	NA
Political science and government	237	NA
Sociology, demography, and population studies	18,548	NA
Other social sciences	109,310	NA
Engineering	44,427,376	54,070,111
Aerospace, aeronautical, and astronautical engineering	18,949,433	NA
Bioengineering and biomedical engineering	419,323	NA
Chemical engineering	590,148	NA
Civil engineering	484,504	NA
Electrical, electronics, and communications engineering	2,374,835	NA
Industrial and manufacturing engineering	2,952,700	NA
Mechanical engineering	848,194	NA
Metallurgical and materials engineering	825,654	NA
Other engineering	16,982,585	NA
Other fields	14,440,187	17,925,849
Business management and business administration	636,755	NA
Communication and communications technologies	472,638	NA
Education research	109,816	NA
Humanities	0	NA
Law	151	NA
Social work	0	NA
Visual and performing arts	0	NA
All other fields	13,220,827	NA

NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 39

Federal obligations for experimental development, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	96,614,768	2,441,587	724,394	30,408,047	225,671	3,415,031	383,043	149,433	44,427,376	14,440,187
Departments										
Department of Agriculture	275,287	4,944	1,390	55,055	0	1,546	0	11,517	3,090	197,745
Agricultural Research Service	165,057	0	0	0	0	0	0	0	0	165,057
Animal and Plant Health Inspection Service	21,194	0	0	21,194	0	0	0	0	0	0
Forest Service	83,850	0	1,390	33,619	0	1,546	0	11,517	3,090	32,688
National Agricultural Statistics Service	4,944	4,944	0	0	0	0	0	0	0	0
Natural Resources Conservation Service	241	0	0	241	0	0	0	0	0	0
Department of Commerce	321,077	1,254	153,440	15,995	1,780	6,016	0	56,313	79,479	6,799
Census Bureau	51,488	780	0	0	1,283	0	0	49,424	0	0
National Institute of Standards and Technology	82,083	*	0	0	260	3,410	0	0	78,413	0
National Oceanic and Atmospheric Administration	187,505	474	153,440	15,995	237	2,606	0	6,889	1,066	6,799
Department of Defense	62,185,981	2,319,798	264,545	4,264,468	219,884	1,598,629	383,043	68,364	39,853,083	13,214,168
Defense Advanced Research Projects Agency	1,810,599	139,852	1,797	130	0	196,988	0	0	730,789	741,043
Defense Health Agency	1,990,983	66,770	0	1,910,470	0	0	8,787	0	0	4,956
Department of the Air Force	10,972,525	113,671	279	2,949	215	76,806	0	0	8,023,260	2,755,346
Department of the Army	10,255,864	1,332,808	96,860	2,042,442	216,529	782,540	367,046	49,142	816,389	4,552,109
Department of the Navy	15,749,004	173,995	112,010	15,336	1,233	178,177	6,183	12,633	15,164,359	85,077
Space Force	4,775,577	2,651	0	0	0	13,544	0	0	1,922,611	2,836,771
Other defense agencies	16,631,430	490,051	53,598	293,141	1,907	350,574	1,027	6,589	13,195,676	2,238,868
Department of Education	102,437	0	0	0	0	0	0	0	0	102,437
Department of Energy	2,588,711	36,078	30,620	10,819	3,101	98,478	0	0	2,352,986	56,629
Advanced Research Projects Agency—Energy	201,482	6,122	823	10,697	0	23,559	0	0	160,281	0
Electricity Delivery and Energy Reliability	52,512	0	0	0	0	0	0	0	52,512	0
Energy Efficiency and Renewable Energy	931,357	0	0	0	0	0	0	0	931,357	0
Environmental Management	23,973	0	23,973	0	0	0	0	0	0	0
National Nuclear Security Administration	1,217,262	14,584	5,824	123	3,101	74,920	0	0	1,062,081	56,629

TABLE 39

Federal obligations for experimental development, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Defense Programs	500,653	0	0	0	0	948	0	0	499,705	0
Naval Nuclear Propulsion Program	616,255	0	0	0	0	0	0	0	560,676	55,579
Office of Defense Nuclear Nonproliferation	100,354	14,584	5,824	123	3,101	73,972	0	0	1,700	1,050
Nuclear Energy	146,754	0	0	0	0	0	0	0	146,754	0
Office of Cybersecurity, Energy Security, and Emergency Response	15,372	15,372	0	0	0	0	0	0	0	0
Department of Health and Human Services	25,825,478	36,123	0	25,781,441	0	0	0	0	2,303	5,610
Agency for Healthcare Research and Quality	36,055	36,055	0	0	0	0	0	0	0	0
Biomedical Advanced Research and Development Authority	25,768,810	0	0	25,768,810	0	0	0	0	0	0
Centers for Disease Control and Prevention	15,002	68	0	12,631	0	0	0	0	2,303	0
Health Resources and Services Administration	5,610	0	0	0	0	0	0	0	0	5,610
Department of Homeland Security	242,709	39,446	4,518	9,258	0	29,040	0	0	96,322	64,124
Coast Guard	5,233	1,176	301	0	0	0	0	0	3,756	0
Countering Weapons of Mass Destruction Office	30,831	7,000	0	5,000	0	18,831	0	0	0	0
Cybersecurity and Infrastructure Security Agency	2,176	2,176	0	0	0	0	0	0	0	0
Science and Technology Directorate	203,776	29,093	4,217	4,258	0	10,209	0	0	91,874	64,124
Secret Service	692	0	0	0	0	0	0	0	692	0
Transportation Security Administration	*	*	0	0	0	0	0	0	0	0
Department of the Interior	154,714	235	81,208	49,417	0	1,595	0	10,406	11,853	0
Bureau of Land Management	1,466	0	0	1,466	0	0	0	0	0	0
Bureau of Ocean Energy Management	19,440	0	8,748	0	0	972	0	9,720	0	0
Bureau of Reclamation	10,018	0	0	0	0	0	0	0	10,018	0
Bureau of Safety and Environmental Enforcement	2,720	235	27	0	0	623	0	0	1,835	0
Geological Survey	119,938	0	72,433	47,505	0	0	0	0	0	0

TABLE 39

Federal obligations for experimental development, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
National Park Service	1,132	0	0	446	0	0	0	686	0	0
Department of Justice	8,240	2,077	0	0	0	4,017	0	2,145	0	0
Bureau of Prisons	3	0	0	0	0	0	0	3	0	0
Office of Justice Programs	8,236	2,077	0	0	0	4,017	0	2,142	0	0
Department of State	20,000	0	0	20,000	0	0	0	0	0	0
Department of Transportation	264,985	0	0	0	0	2,618	0	0	45,823	216,544
Federal Aviation Administration	216,544	0	0	0	0	0	0	0	0	216,544
Federal Highway Administration	40,640	0	0	0	0	0	0	0	40,640	0
Federal Motor Carrier Safety Administration	2,618	0	0	0	0	2,618	0	0	0	0
Federal Railroad Administration	3,991	0	0	0	0	0	0	0	3,991	0
Federal Transit Administration	1,192	0	0	0	0	0	0	0	1,192	0
Department of the Treasury	10,399	0	0	0	0	10,399	0	0	0	0
Bureau of Engraving and Printing	10,399	0	0	0	0	10,399	0	0	0	0
Department of Veterans Affairs	90,535	0	0	90,535	0	0	0	0	0	0
Other agencies										
Agency for International Development	67,761	0	0	64,011	0	0	0	0	0	3,750
Environmental Protection Agency	119,086	1,631	49,082	47,046	906	2,843	0	688	16,889	0
Library of Congress	2,543	0	0	0	0	2,543	0	0	0	0
National Aeronautics and Space Administration	4,318,325	0	139,593	0	0	1,657,306	0	0	1,949,045	572,381
Tennessee Valley Authority	16,502	0	0	0	0	0	0	0	16,502	0

* = amount greater than \$0 but less than \$500.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 40

Preliminary federal obligations for experimental development, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	86,967,076	3,071,243	814,607	5,768,626	289,090	4,324,792	493,460	209,299	54,070,111	17,925,849
Departments										
Department of Agriculture	266,254	5,011	1,436	57,308	0	1,598	0	11,905	3,194	185,800
Agricultural Research Service	185,800	0	0	0	0	0	0	0	0	185,800
Animal and Plant Health Inspection Service	22,557	0	0	22,557	0	0	0	0	0	0
Forest Service	52,885	0	1,436	34,751	0	1,598	0	11,905	3,194	0
National Agricultural Statistics Service	5,011	5,011	0	0	0	0	0	0	0	0
Department of Commerce	738,885	7,684	170,249	19,875	1,854	8,852	0	92,147	430,629	7,596
Census Bureau	90,191	3,071	0	0	1,370	0	0	85,750	0	0
National Institute of Standards and Technology	448,195	4,174	5,009	3,131	271	6,011	0	0	429,599	0
National Oceanic and Atmospheric Administration	200,499	438	165,240	16,745	213	2,841	0	6,397	1,030	7,596
Department of Defense	76,931,574	2,927,196	366,588	5,403,663	281,880	2,084,745	493,460	87,590	49,000,525	16,285,926
Defense Advanced Research Projects Agency	1,996,211	154,188	1,982	144	0	217,182	0	0	805,705	817,010
Defense Health Agency	2,383,440	39,404	0	2,322,322	0	946	13,539	0	4,583	2,648
Department of the Air Force	12,855,854	185,525	998	3,067	224	135,485	0	0	9,145,695	3,384,860
Department of the Army	13,122,276	1,705,314	123,931	2,613,284	277,046	1,001,252	469,632	62,877	1,044,561	5,824,378
Department of the Navy	19,726,988	197,888	147,597	22,108	2,835	243,467	8,470	11,753	18,976,323	116,547
Space Force	8,470,000	0	0	0	0	91,716	0	0	4,887,908	3,490,376
Other defense agencies	18,376,805	644,877	92,080	442,738	1,775	394,698	1,819	12,961	14,135,750	2,650,107
Department of Education	90,367	0	0	0	0	0	0	0	0	90,367
Department of Energy	2,796,899	40,471	34,252	12,476	4,385	106,253	0	0	2,539,524	59,537
Advanced Research Projects Agency—Energy	235,000	7,141	959	12,476	0	27,478	0	0	186,945	0
Electricity Delivery and Energy Reliability	80,910	0	0	0	0	0	0	0	80,910	0
Energy Efficiency and Renewable Energy	1,037,514	0	0	0	0	0	0	0	1,037,514	0
Environmental Management	28,810	0	28,810	0	0	0	0	0	0	0
National Nuclear Security Administration	1,193,331	16,071	4,483	0	4,385	78,775	0	0	1,030,082	59,537
Defense Programs	384,164	0	0	0	0	0	0	0	384,164	0

TABLE 40

Preliminary federal obligations for experimental development, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Naval Nuclear Propulsion Program	700,073	0	0	0	0	0	0	0	641,548	58,525
Office of Defense Nuclear Nonproliferation	109,095	16,071	4,483	0	4,385	78,775	0	0	4,370	1,012
Nuclear Energy	204,073	0	0	0	0	0	0	0	204,073	0
Office of Cybersecurity, Energy Security, and Emergency Response	17,260	17,260	0	0	0	0	0	0	0	0
Department of Health and Human Services	55,624	36,055	0	12,971	0	0	0	0	2,053	4,545
Agency for Healthcare Research and Quality	36,055	36,055	0	0	0	0	0	0	0	0
Centers for Disease Control and Prevention	15,023	0	0	12,971	0	0	0	0	2,053	0
Health Resources and Services Administration	4,545	0	0	0	0	0	0	0	0	4,545
Department of Homeland Security	305,157	50,714	11,301	32,000	0	27,611	0	0	106,531	77,000
Coast Guard	5,233	1,176	301	0	0	0	0	0	3,756	0
Countering Weapons of Mass Destruction Office	25,611	3,000	0	17,000	0	5,611	0	0	0	0
Cybersecurity and Infrastructure Security Agency	4,538	4,538	0	0	0	0	0	0	0	0
Science and Technology Directorate	266,000	42,000	11,000	15,000	0	22,000	0	0	99,000	77,000
Secret Service	3,775	0	0	0	0	0	0	0	3,775	0
Transportation Security Administration	*	*	0	0	0	0	0	0	0	0
Department of the Interior	166,131	195	134,982	3,038	0	1,347	0	8,999	17,571	0
Bureau of Land Management	255	0	0	255	0	0	0	0	0	0
Bureau of Ocean Energy Management	16,626	0	7,482	0	0	831	0	8,313	0	0
Bureau of Reclamation	16,053	0	0	0	0	0	0	0	16,053	0
Bureau of Safety and Environmental Enforcement	2,250	195	22	0	0	515	0	0	1,518	0
Geological Survey	129,815	0	127,478	2,337	0	0	0	0	0	0
National Park Service	1,132	0	0	446	0	0	0	686	0	0
Department of Justice	14,508	2,169	0	0	0	4,419	0	7,920	0	0
Bureau of Prisons	3	0	0	0	0	0	0	3	0	0
Office of Justice Programs	14,505	2,169	0	0	0	4,419	0	7,917	0	0

TABLE 40

Preliminary federal obligations for experimental development, by agency and field of R&D: FY 2023

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Department of State	20,000	0	0	20,000	0	0	0	0	0	0
Department of Transportation	265,915	0	0	0	0	3,000	0	0	32,614	230,302
Federal Aviation Administration	230,302	0	0	0	0	0	0	0	0	230,302
Federal Highway Administration	26,725	0	0	0	0	0	0	0	26,725	0
Federal Motor Carrier Safety Administration	3,000	0	0	0	0	3,000	0	0	0	0
Federal Railroad Administration	4,888	0	0	0	0	0	0	0	4,888	0
Federal Transit Administration	1,000	0	0	0	0	0	0	0	1,000	0
Department of the Treasury	24,132	0	0	0	0	24,132	0	0	0	0
Bureau of Engraving and Printing	24,132	0	0	0	0	24,132	0	0	0	0
Department of Veterans Affairs	92,865	0	0	92,865	0	0	0	0	0	0
Other agencies										
Agency for International Development	67,761	0	0	64,011	0	0	0	0	0	3,750
Environmental Protection Agency	127,623	1,748	52,601	50,419	971	3,047	0	737	18,100	0
Library of Congress	2,669	0	0	0	0	2,669	0	0	0	0
National Aeronautics and Space Administration	4,919,309	0	43,198	0	0	2,057,119	0	0	1,837,967	981,025
Tennessee Valley Authority	81,403	0	0	0	0	0	0	0	81,403	0

* = amount greater than \$0 but less than \$500.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 41

Federal obligations and outlays for R&D plant, by agency: FYs 2022–23

(Dollars in thousands)

Agency	Obligations		Outlays	
	2022	2023 (preliminary)	2022	2023 (preliminary)
All agencies	6,173,332	6,520,860	4,184,640	5,705,619
Departments				
Department of Agriculture	179,440	58,275	109,460	133,275
Agricultural Research Service	170,061	42,000	100,081	117,000
Forest Service	9,379	16,275	9,378	16,275
Department of Commerce	379,425	1,252,736	402,451	640,563
National Institute of Standards and Technology	96,158	198,424	184,951	149,063
National Oceanic and Atmospheric Administration	281,767	1,052,812	216,000	490,000
National Telecommunications and Information Administration	1,500	1,500	1,500	1,500
Department of Defense	255,660	356,552	251,464	263,679
Department of the Air Force	130,765	269,778	164,182	223,656
Department of the Navy	62,776	75,905	25,638	31,000
Other defense agencies	62,118	10,869	61,644	9,024
Department of Energy	4,279,970	3,479,651	2,607,617	3,140,263
Energy Efficiency and Renewable Energy	48,601	66,078	43,047	58,149
Fossil Energy	29,000	25,200	18,674	27,400
National Nuclear Security Administration	1,207,904	1,364,110	687,513	1,068,419
Defense Programs	618,449	763,313	417,857	452,371
Naval Nuclear Propulsion Program	574,520	577,223	269,641	616,025
Office of Defense Nuclear Nonproliferation	14,935	23,574	15	24
Nuclear Energy	372,184	517,551	304,289	473,995
Office of Science	2,622,282	1,506,712	1,554,094	1,512,299
Department of Health and Human Services	291,447	406,694	221,411	344,462
Biomedical Advanced Research and Development Authority	1,031	0	1,031	0
Food and Drug Administration	10,415	11,694	33,704	37,841
National Institutes of Health	280,000	395,000	186,675	306,621
Department of Homeland Security	10,818	55,000	12,217	99,000
Science and Technology Directorate	10,818	55,000	12,217	99,000
Department of the Interior	6,872	6,166	12,781	6,666
Bureau of Reclamation	1,650	1,666	1,650	1,666
Bureau of Safety and Environmental Enforcement	5,222	4,500	11,131	5,000
Department of Transportation	37,918	39,427	33,071	37,338
Federal Aviation Administration	33,387	33,989	28,000	32,000
Federal Railroad Administration	4,031	4,938	4,571	4,838
National Highway Traffic Safety Administration	500	500	500	500
Department of the Treasury	0	18,282	0	18,282
Bureau of Engraving and Printing	0	18,282	0	18,282
Other agencies				
Environmental Protection Agency	5,800	2,300	5,800	2,300
National Aeronautics and Space Administration	126,953	107,500	61,769	240,792
National Science Foundation	529,429	664,277	397,000	705,000
Smithsonian Institution	69,600	74,000	69,600	74,000

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations or outlays in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 42

Federal obligations for R&D plant, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	6,173,332	1,095,957	3,436,961	1,020,424	462,769	148,648	7,707	866
Departments								
Department of Agriculture	179,440	179,440	0	0	0	0	0	0
Agricultural Research Service	170,061	170,061	0	0	0	0	0	0
Forest Service	9,379	9,379	0	0	0	0	0	0
Department of Commerce	379,425	379,425	0	0	0	0	0	0
National Institute of Standards and Technology	96,158	96,158	0	0	0	0	0	0
National Oceanic and Atmospheric Administration	281,767	281,767	0	0	0	0	0	0
National Telecommunications and Information Administration	1,500	1,500	0	0	0	0	0	0
Department of Defense	255,660	178,926	50,538	26,195	0	0	0	0
Department of the Air Force	130,765	120,759	0	10,006	0	0	0	0
Department of the Navy	62,776	49,862	0	12,914	0	0	0	0
Other defense agencies	62,118	8,305	50,538	3,275	0	0	0	0
Department of Energy	4,279,970	75,119	3,368,327	829,679	66	0	6,779	0
Energy Efficiency and Renewable Energy	48,601	0	48,601	0	0	0	0	0
Fossil Energy	29,000	29,000	0	0	0	0	0	0
National Nuclear Security Administration	1,207,904	36,782	351,146	819,914	61	0	0	0
Defense Programs	618,449	36,782	336,211	245,394	61	0	0	0
Naval Nuclear Propulsion Program	574,520	0	0	574,520	0	0	0	0
Office of Defense Nuclear Nonproliferation	14,935	0	14,935	0	0	0	0	0
Nuclear Energy	372,184	1,973	367,962	765	5	0	1,479	0
Office of Science	2,622,282	7,364	2,600,618	9,000	0	0	5,300	0
Department of Health and Human Services	291,447	127,510	0	93	157,980	5,863	0	0
Biomedical Advanced Research and Development Authority	1,031	938	0	93	0	0	0	0
Food and Drug Administration	10,415	10,415	0	0	0	0	0	0
National Institutes of Health	280,000	116,157	0	0	157,980	5,863	0	0
Department of Homeland Security	10,818	0	10,096	137	0	0	0	586
Science and Technology Directorate	10,818	0	10,096	137	0	0	0	586
Department of the Interior	6,872	1,780	0	5,092	0	0	0	0
Bureau of Reclamation	1,650	800	0	850	0	0	0	0
Bureau of Safety and Environmental Enforcement	5,222	980	0	4,242	0	0	0	0

TABLE 42

Federal obligations for R&D plant, by agency and performer: FY 2022

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Department of Transportation	37,918	1,019	0	35,402	831	546	0	120
Federal Aviation Administration	33,387	11	0	33,257	0	0	0	120
Federal Railroad Administration	4,031	1,009	0	1,646	831	546	0	0
National Highway Traffic Safety Administration	500	0	0	500	0	0	0	0
Other agencies								
Environmental Protection Agency	5,800	0	0	5,800	0	0	0	0
National Aeronautics and Space Administration	126,953	0	8,000	118,026	0	0	928	0
National Science Foundation	529,429	83,136	*	0	303,892	142,240	0	161
Smithsonian Institution	69,600	69,600	0	0	0	0	0	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 43

Preliminary federal obligations for R&D plant, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
All agencies	6,520,860	2,137,729	2,408,808	1,144,004	632,532	190,305	7,157	324
Departments								
Department of Agriculture	58,275	58,275	0	0	0	0	0	0
Agricultural Research Service	42,000	42,000	0	0	0	0	0	0
Forest Service	16,275	16,275	0	0	0	0	0	0
Department of Commerce	1,252,736	1,252,736	0	0	0	0	0	0
National Institute of Standards and Technology	198,424	198,424	0	0	0	0	0	0
National Oceanic and Atmospheric Administration	1,052,812	1,052,812	0	0	0	0	0	0
National Telecommunications and Information Administration	1,500	1,500	0	0	0	0	0	0
Department of Defense	356,552	296,681	0	59,871	0	0	0	0
Department of the Air Force	269,778	232,481	0	37,296	0	0	0	0
Department of the Navy	75,905	56,246	0	19,659	0	0	0	0
Other defense agencies	10,869	7,954	0	2,916	0	0	0	0
Department of Energy	3,479,651	138,387	2,375,233	950,042	8,050	783	7,157	0
Energy Efficiency and Renewable Energy	66,078	0	66,078	0	0	0	0	0
Fossil Energy	25,200	25,200	0	0	0	0	0	0
National Nuclear Security Administration	1,364,110	110,443	295,863	948,979	8,043	783	0	0
Defense Programs	763,313	110,443	272,289	371,756	8,043	783	0	0
Naval Nuclear Propulsion Program	577,223	0	0	577,223	0	0	0	0
Office of Defense Nuclear Nonproliferation	23,574	0	23,574	0	0	0	0	0
Nuclear Energy	517,551	2,744	511,680	1,063	7	0	2,057	0
Office of Science	1,506,712	0	1,501,612	0	0	0	5,100	0
Department of Health and Human Services	406,694	175,558	0	0	222,865	8,271	0	0
Food and Drug Administration	11,694	11,694	0	0	0	0	0	0
National Institutes of Health	395,000	163,864	0	0	222,865	8,271	0	0
Department of Homeland Security	55,000	19,500	11,000	24,500	0	0	0	0
Science and Technology Directorate	55,000	19,500	11,000	24,500	0	0	0	0
Department of the Interior	6,166	1,644	0	4,522	0	0	0	0
Bureau of Reclamation	1,666	800	0	866	0	0	0	0
Bureau of Safety and Environmental Enforcement	4,500	844	0	3,656	0	0	0	0
Department of Transportation	39,427	1,580	0	36,113	989	622	0	122
Federal Aviation Administration	33,989	11	0	33,856	0	0	0	122

TABLE 43

Preliminary federal obligations for R&D plant, by agency and performer: FY 2023

(Dollars in thousands)

Agency	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Federal Railroad Administration	4,938	1,569	0	1,757	989	622	0	0
National Highway Traffic Safety Administration	500	0	0	500	0	0	0	0
Department of the Treasury	18,282	0	0	18,282	0	0	0	0
Bureau of Engraving and Printing	18,282	0	0	18,282	0	0	0	0
Other agencies								
Environmental Protection Agency	2,300	0	0	2,300	0	0	0	0
National Aeronautics and Space Administration	107,500	15,050	22,575	48,375	19,350	2,150	0	0
National Science Foundation	664,277	104,318	*	0	381,278	178,480	0	202
Smithsonian Institution	74,000	74,000	0	0	0	0	0	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.**Note(s):**Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.**Source(s):**

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 44

Federal obligations to University Affiliated Research Centers, by type of R&D and R&D plant: FY 2022

(Dollars in thousands)

UARC	Total R&D and R&D plant	Type of R&D				R&D plant
		Total R&D	Basic research	Applied research	Experimental development	
All UARCs	1,572,684	1,572,684	522,161	193,750	856,773	0
Georgia Institute of Technology, Georgia Tech Research Institute	85,620	85,620	30,628	7,410	47,582	0
Johns Hopkins University Applied Physics Laboratory	814,244	814,244	200,377	73,265	540,603	0
Massachusetts Institute of Technology Institute for Soldier Nanotechnologies	192,750	192,750	89,243	32,975	70,532	0
Pennsylvania State University Applied Research Laboratory	96,361	96,361	32,364	8,131	55,866	0
Stevens Institute of Technology Systems Engineering Research Center	11,842	11,842	1,859	1,681	8,302	0
University of Alaska Geophysical Detection of Nuclear Proliferation	380	380	380	0	0	0
University of California, Santa Barbara Institute for Collaborative Biotechnologies	52,945	52,945	28,653	1,521	22,771	0
University of Hawaii, Manoa Applied Research Laboratory	1,282	1,282	1,182	0	100	0
University of Maryland College Park Applied Research Laboratory for Intelligence and Security	53,330	53,330	29,379	18,213	5,737	0
University of Nebraska National Strategic Research Institute	41,259	41,259	15,979	16,128	9,152	0
University of Southern California Institute for Creative Technologies	41,085	41,085	25,455	11,223	4,407	0
University of Texas at Austin Applied Research Laboratories	85,938	85,938	30,656	1,459	53,823	0
University of Washington Applied Physics Laboratory	49,520	49,520	33,320	15,798	402	0
Utah State University Space Dynamics Laboratory	46,129	46,129	2,686	5,947	37,496	0

UARC = University Affiliated Research Center.

Note(s):

Because of rounding, detail may not add to total. UARCs are research organizations within a university or college that are established by the Office of the Undersecretary of Defense for Research and Engineering to provide or maintain essential engineering, research, and development capabilities through a long-term strategic relationship. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 45

Federal obligations to University Affiliated Research Centers for research and experimental development, by agency: FY 2022

(Dollars in thousands)

UARC	Total	DHS	DOD	DOE	DOT	EPA	HHS	NASA	USDA
All UARCs	1,572,684	19,995	988,713	153,369	9,659	750	20,498	346,705	32,995
Georgia Institute of Technology, Georgia Tech Research Institute	85,620	0	67,480	16,606	0	750	0	0	783
Johns Hopkins University Applied Physics Laboratory	814,244	0	454,502	8,232	0	0	14,435	337,074	0
Massachusetts Institute of Technology Institute for Soldier Nanotechnologies	192,750	0	150,322	42,429	0	0	0	0	0
Pennsylvania State University Applied Research Laboratory	96,361	0	65,114	17,717	0	0	355	0	13,174
Stevens Institute of Technology Systems Engineering Research Center	11,842	0	10,392	1,150	0	0	0	0	300
University of Alaska Geophysical Detection of Nuclear Proliferation	380	0	0	380	0	0	0	0	0
University of California, Santa Barbara Institute for Collaborative Biotechnologies	52,945	0	40,169	10,751	0	0	1,175	0	850
University of Hawaii, Manoa Applied Research Laboratory	1,282	0	1,282	0	0	0	0	0	0
University of Maryland College Park Applied Research Laboratory for Intelligence and Security	53,330	0	47,342	6	0	0	16	0	5,966
University of Nebraska National Strategic Research Institute	41,259	19,995	6,182	6,194	0	0	554	0	8,335
University of Southern California Institute for Creative Technologies	41,085	0	38,890	2,195	0	0	0	0	0
University of Texas at Austin Applied Research Laboratories	85,938	0	60,420	24,520	0	0	0	997	0
University of Washington Applied Physics Laboratory	49,520	0	11,931	22,710	9,659	0	3,964	0	1,257
Utah State University Space Dynamics Laboratory	46,129	0	34,687	478	0	0	0	8,634	2,330

DHS = Department of Homeland Security; DOD = Department of Defense; DOE = Department of Energy; DOT = Department of Transportation; EPA = Environmental Protection Agency; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; UARC = University Affiliated Research Center; USDA = Department of Agriculture.

Note(s):

Because of rounding, detail may not add to total. UARCs are research organizations within a university or college that are established by the Office of the Undersecretary of Defense for Research and Engineering to provide or maintain essential engineering, research, and development capabilities through a long-term strategic relationship. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 46

Federal obligations to University Affiliated Research Centers for R&D plant: FY 2022

(Dollars in thousands)

UARC	Total
All UARCs	0
Georgia Institute of Technology, Georgia Tech Research Institute	0
Johns Hopkins University Applied Physics Laboratory	0
Massachusetts Institute of Technology Institute for Soldier Nanotechnologies	0
Pennsylvania State University Applied Research Laboratory	0
Stevens Institute of Technology Systems Engineering Research Center	0
University of Alaska Geophysical Detection of Nuclear Proliferation	0
University of California, Santa Barbara Institute for Collaborative Biotechnologies	0
University of Hawaii, Manoa Applied Research Laboratory	0
University of Maryland College Park Applied Research Laboratory for Intelligence and Security	0
University of Nebraska National Strategic Research Institute	0
University of Southern California Institute for Creative Technologies	0
University of Texas at Austin Applied Research Laboratories	0
University of Washington Applied Physics Laboratory	0
Utah State University Space Dynamics Laboratory	0

UARC = University Affiliated Research Center.

Note(s):

UARCs are research organizations within a university or college that are established by the Office of the Undersecretary of Defense for Research and Engineering to provide or maintain essential engineering, research, and development capabilities through a long-term strategic relationship. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 47

Federal obligations for research performed at higher education institutions, by detailed field of R&D: FY 2022

(Dollars in thousands)

Field	2022
All fields	39,068,958
Computer and information sciences	1,374,480
Geosciences, atmospheric sciences, and ocean sciences	2,143,679
Atmospheric science and meteorology	301,133
Geological and earth sciences	216,750
Ocean sciences and marine sciences	672,280
Other geosciences, atmospheric sciences, and ocean sciences	953,516
Life sciences	20,680,390
Agricultural sciences	201,947
Biological and biomedical sciences	11,544,992
Health sciences	6,612,391
Natural resources and conservation	19,422
Other life sciences	2,301,638
Mathematics and statistics	514,912
Physical sciences	3,827,139
Astronomy and astrophysics	384,862
Chemistry	1,184,137
Materials science	359,043
Physics	881,032
Other physical sciences	1,018,065
Psychology	2,978,215
Biological aspects	16,821
Social aspects	14,910
Other psychological sciences	2,946,485
Social sciences	1,141,534
Anthropology	25,411
Economics	83,986
Political science and government	1,673
Sociology, demography, and population studies	59,932
Other social sciences	970,531
Engineering	4,164,407
Aerospace, aeronautical, and astronautical engineering	147,565
Bioengineering and biomedical engineering	122,366
Chemical engineering	229,413
Civil engineering	115,628
Electrical, electronics, and communications engineering	259,755
Industrial and manufacturing engineering	93,268
Mechanical engineering	141,658
Metallurgical and materials engineering	192,783
Other engineering	2,861,970
Other fields	2,244,201
Business management and business administration	50,620
Communication and communications technologies	7,760
Education research	795,918
Humanities	1
Law	5,856
Social work	0
Visual and performing arts	0
All other fields	1,384,046

Note(s):

Because of rounding, detail may not add to total. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 48

Federal obligations for research performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	39,068,958	1,374,480	2,143,679	20,680,390	514,912	3,827,139	2,978,215	1,141,534	4,164,407	2,244,201
Departments										
Department of Agriculture	1,156,873	9,228	19,907	849,838	4,366	40,701	11,457	76,916	69,428	75,031
Agricultural Research Service	207,271	269	912	190,420	0	13,307	0	497	1,865	0
Animal and Plant Health Inspection Service	7,231	0	0	7,231	0	0	0	0	0	0
Economic Research Service	5,166	0	0	0	0	0	0	5,166	0	0
Forest Service	23,774	1,238	5,820	10,337	0	441	0	5,391	546	0
National Agricultural Statistics Service	54	54	0	0	0	0	0	0	0	0
National Institute of Food and Agriculture	912,622	7,668	13,174	641,096	4,366	26,953	11,457	65,861	67,017	75,031
Natural Resources Conservation Service	755	0	0	755	0	0	0	0	0	0
Department of Commerce	333,042	7,805	227,011	12,557	332	32,742	0	6,961	43,275	2,359
National Institute of Standards and Technology	72,283	6,232	3,247	160	174	23,028	0	374	39,067	0
National Oceanic and Atmospheric Administration	260,759	1,573	223,763	12,397	157	9,714	0	6,587	4,208	2,359
Department of Defense	2,478,391	394,262	240,149	303,373	36,411	152,619	37,034	20,234	906,745	387,566
Defense Advanced Research Projects Agency	511,653	263,464	15,995	138,984	1,040	21,785	10,563	0	59,282	540
Defense Health Agency	36,008	0	0	36,008	0	0	0	0	0	0
Department of the Air Force	586,149	8,389	0	2,643	1,687	12,361	110	648	444,822	115,489
Department of the Army	398,152	45,536	3,274	72,709	8,649	19,540	14,537	1,196	87,615	145,097
Department of the Navy	730,135	51,477	211,941	22,743	10,755	63,927	7,261	5,558	252,698	103,775
Space Force	4,446	0	0	0	0	0	0	0	4,446	0
Other defense agencies	211,848	25,395	8,939	30,287	14,280	35,006	4,562	12,833	57,881	22,665
Department of Education	148,400	0	0	0	0	0	0	0	0	148,400
Department of Energy	1,319,094	36,546	43,536	148,676	10,971	815,511	0	0	258,740	5,114
Advanced Research Projects Agency—Energy	73,287	3,507	0	6,351	0	10,606	0	0	52,823	0
Electricity Delivery and Energy Reliability	4,206	0	0	0	0	0	0	0	4,206	0
Energy Efficiency and Renewable Energy	88,000	0	0	0	0	0	0	0	88,000	0
Fossil Energy	80,418	0	7,640	0	0	12,786	0	0	59,992	0

TABLE 48

Federal obligations for research performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
National Nuclear Security Administration	24,857	0	0	0	0	19,772	0	0	85	5,000
Defense Programs	9,807	0	0	0	0	9,772	0	0	35	0
Office of Defense Nuclear Nonproliferation	15,050	0	0	0	0	10,000	0	0	50	5,000
Nuclear Energy	53,634	0	0	0	0	0	0	0	53,634	0
Office of Cybersecurity, Energy Security, and Emergency Response	12,194	12,194	0	0	0	0	0	0	0	0
Office of Science	982,499	20,846	35,896	142,325	10,971	772,347	0	0	0	114
Department of Health and Human Services	26,101,914	1,828	376,962	18,535,474	202,488	687,331	2,895,207	825,646	1,818,158	758,822
Administration for Children and Families	1,800	0	0	0	0	0	0	1,800	0	0
Administration for Community Living	77,027	0	0	0	0	0	0	77,027	0	0
Agency for Healthcare Research and Quality	103,809	1,828	0	1,192	0	10,848	0	10,152	79,789	0
Agency for Toxic Substances and Disease Registry	7,529	0	7,529	0	0	0	0	0	0	0
Biomedical Advanced Research and Development Authority	46,050	0	0	46,050	0	0	0	0	0	0
Centers for Disease Control and Prevention	246,564	0	0	199,786	0	0	0	30,180	4,084	12,514
Centers for Medicare and Medicaid Services	2,081	0	0	2,081	0	0	0	0	0	0
Food and Drug Administration	82,155	0	0	82,155	0	0	0	0	0	0
Health Resources and Services Administration	30,121	0	0	30,121	0	0	0	0	0	0
National Institutes of Health	25,504,332	0	369,433	18,174,088	202,488	676,483	2,895,207	706,040	1,734,285	746,308
Office of the Secretary of Health and Human Services	447	0	0	0	0	0	0	447	0	0
Office of the Assistant Secretary for Planning and Evaluation	447	0	0	0	0	0	0	447	0	0
Department of Homeland Security	18,274	1,900	0	1,000	0	4,270	0	0	8,526	2,578
Countering Weapons of Mass Destruction Office	4,720	1,500	0	1,000	0	2,220	0	0	0	0
Science and Technology Directorate	13,554	400	0	0	0	2,050	0	0	8,526	2,578

TABLE 48

Federal obligations for research performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Department of the Interior	52,182	282	31,664	10,533	0	1,509	0	6,278	1,514	404
Bureau of Land Management	5,337	0	0	5,337	0	0	0	0	0	0
Bureau of Ocean Energy Management	9,798	282	7,071	0	0	959	0	1,082	0	404
Bureau of Reclamation	1,128	0	0	0	0	0	0	0	1,128	0
Bureau of Safety and Environmental Enforcement	1,011	0	76	0	0	549	0	0	385	0
Geological Survey	24,517	0	24,517	0	0	0	0	0	0	0
National Park Service	10,391	0	0	5,196	0	0	0	5,196	0	0
Department of Justice	42,446	306	0	4,615	266	4,934	2,438	28,005	531	1,350
Federal Bureau of Investigation	1,350	0	0	0	0	0	0	0	0	1,350
Office of Justice Programs	41,096	306	0	4,615	266	4,934	2,438	28,005	531	0
Department of Transportation	116,220	1,028	63	5,439	779	0	1,053	4,930	101,477	1,452
Federal Aviation Administration	67,047	1,028	63	102	779	0	1,053	0	63,071	952
Federal Highway Administration	11,141	0	0	0	0	0	0	0	11,141	0
Federal Railroad Administration	6,526	0	0	0	0	0	0	0	6,526	0
Federal Transit Administration	1,875	0	0	0	0	0	0	0	1,375	500
National Highway Traffic Safety Administration	24,237	0	0	5,337	0	0	0	4,930	13,970	0
Pipeline and Hazardous Materials Safety Administration	5,394	0	0	0	0	0	0	0	5,394	0
Other agencies										
Agency for International Development	32,549	0	0	31,599	0	0	0	0	0	950
Appalachian Regional Commission	162	0	0	0	0	0	0	162	0	0
Environmental Protection Agency	46,217	633	19,049	18,258	351	1,104	0	267	6,555	0
National Aeronautics and Space Administration	1,514,032	0	381,111	24,138	0	989,695	0	0	117,798	1,291
National Science Foundation	5,689,744	920,662	804,229	734,889	258,949	1,096,725	31,027	168,310	816,069	858,884
Nuclear Regulatory Commission	15,592	0	0	0	0	0	0	0	15,592	0
Social Security Administration	3,825	0	0	0	0	0	0	3,825	0	0

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 49

Federal obligations for basic research performed at higher education institutions, by detailed field of R&D: FY 2022

(Dollars in thousands)

Field	2022
All fields	22,260,098
Computer and information sciences	974,835
Geosciences, atmospheric sciences, and ocean sciences	1,438,969
Atmospheric science and meteorology	176,928
Geological and earth sciences	183,877
Ocean sciences and marine sciences	453,031
Other geosciences, atmospheric sciences, and ocean sciences	625,132
Life sciences	10,607,163
Agricultural sciences	94,736
Biological and biomedical sciences	6,162,998
Health sciences	3,213,201
Natural resources and conservation	990
Other life sciences	1,135,238
Mathematics and statistics	404,997
Physical sciences	3,347,125
Astronomy and astrophysics	384,787
Chemistry	808,157
Materials science	341,500
Physics	832,830
Other physical sciences	979,851
Psychology	1,508,304
Biological aspects	16,319
Social aspects	10,975
Other psychological sciences	1,481,010
Social sciences	568,185
Anthropology	18,432
Economics	34,736
Political science and government	171
Sociology, demography, and population studies	21,512
Other social sciences	493,334
Engineering	2,148,585
Aerospace, aeronautical, and astronautical engineering	43,116
Bioengineering and biomedical engineering	35,808
Chemical engineering	107,116
Civil engineering	60,015
Electrical, electronics, and communications engineering	142,225
Industrial and manufacturing engineering	39,924
Mechanical engineering	94,506
Metallurgical and materials engineering	74,164
Other engineering	1,551,710
Other fields	1,261,936
Business management and business administration	14,628
Communication and communications technologies	0
Education research	310,795
Humanities	1
Law	5,765
Social work	0
Visual and performing arts	0
All other fields	930,746

Note(s):

Because of rounding, detail may not add to total. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 50

Federal obligations for basic research performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	22,260,098	974,835	1,438,969	10,607,163	404,997	3,347,125	1,508,304	568,185	2,148,585	1,261,936
Departments										
Department of Agriculture	554,375	4,488	6,857	439,371	918	21,285	105	21,157	35,099	25,095
Agricultural Research Service	115,150	150	507	105,789	0	7,393	0	276	1,036	0
Animal and Plant Health Inspection Service	7,231	0	0	7,231	0	0	0	0	0	0
Forest Service	3,012	75	1,117	1,456	0	125	0	73	166	0
National Institute of Food and Agriculture	428,868	4,263	5,233	324,782	918	13,768	105	20,808	33,897	25,095
Natural Resources Conservation Service	114	0	0	114	0	0	0	0	0	0
Department of Commerce	32,162	1,527	1,000	45	174	22,123	0	0	7,293	0
National Institute of Standards and Technology	32,162	1,527	1,000	45	174	22,123	0	0	7,293	0
Department of Defense	1,531,224	192,084	94,815	136,801	33,029	128,380	22,788	20,039	564,044	339,246
Defense Advanced Research Projects Agency	201,279	102,951	4,085	56,594	1,040	17,816	2,399	0	16,394	0
Defense Health Agency	1,743	0	0	1,743	0	0	0	0	0	0
Department of the Air Force	528,832	7,999	0	2,515	1,685	12,124	110	648	388,390	115,361
Department of the Army	249,573	32,433	2,357	49,702	5,269	19,043	8,932	1,196	19,867	110,774
Department of the Navy	382,598	29,440	79,786	8,018	10,755	52,384	7,009	5,558	88,441	101,207
Space Force	4,446	0	0	0	0	0	0	0	4,446	0
Other defense agencies	162,753	19,260	8,587	18,228	14,280	27,013	4,338	12,638	46,506	11,903
Department of Education	26,666	0	0	0	0	0	0	0	0	26,666
Department of Energy	1,000,966	23,769	35,896	142,325	10,971	782,347	0	0	543	5,114
Electricity Delivery and Energy Reliability	543	0	0	0	0	0	0	0	543	0
National Nuclear Security Administration	15,000	0	0	0	0	10,000	0	0	0	5,000
Office of Defense Nuclear Nonproliferation	15,000	0	0	0	0	10,000	0	0	0	5,000

TABLE 50

Federal obligations for basic research performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Office of Cybersecurity, Energy Security, and Emergency Response	2,924	2,924	0	0	0	0	0	0	0	0
Office of Science	982,499	20,846	35,896	142,325	10,971	772,347	0	0	0	114
Department of Health and Human Services	12,842,865	0	185,455	9,147,798	101,649	339,595	1,453,394	354,432	873,381	387,161
Centers for Disease Control and Prevention	37,609	0	0	22,324	0	0	0	0	2,770	12,514
Centers for Medicare and Medicaid Services	2,081	0	0	2,081	0	0	0	0	0	0
National Institutes of Health	12,803,175	0	185,455	9,123,392	101,649	339,595	1,453,394	354,432	870,611	374,646
Department of Homeland Security	11,665	1,500	0	1,000	0	2,220	0	0	4,428	2,518
Countering Weapons of Mass Destruction Office	4,720	1,500	0	1,000	0	2,220	0	0	0	0
Science and Technology Directorate	6,946	0	0	0	0	0	0	0	4,428	2,518
Department of the Interior	5,570	0	4,031	990	0	549	0	0	0	0
Bureau of Land Management	990	0	0	990	0	0	0	0	0	0
Bureau of Safety and Environmental Enforcement	549	0	0	0	0	549	0	0	0	0
Geological Survey	4,031	0	4,031	0	0	0	0	0	0	0
Department of Justice	7,221	0	0	0	0	0	1,000	6,221	0	0
Office of Justice Programs	7,221	0	0	0	0	0	1,000	6,221	0	0
Other agencies										
National Aeronautics and Space Administration	1,305,903	0	320,580	9,432	0	972,383	0	0	2,228	1,280
National Science Foundation	4,941,482	751,467	790,334	729,401	258,256	1,078,244	31,018	166,336	661,569	474,856

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 51

Federal obligations for applied research performed at higher education institutions, by detailed field of R&D: FY 2022

(Dollars in thousands)

Field	2022
All fields	16,808,860
Computer and information sciences	399,645
Geosciences, atmospheric sciences, and ocean sciences	704,711
Atmospheric science and meteorology	124,205
Geological and earth sciences	32,873
Ocean sciences and marine sciences	219,250
Other geosciences, atmospheric sciences, and ocean sciences	328,383
Life sciences	10,073,227
Agricultural sciences	107,211
Biological and biomedical sciences	5,381,993
Health sciences	3,399,190
Natural resources and conservation	18,432
Other life sciences	1,166,400
Mathematics and statistics	109,915
Physical sciences	480,015
Astronomy and astrophysics	75
Chemistry	375,980
Materials science	17,543
Physics	48,202
Other physical sciences	38,215
Psychology	1,469,912
Biological aspects	502
Social aspects	3,935
Other psychological sciences	1,465,475
Social sciences	573,349
Anthropology	6,979
Economics	49,249
Political science and government	1,502
Sociology, demography, and population studies	38,421
Other social sciences	477,198
Engineering	2,015,822
Aerospace, aeronautical, and astronautical engineering	104,449
Bioengineering and biomedical engineering	86,558
Chemical engineering	122,297
Civil engineering	55,613
Electrical, electronics, and communications engineering	117,530
Industrial and manufacturing engineering	53,344
Mechanical engineering	47,152
Metallurgical and materials engineering	118,619
Other engineering	1,310,261
Other fields	982,265
Business management and business administration	35,992
Communication and communications technologies	7,760
Education research	485,123
Humanities	*
Law	91
Social work	0
Visual and performing arts	0
All other fields	453,300

* = amount greater than \$0 but less than \$500.

Note(s):

Because of rounding, detail may not add to total. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 52

Federal obligations for applied research performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	16,808,860	399,645	704,711	10,073,227	109,915	480,015	1,469,912	573,349	2,015,822	982,265
Departments										
Department of Agriculture	602,498	4,741	13,050	410,468	3,448	19,416	11,353	55,759	34,329	49,935
Agricultural Research Service	92,120	120	405	84,631	0	5,914	0	221	829	0
Economic Research Service	5,166	0	0	0	0	0	0	5,166	0	0
Forest Service	20,762	1,163	4,703	8,881	0	316	0	5,318	380	0
National Agricultural Statistics Service	54	54	0	0	0	0	0	0	0	0
National Institute of Food and Agriculture	483,754	3,405	7,941	316,314	3,448	13,185	11,353	45,053	33,120	49,935
Natural Resources Conservation Service	642	0	0	642	0	0	0	0	0	0
Department of Commerce	300,880	6,278	226,011	12,512	157	10,619	0	6,961	35,983	2,359
National Institute of Standards and Technology	40,120	4,705	2,247	115	0	905	0	374	31,774	0
National Oceanic and Atmospheric Administration	260,759	1,573	223,763	12,397	157	9,714	0	6,587	4,208	2,359
Department of Defense	947,167	202,178	145,334	166,572	3,382	24,239	14,246	196	342,701	48,320
Defense Advanced Research Projects Agency	310,374	160,513	11,910	82,389	0	3,970	8,164	0	42,888	540
Defense Health Agency	34,264	0	0	34,264	0	0	0	0	0	0
Department of the Air Force	57,316	390	0	128	2	236	*	*	56,433	128
Department of the Army	148,579	13,103	917	23,007	3,380	497	5,605	0	67,749	34,323
Department of the Navy	347,537	22,037	132,155	14,725	0	11,544	252	0	164,257	2,568
Other defense agencies	49,096	6,135	352	12,059	0	7,993	224	196	11,375	10,762
Department of Education	121,735	0	0	0	0	0	0	0	0	121,735
Department of Energy	318,128	12,777	7,640	6,351	0	33,164	0	0	258,197	0
Advanced Research Projects Agency—Energy	73,287	3,507	0	6,351	0	10,606	0	0	52,823	0

TABLE 52

Federal obligations for applied research performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Electricity Delivery and Energy Reliability	3,663	0	0	0	0	0	0	0	3,663	0
Energy Efficiency and Renewable Energy	88,000	0	0	0	0	0	0	0	88,000	0
Fossil Energy	80,418	0	7,640	0	0	12,786	0	0	59,992	0
National Nuclear Security Administration	9,857	0	0	0	0	9,772	0	0	85	0
Defense Programs	9,807	0	0	0	0	9,772	0	0	35	0
Office of Defense Nuclear Nonproliferation	50	0	0	0	0	0	0	0	50	0
Nuclear Energy	53,634	0	0	0	0	0	0	0	53,634	0
Office of Cybersecurity, Energy Security, and Emergency Response	9,270	9,270	0	0	0	0	0	0	0	0
Department of Health and Human Services	13,259,050	1,828	191,506	9,387,676	100,839	347,736	1,441,813	471,213	944,777	371,661
Administration for Children and Families	1,800	0	0	0	0	0	0	1,800	0	0
Administration for Community Living	77,027	0	0	0	0	0	0	77,027	0	0
Agency for Healthcare Research and Quality	103,809	1,828	0	1,192	0	10,848	0	10,152	79,789	0
Agency for Toxic Substances and Disease Registry	7,529	0	7,529	0	0	0	0	0	0	0
Biomedical Advanced Research and Development Authority	46,050	0	0	46,050	0	0	0	0	0	0
Centers for Disease Control and Prevention	208,955	0	0	177,462	0	0	0	30,180	1,314	0
Food and Drug Administration	82,155	0	0	82,155	0	0	0	0	0	0
Health Resources and Services Administration	30,121	0	0	30,121	0	0	0	0	0	0
National Institutes of Health	12,701,157	0	183,978	9,050,696	100,839	336,889	1,441,813	351,608	863,674	371,661

TABLE 52

Federal obligations for applied research performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Agency for International Development	32,549	0	0	31,599	0	0	0	0	0	950
Appalachian Regional Commission	162	0	0	0	0	0	0	162	0	0
Environmental Protection Agency	46,217	633	19,049	18,258	351	1,104	0	267	6,555	0
National Aeronautics and Space Administration	208,129	0	60,530	14,706	0	17,312	0	0	115,570	11
National Science Foundation	748,262	169,194	13,895	5,488	692	18,481	10	1,975	154,499	384,028
Nuclear Regulatory Commission	15,592	0	0	0	0	0	0	0	15,592	0
Social Security Administration	3,825	0	0	0	0	0	0	3,825	0	0

* = amount greater than \$0 but less than \$500.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 53

Federal obligations for experimental development performed at higher education institutions, by detailed field of R&D: FY 2022

(Dollars in thousands)

Field	2022
All fields	3,109,857
Computer and information sciences	61,924
Geosciences, atmospheric sciences, and ocean sciences	121,630
Atmospheric science and meteorology	40,015
Geological and earth sciences	8,521
Ocean sciences and marine sciences	23,993
Other geosciences, atmospheric sciences, and ocean sciences	49,102
Life sciences	935,500
Agricultural sciences	26,011
Biological and biomedical sciences	856,060
Health sciences	44,184
Natural resources and conservation	6,660
Other life sciences	2,585
Mathematics and statistics	4,238
Physical sciences	718,347
Astronomy and astrophysics	176,362
Chemistry	20,062
Materials science	1,084
Physics	147,720
Other physical sciences	373,118
Psychology	7,648
Biological aspects	0
Social aspects	91
Other psychological sciences	7,557
Social sciences	5,497
Anthropology	266
Economics	62
Political science and government	125
Sociology, demography, and population studies	735
Other social sciences	4,309
Engineering	943,170
Aerospace, aeronautical, and astronautical engineering	208,614
Bioengineering and biomedical engineering	4,576
Chemical engineering	36,457
Civil engineering	12,388
Electrical, electronics, and communications engineering	88,033
Industrial and manufacturing engineering	105,003
Mechanical engineering	17,900
Metallurgical and materials engineering	20,481
Other engineering	449,718
Other fields	311,903
Business management and business administration	9,630
Communication and communications technologies	10,262
Education research	85,936
Humanities	0
Law	0
Social work	0
Visual and performing arts	0
All other fields	206,076

Note(s):

Because of rounding, detail may not add to total. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 54

Federal obligations for experimental development performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
All agencies	3,109,857	61,924	121,630	935,500	4,238	718,347	7,648	5,497	943,170	311,903
Departments										
Department of Agriculture	30,473	47	0	7,396	0	0	0	0	0	23,030
Agricultural Research Service	23,030	0	0	0	0	0	0	0	0	23,030
Animal and Plant Health Inspection Service	7,155	0	0	7,155	0	0	0	0	0	0
National Agricultural Statistics Service	47	47	0	0	0	0	0	0	0	0
Natural Resources Conservation Service	241	0	0	241	0	0	0	0	0	0
Department of Commerce	94,591	250	60,335	3,194	252	1,437	0	3,385	24,810	929
National Institute of Standards and Technology	24,248	0	0	0	0	0	0	0	24,248	0
National Oceanic and Atmospheric Administration	70,343	250	60,335	3,194	252	1,437	0	3,385	562	929
Department of Defense	2,143,238	48,728	17,077	898,330	3,987	216,332	7,648	1,804	712,658	236,675
Defense Advanced Research Projects Agency	107,476	2,260	0	0	0	638	0	0	49,975	54,602
Defense Health Agency	831,735	0	0	831,735	0	0	0	0	0	0
Department of the Air Force	178,763	541	279	49	4	2,923	0	0	122,874	52,093
Department of the Army	188,654	24,517	1,782	37,570	3,983	14,395	6,752	904	15,017	83,735
Department of the Navy	459,451	5,772	9,664	11,661	0	180,451	0	647	249,916	1,341
Space Force	30,799	823	0	0	0	0	0	0	22,349	7,627
Other defense agencies	346,359	14,815	5,352	17,315	0	17,925	896	253	252,526	37,277
Department of Education	43,452	0	0	0	0	0	0	0	0	43,452
Department of Energy	208,107	12,275	0	6,351	0	10,606	0	0	178,875	0

TABLE 54

Federal obligations for experimental development performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Advanced Research Projects Agency—Energy	73,287	3,507	0	6,351	0	10,606	0	0	52,823	0
Electricity Delivery and Energy Reliability	3,602	0	0	0	0	0	0	0	3,602	0
Energy Efficiency and Renewable Energy	120,741	0	0	0	0	0	0	0	120,741	0
National Nuclear Security Administration	1,360	0	0	0	0	0	0	0	1,360	0
Defense Programs	10	0	0	0	0	0	0	0	10	0
Naval Nuclear Propulsion Program	1,350	0	0	0	0	0	0	0	1,350	0
Nuclear Energy	348	0	0	0	0	0	0	0	348	0
Office of Cybersecurity, Energy Security, and Emergency Response	8,768	8,768	0	0	0	0	0	0	0	0
Department of Health and Human Services	2,215	0	0	1,322	0	0	0	0	0	893
Biomedical Advanced Research and Development Authority	100	0	0	100	0	0	0	0	0	0
Centers for Disease Control and Prevention	1,222	0	0	1,222	0	0	0	0	0	0
Health Resources and Services Administration	893	0	0	0	0	0	0	0	0	893
Department of Homeland Security	6,441	0	0	0	0	0	0	0	5,923	517
Science and Technology Directorate	6,441	0	0	0	0	0	0	0	5,923	517
Department of the Interior	12,309	0	7,067	625	0	508	0	309	3,800	0
Bureau of Land Management	401	0	0	401	0	0	0	0	0	0

TABLE 54

Federal obligations for experimental development performed at higher education institutions, by agency and field of R&D: FY 2022

(Dollars in thousands)

Agency	Total	Computer and information sciences	Geosciences, atmospheric sciences, and ocean sciences	Life sciences	Mathematics and statistics	Physical sciences	Psychology	Social sciences	Engineering	Other fields
Bureau of Ocean Energy Management	170	0	77	0	0	9	0	85	0	0
Bureau of Reclamation	3,199	0	0	0	0	0	0	0	3,199	0
Bureau of Safety and Environmental Enforcement	1,101	0	0	0	0	500	0	0	601	0
Geological Survey	6,991	0	6,991	0	0	0	0	0	0	0
National Park Service	447	0	0	224	0	0	0	224	0	0
Department of Justice	913	624	0	0	0	289	0	0	0	0
Office of Justice Programs	913	624	0	0	0	289	0	0	0	0
Department of Transportation	3,856	0	0	0	0	0	0	0	822	3,033
Federal Aviation Administration	3,033	0	0	0	0	0	0	0	0	3,033
Federal Railroad Administration	822	0	0	0	0	0	0	0	822	0
Other agencies										
Agency for International Development	20,782	0	0	18,282	0	0	0	0	0	2,500
National Aeronautics and Space Administration	543,480	0	37,151	0	0	489,174	0	0	16,281	874

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 55

Federal obligations for research and experimental development to non-U.S. performers, by region, country, or economy, and agency: FY 2022

(Dollars in thousands)

Region, country, or economy	Total	DHS	DOD	DOE	HHS	NASA	NSF	USDA	Other ^a
All areas and organizations	817,506	3,298	239,565	2,693	416,052	26,123	21,568	6,420	101,788
Africa	97,738	0	4,717	0	89,873	*	0	458	2,691
Botswana	908	0	0	0	908	0	0	0	0
Cameroon	1,432	0	0	0	1,432	0	0	0	0
Congo, Democratic Republic of the	875	0	0	0	875	0	0	0	0
Ethiopia	946	0	0	0	946	0	0	0	0
Gambia, The	111	0	0	0	111	0	0	0	0
Ghana	2,240	0	0	0	2,040	0	0	0	200
Kenya	13,448	0	3,802	0	6,701	0	0	454	2,491
Malawi	1,186	0	0	0	1,186	0	0	0	0
Mali	2,030	0	0	0	2,030	0	0	0	0
Mozambique	1,563	0	0	0	1,563	0	0	0	0
Nigeria	8,153	0	268	0	7,885	0	0	0	0
Rwanda	76	0	0	0	76	0	0	0	0
Saint Helena	*	0	0	0	0	*	0	0	0
Senegal	*	0	0	0	*	0	0	0	0
South Africa	42,485	0	547	0	41,938	0	0	0	0
Tanzania	2,143	0	0	0	2,140	0	0	3	0
Uganda	15,941	0	0	0	15,941	0	0	0	0
Zambia	2,295	0	0	0	2,295	0	0	0	0
Zimbabwe	1,804	0	0	0	1,804	0	0	0	0
African countries, other	100	0	100	0	0	0	0	0	0
Asia	95,851	834	60,738	2	31,894	22	0	1,741	620
Armenia	166	0	166	0	0	0	0	0	0
Bangladesh	7,214	0	0	0	7,214	0	0	0	0
Brunei	41	0	41	0	0	0	0	0	0
Cambodia	41	0	41	0	0	0	0	0	0
China	1,427	0	0	0	1,337	0	0	89	0
Georgia	1,386	0	991	0	395	0	0	0	0
India	1,239	0	710	2	528	*	0	0	0
Indonesia	1,053	0	3	0	550	0	0	0	500
Israel	60,312	834	47,964	0	10,132	0	0	1,381	0
Japan	626	0	601	0	0	5	0	0	20
Jordan	289	0	0	0	289	0	0	0	0
Kazakhstan	1,537	0	1,537	0	0	0	0	0	0
Korea, South	832	0	600	0	54	0	0	178	0
Laos	4	0	0	0	4	0	0	0	0
Lebanon	549	0	0	0	549	0	0	0	0
Malaysia	134	0	0	0	134	0	0	0	0
Mongolia	791	0	502	0	289	0	0	0	0
Nepal	100	0	0	0	0	0	0	0	100
Oman	56	0	56	0	0	0	0	0	0
Pakistan	1,532	0	0	0	1,532	0	0	0	0
Philippines	256	0	256	0	0	0	0	0	0
Saudi Arabia	20	0	20	0	0	0	0	0	0
Singapore	975	0	975	0	0	0	0	0	0
Taiwan	2,596	0	425	0	2,114	17	0	40	0
Thailand	11,841	0	5,790	0	6,050	0	0	0	0
United Arab Emirates	50	0	50	0	0	0	0	0	0
Vietnam	785	0	10	0	722	0	0	53	0

TABLE 55

Federal obligations for research and experimental development to non-U.S. performers, by region, country, or economy, and agency: FY 2022

(Dollars in thousands)

Region, country, or economy	Total	DHS	DOD	DOE	HHS	NASA	NSF	USDA	Other ^a
Europe	308,232	500	78,178	2,169	183,222	17,997	1,930	1,645	22,592
Austria	3,098	0	560	0	1,899	10	69	0	560
Belgium	858	0	26	0	832	0	0	0	0
Croatia	361	0	361	0	0	0	0	0	0
Czechia	336	0	336	0	0	0	0	0	0
Denmark	4,035	0	2,303	0	1,684	42	0	0	6
Estonia	756	0	756	0	0	0	0	0	0
Finland	3,638	0	3,053	0	585	0	0	0	0
France	113,374	0	3,701	1,386	101,423	2,917	0	14	3,933
Germany	32,342	0	6,888	10	16,584	1,058	1,369	260	6,174
Greece	18	0	*	0	0	0	0	18	0
Iceland	742	0	38	0	704	0	0	0	0
Ireland	4,108	0	2,933	0	1,149	26	0	0	0
Italy	11,098	0	9,850	0	790	0	0	298	160
Macedonia	60	0	60	0	0	0	0	0	0
Netherlands	14,856	0	5,639	159	7,485	432	0	20	1,120
Norway	4,611	0	2,160	0	0	2,449	0	0	2
Poland	292	0	116	0	0	135	0	16	25
Portugal	206	0	206	0	0	0	0	0	0
Russia	9,061	0	0	0	0	9,061	0	0	0
Slovakia	34	0	34	0	0	0	0	0	0
Slovenia	193	0	190	0	0	3	0	0	0
Spain	4,502	0	2,143	0	592	188	0	590	989
Sweden	3,935	0	1,353	0	2,494	18	69	0	0
Switzerland	31,172	0	5,812	316	15,600	1,068	0	0	8,376
Ukraine	531	0	0	0	531	0	0	0	0
United Kingdom	54,776	500	20,420	297	30,870	590	423	429	1,247
European countries, other	9,241	0	9,241	0	0	0	0	0	0
North America	145,309	1,761	48,469	336	70,273	5,182	10,363	1,106	7,820
Bahamas, The	12,329	0	12,329	0	0	0	0	0	0
Bermuda	8,376	0	0	0	0	31	8,345	0	0
Canada	106,326	1,761	35,141	336	53,909	5,151	2,018	462	7,548
Costa Rica	9,987	0	100	0	9,587	0	0	300	0
Guatemala	1,854	0	0	0	1,854	0	0	0	0
Haiti	2,306	0	0	0	2,306	0	0	0	0
Jamaica	117	0	0	0	117	0	0	0	0
Mexico	1,653	0	527	0	891	0	0	235	0
Panama	179	0	0	0	179	0	0	0	0
Saint Kitts and Nevis	51	0	0	0	51	0	0	0	0
Trinidad and Tobago	1,488	0	0	0	1,379	0	0	109	0
Turks and Caicos Islands	272	0	0	0	0	0	0	0	272
North American countries, other	371	0	371	0	0	0	0	0	0
Oceania	68,111	203	39,968	186	24,699	2,069	100	754	131
Australia	65,058	203	39,277	186	22,928	1,774	100	544	45
French Polynesia	263	0	0	0	0	263	0	0	0
Micronesia, Federated States of	135	0	0	0	0	0	0	135	0
New Zealand	2,605	0	691	0	1,771	32	0	25	85
Palau	50	0	0	0	0	0	0	50	0
South America	19,694	0	1,516	0	15,109	852	0	716	1,500
Argentina	2,300	0	43	0	1,679	0	0	578	0

TABLE 55

Federal obligations for research and experimental development to non-U.S. performers, by region, country, or economy, and agency: FY 2022

(Dollars in thousands)

Region, country, or economy	Total	DHS	DOD	DOE	HHS	NASA	NSF	USDA	Other ^a
Brazil	4,831	0	313	0	3,948	521	0	50	0
Chile	1,756	0	1,055	0	563	138	0	0	0
Colombia	2,108	0	0	0	2,083	0	0	25	0
Peru	8,593	0	0	0	6,837	194	0	63	1,500
Suriname	106	0	106	0	0	0	0	0	0
International organizations	82,571	0	5,979	0	981	0	9,175	0	66,435

* = amount greater than \$0 but less than \$500.

DHS = Department of Homeland Security; DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation; USDA = Department of Agriculture.

^a Includes data for the Departments of Commerce, the Interior, Transportation, and the Treasury; the Agency for International Development; the Nuclear Regulatory Commission; and the Social Security Administration.

Note(s):

Because of rounding, detail may not add to total. Only those countries that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 56

Federal obligations for R&D plant to non-U.S. performers, by region, country, or economy, and agency: FY 2022

(Dollars in thousands)

Region, country, or economy	Total	DHS	DOT	NSF
All areas and organizations	866	586	120	161
Asia	586	586	0	0
Israel	586	586	0	0
Europe	94	0	94	0
Czechia	94	0	94	0
North America	187	0	26	161
Bermuda	161	0	0	161
Canada	26	0	26	0

DHS = Department of Homeland Security; DOT = Department of Transportation; NSF = National Science Foundation.

Note(s):

Because of rounding, detail may not add to total. Only those countries that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 57

Federal obligations for research and experimental development and for R&D plant, by state or location: FY 2022

(Dollars in thousands)

State or location	Total	R&D	R&D plant
All locations	195,776,853	189,604,388	6,172,465
Alabama	4,157,173	4,086,585	70,588
Alaska	284,895	272,508	12,386
Arizona	2,447,858	2,387,850	60,008
Arkansas	288,415	268,319	20,096
California	24,160,971	23,272,011	888,960
Colorado	4,714,230	4,638,849	75,381
Connecticut	2,655,974	2,642,331	13,644
Delaware	341,922	340,648	1,275
District of Columbia	34,079,836	33,916,947	162,890
Florida	4,327,886	4,249,966	77,920
Georgia	1,831,186	1,821,438	9,749
Hawaii	376,594	371,193	5,401
Idaho	1,520,496	702,352	818,143
Illinois	4,181,681	3,468,724	712,957
Indiana	1,277,739	1,277,050	689
Iowa	799,976	760,960	39,016
Kansas	455,154	445,052	10,103
Kentucky	427,146	413,477	13,669
Louisiana	570,193	512,246	57,947
Maine	230,149	229,928	220
Maryland	20,736,955	20,258,939	478,016
Massachusetts	8,586,984	8,495,312	91,672
Michigan	2,400,169	2,389,976	10,193
Minnesota	1,240,304	1,239,047	1,257
Mississippi	1,165,024	1,149,978	15,045
Missouri	1,857,963	1,837,946	20,017
Montana	292,700	291,606	1,094
Nebraska	349,336	325,071	24,265
Nevada	686,986	519,765	167,221
New Hampshire	450,456	444,718	5,738
New Jersey	3,463,235	3,386,124	77,111
New Mexico	3,629,746	3,484,393	145,352
New York	7,259,774	6,726,319	533,455
North Carolina	3,736,840	3,724,189	12,651
North Dakota	153,360	153,360	0
Ohio	8,316,234	8,242,542	73,692
Oklahoma	472,973	458,390	14,583
Oregon	878,691	812,145	66,546
Pennsylvania	4,931,824	4,911,808	20,016
Rhode Island	914,036	894,706	19,330
South Carolina	1,186,262	1,162,399	23,864
South Dakota	141,293	134,466	6,827
Tennessee	4,352,380	3,385,285	967,095
Texas	5,516,030	5,475,314	40,716
Utah	3,201,680	3,196,264	5,416
Vermont	161,740	161,740	0
Virginia	10,331,888	10,144,002	187,885
Washington	3,632,223	3,576,461	55,761
West Virginia	212,372	212,282	90
Wisconsin	1,163,330	1,115,331	47,999

TABLE 57

Federal obligations for research and experimental development and for R&D plant, by state or location: FY 2022

(Dollars in thousands)

State or location	Total	R&D	R&D plant
Wyoming	80,466	80,466	0
Outlying areas	149,501	142,474	7,027
Puerto Rico	107,845	101,838	6,008
Other areas ^a	41,655	40,636	1,019
Offices abroad ^b	20,507	20,507	0
Undistributed ^c	4,974,119	4,972,632	1,486

^a Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.

^b Includes R&D performed or administered in foreign countries by the U.S. government and federal obligations for R&D plant located in foreign countries.

^c Department of Defense (DOD) obligations for which the location of performance is not reported.

Note(s):

Because of rounding, detail may not add to total. Geographic distribution of DOD development funding to businesses reflects location of prime contractors and not the numerous subcontractors who perform much of the R&D. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 58

Federal obligations for research and experimental development, by state or location and performer: FY 2022

(Dollars in thousands)

State or location	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
All locations	189,604,388	70,779,628	15,380,951	50,204,817	42,178,815	10,135,603	924,575
Alabama	4,086,585	1,967,060	608	1,509,290	568,863	22,193	18,572
Alaska	272,508	75,226	0	65,177	109,357	15,658	7,090
Arizona	2,387,850	135,318	82,933	1,460,382	593,475	104,472	11,270
Arkansas	268,319	52,562	0	60,748	126,610	13,661	14,738
California	23,272,011	2,530,252	5,428,274	8,043,185	5,973,327	1,223,029	73,944
Colorado	4,638,849	426,334	541,731	2,538,031	1,009,654	111,555	11,543
Connecticut	2,642,331	57,741	5,453	1,705,162	819,440	12,946	41,588
Delaware	340,648	28,757	0	131,264	162,123	16,444	2,060
District of Columbia	33,916,947	31,563,916	137,557	877,503	271,082	1,059,234	7,655
Florida	4,249,966	799,142	113	2,099,511	1,138,687	195,545	16,969
Georgia	1,821,438	225,983	3,697	239,405	1,291,590	29,422	31,340
Hawaii	371,193	62,910	0	133,668	144,109	23,115	7,390
Idaho	702,352	65,585	491,824	69,275	62,207	893	12,567
Illinois	3,468,724	266,842	1,113,441	350,975	1,575,978	146,398	15,090
Indiana	1,277,050	326,926	5	276,340	660,168	1,466	12,144
Iowa	760,960	91,346	32,616	193,452	425,588	2,020	15,938
Kansas	445,052	149,333	0	21,219	264,257	8,675	1,567
Kentucky	413,477	49,109	0	36,794	311,024	7,046	9,504
Louisiana	512,246	60,230	0	124,622	301,852	6,572	18,970
Maine	229,928	13,921	5	28,850	70,300	109,233	7,620
Maryland	20,258,939	12,684,205	687,893	3,743,892	2,716,237	405,861	20,850
Massachusetts	8,495,312	644,127	1,353,857	2,237,060	2,122,437	2,131,202	6,629
Michigan	2,389,976	401,393	0	499,795	1,304,944	179,807	4,036
Minnesota	1,239,047	73,449	0	226,291	598,213	313,761	27,332
Mississippi	1,149,978	589,504	0	385,154	171,928	30	3,363
Missouri	1,837,946	137,041	0	723,113	908,021	55,695	14,076
Montana	291,606	94,038	0	40,444	146,125	3,085	7,914
Nebraska	325,071	52,110	11,354	9,971	221,283	25,986	4,366
Nevada	519,765	62,678	0	348,937	93,643	7,821	6,686
New Hampshire	444,718	11,450	0	234,594	186,122	11,893	658
New Jersey	3,386,124	707,898	105,523	1,894,399	546,847	108,708	22,748
New Mexico	3,484,393	776,565	1,999,772	468,889	213,206	20,524	5,438
New York	6,726,319	237,841	570,606	1,541,027	3,562,027	675,232	139,586
North Carolina	3,724,189	381,897	149	1,024,581	1,849,849	440,869	26,844
North Dakota	153,360	48,221	0	18,216	76,493	3,554	6,876
Ohio	8,242,542	5,805,226	9,449	983,880	1,021,037	399,206	23,743
Oklahoma	458,390	131,813	0	67,474	212,970	38,840	7,293
Oregon	812,145	142,582	0	99,693	528,914	34,988	5,969
Pennsylvania	4,911,808	443,164	42,166	1,453,858	2,554,197	404,953	13,470
Rhode Island	894,706	327,071	0	204,732	263,923	89,491	9,490
South Carolina	1,162,399	166,835	80,446	350,916	323,392	231,091	9,718
South Dakota	134,466	23,536	0	13,468	41,241	22,776	33,446
Tennessee	3,385,285	358,907	1,293,848	769,510	841,291	111,921	9,808
Texas	5,475,314	600,451	38,073	2,060,666	2,518,004	189,690	68,430
Utah	3,196,264	333,801	0	2,387,391	467,595	5,667	1,810
Vermont	161,740	13,288	0	37,833	97,596	3,771	9,252

TABLE 58

Federal obligations for research and experimental development, by state or location and performer: FY 2022

(Dollars in thousands)

State or location	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Virginia	10,144,002	2,218,305	780,461	6,214,532	714,862	201,506	14,336
Washington	3,576,461	398,649	568,777	720,909	1,014,970	823,017	50,139
West Virginia	212,282	59,322	0	48,718	77,573	15,538	11,131
Wisconsin	1,115,331	62,417	0	225,174	753,921	62,517	11,302
Wyoming	80,466	28,294	0	4,739	44,308	740	2,385
Outlying areas	142,474	28,964	0	2,313	97,068	6,241	7,888
Puerto Rico	101,838	28,349	0	1,932	68,614	54	2,888
Other areas ^c	40,636	615	0	381	28,454	6,187	5,000
Offices abroad ^d	20,507	14,222	0	5,330	955	0	0
Undistributed ^e	4,972,632	3,771,869	320	1,192,463	7,935	46	0

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, as well as actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

^c Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.

^d Includes R&D performed or administered in foreign countries by the U.S. government and federal obligations for R&D plant located in foreign countries.

^e Department of Defense obligations for which the location of performance is not reported.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 59

Federal obligations for R&D plant, by state or location and performer: FY 2022

(Dollars in thousands)

State or location	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
All locations	6,172,465	1,095,957	3,436,961	1,020,424	462,769	148,648	7,707
Alabama	70,588	3,609	0	54,120	12,859	0	0
Alaska	12,386	12,176	0	0	210	0	0
Arizona	60,008	66	*	0	12,453	47,488	0
Arkansas	20,096	1,660	0	0	18,436	0	0
California	888,960	42,614	803,111	9,944	21,202	12,090	0
Colorado	75,381	20,062	48,601	984	5,733	0	0
Connecticut	13,644	0	0	12	13,632	0	0
Delaware	1,275	0	0	0	1,275	0	0
District of Columbia	162,890	151,579	0	1,692	0	9,618	0
Florida	77,920	36,459	0	17,947	23,514	0	0
Georgia	9,749	1,313	0	1,845	6,591	0	0
Hawaii	5,401	4,800	0	0	601	0	0
Idaho	818,143	1,400	348,252	454,520	12,492	0	1,479
Illinois	712,957	11,216	677,692	5,633	18,416	0	0
Indiana	689	0	0	0	689	0	0
Iowa	39,016	0	29,418	0	9,598	0	0
Kansas	10,103	8,497	0	2	1,604	0	0
Kentucky	13,669	10,422	0	0	3,247	0	0
Louisiana	57,947	14,161	0	26,769	16,954	63	0
Maine	220	0	0	0	220	0	0
Maryland	478,016	452,646	9,621	8,701	7,048	0	0
Massachusetts	91,672	0	50,538	94	35,994	5,046	0
Michigan	10,193	70	0	10	10,113	0	0
Minnesota	1,257	0	0	277	980	0	0
Mississippi	15,045	12,303	0	0	2,742	0	0
Missouri	20,017	4,000	0	4,487	11,530	0	0
Montana	1,094	0	0	0	1,094	0	0
Nebraska	24,265	20,000	0	0	4,265	0	0
Nevada	167,221	31	0	165,819	1,371	0	0
New Hampshire	5,738	4,654	0	54	1,030	0	0
New Jersey	77,111	722	51,074	16,350	8,965	0	0
New Mexico	145,352	18,572	116,539	991	9,250	0	0
New York	533,455	11,329	351,013	120,000	51,113	0	0
North Carolina	12,651	2,116	0	2,927	7,608	0	0
North Dakota	0	0	0	0	0	0	0
Ohio	73,692	0	0	1,345	3,342	69,005	0
Oklahoma	14,583	174	0	9,214	5,195	0	0
Oregon	66,546	25,723	0	282	40,542	0	0
Pennsylvania	20,016	1,528	0	131	18,358	0	0
Rhode Island	19,330	19,075	0	255	0	0	0
South Carolina	23,864	18,014	4,977	22	850	0	0
South Dakota	6,827	0	0	0	1,527	0	5,300
Tennessee	967,095	63,490	812,805	78,120	12,680	0	0
Texas	40,716	805	0	15,031	23,952	0	928
Utah	5,416	0	0	2,899	2,517	0	0
Vermont	0	0	0	0	0	0	0

TABLE 59

Federal obligations for R&D plant, by state or location and performer: FY 2022

(Dollars in thousands)

State or location	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Virginia	187,885	51,611	104,183	18,411	9,818	3,863	0
Washington	55,761	23,179	28,958	0	2,189	1,435	0
West Virginia	90	0	0	50	0	40	0
Wisconsin	47,999	40,175	0	0	7,824	0	0
Wyoming	0	0	0	0	0	0	0
Outlying areas	7,027	5,704	179	0	1,145	0	0
Puerto Rico	6,008	5,704	0	0	304	0	0
Other areas ^c	1,019	0	179	0	841	0	0
Offices abroad ^d	0	0	0	0	0	0	0
Undistributed ^e	1,486	0	0	1,486	0	0	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.^c Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.^d Includes federal obligations for R&D plant located in foreign countries.^e Department of Defense obligations for which the location of performance is not reported.**Note(s):**

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 60

Federal obligations for research and experimental development, by state or location and agency: FY 2022

(Dollars in thousands)

State or location	Total	DHS	DOC	DOD	DOE	DOI	DOT	EPA	HHS	NASA	NSF	USDA	Other ^a
All locations	189,604,388	567,226	2,009,017	72,112,214	13,694,649	939,385	1,070,122	525,457	73,680,855	11,597,024	6,874,499	3,128,967	3,404,973
Alabama	4,086,585	8,583	14,312	3,041,448	36,551	3,952	14,342	114	385,897	442,848	57,121	57,226	24,190
Alaska	272,508	176	9,424	73,064	6,060	61,847	7,172	725	21,697	24,969	50,284	15,090	2,000
Arizona	2,387,850	5,066	4,303	1,536,478	25,393	34,351	8,160	8	390,181	106,572	232,481	31,163	13,694
Arkansas	268,319	0	0	58,239	4,146	8,024	2,620	0	101,024	1,099	27,786	50,301	15,079
California	23,272,011	44,302	37,139	9,144,281	2,810,097	70,910	34,077	18,461	6,201,910	3,466,068	892,725	160,025	392,017
Colorado	4,638,849	2,957	214,489	2,327,477	511,241	77,736	14,629	11,004	570,677	465,659	345,622	61,175	36,183
Connecticut	2,642,331	4,389	7,127	1,581,930	51,016	1,126	5,316	203	732,294	127,149	62,920	17,004	51,856
Delaware	340,648	122	16,562	156,085	17,975	1,382	1,008	114	83,973	9,584	39,391	12,408	2,043
District of Columbia	33,916,947	31,733	41,261	3,569,978	692,580	20,100	163,645	107,549	26,085,754	1,531,141	242,323	342,521	1,088,364
Florida	4,249,966	8,097	37,788	2,689,320	38,049	58,375	24,555	10,776	854,924	164,422	207,850	91,271	64,541
Georgia	1,821,438	5,023	9,421	460,956	48,978	3,351	33,759	10,916	910,819	28,628	148,098	109,429	52,060
Hawaii	371,193	994	5,453	189,922	8,446	7,519	1,510	0	60,062	29,896	40,569	24,726	2,096
Idaho	702,352	3,928	0	126,682	461,377	11,201	1,134	215	23,642	3,312	22,000	38,496	10,366
Illinois	3,468,724	15,614	8,060	471,169	1,258,264	7,890	14,197	2,306	1,208,255	41,164	302,831	64,980	73,994
Indiana	1,277,050	255	7,822	618,469	35,861	9,221	4,658	862	361,163	19,769	151,918	33,693	33,359
Iowa	760,960	250	238	201,554	48,501	1,076	16,384	5,210	217,244	108,293	47,818	85,612	28,781
Kansas	445,052	200	6,773	61,836	10,065	5,862	3,242	0	127,810	14,728	38,765	163,811	11,959
Kentucky	413,477	0	125	30,158	44,593	2,236	3,944	27	248,409	6,890	32,215	30,308	14,571
Louisiana	512,246	0	2,505	117,749	8,964	24,231	5,027	2,814	227,508	5,753	53,468	54,744	9,482
Maine	229,928	0	6,010	36,977	991	3,441	1,911	0	115,055	10,584	34,151	20,588	221
Maryland	20,258,939	21,667	1,250,090	5,472,538	101,971	44,574	20,872	7,419	11,012,733	1,668,193	372,397	207,627	78,857
Massachusetts	8,495,312	39,749	42,889	3,441,904	177,511	16,677	216,545	19,820	3,638,827	202,476	459,686	41,794	197,433
Michigan	2,389,976	1,370	8,417	930,149	179,997	11,276	9,160	1,724	919,445	45,338	187,894	29,535	65,671
Minnesota	1,239,047	96	10,244	203,777	29,649	9,564	9,326	11,155	786,531	9,171	84,378	51,761	33,395
Mississippi	1,149,978	15,982	18,373	823,935	2,898	3,669	4,646	0	69,621	60,898	20,542	124,551	4,864
Missouri	1,837,946	6,039	1,510	687,439	85,211	25,680	13,642	3,217	788,880	52,566	72,130	63,678	37,955
Montana	291,606	15,470	520	67,433	8,339	23,113	1,969	0	102,353	10,906	30,315	30,962	225
Nebraska	325,071	11,354	368	29,814	7,298	1,004	3,579	0	151,915	3,510	48,196	54,566	13,466
Nevada	519,765	1,383	3,015	176,001	179,652	12,780	992	0	47,044	55,645	29,418	7,516	6,318
New Hampshire	444,718	330	12,632	218,708	7,331	3,077	333	0	119,975	32,160	35,012	10,224	4,936
New Jersey	3,386,124	2,903	12,838	2,427,421	164,103	3,248	26,232	3,290	538,880	41,120	129,414	9,464	27,211
New Mexico	3,484,393	43,994	1,036	1,235,144	1,884,274	6,919	13,359	181	121,807	61,832	46,850	21,839	47,160
New York	6,726,319	4,657	23,374	1,206,859	1,183,622	12,268	15,930	2,346	3,484,005	151,111	466,529	67,633	107,986
North Carolina	3,724,189	7,800	24,923	315,663	83,592	13,251	9,985	125,427	2,814,428	10,644	169,868	66,855	81,753
North Dakota	153,360	0	90	28,220	10,172	3,012	7,449	7	32,209	828	15,122	56,011	238

TABLE 60

Federal obligations for research and experimental development, by state or location and agency: FY 2022

(Dollars in thousands)

State or location	Total	DHS	DOC	DOD	DOE	DOI	DOT	EPA	HHS	NASA	NSF	USDA	Other ^a
Ohio	8,242,542	16,209	1,374	6,709,129	63,397	9,888	29,975	62,810	980,871	147,926	114,376	55,236	51,353
Oklahoma	458,390	1,304	18,553	79,584	28,085	62,418	13,797	6,946	140,342	23,012	40,088	34,985	9,277
Oregon	812,145	550	4,974	71,578	51,123	21,515	6,726	10,489	398,675	11,658	91,628	81,642	61,587
Pennsylvania	4,911,808	11,176	11,961	1,578,904	419,012	11,108	50,907	11,004	2,310,525	83,499	271,200	78,487	74,025
Rhode Island	894,706	0	22,701	521,198	6,667	321	2,122	9,272	256,652	4,647	41,100	3,036	26,989
South Carolina	1,162,399	4,751	13,484	686,757	91,455	1,580	4,787	415	241,852	5,078	36,860	33,368	42,010
South Dakota	134,466	0	91	15,588	28,945	15	1,749	0	35,677	16,861	21,254	13,703	583
Tennessee	3,385,285	8,719	736	516,876	1,508,675	8,609	8,195	41,412	679,140	402,392	80,405	49,050	81,074
Texas	5,475,314	16,410	12,415	2,032,364	141,202	15,670	36,520	4,637	1,769,766	807,147	393,900	145,542	99,741
Utah	3,196,264	318	1,000	2,580,287	61,765	12,715	2,666	181	292,838	88,512	74,185	31,708	50,089
Vermont	161,740	2,320	3,118	18,986	3,921	2,094	2,453	0	81,841	839	12,064	26,326	7,777
Virginia	10,144,002	194,762	14,816	7,356,864	341,095	109,301	171,822	27,128	704,826	879,323	156,981	42,558	144,525
Washington	3,576,461	3,600	50,195	951,429	608,056	22,476	15,466	2,077	1,517,651	81,507	168,276	75,796	79,933
West Virginia	212,282	720	3,223	38,603	17,831	5,803	2,599	550	81,150	3,748	13,261	42,415	2,378
Wisconsin	1,115,331	0	7,884	212,637	88,003	15,084	2,865	2,647	558,459	23,659	112,578	81,451	10,064
Wyoming	80,466	259	0	1,179	9,751	29,094	2,164	0	13,550	1,732	19,495	3,242	0
Outlying areas	142,474	577	3,363	4,650	0	6,524	0	0	54,529	63	28,762	21,833	22,173
Puerto Rico	101,838	575	2,115	1,997	0	1,413	0	0	45,895	0	16,092	11,828	21,923
Other areas ^b	40,636	2	1,248	2,653	0	5,111	0	0	8,634	63	12,670	10,005	250
Offices abroad ^c	20,507	1,068	0	4,192	900	1,226	0	0	5,558	495	0	0	7,068
Undistributed ^d	4,972,632	NA	NA	4,972,632	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = not available; data were not collected at that level for that fiscal year.

DHS = Department of Homeland Security; DOC = Department of Commerce; DOD = Department of Defense; DOE = Department of Energy; DOI = Department of the Interior; DOT = Department of Transportation; EPA = Environmental Protection Agency; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation; USDA = Department of Agriculture.

^a Includes data for the Departments of Education, Justice, Labor, State, the Treasury, and Veterans Affairs; the Administrative Office of the U.S. Courts; the Agency for Global Media; the Agency for International Development; the Appalachian Regional Commission; the Consumer Product Safety Commission; the Federal Trade Commission; the Library of Congress; the Nuclear Regulatory Commission; the Patient-Centered Outcomes Research Trust Fund; the Postal Service; the Smithsonian Institution; the Social Security Administration; and the Tennessee Valley Authority.^b Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.^c Includes R&D performed or administered in foreign countries by the U.S. government.^d DOD obligations for which the location of performance is not reported.**Note(s):**Because of rounding, detail may not add to total. Geographic distribution of DOD development funding to businesses reflects location of prime contractors and not the numerous subcontractors who perform much of the R&D. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Alabama	4,086,585	1,967,060	608	1,509,290	568,863	22,193	18,572
Departments							
Department of Agriculture	57,226	7,796	0	175	48,329	384	542
Department of Commerce	14,312	3,050	0	0	10,774	250	238
Department of Defense	3,041,448	1,937,219	608	1,059,348	42,370	1,666	237
Department of Education	1,307	0	0	0	402	0	905
Department of Energy	36,551	0	0	24,464	11,992	95	0
Department of Health and Human Services	385,897	169	0	8,614	355,174	13,544	8,396
Department of Homeland Security	8,583	0	0	413	7,821	349	0
Department of the Interior	3,952	3,031	0	0	722	0	199
Department of Justice	1,350	0	0	0	1,350	0	0
Department of Transportation	14,342	31	0	4,139	2,868	0	7,304
Department of Veterans Affairs	13,331	13,331	0	0	0	0	0
Other agencies							
Agency for International Development	5,280	0	0	0	0	5,280	0
Environmental Protection Agency	114	0	0	87	27	0	0
National Aeronautics and Space Administration	442,848	2,434	0	409,253	30,911	0	250
National Science Foundation	57,121	0	0	768	55,729	624	0
Nuclear Regulatory Commission	376	0	0	0	376	0	0
RESTORE Act Centers of Excellence Research Grants Program	500	0	0	0	0	0	500
Social Security Administration	2,047	0	0	2,030	17	0	0
Alaska	272,508	75,226	0	65,177	109,357	15,658	7,090
Departments							
Department of Agriculture	15,090	9,778	0	125	3,765	0	1,423
Department of Commerce	9,424	5,503	0	252	3,036	428	206
Department of Defense	73,064	2,942	0	56,697	12,371	1,055	0
Department of Energy	6,060	0	0	2,303	1,332	2,201	224
Department of Health and Human Services	21,697	152	0	0	12,889	6,960	1,696
Department of Homeland Security	176	0	0	176	0	0	0
Department of the Interior	61,847	56,841	0	697	2,640	247	1,422
Department of Justice	2,000	0	0	0	2,000	0	0
Department of Transportation	7,172	0	0	79	4,975	0	2,118
Other agencies							
Environmental Protection Agency	725	0	0	725	0	0	0
National Aeronautics and Space Administration	24,969	11	0	3,155	21,803	0	0
National Science Foundation	50,284	0	0	969	44,548	4,767	0
Arizona	2,387,850	135,318	82,933	1,460,382	593,475	104,472	11,270
Departments							
Department of Agriculture	31,163	22,508	0	182	8,289	19	166
Department of Commerce	4,303	0	0	320	3,983	0	0
Department of Defense	1,536,478	60,472	0	1,391,975	77,924	0	6,107

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Education	3,268	0	0	0	2,373	896	0
Department of Energy	25,393	70	0	10,082	15,234	7	0
Department of Health and Human Services	390,181	7,751	0	27,206	269,485	83,112	2,625
Department of Homeland Security	5,066	0	0	633	4,433	0	0
Department of the Interior	34,351	34,094	0	11	110	3	134
Department of Justice	1,432	0	0	0	1,432	0	0
Department of Transportation	8,160	0	0	5,458	463	0	2,238
Department of Veterans Affairs	7,844	7,844	0	0	0	0	0
Other agencies							
Agency for International Development	1,000	0	0	0	1,000	0	0
Environmental Protection Agency	8	0	0	8	0	0	0
National Aeronautics and Space Administration	106,572	2,578	0	19,243	70,686	14,065	0
National Science Foundation	232,481	0	82,933	5,264	137,914	6,370	0
Social Security Administration	150	0	0	0	150	0	0
Arkansas	268,319	52,562	0	60,748	126,610	13,661	14,738
Departments							
Department of Agriculture	50,301	29,680	0	1,013	19,161	0	447
Department of Defense	58,239	108	0	43,839	12,539	893	860
Department of Energy	4,146	0	0	606	3,491	0	48
Department of Health and Human Services	101,024	0	0	14,539	70,590	12,768	3,127
Department of the Interior	8,024	7,940	0	0	0	0	84
Department of Justice	246	0	0	0	246	0	0
Department of Transportation	2,620	0	0	0	200	0	2,420
Department of Veterans Affairs	14,833	14,833	0	0	0	0	0
Other agencies							
National Aeronautics and Space Administration	1,099	1	0	219	879	0	0
National Science Foundation	27,786	0	0	532	19,504	0	7,751
California	23,272,011	2,530,252	5,428,274	8,043,185	5,973,327	1,223,029	73,944
Departments							
Department of Agriculture	160,025	95,102	0	6,879	56,905	789	350
Department of Commerce	37,139	849	0	1,235	30,799	4,017	240
Department of Defense	9,144,281	2,030,596	724,538	5,656,376	600,050	130,693	2,029
Department of Education	93,684	0	0	5,993	10,371	55,496	21,824
Department of Energy	2,810,097	802	2,348,199	257,174	178,496	25,044	381
Department of Health and Human Services	6,201,910	162	24,398	1,225,428	4,013,865	907,970	30,086
Department of Homeland Security	44,302	7,826	13,270	20,708	400	2,098	0
Department of the Interior	70,910	56,024	49	1,381	11,803	685	969
Department of Justice	5,647	0	0	0	2,800	2,847	0
Department of Transportation	34,077	412	0	17,882	3,296	114	12,374
Department of the Treasury	3,500	0	2,900	600	0	0	0
Department of Veterans Affairs	279,542	279,542	0	0	0	0	0

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Other agencies							
Agency for Global Media	457	43	0	414	0	0	0
Agency for International Development	7,195	0	0	0	6,795	400	0
Environmental Protection Agency	18,461	0	10	10,364	8,087	0	0
National Aeronautics and Space Administration	3,466,068	41,281	2,314,397	788,131	278,683	38,082	5,494
National Science Foundation	892,725	17,616	186	50,541	769,434	54,751	196
Nuclear Regulatory Commission	1,249	0	326	79	800	44	0
Social Security Administration	743	0	0	0	743	0	0
Colorado	4,638,849	426,334	541,731	2,538,031	1,009,654	111,555	11,543
Departments							
Department of Agriculture	61,175	40,614	0	531	19,453	577	0
Department of Commerce	214,489	136,601	6,787	437	70,460	204	0
Department of Defense	2,327,477	134,167	15,650	2,105,731	63,518	8,401	11
Department of Education	4,002	0	0	0	969	3,033	0
Department of Energy	511,241	750	410,136	47,565	43,131	9,052	608
Department of Health and Human Services	570,677	1,994	0	107,119	415,896	38,630	7,039
Department of Homeland Security	2,957	428	0	2,474	55	0	0
Department of the Interior	77,736	69,768	0	2,252	5,445	246	25
Department of Justice	1,332	0	0	0	1,332	0	0
Department of Transportation	14,629	2,328	0	3,417	5,024	0	3,860
Department of Veterans Affairs	30,449	30,449	0	0	0	0	0
Other agencies							
Environmental Protection Agency	11,004	1,627	0	1,440	4,692	3,246	0
National Aeronautics and Space Administration	465,659	6,020	0	258,387	197,339	3,912	0
National Science Foundation	345,622	1,588	109,159	8,679	181,941	44,255	0
Nuclear Regulatory Commission	400	0	0	0	400	0	0
Connecticut	2,642,331	57,741	5,453	1,705,162	819,440	12,946	41,588
Departments							
Department of Agriculture	17,004	2,190	0	363	11,136	450	2,865
Department of Commerce	7,127	0	0	13	2,885	4,229	0
Department of Defense	1,581,930	12,620	0	1,524,714	43,851	745	0
Department of Education	8,262	0	0	1,034	7,229	0	0
Department of Energy	51,016	0	5,453	30,582	14,982	0	0
Department of Health and Human Services	732,294	0	0	14,949	673,775	6,512	37,058
Department of Homeland Security	4,389	0	0	4,389	0	0	0
Department of the Interior	1,126	587	0	55	387	0	97
Department of Transportation	5,316	0	0	3,672	75	0	1,568
Department of Veterans Affairs	42,344	42,344	0	0	0	0	0
Other agencies							
Agency for International Development	1,250	0	0	0	1,250	0	0
Environmental Protection Agency	203	0	0	203	0	0	0

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
National Aeronautics and Space Administration	127,149	0	0	123,358	3,791	0	0
National Science Foundation	62,920	0	0	1,831	60,080	1,010	0
Delaware	340,648	28,757	0	131,264	162,123	16,444	2,060
Departments							
Department of Agriculture	12,408	1,923	0	166	10,319	0	0
Department of Commerce	16,562	73	0	145	16,344	0	0
Department of Defense	156,085	26,019	0	99,336	28,148	1,571	1,011
Department of Education	2,043	0	0	0	2,043	0	0
Department of Energy	17,975	0	0	5,276	12,681	0	18
Department of Health and Human Services	83,973	0	0	21,218	51,118	11,499	138
Department of Homeland Security	122	0	0	122	0	0	0
Department of the Interior	1,382	743	0	0	639	0	0
Department of Transportation	1,008	0	0	0	115	0	893
Other agencies							
Environmental Protection Agency	114	0	0	114	0	0	0
National Aeronautics and Space Administration	9,584	0	0	4,118	3,416	2,051	0
National Science Foundation	39,391	0	0	767	37,301	1,322	0
District of Columbia	33,916,947	31,563,916	137,557	877,503	271,082	1,059,234	7,655
Departments							
Department of Agriculture	342,521	337,146	0	750	3,172	1,453	0
Department of Commerce	41,261	28,847	0	10,431	1,347	637	0
Department of Defense	3,569,978	2,721,414	10,101	589,331	39,372	209,759	0
Department of Education	12,063	0	0	1,754	3,028	6,220	1,060
Department of Energy	692,580	668,359	5,411	6,226	3,023	9,561	0
Department of Health and Human Services	26,085,754	25,772,092	0	24,991	151,412	131,794	5,464
Department of Homeland Security	31,733	24,854	3,249	3,138	0	492	0
Department of the Interior	20,100	19,721	0	53	43	283	0
Department of Justice	21,161	6,971	0	7,488	3,000	3,701	0
Department of Labor	3,698	2,689	0	1,009	0	0	0
Department of State	58,000	58,000	0	0	0	0	0
Department of Transportation	163,645	68,495	553	80,620	605	12,373	999
Department of the Treasury	2,000	2,000	0	0	0	0	0
Department of Veterans Affairs	124,348	124,348	0	0	0	0	0
Other agencies							
Agency for Global Media	5,536	520	0	5,016	0	0	0
Agency for International Development	28,023	17,752	0	6,459	0	3,812	0
Appalachian Regional Commission	64	0	0	0	0	64	0
Environmental Protection Agency	107,549	54,331	0	52,301	0	917	0
Federal Trade Commission	2,713	2,713	0	0	0	0	0
Library of Congress	3,055	3,055	0	0	0	0	0
National Aeronautics and Space Administration	1,531,141	1,373,541	0	55,689	22,296	79,616	0

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
National Science Foundation	242,323	2,759	118,242	3,850	43,759	73,581	132
Nuclear Regulatory Commission	302	300	0	2	0	0	0
Patient-Centered Outcomes Research Trust Fund	521,671	0	0	0	0	521,671	0
Postal Service	13,860	0	0	13,860	0	0	0
Smithsonian Institution	227,400	227,400	0	0	0	0	0
Social Security Administration	64,471	46,609	0	14,536	25	3,301	0
Florida	4,249,966	799,142	113	2,099,511	1,138,687	195,545	16,969
Departments							
Department of Agriculture	91,271	38,477	0	1,100	50,840	854	0
Department of Commerce	37,788	14,260	0	835	20,324	1,224	1,145
Department of Defense	2,689,320	638,347	0	1,883,469	115,387	51,014	1,103
Department of Education	13,552	0	0	0	11,181	0	2,371
Department of Energy	38,049	1	0	10,119	27,576	1	353
Department of Health and Human Services	854,924	392	0	59,326	656,579	138,355	274
Department of Homeland Security	8,097	624	113	7,080	280	0	0
Department of the Interior	58,375	49,348	0	1,836	4,989	2,004	197
Department of Justice	2,533	0	0	0	2,533	0	0
Department of Transportation	24,555	526	0	3,022	10,594	0	10,413
Department of Veterans Affairs	43,504	43,504	0	0	0	0	0
Other agencies							
Agency for International Development	4,627	0	0	0	4,627	0	0
Environmental Protection Agency	10,776	9,923	0	826	28	0	0
National Aeronautics and Space Administration	164,422	3,740	0	125,594	33,960	1,124	3
National Science Foundation	207,850	0	0	6,305	199,465	969	1,110
Nuclear Regulatory Commission	200	0	0	0	200	0	0
Social Security Administration	125	0	0	0	125	0	0
Georgia	1,821,438	225,983	3,697	239,405	1,291,590	29,422	31,340
Departments							
Department of Agriculture	109,429	61,628	0	103	47,617	75	6
Department of Commerce	9,421	0	0	1,243	8,178	0	0
Department of Defense	460,956	94,783	15	135,195	229,490	1,473	0
Department of Education	3,115	0	0	0	2,705	409	0
Department of Energy	48,978	2	0	9,636	25,110	13,863	366
Department of Health and Human Services	910,819	18,725	0	59,483	810,341	4,906	17,364
Department of Homeland Security	5,023	1,026	3,683	215	100	0	0
Department of the Interior	3,351	2,716	0	7	586	42	0
Department of Justice	1,196	0	0	0	1,196	0	0
Department of Transportation	33,759	1	0	17,981	2,242	0	13,535
Department of Veterans Affairs	39,282	39,282	0	0	0	0	0
Other agencies							
Agency for International Development	8,000	0	0	0	3,000	5,000	0

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Environmental Protection Agency	10,916	7,320	0	157	3,439	0	0
National Aeronautics and Space Administration	28,628	499	0	5,842	22,287	0	0
National Science Foundation	148,098	0	0	9,545	135,263	3,222	69
Nuclear Regulatory Commission	431	0	0	0	0	431	0
Social Security Administration	37	0	0	0	37	0	0
Hawaii	371,193	62,910	0	133,668	144,109	23,115	7,390
Departments							
Department of Agriculture	24,726	17,976	0	764	4,475	1,511	0
Department of Commerce	5,453	3,956	0	535	962	0	0
Department of Defense	189,922	30,989	0	119,080	23,533	11,225	5,095
Department of Energy	8,446	0	0	4,896	3,486	64	0
Department of Health and Human Services	60,062	0	0	5,249	49,097	4,777	940
Department of Homeland Security	994	0	0	994	0	0	0
Department of the Interior	7,519	7,504	0	0	0	15	0
Department of Transportation	1,510	0	0	0	400	0	1,110
Department of Veterans Affairs	2,096	2,096	0	0	0	0	0
Other agencies							
National Aeronautics and Space Administration	29,896	389	0	931	23,526	5,049	1
National Science Foundation	40,569	0	0	1,219	38,631	474	245
Idaho	702,352	65,585	491,824	69,275	62,207	893	12,567
Departments							
Department of Agriculture	38,496	21,756	0	13	16,618	109	0
Department of Defense	126,682	31,283	34,435	55,106	3,129	0	2,729
Department of Energy	461,377	270	448,543	9,373	3,131	33	26
Department of Health and Human Services	23,642	0	0	1,172	15,377	751	6,342
Department of Homeland Security	3,928	0	1,000	2,928	0	0	0
Department of the Interior	11,201	10,329	0	25	847	0	0
Department of Transportation	1,134	0	0	65	0	0	1,069
Department of Veterans Affairs	1,948	1,948	0	0	0	0	0
Other agencies							
Environmental Protection Agency	215	0	215	0	0	0	0
National Aeronautics and Space Administration	3,312	0	250	348	2,713	0	0
National Science Foundation	22,000	0	0	246	19,354	0	2,400
Nuclear Regulatory Commission	8,419	0	7,382	0	1,037	0	0
Illinois	3,468,724	266,842	1,113,441	350,975	1,575,978	146,398	15,090
Departments							
Department of Agriculture	64,980	44,634	0	1,256	18,680	411	0
Department of Commerce	8,060	0	0	6,430	1,430	200	0
Department of Defense	471,169	148,967	969	192,708	115,035	13,489	0
Department of Education	13,448	0	0	2,000	2,626	1,689	7,134
Department of Energy	1,258,264	154	1,099,433	31,463	104,932	22,060	222

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Health and Human Services	1,208,255	0	4,228	89,155	1,017,790	95,088	1,993
Department of Homeland Security	15,614	9,764	5,795	55	0	0	0
Department of the Interior	7,890	7,589	0	194	107	0	0
Department of Justice	3,110	0	0	0	626	2,484	0
Department of Transportation	14,197	0	445	2,987	3,138	1,886	5,741
Department of Veterans Affairs	53,756	53,756	0	0	0	0	0
Other agencies							
Agency for International Development	1,000	0	0	0	1,000	0	0
Appalachian Regional Commission	25	0	0	0	0	25	0
Environmental Protection Agency	2,306	0	430	775	1,101	0	0
National Aeronautics and Space Administration	41,164	1,977	449	13,042	24,548	1,148	0
National Science Foundation	302,831	0	0	10,434	284,757	7,640	0
Nuclear Regulatory Commission	2,404	0	1,693	409	25	278	0
Social Security Administration	250	0	0	66	184	0	0
Indiana	1,277,050	326,926	5	276,340	660,168	1,466	12,144
Departments							
Department of Agriculture	33,693	7,024	0	1,010	25,445	50	165
Department of Commerce	7,822	0	0	0	7,822	0	0
Department of Defense	618,469	284,105	0	247,383	86,591	340	50
Department of Education	2,479	0	0	0	2,479	0	0
Department of Energy	35,861	0	0	5,521	30,186	154	0
Department of Health and Human Services	361,163	0	0	8,411	344,071	670	8,011
Department of Homeland Security	255	0	5	0	250	0	0
Department of the Interior	9,221	7,841	0	0	1,380	0	0
Department of Transportation	4,658	0	0	740	0	0	3,918
Department of Veterans Affairs	27,682	27,682	0	0	0	0	0
Other agencies							
Agency for International Development	2,190	0	0	0	2,190	0	0
Environmental Protection Agency	862	0	0	36	826	0	0
National Aeronautics and Space Administration	19,769	274	0	8,095	11,274	126	0
National Science Foundation	151,918	0	0	4,815	146,976	126	0
Nuclear Regulatory Commission	1,009	0	0	329	680	0	0
Iowa	760,960	91,346	32,616	193,452	425,588	2,020	15,938
Departments							
Department of Agriculture	85,612	60,937	0	825	23,124	720	6
Department of Commerce	238	0	0	238	0	0	0
Department of Defense	201,554	551	0	185,010	15,993	0	0
Department of Energy	48,501	0	32,616	200	15,621	0	64
Department of Health and Human Services	217,244	0	0	5,005	200,839	1,300	10,100

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Homeland Security	250	0	0	0	250	0	0
Department of the Interior	1,076	1,076	0	0	0	0	0
Department of Transportation	16,384	0	0	475	10,140	0	5,769
Department of Veterans Affairs	28,781	28,781	0	0	0	0	0
Other agencies							
Environmental Protection Agency	5,210	0	0	151	5,058	0	0
National Aeronautics and Space Administration	108,293	0	0	524	107,770	0	0
National Science Foundation	47,818	0	0	1,024	46,794	0	0
Kansas	445,052	149,333	0	21,219	264,257	8,675	1,567
Departments							
Department of Agriculture	163,811	142,197	0	0	21,535	0	79
Department of Commerce	6,773	0	0	0	6,773	0	0
Department of Defense	61,836	1,464	0	5,266	55,107	0	0
Department of Education	6,667	0	0	0	6,667	0	0
Department of Energy	10,065	0	0	1,942	5,764	2,359	0
Department of Health and Human Services	127,810	0	0	6,697	120,670	251	193
Department of Homeland Security	200	0	0	0	200	0	0
Department of the Interior	5,862	5,062	0	0	801	0	0
Department of Transportation	3,242	0	0	820	1,230	0	1,193
Department of Veterans Affairs	492	492	0	0	0	0	0
Other agencies							
Agency for International Development	4,800	0	0	0	4,800	0	0
National Aeronautics and Space Administration	14,728	119	0	5,964	8,543	0	102
National Science Foundation	38,765	0	0	532	32,169	6,064	0
Kentucky	413,477	49,109	0	36,794	311,024	7,046	9,504
Departments							
Department of Agriculture	30,308	5,039	0	756	24,498	0	15
Department of Commerce	125	0	0	0	125	0	0
Department of Defense	30,158	3,730	0	11,272	15,156	0	0
Department of Education	6,793	0	0	0	873	5,920	0
Department of Energy	44,593	31,048	0	3,961	9,167	322	95
Department of Health and Human Services	248,409	0	0	13,615	228,042	804	5,947
Department of the Interior	2,236	1,513	0	0	723	0	0
Department of Transportation	3,944	0	0	496	0	0	3,447
Department of Veterans Affairs	7,779	7,779	0	0	0	0	0
Other agencies							
Environmental Protection Agency	27	0	0	0	27	0	0
National Aeronautics and Space Administration	6,890	0	0	5,417	1,473	0	0
National Science Foundation	32,215	0	0	1,276	30,939	0	0
Louisiana	512,246	60,230	0	124,622	301,852	6,572	18,970
Departments							

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Agriculture	54,744	34,426	0	820	19,498	0	0
Department of Commerce	2,505	0	0	0	2,505	0	0
Department of Defense	117,749	1,015	0	106,540	9,155	690	349
Department of Education	3,298	0	0	0	2,746	0	552
Department of Energy	8,964	292	0	*	8,493	99	79
Department of Health and Human Services	227,508	854	0	7,592	205,310	2,103	11,648
Department of the Interior	24,231	17,658	0	2,493	3,374	142	564
Department of Transportation	5,027	0	0	0	502	0	4,525
Department of Veterans Affairs	5,984	5,984	0	0	0	0	0
Other agencies							
Environmental Protection Agency	2,814	0	0	2,814	0	0	0
National Aeronautics and Space Administration	5,753	0	0	2,207	2,925	19	602
National Science Foundation	53,468	0	0	2,156	47,143	3,519	649
Nuclear Regulatory Commission	200	0	0	0	200	0	0
Maine	229,928	13,921	5	28,850	70,300	109,233	7,620
Departments							
Department of Agriculture	20,588	8,565	0	1,081	10,443	500	0
Department of Commerce	6,010	192	0	147	3,759	1,912	0
Department of Defense	36,977	2,496	5	16,372	18,046	57	0
Department of Energy	991	0	0	543	353	95	0
Department of Health and Human Services	115,055	0	0	2,171	7,279	100,265	5,339
Department of the Interior	3,441	2,122	0	0	0	949	371
Department of Transportation	1,911	0	0	0	0	0	1,911
Department of Veterans Affairs	170	170	0	0	0	0	0
Other agencies							
National Aeronautics and Space Administration	10,584	376	0	8,048	1,387	773	0
National Science Foundation	34,151	0	0	437	29,032	4,682	0
Nuclear Regulatory Commission	51	0	0	51	0	0	0
Maryland	20,258,939	12,684,205	687,893	3,743,892	2,716,237	405,861	20,850
Departments							
Department of Agriculture	207,627	186,154	0	1,348	19,675	450	0
Department of Commerce	1,250,090	1,170,990	13,058	43,976	20,919	1,147	0
Department of Defense	5,472,538	2,707,309	21,007	1,822,024	635,673	286,011	514
Department of Education	12,263	0	0	4,981	4,520	2,761	0
Department of Energy	101,971	44,357	0	32,892	23,680	94	949
Department of Health and Human Services	11,012,733	8,468,516	644,439	655,147	1,143,867	84,569	16,194
Department of Homeland Security	21,667	4,055	9,388	5,190	2,648	385	0
Department of the Interior	44,574	43,353	0	516	308	141	255
Department of Justice	4,640	830	0	1,750	531	1,529	0
Department of Transportation	20,872	4,457	0	8,531	1,946	3,000	2,938
Department of the Treasury	1,010	500	0	0	0	510	0
Department of Veterans Affairs	30,638	30,638	0	0	0	0	0
Other agencies							

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Agency for International Development	24,818	4,077	0	4,700	0	16,040	0
Consumer Product Safety Commission	165	165	0	0	0	0	0
Environmental Protection Agency	7,419	0	0	5,934	1,486	0	0
National Aeronautics and Space Administration	1,668,193	13,149	0	922,916	730,257	1,870	0
National Science Foundation	372,397	4,113	0	230,228	130,703	7,352	0
Nuclear Regulatory Commission	3,422	738	0	2,684	0	0	0
Social Security Administration	1,901	803	0	1,074	24	0	0
Massachusetts	8,495,312	644,127	1,353,857	2,237,060	2,122,437	2,131,202	6,629
Departments							
Department of Agriculture	41,794	9,403	0	674	28,635	3,073	9
Department of Commerce	42,889	10,551	0	11,413	20,503	412	10
Department of Defense	3,441,904	215,730	1,274,305	1,438,062	361,668	152,138	0
Department of Education	18,597	0	0	250	6,622	11,409	317
Department of Energy	177,511	2,315	0	71,312	94,441	8,585	858
Department of Health and Human Services	3,638,827	0	0	600,396	1,136,152	1,899,560	2,719
Department of Homeland Security	39,749	8,530	2,573	28,646	0	0	0
Department of the Interior	16,677	14,082	0	163	2,035	113	284
Department of Justice	1,632	0	0	595	1,037	0	0
Department of Transportation	216,545	114,529	76,978	18,566	3,405	634	2,433
Department of Veterans Affairs	169,031	169,031	0	0	0	0	0
Other agencies							
Agency for International Development	4,845	0	0	0	2,750	2,095	0
Environmental Protection Agency	19,820	1,789	0	6,483	5,098	6,450	0
National Aeronautics and Space Administration	202,476	98,167	0	29,188	72,104	3,017	0
National Science Foundation	459,686	0	0	30,970	386,800	41,916	0
Nuclear Regulatory Commission	743	0	0	343	400	0	0
Social Security Administration	2,585	0	0	0	787	1,799	0
Michigan	2,389,976	401,393	0	499,795	1,304,944	179,807	4,036
Departments							
Department of Agriculture	29,535	2,036	0	1,599	25,787	0	113
Department of Commerce	8,417	879	0	200	7,338	0	0
Department of Defense	930,149	341,922	0	386,740	81,991	119,496	0
Department of Education	8,503	0	0	1,000	6,262	1,242	0
Department of Energy	179,997	0	0	42,792	136,490	715	0
Department of Health and Human Services	919,445	218	0	48,535	810,979	58,186	1,527
Department of Homeland Security	1,370	0	0	1,020	350	0	0
Department of the Interior	11,276	11,230	0	0	46	0	0
Department of Justice	3,018	0	0	0	3,018	0	0
Department of Transportation	9,160	0	0	4,740	2,024	0	2,395
Department of Veterans Affairs	45,091	45,091	0	0	0	0	0
Other agencies							

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Agency for International Development	8,259	0	0	0	8,259	0	0
Environmental Protection Agency	1,724	0	0	378	1,346	0	0
National Aeronautics and Space Administration	45,338	17	0	6,692	38,546	82	*
National Science Foundation	187,894	0	0	6,099	181,707	87	0
Nuclear Regulatory Commission	632	0	0	0	632	0	0
Social Security Administration	168	0	0	0	168	0	0
Minnesota	1,239,047	73,449	0	226,291	598,213	313,761	27,332
Departments							
Department of Agriculture	51,761	25,410	0	1,125	24,250	0	976
Department of Commerce	10,244	0	0	8,918	1,326	0	0
Department of Defense	203,777	3,647	0	160,244	27,550	12,336	0
Department of Education	3,830	0	0	0	3,830	0	0
Department of Energy	29,649	0	0	3,801	19,972	5,876	0
Department of Health and Human Services	786,531	0	0	39,232	433,927	292,003	21,369
Department of Homeland Security	96	0	0	96	0	0	0
Department of the Interior	9,564	6,007	0	0	3,383	0	174
Department of Justice	475	0	0	0	0	475	0
Department of Transportation	9,326	0	0	4,089	0	494	4,743
Department of Veterans Affairs	28,299	28,299	0	0	0	0	0
Other agencies							
Agency for International Development	608	0	0	608	0	0	0
Environmental Protection Agency	11,155	10,085	0	253	817	0	0
National Aeronautics and Space Administration	9,171	1	0	2,176	6,995	0	0
National Science Foundation	84,378	0	0	5,716	76,014	2,577	70
Nuclear Regulatory Commission	34	0	0	34	0	0	0
Social Security Administration	150	0	0	0	150	0	0
Mississippi	1,149,978	589,504	0	385,154	171,928	30	3,363
Departments							
Department of Agriculture	124,551	79,822	0	0	44,135	30	563
Department of Commerce	18,373	187	0	2,000	16,186	0	0
Department of Defense	823,935	444,683	0	369,842	9,411	0	0
Department of Education	448	0	0	0	448	0	0
Department of Energy	2,898	320	0	12	2,566	0	0
Department of Health and Human Services	69,621	0	0	1,826	66,595	0	1,199
Department of Homeland Security	15,982	11,783	0	200	3,999	0	0
Department of the Interior	3,669	3,373	0	0	211	0	84
Department of Justice	432	0	0	0	432	0	0
Department of Transportation	4,646	0	0	0	3,130	0	1,516
Department of Veterans Affairs	913	913	0	0	0	0	0
Other agencies							
Agency for International Development	3,000	0	0	0	3,000	0	0

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
National Aeronautics and Space Administration	60,898	48,422	0	11,203	1,272	0	*
National Science Foundation	20,542	0	0	0	20,542	0	0
Nuclear Regulatory Commission	71	0	0	71	0	0	0
Missouri	1,837,946	137,041	0	723,113	908,021	55,695	14,076
Departments							
Department of Agriculture	63,678	31,556	0	0	29,598	2,524	0
Department of Commerce	1,510	1,010	0	0	500	0	0
Department of Defense	687,439	53,618	0	567,445	56,796	9,579	0
Department of Education	11,667	0	0	0	11,667	0	0
Department of Energy	85,211	1	0	61,046	15,093	9,071	0
Department of Health and Human Services	788,880	0	0	43,086	715,024	21,602	9,167
Department of Homeland Security	6,039	5,773	0	104	0	0	162
Department of the Interior	25,680	24,187	0	0	1,474	19	0
Department of Justice	573	0	0	0	573	0	0
Department of Transportation	13,642	121	0	8,673	100	0	4,748
Department of Veterans Affairs	20,774	20,774	0	0	0	0	0
Other agencies							
Agency for International Development	4,941	0	0	0	0	4,941	0
Environmental Protection Agency	3,217	0	0	2,375	842	0	0
National Aeronautics and Space Administration	52,566	2	0	38,520	14,044	0	0
National Science Foundation	72,130	0	0	1,863	62,309	7,958	0
Montana	291,606	94,038	0	40,444	146,125	3,085	7,914
Departments							
Department of Agriculture	30,962	16,129	0	133	14,701	0	0
Department of Commerce	520	0	0	0	520	0	0
Department of Defense	67,433	361	0	11,214	55,658	200	0
Department of Education	225	0	0	0	0	0	225
Department of Energy	8,339	0	0	3,424	4,915	0	0
Department of Health and Human Services	102,353	56,276	0	1,539	36,019	2,800	5,719
Department of Homeland Security	15,470	0	0	15,470	0	0	0
Department of the Interior	23,113	21,272	0	85	1,721	35	0
Department of Transportation	1,969	0	0	0	0	0	1,969
Other agencies							
National Aeronautics and Space Administration	10,906	0	0	7,202	3,654	50	0
National Science Foundation	30,315	0	0	1,378	28,937	0	0
Nebraska	325,071	52,110	11,354	9,971	221,283	25,986	4,366
Departments							
Department of Agriculture	54,566	30,218	0	175	17,173	7,000	0
Department of Commerce	368	0	0	0	368	0	0
Department of Defense	29,814	8,262	0	6,319	15,233	0	0
Department of Education	2,400	0	0	0	1,488	0	912

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Energy	7,298	0	0	0	7,298	0	0
Department of Health and Human Services	151,915	0	0	2,429	129,948	18,986	552
Department of Homeland Security	11,354	0	11,354	0	0	0	0
Department of the Interior	1,004	547	0	27	430	0	0
Department of Justice	290	0	0	0	290	0	0
Department of Transportation	3,579	0	0	500	177	0	2,902
Department of Veterans Affairs	10,776	10,776	0	0	0	0	0
Other agencies							
National Aeronautics and Space Administration	3,510	2,307	0	69	1,134	0	0
National Science Foundation	48,196	0	0	453	47,743	0	0
Nevada	519,765	62,678	0	348,937	93,643	7,821	6,686
Departments							
Department of Agriculture	7,516	1,705	0	94	5,718	0	0
Department of Commerce	3,015	0	0	15	3,000	0	0
Department of Defense	176,001	7,026	0	163,458	5,518	0	0
Department of Energy	179,652	1,469	0	169,315	8,117	750	0
Department of Health and Human Services	47,044	0	0	1,470	37,894	1,920	5,761
Department of Homeland Security	1,383	400	0	983	0	0	0
Department of the Interior	12,780	11,409	0	117	1,179	41	34
Department of Justice	4,800	0	0	0	0	4,800	0
Department of Transportation	992	0	0	100	0	0	892
Department of Veterans Affairs	1,068	1,068	0	0	0	0	0
Other agencies							
National Aeronautics and Space Administration	55,645	39,601	0	13,386	2,659	0	0
National Science Foundation	29,418	0	0	0	29,108	310	0
Nuclear Regulatory Commission	450	0	0	0	450	0	0
New Hampshire	444,718	11,450	0	234,594	186,122	11,893	658
Departments							
Department of Agriculture	10,224	5,320	0	87	4,700	116	0
Department of Commerce	12,632	0	0	0	11,632	1,000	0
Department of Defense	218,708	3,393	0	198,138	17,177	0	0
Department of Education	2,032	0	0	0	2,032	0	0
Department of Energy	7,331	0	0	3,964	3,287	0	79
Department of Health and Human Services	119,975	0	0	17,844	93,376	8,588	167
Department of Homeland Security	330	0	0	330	0	0	0
Department of the Interior	3,077	2,209	0	93	696	0	79
Department of Justice	2,742	0	0	0	2,742	0	0
Department of Transportation	333	0	0	0	0	0	333
Department of Veterans Affairs	162	162	0	0	0	0	0
Other agencies							
National Aeronautics and Space Administration	32,160	366	0	13,354	18,439	0	0

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
National Science Foundation	35,012	0	0	783	32,040	2,189	0
New Jersey	3,386,124	707,898	105,523	1,894,399	546,847	108,708	22,748
Departments							
Department of Agriculture	9,464	141	0	1,040	8,124	84	75
Department of Commerce	12,838	0	0	0	12,838	0	0
Department of Defense	2,427,421	695,973	0	1,665,713	60,703	5,032	0
Department of Education	15,611	0	0	12,364	1,252	1,995	0
Department of Energy	164,103	*	104,751	32,460	26,441	451	0
Department of Health and Human Services	538,880	0	0	138,519	284,816	99,084	16,460
Department of Homeland Security	2,903	0	772	2,064	0	67	0
Department of the Interior	3,248	1,328	0	574	928	0	418
Department of Justice	1,077	0	0	0	1,077	0	0
Department of Transportation	26,232	*	0	19,041	1,397	0	5,794
Department of the Treasury	2,487	0	0	2,487	0	0	0
Department of Veterans Affairs	7,358	7,358	0	0	0	0	0
Other agencies							
Environmental Protection Agency	3,290	2,603	0	522	165	0	0
National Aeronautics and Space Administration	41,120	496	0	17,516	22,991	116	0
National Science Foundation	129,414	0	0	2,042	125,916	1,456	0
Nuclear Regulatory Commission	200	0	0	0	200	0	0
Social Security Administration	479	0	0	56	0	423	0
New Mexico	3,484,393	776,565	1,999,772	468,889	213,206	20,524	5,438
Departments							
Department of Agriculture	21,839	10,440	0	0	10,414	985	0
Department of Commerce	1,036	185	0	217	633	0	0
Department of Defense	1,235,144	496,696	300,390	388,695	43,922	5,441	0
Department of Education	4,480	0	0	0	750	0	3,730
Department of Energy	1,884,274	206,341	1,658,657	8,349	10,925	1	0
Department of Health and Human Services	121,807	0	7,049	9,293	92,641	12,310	514
Department of Homeland Security	43,994	27,966	4,238	11,790	0	0	0
Department of the Interior	6,919	4,402	0	909	1,488	120	0
Department of Justice	480	0	0	480	0	0	0
Department of Transportation	13,359	0	0	8,324	4,001	0	1,034
Department of the Treasury	8,739	0	3,000	5,739	0	0	0
Department of Veterans Affairs	25,256	25,256	0	0	0	0	0
Other agencies							
Environmental Protection Agency	181	0	0	181	0	0	0
National Aeronautics and Space Administration	61,832	5,132	18,732	32,618	5,001	217	132
National Science Foundation	46,850	148	0	2,293	42,930	1,451	28
Nuclear Regulatory Commission	8,205	0	7,705	0	500	0	0
New York	6,726,319	237,841	570,606	1,541,027	3,562,027	675,232	139,586
Departments							
Department of Agriculture	67,633	23,726	0	1,014	39,830	3,063	0

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Commerce	23,374	0	0	1,112	12,730	9,532	0
Department of Defense	1,206,859	138,614	0	726,393	241,225	100,226	400
Department of Education	29,734	0	0	1,250	9,838	18,647	0
Department of Energy	1,183,622	23	558,278	532,789	83,783	7,262	1,488
Department of Health and Human Services	3,484,005	0	5,802	143,981	2,692,217	508,724	133,281
Department of Homeland Security	4,657	3,749	0	457	0	451	0
Department of the Interior	12,268	10,695	0	0	1,293	0	281
Department of Justice	3,727	0	0	0	1,590	1,840	297
Department of Transportation	15,930	453	0	13,534	0	0	1,943
Department of Veterans Affairs	60,130	60,130	0	0	0	0	0
Other agencies							
Agency for Global Media	1,327	125	0	1,202	0	0	0
Agency for International Development	11,351	0	0	0	4,776	6,575	0
Appalachian Regional Commission	109	0	0	109	0	0	0
Environmental Protection Agency	2,346	0	0	1,340	540	466	0
National Aeronautics and Space Administration	151,111	75	5,991	96,682	46,762	1,601	0
National Science Foundation	466,529	252	0	21,160	426,374	16,847	1,896
Nuclear Regulatory Commission	1,438	0	535	5	898	0	0
Social Security Administration	171	0	0	0	171	0	0
North Carolina	3,724,189	381,897	149	1,024,581	1,849,849	440,869	26,844
Departments							
Department of Agriculture	66,855	22,739	0	250	41,651	1,507	708
Department of Commerce	24,923	6,229	0	4,947	13,054	694	0
Department of Defense	315,663	4,797	0	188,259	90,495	31,972	140
Department of Education	13,042	0	0	748	8,871	2,103	1,319
Department of Energy	83,592	152	0	14,337	56,015	12,898	189
Department of Health and Human Services	2,814,428	193,864	0	777,271	1,461,167	363,227	18,900
Department of Homeland Security	7,800	0	149	7,248	402	0	0
Department of the Interior	13,251	11,945	0	15	1,144	0	147
Department of Justice	27,012	0	0	0	4,337	22,675	0
Department of Transportation	9,985	0	0	2,366	2,179	0	5,440
Department of Veterans Affairs	35,624	35,624	0	0	0	0	0
Other agencies							
Agency for International Development	5,296	0	0	0	1,201	4,095	0
Environmental Protection Agency	125,427	106,548	0	15,093	3,786	0	0
National Aeronautics and Space Administration	10,644	0	0	4,257	5,691	695	0
National Science Foundation	169,868	0	0	9,789	159,076	1,003	0
Nuclear Regulatory Commission	780	0	0	0	780	0	0
North Dakota	153,360	48,221	0	18,216	76,493	3,554	6,876
Departments							
Department of Agriculture	56,011	42,805	0	0	12,919	287	0

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Commerce	90	0	0	0	90	0	0
Department of Defense	28,220	2,345	0	17,704	8,171	0	0
Department of Energy	10,172	60	0	250	9,863	0	0
Department of Health and Human Services	32,209	0	0	0	22,622	3,267	6,321
Department of the Interior	3,012	2,904	0	0	108	0	0
Department of Transportation	7,449	0	0	254	6,640	0	555
Department of Veterans Affairs	106	106	0	0	0	0	0
Other agencies							
Environmental Protection Agency	7	0	0	7	0	0	0
National Aeronautics and Space Administration	828	0	0	0	828	0	0
National Science Foundation	15,122	0	0	0	15,122	0	0
Nuclear Regulatory Commission	131	0	0	0	131	0	0
Ohio	8,242,542	5,805,226	9,449	983,880	1,021,037	399,206	23,743
Departments							
Department of Agriculture	55,236	10,873	0	2,538	41,318	500	8
Department of Commerce	1,374	0	0	300	1,073	0	0
Department of Defense	6,709,129	5,654,190	7,733	790,698	137,085	119,423	0
Department of Education	8,296	0	0	0	7,790	303	203
Department of Energy	63,397	2,938	1,013	19,169	36,603	3,674	0
Department of Health and Human Services	980,871	15,551	0	26,579	670,144	257,636	10,961
Department of Homeland Security	16,209	1,500	703	808	0	13,198	0
Department of the Interior	9,888	9,272	0	1	416	0	200
Department of Justice	533	0	0	0	533	0	0
Department of Transportation	29,975	1,015	0	7,323	7,087	2,978	11,572
Department of Veterans Affairs	41,446	41,446	0	0	0	0	0
Other agencies							
Environmental Protection Agency	62,810	48,963	0	13,248	598	0	0
National Aeronautics and Space Administration	147,926	19,479	0	119,436	8,176	835	0
National Science Foundation	114,376	0	0	3,753	109,162	660	800
Nuclear Regulatory Commission	932	0	0	26	906	0	0
Social Security Administration	145	0	0	0	145	0	0
Oklahoma	458,390	131,813	0	67,474	212,970	38,840	7,293
Departments							
Department of Agriculture	34,985	14,509	0	0	20,426	0	50
Department of Commerce	18,553	0	0	0	18,553	0	0
Department of Defense	79,584	38,445	0	31,803	9,335	0	0
Department of Education	466	0	0	0	466	0	0
Department of Energy	28,085	132	0	13,040	14,747	7	159
Department of Health and Human Services	140,342	0	0	8,237	89,204	38,293	4,607
Department of Homeland Security	1,304	0	0	1,304	0	0	0
Department of the Interior	62,418	61,377	0	0	686	300	55
Department of Transportation	13,797	1,506	0	8,995	1,816	0	1,480

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Veterans Affairs	8,811	8,811	0	0	0	0	0
Other agencies							
Environmental Protection Agency	6,946	6,181	0	764	0	0	0
National Aeronautics and Space Administration	23,012	852	0	2,575	19,345	240	0
National Science Foundation	40,088	0	0	756	38,390	0	942
Oregon	812,145	142,582	0	99,693	528,914	34,988	5,969
Departments							
Department of Agriculture	81,642	56,693	0	495	23,809	615	30
Department of Commerce	4,974	0	0	1,071	3,663	240	0
Department of Defense	71,578	938	0	41,313	26,450	2,877	0
Department of Education	7,451	0	0	250	4,796	2,150	256
Department of Energy	51,123	0	0	23,714	15,769	11,639	0
Department of Health and Human Services	398,675	151	0	23,364	358,101	15,738	1,322
Department of Homeland Security	550	0	0	150	401	0	0
Department of the Interior	21,515	19,047	0	0	1,718	122	627
Department of Transportation	6,726	2,522	0	25	797	0	3,383
Department of Veterans Affairs	52,983	52,983	0	0	0	0	0
Other agencies							
Environmental Protection Agency	10,489	10,248	0	213	28	0	0
National Aeronautics and Space Administration	11,658	0	0	4,576	7,064	18	0
National Science Foundation	91,628	0	0	4,261	85,426	1,589	352
Nuclear Regulatory Commission	1,153	0	0	260	893	0	0
Pennsylvania	4,911,808	443,164	42,166	1,453,858	2,554,197	404,953	13,470
Departments							
Department of Agriculture	78,487	50,642	0	293	27,282	269	0
Department of Commerce	11,961	274	0	5,241	2,938	3,508	0
Department of Defense	1,578,904	279,396	42,166	766,782	444,456	46,104	0
Department of Education	17,794	0	0	396	11,221	5,795	382
Department of Energy	419,012	27,335	0	333,787	57,172	633	85
Department of Health and Human Services	2,310,525	23,198	0	228,651	1,708,523	344,111	6,042
Department of Homeland Security	11,176	255	0	10,621	300	0	0
Department of the Interior	11,108	9,348	0	292	1,293	39	136
Department of Justice	4,850	0	0	0	4,164	686	0
Department of Transportation	50,907	0	0	35,990	6,757	1,336	6,824
Department of Veterans Affairs	48,705	48,705	0	0	0	0	0
Other agencies							
Environmental Protection Agency	11,004	0	0	9,491	1,513	0	0
National Aeronautics and Space Administration	83,499	4,011	0	53,594	25,846	48	0
National Science Foundation	271,200	0	0	8,167	260,608	2,425	0
Nuclear Regulatory Commission	2,483	0	0	553	1,930	0	0
Social Security Administration	193	0	0	0	193	0	0
Rhode Island	894,706	327,071	0	204,732	263,923	89,491	9,490

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Departments							
Department of Agriculture	3,036	585	0	0	2,404	32	15
Department of Commerce	22,701	0	0	0	22,647	54	0
Department of Defense	521,198	296,087	0	196,703	27,816	292	300
Department of Education	5,940	0	0	0	5,388	0	553
Department of Energy	6,667	0	0	924	5,470	225	48
Department of Health and Human Services	256,652	0	0	6,146	156,377	86,677	7,452
Department of the Interior	321	74	0	0	247	0	0
Department of Transportation	2,122	0	0	0	1,000	0	1,122
Department of Veterans Affairs	21,049	21,049	0	0	0	0	0
Other agencies							
Environmental Protection Agency	9,272	9,272	0	0	0	0	0
National Aeronautics and Space Administration	4,647	4	0	447	4,126	70	0
National Science Foundation	41,100	0	0	512	38,447	2,141	0
South Carolina	1,162,399	166,835	80,446	350,916	323,392	231,091	9,718
Departments							
Department of Agriculture	33,368	16,287	0	0	16,659	423	0
Department of Commerce	13,484	10,047	0	0	2,799	77	561
Department of Defense	686,757	102,221	8,868	320,299	28,141	227,227	0
Department of Education	3,482	0	0	0	3,482	0	0
Department of Energy	91,455	81	70,577	4,519	16,199	0	79
Department of Health and Human Services	241,852	0	0	19,349	213,944	1,679	6,880
Department of Homeland Security	4,751	0	1,000	3,751	0	0	0
Department of the Interior	1,580	921	0	4	552	0	104
Department of Transportation	4,787	0	0	2,142	551	0	2,094
Department of Veterans Affairs	37,095	37,095	0	0	0	0	0
Other agencies							
Environmental Protection Agency	415	0	0	0	415	0	0
National Aeronautics and Space Administration	5,078	1	0	368	4,709	0	0
National Science Foundation	36,860	183	0	484	34,508	1,686	0
Nuclear Regulatory Commission	1,350	0	0	0	1,350	0	0
Social Security Administration	84	0	0	0	84	0	0
South Dakota	134,466	23,536	0	13,468	41,241	22,776	33,446
Departments							
Department of Agriculture	13,703	2,888	0	0	10,383	400	32
Department of Commerce	91	0	0	91	0	0	0
Department of Defense	15,588	7,267	0	7,075	1,247	0	0
Department of Energy	28,945	165	0	2,325	1,905	0	24,550
Department of Health and Human Services	35,677	0	0	823	13,468	14,272	7,115
Department of the Interior	15	15	0	0	0	0	0
Department of Transportation	1,749	0	0	0	0	0	1,749
Department of Veterans Affairs	583	583	0	0	0	0	0
Other agencies							

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
National Aeronautics and Space Administration	16,861	12,618	0	3,154	1,089	0	0
National Science Foundation	21,254	0	0	0	13,150	8,104	0
Tennessee	3,385,285	358,907	1,293,848	769,510	841,291	111,921	9,808
Departments							
Department of Agriculture	49,050	14,904	0	0	33,722	0	424
Department of Commerce	736	0	0	0	736	0	0
Department of Defense	516,876	272,526	9,844	160,981	70,566	2,959	0
Department of Education	5,486	0	0	0	5,486	0	0
Department of Energy	1,508,675	14,324	1,272,875	158,704	55,543	3,600	3,629
Department of Health and Human Services	679,140	397	598	7,443	571,959	97,875	869
Department of Homeland Security	8,719	347	1,601	5,553	1,219	0	0
Department of the Interior	8,609	8,073	0	0	420	0	115
Department of Justice	396	0	0	0	396	0	0
Department of Transportation	8,195	0	1,625	663	1,135	0	4,771
Department of Veterans Affairs	38,979	38,979	0	0	0	0	0
Other agencies							
Appalachian Regional Commission	148	0	0	0	148	0	0
Environmental Protection Agency	41,412	0	444	40,968	0	0	0
National Aeronautics and Space Administration	402,392	8,607	0	369,440	24,345	0	0
National Science Foundation	80,405	750	0	4,002	74,664	988	0
Nuclear Regulatory Commission	7,812	0	6,862	0	950	0	0
Tennessee Valley Authority	28,254	0	0	21,756	0	6,498	0
Texas	5,475,314	600,451	38,073	2,060,666	2,518,004	189,690	68,430
Departments							
Department of Agriculture	145,542	50,100	0	1,694	89,056	4,693	0
Department of Commerce	12,415	0	0	1,571	10,844	0	0
Department of Defense	2,032,364	483,776	36,349	1,245,687	250,449	16,075	30
Department of Education	28,335	0	0	250	22,738	2,802	2,545
Department of Energy	141,202	227	0	28,374	107,781	4,693	128
Department of Health and Human Services	1,769,766	0	0	71,760	1,591,780	72,205	34,020
Department of Homeland Security	16,410	0	203	12,017	250	3,940	0
Department of the Interior	15,670	9,670	0	2,141	2,392	365	1,102
Department of Justice	3,866	0	0	0	3,866	0	0
Department of Transportation	36,520	0	0	7,197	3,631	1,549	24,143
Department of Veterans Affairs	55,302	55,302	0	0	0	0	0
Other agencies							
Agency for International Development	3,000	0	0	0	3,000	0	0
Appalachian Regional Commission	250	0	0	250	0	0	0
Environmental Protection Agency	4,637	0	0	2,144	2,494	0	0
National Aeronautics and Space Administration	807,147	1,375	0	674,458	50,256	81,056	3

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
National Science Foundation	393,900	0	0	13,068	378,518	2,314	0
Nuclear Regulatory Commission	2,527	0	1,522	55	950	0	0
RESTORE Act Centers of Excellence Research Grants Program	6,460	0	0	0	0	0	6,460
Utah	3,196,264	333,801	0	2,387,391	467,595	5,667	1,810
Departments							
Department of Agriculture	31,708	24,679	0	775	6,248	0	6
Department of Commerce	1,000	0	0	102	898	0	0
Department of Defense	2,580,287	247,974	0	2,242,892	85,513	3,909	0
Department of Education	487	0	0	0	487	0	0
Department of Energy	61,765	0	0	21,406	40,264	95	0
Department of Health and Human Services	292,838	0	0	44,224	247,003	1,385	227
Department of Homeland Security	318	0	0	318	0	0	0
Department of the Interior	12,715	11,458	0	0	389	278	589
Department of Justice	76	0	0	0	76	0	0
Department of Transportation	2,666	0	0	1,676	1	0	989
Department of Veterans Affairs	49,342	49,342	0	0	0	0	0
Other agencies							
Agency for Global Media	183	17	0	166	0	0	0
Environmental Protection Agency	181	0	0	181	0	0	0
National Aeronautics and Space Administration	88,512	329	0	73,412	14,771	0	0
National Science Foundation	74,185	0	0	2,241	71,944	0	0
Vermont	161,740	13,288	0	37,833	97,596	3,771	9,252
Departments							
Department of Agriculture	26,326	4,892	0	0	21,434	0	0
Department of Commerce	3,118	0	0	0	3,118	0	0
Department of Defense	18,986	0	0	14,530	850	3,606	0
Department of Energy	3,921	0	0	1,170	2,751	0	0
Department of Health and Human Services	81,841	0	0	16,779	56,984	0	8,078
Department of Homeland Security	2,320	0	0	2,320	0	0	0
Department of the Interior	2,094	1,297	0	20	712	0	66
Department of Justice	165	0	0	0	0	165	0
Department of Transportation	2,453	0	0	150	1,195	0	1,108
Department of Veterans Affairs	7,100	7,100	0	0	0	0	0
Other agencies							
National Aeronautics and Space Administration	839	0	0	839	0	0	0
National Science Foundation	12,064	0	0	1,512	10,553	0	0
Nuclear Regulatory Commission	513	0	0	513	0	0	0
Virginia	10,144,002	2,218,305	780,461	6,214,532	714,862	201,506	14,336
Departments							
Department of Agriculture	42,558	1,335	0	224	28,439	12,560	0
Department of Commerce	14,816	1,999	0	1,287	10,855	675	0

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Defense	7,356,864	1,954,122	512,671	4,738,075	76,479	70,853	4,664
Department of Education	12,897	0	0	1,724	9,978	0	1,195
Department of Energy	341,095	5,028	165,829	133,330	33,524	3,385	0
Department of Health and Human Services	704,826	0	16,909	258,217	379,669	49,069	963
Department of Homeland Security	194,762	99,881	171	91,630	888	2,193	0
Department of the Interior	109,301	104,122	0	4,720	0	56	403
Department of Justice	9,382	300	0	4,832	1,170	2,688	392
Department of Transportation	171,822	11,586	666	109,497	12,667	30,687	6,719
Department of the Treasury	8,904	0	2,950	5,954	0	0	0
Department of Veterans Affairs	93,548	19,235	74,313	0	0	0	0
Other agencies							
Administrative Office of the U.S. Courts	1,443	0	1,443	0	0	0	0
Agency for Global Media	909	85	0	824	0	0	0
Agency for International Development	9,929	800	0	3,681	4,685	763	0
Appalachian Regional Commission	108	0	0	0	0	108	0
Environmental Protection Agency	27,128	4,067	0	21,865	897	300	0
National Aeronautics and Space Administration	879,323	15,692	530	828,982	17,262	16,857	0
National Science Foundation	156,981	0	4,980	4,366	137,334	10,302	0
Nuclear Regulatory Commission	3,174	0	0	2,324	850	0	0
Social Security Administration	4,230	54	0	3,000	166	1,010	0
Washington	3,576,461	398,649	568,777	720,909	1,014,970	823,017	50,139
Departments							
Department of Agriculture	75,796	39,935	0	2,419	30,943	1,820	679
Department of Commerce	50,195	24,956	0	275	24,746	218	0
Department of Defense	951,429	248,858	22,586	540,440	96,857	42,688	1
Department of Education	4,822	0	0	0	3,273	1,549	0
Department of Energy	608,056	13	523,836	46,055	34,097	3,600	455
Department of Health and Human Services	1,517,651	4,607	15,736	53,423	636,851	762,353	44,682
Department of Homeland Security	3,600	2,000	200	1,320	0	0	80
Department of the Interior	22,476	18,567	0	536	3,074	0	299
Department of Transportation	15,466	0	0	5	11,517	0	3,944
Department of Veterans Affairs	58,730	58,730	0	0	0	0	0
Other agencies							
Agency for International Development	9,977	0	0	3,900	1,000	5,077	0
Environmental Protection Agency	2,077	0	19	2,031	27	0	0
National Aeronautics and Space Administration	81,507	983	0	61,665	17,984	874	0
National Science Foundation	168,276	0	0	8,837	154,600	4,838	0
Nuclear Regulatory Commission	6,404	0	6,400	4	0	0	0
West Virginia	212,282	59,322	0	48,718	77,573	15,538	11,131
Departments							

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Agriculture	42,415	26,720	0	125	15,406	125	40
Department of Commerce	3,223	0	0	0	1,223	2,000	0
Department of Defense	38,603	79	0	36,238	1,732	554	0
Department of Energy	17,831	16	0	9,241	5,909	2,350	316
Department of Health and Human Services	81,150	24,418	0	400	46,768	472	9,091
Department of Homeland Security	720	0	0	720	0	0	0
Department of the Interior	5,803	5,233	0	0	391	0	178
Department of Justice	1,013	0	0	0	1,013	0	0
Department of Transportation	2,599	1,754	0	0	0	0	845
Department of Veterans Affairs	1,102	1,102	0	0	0	0	0
Other agencies							
Appalachian Regional Commission	100	0	0	86	14	0	0
Environmental Protection Agency	550	0	0	0	550	0	0
National Aeronautics and Space Administration	3,748	0	0	1,745	2,003	0	0
National Science Foundation	13,261	0	0	0	2,564	10,036	661
Nuclear Regulatory Commission	163	0	0	163	0	0	0
Wisconsin	1,115,331	62,417	0	225,174	753,921	62,517	11,302
Departments							
Department of Agriculture	81,451	47,124	0	1,305	30,181	2,829	12
Department of Commerce	7,884	0	0	345	7,539	0	0
Department of Defense	212,637	157	0	178,220	34,103	157	0
Department of Education	9,002	0	0	0	3,479	5,523	0
Department of Energy	88,003	0	0	13,654	69,658	4,691	0
Department of Health and Human Services	558,459	0	0	22,063	478,905	48,137	9,355
Department of the Interior	15,084	14,630	0	37	191	0	226
Department of Transportation	2,865	100	0	0	1,056	0	1,709
Department of Veterans Affairs	406	406	0	0	0	0	0
Other agencies							
Environmental Protection Agency	2,647	0	0	317	2,330	0	0
National Aeronautics and Space Administration	23,659	0	0	4,766	18,842	50	0
National Science Foundation	112,578	0	0	4,467	106,980	1,131	0
Social Security Administration	656	0	0	0	656	0	0
Wyoming	80,466	28,294	0	4,739	44,308	740	2,385
Departments							
Department of Agriculture	3,242	134	0	175	2,858	76	0
Department of Defense	1,179	79	0	914	186	0	0
Department of Energy	9,751	0	0	1,348	7,843	560	0
Department of Health and Human Services	13,550	0	0	259	13,076	0	215
Department of Homeland Security	259	0	0	259	0	0	0
Department of the Interior	29,094	28,081	0	0	725	78	210
Department of Transportation	2,164	0	0	204	0	0	1,960

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Other agencies							
National Aeronautics and Space Administration	1,732	0	0	665	1,040	26	0
National Science Foundation	19,495	0	0	914	18,581	0	0
Outlying areas	142,474	28,964	0	2,313	97,068	6,241	7,888
Departments							
Department of Agriculture	21,833	5,491	0	175	16,167	0	0
Department of Commerce	3,363	450	0	0	2,859	54	0
Department of Defense	4,650	46	0	129	4,476	0	0
Department of Education	250	0	0	250	0	0	0
Department of Health and Human Services	54,529	0	0	1,150	44,530	6,187	2,663
Department of Homeland Security	577	0	0	107	470	0	0
Department of the Interior	6,524	1,055	0	0	243	0	5,226
Department of Veterans Affairs	21,923	21,923	0	0	0	0	0
Other agencies							
National Aeronautics and Space Administration	63	0	0	0	63	0	0
National Science Foundation	28,762	0	0	502	28,261	0	0
Puerto Rico	101,838	28,349	0	1,932	68,614	54	2,888
Departments							
Department of Agriculture	11,828	5,314	0	175	6,339	0	0
Department of Commerce	2,115	61	0	0	2,000	54	0
Department of Defense	1,997	0	0	0	1,997	0	0
Department of Health and Human Services	45,895	0	0	1,150	42,082	0	2,663
Department of Homeland Security	575	0	0	105	470	0	0
Department of the Interior	1,413	1,052	0	0	136	0	226
Department of Veterans Affairs	21,923	21,923	0	0	0	0	0
Other agencies							
National Science Foundation	16,092	0	0	502	15,591	0	0
Other areas ^c	40,636	615	0	381	28,454	6,187	5,000
Departments							
Department of Agriculture	10,005	177	0	0	9,828	0	0
Department of Commerce	1,248	389	0	0	859	0	0
Department of Defense	2,653	46	0	129	2,479	0	0
Department of Education	250	0	0	250	0	0	0
Department of Health and Human Services	8,634	0	0	0	2,447	6,187	0
Department of Homeland Security	2	0	0	2	0	0	0
Department of the Interior	5,111	3	0	0	108	0	5,000
Other agencies							
National Aeronautics and Space Administration	63	0	0	0	63	0	0
National Science Foundation	12,670	0	0	0	12,670	0	0
Offices abroad ^d	20,507	14,222	0	5,330	955	0	0

TABLE 61

Federal obligations for research and experimental development, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	United States and U.S. territories			
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Departments							
Department of Defense	4,192	1,170	0	3,022	0	0	0
Department of Energy	900	0	0	0	900	0	0
Department of Health and Human Services	5,558	5,558	0	0	0	0	0
Department of Homeland Security	1,068	0	0	1,068	0	0	0
Department of the Interior	1,226	0	0	1,226	0	0	0
Department of State	7,000	7,000	0	0	0	0	0
Other agencies							
National Aeronautics and Space Administration	495	495	0	0	0	0	0
Nuclear Regulatory Commission	68	0	0	13	55	0	0
Undistributed ^e	4,972,632	3,771,869	320	1,192,463	7,935	46	0
Departments							
Department of Defense	4,972,632	3,771,869	320	1,192,463	7,935	46	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, as well as actual federal performance.^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.^c Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.^d Includes R&D performed or administered in foreign countries by the U.S. government.^e Undistributed totals include Department of Defense obligations for which the location of performance is not reported.**Note(s):**Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.**Source(s):**

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 62

Federal obligations for R&D plant, by state or location and agency: FY 2022

(Dollars in thousands)

State or location	Total	DHS	DOC	DOD	DOE	DOI	DOT	EPA	HHS	NASA	NSF	SI	USDA
All locations	6,172,465	10,232	379,425	255,660	4,279,970	6,872	37,799	5,800	291,447	126,953	529,268	69,600	179,440
Alabama	70,588	0	0	3,513	0	0	1,271	0	12,337	52,849	597	0	21
Alaska	12,386	0	12,176	0	0	0	0	0	0	0	210	0	0
Arizona	60,008	0	0	0	0	0	0	0	0	0	59,941	0	66
Arkansas	20,096	0	0	0	0	0	0	0	9,635	0	10,461	0	0
California	888,960	101	4,283	32,071	804,022	0	589	0	3,900	8,355	29,500	0	6,140
Colorado	75,381	0	17,754	0	48,601	800	984	0	3,193	0	2,540	0	1,508
Connecticut	13,644	0	0	0	0	0	12	0	0	0	13,632	0	0
Delaware	1,275	0	0	0	0	0	0	0	0	0	1,275	0	0
District of Columbia	162,890	0	0	0	60,253	0	3,206	0	2,938	9	26,883	69,600	0
Florida	77,920	0	33,807	9,620	0	0	166	273	0	10,308	23,514	0	232
Georgia	9,749	0	0	0	0	0	1,644	201	0	0	6,591	0	1,313
Hawaii	5,401	0	4,800	0	0	0	0	0	0	0	601	0	0
Idaho	818,143	0	0	0	805,656	0	0	0	0	0	12,487	0	0
Illinois	712,957	0	0	11,216	677,692	0	5,633	0	11,235	0	7,181	0	0
Indiana	689	0	0	0	0	0	0	0	0	0	689	0	0
Iowa	39,016	0	0	0	29,418	0	0	0	7,975	0	1,623	0	0
Kansas	10,103	0	0	8,497	0	0	0	0	0	2	1,604	0	0
Kentucky	13,669	0	0	0	0	0	0	0	1,220	0	2,027	0	10,422
Louisiana	57,947	0	0	14,161	0	0	0	0	11,943	26,769	5,075	0	0
Maine	220	0	0	0	0	0	220	0	0	0	0	0	0
Maryland	478,016	9,722	235,625	30,896	42	0	1,525	0	130,283	6,699	2,330	0	60,894
Massachusetts	91,672	0	0	50,538	50	0	655	0	12,981	0	27,448	0	0
Michigan	10,193	0	70	0	0	0	10	0	0	0	10,113	0	0
Minnesota	1,257	0	0	0	0	0	0	277	0	0	980	0	0
Mississippi	15,045	0	12,303	0	0	0	0	0	0	0	2,742	0	0
Missouri	20,017	0	0	0	3,818	0	669	0	10,310	0	1,220	0	4,000
Montana	1,094	0	0	0	0	0	0	0	0	0	1,094	0	0
Nebraska	24,265	0	0	0	0	0	0	0	3,907	0	358	0	20,000
Nevada	167,221	0	0	0	165,524	0	0	0	0	327	1,371	0	0
New Hampshire	5,738	0	4,654	0	0	0	54	0	0	0	1,030	0	0
New Jersey	77,111	0	0	0	51,105	4,965	12,029	71	1,913	8	7,020	0	0
New Mexico	145,352	35	0	5,474	129,743	850	0	0	7,085	0	2,166	0	0
New York	533,455	0	0	11,329	471,013	0	0	0	19,368	0	31,745	0	0
North Carolina	12,651	0	0	0	0	0	0	2,927	3,265	0	4,343	0	2,116
Ohio	73,692	0	0	0	0	0	0	1,345	0	0	72,347	0	0
Oklahoma	14,583	0	0	0	0	0	215	170	0	8,840	5,358	0	0
Oregon	66,546	0	23,073	0	0	0	0	282	0	0	40,542	0	2,650
Pennsylvania	20,016	0	0	0	311	0	131	0	10,811	0	7,547	0	1,217
Rhode Island	19,330	0	11,430	7,645	0	0	0	255	0	0	0	0	0
South Carolina	23,864	0	14,546	0	4,977	0	22	0	0	0	4,318	0	0
South Dakota	6,827	0	0	0	5,300	0	0	0	0	0	1,527	0	0
Tennessee	967,095	0	0	7,817	888,922	0	0	0	11,997	2,036	56,323	0	0
Texas	40,716	0	0	14,233	0	0	793	0	7,132	933	16,820	0	805
Utah	5,416	0	0	2,899	0	0	0	0	0	0	2,517	0	0
Virginia	187,885	195	3,925	44,266	104,515	258	7,970	0	7,996	9,820	8,941	0	0
Washington	55,761	0	979	0	28,958	0	0	0	0	0	3,625	0	22,200
West Virginia	90	0	0	0	50	0	0	0	0	0	40	0	0
Wisconsin	47,999	0	0	0	0	0	0	0	0	0	7,824	0	40,175
Outlying areas	7,027	179	0	0	0	0	0	0	24	0	1,145	0	5,679

TABLE 62

Federal obligations for R&D plant, by state or location and agency: FY 2022

(Dollars in thousands)

State or location	Total	DHS	DOC	DOD	DOE	DOI	DOT	EPA	HHS	NASA	NSF	SI	USDA
Puerto Rico	6,008	0	0	0	0	0	0	0	24	0	304	0	5,679
Other areas ^a	1,019	179	0	0	0	0	0	0	0	0	841	0	0
Undistributed ^b	1,486	0	0	1,486	0	0	0	0	0	0	0	0	0

DHS = Department of Homeland Security; DOC = Department of Commerce; DOD = Department of Defense; DOE = Department of Energy; DOI = Department of the Interior; DOT = Department of Transportation; EPA = Environmental Protection Agency; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation; SI = Smithsonian Institution; USDA = Department of Agriculture.

^a Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.

^b DOD obligations for which the location of performance is not reported.

Note(s):

Because of rounding, detail may not add to total. Geographic distribution of DOD development funding to businesses reflects location of prime contractors and not the numerous subcontractors who perform much of the R&D. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 63

Department of Defense obligations for research, development, test, and evaluation, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Alabama							
Department of Defense, RDT&E	3,336,437	2,080,743	608	1,195,966	55,622	3,261	237
Department of Defense, research	3,041,448	1,937,219	608	1,059,348	42,370	1,666	237
Department of Defense, operational system development ^c	294,989	143,524	0	136,618	13,252	1,595	0
Alaska							
Department of Defense, RDT&E	82,656	2,942	0	66,289	12,371	1,055	0
Department of Defense, research	73,064	2,942	0	56,697	12,371	1,055	0
Department of Defense, operational system development ^c	9,592	0	0	9,592	0	0	0
Arizona							
Department of Defense, RDT&E	1,904,714	138,923	0	1,681,760	77,924	0	6,107
Department of Defense, research	1,536,478	60,472	0	1,391,975	77,924	0	6,107
Department of Defense, operational system development ^c	368,236	78,451	0	289,785	0	0	0
Arkansas							
Department of Defense, RDT&E	59,809	544	0	44,972	12,539	893	860
Department of Defense, research	58,239	108	0	43,839	12,539	893	860
Department of Defense, operational system development ^c	1,570	436	0	1,134	0	0	0
California							
Department of Defense, RDT&E	10,860,374	2,584,621	1,176,181	6,361,097	601,425	135,022	2,029
Department of Defense, research	9,144,281	2,030,596	724,538	5,656,376	600,050	130,693	2,029
Department of Defense, operational system development ^c	1,716,093	554,026	451,643	704,720	1,375	4,329	0
Colorado							
Department of Defense, RDT&E	2,680,410	151,296	15,650	2,441,534	63,518	8,401	11
Department of Defense, research	2,327,477	134,167	15,650	2,105,731	63,518	8,401	11
Department of Defense, operational system development ^c	352,933	17,129	0	335,804	0	0	0
Connecticut							
Department of Defense, RDT&E	1,792,504	12,620	0	1,735,288	43,851	745	0
Department of Defense, research	1,581,930	12,620	0	1,524,714	43,851	745	0
Department of Defense, operational system development ^c	210,574	0	0	210,574	0	0	0
Delaware							
Department of Defense, RDT&E	156,120	26,019	0	99,371	28,148	1,571	1,011
Department of Defense, research	156,085	26,019	0	99,336	28,148	1,571	1,011
Department of Defense, operational system development ^c	35	0	0	35	0	0	0
District of Columbia							
Department of Defense, RDT&E	3,951,491	2,974,124	11,728	714,423	39,372	211,844	0
Department of Defense, research	3,569,978	2,721,414	10,101	589,331	39,372	209,759	0
Department of Defense, operational system development ^c	381,513	252,710	1,626	125,091	0	2,085	0
Florida							
Department of Defense, RDT&E	3,142,635	739,536	4,389	2,218,569	116,708	62,329	1,103
Department of Defense, research	2,689,320	638,347	0	1,883,469	115,387	51,014	1,103

TABLE 63

Department of Defense obligations for research, development, test, and evaluation, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural			Extramural		
		Federal agencies ^a	FFRDCs	Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Defense, operational system development ^c	453,315	101,189	4,389	335,100	1,321	11,315	0
Georgia							
Department of Defense, RDT&E	652,963	172,323	15	216,546	258,397	5,682	0
Department of Defense, research	460,956	94,783	15	135,195	229,490	1,473	0
Department of Defense, operational system development ^c	192,007	77,540	0	81,351	28,907	4,209	0
Hawaii							
Department of Defense, RDT&E	194,791	31,916	0	121,014	25,541	11,225	5,095
Department of Defense, research	189,922	30,989	0	119,080	23,533	11,225	5,095
Department of Defense, operational system development ^c	4,870	927	0	1,934	2,009	0	0
Idaho							
Department of Defense, RDT&E	129,827	32,620	34,435	56,914	3,129	0	2,729
Department of Defense, research	126,682	31,283	34,435	55,106	3,129	0	2,729
Department of Defense, operational system development ^c	3,145	1,337	0	1,809	0	0	0
Illinois							
Department of Defense, RDT&E	576,249	222,228	1,469	224,027	115,035	13,489	0
Department of Defense, research	471,169	148,967	969	192,708	115,035	13,489	0
Department of Defense, operational system development ^c	105,080	73,260	500	31,319	0	0	0
Indiana							
Department of Defense, RDT&E	757,293	318,859	0	350,003	86,591	1,790	50
Department of Defense, research	618,469	284,105	0	247,383	86,591	340	50
Department of Defense, operational system development ^c	138,824	34,754	0	102,620	0	1,450	0
Iowa							
Department of Defense, RDT&E	228,320	551	0	211,776	15,993	0	0
Department of Defense, research	201,554	551	0	185,010	15,993	0	0
Department of Defense, operational system development ^c	26,766	0	0	26,766	0	0	0
Kansas							
Department of Defense, RDT&E	64,103	2,165	0	6,831	55,107	0	0
Department of Defense, research	61,836	1,464	0	5,266	55,107	0	0
Department of Defense, operational system development ^c	2,267	701	0	1,566	0	0	0
Kentucky							
Department of Defense, RDT&E	44,754	8,829	0	20,769	15,156	0	0
Department of Defense, research	30,158	3,730	0	11,272	15,156	0	0
Department of Defense, operational system development ^c	14,597	5,099	0	9,497	0	0	0
Louisiana							
Department of Defense, RDT&E	121,645	1,015	0	110,436	9,155	690	349
Department of Defense, research	117,749	1,015	0	106,540	9,155	690	349
Department of Defense, operational system development ^c	3,896	0	0	3,896	0	0	0
Maine							

TABLE 63

Department of Defense obligations for research, development, test, and evaluation, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural			Extramural			
		Federal agencies ^a	FFRDCs	Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
Department of Defense, RDT&E	37,765	2,832	5	16,825	18,046	57	0	
Department of Defense, research	36,977	2,496	5	16,372	18,046	57	0	
Department of Defense, operational system development ^c	789	336	0	453	0	0	0	
Maryland								
Department of Defense, RDT&E	6,261,341	3,135,337	24,422	2,048,723	765,073	287,271	514	
Department of Defense, research	5,472,538	2,707,309	21,007	1,822,024	635,673	286,011	514	
Department of Defense, operational system development ^c	788,802	428,029	3,415	226,699	129,401	1,260	0	
Massachusetts								
Department of Defense, RDT&E	4,280,547	258,657	1,725,284	1,730,593	376,281	189,732	0	
Department of Defense, research	3,441,904	215,730	1,274,305	1,438,062	361,668	152,138	0	
Department of Defense, operational system development ^c	838,644	42,928	450,979	292,531	14,612	37,594	0	
Michigan								
Department of Defense, RDT&E	1,181,056	460,623	0	500,115	82,091	138,228	0	
Department of Defense, research	930,149	341,922	0	386,740	81,991	119,496	0	
Department of Defense, operational system development ^c	250,907	118,700	0	113,375	100	18,732	0	
Minnesota								
Department of Defense, RDT&E	208,369	3,647	0	164,837	27,550	12,336	0	
Department of Defense, research	203,777	3,647	0	160,244	27,550	12,336	0	
Department of Defense, operational system development ^c	4,592	0	0	4,592	0	0	0	
Mississippi								
Department of Defense, RDT&E	829,499	446,995	0	373,093	9,411	0	0	
Department of Defense, research	823,935	444,683	0	369,842	9,411	0	0	
Department of Defense, operational system development ^c	5,564	2,313	0	3,251	0	0	0	
Missouri								
Department of Defense, RDT&E	898,343	91,708	0	740,201	56,855	9,579	0	
Department of Defense, research	687,439	53,618	0	567,445	56,796	9,579	0	
Department of Defense, operational system development ^c	210,904	38,090	0	172,756	59	0	0	
Montana								
Department of Defense, RDT&E	89,044	361	0	32,815	55,668	200	0	
Department of Defense, research	67,433	361	0	11,214	55,658	200	0	
Department of Defense, operational system development ^c	21,611	0	0	21,601	10	0	0	
Nebraska								
Department of Defense, RDT&E	58,594	8,262	0	35,100	15,233	0	0	
Department of Defense, research	29,814	8,262	0	6,319	15,233	0	0	
Department of Defense, operational system development ^c	28,781	0	0	28,781	0	0	0	
Nevada								
Department of Defense, RDT&E	216,047	15,948	0	194,582	5,518	0	0	
Department of Defense, research	176,001	7,026	0	163,458	5,518	0	0	

TABLE 63

Department of Defense obligations for research, development, test, and evaluation, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Defense, operational system development ^c	40,046	8,922	0	31,124	0	0	0
New Hampshire							
Department of Defense, RDT&E	341,967	5,667	0	319,124	17,177	0	0
Department of Defense, research	218,708	3,393	0	198,138	17,177	0	0
Department of Defense, operational system development ^c	123,259	2,274	0	120,985	0	0	0
New Jersey							
Department of Defense, RDT&E	2,568,147	809,583	0	1,692,800	60,732	5,032	0
Department of Defense, research	2,427,421	695,973	0	1,665,713	60,703	5,032	0
Department of Defense, operational system development ^c	140,726	113,610	0	27,087	29	0	0
New Mexico							
Department of Defense, RDT&E	1,370,450	565,367	346,204	409,517	43,922	5,441	0
Department of Defense, research	1,235,144	496,696	300,390	388,695	43,922	5,441	0
Department of Defense, operational system development ^c	135,306	68,671	45,814	20,821	0	0	0
New York							
Department of Defense, RDT&E	1,402,963	175,769	0	885,343	241,225	100,226	400
Department of Defense, research	1,206,859	138,614	0	726,393	241,225	100,226	400
Department of Defense, operational system development ^c	196,105	37,155	0	158,949	0	0	0
North Carolina							
Department of Defense, RDT&E	335,835	8,600	0	204,627	90,495	31,972	140
Department of Defense, research	315,663	4,797	0	188,259	90,495	31,972	140
Department of Defense, operational system development ^c	20,172	3,803	0	16,368	0	0	0
North Dakota							
Department of Defense, RDT&E	28,220	2,345	0	17,704	8,171	0	0
Department of Defense, research	28,220	2,345	0	17,704	8,171	0	0
Department of Defense, operational system development ^c	*	0	0	*	0	0	0
Ohio							
Department of Defense, RDT&E	7,161,930	5,949,148	11,491	943,196	137,235	120,860	0
Department of Defense, research	6,709,129	5,654,190	7,733	790,698	137,085	119,423	0
Department of Defense, operational system development ^c	452,801	294,958	3,758	152,498	150	1,438	0
Oklahoma							
Department of Defense, RDT&E	681,817	136,740	0	535,741	9,335	0	0
Department of Defense, research	79,584	38,445	0	31,803	9,335	0	0
Department of Defense, operational system development ^c	602,233	98,295	0	503,938	0	0	0
Oregon							
Department of Defense, RDT&E	74,527	938	0	43,953	26,450	3,186	0
Department of Defense, research	71,578	938	0	41,313	26,450	2,877	0
Department of Defense, operational system development ^c	2,949	0	0	2,640	0	309	0
Pennsylvania							

TABLE 63

Department of Defense obligations for research, development, test, and evaluation, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Defense, RDT&E	1,758,354	343,111	54,848	827,770	473,981	58,644	0
Department of Defense, research	1,578,904	279,396	42,166	766,782	444,456	46,104	0
Department of Defense, operational system development ^c	179,451	63,715	12,682	60,989	29,525	12,540	0
Rhode Island							
Department of Defense, RDT&E	579,328	348,469	0	202,451	27,816	292	300
Department of Defense, research	521,198	296,087	0	196,703	27,816	292	300
Department of Defense, operational system development ^c	58,129	52,382	0	5,748	0	0	0
South Carolina							
Department of Defense, RDT&E	928,935	163,224	10,118	496,433	28,141	231,018	0
Department of Defense, research	686,757	102,221	8,868	320,299	28,141	227,227	0
Department of Defense, operational system development ^c	242,178	61,003	1,250	176,133	0	3,792	0
South Dakota							
Department of Defense, RDT&E	16,009	7,267	0	7,495	1,247	0	0
Department of Defense, research	15,588	7,267	0	7,075	1,247	0	0
Department of Defense, operational system development ^c	420	0	0	420	0	0	0
Tennessee							
Department of Defense, RDT&E	538,083	278,423	13,944	172,191	70,566	2,959	0
Department of Defense, research	516,876	272,526	9,844	160,981	70,566	2,959	0
Department of Defense, operational system development ^c	21,207	5,897	4,100	11,210	0	0	0
Texas							
Department of Defense, RDT&E	3,404,147	511,145	36,349	2,576,534	261,242	18,847	30
Department of Defense, research	2,032,364	483,776	36,349	1,245,687	250,449	16,075	30
Department of Defense, operational system development ^c	1,371,782	27,369	0	1,330,847	10,793	2,773	0
Utah							
Department of Defense, RDT&E	2,754,859	300,377	0	2,349,023	101,550	3,909	0
Department of Defense, research	2,580,287	247,974	0	2,242,892	85,513	3,909	0
Department of Defense, operational system development ^c	174,571	52,403	0	106,132	16,037	0	0
Vermont							
Department of Defense, RDT&E	20,143	0	0	15,688	850	3,606	0
Department of Defense, research	18,986	0	0	14,530	850	3,606	0
Department of Defense, operational system development ^c	1,157	0	0	1,157	0	0	0
Virginia							
Department of Defense, RDT&E	8,205,670	2,090,917	553,853	5,365,015	101,929	89,292	4,664
Department of Defense, research	7,356,864	1,954,122	512,671	4,738,075	76,479	70,853	4,664
Department of Defense, operational system development ^c	848,806	136,795	41,182	626,940	25,450	18,440	0
Washington							
Department of Defense, RDT&E	1,012,122	265,520	29,146	570,811	103,956	42,688	1
Department of Defense, research	951,429	248,858	22,586	540,440	96,857	42,688	1

TABLE 63

Department of Defense obligations for research, development, test, and evaluation, by state or location, agency, and performer: FY 2022

(Dollars in thousands)

State or location and agency	Total	Intramural		Extramural			
		Federal agencies ^a	FFRDCs	Businesses	Higher education ^b	Nonprofit organizations	State and local governments
Department of Defense, operational system development ^c	60,694	16,663	6,561	30,371	7,100	0	0
West Virginia							
Department of Defense, RDT&E	45,454	79	0	40,088	4,732	554	0
Department of Defense, research	38,603	79	0	36,238	1,732	554	0
Department of Defense, operational system development ^c	6,851	0	0	3,851	3,000	0	0
Wisconsin							
Department of Defense, RDT&E	213,671	157	0	179,254	34,103	157	0
Department of Defense, research	212,637	157	0	178,220	34,103	157	0
Department of Defense, operational system development ^c	1,034	0	0	1,034	0	0	0
Wyoming							
Department of Defense, RDT&E	1,221	79	0	956	186	0	0
Department of Defense, research	1,179	79	0	914	186	0	0
Department of Defense, operational system development ^c	41	0	0	41	0	0	0
Outlying areas							
Department of Defense, RDT&E	4,650	46	0	129	4,476	0	0
Department of Defense, research	4,650	46	0	129	4,476	0	0
Department of Defense, operational system development ^c	0	0	0	0	0	0	0
Puerto Rico							
Department of Defense, RDT&E	1,997	0	0	0	1,997	0	0
Department of Defense, research	1,997	0	0	0	1,997	0	0
Department of Defense, operational system development ^c	0	0	0	0	0	0	0
Other areas ^d							
Department of Defense, RDT&E	2,653	46	0	129	2,479	0	0
Department of Defense, research	2,653	46	0	129	2,479	0	0
Department of Defense, operational system development ^c	0	0	0	0	0	0	0
Offices abroad ^e							
Department of Defense, RDT&E	6,081	1,170	0	4,911	0	0	0
Department of Defense, research	4,192	1,170	0	3,022	0	0	0
Department of Defense, operational system development ^c	1,889	0	0	1,889	0	0	0
Undistributed ^f							
Department of Defense, RDT&E	37,440,371	4,965,220	320	32,466,850	7,935	46	0
Department of Defense, research	4,972,632	3,771,869	320	1,192,463	7,935	46	0
Department of Defense, operational system development ^c	32,467,739	1,193,351	0	31,274,388	0	0	0

* = amount greater than \$0 but less than \$500.

FFRDC = federally funded research and development center; RDT&E = research, development, test, and evaluation.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

^c Funding for Department of Defense's DOD's Operational System Development (Budget Activity 7) was first reported as a separate category for volume 66.

^d Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.

^e Includes both R&D and RDT&E performed or administered in foreign countries by the U.S. government.

^f Undistributed totals include DOD obligations for which the location of performance is not reported.

Note(s):

Because of rounding, detail may not add to total. Geographic distribution of DOD development funding to businesses reflects location of prime contractors and not the numerous subcontractors who perform much of the R&D. FY 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, FYs 2022–23.

TABLE 64

Federal outlays for research, development, and R&D plant, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All agencies	104,337	109,031	121,230	118,909	123,998	125,125	129,679	137,523	135,753	131,030	129,084
Departments											
Department of Agriculture	2,043	2,161	2,281	2,370	2,434	2,402	2,304	2,435	2,420	2,360	2,256
Agricultural Marketing Service	5	8	9	6	6	4	4	4	4	4	5
Agricultural Research Service	1,100	1,193	1,249	1,306	1,294	1,275	1,177	1,256	1,264	1,153	1,086
Animal and Plant Health Inspection Service	28	24	24	26	26	28	25	26	25	32	31
Economic Research Service	70	66	75	73	91	78	80	86	88	80	79
Foreign Agricultural Service	2	2	2	1	1	*	*	*	1	1	1
Forest Service	321	345	343	355	360	359	368	433	370	365	350
Grain Inspection, Packers, and Stockyards Administration	5	7	7	7	7	7	7	6	7	7	6
National Agricultural Statistics Service	6	6	6	7	7	7	7	7	7	7	7
National Institute of Food and Agriculture	503	507	563	586	622	639	634	612	654	707	688
Rural Business-Cooperative Service	4	4	4	4	21	4	3	4	1	4	3
Department of Commerce	1,248	1,157	747	710	1,059	1,166	1,252	1,409	1,590	1,402	1,262
Census Bureau	20	24	23	22	22	25	29	47	59	102	131
Economic Development Administration	*	*	*	*	1	21	28	34	16	NA	NA
National Institute of Standards and Technology	537	558	478	467	457	493	501	637	742	720	576
National Oceanic and Atmospheric Administration	668	550	242	216	574	627	687	685	766	573	547
National Telecommunications and Information Administration	24	24	3	5	5	*	7	7	7	7	8
Department of Defense	49,852	53,165	64,522	63,818	68,709	68,862	66,971	67,763	72,659	65,392	65,107
Defense Advanced Research Projects Agency	na	na	na	na	na	na	na	na	2,889	2,833	2,692
Defense agencies and activities	11,879	11,141	17,134	14,005	14,723	15,560	15,607	15,210	na	na	na
Department of the Air Force	18,153	19,721	20,951	21,446	24,498	24,214	23,569	26,235	25,970	25,178	24,858
Department of the Army	7,092	6,954	9,847	10,662	10,360	11,057	10,125	9,210	8,125	6,688	7,817
Department of the Navy	12,485	15,044	16,270	17,443	18,935	17,851	17,492	16,924	15,362	14,365	15,506
Operational Test and Evaluation, Director	243	305	320	262	193	180	179	184	NA	NA	NA
Other defense agencies	na	na	na	na	na	na	na	na	20,313	16,327	14,234
Department of Education	316	227	264	255	271	287	312	322	106	102	97
Department of Energy	8,424	8,502	8,607	8,213	8,444	8,857	9,771	9,891	10,456	10,314	9,861
Advanced Research Projects Agency—Energy	NA	NA	NA	NA	NA	0	0	64	118	142	144
Bonneville Power Administration	23	24	11	11	11	14	8	13	13	14	14
Civilian Radioactive Waste Management	76	74	74	53	11	8	2	0	0	0	0
Electricity Delivery and Energy Reliability	na	na	72	108	54	89	87	83	90	101	45
Energy Efficiency and Renewable Energy	688	604	594	457	648	794	730	969	888	910	721
Environmental Management	69	43	50	34	32	36	13	70	67	46	9

TABLE 64

Federal outlays for research, development, and R&D plant, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Fossil Energy	643	506	539	386	431	325	359	364	303	298	376
National Nuclear Security Administration	3,895	4,005	3,925	3,858	3,794	3,999	3,661	3,769	4,186	4,013	3,930
Defense Programs	2,997	3,135	3,001	2,865	2,828	2,939	2,576	2,486	2,888	2,701	2,643
Fissile Materials Disposition	17	1	0	0	0	NA	NA	NA	NA	NA	NA
Naval Nuclear Propulsion Program	658	706	778	750	761	761	770	945	974	1,080	994
Office of Defense Nuclear Nonproliferation	224	163	145	243	205	299	315	338	324	231	294
Nuclear Energy	43	79	83	89	81	133	116	368	388	361	263
Office of Intelligence	4	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Office of Science	2,983	3,167	3,260	3,217	3,382	3,458	4,796	4,191	4,403	4,428	4,357
Department of Health and Human Services	27,316	28,263	28,862	28,799	29,261	29,268	35,296	36,610	30,459	30,876	29,431
Administration for Children and Families	19	19	39	13	12	19	14	6	9	8	3
Administration for Community Living	4	3	2	3	3	0	0	0	0	0	0
Agency for Healthcare Research and Quality	0	0	0	0	0	0	0	0	0	0	365
Agency for Toxic Substances and Disease Registry	14	11	9	9	4	4	5	3	5	1	1
Centers for Disease Control and Prevention	564	540	511	688	679	414	339	343	296	445	301
Centers for Medicare and Medicaid Services	74	89	89	62	86	70	57	54	45	34	20
Food and Drug Administration	158	134	140	140	130	138	164	201	215	337	345
Health Resources and Services Administration	439	48	53	24	24	62	56	67	37	21	37
National Institutes of Health	25,965	27,312	27,926	27,778	28,257	28,540	34,641	35,882	29,830	30,010	28,341
Office of the Secretary of Health and Human Services	22	21	25	27	24	22	20	54	20	19	19
Office of Public Health and Science	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Office of the Assistant Secretary for Planning and Evaluation	20	21	25	27	24	22	20	54	20	19	19
Substance Abuse and Mental Health Services Administration	57	87	68	54	42	0	NA	NA	NA	NA	NA
Department of Homeland Security	NA	592	1,028	1,714	1,181	1,009	438	976	1,166	828	614
Coast Guard	NA	21	11	24	24	16	21	27	22	22	22
Science and Technology Directorate	NA	432	835	1,677	1,153	993	417	949	1,144	806	592
Secret Service	NA	1	1	1	1	1	NA	NA	NA	NA	NA
Transportation Security Administration	NA	138	180	12	4	0	NA	NA	NA	NA	NA
Department of Housing and Urban Development	54	43	48	42	32	33	36	51	50	53	64
Department of the Interior	601	612	597	608	626	644	745	726	714	745	705
Bureau of Ocean Energy Management	29	29	30	31	29	34	39	44	50	39	31

TABLE 64

Federal outlays for research, development, and R&D plant, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Bureau of Reclamation	11	16	17	11	16	15	17	13	15	12	13
Bureau of Safety and Environmental Enforcement	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	18
Geological Survey	550	552	546	561	574	586	674	661	640	673	636
National Park Service	10	14	4	4	8	9	14	8	9	5	7
Department of Justice	103	69	66	71	124	113	103	119	102	67	110
Bureau of Prisons	10	9	12	12	13	11	10	11	12	11	11
Federal Bureau of Investigation	43	34	33	34	71	26	15	30	18	8	30
Office of Justice Programs	51	25	20	25	40	76	78	78	73	49	69
Department of Labor	176	198	163	94	59	84	72	13	12	20	15
Bureau of Labor Statistics	21	22	23	23	24	24	0	NA	NA	NA	NA
Employee Benefits Security Administration	2	1	1	2	1	1	1	5	5	11	8
Employment and Training Administration	148	170	134	64	29	54	64	NA	NA	NA	NA
Occupational Safety and Health Administration	3	3	3	4	3	4	4	6	4	6	4
Office of the Secretary of Labor	2	*	*	*	*	0	NA	0	0	NA	NA
Pension Benefit Guaranty Corp.	1	1	2	2	2	2	2	3	3	3	3
Department of State	2	2	3	3	3	3	4	3	3	2	1
Department of Transportation	592	569	412	884	775	626	544	781	786	740	681
Federal Aviation Administration	250	262	241	307	282	218	197	258	228	242	214
Federal Highway Administration	230	238	74	400	340	260	215	352	320	311	281
Federal Motor Carrier Safety Administration	3	4	7	4	13	7	7	7	7	7	7
Federal Railroad Administration	28	33	23	59	37	40	42	45	42	47	46
Federal Transit Administration	4	4	4	7	4	7	7	22	42	26	11
National Highway Traffic Safety Administration	51	7	32	75	66	59	44	65	116	83	95
Office of the Secretary of Transportation	16	11	29	16	16	16	20	20	18	14	16
Pipeline and Hazardous Materials Safety Administration	na	10	2	15	16	13	4	8	10	8	7
Research and Innovative Technology Administration	na	0	1	2	2	7	9	4	4	3	5
Research and Special Programs Administration	11	na	na	na	na	na	na	na	na	na	na
Department of the Treasury	60	62	66	65	64	65	69	69	78	76	74
Bureau of Engraving and Printing	5	4	6	6	5	5	3	1	6	5	9
Internal Revenue Service	54	57	58	55	55	60	65	66	71	69	65
Mint	1	1	2	4	4	1	1	1	1	2	*
Department of Veterans Affairs	366	406	402	412	446	480	510	581	559	615	639
Other agencies											
Agency for Global Media	0	1	*	*	NA	NA	NA	NA	NA	NA	NA

TABLE 64

Federal outlays for research, development, and R&D plant, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Agency for International Development	220	254	260	255	234	124	156	169	119	77	125
Appalachian Regional Commission	1	1	1	1	1	1	1	1	*	1	*
Consumer Product Safety Commission	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	1
Environmental Protection Agency	550	*	*	*	*	532	553	595	582	581	530
Federal Communications Commission	4	9	9	8	8	7	7	4	4	4	5
Federal Trade Commission	2	2	1	2	2	3	2	3	3	3	3
Library of Congress	3	1	6	7	12	1	1	1	1	1	1
National Aeronautics and Space Administration	8,720	8,746	8,657	6,210	5,930	6,072	5,815	8,881	7,724	10,596	11,331
National Archives and Records Administration	*	*	*	*	*	5	5	5	3	2	1
National Science Foundation	3,507	3,796	4,025	4,102	4,022	4,205	4,370	5,758	5,748	5,740	5,703
Nuclear Regulatory Commission	38	55	57	59	59	42	74	81	99	81	85
Patient-Centered Outcomes Research Trust Fund	na	na	na	na	na	na	na	na	9	41	74
Smithsonian Institution	101	106	110	139	172	182	200	217	249	245	251
Social Security Administration	37	30	35	68	68	54	68	63	53	65	57

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had outlays in variables represented by this table appear in the table. FYs 2009 and 2010 outlays include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 65

Federal outlays for research, development, and R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All agencies	130,720	130,495	111,780	113,223	120,916	128,141	149,706	178,334	183,064	177,595
Departments										
Department of Agriculture	2,340	2,339	2,432	2,345	2,347	2,547	2,534	2,704	2,958	3,695
Agricultural Marketing Service	6	7	7	7	7	8	7	7	5	5
Agricultural Research Service	1,035	1,086	1,124	1,155	1,124	1,189	1,330	1,478	1,594	2,160
Animal and Plant Health Inspection Service	37	34	39	39	39	39	40	42	45	49
Economic Research Service	77	74	94	82	87	82	82	85	88	93
Foreign Agricultural Service	*	1	*	*	0	0	0	0	0	0
Forest Service	337	344	349	343	343	333	326	302	306	323
Grain Inspection, Packers, and Stockyards Administration	8	8	8	*	na	na	na	na	na	na
National Agricultural Statistics Service	9	9	9	9	9	9	9	9	11	11
National Institute of Food and Agriculture	824	772	798	706	735	884	738	779	908	1,054
Natural Resources Conservation Service	NA	NA	NA	NA	NA	NA	NA	1	1	*
Rural Business-Cooperative Service	6	4	4	3	3	3	3	0	0	0
Department of Commerce	1,447	1,417	1,542	1,710	1,707	1,908	1,808	1,953	2,336	3,003
Census Bureau	201	142	170	220	110	96	111	109	202	312
National Institute of Standards and Technology	604	671	706	709	745	836	774	890	992	1,159
National Oceanic and Atmospheric Administration	634	593	655	773	844	967	915	944	1,130	1,518
National Telecommunications and Information Administration	8	11	10	8	7	9	8	10	13	14
Department of Defense	63,646	62,251	42,868	42,212	45,238	48,489	56,339	63,487	68,968	81,931
Defense Advanced Research Projects Agency	2,808	2,832	2,871	2,877	2,996	3,254	3,466	3,508	3,703	3,938
Defense Health Agency	NA	NA	NA	NA	NA	NA	2,016	2,427	2,112	2,013
Department of the Air Force	23,316	23,442	7,260	7,600	11,194	12,035	9,243	10,726	13,099	14,779
Department of the Army	7,653	7,306	6,805	7,631	7,011	9,293	10,868	11,440	11,284	14,418
Department of the Navy	15,457	14,693	15,195	14,427	12,561	11,029	15,072	16,298	16,450	20,131
Space Force	na	na	na	na	na	na	4,338	4,393	4,319	8,237
Other defense agencies	14,413	13,978	10,737	9,676	11,476	12,877	11,337	14,696	18,000	18,415
Department of Education	345	318	212	246	235	226	227	214	285	274
Department of Energy	11,033	12,295	12,853	13,187	16,672	15,164	12,600	14,593	15,068	16,766
Advanced Research Projects Agency—Energy	187	245	238	269	251	247	270	308	339	386
Bonneville Power Administration	16	16	16	14	NA	NA	NA	NA	NA	NA
Electricity Delivery and Energy Reliability	73	108	92	133	104	144	142	146	111	141
Energy Efficiency and Renewable Energy	964	1,047	1,145	1,284	1,549	1,461	1,502	1,552	1,469	1,618
Environmental Management	23	24	23	29	38	29	31	23	22	26
Fossil Energy	442	650	624	636	683	682	608	708	629	798
National Nuclear Security Administration	4,394	4,515	4,806	4,926	4,324	5,752	3,987	4,702	4,630	4,934
Defense Programs	2,981	3,063	3,082	3,256	2,726	3,635	2,326	2,881	3,245	3,114
Naval Nuclear Propulsion Program	1,115	1,239	1,375	1,420	1,282	1,789	1,360	1,471	1,018	1,419

TABLE 65

Federal outlays for research, development, and R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Office of Defense Nuclear Nonproliferation	297	213	349	249	316	329	301	349	366	402
Nuclear Energy	324	760	833	811	846	1,110	1	455	866	1,349
Office of Cybersecurity, Energy Security, and Emergency Response	na	na	na	na	0	36	51	31	*	*
Office of Science	4,610	4,930	5,077	5,086	8,878	5,703	6,008	6,669	7,003	7,513
Department of Health and Human Services	30,564	29,624	29,663	31,386	33,219	35,427	54,910	73,019	69,148	45,077
Administration for Children and Families	3	3	3	2	1	2	2	5	4	4
Administration for Community Living	0	76	83	83	83	83	92	107	107	113
Agency for Healthcare Research and Quality	364	364	334	324	334	338	338	338	350	374
Agency for Toxic Substances and Disease Registry	1	2	2	3	3	7	*	11	12	12
Biomedical Advanced Research and Development Authority	NA	NA	NA	NA	NA	281	18,737	34,041	28,414	818
Centers for Disease Control and Prevention	198	275	198	208	200	187	218	299	232	190
Centers for Medicare and Medicaid Services	34	24	30	30	231	6	31	36	270	275
Food and Drug Administration	372	359	486	464	456	470	443	563	536	602
Health Resources and Services Administration	38	42	42	46	34	27	25	58	40	36
National Institutes of Health	29,536	28,462	28,468	30,209	31,860	34,009	35,008	37,545	39,148	42,616
Office of the Secretary of Health and Human Services	19	18	18	17	17	17	16	17	36	38
Office of the Assistant Secretary for Planning and Evaluation	19	18	18	17	17	17	16	17	36	38
Department of Homeland Security	856	704	732	1,026	1,077	1,069	936	566	549	724
Coast Guard	25	26	22	22	18	23	5	10	7	7
Countering Weapons of Mass Destruction Office	74	71	63	69	65	81	85	87	66	65
Cybersecurity and Infrastructure Security Agency	na	na	na	na	7	13	8	13	6	9
Science and Technology Directorate	757	607	646	935	966	929	806	423	470	643
Secret Service	NA	NA	NA	NA	1	2	10	3	1	*
Transportation Security Administration	NA	NA	NA	NA	20	21	23	30	*	*
Department of Housing and Urban Development	67	56	75	71	71	63	NA	NA	NA	NA
Department of the Interior	745	813	865	864	754	804	827	876	929	1,037
Bureau of Indian Affairs	NA	NA	NA	NA	5	5	*	5	5	5
Bureau of Land Management	NA	16	18	18	21	21	21	9	12	13
Bureau of Ocean Energy Management	48	50	73	73	77	73	73	70	66	84
Bureau of Reclamation	14	13	22	29	25	24	29	40	29	46
Bureau of Safety and Environmental Enforcement	18	28	34	23	8	15	11	14	19	21
Fish and Wildlife Service	NA	32	32	24	24	24	26	23	35	41

TABLE 65

Federal outlays for research, development, and R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Geological Survey	649	666	677	688	593	640	665	691	737	803
National Park Service	15	8	9	10	1	1	1	23	25	25
Office of Surface Mining Reclamation and Enforcement	NA	NA	NA	NA	1	1	1	0	NA	NA
Department of Justice	161	57	69	24	20	20	24	11	18	31
Bureau of Prisons	11	11	11	10	6	7	8	*	*	*
Federal Bureau of Investigation	10	13	13	2	3	1	5	4	9	21
Office of Justice Programs	140	33	45	12	11	12	11	8	9	11
Department of Labor	12	13	8	3	3	3	3	3	3	3
Employee Benefits Security Administration	6	5	3	1	1	1	1	1	1	1
Occupational Safety and Health Administration	4	3	1	2	2	2	2	2	2	2
Pension Benefit Guaranty Corp.	3	4	4	0	0	NA	NA	NA	NA	NA
Department of State	NA	2	2	2	62	62	40	64	65	60
Department of Transportation	806	719	748	716	661	707	703	670	701	817
Federal Aviation Administration	227	228	250	266	239	247	245	248	250	340
Federal Highway Administration	386	353	353	274	261	287	278	257	263	237
Federal Motor Carrier Safety Administration	8	8	11	12	10	7	7	3	11	15
Federal Railroad Administration	54	44	41	44	35	35	43	39	46	48
Federal Transit Administration	9	17	7	41	36	40	20	29	27	27
National Highway Traffic Safety Administration	93	46	49	55	53	64	67	60	70	76
Office of the Secretary of Transportation	14	11	19	11	16	9	24	13	25	51
Pipeline and Hazardous Materials Safety Administration	16	12	19	13	10	18	18	21	9	22
Department of the Treasury	76	67	85	10	38	49	47	54	48	90
Bureau of Engraving and Printing	9	9	19	9	38	46	46	54	48	90
Internal Revenue Service	64	54	65	0	0	0	0	NA	NA	NA
Mint	3	3	2	1	0	2	*	*	0	0
Department of Veterans Affairs	608	612	583	594	644	685	778	1,475	1,610	1,641
Other agencies										
Administrative Office of the U.S. Courts	NA	NA	7	8	7	6	5	4	1	0
Agency for Global Media	NA	NA	NA	NA	NA	6	5	5	8	8
Agency for International Development	60	212	193	192	167	221	194	82	221	221
Appalachian Regional Commission	1	1	*	1	1	1	1	1	1	1
Consumer Product Safety Commission	2	2	2	2	1	1	*	*	*	*
Environmental Protection Agency	538	521	513	498	492	490	493	526	531	574
Federal Communications Commission	7	5	5	7	5	2	2	0	NA	NA
Federal Trade Commission	3	2	3	6	6	6	6	8	3	10
Library of Congress	1	1	2	2	3	2	3	3	3	3
National Aeronautics and Space Administration	11,262	12,360	12,013	10,616	10,852	13,338	10,508	11,133	12,199	13,141
National Archives and Records Administration	1	1	1	1	1	1	*	NA	NA	NA
National Science Foundation	5,666	5,474	5,468	5,650	5,664	5,741	5,793	5,917	6,386	7,297
Nuclear Regulatory Commission	91	71	86	67	78	75	70	77	82	95

TABLE 65

Federal outlays for research, development, and R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Patient-Centered Outcomes Research Trust Fund	94	244	354	1,345	492	579	470	460	522	560
Postal Service	NA	28	29	73	53	27	18	15	14	14
RESTORE Act Centers of Excellence Research Grants Program	na	na	na	na	na	na	7	4	4	4
Smithsonian Institution	231	229	237	243	263	269	276	288	297	316
Social Security Administration	60	59	129	110	72	146	70	105	79	106
Tennessee Valley Authority	NA	NA	NA	6	13	10	8	17	28	94

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had outlays in variables represented by this table appear in the table. Beginning with FY 2016, the totals reported for development outlays represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the Department of Defense (DOD) Budget Activity 7 (Operational System Development) outlays. Those funds, previously included in DOD's development outlay totals, support the development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate production funding in the current or subsequent fiscal year. Therefore, the data are not directly comparable with totals reported in previous years. FYs 2020, 2021, and 2022 outlays include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 66

Federal outlays for research and development, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All agencies	100,179	105,175	117,398	116,868	121,875	123,059	126,854	131,388	131,452	128,560	127,225
Departments											
Department of Agriculture	1,966	2,048	2,132	2,185	2,218	2,254	2,229	2,309	2,301	2,290	2,232
Agricultural Marketing Service	5	8	9	6	6	4	4	4	4	4	5
Agricultural Research Service	1,039	1,099	1,117	1,135	1,103	1,149	1,134	1,200	1,162	1,095	1,071
Animal and Plant Health Inspection Service	28	24	24	26	26	28	25	26	25	32	31
Economic Research Service	70	66	75	73	91	78	80	86	88	80	79
Foreign Agricultural Service	2	2	2	1	1	*	*	*	1	1	1
Forest Service	305	326	325	341	335	338	336	363	353	355	342
Grain Inspection, Packers, and Stockyards Administration	5	7	7	7	7	7	7	6	7	5	5
National Agricultural Statistics Service	6	6	6	7	7	7	7	7	7	7	7
National Institute of Food and Agriculture	503	507	563	586	622	639	634	612	654	707	688
Rural Business-Cooperative Service	4	4	4	4	21	4	3	4	1	4	3
Department of Commerce	1,155	1,076	708	664	991	1,052	1,004	1,122	1,267	1,112	1,082
Census Bureau	20	24	23	22	22	25	29	47	59	102	131
Economic Development Administration	*	*	*	*	1	2	3	7	1	NA	NA
National Institute of Standards and Technology	459	509	441	421	422	444	455	535	571	570	524
National Oceanic and Atmospheric Administration	652	519	240	216	541	581	511	525	629	433	419
National Telecommunications and Information Administration	24	24	3	5	5	*	7	7	7	7	8
Department of Defense	49,615	52,978	64,311	63,724	68,557	68,731	66,775	67,615	72,527	65,253	65,020
Defense Advanced Research Projects Agency	na	na	na	na	na	na	na	na	2,889	2,833	2,692
Defense agencies and activities	11,741	11,074	17,057	13,971	14,687	15,521	15,599	15,210	na	na	na
Department of the Air Force	18,146	19,712	20,915	21,407	24,483	24,122	23,458	26,106	25,855	25,043	24,790
Department of the Army	7,092	6,954	9,847	10,662	10,360	11,057	10,048	9,210	8,125	6,688	7,817
Department of the Navy	12,392	14,932	16,172	17,423	18,834	17,851	17,492	16,905	15,345	14,363	15,487
Operational Test and Evaluation, Director	243	305	320	262	193	180	179	184	NA	NA	NA
Other defense agencies	na	na	na	na	na	na	na	na	20,313	16,325	14,233
Department of Education	316	227	264	255	271	287	312	322	106	102	97
Department of Energy	7,373	7,476	7,760	7,433	7,793	8,108	8,546	8,986	9,685	9,599	9,302
Advanced Research Projects Agency—Energy	NA	NA	NA	NA	NA	0	0	64	118	142	144
Bonneville Power Administration	23	24	11	11	11	14	8	13	13	14	0
Civilian Radioactive Waste Management	76	74	74	53	11	8	2	0	0	0	0
Electricity Delivery and Energy Reliability	na	na	72	108	54	89	87	83	90	101	45
Energy Efficiency and Renewable Energy	682	584	569	431	646	729	712	915	853	910	705
Environmental Management	69	43	50	34	32	36	13	70	67	46	9

TABLE 66

Federal outlays for research and development, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Fossil Energy	640	500	533	366	419	306	344	350	288	286	360
National Nuclear Security Administration	3,448	3,579	3,625	3,548	3,589	3,730	3,489	3,489	4,034	3,920	3,856
Defense Programs	2,577	2,727	2,733	2,594	2,657	2,707	2,444	2,285	2,769	2,648	2,568
Fissile Materials Disposition	17	1	0	0	0	NA	NA	NA	NA	NA	NA
Naval Nuclear Propulsion Program	631	688	747	711	728	724	730	866	942	1,040	994
Office of Defense Nuclear Nonproliferation	224	163	145	243	205	299	315	338	324	231	294
Nuclear Energy	43	79	83	89	81	133	116	368	388	361	263
Office of Intelligence	4	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Office of Science	2,387	2,593	2,744	2,794	2,949	3,062	3,775	3,635	3,834	3,819	3,920
Department of Health and Human Services	26,499	27,835	28,432	28,441	29,010	29,121	35,144	34,928	30,379	30,721	29,282
Administration for Children and Families	19	19	39	13	12	19	14	6	9	8	3
Administration for Community Living	4	3	2	3	3	0	0	0	0	0	0
Agency for Healthcare Research and Quality	0	0	0	0	0	0	0	0	0	0	365
Agency for Toxic Substances and Disease Registry	14	11	9	9	4	4	5	3	5	1	1
Centers for Disease Control and Prevention	564	540	511	545	544	407	339	343	296	445	301
Centers for Medicare and Medicaid Services	74	89	89	62	86	70	57	54	45	34	20
Food and Drug Administration	150	127	137	138	125	133	159	188	206	316	323
Health Resources and Services Administration	439	47	53	24	23	62	56	66	37	20	37
National Institutes of Health	25,156	26,890	27,500	27,566	28,146	28,404	34,494	34,213	29,760	29,877	28,215
Office of the Secretary of Health and Human Services	22	21	25	27	24	22	20	54	20	19	19
Office of Public Health and Science	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Office of the Assistant Secretary for Planning and Evaluation	20	21	25	27	24	22	20	54	20	19	19
Substance Abuse and Mental Health Services Administration	57	87	68	54	42	0	NA	NA	NA	NA	NA
Department of Homeland Security	NA	536	966	1,593	922	799	92	583	471	593	335
Coast Guard	NA	20	10	23	23	15	20	26	21	21	21
Science and Technology Directorate	NA	377	775	1,556	895	783	73	557	451	573	314
Secret Service	NA	1	1	1	1	1	NA	NA	NA	NA	NA
Transportation Security Administration	NA	138	180	12	4	0	NA	NA	NA	NA	NA
Department of Housing and Urban Development	54	43	48	42	32	33	36	51	50	53	64
Department of the Interior	597	605	590	602	616	635	738	720	705	739	698
Bureau of Ocean Energy Management	27	27	27	28	26	32	37	42	45	39	31

TABLE 66

Federal outlays for research and development, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Bureau of Reclamation	9	11	13	9	9	9	13	10	11	10	10
Bureau of Safety and Environmental Enforcement	NA	NA	NA	NA	NA	NA	NA	NA	NA	12	14
Geological Survey	550	552	546	561	574	586	674	661	640	673	636
National Park Service	10	14	4	4	8	9	14	8	9	5	7
Department of Justice	103	69	66	71	124	112	103	119	102	67	110
Bureau of Prisons	10	9	12	12	13	11	10	11	12	11	11
Federal Bureau of Investigation	43	34	33	34	71	26	15	30	18	8	30
Office of Justice Programs	51	25	20	25	40	75	78	78	73	49	69
Department of Labor	176	198	163	94	59	84	71	12	11	19	15
Bureau of Labor Statistics	21	22	23	23	24	24	0	NA	NA	NA	NA
Employee Benefits Security Administration	2	1	1	2	1	1	1	5	5	11	8
Employment and Training Administration	148	170	134	64	29	54	64	NA	NA	NA	NA
Occupational Safety and Health Administration	3	3	3	4	3	3	4	5	3	5	4
Office of the Secretary of Labor	2	*	*	*	*	0	NA	0	0	NA	NA
Pension Benefit Guaranty Corp.	1	1	2	2	2	2	2	3	3	3	3
Department of State	2	2	3	3	3	3	4	3	3	2	1
Department of Transportation	585	555	396	866	755	607	526	761	768	719	660
Federal Aviation Administration	244	248	226	290	264	201	180	239	211	224	198
Federal Highway Administration	230	238	74	400	340	260	215	352	320	311	281
Federal Motor Carrier Safety Administration	3	4	7	4	13	7	7	7	7	7	7
Federal Railroad Administration	27	32	22	58	35	38	40	44	41	44	41
Federal Transit Administration	4	4	4	7	4	7	7	22	42	26	11
National Highway Traffic Safety Administration	51	7	32	75	66	59	44	65	116	83	95
Office of the Secretary of Transportation	16	11	29	16	16	16	20	20	18	14	16
Pipeline and Hazardous Materials Safety Administration	na	10	2	15	16	13	4	8	10	8	7
Research and Innovative Technology Administration	na	0	1	2	2	7	9	4	4	3	5
Research and Special Programs Administration	11	na	na	na	na	na	na	na	na	na	na
Department of the Treasury	60	62	66	65	64	65	69	69	78	76	74
Bureau of Engraving and Printing	5	4	6	6	5	5	3	1	6	5	9
Internal Revenue Service	54	57	58	55	55	60	65	66	71	69	65
Mint	1	1	2	4	4	1	1	1	1	2	*
Department of Veterans Affairs	365	405	402	412	446	480	510	581	559	615	639
Other agencies											
Agency for Global Media	0	1	*	*	NA	NA	NA	NA	NA	NA	NA

TABLE 66

Federal outlays for research and development, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Agency for International Development	220	254	260	255	234	124	156	169	119	77	125
Appalachian Regional Commission	1	1	1	1	1	1	1	1	*	1	*
Consumer Product Safety Commission	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	1
Environmental Protection Agency	550	*	*	*	*	532	553	595	577	576	523
Federal Communications Commission	4	9	9	8	8	7	7	4	4	4	5
Federal Trade Commission	2	2	1	2	2	3	2	3	3	3	3
Library of Congress	3	1	6	7	12	1	1	1	1	1	1
National Aeronautics and Space Administration	7,124	7,166	6,959	6,197	5,919	6,000	5,739	7,316	6,145	10,427	11,265
National Archives and Records Administration	*	*	*	*	*	5	5	5	3	2	1
National Science Foundation	3,235	3,439	3,657	3,707	3,569	3,781	3,937	4,809	5,233	5,124	5,269
Nuclear Regulatory Commission	38	55	57	59	59	42	74	81	99	81	85
Patient-Centered Outcomes Research Trust Fund	na	na	na	na	na	na	na	na	9	41	74
Smithsonian Institution	98	103	104	113	142	140	151	164	192	195	204
Social Security Administration	37	30	35	68	68	54	68	63	53	65	57

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had outlays in variables represented by this table appear in the table. FYs 2009 and 2010 outlays include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 67

Federal outlays for research and development, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All agencies	128,476	128,090	109,552	110,000	117,072	124,854	144,920	174,529	178,880	171,890
Departments										
Department of Agriculture	2,321	2,320	2,411	2,330	2,308	2,498	2,459	2,593	2,849	3,562
Agricultural Marketing Service	6	7	7	7	7	8	7	7	5	5
Agricultural Research Service	1,025	1,077	1,118	1,149	1,101	1,150	1,264	1,378	1,494	2,043
Animal and Plant Health Inspection Service	37	34	39	39	39	39	40	42	45	49
Economic Research Service	77	74	94	82	87	82	82	85	88	93
Foreign Agricultural Service	*	1	*	*	0	0	0	0	0	0
Forest Service	330	336	336	334	327	323	317	290	297	307
Grain Inspection, Packers, and Stockyards Administration	6	6	6	*	na	na	na	na	na	na
National Agricultural Statistics Service	9	9	9	9	9	9	9	9	11	11
National Institute of Food and Agriculture	824	772	798	706	735	884	738	779	908	1,054
Natural Resources Conservation Service	NA	NA	NA	NA	NA	NA	NA	1	1	*
Rural Business-Cooperative Service	6	4	4	3	3	3	3	0	0	0
Department of Commerce	1,267	1,221	1,330	1,526	1,415	1,522	1,546	1,689	1,934	2,363
Census Bureau	201	142	170	220	110	96	111	109	202	312
National Institute of Standards and Technology	553	607	645	644	670	703	680	769	807	1,010
National Oceanic and Atmospheric Administration	504	461	505	654	627	714	748	800	914	1,028
National Telecommunications and Information Administration	8	11	10	8	7	9	8	10	11	13
Department of Defense	63,509	62,100	42,700	41,292	44,843	48,135	55,832	63,275	68,717	81,667
Defense Advanced Research Projects Agency	2,808	2,832	2,871	2,877	2,996	3,254	3,466	3,508	3,703	3,938
Defense Health Agency	NA	NA	NA	NA	NA	NA	2,001	2,427	2,112	2,013
Department of the Air Force	23,205	23,323	7,137	7,439	11,015	11,830	9,050	10,563	12,935	14,556
Department of the Army	7,653	7,306	6,800	6,911	7,011	9,293	10,868	11,440	11,284	14,418
Department of the Navy	15,437	14,669	15,166	14,398	12,523	10,903	14,788	16,260	16,425	20,100
Space Force	na	na	na	na	na	na	4,338	4,393	4,319	8,237
Other defense agencies	14,407	13,970	10,726	9,667	11,298	12,855	11,323	14,686	17,938	18,406
Department of Education	345	318	212	246	235	226	227	214	285	274
Department of Energy	10,364	11,303	11,855	12,020	14,607	13,657	10,810	12,263	12,461	13,626
Advanced Research Projects Agency—Energy	187	245	238	269	251	247	270	308	339	386
Bonneville Power Administration	16	16	16	14	NA	NA	NA	NA	NA	NA
Electricity Delivery and Energy Reliability	73	108	92	133	104	144	142	146	111	141
Energy Efficiency and Renewable Energy	960	1,043	1,142	1,280	1,341	1,451	1,447	1,513	1,426	1,559
Environmental Management	23	24	23	29	38	29	31	23	22	26
Fossil Energy	426	632	624	620	662	659	584	681	610	771
National Nuclear Security Administration	4,312	4,222	4,545	4,636	4,025	5,477	3,475	3,866	3,942	3,866
Defense Programs	2,921	2,926	2,980	3,167	2,537	3,360	2,070	2,384	2,827	2,661
Naval Nuclear Propulsion Program	1,094	1,083	1,216	1,220	1,173	1,789	1,113	1,140	749	803

TABLE 67

Federal outlays for research and development, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Office of Defense Nuclear Nonproliferation	297	213	349	249	316	329	292	342	366	402
Nuclear Energy	324	760	833	811	846	1,110	1	455	562	875
Office of Cybersecurity, Energy Security, and Emergency Response	na	na	na	na	0	36	51	31	*	*
Office of Science	4,042	4,253	4,343	4,227	7,340	4,503	4,809	5,241	5,449	6,001
Department of Health and Human Services	30,404	29,497	29,522	31,169	32,997	35,271	53,408	72,664	68,926	44,732
Administration for Children and Families	3	3	3	2	1	2	2	5	4	4
Administration for Community Living	0	76	83	83	83	83	92	107	107	113
Agency for Healthcare Research and Quality	364	364	334	324	334	338	338	338	350	374
Agency for Toxic Substances and Disease Registry	1	2	2	3	3	7	*	11	12	12
Biomedical Advanced Research and Development Authority	NA	NA	NA	NA	NA	281	17,441	33,881	28,413	818
Centers for Disease Control and Prevention	198	275	198	208	200	187	218	299	232	190
Centers for Medicare and Medicaid Services	34	24	30	30	231	6	31	36	270	275
Food and Drug Administration	348	336	455	435	428	444	415	528	502	564
Health Resources and Services Administration	38	41	41	46	34	27	25	56	40	36
National Institutes of Health	29,400	28,358	28,358	30,021	31,667	33,879	34,830	37,386	38,962	42,309
Office of the Secretary of Health and Human Services	19	18	18	17	17	17	16	17	36	38
Office of the Assistant Secretary for Planning and Evaluation	19	18	18	17	17	17	16	17	36	38
Department of Homeland Security	448	476	538	841	862	863	867	553	537	625
Coast Guard	24	24	21	21	17	22	5	10	7	7
Countering Weapons of Mass Destruction Office	74	71	63	69	65	81	85	87	66	65
Cybersecurity and Infrastructure Security Agency	na	na	na	na	7	13	8	13	6	9
Science and Technology Directorate	351	380	454	751	752	724	736	411	457	544
Secret Service	NA	NA	NA	NA	1	2	10	3	1	*
Transportation Security Administration	NA	NA	NA	NA	20	21	23	29	*	*
Department of Housing and Urban Development	67	56	75	71	71	63	NA	NA	NA	NA
Department of the Interior	739	805	857	861	751	801	822	874	916	1,030
Bureau of Indian Affairs	NA	NA	NA	NA	5	5	*	5	5	5
Bureau of Land Management	NA	16	18	18	21	21	21	9	12	13
Bureau of Ocean Energy Management	48	50	73	73	77	73	73	70	66	84
Bureau of Reclamation	12	10	21	27	23	23	27	38	28	44
Bureau of Safety and Environmental Enforcement	15	23	27	21	6	12	8	14	8	16
Fish and Wildlife Service	NA	32	32	24	24	24	26	23	35	41

TABLE 67

Federal outlays for research and development, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Geological Survey	649	666	677	688	593	640	665	691	737	803
National Park Service	15	8	9	10	1	1	1	23	25	25
Office of Surface Mining Reclamation and Enforcement	NA	NA	NA	NA	1	1	1	0	NA	NA
Department of Justice	161	57	69	24	20	20	24	11	18	31
Bureau of Prisons	11	11	11	10	6	7	8	*	*	*
Federal Bureau of Investigation	10	13	13	2	3	1	5	4	9	21
Office of Justice Programs	140	33	45	12	11	12	11	8	9	11
Department of Labor	12	13	8	3	3	3	3	3	3	3
Employee Benefits Security Administration	6	5	3	1	1	1	1	1	1	1
Occupational Safety and Health Administration	4	3	1	2	2	2	2	2	2	2
Pension Benefit Guaranty Corp.	3	4	4	0	0	NA	NA	NA	NA	NA
Department of State	NA	2	2	2	62	62	40	64	65	60
Department of Transportation	786	697	719	682	630	669	651	642	668	779
Federal Aviation Administration	209	209	223	234	209	211	195	221	222	308
Federal Highway Administration	386	353	353	274	261	287	278	257	263	237
Federal Motor Carrier Safety Administration	8	8	11	12	10	7	7	3	11	15
Federal Railroad Administration	52	41	39	41	33	33	41	38	41	44
Federal Transit Administration	9	17	7	41	36	40	20	29	27	27
National Highway Traffic Safety Administration	93	46	49	55	53	64	67	60	69	76
Office of the Secretary of Transportation	14	11	19	11	16	9	24	13	25	51
Pipeline and Hazardous Materials Safety Administration	16	12	19	13	10	18	18	21	9	22
Department of the Treasury	76	67	85	10	38	45	45	54	48	72
Bureau of Engraving and Printing	9	9	19	9	38	45	45	54	48	72
Internal Revenue Service	64	54	65	0	0	0	0	NA	NA	NA
Mint	3	3	2	1	0	*	*	*	0	0
Department of Veterans Affairs	608	612	583	594	644	685	778	1,475	1,610	1,641
Other agencies										
Administrative Office of the U.S. Courts	NA	NA	7	8	7	6	5	4	1	0
Agency for Global Media	NA	NA	NA	NA	NA	6	5	5	8	8
Agency for International Development	60	212	193	192	167	221	194	82	221	221
Appalachian Regional Commission	1	1	*	1	1	1	1	1	1	1
Consumer Product Safety Commission	2	2	2	2	1	1	*	*	*	*
Environmental Protection Agency	531	516	508	494	487	485	489	520	525	572
Federal Communications Commission	7	5	5	7	5	2	2	0	NA	NA
Federal Trade Commission	3	2	3	6	6	6	6	8	3	10
Library of Congress	1	1	2	2	3	2	3	3	3	3
National Aeronautics and Space Administration	11,128	12,150	11,937	10,528	10,765	13,260	10,481	11,089	12,137	12,900
National Archives and Records Administration	1	1	1	1	1	1	*	NA	NA	NA
National Science Foundation	5,198	5,059	5,120	5,279	5,207	5,273	5,370	5,546	5,989	6,592
Nuclear Regulatory Commission	91	71	86	67	78	75	69	77	82	95

TABLE 67

Federal outlays for research and development, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Patient-Centered Outcomes Research Trust Fund	94	244	354	1,345	492	579	470	460	522	560
Postal Service	NA	28	29	73	53	27	18	15	14	14
RESTORE Act Centers of Excellence Research Grants Program	na	na	na	na	na	na	7	4	4	4
Smithsonian Institution	195	196	208	210	230	236	210	219	227	242
Social Security Administration	60	59	129	110	72	146	70	105	79	106
Tennessee Valley Authority	NA	NA	NA	6	13	10	8	17	28	94

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level in that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had outlays in variables represented by this table appear in the table. Beginning with FY 2016, the totals reported for development outlays represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the Department of Defense (DOD) Budget Activity 7 (Operational System Development) outlays. Those funds, previously included in DOD's development outlay totals, support the development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate production funding in the current or subsequent fiscal year. Therefore, the data are not directly comparable with totals reported in previous years. FYs 2020, 2021, and 2022 outlays include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 68

Federal outlays for R&D plant, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All agencies	4,158	3,856	3,832	2,041	2,123	2,066	2,824	6,135	4,301	2,470	1,859
Departments											
Department of Agriculture	77	113	149	185	216	148	74	126	119	70	25
Agricultural Research Service	61	94	131	171	191	127	43	56	102	58	15
Forest Service	16	19	18	14	25	21	32	70	17	10	8
Grain Inspection, Packers, and Stockyards Administration	0	0	0	0	0	0	0	0	0	2	2
Department of Commerce	93	80	40	46	68	114	248	288	323	290	180
Economic Development Administration	0	0	0	0	0	18	25	26	15	NA	NA
National Institute of Standards and Technology	77	49	38	46	35	49	47	102	171	150	52
National Oceanic and Atmospheric Administration	16	31	2	0	33	46	176	159	137	141	128
Department of Defense	237	188	210	93	152	130	196	148	132	139	87
Defense agencies and activities	138	67	77	35	36	38	8	*	na	na	na
Department of the Air Force	7	10	36	39	15	92	111	129	116	136	68
Department of the Army	0	0	0	0	0	0	77	0	0	0	0
Department of the Navy	92	111	97	20	100	0	0	19	16	1	18
Other defense agencies	na	na	na	na	na	na	na	na	0	2	1
Department of Energy	1,052	1,026	847	780	651	748	1,225	904	771	714	559
Bonneville Power Administration	0	0	0	0	0	0	0	0	0	0	14
Energy Efficiency and Renewable Energy	6	20	25	26	2	65	17	53	36	0	16
Fossil Energy	3	6	6	21	12	19	15	15	15	12	16
National Nuclear Security Administration	447	426	300	310	205	269	172	280	152	93	75
Defense Programs	420	408	268	272	171	232	132	201	119	53	75
Naval Nuclear Propulsion Program	27	18	32	39	34	37	40	79	33	40	*
Office of Science	596	574	516	423	433	396	1,020	556	569	609	437
Department of Health and Human Services	817	429	429	359	252	147	151	1,682	79	155	148
Centers for Disease Control and Prevention	0	0	0	144	134	6	0	0	0	0	0
Food and Drug Administration	9	7	3	2	6	5	5	13	8	21	22
Health Resources and Services Administration	*	1	1	1	1	1	*	1	1	1	1
National Institutes of Health	808	421	426	213	111	135	146	1,669	70	133	126
Department of Homeland Security	NA	56	61	121	259	210	346	393	694	234	279
Coast Guard	NA	1	1	*	1	*	1	1	1	1	1
Science and Technology Directorate	NA	55	60	121	258	210	345	392	693	233	278
Department of the Interior	4	8	7	5	10	9	7	6	8	6	7
Bureau of Ocean Energy Management	2	2	3	3	3	3	2	2	5	0	0
Bureau of Reclamation	2	5	5	2	7	6	5	4	4	2	3
Bureau of Safety and Environmental Enforcement	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	4
Department of Justice	0	0	0	0	0	1	0	0	0	0	0
Office of Justice Programs	0	0	0	0	0	1	0	0	0	0	0
Department of Labor	0	0	0	0	1	1	1	1	1	1	*
Occupational Safety and Health Administration	0	0	0	0	1	1	1	1	1	1	*
Department of Transportation	7	15	16	18	20	19	19	20	18	21	22
Federal Aviation Administration	6	14	15	17	18	17	17	19	17	18	16
Federal Railroad Administration	1	1	1	1	2	2	2	1	1	3	6
Department of Veterans Affairs	*	*	*	*	*	*	0	0	0	0	0
Other agencies											
Environmental Protection Agency	0	0	0	0	0	0	0	0	5	5	7
National Aeronautics and Space Administration	1,596	1,581	1,697	12	12	72	76	1,565	1,578	169	65
National Science Foundation	272	357	368	395	453	424	433	949	515	616	434
Smithsonian Institution	3	3	6	26	30	42	49	53	57	50	47

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had outlays in variables represented by this table appear in the table. FYs 2009 and 2010 outlays include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 69

Federal outlays for R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All agencies	2,244	2,405	2,228	3,223	3,844	3,287	4,786	3,805	4,185	5,706
Departments										
Department of Agriculture	19	18	20	15	38	49	75	111	109	133
Agricultural Research Service	10	9	5	6	23	39	66	100	100	117
Forest Service	7	8	13	9	16	10	9	12	9	16
Grain Inspection, Packers, and Stockyards Administration	2	2	2	*	na	na	na	na	na	na
Natural Resources Conservation Service	NA	NA	NA	NA	NA	NA	NA	*	0	0
Department of Commerce	180	196	211	183	292	386	261	265	402	641
National Institute of Standards and Technology	51	64	61	64	75	133	94	121	185	149
National Oceanic and Atmospheric Administration	129	132	150	119	217	253	167	144	216	490
National Telecommunications and Information Administration	0	0	0	0	0	0	0	0	2	2
Department of Defense	137	150	168	920	395	353	507	211	251	264
Defense Health Agency	NA	NA	NA	NA	NA	NA	15	0	0	0
Department of the Air Force	111	119	122	161	179	205	193	163	164	224
Department of the Army	0	0	5	720	0	0	0	0	0	0
Department of the Navy	19	24	29	30	38	126	284	38	26	31
Other defense agencies	7	8	12	9	177	22	14	11	62	9
Department of Energy	669	992	998	1,168	2,065	1,508	1,790	2,330	2,608	3,140
Energy Efficiency and Renewable Energy	4	4	3	4	208	10	55	38	43	58
Fossil Energy	16	18	0	16	21	23	24	28	19	27
National Nuclear Security Administration	82	293	262	290	299	275	512	836	688	1,068
Defense Programs	60	138	102	89	189	275	256	498	418	452
Naval Nuclear Propulsion Program	22	155	160	200	109	0	247	331	270	616
Office of Defense Nuclear Nonproliferation	0	0	0	0	0	0	9	8	*	*
Nuclear Energy	0	0	0	0	0	0	0	0	304	474
Office of Science	568	677	733	859	1,538	1,200	1,200	1,428	1,554	1,512
Department of Health and Human Services	160	127	141	217	222	156	1,502	355	221	344
Biomedical Advanced Research and Development Authority	NA	NA	NA	NA	NA	0	1,296	160	1	0
Centers for Medicare and Medicaid Services	0	0	0	0	0	*	0	0	0	0
Food and Drug Administration	23	23	31	29	29	26	28	35	34	38
Health Resources and Services Administration	1	1	1	0	0	0	0	1	0	0
National Institutes of Health	136	104	110	188	193	130	178	158	187	307
Department of Homeland Security	408	228	193	186	215	206	70	13	12	99
Coast Guard	1	1	1	1	1	1	0	0	0	0
Science and Technology Directorate	406	227	192	184	214	205	70	12	12	99
Transportation Security Administration	NA	NA	NA	NA	0	0	0	1	0	0
Department of the Interior	6	7	8	3	4	4	5	2	13	7
Bureau of Reclamation	2	3	1	1	1	1	2	2	2	2
Bureau of Safety and Environmental Enforcement	3	4	7	2	2	3	3	0	11	5
Department of Transportation	20	22	29	35	31	38	52	29	33	37
Federal Aviation Administration	18	19	27	32	30	36	50	27	28	32
Federal Railroad Administration	2	3	2	3	1	2	2	1	5	5
National Highway Traffic Safety Administration	0	0	0	0	0	0	0	1	1	1
Department of the Treasury	0	0	0	0	0	4	2	0	0	18
Bureau of Engraving and Printing	0	0	0	0	0	2	2	0	0	18
Mint	0	0	0	0	0	2	*	0	0	0
Other agencies										
Environmental Protection Agency	7	5	5	5	5	5	4	6	6	2

TABLE 69

Federal outlays for R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
National Aeronautics and Space Administration	134	210	76	88	87	78	27	43	62	241
National Science Foundation	468	415	348	371	457	468	423	371	397	705
Nuclear Regulatory Commission	0	0	0	0	0	0	1	0	0	0
Smithsonian Institution	36	33	29	33	33	33	66	69	70	74

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had outlays in variables represented by this table appear in the table. FYs 2020, 2021, and 2022 outlays include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 70

Federal obligations for research, development, and R&D plant, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All agencies	107,794	116,069	122,620	123,855	129,431	129,050	144,758	146,968	139,703	140,670	127,626
Departments											
Department of Agriculture	2,136	2,282	2,319	2,386	2,372	2,246	2,345	2,615	2,377	2,188	2,031
Agricultural Marketing Service	5	9	8	6	6	5	4	4	4	4	5
Agricultural Research Service	1,143	1,259	1,227	1,294	1,241	1,146	1,187	1,360	1,152	1,095	1,017
Animal and Plant Health Inspection Service	28	24	24	26	26	28	29	30	29	37	37
Economic Research Service	68	71	74	75	92	78	79	86	81	77	71
Foreign Agricultural Service	2	2	2	1	1	*	*	*	1	1	1
Forest Service	307	315	316	322	345	316	376	426	370	341	337
Grain Inspection, Packers, and Stockyards Administration	5	7	7	7	7	7	7	6	7	7	6
National Agricultural Statistics Service	6	6	6	7	7	7	7	7	7	7	7
National Institute of Food and Agriculture	568	586	652	645	627	655	652	690	724	614	546
Rural Business-Cooperative Service	4	4	4	4	21	4	4	5	2	4	4
Department of Commerce	1,267	1,149	1,094	1,016	1,145	1,196	1,533	1,683	1,309	1,231	1,294
Census Bureau	23	24	23	22	23	25	29	47	59	102	131
Economic Development Administration	1	*	*	*	1	21	28	19	16	NA	NA
National Institute of Standards and Technology	525	482	463	429	508	517	606	925	597	548	609
National Oceanic and Atmospheric Administration	695	619	600	558	607	627	863	685	629	573	547
National Telecommunications and Information Administration	24	24	7	7	7	7	7	8	8	8	7
Department of Defense	52,149	58,068	63,661	65,934	72,291	71,997	75,974	73,624	75,328	73,974	63,655
Defense Advanced Research Projects Agency	na	na	na	na	na	na	na	na	2,846	2,750	2,372
Defense agencies and activities	12,641	13,189	15,407	14,338	15,940	15,947	16,242	16,265	na	na	na
Department of the Air Force	18,266	20,338	20,078	21,699	25,292	25,339	28,051	26,649	26,641	27,688	23,600
Department of the Army	7,610	9,223	10,208	11,318	11,629	11,878	11,908	10,853	9,832	9,220	7,883
Department of the Navy	13,397	15,019	17,661	18,399	19,248	18,649	19,586	19,660	17,814	17,753	15,440
Operational Test and Evaluation, Director	236	298	308	179	182	185	186	197	NA	NA	NA
Other defense agencies	na	na	na	na	na	na	na	na	18,195	16,563	14,360
Department of Education	303	311	316	337	333	328	322	363	346	338	310
Department of Energy	8,436	8,561	8,597	8,340	8,630	8,990	11,562	11,645	10,680	10,635	10,397
Advanced Research Projects Agency—Energy	NA	NA	NA	NA	NA	0	0	378	175	103	182
Bonneville Power Administration	23	25	11	11	11	14	8	13	13	14	14
Civilian Radioactive Waste Management	76	79	54	53	11	1	*	0	0	0	0
Electricity Delivery and Energy Reliability	na	na	80	133	92	83	87	113	89	101	83
Energy Efficiency and Renewable Energy	689	604	577	457	769	794	1,791	1,998	903	986	922
Environmental Management	69	43	50	34	19	19	30	90	67	46	9

TABLE 70

Federal obligations for research, development, and R&D plant, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Fossil Energy	644	532	573	455	431	417	505	504	430	383	358
National Nuclear Security Administration	3,923	4,036	3,922	3,862	3,783	3,981	3,716	3,638	4,164	4,127	4,255
Defense Programs	2,997	3,135	3,001	2,865	2,827	2,939	2,608	2,407	2,867	2,815	2,968
Fissile Materials Disposition	25	1	0	0	0	NA	NA	NA	NA	NA	NA
Naval Nuclear Propulsion Program	678	737	775	753	751	743	793	945	974	1,080	994
Office of Defense Nuclear Nonproliferation	224	163	145	243	205	299	315	287	324	231	294
Nuclear Energy	47	74	85	89	81	133	116	368	388	361	263
Office of Intelligence	4	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Office of Science	2,961	3,168	3,246	3,246	3,434	3,548	5,309	4,542	4,452	4,514	4,310
Department of Health and Human Services	27,215	28,564	29,173	29,126	29,556	29,701	35,736	37,617	30,928	31,336	29,513
Administration for Children and Families	21	20	39	14	12	19	14	7	10	8	2
Administration for Community Living	0	3	3	3	0	0	0	0	0	0	0
Agency for Healthcare Research and Quality	309	304	319	319	319	334	378	852	371	366	365
Agency for Toxic Substances and Disease Registry	14	11	10	9	4	4	5	3	5	1	1
Centers for Disease Control and Prevention	564	540	511	688	679	545	420	447	386	512	363
Centers for Medicare and Medicaid Services	74	78	77	62	57	31	30	82	35	21	20
Food and Drug Administration	146	141	143	147	138	143	171	223	234	359	364
Health Resources and Services Administration	43	48	53	24	24	63	57	67	37	38	37
National Institutes of Health	25,965	27,312	27,926	27,778	28,257	28,540	34,641	35,882	29,830	30,010	28,341
Office of the Secretary of Health and Human Services	22	21	25	27	24	22	20	54	20	19	19
Office of Public Health and Science	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Office of the Assistant Secretary for Planning and Evaluation	20	21	25	27	24	22	20	54	20	19	19
Substance Abuse and Mental Health Services Administration	57	87	68	54	42	0	NA	NA	NA	NA	NA
Department of Homeland Security	NA	1,063	1,454	1,857	1,106	1,057	984	1,132	1,128	832	719
Coast Guard	NA	16	14	22	18	20	22	26	23	40	23
Science and Technology Directorate	NA	908	1,258	1,823	1,084	1,036	962	1,106	1,105	792	696
Secret Service	NA	1	1	1	1	1	NA	NA	NA	NA	NA
Transportation Security Administration	NA	138	180	12	4	0	NA	NA	NA	NA	NA
Department of Housing and Urban Development	39	47	43	33	40	30	33	62	73	90	67
Department of the Interior	600	613	597	609	625	645	739	728	717	743	717
Bureau of Ocean Energy Management	29	30	30	32	28	35	38	46	52	39	40

TABLE 70

Federal obligations for research, development, and R&D plant, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Bureau of Reclamation	11	16	17	11	16	15	13	13	15	12	13
Bureau of Safety and Environmental Enforcement	NA	NA	NA	NA	NA	NA	NA	NA	NA	13	21
Geological Survey	550	552	546	561	574	586	674	661	640	673	636
National Park Service	10	14	4	4	8	9	14	8	9	6	7
Department of Justice	148	105	128	128	184	114	103	125	102	85	119
Bureau of Prisons	10	11	13	12	13	11	10	11	12	11	11
Federal Bureau of Investigation	43	34	33	34	71	26	15	30	18	8	39
Office of Justice Programs	96	61	81	81	101	78	78	85	73	67	69
Department of Labor	189	199	164	95	50	42	31	14	56	21	16
Bureau of Labor Statistics	21	22	23	23	24	24	0	NA	NA	NA	NA
Employee Benefits Security Administration	3	3	3	3	2	2	2	6	49	13	10
Employment and Training Administration	160	170	134	64	19	11	22	NA	NA	NA	NA
Occupational Safety and Health Administration	3	3	3	4	3	4	4	6	4	6	4
Office of the Secretary of Labor	2	*	1	*	*	0	NA	0	0	NA	NA
Pension Benefit Guaranty Corp.	1	1	2	2	2	2	2	3	3	3	3
Department of State	2	3	3	4	4	4	4	3	3	2	1
Department of Transportation	712	647	437	838	811	825	846	929	862	936	876
Federal Aviation Administration	263	234	244	277	260	274	316	409	347	360	310
Federal Highway Administration	305	323	74	400	405	377	348	337	344	403	397
Federal Motor Carrier Safety Administration	7	6	7	5	9	8	7	7	6	7	8
Federal Railroad Administration	33	30	32	49	40	39	42	44	47	46	53
Federal Transit Administration	7	5	4	17	6	9	10	23	24	26	16
National Highway Traffic Safety Administration	65	7	40	58	64	83	82	71	71	69	65
Office of the Secretary of Transportation	21	32	21	15	6	13	20	23	9	9	11
Pipeline and Hazardous Materials Safety Administration	na	10	14	15	18	9	10	10	8	11	11
Research and Innovative Technology Administration	na	0	2	2	3	11	11	6	5	5	5
Research and Special Programs Administration	11	na	na	na	na	na	na	na	na	na	na
Department of the Treasury	60	62	66	69	65	65	69	69	78	76	74
Bureau of Engraving and Printing	5	4	6	6	5	5	3	1	6	5	9
Internal Revenue Service	54	57	58	55	55	60	65	66	71	69	65
Mint	1	1	2	7	5	1	1	1	1	2	*
Department of Veterans Affairs	366	406	402	412	446	480	510	563	613	615	639
Other agencies											
Agency for Global Media	0	1	*	*	NA	NA	NA	NA	NA	NA	NA

TABLE 70

Federal obligations for research, development, and R&D plant, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Agency for International Development	286	265	257	255	234	124	160	84	119	77	125
Appalachian Regional Commission	1	1	1	1	1	1	1	1	*	1	*
Consumer Product Safety Commission	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	1
Environmental Protection Agency	567	662	641	622	576	532	553	572	582	581	530
Federal Communications Commission	4	9	9	8	8	7	7	4	4	4	5
Federal Trade Commission	2	2	1	2	2	3	2	3	3	3	3
Library of Congress	2	18	9	7	7	1	1	1	2	1	1
National Aeronautics and Space Administration	9,158	8,654	8,928	7,250	6,206	5,847	5,958	8,691	8,429	10,758	10,494
National Archives and Records Administration	*	*	*	*	*	5	5	5	3	2	1
National Science Foundation	3,944	4,166	4,098	4,240	4,407	4,506	6,925	6,073	5,537	5,705	5,328
Nuclear Regulatory Commission	64	72	70	71	77	61	61	85	84	83	76
Patient-Centered Outcomes Research Trust Fund	na	na	na	na	na	na	na	na	41	41	334
Smithsonian Institution	107	111	115	146	186	188	227	213	249	246	240
Social Security Administration	37	30	35	68	68	54	68	63	53	65	57

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 71

Federal obligations for research, development, and R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All agencies	132,779	131,578	118,274	121,627	133,278	146,801	173,553	193,896	196,595	192,969
Departments										
Department of Agriculture	2,269	2,352	2,380	2,575	2,523	2,666	3,433	2,955	3,315	3,546
Agricultural Marketing Service	6	7	7	7	7	8	7	13	10	9
Agricultural Research Service	1,123	1,133	1,152	1,318	1,229	1,312	2,204	1,556	1,821	1,900
Animal and Plant Health Inspection Service	40	40	40	39	39	39	40	42	45	49
Economic Research Service	78	85	85	86	86	86	82	85	88	93
Foreign Agricultural Service	*	1	*	*	0	0	0	0	0	0
Forest Service	343	340	354	337	343	337	351	298	339	323
Grain Inspection, Packers, and Stockyards Administration	8	8	8	*	na	na	na	na	na	na
National Agricultural Statistics Service	9	9	9	9	9	9	9	9	11	11
National Institute of Food and Agriculture	657	726	721	774	805	871	738	937	986	1,145
Natural Resources Conservation Service	NA	NA	NA	NA	NA	NA	NA	14	16	16
Rural Business-Cooperative Service	6	4	4	3	4	4	3	0	0	0
Department of Commerce	1,568	1,519	1,636	1,847	1,832	1,999	1,981	2,242	2,390	4,058
Census Bureau	259	142	200	220	110	96	111	109	202	312
National Institute of Standards and Technology	666	674	751	807	791	831	878	1,136	958	1,563
National Oceanic and Atmospheric Administration	634	692	675	812	922	1,064	984	990	1,218	2,169
National Telecommunications and Information Administration	10	12	11	8	9	8	8	7	13	14
Department of Defense	65,129	61,683	44,927	45,164	53,444	59,389	67,007	70,876	72,607	89,221
Defense Advanced Research Projects Agency	2,822	2,816	2,933	2,895	3,018	3,321	3,664	3,606	3,609	4,191
Defense Health Agency	NA	NA	NA	NA	NA	NA	2,886	2,852	2,136	2,562
Department of the Air Force	24,331	22,443	7,441	8,324	11,413	15,269	11,924	12,511	14,029	16,153
Department of the Army	7,332	6,764	6,373	7,531	8,581	10,275	10,786	11,921	12,060	15,518
Department of the Navy	15,591	15,525	16,682	15,285	15,525	15,484	19,159	16,771	17,551	22,157
Space Force	na	na	na	na	na	na	4,386	5,342	4,951	8,626
Other defense agencies	15,052	14,135	11,497	11,129	14,907	15,040	14,202	17,873	18,272	20,014
Department of Education	322	251	244	262	266	236	240	364	402	354
Department of Energy	11,296	12,343	13,343	13,584	14,894	16,622	15,778	16,121	17,977	18,586
Advanced Research Projects Agency—Energy	261	242	299	274	160	405	438	315	403	470
Bonneville Power Administration	16	16	16	14	NA	NA	NA	NA	NA	NA
Electricity Delivery and Energy Reliability	104	97	112	133	146	138	140	129	114	156
Energy Efficiency and Renewable Energy	870	1,083	1,291	1,445	1,913	2,001	2,150	2,155	1,659	1,828
Environmental Management	28	25	30	31	38	26	22	30	36	43
Fossil Energy	442	540	609	620	683	682	708	720	588	963
National Nuclear Security Administration	4,532	4,528	4,819	4,740	4,531	6,078	4,558	5,180	5,219	5,546
Defense Programs	3,120	3,076	3,198	3,071	2,831	3,998	2,625	3,321	3,456	3,702
Naval Nuclear Propulsion Program	1,115	1,239	1,375	1,420	1,420	1,789	1,634	1,471	1,382	1,419

TABLE 71

Federal obligations for research, development, and R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Office of Defense Nuclear Nonproliferation	297	213	245	249	280	292	298	388	381	426
Nuclear Energy	324	728	763	891	1,116	606	573	455	1,176	1,636
Office of Cybersecurity, Energy Security, and Emergency Response	na	na	na	na	0	52	51	2	37	63
Office of Science	4,720	5,085	5,405	5,436	6,308	6,634	7,139	7,135	8,746	7,882
Department of Health and Human Services	30,799	30,425	32,367	33,902	37,116	39,434	61,775	77,050	74,388	49,677
Administration for Children and Families	3	2	3	2	3	2	2	5	5	9
Administration for Community Living	0	76	83	83	83	83	90	107	107	113
Agency for Healthcare Research and Quality	364	364	334	324	334	338	338	338	350	374
Agency for Toxic Substances and Disease Registry	1	2	2	3	3	7	10	11	12	12
Biomedical Advanced Research and Development Authority	NA	NA	NA	NA	NA	736	16,962	34,041	28,414	818
Centers for Disease Control and Prevention	409	489	521	475	451	419	497	696	565	459
Centers for Medicare and Medicaid Services	34	24	30	29	231	133	224	421	419	427
Food and Drug Administration	395	382	491	380	485	519	484	597	571	641
Health Resources and Services Administration	38	42	41	46	36	33	35	42	40	50
National Institutes of Health	29,536	29,026	30,843	32,542	35,473	37,146	43,117	40,775	43,869	46,736
Office of the Secretary of Health and Human Services	19	18	18	17	17	17	16	17	36	38
Office of the Assistant Secretary for Planning and Evaluation	19	18	18	17	17	17	16	17	36	38
Department of Homeland Security	944	1,645	689	870	913	648	507	549	581	599
Coast Guard	27	21	25	23	23	21	5	10	7	7
Countering Weapons of Mass Destruction Office	84	71	63	69	30	81	37	32	66	65
Cybersecurity and Infrastructure Security Agency	na	na	na	na	7	13	8	13	6	9
Science and Technology Directorate	832	1,553	601	778	832	511	422	463	502	514
Secret Service	NA	NA	NA	NA	1	2	13	1	1	4
Transportation Security Administration	NA	NA	NA	NA	20	21	23	30	*	*
Department of Housing and Urban Development	54	58	67	64	62	61	NA	NA	NA	NA
Department of the Interior	762	809	860	868	769	831	844	915	947	1,050
Bureau of Indian Affairs	NA	NA	NA	NA	5	5	*	5	5	5
Bureau of Land Management	NA	16	18	18	21	21	21	10	12	13
Bureau of Ocean Energy Management	48	50	72	76	78	86	73	77	86	88
Bureau of Reclamation	14	13	22	29	23	24	29	40	29	46
Bureau of Safety and Environmental Enforcement	36	25	30	16	7	13	13	32	14	22
Fish and Wildlife Service	NA	30	32	33	33	33	33	33	35	44

TABLE 71

Federal obligations for research, development, and R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Geological Survey	649	666	677	688	593	640	665	691	737	803
National Park Service	15	8	9	10	10	10	10	28	28	28
Office of Surface Mining Reclamation and Enforcement	NA	NA	NA	NA	0	*	1	0	NA	NA
Department of Justice	161	150	208	127	107	121	96	85	111	139
Bureau of Prisons	11	11	11	10	6	7	8	*	*	*
Federal Bureau of Investigation	10	13	13	2	3	1	5	4	9	21
Office of Justice Programs	140	126	184	115	98	114	84	81	102	118
Department of Labor	14	14	10	5	5	4	5	3	4	4
Employee Benefits Security Administration	7	7	5	3	3	3	3	1	2	2
Occupational Safety and Health Administration	4	3	1	2	2	2	2	2	2	2
Pension Benefit Guaranty Corp.	3	4	4	0	0	NA	NA	NA	NA	NA
Department of State	NA	2	2	2	62	62	40	64	65	60
Department of Transportation	848	884	962	987	1,077	1,052	1,224	1,145	1,111	1,266
Federal Aviation Administration	297	340	426	435	404	424	470	542	511	520
Federal Highway Administration	398	313	332	352	491	452	512	410	383	463
Federal Motor Carrier Safety Administration	8	8	11	12	9	8	9	13	24	15
Federal Railroad Administration	43	47	44	46	49	41	48	44	40	49
Federal Transit Administration	8	82	35	55	10	3	40	43	13	49
National Highway Traffic Safety Administration	65	63	87	69	76	76	69	66	92	96
Office of the Secretary of Transportation	15	11	18	11	16	20	34	12	24	51
Pipeline and Hazardous Materials Safety Administration	14	22	10	7	22	28	41	16	24	22
Department of the Treasury	74	73	85	8	38	61	61	54	47	90
Bureau of Engraving and Printing	9	9	19	7	38	59	60	54	47	90
Internal Revenue Service	64	64	65	0	0	0	0	NA	NA	NA
Mint	1	*	2	1	0	2	*	*	0	0
Department of Veterans Affairs	589	662	695	682	1,349	1,508	1,565	1,698	1,696	1,930
Other agencies										
Administrative Office of the U.S. Courts	NA	NA	7	8	7	6	5	4	1	0
Agency for Global Media	NA	NA	NA	NA	NA	6	5	5	8	8
Agency for International Development	60	212	193	192	167	221	194	82	221	221
Appalachian Regional Commission	1	*	1	*	1	1	1	1	1	1
Consumer Product Safety Commission	2	2	2	2	1	1	*	*	*	*
Environmental Protection Agency	538	521	513	498	492	490	493	526	531	574
Federal Communications Commission	7	5	5	7	5	2	2	0	NA	NA
Federal Trade Commission	3	2	3	6	6	6	6	8	3	10
Library of Congress	1	1	2	2	3	2	3	3	3	3
National Aeronautics and Space Administration	10,881	11,413	12,462	12,638	10,814	13,616	10,574	11,267	11,750	11,858
National Archives and Records Administration	1	1	1	1	1	1	0	NA	NA	NA
National Science Foundation	5,800	5,990	6,022	5,946	6,358	6,648	6,793	7,138	7,425	8,518
Nuclear Regulatory Commission	85	92	81	67	78	75	69	80	61	83

TABLE 71

Federal obligations for research, development, and R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Patient-Centered Outcomes Research Trust Fund	283	152	115	884	492	578	470	460	522	560
Postal Service	NA	28	29	73	53	27	18	15	14	14
RESTORE Act Centers of Excellence Research Grants Program	na	na	na	na	na	na	9	0	7	23
Smithsonian Institution	231	229	235	241	261	269	276	63	297	316
Social Security Administration	60	59	129	110	72	146	70	105	79	106
Tennessee Valley Authority	NA	NA	NA	6	13	10	8	17	28	94

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. Beginning with FY 2016, the totals reported for development obligations represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the Department of Defense (DOD) Budget Activity 7 (Operational System Development) obligations. Those funds, previously included in DOD's development obligation totals, support the development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate production funding in the current or subsequent fiscal year. Therefore, the data are not directly comparable with totals reported in previous years. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 72

Federal obligations for research and development, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All agencies	103,528	112,074	118,848	121,730	127,263	127,106	141,090	140,355	135,533	138,525	125,720
Departments											
Department of Agriculture	2,040	2,102	2,184	2,214	2,248	2,202	2,267	2,364	2,341	2,171	2,019
Agricultural Marketing Service	5	9	8	6	6	5	4	4	4	4	5
Agricultural Research Service	1,062	1,098	1,108	1,135	1,142	1,123	1,141	1,178	1,133	1,090	1,014
Animal and Plant Health Inspection Service	28	24	24	26	26	28	29	30	29	37	37
Economic Research Service	68	71	74	75	92	78	79	86	81	77	71
Foreign Agricultural Service	2	2	2	1	1	*	*	*	1	1	1
Forest Service	292	296	301	308	320	295	344	357	353	331	329
Grain Inspection, Packers, and Stockyards Administration	5	7	7	7	7	7	7	6	7	5	5
National Agricultural Statistics Service	6	6	6	7	7	7	7	7	7	7	7
National Institute of Food and Agriculture	568	586	652	645	627	655	652	690	724	614	546
Rural Business-Cooperative Service	4	4	4	4	21	4	4	5	2	4	4
Department of Commerce	1,208	1,059	1,033	942	1,028	1,045	1,147	1,274	1,067	1,055	1,092
Census Bureau	23	24	23	22	23	25	29	47	59	102	131
Economic Development Administration	1	*	*	*	1	2	3	7	1	NA	NA
National Institute of Standards and Technology	476	444	419	386	456	430	500	687	507	513	535
National Oceanic and Atmospheric Administration	685	566	584	527	541	581	608	525	492	433	419
National Telecommunications and Information Administration	24	24	7	7	7	7	7	8	8	8	7
Department of Defense	51,898	57,793	63,388	65,871	72,211	71,833	75,857	73,471	75,158	73,804	63,558
Defense Advanced Research Projects Agency	na	na	na	na	na	na	na	na	2,846	2,750	2,372
Defense agencies and activities	12,503	13,068	15,324	14,304	15,904	15,906	16,241	16,264	na	na	na
Department of the Air Force	18,259	20,319	19,971	21,688	25,264	25,232	27,950	26,521	26,500	27,545	23,524
Department of the Army	7,610	9,223	10,208	11,318	11,629	11,878	11,908	10,853	9,832	9,220	7,883
Department of the Navy	13,290	14,885	17,577	18,382	19,233	18,633	19,571	19,635	17,793	17,728	15,419
Operational Test and Evaluation, Director	236	298	308	179	182	185	186	197	NA	NA	NA
Other defense agencies	na	na	na	na	na	na	na	na	18,187	16,561	14,359
Department of Education	303	311	316	337	333	328	322	363	346	338	310
Department of Energy	7,412	7,554	7,733	7,562	7,877	8,239	9,890	10,686	9,946	9,952	9,841
Advanced Research Projects Agency—Energy	NA	NA	NA	NA	NA	0	0	378	175	103	182
Bonneville Power Administration	23	25	11	11	11	14	8	13	13	14	14
Civilian Radioactive Waste Management	76	79	54	53	11	1	*	0	0	0	0
Electricity Delivery and Energy Reliability	na	na	80	133	92	83	87	113	89	101	83
Energy Efficiency and Renewable Energy	682	584	557	431	662	729	1,584	1,895	863	986	918
Environmental Management	69	43	50	34	19	19	30	90	67	46	9

TABLE 72

Federal obligations for research and development, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Fossil Energy	639	526	566	436	419	404	486	485	411	367	342
National Nuclear Security Administration	3,475	3,600	3,619	3,557	3,591	3,718	3,548	3,448	4,036	4,034	4,180
Defense Programs	2,577	2,727	2,733	2,594	2,656	2,707	2,476	2,247	2,771	2,762	2,893
Fissile Materials Disposition	25	1	0	0	0	NA	NA	NA	NA	NA	NA
Naval Nuclear Propulsion Program	650	709	741	720	730	712	756	914	942	1,040	994
Office of Defense Nuclear Nonproliferation	224	163	145	243	205	299	315	287	324	231	294
Nuclear Energy	47	74	85	89	81	133	116	368	388	361	263
Office of Intelligence	4	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Office of Science	2,395	2,623	2,712	2,818	2,993	3,137	4,031	3,895	3,904	3,940	3,848
Department of Health and Human Services	26,399	28,133	28,746	28,766	29,302	29,554	35,584	35,935	30,849	31,196	29,382
Administration for Children and Families	21	20	39	14	12	19	14	7	10	8	2
Administration for Community Living	0	3	3	3	0	0	0	0	0	0	0
Agency for Healthcare Research and Quality	309	304	319	319	319	334	378	852	371	366	365
Agency for Toxic Substances and Disease Registry	14	11	10	9	4	4	5	3	5	1	1
Centers for Disease Control and Prevention	564	540	511	545	544	539	420	447	386	512	363
Centers for Medicare and Medicaid Services	74	78	77	62	57	31	30	82	35	21	20
Food and Drug Administration	138	132	142	143	129	138	166	211	225	353	361
Health Resources and Services Administration	43	47	53	24	23	62	56	66	37	38	37
National Institutes of Health	25,156	26,890	27,500	27,566	28,146	28,404	34,494	34,213	29,760	29,877	28,215
Office of the Secretary of Health and Human Services	22	21	25	27	24	22	20	54	20	19	19
Office of Public Health and Science	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Office of the Assistant Secretary for Planning and Evaluation	20	21	25	27	24	22	20	54	20	19	19
Substance Abuse and Mental Health Services Administration	57	87	68	54	42	0	NA	NA	NA	NA	NA
Department of Homeland Security	NA	946	1,362	1,725	863	837	673	674	559	602	391
Coast Guard	NA	15	13	21	17	20	20	25	21	39	22
Science and Technology Directorate	NA	792	1,167	1,692	841	817	652	649	538	563	369
Secret Service	NA	1	1	1	1	1	NA	NA	NA	NA	NA
Transportation Security Administration	NA	138	180	12	4	0	NA	NA	NA	NA	NA
Department of Housing and Urban Development	39	47	43	33	40	30	33	62	73	90	67
Department of the Interior	597	605	590	603	615	636	732	722	706	738	709
Bureau of Ocean Energy Management	27	27	27	29	25	32	36	43	45	39	40

TABLE 72

Federal obligations for research and development, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Bureau of Reclamation	9	11	13	9	9	9	9	10	11	10	10
Bureau of Safety and Environmental Enforcement	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	16
Geological Survey	550	552	546	561	574	586	674	661	640	673	636
National Park Service	10	14	4	4	8	9	14	8	9	6	7
Department of Justice	148	105	128	128	176	113	103	125	102	85	119
Bureau of Prisons	10	11	13	12	13	11	10	11	12	11	11
Federal Bureau of Investigation	43	34	33	34	71	26	15	30	18	8	39
Office of Justice Programs	96	61	81	81	93	77	78	85	73	67	69
Department of Labor	189	199	164	95	50	42	31	14	56	21	16
Bureau of Labor Statistics	21	22	23	23	24	24	0	NA	NA	NA	NA
Employee Benefits Security Administration	3	3	3	3	2	2	2	6	49	13	10
Employment and Training Administration	160	170	134	64	19	11	22	NA	NA	NA	NA
Occupational Safety and Health Administration	3	3	3	4	3	4	4	6	4	6	4
Office of the Secretary of Labor	2	*	1	*	*	0	NA	0	0	NA	NA
Pension Benefit Guaranty Corp.	1	1	2	2	2	2	2	3	3	3	3
Department of State	2	3	3	4	4	4	4	3	3	2	1
Department of Transportation	693	629	418	819	791	806	826	908	841	898	855
Federal Aviation Administration	245	218	227	260	242	257	298	390	330	329	292
Federal Highway Administration	305	323	74	400	405	377	348	337	344	403	397
Federal Motor Carrier Safety Administration	7	6	7	5	9	8	7	7	6	7	8
Federal Railroad Administration	32	29	31	47	38	38	40	41	44	40	50
Federal Transit Administration	7	5	4	17	6	9	10	23	24	26	16
National Highway Traffic Safety Administration	65	7	40	58	64	83	82	71	71	69	65
Office of the Secretary of Transportation	21	32	21	15	6	13	20	23	9	9	11
Pipeline and Hazardous Materials Safety Administration	na	10	14	15	18	9	10	10	8	11	11
Research and Innovative Technology Administration	na	0	2	2	3	11	11	6	5	5	5
Research and Special Programs Administration	11	na	na	na	na	na	na	na	na	na	na
Department of the Treasury	60	62	66	65	64	65	69	69	78	76	74
Bureau of Engraving and Printing	5	4	6	6	5	5	3	1	6	5	9
Internal Revenue Service	54	57	58	55	55	60	65	66	71	69	65
Mint	1	1	2	4	4	1	1	1	1	2	*
Department of Veterans Affairs	365	405	402	412	446	480	510	563	613	615	639
Other agencies											
Agency for Global Media	0	1	*	*	NA	NA	NA	NA	NA	NA	NA

TABLE 72

Federal obligations for research and development, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Agency for International Development	286	265	257	255	234	124	160	84	119	77	125
Appalachian Regional Commission	1	1	1	1	1	1	1	1	*	1	*
Consumer Product Safety Commission	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	1
Environmental Protection Agency	567	662	641	622	576	532	553	572	577	576	523
Federal Communications Commission	4	9	9	8	8	7	7	4	4	4	5
Federal Trade Commission	2	2	1	2	2	3	2	3	3	3	3
Library of Congress	2	18	9	7	7	1	1	1	2	1	1
National Aeronautics and Space Administration	7,499	7,182	7,395	7,211	6,126	5,827	5,937	7,121	6,570	10,660	10,368
National Archives and Records Administration	*	*	*	*	*	5	5	5	3	2	1
National Science Foundation	3,609	3,771	3,743	3,791	3,970	4,135	6,095	5,016	5,146	5,170	4,956
Nuclear Regulatory Commission	64	72	70	71	77	61	61	85	84	83	76
Patient-Centered Outcomes Research Trust Fund	na	na	na	na	na	na	na	na	41	41	334
Smithsonian Institution	104	108	109	119	145	142	152	167	193	197	195
Social Security Administration	37	30	35	68	68	54	68	63	53	65	57

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 73

Federal obligations for research and development, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All agencies	130,561	128,753	115,833	118,975	129,425	142,424	167,403	189,614	190,422	186,448
Departments										
Department of Agriculture	2,258	2,341	2,358	2,418	2,479	2,637	2,644	2,898	3,135	3,487
Agricultural Marketing Service	6	7	7	7	7	8	7	13	10	9
Agricultural Research Service	1,122	1,132	1,144	1,170	1,201	1,292	1,424	1,510	1,651	1,858
Animal and Plant Health Inspection Service	40	40	40	39	39	39	40	42	45	49
Economic Research Service	78	85	85	86	86	86	82	85	88	93
Foreign Agricultural Service	*	1	*	*	0	0	0	0	0	0
Forest Service	335	332	341	328	327	327	342	286	330	307
Grain Inspection, Packers, and Stockyards Administration	6	6	6	*	na	na	na	na	na	na
National Agricultural Statistics Service	9	9	9	9	9	9	9	9	11	11
National Institute of Food and Agriculture	657	726	721	774	805	871	738	937	986	1,145
Natural Resources Conservation Service	NA	NA	NA	NA	NA	NA	NA	13	16	16
Rural Business-Cooperative Service	6	4	4	3	4	4	3	0	0	0
Department of Commerce	1,375	1,331	1,351	1,612	1,439	1,535	1,622	1,813	2,011	2,805
Census Bureau	259	142	200	220	110	96	111	109	202	312
National Institute of Standards and Technology	602	634	629	716	686	712	735	885	862	1,364
National Oceanic and Atmospheric Administration	504	544	511	668	634	719	768	812	936	1,116
National Telecommunications and Information Administration	10	12	11	8	9	8	8	7	11	13
Department of Defense	64,980	61,514	44,749	44,873	52,973	58,780	66,695	70,707	72,352	88,865
Defense Advanced Research Projects Agency	2,822	2,816	2,933	2,895	3,018	3,321	3,664	3,606	3,609	4,191
Defense Health Agency	NA	NA	NA	NA	NA	NA	2,870	2,852	2,136	2,562
Department of the Air Force	24,210	22,320	7,322	8,099	11,203	15,077	11,683	12,390	13,898	15,883
Department of the Army	7,332	6,764	6,372	7,531	8,581	10,275	10,786	11,921	12,060	15,518
Department of the Navy	15,567	15,490	16,644	15,236	15,446	15,341	19,114	16,734	17,488	22,082
Space Force	na	na	na	na	na	na	4,386	5,342	4,951	8,626
Other defense agencies	15,048	14,124	11,477	11,112	14,725	14,766	14,191	17,863	18,210	20,003
Department of Education	322	251	244	262	266	236	240	364	402	354
Department of Energy	10,526	11,391	12,209	12,308	12,832	14,376	13,453	13,453	13,697	15,106
Advanced Research Projects Agency—Energy	261	242	299	274	160	405	438	315	403	470
Bonneville Power Administration	16	16	16	14	NA	NA	NA	NA	NA	NA
Electricity Delivery and Energy Reliability	104	97	112	133	146	138	140	129	114	156
Energy Efficiency and Renewable Energy	866	1,079	1,288	1,441	1,686	1,696	2,096	2,114	1,610	1,762
Environmental Management	28	25	30	31	38	26	22	30	36	43
Fossil Energy	426	524	609	605	662	659	679	691	559	938
National Nuclear Security Administration	4,417	4,271	4,568	4,435	4,057	5,741	3,984	4,213	4,011	4,182
Defense Programs	3,026	2,975	3,107	2,966	2,572	3,660	2,298	2,703	2,838	2,938
Naval Nuclear Propulsion Program	1,094	1,083	1,216	1,220	1,206	1,789	1,387	1,140	807	841

TABLE 73

Federal obligations for research and development, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Office of Defense Nuclear Nonproliferation	297	213	245	249	280	292	298	369	366	402
Nuclear Energy	324	728	763	891	1,116	606	573	455	804	1,118
Office of Cybersecurity, Energy Security, and Emergency Response	na	na	na	na	0	52	51	2	37	63
Office of Science	4,085	4,409	4,524	4,485	4,968	5,054	5,470	5,506	6,124	6,375
Department of Health and Human Services	30,656	30,272	32,216	33,774	36,911	39,191	60,006	76,651	74,097	49,270
Administration for Children and Families	3	2	3	2	3	2	2	5	5	9
Administration for Community Living	0	76	83	83	83	83	90	107	107	113
Agency for Healthcare Research and Quality	364	364	334	324	334	338	338	338	350	374
Agency for Toxic Substances and Disease Registry	1	2	2	3	3	7	10	11	12	12
Biomedical Advanced Research and Development Authority	NA	NA	NA	NA	NA	736	15,666	33,881	28,413	818
Centers for Disease Control and Prevention	409	489	521	475	451	419	497	696	565	459
Centers for Medicare and Medicaid Services	34	24	30	29	231	133	224	421	419	427
Food and Drug Administration	389	376	486	375	478	493	464	589	561	630
Health Resources and Services Administration	38	41	41	46	36	33	35	41	40	50
National Institutes of Health	29,400	28,880	30,698	32,419	35,276	36,929	42,664	40,546	43,589	46,341
Office of the Secretary of Health and Human Services	19	18	18	17	17	17	16	17	36	38
Office of the Assistant Secretary for Planning and Evaluation	19	18	18	17	17	17	16	17	36	38
Department of Homeland Security	583	742	572	857	912	647	507	529	571	544
Coast Guard	26	20	23	22	22	20	5	10	7	7
Countering Weapons of Mass Destruction Office	84	71	63	69	30	81	37	32	66	65
Cybersecurity and Infrastructure Security Agency	na	na	na	na	7	13	8	13	6	9
Science and Technology Directorate	472	651	486	766	832	511	422	444	491	459
Secret Service	NA	NA	NA	NA	1	2	13	1	1	4
Transportation Security Administration	NA	NA	NA	NA	20	21	23	29	*	*
Department of Housing and Urban Development	54	58	67	64	62	61	NA	NA	NA	NA
Department of the Interior	758	800	857	863	766	827	837	902	940	1,044
Bureau of Indian Affairs	NA	NA	NA	NA	5	5	*	5	5	5
Bureau of Land Management	NA	16	18	18	21	21	21	10	12	13
Bureau of Ocean Energy Management	48	50	72	76	78	86	73	77	86	88
Bureau of Reclamation	12	10	21	27	21	23	27	38	28	44
Bureau of Safety and Environmental Enforcement	33	20	27	11	5	9	8	21	9	17
Fish and Wildlife Service	NA	30	32	33	33	33	33	33	35	44

TABLE 73

Federal obligations for research and development, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Geological Survey	649	666	677	688	593	640	665	691	737	803
National Park Service	15	8	9	10	10	10	10	28	28	28
Office of Surface Mining Reclamation and Enforcement	NA	NA	NA	NA	0	*	1	0	NA	NA
Department of Justice	161	150	208	127	107	121	96	85	111	139
Bureau of Prisons	11	11	11	10	6	7	8	*	*	*
Federal Bureau of Investigation	10	13	13	2	3	1	5	4	9	21
Office of Justice Programs	140	126	184	115	98	114	84	81	102	118
Department of Labor	14	14	10	5	5	4	5	3	4	4
Employee Benefits Security Administration	7	7	5	3	3	3	3	1	2	2
Occupational Safety and Health Administration	4	3	1	2	2	2	2	2	2	2
Pension Benefit Guaranty Corp.	3	4	4	0	0	NA	NA	NA	NA	NA
Department of State	NA	2	2	2	62	62	40	64	65	60
Department of Transportation	828	856	937	949	1,046	1,012	1,184	1,108	1,073	1,226
Federal Aviation Administration	280	313	403	399	375	387	432	507	478	486
Federal Highway Administration	398	313	332	352	491	452	512	410	383	463
Federal Motor Carrier Safety Administration	8	8	11	12	9	8	9	13	24	15
Federal Railroad Administration	40	44	41	44	47	39	46	42	36	44
Federal Transit Administration	8	82	35	55	10	3	40	43	13	49
National Highway Traffic Safety Administration	65	63	87	69	76	76	69	66	92	96
Office of the Secretary of Transportation	15	11	18	11	16	20	34	12	24	51
Pipeline and Hazardous Materials Safety Administration	14	22	10	7	22	28	41	16	24	22
Department of the Treasury	74	73	85	8	38	57	61	54	47	72
Bureau of Engraving and Printing	9	9	19	7	38	57	60	54	47	72
Internal Revenue Service	64	64	65	0	0	0	0	NA	NA	NA
Mint	1	*	2	1	0	*	*	*	0	0
Department of Veterans Affairs	589	662	695	682	1,349	1,508	1,565	1,698	1,696	1,930
Other agencies										
Administrative Office of the U.S. Courts	NA	NA	7	8	7	6	5	4	1	0
Agency for Global Media	NA	NA	NA	NA	NA	6	5	5	8	8
Agency for International Development	60	212	193	192	167	221	194	82	221	221
Appalachian Regional Commission	1	*	1	*	1	1	1	1	1	1
Consumer Product Safety Commission	2	2	2	2	1	1	*	*	*	*
Environmental Protection Agency	531	516	508	494	487	485	489	520	525	572
Federal Communications Commission	7	5	5	7	5	2	2	0	NA	NA
Federal Trade Commission	3	2	3	6	6	6	6	8	3	10
Library of Congress	1	1	2	2	3	2	3	3	3	3
National Aeronautics and Space Administration	10,754	11,361	12,404	12,595	10,717	13,570	10,538	11,215	11,623	11,750
National Archives and Records Administration	1	1	1	1	1	1	0	NA	NA	NA
National Science Foundation	5,403	5,670	5,589	5,518	5,849	5,996	6,351	6,705	6,896	7,854
Nuclear Regulatory Commission	85	92	81	67	78	75	69	80	61	83

TABLE 73

Federal obligations for research and development, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Patient-Centered Outcomes Research Trust Fund	283	152	115	884	492	578	470	460	522	560
Postal Service	NA	28	29	73	53	27	18	15	14	14
RESTORE Act Centers of Excellence Research Grants Program	na	na	na	na	na	na	9	0	7	23
Smithsonian Institution	195	196	206	208	228	236	210	63	227	242
Social Security Administration	60	59	129	110	72	146	70	105	79	106
Tennessee Valley Authority	NA	NA	NA	6	13	10	8	17	28	94

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. Beginning with FY 2016, the totals reported for development obligations represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the Department of Defense (DOD) Budget Activity 7 (Operational System Development) obligations. Those funds, previously included in DOD's development obligation totals, support the development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate production funding in the current or subsequent fiscal year. Therefore, the data are not directly comparable with totals reported in previous years. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 74

Federal obligations for R&D plant, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All agencies	4,267	3,994	3,771	2,125	2,168	1,944	3,668	6,613	4,171	2,146	1,905
Departments											
Department of Agriculture	96	179	134	173	124	44	77	251	36	16	12
Agricultural Research Service	81	161	119	159	99	23	46	181	19	5	3
Forest Service	15	19	15	14	25	21	32	70	17	10	8
Grain Inspection, Packers, and Stockyards Administration	0	0	0	0	0	0	0	0	0	2	2
Department of Commerce	59	90	61	75	118	152	386	409	242	176	202
Economic Development Administration	0	0	0	0	0	18	25	12	15	NA	NA
National Institute of Standards and Technology	49	37	44	43	51	87	105	237	90	35	74
National Oceanic and Atmospheric Administration	10	52	16	31	66	46	256	159	137	141	128
Department of Defense	251	275	273	63	79	163	117	153	170	170	97
Defense agencies and activities	138	121	82	35	36	41	1	*	na	na	na
Department of the Air Force	7	19	107	11	28	107	101	127	141	143	75
Department of the Navy	107	134	84	17	15	16	15	25	22	25	20
Other defense agencies	na	na	na	na	na	na	na	na	7	2	1
Department of Energy	1,024	1,007	863	778	752	752	1,672	959	735	683	556
Energy Efficiency and Renewable Energy	6	20	19	26	107	65	207	103	39	0	4
Fossil Energy	5	6	6	19	12	13	19	19	19	16	15
National Nuclear Security Administration	448	436	303	305	192	263	168	190	128	93	75
Defense Programs	420	408	268	272	171	232	132	159	96	53	75
Fissile Materials Disposition	*	0	0	0	0	NA	NA	NA	NA	NA	NA
Naval Nuclear Propulsion Program	28	28	35	33	21	31	36	31	33	40	*
Office of Science	565	545	534	428	442	410	1,278	647	548	574	462
Department of Health and Human Services	816	431	427	361	255	147	152	1,682	79	140	130
Centers for Disease Control and Prevention	0	0	0	144	134	6	0	0	0	0	0
Food and Drug Administration	7	9	1	4	8	5	5	13	8	6	4
Health Resources and Services Administration	*	1	1	1	1	1	1	1	1	1	1
National Institutes of Health	808	421	426	213	111	135	146	1,669	70	133	126
Department of Homeland Security	NA	117	92	132	244	220	311	458	568	230	328
Coast Guard	NA	1	1	*	1	*	1	1	1	1	1
Science and Technology Directorate	NA	116	91	131	243	219	310	457	567	229	327
Department of the Interior	4	8	7	5	10	9	6	6	11	5	8
Bureau of Ocean Energy Management	2	3	3	3	3	3	2	3	7	0	0
Bureau of Reclamation	2	5	5	2	7	6	5	4	4	2	3
Bureau of Safety and Environmental Enforcement	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	5
Department of Justice	0	0	0	0	8	1	0	0	0	0	0
Office of Justice Programs	0	0	0	0	8	1	0	0	0	0	0
Department of Transportation	19	18	18	19	20	19	20	21	20	38	21
Federal Aviation Administration	18	16	17	17	18	17	18	18	18	31	19
Federal Railroad Administration	1	1	1	2	2	2	2	3	3	6	2
Department of the Treasury	0	0	0	4	2	0	0	0	0	0	0
Mint	0	0	0	4	2	0	0	0	0	0	0
Department of Veterans Affairs	*	*	*	*	*	*	0	0	0	0	0
Other agencies											
Environmental Protection Agency	0	0	0	0	0	0	0	0	5	5	7
National Aeronautics and Space Administration	1,659	1,472	1,534	39	80	20	21	1,570	1,859	98	126
National Science Foundation	335	395	355	449	437	371	830	1,058	391	536	373
Smithsonian Institution	3	3	6	27	41	46	75	46	56	49	45

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 75

Federal obligations for R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All agencies	2,218	2,825	2,441	2,652	3,853	4,376	6,150	4,282	6,173	6,521
Departments										
Department of Agriculture	11	11	23	157	44	29	790	57	179	58
Agricultural Research Service	1	1	8	147	28	19	780	46	170	42
Forest Service	7	8	13	9	16	10	9	12	9	16
Grain Inspection, Packers, and Stockyards Administration	2	2	2	*	na	na	na	na	na	na
Natural Resources Conservation Service	NA	NA	NA	NA	NA	NA	NA	*	0	0
Department of Commerce	193	188	285	235	394	464	359	429	379	1,253
National Institute of Standards and Technology	63	40	121	91	105	119	143	251	96	198
National Oceanic and Atmospheric Administration	129	148	164	144	288	345	216	178	282	1,053
National Telecommunications and Information Administration	0	0	0	0	0	0	0	0	2	2
Department of Defense	148	169	178	291	471	610	312	169	256	357
Defense Health Agency	NA	NA	NA	NA	NA	NA	15	0	0	0
Department of the Air Force	121	123	120	225	210	193	241	121	131	270
Department of the Army	0	0	1	0	0	0	0	NA	0	0
Department of the Navy	24	36	38	49	79	143	45	37	63	76
Other defense agencies	4	11	19	18	182	274	11	10	62	11
Department of Energy	770	952	1,135	1,276	2,062	2,245	2,325	2,668	4,280	3,480
Energy Efficiency and Renewable Energy	4	4	4	4	227	305	53	42	49	66
Fossil Energy	16	16	0	16	21	23	29	29	29	25
National Nuclear Security Administration	116	256	251	305	474	337	574	967	1,208	1,364
Defense Programs	94	101	91	105	259	337	327	617	618	763
Naval Nuclear Propulsion Program	22	155	160	200	214	0	247	331	575	577
Office of Defense Nuclear Nonproliferation	0	0	0	0	0	0	0	19	15	24
Nuclear Energy	0	0	0	0	0	0	0	0	372	518
Office of Science	635	676	880	951	1,340	1,580	1,669	1,630	2,622	1,507
Department of Health and Human Services	143	153	151	128	204	243	1,769	399	291	407
Biomedical Advanced Research and Development Authority	NA	NA	NA	NA	NA	0	1,296	160	1	0
Food and Drug Administration	6	7	5	5	7	26	20	8	10	12
Health Resources and Services Administration	1	1	1	0	0	0	0	1	0	0
National Institutes of Health	136	146	145	123	197	217	453	229	280	395
Department of Homeland Security	361	903	117	13	1	1	0	20	11	55
Coast Guard	1	1	1	1	1	1	0	0	0	0
Science and Technology Directorate	360	902	116	12	0	0	0	19	11	55
Transportation Security Administration	NA	NA	NA	NA	0	0	0	1	0	0
Department of the Interior	5	9	3	5	3	5	7	13	7	6
Bureau of Reclamation	2	3	1	1	1	1	2	2	2	2
Bureau of Safety and Environmental Enforcement	3	6	2	4	2	3	5	11	5	5
Department of Transportation	20	29	25	38	31	39	40	37	38	39
Federal Aviation Administration	16	26	22	37	28	37	38	35	33	34
Federal Railroad Administration	3	3	2	2	2	2	2	1	4	5
National Highway Traffic Safety Administration	0	0	0	0	0	0	0	1	1	1
Department of the Treasury	0	0	0	0	0	4	0	0	0	18
Bureau of Engraving and Printing	0	0	0	0	0	2	0	0	0	18
Mint	0	0	0	0	0	2	0	0	0	0
Other agencies										
Environmental Protection Agency	7	5	5	5	5	5	4	6	6	2
National Aeronautics and Space Administration	127	52	58	43	97	46	36	52	127	108

TABLE 75

Federal obligations for R&D plant, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
National Science Foundation	397	320	433	428	509	652	441	433	529	664
Smithsonian Institution	36	33	29	33	33	33	66	0	70	74

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 76

Federal obligations for research, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All agencies	51,072	53,358	53,738	53,536	54,094	53,894	63,692	63,728	58,065	61,986	59,533
Departments											
Department of Agriculture	1,869	1,919	2,003	2,031	2,068	2,020	2,076	2,141	2,125	1,964	1,868
Agricultural Marketing Service	4	8	8	6	6	3	2	2	2	2	2
Agricultural Research Service	966	988	997	1,021	1,028	1,010	1,027	1,060	1,020	981	913
Animal and Plant Health Inspection Service	0	0	0	0	0	0	0	0	0	0	18
Economic Research Service	68	71	74	75	92	78	79	86	81	77	71
Foreign Agricultural Service	2	2	2	1	1	*	*	*	1	1	1
Forest Service	251	255	255	264	280	256	298	283	282	272	301
Grain Inspection, Packers, and Stockyards Administration	0	0	7	7	7	7	7	6	7	5	5
National Agricultural Statistics Service	6	6	6	7	7	7	7	7	7	7	7
National Institute of Food and Agriculture	568	586	652	645	627	655	652	690	724	614	546
Rural Business-Cooperative Service	4	4	4	4	21	4	4	5	2	4	4
Department of Commerce	1,054	888	889	840	929	964	959	1,135	941	989	1,023
Census Bureau	1	2	4	6	5	5	6	9	11	77	115
Economic Development Administration	1	*	*	*	1	2	3	7	1	NA	NA
National Institute of Standards and Technology	381	360	358	355	415	407	479	653	473	507	526
National Oceanic and Atmospheric Administration	666	520	520	472	500	543	464	458	449	396	375
National Telecommunications and Information Administration	6	6	7	7	7	7	7	8	8	8	7
Department of Defense	5,816	5,698	5,931	5,752	6,394	6,581	6,792	7,065	6,596	6,662	5,955
Defense Advanced Research Projects Agency	na	na	na	na	na	na	na	na	1,384	1,496	1,268
Defense agencies and activities	2,212	1,879	1,752	1,741	1,867	2,031	2,207	2,444	na	na	na
Department of the Air Force	1,329	1,211	1,246	1,351	1,540	1,592	1,604	1,678	1,674	1,726	1,502
Department of the Army	1,118	1,471	1,700	1,453	1,721	1,631	1,667	1,675	1,478	1,333	1,257
Department of the Navy	1,157	1,138	1,233	1,208	1,266	1,327	1,314	1,268	1,295	1,414	1,296
Other defense agencies	na	na	na	na	na	na	na	na	764	693	633
Department of Education	202	211	214	216	212	204	203	225	213	208	202
Department of Energy	5,261	5,498	5,704	5,720	5,857	6,100	7,188	7,598	7,350	7,361	7,333
Advanced Research Projects Agency--Energy	NA	NA	NA	NA	NA	0	0	205	128	56	92
Bonneville Power Administration	15	15	9	10	9	11	7	12	5	5	13
Civilian Radioactive Waste Management	76	79	54	53	11	1	*	0	0	0	0
Electricity Delivery and Energy Reliability	na	na	66	93	57	27	62	73	62	64	53
Energy Efficiency and Renewable Energy	310	267	272	211	343	429	653	912	468	441	530
Environmental Management	21	13	15	10	2	2	11	31	22	15	3
Fossil Energy	256	231	216	218	217	183	246	218	185	165	154
National Nuclear Security Administration	2,158	2,200	2,277	2,219	2,154	2,178	2,061	1,951	2,250	2,339	2,404
Defense Programs	2,010	2,106	2,193	2,076	2,028	1,967	1,796	1,710	1,975	2,143	2,148
Office of Defense Nuclear Nonproliferation	148	95	84	143	126	211	266	241	276	195	256
Nuclear Energy	29	69	83	87	71	130	116	301	327	336	236
Office of Science	2,395	2,623	2,712	2,818	2,993	3,137	4,031	3,895	3,904	3,940	3,848
Department of Health and Human Services	26,288	27,991	28,617	28,680	29,211	29,459	35,490	35,797	30,771	31,124	29,315
Administration for Children and Families	21	20	39	14	12	19	14	7	10	8	2
Administration for Community Living	0	3	3	3	0	0	0	0	0	0	0
Agency for Healthcare Research and Quality	284	279	293	293	293	308	348	789	341	337	336

TABLE 76

Federal obligations for research, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Agency for Toxic Substances and Disease Registry	14	11	9	9	4	4	5	3	5	1	1
Centers for Disease Control and Prevention	564	540	511	545	527	511	389	410	348	481	334
Centers for Medicare and Medicaid Services	74	78	77	62	57	31	30	82	35	21	20
Food and Drug Administration	138	132	142	143	129	138	166	211	225	353	361
Health Resources and Services Administration	16	17	18	17	17	22	23	30	27	27	27
National Institutes of Health	25,156	26,890	27,500	27,566	28,146	28,404	34,494	34,213	29,760	29,877	28,215
Office of the Secretary of Health and Human Services	20	21	25	27	24	22	20	54	20	19	19
Office of the Assistant Secretary for Planning and Evaluation	20	21	25	27	24	22	20	54	20	19	19
Department of Homeland Security	NA	413	597	606	542	325	347	322	248	307	141
Coast Guard	NA	5	5	7	5	7	7	8	7	12	7
Science and Technology Directorate	NA	284	411	596	536	318	340	314	241	294	134
Secret Service	NA	1	1	1	1	1	NA	NA	NA	NA	NA
Transportation Security Administration	NA	123	180	3	0	0	NA	NA	NA	NA	NA
Department of Housing and Urban Development	14	17	16	12	14	10	12	39	49	63	44
Department of the Interior	533	547	531	551	554	566	658	644	629	624	603
Bureau of Ocean Energy Management	27	27	27	29	25	32	36	43	45	39	40
Bureau of Reclamation	3	4	4	3	3	3	3	7	9	7	8
Bureau of Safety and Environmental Enforcement	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	15
Geological Survey	497	504	497	515	519	524	608	587	567	565	535
National Park Service	6	11	3	4	7	7	11	6	8	5	6
Department of Justice	57	47	58	53	62	78	81	87	84	75	78
Bureau of Prisons	5	5	4	3	4	3	3	3	3	2	2
Federal Bureau of Investigation	0	0	0	0	0	0	0	0	8	7	7
Office of Justice Programs	52	42	53	50	58	74	78	85	73	67	69
Department of Labor	36	37	36	30	48	41	29	12	53	19	14
Bureau of Labor Statistics	21	22	23	23	24	24	0	NA	NA	NA	NA
Employee Benefits Security Administration	3	3	3	3	2	2	2	6	49	13	10
Employment and Training Administration	9	9	7	1	19	11	22	NA	NA	NA	NA
Occupational Safety and Health Administration	3	3	3	4	3	4	4	6	4	6	4
Office of the Secretary of Labor	1	*	1	*	*	0	NA	0	0	NA	NA
Pension Benefit Guaranty Corp.	*	*	*	*	*	*	*	*	*	*	*
Department of State	2	3	3	4	4	4	4	3	3	2	1
Department of Transportation	433	360	255	535	590	634	587	646	637	698	655
Federal Aviation Administration	136	118	128	137	128	140	163	237	210	216	197
Federal Highway Administration	193	202	52	288	348	347	317	296	300	349	327
Federal Motor Carrier Safety Administration	7	6	7	5	9	8	7	7	6	7	7
Federal Railroad Administration	29	24	26	41	31	38	8	10	20	28	39
Federal Transit Administration	0	*	*	4	3	4	4	20	23	25	14
National Highway Traffic Safety Administration	65	7	40	58	64	83	82	71	71	69	65
Pipeline and Hazardous Materials Safety Administration	na	3	2	2	4	3	2	2	3	2	2
Research and Innovative Technology Administration	na	0	*	1	2	11	4	4	3	3	3

TABLE 76

Federal obligations for research, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Research and Special Programs Administration	3	na	na	na	na	na	na	na	na	na	na
Department of the Treasury	59	61	63	61	59	65	67	68	77	75	73
Bureau of Engraving and Printing	4	4	6	5	4	5	2	1	5	5	9
Internal Revenue Service	54	57	58	55	55	60	65	66	71	69	65
Mint	0	0	0	0	0	0	0	1	1	2	*
Department of Veterans Affairs	350	384	383	392	425	457	477	529	575	577	604
Other agencies											
Agency for Global Media	0	1	*	*	NA	NA	NA	NA	NA	NA	NA
Agency for International Development	262	241	217	215	234	124	160	84	119	77	125
Appalachian Regional Commission	1	1	1	1	1	1	1	1	*	1	*
Consumer Product Safety Commission	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	1
Environmental Protection Agency	462	537	525	505	492	450	468	485	491	491	446
Federal Communications Commission	4	4	5	7	6	7	7	4	4	4	5
Federal Trade Commission	2	2	1	2	2	3	2	3	3	3	3
Library of Congress	1	16	2	3	*	*	*	1	1	1	1
National Aeronautics and Space Administration	4,553	4,499	3,729	3,272	2,132	1,406	1,703	1,503	1,575	5,100	5,422
National Archives and Records Administration	*	*	*	*	*	5	5	5	3	2	1
National Science Foundation	3,609	3,771	3,743	3,791	3,970	4,135	6,095	5,016	5,146	5,170	4,956
Nuclear Regulatory Commission	64	72	70	71	77	61	61	85	84	83	76
Patient-Centered Outcomes Research Trust Fund	na	na	na	na	na	na	na	na	41	41	334
Smithsonian Institution	104	108	109	119	145	142	152	167	193	197	195
Social Security Administration	37	30	35	68	68	54	68	63	53	65	57

* = amount greater than \$0 but less than \$500,000. na = not applicable. agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 77

Federal obligations for research, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All agencies	63,191	63,825	67,105	69,871	74,588	81,118	85,305	85,896	93,807	99,481
Departments										
Department of Agriculture	2,060	2,128	2,156	2,216	2,257	2,407	2,388	2,661	2,860	3,221
Agricultural Marketing Service	3	3	3	4	4	4	3	7	10	9
Agricultural Research Service	1,010	1,018	1,030	1,053	1,081	1,163	1,281	1,359	1,486	1,672
Animal and Plant Health Inspection Service	19	20	20	19	18	19	19	21	24	26
Economic Research Service	78	85	85	86	86	86	82	85	88	93
Foreign Agricultural Service	*	1	*	*	0	0	0	0	0	0
Forest Service	277	260	281	271	254	255	257	233	246	254
Grain Inspection, Packers, and Stockyards Administration	6	6	6	*	na	na	na	na	na	na
National Agricultural Statistics Service	5	5	5	5	5	5	5	5	6	6
National Institute of Food and Agriculture	657	726	721	774	805	871	738	937	986	1,145
Natural Resources Conservation Service	NA	NA	NA	NA	NA	NA	NA	12	15	16
Rural Business-Cooperative Service	6	4	4	3	4	4	3	0	0	0
Department of Commerce	1,277	1,154	1,153	1,302	1,229	1,282	1,361	1,506	1,690	2,066
Census Bureau	227	41	90	56	56	29	38	56	150	222
National Institute of Standards and Technology	599	631	625	691	676	703	717	784	780	916
National Oceanic and Atmospheric Administration	442	470	428	547	488	542	598	659	748	915
National Telecommunications and Information Administration	10	12	11	8	9	8	8	7	11	13
Department of Defense	6,704	6,691	7,152	7,178	7,653	8,268	8,915	9,735	10,166	11,933
Defense Advanced Research Projects Agency	1,536	1,485	1,536	1,509	1,680	1,743	2,006	1,845	1,798	2,194
Defense Health Agency	NA	NA	NA	NA	NA	NA	164	133	145	178
Department of the Air Force	1,574	1,609	1,762	1,713	1,905	2,107	2,249	2,387	2,926	3,027
Department of the Army	1,418	1,390	1,522	1,684	1,689	1,956	1,907	1,914	1,804	2,396
Department of the Navy	1,483	1,465	1,560	1,540	1,549	1,591	1,698	1,654	1,739	2,355
Space Force	na	na	na	na	na	na	0	98	175	156
Other defense agencies	693	742	771	732	829	871	892	1,704	1,579	1,626
Department of Education	208	160	163	174	190	189	189	262	299	264
Department of Energy	8,092	8,642	9,465	9,584	10,508	11,370	10,525	10,777	11,109	12,309
Advanced Research Projects Agency—Energy	150	139	172	151	80	202	219	157	201	235
Bonneville Power Administration	7	7	7	9	NA	NA	NA	NA	NA	NA
Electricity Delivery and Energy Reliability	65	63	69	80	94	87	78	62	61	75
Energy Efficiency and Renewable Energy	540	473	576	853	1,285	1,270	1,248	1,395	679	724
Environmental Management	16	8	10	10	13	9	7	10	12	14
Fossil Energy	162	199	231	230	662	659	679	691	559	938
National Nuclear Security Administration	2,770	2,705	3,210	3,078	2,645	3,670	2,394	2,608	2,794	2,988
Defense Programs	2,519	2,527	3,010	2,881	2,422	3,434	2,155	2,328	2,337	2,554
Naval Nuclear Propulsion Program	0	0	0	0	0	0	0	0	191	141
Office of Defense Nuclear Nonproliferation	251	178	199	197	223	236	239	280	266	293
Nuclear Energy	296	639	665	688	763	378	392	346	657	914
Office of Cybersecurity, Energy Security, and Emergency Response	na	na	na	na	0	40	37	2	21	45
Office of Science	4,085	4,409	4,524	4,485	4,968	5,054	5,470	5,506	6,124	6,375
Department of Health and Human Services	30,587	30,197	32,129	33,677	36,802	38,354	44,234	42,718	48,271	49,215
Administration for Children and Families	3	2	3	2	3	2	2	5	5	9

TABLE 77

Federal obligations for research, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Administration for Community Living	0	72	66	66	66	66	71	107	107	113
Agency for Healthcare Research and Quality	335	335	306	300	306	308	308	308	314	337
Agency for Toxic Substances and Disease Registry	1	2	2	3	3	7	10	11	12	12
Biomedical Advanced Research and Development Authority	NA	NA	NA	NA	NA	0	0	0	2,644	818
Centers for Disease Control and Prevention	379	460	494	436	386	366	441	682	550	444
Centers for Medicare and Medicaid Services	34	24	30	29	231	133	224	421	419	427
Food and Drug Administration	389	376	486	375	478	493	464	589	561	630
Health Resources and Services Administration	28	27	26	30	36	33	35	33	35	45
National Institutes of Health	29,400	28,880	30,698	32,419	35,276	36,929	42,664	40,546	43,589	46,341
Office of the Secretary of Health and Human Services	19	18	18	17	17	17	16	17	36	38
Office of the Assistant Secretary for Planning and Evaluation	19	18	18	17	17	17	16	17	36	38
Department of Homeland Security	256	217	208	276	369	280	225	238	328	239
Coast Guard	8	6	7	6	6	6	1	3	2	2
Countering Weapons of Mass Destruction Office	79	37	38	34	14	31	24	21	35	39
Cybersecurity and Infrastructure Security Agency	na	na	na	na	7	13	7	9	3	4
Science and Technology Directorate	168	173	163	235	342	229	193	204	287	193
Secret Service	NA	NA	NA	NA	0	0	0	0	*	*
Transportation Security Administration	NA	NA	NA	NA	0	0	0	1	*	0
Department of Housing and Urban Development	36	38	43	41	40	61	NA	NA	NA	NA
Department of the Interior	649	680	726	722	650	690	698	754	785	877
Bureau of Indian Affairs	NA	NA	NA	NA	5	5	*	5	5	5
Bureau of Land Management	NA	15	17	17	14	14	14	9	11	13
Bureau of Ocean Energy Management	48	44	60	63	66	65	59	63	66	72
Bureau of Reclamation	9	7	19	23	17	17	19	18	18	28
Bureau of Safety and Environmental Enforcement	33	17	24	8	5	8	5	20	6	15
Fish and Wildlife Service	NA	30	32	33	33	33	33	33	35	44
Geological Survey	546	560	566	569	501	539	558	579	617	673
National Park Service	14	8	8	9	10	10	10	27	27	27
Office of Surface Mining Reclamation and Enforcement	NA	NA	NA	NA	0	*	1	0	NA	NA
Department of Justice	142	128	157	87	91	105	85	79	103	124
Bureau of Prisons	2	3	3	2	1	1	2	*	*	*
Federal Bureau of Investigation	0	0	0	0	3	1	5	4	9	21
Office of Justice Programs	140	126	154	85	87	103	78	75	94	104
Department of Labor	11	10	6	5	5	4	5	3	4	4
Employee Benefits Security Administration	7	7	5	3	3	3	3	1	2	2
Occupational Safety and Health Administration	4	3	1	2	2	2	2	2	2	2
Pension Benefit Guaranty Corp.	*	*	*	0	0	NA	NA	NA	NA	NA
Department of State	NA	2	2	2	62	62	30	44	45	40
Department of Transportation	653	663	625	696	751	746	900	823	808	960
Federal Aviation Administration	197	207	207	212	195	193	247	267	261	256

TABLE 77

Federal obligations for research, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Federal Highway Administration	339	273	247	305	420	415	472	373	342	436
Federal Motor Carrier Safety Administration	7	8	10	11	9	8	9	12	21	12
Federal Railroad Administration	30	33	31	34	33	32	35	35	32	40
Federal Transit Administration	8	72	35	55	10	3	40	42	12	48
National Highway Traffic Safety Administration	65	63	87	69	76	76	69	66	92	96
Office of the Secretary of Transportation	4	2	4	3	3	8	12	12	24	51
Pipeline and Hazardous Materials Safety Administration	2	5	5	5	6	11	17	16	24	22
Department of the Treasury	73	73	82	1	38	46	50	47	37	48
Bureau of Engraving and Printing	9	9	16	0	38	46	49	47	37	48
Internal Revenue Service	64	64	65	0	0	0	0	NA	NA	NA
Mint	1	*	2	1	0	*	*	*	0	0
Department of Veterans Affairs	553	643	677	669	1,320	1,478	1,536	1,561	1,606	1,837
Other agencies										
Administrative Office of the U.S. Courts	NA	NA	7	8	7	6	5	4	1	0
Agency for Global Media	NA	NA	NA	NA	NA	6	5	5	8	8
Agency for International Development	60	212	148	192	120	172	135	51	153	153
Appalachian Regional Commission	1	*	1	*	1	1	1	1	1	1
Consumer Product Safety Commission	2	2	2	2	1	1	*	*	*	*
Environmental Protection Agency	453	440	430	417	413	405	412	403	406	445
Federal Communications Commission	7	5	5	6	5	2	2	0	NA	NA
Federal Trade Commission	3	2	3	6	6	6	6	8	3	10
Library of Congress	1	1	1	1	1	1	1	1	1	*
National Aeronautics and Space Administration	5,336	5,539	5,613	5,745	5,293	8,111	6,394	6,779	7,305	6,831
National Archives and Records Administration	1	1	1	1	1	1	0	NA	NA	NA
National Science Foundation	5,403	5,670	5,589	5,518	5,849	5,996	6,351	6,705	6,896	7,854
Nuclear Regulatory Commission	85	92	81	67	78	75	68	77	61	83
Patient-Centered Outcomes Research Trust Fund	283	152	115	884	492	578	470	460	522	560
Postal Service	NA	28	29	73	53	27	18	15	14	14
RESTORE Act Centers of Excellence Research Grants Program	na	na	na	na	na	na	9	0	7	23
Smithsonian Institution	195	196	206	208	228	236	210	63	227	242
Social Security Administration	60	59	129	110	72	146	70	105	79	106
Tennessee Valley Authority	NA	NA	NA	3	6	6	6	9	12	13

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 78

Federal obligations for basic research, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All agencies	24,751	26,121	27,140	26,585	26,866	27,154	32,879	31,795	29,314	30,959	29,779
Departments											
Department of Agriculture	962	920	954	946	937	883	930	982	963	851	844
Agricultural Research Service	584	538	543	556	560	550	571	589	567	545	507
Animal and Plant Health Inspection Service	0	0	0	0	0	0	0	0	0	0	18
Economic Research Service	7	7	7	8	9	4	8	2	8	7	7
Foreign Agricultural Service	1	*	*	*	*	*	*	*	*	*	*
Forest Service	120	121	121	126	88	83	105	99	90	85	97
Grain Inspection, Packers, and Stockyards Administration	0	0	0	0	7	7	7	6	7	0	0
National Agricultural Statistics Service	2	2	2	2	2	3	3	3	3	3	3
National Institute of Food and Agriculture	248	251	280	254	273	237	237	282	289	211	213
Department of Commerce	66	48	59	73	103	111	138	202	166	174	191
Census Bureau	*	1	0	0	0	0	0	0	0	0	0
Economic Development Administration	0	0	0	0	0	1	2	6	*	NA	NA
National Institute of Standards and Technology	66	47	59	73	103	110	137	197	165	174	191
Department of Defense	1,396	1,416	1,399	1,304	1,527	1,616	1,730	1,854	1,885	2,036	1,863
Defense Advanced Research Projects Agency	na	na	na	na	na	na	na	na	254	345	285
Defense agencies and activities	513	193	157	160	236	311	343	415	na	na	na
Department of the Air Force	238	319	370	351	422	400	432	476	471	503	448
Department of the Army	241	442	397	349	385	392	431	414	415	418	398
Department of the Navy	404	462	476	444	484	513	524	549	547	588	556
Other defense agencies	na	na	na	na	na	na	na	na	198	182	177
Department of Education	6	9	10	3	4	5	4	7	7	7	24
Department of Energy	2,447	2,663	2,747	2,835	3,008	3,180	4,061	3,969	3,962	3,957	3,851
Bonneville Power Administration	3	3	*	0	*	*	1	8	4	5	9
Electricity Delivery and Energy Reliability	na	na	0	0	0	0	0	7	6	6	4
Energy Efficiency and Renewable Energy	31	23	23	1	1	12	2	21	2	7	0
Fossil Energy	10	10	9	7	6	4	4	5	4	4	3
National Nuclear Security Administration	11	7	3	8	9	27	22	34	42	46	49
Defense Programs	0	0	0	0	0	0	0	0	0	0	7
Office of Defense Nuclear Nonproliferation	11	7	3	8	9	27	22	34	42	46	43
Office of Science	2,392	2,620	2,712	2,818	2,993	3,137	4,031	3,895	3,904	3,890	3,786
Department of Health and Human Services	14,103	14,767	15,786	15,540	15,772	16,031	18,772	18,650	16,066	15,977	15,288
Centers for Disease Control and Prevention	0	0	0	0	139	122	109	85	65	74	58
Health Resources and Services Administration	3	2	3	3	2	2	2	2	3	3	2
National Institutes of Health	14,100	14,764	15,784	15,537	15,631	15,906	18,661	18,562	15,999	15,901	15,228
Department of Homeland Security	NA	166	55	80	57	246	101	100	114	84	0
Science and Technology Directorate	NA	85	55	80	57	246	101	100	114	84	0
Secret Service	NA	0	0	0	0	*	NA	NA	NA	NA	NA
Transportation Security Administration	NA	81	0	0	0	0	NA	NA	NA	NA	NA
Department of the Interior	41	37	36	42	42	43	47	50	49	54	51
Geological Survey	41	37	36	42	42	43	47	50	49	54	51
Department of Justice	31	14	17	18	24	0	9	13	18	15	21
Federal Bureau of Investigation	0	0	0	0	0	0	0	0	0	0	4
Office of Justice Programs	31	14	17	18	24	0	9	13	18	15	16
Department of Labor	13	14	14	14	14	14	0	NA	NA	NA	NA
Bureau of Labor Statistics	13	14	14	14	14	14	0	NA	NA	NA	NA

TABLE 78

Federal obligations for basic research, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Department of Transportation	24	20	0	2	3	0	0	5	4	8	7
Federal Highway Administration	24	20	0	2	3	0	0	5	4	8	7
Department of the Treasury	*	*	*	*	*	*	*	*	*	*	*
Bureau of Engraving and Printing	*	*	*	*	*	*	*	*	*	*	*
Department of Veterans Affairs	164	175	177	181	196	211	203	232	251	251	249
Other agencies											
Agency for International Development	*	*	18	18	2	3	1	1	0	0	9
Environmental Protection Agency	96	114	109	104	101	78	84	87	88	87	0
Library of Congress	0	2	0	0	0	0	0	0	0	0	0
National Aeronautics and Space Administration	1,908	2,143	2,240	1,803	1,313	875	1,022	809	857	2,606	2,824
National Science Foundation	3,391	3,505	3,411	3,504	3,618	3,716	5,624	4,667	4,691	4,652	4,362
Smithsonian Institution	104	108	109	119	145	142	152	167	193	197	195

* = amount greater than \$0 but less than \$500,000. na = not applicable. agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 79

Federal obligations for basic research, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All agencies	31,588	31,527	32,293	33,271	36,195	40,017	41,547	42,266	45,393	48,467
Departments										
Department of Agriculture	908	925	935	965	986	1,057	1,164	1,299	1,417	1,603
Agricultural Research Service	561	566	572	585	600	646	712	755	825	929
Animal and Plant Health Inspection Service	19	20	20	19	18	19	19	21	24	26
Economic Research Service	7	0	0	0	0	0	0	0	0	0
Foreign Agricultural Service	*	*	*	*	0	0	0	0	0	0
Forest Service	90	85	91	89	84	85	85	79	85	88
National Institute of Food and Agriculture	231	254	252	273	283	307	348	432	468	544
Natural Resources Conservation Service	NA	NA	NA	NA	NA	NA	NA	11	15	16
Department of Commerce	215	232	247	246	227	253	251	278	273	311
National Institute of Standards and Technology	215	232	247	246	227	253	251	278	273	311
Department of Defense	2,074	2,133	2,239	2,110	2,390	2,510	2,499	2,835	3,150	3,541
Defense Advanced Research Projects Agency	347	360	378	391	458	478	482	510	440	517
Defense Health Agency	NA	NA	NA	NA	NA	NA	11	18	11	14
Department of the Air Force	501	501	522	469	564	559	520	703	970	994
Department of the Army	436	449	462	450	472	495	524	542	514	620
Department of the Navy	611	620	637	569	596	656	641	631	662	879
Space Force	na	na	na	na	na	na	0	98	71	55
Other defense agencies	178	203	240	230	299	322	321	333	482	461
Department of Education	25	22	23	33	55	57	54	30	32	28
Department of Energy	4,075	4,460	4,586	4,500	5,001	5,075	5,502	5,500	6,108	6,523
Bonneville Power Administration	5	4	4	5	NA	NA	NA	NA	NA	NA
Electricity Delivery and Energy Reliability	4	6	3	6	13	15	13	13	8	13
Fossil Energy	4	5	6	6	33	33	34	2	0	0
National Nuclear Security Administration	56	68	83	81	88	102	114	123	121	124
Office of Defense Nuclear Nonproliferation	56	68	83	81	88	102	114	123	121	124
Nuclear Energy	0	43	35	0	0	0	0	0	0	0
Office of Cybersecurity, Energy Security, and Emergency Response	na	na	na	na	0	1	1	2	5	12
Office of Science	4,006	4,334	4,455	4,402	4,867	4,924	5,339	5,361	5,973	6,375
Department of Health and Human Services	16,005	15,077	15,645	16,700	18,241	19,100	21,809	21,508	22,411	23,788
Agency for Toxic Substances and Disease Registry	0	0	0	0	1	0	0	0	0	0
Centers for Disease Control and Prevention	71	95	85	72	64	77	70	89	90	83
Centers for Medicare and Medicaid Services	0	0	0	0	0	0	0	421	419	427
Health Resources and Services Administration	2	3	3	3	3	3	2	3	2	2
National Institutes of Health	15,932	14,979	15,558	16,625	18,173	19,020	21,737	20,995	21,899	23,275
Department of Homeland Security	42	12	13	12	61	46	47	51	69	70
Countering Weapons of Mass Destruction Office	42	12	13	12	5	5	6	6	9	9
Science and Technology Directorate	0	0	0	0	55	41	41	45	60	60
Secret Service	NA	NA	NA	NA	0	0	0	0	*	*
Department of Housing and Urban Development	0	0	0	0	0	39	NA	NA	NA	NA

TABLE 79

Federal obligations for basic research, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Department of the Interior	52	53	54	54	80	81	84	86	94	101
Bureau of Land Management	NA	0	0	0	1	1	0	*	2	2
Bureau of Safety and Environmental Enforcement	0	0	0	0	1	*	1	2	1	1
Geological Survey	52	53	54	54	77	80	82	84	91	99
National Park Service	0	0	0	0	1	1	1	0	0	0
Department of Justice	8	5	13	2	16	21	1	8	17	16
Office of Justice Programs	8	5	13	2	16	21	1	8	17	16
Department of State	NA	0	0	0	0	0	0	4	7	2
Department of Transportation	9	0	0	0	0	0	0	2	2	4
Federal Highway Administration	1	0	0	0	0	0	0	0	0	0
Federal Motor Carrier Safety Administration	0	0	0	0	0	0	0	1	0	0
Federal Transit Administration	8	0	0	0	0	0	0	0	0	0
Office of the Secretary of Transportation	0	0	0	0	0	0	0	0	*	*
Pipeline and Hazardous Materials Safety Administration	0	0	0	0	0	0	0	1	2	4
Department of the Treasury	*	*	2	0	11	10	6	5	0	0
Bureau of Engraving and Printing	*	*	2	0	11	10	6	5	0	0
Mint	0	0	0	0	0	*	*	0	0	0
Department of Veterans Affairs	232	227	219	274	528	629	618	625	665	761
Other agencies										
Agency for International Development	1	0	0	1	0	0	*	0	0	0
Federal Communications Commission	0	0	0	*	0	0	0	0	NA	NA
National Aeronautics and Space Administration	3,023	3,210	3,281	3,426	3,282	5,689	3,839	4,201	5,058	5,090
National Science Foundation	4,725	4,974	4,829	4,739	5,089	5,212	5,462	5,771	5,863	6,388
Nuclear Regulatory Commission	0	0	*	1	1	1	2	0	0	0
Smithsonian Institution	195	196	206	208	228	236	210	63	227	242

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 80

Federal obligations for applied research, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All agencies	26,320	27,237	26,598	26,951	27,228	26,740	30,813	31,933	28,751	31,027	29,753
Departments											
Department of Agriculture	908	999	1,049	1,085	1,130	1,136	1,145	1,159	1,162	1,113	1,024
Agricultural Marketing Service	4	8	8	6	6	3	2	2	2	2	2
Agricultural Research Service	382	450	454	465	468	460	456	471	453	436	406
Economic Research Service	62	64	67	68	83	73	71	85	74	70	64
Foreign Agricultural Service	1	1	1	1	*	*	*	*	*	*	*
Forest Service	131	133	133	138	192	173	192	184	192	187	205
Grain Inspection, Packers, and Stockyards Administration	0	0	7	7	0	0	0	0	0	5	5
National Agricultural Statistics Service	4	4	4	5	5	4	4	4	4	4	4
National Institute of Food and Agriculture	320	335	372	391	354	418	415	407	435	403	333
Rural Business-Cooperative Service	4	4	4	4	21	4	4	5	2	4	4
Department of Commerce	988	840	830	767	826	853	821	933	775	814	833
Census Bureau	*	1	4	6	5	5	6	9	11	77	115
Economic Development Administration	1	*	*	*	1	1	1	1	*	NA	NA
National Institute of Standards and Technology	315	313	299	283	312	297	343	457	308	333	335
National Oceanic and Atmospheric Administration	666	520	520	472	500	543	464	458	449	396	375
National Telecommunications and Information Administration	6	6	7	7	7	7	7	8	8	8	7
Department of Defense	4,420	4,282	4,532	4,448	4,867	4,964	5,062	5,212	4,710	4,627	4,093
Defense Advanced Research Projects Agency	na	na	na	na	na	na	na	na	1,130	1,151	983
Defense agencies and activities	1,699	1,685	1,595	1,580	1,631	1,720	1,864	2,029	na	na	na
Department of the Air Force	1,091	891	877	1,000	1,118	1,192	1,172	1,203	1,203	1,223	1,055
Department of the Army	877	1,029	1,303	1,104	1,337	1,239	1,236	1,261	1,063	915	859
Department of the Navy	752	676	757	763	781	814	790	720	748	826	740
Other defense agencies	na	na	na	na	na	na	na	na	566	511	455
Department of Education	196	202	204	213	207	200	198	218	206	202	178
Department of Energy	2,814	2,835	2,957	2,886	2,849	2,919	3,127	3,629	3,388	3,404	3,482
Advanced Research Projects Agency—Energy	NA	NA	NA	NA	NA	0	0	205	128	56	92
Bonneville Power Administration	11	12	9	10	9	11	6	4	1	1	4
Civilian Radioactive Waste Management	76	79	54	53	11	1	*	0	0	0	0
Electricity Delivery and Energy Reliability	na	na	66	93	57	27	62	66	55	58	50
Energy Efficiency and Renewable Energy	280	244	249	210	342	417	651	891	466	434	530
Environmental Management	21	13	15	10	2	2	11	31	22	15	3
Fossil Energy	246	222	207	211	211	179	242	213	181	161	151
National Nuclear Security Administration	2,148	2,194	2,274	2,211	2,146	2,151	2,039	1,918	2,208	2,293	2,355
Defense Programs	2,010	2,106	2,193	2,076	2,028	1,967	1,796	1,710	1,975	2,143	2,142
Office of Defense Nuclear Nonproliferation	138	88	81	135	117	184	244	207	234	150	213
Nuclear Energy	29	69	83	87	71	130	116	301	327	336	236
Office of Science	3	3	0	0	0	0	0	0	0	49	63
Department of Health and Human Services	12,185	13,225	12,831	13,140	13,438	13,428	16,718	17,148	14,704	15,147	14,026
Administration for Children and Families	21	20	39	14	12	19	14	7	10	8	2
Administration for Community Living	0	3	3	3	0	0	0	0	0	0	0
Agency for Healthcare Research and Quality	284	279	293	293	293	308	348	789	341	337	336
Agency for Toxic Substances and Disease Registry	14	11	9	9	4	4	5	3	5	1	1

TABLE 80

Federal obligations for applied research, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Department of the Treasury	59	61	63	60	59	64	67	68	77	75	73
Bureau of Engraving and Printing	4	4	5	5	4	5	2	1	5	5	8
Internal Revenue Service	54	57	58	55	55	60	65	66	71	69	65
Mint	0	0	0	0	0	0	0	1	1	2	*
Department of Veterans Affairs	186	209	206	211	228	246	274	297	325	326	355
Other agencies											
Agency for Global Media	0	1	*	*	NA	NA	NA	NA	NA	NA	NA
Agency for International Development	262	241	198	197	233	121	160	83	119	77	117
Appalachian Regional Commission	1	1	1	1	1	1	1	1	*	1	*
Consumer Product Safety Commission	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	1
Environmental Protection Agency	365	423	416	400	392	372	384	398	403	404	446
Federal Communications Commission	4	4	5	7	6	7	7	4	4	4	5
Federal Trade Commission	2	2	1	2	2	3	2	3	3	3	3
Library of Congress	1	14	2	3	*	*	*	1	1	1	1
National Aeronautics and Space Administration	2,646	2,356	1,489	1,469	819	531	682	694	718	2,494	2,598
National Archives and Records Administration	*	*	*	*	*	5	5	5	3	2	1
National Science Foundation	218	266	332	287	352	420	471	348	455	517	594
Nuclear Regulatory Commission	64	72	70	71	77	61	61	85	84	83	76
Patient-Centered Outcomes Research Trust Fund	na	na	na	na	na	na	na	na	41	41	334
Social Security Administration	37	30	35	68	68	54	68	63	53	65	57

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 81

Federal obligations for applied research, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All agencies	31,604	32,298	34,812	36,600	38,392	41,101	43,758	43,630	48,414	51,014
Departments										
Department of Agriculture	1,152	1,204	1,221	1,251	1,270	1,350	1,225	1,362	1,443	1,619
Agricultural Marketing Service	3	3	3	4	4	4	3	7	10	9
Agricultural Research Service	449	453	458	468	480	517	569	604	660	743
Economic Research Service	71	85	85	86	86	86	82	85	88	93
Foreign Agricultural Service	*	*	*	*	0	0	0	0	0	0
Forest Service	187	176	191	182	169	170	172	154	161	166
Grain Inspection, Packers, and Stockyards Administration	6	6	6	*	na	na	na	na	na	na
National Agricultural Statistics Service	5	5	5	5	5	5	5	5	6	6
National Institute of Food and Agriculture	426	472	469	502	521	564	390	505	518	601
Natural Resources Conservation Service	NA	NA	NA	NA	NA	NA	NA	1	1	0
Rural Business-Cooperative Service	6	4	4	3	4	4	3	0	0	0
Department of Commerce	1,063	922	906	1,056	1,001	1,029	1,110	1,228	1,417	1,755
Census Bureau	227	41	90	56	56	29	38	56	150	222
National Institute of Standards and Technology	385	399	377	445	449	450	466	507	507	605
National Oceanic and Atmospheric Administration	442	470	428	547	488	542	598	659	748	915
National Telecommunications and Information Administration	10	12	11	8	9	8	8	7	11	13
Department of Defense	4,631	4,558	4,913	5,068	5,263	5,758	6,416	6,901	7,016	8,392
Defense Advanced Research Projects Agency	1,189	1,125	1,158	1,118	1,222	1,265	1,524	1,336	1,358	1,677
Defense Health Agency	NA	NA	NA	NA	NA	NA	153	115	135	165
Department of the Air Force	1,072	1,108	1,240	1,244	1,341	1,547	1,729	1,684	1,956	2,033
Department of the Army	983	942	1,060	1,233	1,217	1,462	1,383	1,372	1,290	1,776
Department of the Navy	872	845	924	971	953	935	1,057	1,023	1,077	1,475
Space Force	na	na	na	na	na	na	0	0	104	101
Other defense agencies	515	539	531	502	530	549	571	1,371	1,096	1,165
Department of Education	183	137	140	141	135	131	136	233	267	236
Department of Energy	4,017	4,181	4,880	5,084	5,507	6,295	5,024	5,277	5,001	5,786
Advanced Research Projects Agency—Energy	150	139	172	151	80	202	219	157	201	235
Bonneville Power Administration	3	3	3	4	NA	NA	NA	NA	NA	NA
Electricity Delivery and Energy Reliability	61	57	67	74	82	72	65	50	53	62
Energy Efficiency and Renewable Energy	540	473	576	853	1,285	1,270	1,248	1,395	679	724
Environmental Management	16	8	10	10	13	9	7	10	12	14
Fossil Energy	157	194	225	224	629	626	645	689	559	938
National Nuclear Security Administration	2,714	2,637	3,127	2,997	2,556	3,568	2,279	2,485	2,672	2,865
Defense Programs	2,519	2,527	3,010	2,881	2,422	3,434	2,155	2,328	2,337	2,554
Naval Nuclear Propulsion Program	0	0	0	0	0	0	0	0	191	141
Office of Defense Nuclear Nonproliferation	195	111	117	116	135	134	124	157	144	169
Nuclear Energy	296	597	631	688	763	378	392	346	657	914
Office of Cybersecurity, Energy Security, and Emergency Response	na	na	na	na	0	39	36	0	16	33
Office of Science	79	75	70	83	101	130	131	144	151	0
Department of Health and Human Services	14,582	15,120	16,483	16,977	18,561	19,255	22,425	21,210	25,861	25,427
Administration for Children and Families	3	2	3	2	3	2	2	5	5	9
Administration for Community Living	0	72	66	66	66	66	71	107	107	113

TABLE 81

Federal obligations for applied research, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Agency for Healthcare Research and Quality	335	335	306	300	306	308	308	308	314	337
Agency for Toxic Substances and Disease Registry	1	2	2	3	2	7	10	11	12	12
Biomedical Advanced Research and Development Authority	NA	NA	NA	NA	NA	0	0	0	2,644	818
Centers for Disease Control and Prevention	309	365	409	364	322	289	371	592	461	361
Centers for Medicare and Medicaid Services	34	24	30	29	231	133	224	0	0	0
Food and Drug Administration	389	376	486	375	478	493	464	589	561	630
Health Resources and Services Administration	25	25	24	27	34	30	32	30	32	43
National Institutes of Health	13,467	13,901	15,140	15,794	17,103	17,909	20,927	19,551	21,689	23,066
Office of the Secretary of Health and Human Services	19	18	18	17	17	17	16	17	36	38
Office of the Assistant Secretary for Planning and Evaluation	19	18	18	17	17	17	16	17	36	38
Department of Homeland Security	215	205	194	264	309	233	178	187	259	169
Coast Guard	8	6	7	6	6	6	1	3	2	2
Countering Weapons of Mass Destruction Office	38	26	25	23	9	26	18	15	26	30
Cybersecurity and Infrastructure Security Agency	na	na	na	na	7	13	7	9	3	4
Science and Technology Directorate	168	173	163	235	286	188	152	159	227	133
Transportation Security Administration	NA	NA	NA	NA	0	0	0	1	*	0
Department of Housing and Urban Development	36	38	43	41	40	22	NA	NA	NA	NA
Department of the Interior	597	627	672	668	570	608	614	668	691	776
Bureau of Indian Affairs	NA	NA	NA	NA	5	5	*	5	5	5
Bureau of Land Management	NA	15	17	17	13	13	14	9	9	11
Bureau of Ocean Energy Management	48	44	60	63	66	65	59	63	66	72
Bureau of Reclamation	9	7	19	23	17	17	19	18	18	28
Bureau of Safety and Environmental Enforcement	33	17	24	8	4	7	4	19	5	14
Fish and Wildlife Service	NA	30	32	33	33	33	33	33	35	44
Geological Survey	493	506	512	515	424	459	476	495	527	575
National Park Service	14	8	8	9	9	9	9	27	27	27
Office of Surface Mining Reclamation and Enforcement	NA	NA	NA	NA	0	*	1	0	NA	NA
Department of Justice	134	123	144	85	75	84	84	71	86	109
Bureau of Prisons	2	3	3	2	1	1	2	*	*	*
Federal Bureau of Investigation	0	0	0	0	3	1	5	4	9	21
Office of Justice Programs	132	121	141	83	71	82	77	67	77	88
Department of Labor	11	10	6	5	5	4	5	3	4	4
Employee Benefits Security Administration	7	7	5	3	3	3	3	1	2	2
Occupational Safety and Health Administration	4	3	1	2	2	2	2	2	2	2
Pension Benefit Guaranty Corp.	*	*	*	0	0	NA	NA	NA	NA	NA
Department of State	NA	2	2	2	62	62	30	40	38	38
Department of Transportation	644	663	625	696	751	746	900	821	806	957
Federal Aviation Administration	197	207	207	212	195	193	247	267	261	256
Federal Highway Administration	338	273	247	305	420	415	472	373	342	436
Federal Motor Carrier Safety Administration	7	8	10	11	9	8	9	11	21	12

TABLE 81

Federal obligations for applied research, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Federal Railroad Administration	30	33	31	34	33	32	35	35	32	40
Federal Transit Administration	0	72	35	55	10	3	40	42	12	48
National Highway Traffic Safety Administration	65	63	87	69	76	76	69	66	92	96
Office of the Secretary of Transportation	4	2	4	3	3	8	12	12	24	51
Pipeline and Hazardous Materials Safety Administration	2	5	5	5	6	11	17	15	22	18
Department of the Treasury	73	72	81	1	27	36	44	41	37	48
Bureau of Engraving and Printing	9	9	14	0	27	36	44	41	37	48
Internal Revenue Service	64	64	65	0	0	0	0	NA	NA	NA
Mint	1	*	2	1	0	*	*	*	0	0
Department of Veterans Affairs	322	416	458	395	792	849	918	936	941	1,076
Other agencies										
Administrative Office of the U.S. Courts	NA	NA	7	8	7	6	5	4	1	0
Agency for Global Media	NA	NA	NA	NA	NA	6	5	5	8	8
Agency for International Development	59	212	148	191	120	172	135	51	153	153
Appalachian Regional Commission	1	*	1	*	1	1	1	1	1	1
Consumer Product Safety Commission	2	2	2	2	1	1	*	*	*	*
Environmental Protection Agency	453	440	430	417	413	405	412	403	406	445
Federal Communications Commission	7	5	5	6	5	2	2	0	NA	NA
Federal Trade Commission	3	2	3	6	6	6	6	8	3	10
Library of Congress	1	1	1	1	1	1	1	1	1	*
National Aeronautics and Space Administration	2,313	2,330	2,332	2,319	2,011	2,423	2,555	2,578	2,247	1,741
National Archives and Records Administration	1	1	1	1	1	1	0	NA	NA	NA
National Science Foundation	678	696	760	779	760	784	889	934	1,033	1,466
Nuclear Regulatory Commission	85	92	80	66	76	74	66	77	61	83
Patient-Centered Outcomes Research Trust Fund	283	152	115	884	492	578	470	460	522	560
Postal Service	NA	28	29	73	53	27	18	15	14	14
RESTORE Act Centers of Excellence Research Grants Program	na	na	na	na	na	na	9	0	7	23
Social Security Administration	60	59	129	110	72	146	70	105	79	106
Tennessee Valley Authority	NA	NA	NA	3	6	6	6	9	12	13

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 82

Federal obligations for development, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All agencies	52,456	58,717	65,110	68,194	73,169	73,212	77,398	76,627	77,468	76,538	66,188
Departments											
Department of Agriculture	170	183	181	183	181	183	192	223	216	207	151
Agricultural Marketing Service	1	1	*	0	0	3	2	2	2	2	2
Agricultural Research Service	96	110	111	113	114	112	114	118	113	109	101
Animal and Plant Health Inspection Service	28	24	24	26	26	28	29	30	29	37	19
Forest Service	41	41	46	44	41	39	47	73	72	59	28
Grain Inspection, Packers, and Stockyards Administration	5	7	0	0	0	0	0	0	0	0	0
Department of Commerce	154	171	144	101	99	81	188	139	126	66	69
Census Bureau	22	22	19	16	17	19	23	38	49	24	16
National Institute of Standards and Technology	95	85	61	30	41	23	21	34	34	5	9
National Oceanic and Atmospheric Administration	20	46	63	55	41	38	144	67	44	37	44
National Telecommunications and Information Administration	17	18	0	0	0	0	0	0	0	0	0
Department of Defense	46,082	52,095	57,457	60,119	65,817	65,252	69,065	66,406	68,562	67,142	57,602
Defense Advanced Research Projects Agency	na	na	na	na	na	na	na	na	1,462	1,253	1,104
Defense agencies and activities	10,291	11,189	13,573	12,563	14,037	13,875	14,034	13,821	na	na	na
Department of the Air Force	16,930	19,108	18,725	20,337	23,724	23,640	26,346	24,843	24,826	25,819	22,022
Department of the Army	6,492	7,752	8,508	9,866	9,907	10,247	10,241	9,178	8,353	7,887	6,626
Department of the Navy	12,133	13,748	16,344	17,174	17,967	17,306	18,257	18,367	16,497	16,314	14,124
Operational Test and Evaluation, Director	236	298	308	179	182	185	186	197	NA	NA	NA
Other defense agencies	na	na	na	na	na	na	na	na	17,423	15,868	13,727
Department of Education	101	101	102	121	122	124	120	138	133	130	108
Department of Energy	2,151	2,056	2,030	1,842	2,021	2,139	2,702	3,087	2,596	2,591	2,508
Advanced Research Projects Agency—Energy	NA	NA	NA	NA	NA	0	0	173	47	46	90
Bonneville Power Administration	9	9	2	1	2	3	1	1	8	9	2
Electricity Delivery and Energy Reliability	na	na	14	40	35	55	25	40	27	37	29
Energy Efficiency and Renewable Energy	372	317	285	219	319	300	930	983	396	545	388
Environmental Management	49	30	35	24	16	17	19	59	45	31	6
Fossil Energy	383	295	350	218	202	221	240	267	226	202	188
National Nuclear Security Administration	1,317	1,400	1,341	1,339	1,437	1,540	1,486	1,497	1,786	1,695	1,776
Defense Programs	567	622	539	517	627	740	680	537	796	619	745
Fissile Materials Disposition	25	1	0	0	0	NA	NA	NA	NA	NA	NA
Naval Nuclear Propulsion Program	650	709	741	720	730	712	756	914	942	1,040	994
Office of Defense Nuclear Nonproliferation	75	69	61	101	79	88	50	46	48	36	37
Nuclear Energy	18	5	1	1	10	3	0	67	61	25	27
Office of Intelligence	4	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Office of Science	0	0	0	0	0	0	*	0	0	0	0
Department of Health and Human Services	111	142	128	86	91	95	94	137	78	71	68
Agency for Healthcare Research and Quality	25	24	25	25	26	27	30	63	30	29	29
Agency for Toxic Substances and Disease Registry	0	0	*	0	0	0	0	0	0	0	0
Centers for Disease Control and Prevention	0	0	0	0	17	27	31	37	38	31	29
Health Resources and Services Administration	27	30	35	6	6	40	33	37	10	11	10

TABLE 82

Federal obligations for development, by agency: FYs 2003–13

(Dollars in millions)

Agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Office of the Secretary of Health and Human Services	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Office of Public Health and Science	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Substance Abuse and Mental Health Services Administration	57	87	68	54	42	0	NA	NA	NA	NA	NA
Department of Homeland Security	NA	533	765	1,119	321	512	325	353	311	295	250
Coast Guard	NA	10	9	14	12	13	13	17	14	27	15
Science and Technology Directorate	NA	508	756	1,096	305	499	312	335	297	268	235
Transportation Security Administration	NA	15	0	9	4	0	NA	NA	NA	NA	NA
Department of Housing and Urban Development	25	29	27	22	26	19	22	23	24	26	23
Department of the Interior	63	58	58	52	61	70	75	78	76	113	106
Bureau of Reclamation	6	7	8	6	6	6	6	2	3	2	3
Bureau of Safety and Environmental Enforcement	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	1
Geological Survey	53	48	50	46	55	62	66	74	73	108	102
National Park Service	4	3	*	*	1	2	3	1	1	*	1
Department of Justice	92	58	70	75	114	36	23	38	18	10	41
Bureau of Prisons	5	6	8	9	8	8	8	8	8	9	9
Federal Bureau of Investigation	43	34	33	34	71	26	15	30	10	1	32
Office of Justice Programs	44	18	28	31	34	2	*	0	0	0	0
Department of Labor	153	162	128	65	2	2	2	2	3	3	2
Employment and Training Administration	151	161	127	63	0	NA	0	NA	NA	NA	NA
Office of the Secretary of Labor	1	*	0	0	0	0	NA	0	0	NA	NA
Pension Benefit Guaranty Corp.	1	1	1	2	2	2	2	2	3	3	2
Department of Transportation	260	269	164	284	202	172	239	262	204	200	200
Federal Aviation Administration	109	99	98	123	114	117	135	154	119	113	95
Federal Highway Administration	112	121	22	112	56	30	31	41	44	54	70
Federal Motor Carrier Safety Administration	0	0	0	0	0	0	0	*	1	*	1
Federal Railroad Administration	3	4	5	6	6	0	32	31	24	12	11
Federal Transit Administration	7	5	4	13	3	6	6	3	1	1	3
Office of the Secretary of Transportation	21	32	21	15	6	13	20	23	9	9	11
Pipeline and Hazardous Materials Safety Administration	na	7	12	13	15	6	8	8	5	9	9
Research and Innovative Technology Administration	na	0	1	2	1	0	7	2	2	2	1
Research and Special Programs Administration	7	na	na	na	na	na	na	na	na	na	na
Department of the Treasury	1	1	3	4	4	1	2	*	1	*	1
Bureau of Engraving and Printing	1	*	1	1	1	*	1	*	1	*	1
Mint	1	1	2	4	4	1	1	0	0	0	0
Department of Veterans Affairs	16	21	19	20	21	23	33	34	37	38	35
Other agencies											
Agency for International Development	24	23	41	40	0	0	0	0	0	0	0
Environmental Protection Agency	105	125	116	117	84	82	85	88	86	86	77
Federal Communications Commission	0	4	4	*	2	0	*	0	0	0	0
Library of Congress	1	2	7	4	7	1	*	1	1	1	1
National Aeronautics and Space Administration	2,946	2,683	3,666	3,939	3,994	4,422	4,234	5,618	4,996	5,560	4,946

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 83

Federal obligations for development, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All agencies	67,370	64,928	48,728	49,103	54,837	61,306	82,098	103,718	96,615	86,967
Departments										
Department of Agriculture	198	213	202	202	222	230	255	237	275	266
Agricultural Marketing Service	3	3	3	4	4	4	3	7	0	0
Agricultural Research Service	112	113	114	117	120	129	142	151	165	186
Animal and Plant Health Inspection Service	21	21	21	21	21	21	21	21	21	23
Forest Service	59	72	60	57	74	72	85	53	84	53
National Agricultural Statistics Service	4	4	4	4	4	4	4	4	5	5
Natural Resources Conservation Service	NA	NA	NA	NA	NA	NA	NA	1	*	0
Department of Commerce	98	177	198	310	210	253	261	307	321	739
Census Bureau	32	101	110	164	54	66	73	53	51	90
National Institute of Standards and Technology	3	3	5	25	10	9	17	101	82	448
National Oceanic and Atmospheric Administration	63	74	84	121	146	177	170	153	188	200
Department of Defense	58,276	54,822	37,597	37,695	45,321	50,511	57,780	60,971	62,186	76,932
Defense Advanced Research Projects Agency	1,286	1,331	1,397	1,385	1,338	1,578	1,658	1,761	1,811	1,996
Defense Health Agency	NA	NA	NA	NA	NA	NA	2,706	2,719	1,991	2,383
Department of the Air Force	22,637	20,711	5,559	6,386	9,298	12,970	9,434	10,003	10,973	12,856
Department of the Army	5,914	5,374	4,850	5,847	6,892	8,319	8,880	10,007	10,256	13,122
Department of the Navy	14,084	14,025	15,084	13,696	13,897	13,751	17,416	15,080	15,749	19,727
Space Force	na	na	na	na	na	na	4,386	5,243	4,776	8,470
Other defense agencies	14,355	13,382	10,706	10,380	13,895	13,894	13,299	16,159	16,631	18,377
Department of Education	114	92	81	88	76	47	51	101	102	90
Department of Energy	2,434	2,749	2,743	2,724	2,324	3,007	2,928	2,676	2,589	2,797
Advanced Research Projects Agency–Energy	111	103	127	123	80	202	219	157	201	235
Bonneville Power Administration	9	9	9	5	NA	NA	NA	NA	NA	NA
Electricity Delivery and Energy Reliability	38	34	43	53	52	51	61	67	53	81
Energy Efficiency and Renewable Energy	326	607	711	588	401	425	848	719	931	1,038
Environmental Management	11	17	20	21	25	18	15	20	24	29
Fossil Energy	264	325	377	375	0	0	0	0	0	0
National Nuclear Security Administration	1,647	1,566	1,358	1,357	1,413	2,070	1,590	1,605	1,217	1,193
Defense Programs	507	449	97	85	150	226	143	375	501	384
Naval Nuclear Propulsion Program	1,094	1,083	1,216	1,220	1,206	1,789	1,387	1,140	616	700
Office of Defense Nuclear Nonproliferation	46	34	46	52	56	56	59	90	100	109
Nuclear Energy	28	89	97	203	353	228	181	108	147	204
Office of Cybersecurity, Energy Security, and Emergency Response	na	na	na	na	0	12	14	0	15	17
Department of Health and Human Services	69	75	87	97	110	837	15,772	33,933	25,825	56
Administration for Community Living	0	4	17	17	17	17	20	0	0	0
Agency for Healthcare Research and Quality	29	29	28	24	28	30	30	30	36	36
Biomedical Advanced Research and Development Authority	NA	NA	NA	NA	NA	736	15,666	33,881	25,769	0
Centers for Disease Control and Prevention	30	29	28	39	65	54	56	14	15	15
Health Resources and Services Administration	10	14	15	17	0	0	0	8	6	5

TABLE 83

Federal obligations for development, by agency: FYs 2014–23

(Dollars in millions)

Agency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Department of Homeland Security	327	525	365	581	542	368	282	291	243	305
Coast Guard	18	13	16	15	15	14	3	7	5	5
Countering Weapons of Mass Destruction Office	5	34	25	35	16	50	14	11	31	26
Cybersecurity and Infrastructure Security Agency	na	na	na	na	0	0	1	3	2	5
Science and Technology Directorate	304	478	323	531	490	281	229	240	204	266
Secret Service	NA	NA	NA	NA	1	2	13	1	1	4
Transportation Security Administration	NA	NA	NA	NA	20	21	23	28	*	*
Department of Housing and Urban Development	18	20	24	23	22	0	NA	NA	NA	NA
Department of the Interior	108	120	131	141	116	137	139	148	155	166
Bureau of Land Management	NA	1	1	1	7	7	7	1	1	*
Bureau of Ocean Energy Management	0	6	12	12	13	20	14	14	19	17
Bureau of Reclamation	3	2	2	5	5	7	8	20	10	16
Bureau of Safety and Environmental Enforcement	*	3	4	3	*	2	3	*	3	2
Geological Survey	104	106	111	119	91	101	107	112	120	130
National Park Service	1	1	1	1	0	0	0	1	1	1
Department of Justice	18	21	51	40	15	16	12	6	8	15
Bureau of Prisons	9	8	8	8	4	5	6	*	*	*
Federal Bureau of Investigation	10	13	13	2	0	0	0	0	0	0
Office of Justice Programs	*	0	30	30	11	10	6	6	8	15
Department of Labor	3	4	4	0	0	NA	NA	NA	NA	NA
Pension Benefit Guaranty Corp.	3	4	4	0	0	NA	NA	NA	NA	NA
Department of State	NA	0	0	0	0	0	10	20	20	20
Department of Transportation	175	193	312	253	295	267	284	285	265	266
Federal Aviation Administration	83	106	196	186	181	194	185	240	217	230
Federal Highway Administration	59	40	85	46	71	37	40	37	41	27
Federal Motor Carrier Safety Administration	*	0	1	1	1	0	0	*	3	3
Federal Railroad Administration	10	11	11	10	14	7	12	7	4	5
Federal Transit Administration	0	9	0	0	0	0	0	1	1	1
Office of the Secretary of Transportation	11	10	14	8	13	12	22	0	0	0
Pipeline and Hazardous Materials Safety Administration	12	17	5	2	16	17	25	0	0	0
Department of the Treasury	1	1	3	7	0	11	11	8	10	24
Bureau of Engraving and Printing	1	1	3	7	0	11	11	7	10	24
Mint	0	0	0	0	0	0	0	*	0	0
Department of Veterans Affairs	35	18	18	13	29	30	29	137	91	93
Other agencies										
Agency for International Development	0	0	44	0	46	49	59	30	68	68
Environmental Protection Agency	77	75	78	76	74	81	77	117	119	128
Federal Communications Commission	0	0	0	1	1	0	0	0	NA	NA
Library of Congress	1	1	1	1	2	1	2	2	3	3
National Aeronautics and Space Administration	5,418	5,821	6,791	6,849	5,424	5,459	4,144	4,436	4,318	4,919
Nuclear Regulatory Commission	0	0	0	0	0	0	1	3	0	0
Tennessee Valley Authority	NA	NA	NA	3	7	4	2	8	17	81

* = amount greater than \$0 but less than \$500,000. na = not applicable; agency or subagency did not exist as such or in that organization in that year. NA = not available; data were not collected at that level for that fiscal year.

Note(s):

Because of rounding, detail may not add to total. Only those agencies and subdivisions that had obligations in variables represented by this table appear in the table. Beginning with FY 2016, the totals reported for development obligations represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the Department of Defense (DOD) Budget Activity 7 (Operational System Development) obligations. Those funds, previously included in DOD's development obligation totals, support the development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate production funding in the current or subsequent fiscal year. Therefore, the data are not directly comparable with totals reported in previous years. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 84

Federal obligations for research and development, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
1967	16,529	3,396	1,275	9,878	1,454	400	63	63
1968	15,921	3,493	1,362	9,047	1,487	377	100	54
1969	15,641	3,501	1,390	8,703	1,529	364	102	51
1970	15,339	4,079	1,429	7,770	1,476	445	100	40
1971	15,543	4,228	1,419	7,588	1,645	459	141	63
1972	16,496	4,589	1,506	7,716	1,904	515	207	60
1973	16,800	4,762	1,491	7,731	1,917	578	257	64
1974	17,410	4,911	1,581	7,752	2,214	672	214	65
1975	19,039	5,354	1,859	8,423	2,411	702	228	62
1976	20,780	5,769	2,106	9,340	2,552	709	231	73
1977	23,450	6,012	2,690	10,717	2,905	800	238	88
1978	25,845	6,810	2,870	11,400	3,375	998	268	123
1979	28,145	7,418	3,175	12,172	3,889	1,026	310	155
1980	29,830	7,632	3,383	12,969	4,263	1,106	266	211
1981	33,104	8,426	3,730	14,868	4,466	1,069	222	323
1982	36,433	9,141	4,004	17,192	4,605	1,092	184	214
1983	38,712	10,582	4,476	17,020	4,966	1,242	186	240
1984	42,225	11,572	4,691	18,610	5,547	1,497	131	176
1985	48,360	12,945	5,296	21,705	6,340	1,699	129	245
1986	51,412	13,535	5,016	24,201	6,559	1,677	128	296
1987	55,254	13,413	5,580	26,768	7,337	1,711	148	295
1988	56,769	14,115	5,891	26,719	7,828	1,683	142	392
1989	61,406	15,025	6,075	28,548	8,672	2,000	167	919
1990	63,559	15,849	6,398	29,370	9,138	2,248	214	343
1991	61,295	15,138	6,451	26,421	10,169	2,637	215	264
1992	65,593	15,583	6,718	29,745	10,271	2,804	184	288
1993	67,314	16,663	5,819	30,219	11,208	2,812	320	272
1994	67,235	16,132	5,322	30,455	11,797	2,937	325	267
1995	68,187	17,025	5,588	30,236	11,928	2,834	316	259
1996	67,653	16,540	5,339	30,374	11,978	2,887	247	288
1997	69,827	16,718	5,650	31,419	12,559	2,962	261	258
1998	72,101	17,122	5,682	31,999	13,381	3,171	447	299
1999	75,341	18,085	6,138	31,902	14,959	3,609	357	291
2000	75,910	18,313	6,500	29,409	16,891	4,228	225	344
2001	84,493	22,047	7,825	28,237	20,065	5,390	453	476
2002	93,709	23,357	7,517	34,569	21,620	5,782	454	410
2003	103,528	25,118	7,981	40,695	23,006	5,766	405	557
2004	112,074	24,573	10,374	43,759	24,947	6,481	1,236	706
2005	118,848	25,871	10,375	48,868	25,688	6,705	690	652
2006	121,730	27,675	9,118	52,754	24,670	6,063	625	824
2007	127,263	29,933	9,383	55,342	25,548	5,984	362	711
2008	127,106	29,638	8,192	56,338	26,027	5,965	389	559
2009	141,090	31,544	10,200	59,749	31,558	7,050	392	597
2010	140,355	30,912	10,101	59,868	31,192	7,245	427	610
2011	135,533	35,145	10,786	53,550	27,680	6,678	716	977
2012	138,525	34,366	10,058	58,910	27,509	6,388	453	839
2013	125,720	32,963	10,080	49,538	25,772	6,249	386	732
2014	130,561	34,736	10,565	50,237	27,429	6,418	446	730

TABLE 84

Federal obligations for research and development, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
2015	128,753	34,925	11,119	47,483	27,415	6,288	487	1,036
2016	115,833	32,351	11,423	35,811	28,199	6,682	543	824
2017	118,975	30,990	11,694	37,875	28,963	8,141	553	758
2018	129,425	35,953	12,455	39,754	31,534	8,451	562	715
2019	142,424	39,313	14,691	44,446	34,001	8,450	586	937
2020	167,403	51,472	13,150	51,428	38,541	10,699	720	1,393
2021	189,614	72,826	14,791	50,225	39,766	10,287	966	753
2022	190,422	70,780	15,381	50,205	42,179	10,136	925	818
2023 (preliminary)	186,448	52,795	17,459	57,898	45,431	11,174	895	797

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

Note(s):

Because of rounding, detail may not add to total. FFRDC funding over the years may be affected by the creation of new FFRDCs and the phasing out of other FFRDCs. For details, see the notes in the Master Government List of Federally Funded R&D Centers at <http://www.nsf.gov/statistics/ffrdclist/#ffrdc>. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. Beginning with FY 2016, the totals reported for development obligations represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the Department of Defense (DOD) Budget Activity 7 (Operational System Development) obligations. Those funds, previously included in DOD's development obligation totals, support the development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate production funding in the current or subsequent fiscal year. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). As of volume 71 (FYs 2021–22), FFRDCs are classified as intramural R&D performers, whereas they were extramural in previous volumes; therefore, data are not directly comparable across volumes. Past years in the trend tables have been adjusted to reflect the current classification of FFRDCs.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 85

Federal obligations for research, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
1967	4,631	1,461	472	1,039	1,312	249	53	46
1968	4,781	1,541	484	1,094	1,302	234	82	45
1969	4,645	1,645	453	886	1,322	222	75	42
1970	4,901	1,904	500	876	1,276	230	83	30
1971	5,123	1,888	487	889	1,430	282	96	52
1972	5,548	1,984	534	907	1,643	342	94	45
1973	5,581	2,088	474	887	1,691	316	84	40
1974	6,175	2,270	523	875	1,958	414	91	44
1975	6,730	2,464	626	1,010	2,079	395	112	44
1976	7,619	2,879	782	1,103	2,250	435	119	50
1977	8,514	2,958	918	1,367	2,584	512	115	60
1978	9,607	3,221	1,017	1,651	2,928	591	129	70
1979	10,535	3,481	1,119	1,762	3,333	623	139	77
1980	11,597	3,666	1,234	2,078	3,699	678	151	91
1981	12,213	4,034	1,360	1,958	3,920	705	129	106
1982	13,022	4,194	1,648	2,157	4,045	744	126	108
1983	14,254	4,710	1,858	2,114	4,468	837	137	130
1984	14,979	4,765	1,920	2,137	5,030	923	88	117
1985	16,133	5,056	2,004	2,074	5,726	1,045	89	138
1986	16,502	5,160	1,862	2,280	5,883	1,063	91	162
1987	17,941	5,438	1,994	2,449	6,640	1,207	90	122
1988	18,650	5,338	2,103	2,642	7,023	1,300	103	140
1989	20,766	5,897	2,417	2,875	7,793	1,520	121	142
1990	21,622	5,810	2,543	3,192	8,137	1,660	126	154
1991	23,968	6,454	3,041	3,407	8,868	1,926	129	143
1992	24,491	6,523	3,177	3,451	9,061	2,050	109	120
1993	26,890	7,452	3,272	3,924	9,892	2,041	212	97
1994	27,411	7,481	3,097	4,064	10,292	2,102	231	145
1995	28,434	7,685	3,252	4,699	10,354	2,079	221	145
1996	28,260	7,513	3,277	4,269	10,707	2,179	187	128
1997	29,365	7,667	3,576	4,392	11,173	2,295	144	118
1998	30,922	7,969	3,802	4,633	11,739	2,425	240	115
1999	33,528	8,686	3,903	4,580	13,204	2,807	232	116
2000	38,471	9,450	4,170	4,801	16,022	3,714	163	152
2001	44,714	11,131	4,658	5,262	18,657	4,578	309	119
2002	48,007	11,857	4,906	5,787	20,285	4,723	275	172
2003	51,072	12,420	5,155	6,042	21,676	5,196	306	276
2004	53,358	12,085	5,614	6,783	22,699	5,216	533	427
2005	53,738	12,350	5,733	6,456	23,156	5,296	377	370
2006	53,536	12,262	5,759	6,436	22,809	5,449	418	402
2007	54,094	11,816	6,088	6,074	23,967	5,417	298	433
2008	53,894	11,922	5,758	5,782	24,323	5,397	339	372
2009	63,692	13,319	6,681	6,280	30,169	6,501	344	399
2010	63,728	13,281	6,745	6,625	29,608	6,687	353	429
2011	58,065	12,663	6,656	6,037	26,253	5,802	282	370
2012	61,986	14,293	6,993	7,794	26,290	5,854	352	410
2013	59,533	13,417	7,490	7,366	24,772	5,780	313	395
2014	63,191	14,306	8,034	8,057	26,110	5,931	395	358

TABLE 85

Federal obligations for research, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
				United States and U.S. territories				Non-U.S. performers
		Federal agencies ^a	FFRDCs	Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
2015	63,825	15,007	7,942	8,138	25,962	5,863	420	494
2016	67,105	16,055	8,650	8,370	26,864	6,270	420	476
2017	69,871	15,905	8,976	8,963	27,626	7,576	453	372
2018	74,588	17,818	9,458	8,768	30,089	7,615	430	411
2019	81,118	18,298	10,820	10,739	32,381	7,892	500	488
2020	85,305	19,572	9,892	10,028	35,474	9,191	645	503
2021	85,896	17,532	10,529	10,790	37,027	8,644	887	488
2022	93,807	20,651	11,133	12,679	39,069	8,797	862	615
2023 (preliminary)	99,481	22,913	12,865	11,542	41,529	9,257	850	524

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

Note(s):

Because of rounding, detail may not add to total. FFRDC funding over the years may be affected by the creation of new FFRDCs and the phasing out of other FFRDCs. For details, see the notes in the Master Government List of Federally Funded R&D Centers at <http://www.nsf.gov/statistics/ffrdclist/#ffrdc>. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). As of volume 71 (FYs 2021–22), FFRDCs are classified as intramural R&D performers, whereas they were extramural in previous volumes; therefore, data are not directly comparable across volumes. Past years in the trend tables have been adjusted to reflect the current classification of FFRDCs.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 86

Federal obligations for basic research, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
1967	1,846	435	242	181	857	105	4	22
1968	1,841	432	258	195	835	93	12	15
1969	1,945	532	253	185	864	85	13	13
1970	1,926	558	270	185	808	80	14	10
1971	1,980	565	259	167	879	85	17	8
1972	2,187	597	294	151	1,021	96	16	11
1973	2,232	608	272	176	1,048	98	16	13
1974	2,388	696	261	124	1,145	127	17	18
1975	2,588	734	319	119	1,261	128	14	14
1976	2,767	786	353	131	1,342	126	13	17
1977	3,259	914	383	208	1,555	163	16	20
1978	3,699	1,029	428	248	1,759	193	17	25
1979	4,193	1,089	467	277	2,080	240	20	20
1980	4,674	1,182	515	325	2,320	280	24	28
1981	5,041	1,302	572	293	2,503	313	27	31
1982	5,482	1,466	613	271	2,727	356	24	25
1983	6,260	1,690	695	293	3,112	410	32	28
1984	7,067	1,861	768	378	3,531	474	28	28
1985	7,819	1,923	859	380	4,039	556	31	31
1986	8,153	2,019	855	512	4,132	572	31	33
1987	8,942	2,046	1,040	467	4,666	658	38	29
1988	9,474	2,050	1,141	597	4,868	729	43	46
1989	10,602	2,313	1,364	773	5,221	839	44	47
1990	11,286	2,295	1,533	887	5,548	924	50	48
1991	12,171	2,392	1,651	950	6,064	1,015	49	49
1992	12,490	2,338	1,707	920	6,332	1,097	42	54
1993	13,399	2,662	1,718	896	6,834	1,165	72	53
1994	13,523	2,498	1,648	1,110	6,992	1,133	75	68
1995	13,877	2,694	1,754	1,214	6,944	1,148	79	45
1996	14,464	2,677	1,870	1,109	7,443	1,235	80	50
1997	14,942	2,688	1,983	1,167	7,696	1,290	68	50
1998	15,613	2,919	2,091	1,119	7,952	1,398	85	50
1999	17,444	3,255	2,234	1,083	9,107	1,650	61	53
2000	19,570	3,622	2,367	1,357	10,057	1,985	76	107
2001	21,958	4,194	2,478	917	11,792	2,442	72	64
2002	23,668	4,460	2,608	1,232	12,668	2,532	72	97
2003	24,751	4,662	2,723	1,280	13,152	2,704	85	146
2004	26,121	4,672	2,905	1,969	13,399	2,746	198	232
2005	27,140	4,773	2,962	2,051	13,990	2,914	236	215
2006	26,585	4,764	3,073	1,859	13,658	2,867	153	211
2007	26,866	4,572	3,214	1,736	14,220	2,794	101	228
2008	27,154	4,768	2,975	1,545	14,646	2,935	76	209
2009	32,879	5,530	3,702	1,632	18,230	3,487	94	205
2010	31,795	5,191	3,602	1,747	17,403	3,530	103	219
2011	29,314	4,870	3,595	1,726	15,771	3,067	76	209
2012	30,959	5,579	4,081	2,155	15,730	3,123	80	210
2013	29,779	5,217	4,302	2,052	14,950	3,000	66	192
2014	31,588	5,669	4,360	2,516	15,655	3,125	78	185

TABLE 86

Federal obligations for basic research, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
				United States and U.S. territories				Non-U.S. performers
		Federal agencies ^a	FFRDCs	Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
2015	31,527	5,814	4,628	2,537	15,296	2,986	61	207
2016	32,293	6,121	4,710	2,447	15,551	3,179	81	204
2017	33,271	6,116	4,994	2,692	15,847	3,359	66	197
2018	36,195	6,689	5,269	2,787	17,503	3,658	87	203
2019	40,017	7,240	6,454	3,637	18,627	3,725	86	250
2020	41,547	7,688	5,923	3,147	20,128	4,326	114	221
2021	42,266	6,523	5,805	3,785	21,441	3,948	533	232
2022	45,393	7,820	6,731	3,858	22,260	3,982	544	199
2023 (preliminary)	48,467	8,378	7,904	4,560	22,751	4,114	555	204

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

Note(s):

Because of rounding, detail may not add to total. FFRDC funding over the years may be affected by the creation of new FFRDCs and the phasing out of other FFRDCs. For details, see the notes in the Master Government List of Federally Funded R&D Centers at <http://www.nsf.gov/statistics/ffrdclist/#ffrdc>. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). As of volume 71 (FYs 2021–22), FFRDCs are classified as intramural R&D performers, whereas they were extramural in previous volumes; therefore, data are not directly comparable across volumes. Past years in the trend tables have been adjusted to reflect the current classification of FFRDCs.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 87

Federal obligations for applied research, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
1967	2,786	1,026	230	858	455	144	49	24
1968	2,941	1,110	225	899	467	141	70	29
1969	2,700	1,113	200	702	457	136	62	29
1970	2,975	1,345	230	691	468	150	70	20
1971	3,143	1,322	228	722	551	197	79	44
1972	3,361	1,387	240	755	621	246	78	33
1973	3,349	1,480	202	711	643	218	68	27
1974	3,788	1,574	262	751	814	287	74	26
1975	4,141	1,730	307	892	818	266	98	30
1976	4,852	2,093	430	972	908	309	106	34
1977	5,255	2,044	535	1,159	1,028	350	100	40
1978	5,908	2,192	589	1,404	1,169	398	112	45
1979	6,342	2,392	652	1,485	1,253	382	120	58
1980	6,923	2,484	719	1,752	1,379	399	127	63
1981	7,171	2,732	787	1,665	1,417	392	103	75
1982	7,541	2,729	1,035	1,886	1,318	388	101	83
1983	7,993	3,020	1,163	1,821	1,356	427	105	101
1984	7,911	2,904	1,151	1,760	1,499	449	60	89
1985	8,315	3,133	1,145	1,694	1,688	489	59	107
1986	8,349	3,141	1,007	1,769	1,751	491	60	130
1987	8,998	3,392	954	1,982	1,975	550	53	93
1988	9,177	3,288	962	2,046	2,155	571	60	94
1989	10,164	3,584	1,053	2,102	2,572	681	78	95
1990	10,337	3,515	1,010	2,304	2,588	736	76	107
1991	11,798	4,063	1,390	2,457	2,803	910	80	94
1992	12,001	4,186	1,470	2,531	2,729	952	67	66
1993	13,491	4,790	1,555	3,028	3,059	876	140	44
1994	13,888	4,983	1,449	2,954	3,299	969	156	77
1995	14,557	4,991	1,499	3,484	3,410	930	143	100
1996	13,796	4,836	1,407	3,160	3,263	944	107	77
1997	14,423	4,979	1,593	3,225	3,477	1,005	76	68
1998	15,309	5,051	1,711	3,513	3,787	1,028	155	64
1999	16,084	5,431	1,669	3,497	4,097	1,157	171	63
2000	18,901	5,828	1,803	3,444	5,965	1,729	87	45
2001	22,756	6,937	2,180	4,345	6,865	2,136	237	55
2002	24,338	7,397	2,298	4,555	7,617	2,191	204	76
2003	26,320	7,758	2,432	4,763	8,525	2,492	220	130
2004	27,237	7,414	2,710	4,813	9,301	2,470	335	195
2005	26,598	7,577	2,771	4,405	9,166	2,382	141	156
2006	26,951	7,498	2,686	4,577	9,152	2,581	265	191
2007	27,228	7,244	2,875	4,338	9,747	2,623	196	205
2008	26,740	7,154	2,783	4,237	9,678	2,462	263	162
2009	30,813	7,789	2,979	4,649	11,939	3,013	249	194
2010	31,933	8,090	3,144	4,879	12,205	3,157	250	209
2011	28,751	7,794	3,062	4,311	10,482	2,735	206	161
2012	31,027	8,714	2,912	5,639	10,560	2,731	272	200
2013	29,753	8,200	3,189	5,313	9,822	2,780	247	203
2014	31,604	8,636	3,674	5,542	10,455	2,806	317	173

TABLE 87

Federal obligations for applied research, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
				United States and U.S. territories				Non-U.S. performers
		Federal agencies ^a	FFRDCs	Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
2015	32,298	9,193	3,314	5,602	10,667	2,877	359	287
2016	34,812	9,934	3,939	5,924	11,313	3,091	339	272
2017	36,600	9,789	3,982	6,271	11,779	4,217	387	176
2018	38,392	11,129	4,189	5,981	12,585	3,957	343	208
2019	41,101	11,058	4,366	7,102	13,755	4,167	414	238
2020	43,758	11,884	3,969	6,882	15,345	4,865	530	282
2021	43,630	11,008	4,724	7,004	15,586	4,697	354	256
2022	48,414	12,831	4,402	8,822	16,809	4,816	319	416
2023 (preliminary)	51,014	14,535	4,961	6,982	18,778	5,143	294	320

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

Note(s):

Because of rounding, detail may not add to total. FFRDC funding over the years may be affected by the creation of new FFRDCs and the phasing out of other FFRDCs. For details, see the notes in the Master Government List of Federally Funded R&D Centers at <http://www.nsf.gov/statistics/ffrdclist/#ffrdc>. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). As of volume 71 (FYs 2021–22), FFRDCs are classified as intramural R&D performers, whereas they were extramural in previous volumes; therefore, data are not directly comparable across volumes. Past years in the trend tables have been adjusted to reflect the current classification of FFRDCs.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 88

Federal obligations for development, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
1967	11,898	1,934	803	8,839	142	151	10	17
1968	11,140	1,952	879	7,953	186	143	18	9
1969	10,996	1,856	937	7,817	207	143	27	9
1970	10,438	2,175	929	6,894	199	214	16	10
1971	10,419	2,340	933	6,699	214	177	45	11
1972	10,948	2,605	972	6,809	261	173	113	15
1973	11,219	2,674	1,017	6,844	226	262	173	24
1974	11,235	2,641	1,058	6,878	256	258	123	21
1975	12,309	2,890	1,233	7,413	333	308	116	17
1976	13,160	2,890	1,324	8,237	302	273	112	23
1977	14,936	3,054	1,772	9,350	322	288	123	28
1978	16,238	3,590	1,853	9,749	447	407	140	53
1979	17,610	3,936	2,056	10,410	555	404	171	77
1980	18,233	3,966	2,149	10,892	564	427	115	120
1981	20,891	4,392	2,370	12,910	546	364	93	217
1982	23,410	4,947	2,355	15,036	560	348	58	106
1983	24,458	5,872	2,618	14,906	498	405	49	110
1984	27,246	6,808	2,772	16,473	517	575	43	59
1985	32,226	7,889	3,292	19,630	613	654	40	107
1986	34,910	8,375	3,154	21,921	675	614	37	134
1987	37,313	7,975	3,586	24,320	697	504	58	173
1988	38,119	8,776	3,788	24,077	805	383	39	251
1989	40,641	9,128	3,658	25,673	879	480	46	777
1990	41,937	10,039	3,855	26,178	1,001	588	87	188
1991	37,327	8,684	3,410	23,014	1,301	712	86	121
1992	41,102	9,060	3,542	26,294	1,211	754	75	168
1993	40,424	9,212	2,547	26,295	1,316	771	108	175
1994	39,824	8,651	2,226	26,391	1,505	835	95	122
1995	39,752	9,340	2,336	25,537	1,574	755	95	114
1996	39,393	9,027	2,062	26,105	1,271	708	59	161
1997	40,461	9,051	2,074	27,027	1,386	667	117	139
1998	41,178	9,152	1,880	27,366	1,642	746	207	185
1999	41,813	9,399	2,235	27,322	1,755	802	125	175
2000	37,440	8,864	2,331	24,608	869	513	63	192
2001	39,779	10,916	3,167	22,974	1,408	812	145	357
2002	45,702	11,500	2,611	28,782	1,335	1,059	178	237
2003	52,456	12,699	2,826	34,652	1,329	570	99	281
2004	58,717	12,488	4,759	36,976	2,248	1,264	703	279
2005	65,110	13,521	4,642	42,411	2,532	1,409	313	281
2006	68,194	15,414	3,359	46,318	1,860	614	207	422
2007	73,169	18,116	3,295	49,268	1,581	568	64	277
2008	73,212	17,716	2,433	50,555	1,703	567	50	187
2009	77,398	18,225	3,520	53,469	1,389	549	48	198
2010	76,627	17,631	3,355	53,242	1,584	558	74	181
2011	77,468	22,481	4,129	47,513	1,427	876	434	607
2012	76,538	20,073	3,065	51,116	1,220	534	101	429
2013	66,188	19,546	2,589	42,173	1,000	469	72	338
2014	67,370	20,431	2,531	42,179	1,319	487	52	372

TABLE 88

Federal obligations for development, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
2015	64,928	19,919	3,177	39,345	1,453	426	67	542
2016	48,728	16,296	2,773	27,441	1,336	412	122	349
2017	49,103	15,085	2,718	28,912	1,337	564	100	386
2018	54,837	18,136	2,998	30,986	1,446	836	132	305
2019	61,306	21,015	3,871	33,707	1,619	559	86	450
2020	82,098	31,899	3,258	41,400	3,067	1,508	75	890
2021	103,718	55,294	4,263	39,435	2,740	1,642	79	265
2022	96,615	50,129	4,248	37,526	3,110	1,338	62	202
2023 (preliminary)	86,967	29,882	4,593	46,356	3,902	1,917	45	273

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

Note(s):

Because of rounding, detail may not add to total. FFRDC funding over the years may be affected by the creation of new FFRDCs and the phasing out of other FFRDCs. For details, see the notes in the Master Government List of Federally Funded R&D Centers at <http://www.nsf.gov/statistics/ffrdclist/#ffrdc>. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. Beginning with FY 2016, the totals reported for development obligations represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the Department of Defense (DOD) Budget Activity 7 (Operational System Development) obligations. Those funds, previously included in DOD's development obligation totals, support the development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate production funding in the current or subsequent fiscal year. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). As of volume 71 (FYs 2021–22), FFRDCs are classified as intramural R&D performers, whereas they were extramural in previous volumes; therefore, data are not directly comparable across volumes. Past years in the trend tables have been adjusted to reflect the current classification of FFRDCs.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 89

Federal obligations for R&D plant, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				
		Federal agencies ^a	FFRDCs	United States and U.S. territories				Non-U.S. performers
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
1967	620	239	139	NA	112	NA	130	*
1968	604	294	152	41	98	11	7	0
1969	669	260	286	54	62	5	2	1
1970	524	166	254	41	56	5	2	*
1971	611	203	293	54	49	3	1	9
1972	602	247	208	67	45	28	5	3
1973	774	324	310	77	43	16	3	2
1974	766	309	350	64	25	6	12	*
1975	821	347	365	62	36	11	*	*
1976	837	317	400	74	35	11	0	0
1977	1,367	712	500	103	34	7	1	11
1978	1,296	518	642	77	55	4	0	*
1979	1,475	545	656	214	42	9	*	8
1980	1,556	491	707	304	40	9	1	4
1981	1,486	468	632	302	37	41	0	5
1982	1,390	426	813	110	30	7	0	3
1983	1,297	394	527	259	34	82	0	1
1984	1,787	633	564	451	79	56	0	5
1985	1,821	625	651	298	141	70	*	35
1986	1,539	317	646	409	133	12	0	21
1987	1,846	302	619	668	231	21	0	6
1988	2,057	320	746	719	246	24	*	2
1989	2,165	330	711	900	205	14	1	4
1990	2,272	359	758	883	157	113	1	1
1991	2,853	519	923	1,003	253	145	1	9
1992	2,985	506	828	1,014	242	394	*	0
1993	3,101	432	809	1,048	361	416	1	33
1994	2,215	393	801	747	253	21	1	*
1995	2,256	480	702	695	327	26	1	26
1996	1,746	405	608	465	243	23	1	*
1997	1,927	608	673	390	239	17	0	*
1998	1,813	448	721	488	139	11	5	0
1999	2,046	483	859	545	141	12	5	*
2000	4,493	573	835	2,815	214	56	1	*
2001	4,070	520	1,015	2,180	285	28	1	40
2002	4,305	415	1,081	2,525	241	29	2	12
2003	4,267	610	1,058	1,817	687	71	1	23
2004	3,994	961	1,045	1,442	354	164	16	12
2005	3,771	859	902	1,381	423	135	55	16
2006	2,125	663	804	266	262	127	3	*
2007	2,168	593	822	401	266	80	0	6
2008	1,944	494	764	449	210	24	*	3
2009	3,668	805	1,702	396	607	154	1	2
2010	6,613	1,953	1,124	1,751	1,533	246	2	4
2011	4,171	846	852	2,030	286	141	*	15
2012	2,146	481	623	461	373	201	*	8
2013	1,905	673	576	231	237	184	*	4
2014	2,218	642	710	323	326	213	*	3

TABLE 89

Federal obligations for R&D plant, by performer: FYs 1967–2023

(Dollars in millions)

Fiscal year	Total	Intramural		Extramural				Non-U.S. performers
		Federal agencies ^a	FFRDCs	United States and U.S. territories				
				Businesses	Higher education ^b	Nonprofit organizations	State and local governments	
2015	2,825	1,417	689	276	292	151	*	*
2016	2,441	646	865	345	284	290	1	10
2017	2,652	829	956	334	350	158	0	25
2018	3,853	1,252	1,685	311	410	180	0	14
2019	4,376	1,093	2,235	354	514	170	1	10
2020	6,150	3,106	1,884	678	351	125	7	*
2021	4,282	883	2,019	858	360	155	6	*
2022	6,173	1,096	3,437	1,020	463	149	8	1
2023 (preliminary)	6,521	2,138	2,409	1,144	633	190	7	*

* = amount greater than \$0 but less than \$500,000. NA = not available; data were not collected at that level for that fiscal year.

FFRDC = federally funded research and development center.

^a Federal agencies' activities cover costs associated with the administration of federal R&D performance and R&D procurements from nonfederal performers by federal personnel, transfers of funds to other federal agencies for purposes related to R&D, and actual federal performance.

^b Higher education includes both public and private institutions as well as University Affiliated Research Centers.

Note(s):

Because of rounding, detail may not add to total. FFRDC funding over the years may be affected by the creation of new FFRDCs and the phasing out of other FFRDCs. For details, see the notes in the Master Government List of Federally Funded R&D Centers at <http://www.nsf.gov/statistics/ffrdclist/#ffrdc>. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). As of volume 71 (FYs 2021–22), FFRDCs are classified as intramural R&D performers, whereas they were extramural in previous volumes; therefore, data are not directly comparable across volumes. Past years in the trend tables have been adjusted to reflect the current classification of FFRDCs.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 90

Federal obligations for research, by detailed field of science and engineering: FYs 2003–13

(Dollars in millions)

Field	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All fields	51,072	53,358	53,738	53,536	54,094	53,894	63,692	63,728	58,065	61,986	59,533
Computer sciences and mathematics	2,672	2,949	2,983	2,815	2,946	3,047	3,612	3,412	3,374	3,528	3,427
Computer sciences	2,053	2,145	2,157	1,988	2,078	2,053	2,422	2,362	2,192	2,392	2,362
Mathematics	453	618	687	669	709	783	928	835	892	925	864
Other computer sciences and mathematics	167	187	140	158	159	211	262	214	291	210	201
Engineering	8,405	8,866	8,553	8,679	8,990	8,976	10,285	11,081	10,057	11,403	10,948
Aeronautical engineering	1,732	1,641	1,276	1,229	929	810	908	830	845	1,815	1,842
Astronautical engineering	702	665	494	476	341	288	370	390	410	690	737
Chemical engineering	328	319	284	295	354	346	447	510	475	350	419
Civil engineering	340	330	279	353	462	488	679	700	617	514	447
Electrical engineering	950	891	1,033	1,035	1,027	1,046	1,254	1,361	1,235	1,325	1,163
Mechanical engineering	298	302	324	298	337	292	314	364	310	372	549
Metallurgy and materials engineering	1,084	1,037	1,184	1,250	1,480	1,624	1,722	1,759	1,621	1,699	1,729
Other engineering	2,971	3,682	3,678	3,742	4,060	4,081	4,591	5,168	4,544	4,639	4,062
Environmental sciences	3,741	3,742	3,503	3,431	3,170	2,985	3,751	3,339	3,207	3,884	4,041
Atmospheric sciences	1,259	1,260	1,185	1,167	965	884	1,018	954	954	1,469	1,542
Geological sciences	725	704	674	654	638	517	754	530	598	726	627
Oceanography	846	809	772	746	788	789	834	744	724	814	788
Other environmental sciences	910	968	872	864	780	794	1,145	1,111	932	876	1,084
Life sciences	27,772	27,728	28,128	27,928	29,464	28,919	33,267	33,909	29,450	31,006	29,663
Agricultural sciences	1,046	1,087	1,094	1,108	1,139	1,020	1,120	1,132	1,085	943	903
Biological sciences (excluding environmental biology)	18,643	13,092	13,352	13,691	14,430	14,443	17,377	17,214	15,178	15,458	14,588
Environmental biology	718	670	699	687	757	858	964	816	855	797	782
Medical sciences	6,160	10,899	10,862	10,592	10,791	10,387	11,393	11,677	10,202	11,078	10,917
Other life sciences	1,205	1,981	2,121	1,850	2,347	2,210	2,414	3,070	2,129	2,730	2,472
Physical sciences	5,022	5,211	5,494	5,351	5,136	5,073	5,821	5,871	5,427	6,408	6,282
Astronomy	872	921	885	792	656	528	672	560	555	1,099	1,147
Chemistry	1,138	1,191	1,198	1,126	1,150	1,148	1,274	1,311	1,106	1,103	982
Physics	2,500	2,599	3,041	3,002	2,939	2,969	3,356	3,470	3,269	3,708	3,482
Other physical sciences	512	501	370	430	391	427	520	530	496	497	671
Psychology	1,104	1,855	1,892	1,747	1,838	1,741	2,086	2,156	1,887	2,087	1,935
Biological aspects	23	6	2	3	4	22	2	14	16	14	14
Social aspects	51	52	47	41	37	19	51	75	54	62	65
Other psychological sciences	1,031	1,797	1,843	1,703	1,797	1,700	2,033	2,067	1,816	2,011	1,856
Social sciences	1,026	1,090	1,097	1,124	1,147	977	1,157	1,197	1,262	1,125	1,237
Anthropology	15	15	18	15	16	17	29	25	26	30	26
Economics	234	205	216	203	250	212	230	274	399	344	333
Political science	19	19	33	45	41	29	25	14	12	13	11
Sociology	125	120	70	144	218	95	139	132	133	155	137
Other social sciences	634	731	760	717	622	623	734	752	693	583	730
Other sciences nec	1,329	1,916	2,089	2,461	1,403	2,177	3,713	2,763	3,401	2,546	1,999

nec = not elsewhere classified.

Note(s):

Because of rounding, detail may not add to total. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 91

Federal obligations for research, by detailed field of R&D: FYs 2014–23

(Dollars in millions)

Field	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All fields	63,191	63,825	67,105	69,871	74,588	81,118	85,305	85,896	93,807	99,481
Computer and information sciences	NA	NA	NA	NA	NA	NA	NA	5,350	4,831	5,459
Computer sciences and mathematics	3,883	3,863	4,223	3,894	4,207	4,330	5,912	NA	NA	NA
Computer sciences	2,613	2,646	2,815	2,735	2,888	2,897	4,280	NA	NA	NA
Mathematics	979	1,006	1,160	942	1,055	1,157	681	NA	NA	NA
Other computer sciences and mathematics	291	211	247	218	264	276	950	NA	NA	NA
Geosciences, atmospheric sciences, and ocean sciences (formerly Environmental sciences)	4,366	4,414	4,450	4,470	4,568	5,075	5,039	5,042	5,566	6,712
Atmospheric science and meteorology (formerly Atmospheric sciences)	1,567	1,568	1,597	1,651	796	824	908	888	960	NA
Geological and earth sciences (formerly Geological sciences)	561	643	562	580	227	239	306	602	622	NA
Ocean sciences and marine sciences (formerly Oceanography)	848	726	773	774	778	819	946	1,096	1,127	NA
Other geosciences, atmospheric sciences, and ocean sciences (formerly Other environmental sciences)	1,389	1,477	1,518	1,464	2,766	3,192	2,879	2,456	2,857	NA
Life sciences	30,951	30,625	32,045	34,090	36,994	38,304	42,525	38,249	41,610	42,330
Agricultural sciences	1,004	1,320	1,283	1,353	1,325	1,446	1,413	1,073	1,268	NA
Biological and biomedical sciences	NA	NA	NA	NA	NA	NA	NA	18,228	21,327	NA
Biological sciences (excluding environmental biology)	15,311	14,840	15,923	16,556	17,829	18,910	20,165	NA	NA	NA
Environmental biology	821	819	788	783	922	924	902	NA	NA	NA
Health sciences (formerly Medical sciences)	11,285	11,087	11,359	12,649	13,564	13,775	16,182	15,008	14,707	NA
Natural resources and conservation	NA	NA	NA	NA	NA	NA	NA	227	247	NA
Other life sciences	2,530	2,559	2,693	2,748	3,354	3,249	3,863	3,712	4,060	NA
Mathematics and statistics	NA	NA	NA	NA	NA	NA	NA	715	904	929
Physical sciences	6,483	6,510	6,706	6,581	7,881	9,816	8,420	10,048	12,099	12,665
Astronomy and astrophysics (formerly Astronomy)	1,192	1,230	1,247	1,292	887	1,583	871	964	1,113	NA
Chemistry	1,013	968	999	969	1,121	1,125	1,144	1,141	2,014	NA
Material science	NA	NA	NA	NA	NA	NA	NA	552	533	NA
Physics	3,565	3,040	3,732	3,676	3,541	3,446	3,577	3,156	3,677	NA
Other physical sciences	714	1,272	728	644	2,332	3,661	2,828	4,235	4,762	NA
Psychology	1,968	1,995	2,021	2,081	2,327	2,754	3,276	3,770	4,588	4,880
Biological aspects	15	19	20	10	20	18	14	14	29	NA
Social aspects	59	59	56	56	48	53	42	50	48	NA
Other psychological sciences	1,894	1,917	1,946	2,014	2,259	2,683	3,220	3,706	4,511	NA
Social sciences	1,435	1,136	1,227	1,027	1,039	1,156	1,137	1,370	1,917	2,160
Anthropology	26	30	32	32	35	35	19	42	57	NA
Economics	344	337	371	294	282	295	203	228	245	NA
Political science and government (formerly Political science)	13	16	15	18	11	14	12	11	8	NA
Sociology, demography, and population studies (formerly Sociology)	158	128	197	178	143	224	152	111	102	NA
Other social sciences ^a	893	625	612	505	568	588	751	978	1,505	NA
Engineering	11,888	11,984	12,972	13,207	13,759	15,279	13,222	14,650	15,497	16,758
Aeronautical engineering	1,833	1,825	1,836	1,892	1,118	1,199	1,093	NA	NA	NA
Aerospace, aeronautical, and astronautical engineering	NA	NA	NA	NA	NA	NA	NA	2,604	2,391	NA
Astronautical engineering	669	661	651	651	796	830	916	NA	NA	NA
Bioengineering and biomedical engineering	NA	NA	NA	NA	NA	NA	NA	40	148	NA

TABLE 91

Federal obligations for research, by detailed field of R&D: FYs 2014–23

(Dollars in millions)

Field	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Chemical engineering	535	375	373	302	692	454	788	733	749	NA
Civil engineering	445	458	462	606	476	566	476	649	644	NA
Electrical, electronics, and communications engineering (formerly Electrical engineering)	1,240	897	1,063	1,103	1,010	971	881	891	872	NA
Industrial and manufacturing engineering	NA	NA	NA	NA	NA	NA	NA	291	2,075	NA
Mechanical engineering	503	324	374	450	498	630	523	289	429	NA
Metallurgical and materials engineering (formerly Metallurgy and materials engineering)	1,769	1,757	1,975	1,941	1,915	1,843	704	811	546	NA
Other engineering	4,894	5,688	6,237	6,262	7,253	8,787	7,841	8,343	7,642	NA
Other fields	NA	NA	NA	NA	NA	NA	NA	6,703	6,796	7,587
Business management and business administration	NA	NA	NA	NA	NA	NA	NA	120	106	NA
Communication and communications technologies	NA	NA	NA	NA	NA	NA	NA	12	21	NA
Education research	NA	NA	NA	NA	NA	NA	NA	987	1,063	NA
Humanities, including History	NA	NA	NA	NA	NA	NA	NA	*	*	NA
Law	NA	NA	NA	NA	NA	NA	NA	7	6	NA
Social work	NA	NA	NA	NA	NA	NA	NA	0	0	NA
Visual and performing arts	NA	NA	NA	NA	NA	NA	NA	0	0	NA
All other fields	NA	NA	NA	NA	NA	NA	NA	5,576	5,600	NA
Other sciences nec	2,218	3,299	3,461	4,521	3,812	4,405	5,773	NA	NA	NA

* = amount greater than \$0 but less than \$500,000. NA = not available; data were not collected at that level for that fiscal year.

nec = not elsewhere classified.

^a As of volume 71 (FYs 2021–22), Other social sciences no longer includes Education research or Law; those categories were moved to Other fields.

Note(s):

Because of rounding, detail may not add to total. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). As of volume 71 (FYs 2021–22), the fields of R&D (formerly, "fields of science and engineering") were revised for consistency with other National Center for Science and Engineering Statistics surveys; some fields were added, merged, or split, and some fields were renamed. Therefore, the data are not directly comparable with totals reported in previous years. See [technical table A-3](#) for additional notes associated with the taxonomy changes to the fields listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 92

Federal obligations for basic research, by detailed field of science and engineering: FYs 2003–13

(Dollars in millions)

Field	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All fields	24,751	26,121	27,140	26,585	26,866	27,154	32,879	31,795	29,314	30,959	29,779
Computer sciences and mathematics	1,120	1,239	1,228	1,208	1,294	1,407	1,861	1,663	1,788	1,795	1,691
Computer sciences	730	712	658	671	708	734	978	874	936	922	860
Mathematics	360	479	543	519	561	645	804	717	741	806	757
Other computer sciences and mathematics	30	48	28	19	24	29	79	73	111	66	73
Engineering	1,913	2,272	2,300	2,365	2,630	2,736	3,406	3,491	3,168	3,459	3,408
Aeronautical engineering	256	304	318	243	195	150	185	151	153	402	409
Astronautical engineering	59	67	73	58	44	32	35	32	33	79	85
Chemical engineering	72	69	67	68	109	112	168	143	183	94	84
Civil engineering	51	56	62	67	124	126	186	155	149	35	28
Electrical engineering	226	200	213	205	246	221	297	295	281	299	259
Mechanical engineering	96	90	77	70	78	66	84	80	82	156	147
Metallurgy and materials engineering	581	592	666	811	960	993	1,113	1,091	1,077	1,186	1,201
Other engineering	572	895	826	842	875	1,036	1,338	1,544	1,209	1,207	1,194
Environmental sciences	1,900	2,023	1,966	1,849	1,728	1,593	2,143	1,787	1,796	2,259	2,396
Atmospheric sciences	668	727	744	666	584	523	650	597	612	952	995
Geological sciences	462	482	470	445	427	303	430	333	396	502	411
Oceanography	442	453	431	416	437	434	549	472	483	494	457
Other environmental sciences	327	362	321	322	280	333	514	386	305	310	533
Life sciences	14,765	14,490	15,248	14,934	15,643	15,557	17,587	17,748	15,373	16,016	15,317
Agricultural sciences	528	504	511	514	533	495	531	571	547	480	462
Biological sciences (excluding environmental biology)	10,471	7,223	7,608	7,700	8,076	8,259	9,600	9,417	8,277	8,317	7,919
Environmental biology	324	329	339	344	351	368	467	435	435	407	384
Medical sciences	2,919	5,477	5,703	5,454	5,504	5,314	5,748	5,787	5,086	5,528	5,326
Other life sciences	522	957	1,087	922	1,180	1,122	1,241	1,537	1,029	1,283	1,226
Physical sciences	3,454	3,663	3,739	3,516	3,544	3,403	4,121	3,984	3,815	4,557	4,432
Astronomy	696	765	778	687	593	483	618	504	499	925	974
Chemistry	749	776	764	721	733	726	835	828	774	776	715
Physics	1,821	1,905	1,996	1,911	2,012	1,987	2,370	2,377	2,275	2,568	2,469
Other physical sciences	189	217	200	197	207	208	298	275	267	287	275
Psychology	544	979	1,040	945	979	936	1,100	1,129	979	1,088	1,016
Biological aspects	11	1	*	1	1	1	2	10	13	13	14
Social aspects	4	5	4	5	5	7	19	18	17	13	16
Other psychological sciences	529	973	1,035	939	972	929	1,080	1,101	949	1,061	986
Social sciences	353	419	391	381	361	330	432	359	371	381	374
Anthropology	13	13	15	14	15	15	28	24	26	27	24
Economics	48	48	51	46	52	44	52	44	54	55	58
Political science	6	7	11	11	9	16	13	10	9	10	9
Sociology	49	49	18	19	41	14	33	30	36	39	24
Other social sciences	237	303	296	290	244	241	306	251	246	251	258
Other sciences nec	703	1,036	1,228	1,386	686	1,191	2,228	1,633	2,023	1,405	1,146

* = amount greater than \$0 but less than \$500,000.

nec = not elsewhere classified.

Note(s):

Because of rounding, detail may not add to total. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 93

Federal obligations for basic research, by detailed field of R&D: FYs 2014–23

(Dollars in millions)

Field	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All fields	31,588	31,527	32,293	33,271	36,195	40,017	41,547	42,266	45,393	48,467
Computer and information sciences	NA	NA	NA	NA	NA	NA	NA	2,264	2,298	2,431
Computer sciences and mathematics	1,918	1,984	2,110	1,877	2,085	2,306	2,524	NA	NA	NA
Computer sciences	959	1,025	997	999	1,032	1,151	1,230	NA	NA	NA
Mathematics	824	874	1,019	824	943	1,039	504	NA	NA	NA
Other computer sciences and mathematics	134	86	93	55	110	116	791	NA	NA	NA
Geosciences, atmospheric sciences, and ocean sciences (formerly Environmental sciences)	2,753	2,738	2,765	2,687	2,996	3,252	3,167	3,057	3,441	3,991
Atmospheric science and meteorology (formerly Atmospheric sciences)	1,037	1,051	1,080	1,088	508	514	563	561	557	NA
Geological and earth sciences (formerly Geological sciences)	418	433	433	439	183	200	262	315	302	NA
Ocean sciences and marine sciences (formerly Oceanography)	483	432	442	385	419	432	470	489	519	NA
Other geosciences, atmospheric sciences, and ocean sciences (formerly Other environmental sciences)	816	822	810	776	1,887	2,106	1,872	1,692	2,064	NA
Life sciences	16,019	15,210	15,577	16,574	18,176	18,881	20,805	19,016	19,052	20,388
Agricultural sciences	514	554	566	584	597	635	682	587	648	NA
Biological and biomedical sciences	NA	NA	NA	NA	NA	NA	NA	9,762	9,780	NA
Biological sciences (excluding environmental biology)	8,284	7,758	8,026	8,573	9,159	9,786	10,326	NA	NA	NA
Environmental biology	395	399	381	372	514	490	471	NA	NA	NA
Health sciences (formerly Medical sciences)	5,564	5,270	5,337	5,717	6,415	6,389	7,460	6,832	6,611	NA
Natural resources and conservation	NA	NA	NA	NA	NA	NA	NA	32	44	NA
Other life sciences	1,263	1,228	1,267	1,327	1,492	1,581	1,866	1,803	1,968	NA
Mathematics and statistics	NA	NA	NA	NA	NA	NA	NA	503	608	616
Physical sciences	4,637	4,621	4,707	4,717	5,931	7,907	6,513	8,184	9,449	9,751
Astronomy and astrophysics (formerly Astronomy)	1,036	1,073	1,093	1,139	879	1,577	870	964	1,112	NA
Chemistry	722	672	688	694	739	691	754	792	1,260	NA
Material science	NA	NA	NA	NA	NA	NA	NA	337	355	NA
Physics	2,576	2,569	2,593	2,597	2,518	2,571	2,516	2,537	2,658	NA
Other physical sciences	303	306	333	286	1,795	3,068	2,373	3,554	4,064	NA
Psychology	1,038	1,000	990	1,027	1,147	1,366	1,612	1,934	2,288	2,434
Biological aspects	14	14	16	10	19	16	13	13	18	NA
Social aspects	13	14	12	13	10	11	12	17	14	NA
Other psychological sciences	1,011	972	962	1,004	1,118	1,339	1,587	1,904	2,256	NA
Social sciences	386	345	378	359	374	451	440	537	766	822
Anthropology	24	28	29	29	31	33	18	22	36	NA
Economics	58	47	51	56	53	86	39	53	58	NA
Political science and government (formerly Political science)	12	12	14	12	9	10	5	1	*	NA
Sociology, demography, and population studies (formerly Sociology)	31	27	24	23	24	37	20	43	33	NA
Other social sciences ^a	261	230	260	239	258	286	358	418	639	NA
Engineering	3,545	3,694	3,658	3,686	3,586	3,618	2,898	3,212	3,739	3,923
Aeronautical engineering	447	469	479	450	99	71	70	NA	NA	NA
Aerospace, aeronautical, and astronautical engineering	NA	NA	NA	NA	NA	NA	NA	270	293	NA
Astronautical engineering	93	99	99	101	8	9	15	NA	NA	NA
Bioengineering and biomedical engineering	NA	NA	NA	NA	NA	NA	NA	27	84	NA

TABLE 93

Federal obligations for basic research, by detailed field of R&D: FYs 2014–23

(Dollars in millions)

Field	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Chemical engineering	104	60	70	76	72	75	94	121	124	NA
Civil engineering	28	54	38	27	14	12	16	70	70	NA
Electrical, electronics, and communications engineering (formerly Electrical engineering)	248	228	228	225	238	219	205	200	211	NA
Industrial and manufacturing engineering	NA	NA	NA	NA	NA	NA	NA	41	45	NA
Mechanical engineering	129	126	123	124	111	103	116	114	135	NA
Metallurgical and materials engineering (formerly Metallurgy and materials engineering)	1,233	1,290	1,279	1,306	1,364	1,223	281	238	201	NA
Other engineering	1,264	1,368	1,342	1,376	1,680	1,906	2,100	2,131	2,575	NA
Other fields	NA	NA	NA	NA	NA	NA	NA	3,558	3,752	4,112
Business management and business administration	NA	NA	NA	NA	NA	NA	NA	34	27	NA
Communication and communications technologies	NA	NA	NA	NA	NA	NA	NA	0	1	NA
Education research	NA	NA	NA	NA	NA	NA	NA	360	357	NA
Humanities, including History	NA	NA	NA	NA	NA	NA	NA	*	*	NA
Law	NA	NA	NA	NA	NA	NA	NA	7	6	NA
Social work	NA	NA	NA	NA	NA	NA	NA	0	0	NA
Visual and performing arts	NA	NA	NA	NA	NA	NA	NA	0	0	NA
All other fields	NA	NA	NA	NA	NA	NA	NA	3,158	3,361	NA
Other sciences nec	1,292	1,935	2,108	2,344	1,900	2,237	3,588	NA	NA	NA

* = amount greater than \$0 but less than \$500,000. NA = not available; data were not collected at that level for that fiscal year.

nec = not elsewhere classified.

^a As of volume 71 (FYs 2021–22), Other social sciences no longer includes Education research or Law; those categories were moved to Other fields.

Note(s):

Because of rounding, detail may not add to total. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). As of volume 71 (FYs 2021–22), the fields of R&D (formerly, "fields of science and engineering") were revised for consistency with other National Center for Science and Engineering Statistics surveys; some fields were added, merged, or split, and some fields were renamed. Therefore, the data are not directly comparable with totals reported in previous years. See [technical table A-3](#) for additional notes associated with the taxonomy changes to the fields listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 94

Federal obligations for applied research, by detailed field of science and engineering: FYs 2003–13

(Dollars in millions)

Field	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All fields	26,320	27,237	26,598	26,951	27,228	26,740	30,813	31,933	28,751	31,027	29,753
Computer sciences and mathematics	1,552	1,710	1,755	1,607	1,652	1,640	1,750	1,749	1,586	1,733	1,736
Computer sciences	1,322	1,433	1,499	1,317	1,369	1,319	1,444	1,488	1,255	1,470	1,502
Mathematics	93	139	144	151	148	138	124	119	150	119	107
Other computer sciences and mathematics	137	139	112	139	135	183	183	141	180	144	128
Engineering	6,492	6,595	6,252	6,314	6,360	6,239	6,879	7,590	6,889	7,944	7,541
Aeronautical engineering	1,476	1,337	959	987	734	661	722	679	692	1,413	1,433
Astronautical engineering	643	598	421	419	297	256	335	358	377	611	652
Chemical engineering	256	250	217	227	245	234	279	367	292	255	335
Civil engineering	289	275	217	285	338	362	493	545	468	478	419
Electrical engineering	724	691	821	830	781	825	957	1,066	954	1,026	904
Mechanical engineering	202	212	247	228	260	227	230	283	228	216	402
Metallurgy and materials engineering	503	445	518	439	520	631	609	667	544	513	528
Other engineering	2,399	2,787	2,853	2,900	3,185	3,045	3,253	3,625	3,334	3,432	2,868
Environmental sciences	1,841	1,719	1,536	1,581	1,443	1,392	1,608	1,551	1,411	1,626	1,645
Atmospheric sciences	591	533	442	501	381	361	368	357	341	517	548
Geological sciences	263	222	203	209	211	215	324	198	201	224	215
Oceanography	404	356	340	329	351	355	285	272	241	319	331
Other environmental sciences	583	607	551	542	500	461	631	725	627	565	551
Life sciences	13,007	13,239	12,880	12,993	13,820	13,361	15,680	16,161	14,076	14,990	14,345
Agricultural sciences	518	583	583	594	606	526	589	560	538	462	441
Biological sciences (excluding environmental biology)	8,172	5,869	5,744	5,991	6,354	6,184	7,777	7,796	6,901	7,141	6,669
Environmental biology	394	341	360	342	406	490	497	381	420	390	398
Medical sciences	3,241	5,422	5,159	5,138	5,287	5,073	5,645	5,890	5,117	5,551	5,591
Other life sciences	682	1,024	1,034	928	1,166	1,089	1,172	1,533	1,100	1,447	1,246
Physical sciences	1,568	1,549	1,755	1,836	1,592	1,669	1,700	1,887	1,612	1,851	1,850
Astronomy	176	155	107	106	63	45	54	56	57	174	173
Chemistry	389	415	434	406	417	423	439	483	332	327	267
Physics	680	694	1,045	1,091	927	982	986	1,093	994	1,140	1,013
Other physical sciences	323	284	170	233	184	219	222	255	229	209	396
Psychology	561	876	852	802	859	805	986	1,026	908	999	919
Biological aspects	13	5	2	2	2	21	*	4	3	1	*
Social aspects	46	47	42	36	31	12	32	56	38	48	48
Other psychological sciences	501	824	807	764	825	771	953	967	867	949	870
Social sciences	673	670	706	743	786	647	725	838	891	743	863
Anthropology	2	2	3	1	1	2	2	*	*	3	2
Economics	186	157	165	156	198	169	178	230	344	289	275
Political science	13	12	22	34	33	13	12	5	3	3	2
Sociology	76	72	52	125	177	81	106	103	97	116	113
Other social sciences	397	428	464	427	378	382	428	501	447	332	472
Other sciences nec	627	880	861	1,075	717	986	1,485	1,130	1,378	1,142	853

* = amount greater than \$0 but less than \$500,000.

nec = not elsewhere classified.

Note(s):

Because of rounding, detail may not add to total. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 95

Federal obligations for applied research, by detailed field of R&D: FYs 2014–23

(Dollars in millions)

Field	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
All fields	31,604	32,298	34,812	36,600	38,392	41,101	43,758	43,630	48,414	51,014
Computer and information sciences	NA	NA	NA	NA	NA	NA	NA	3,086	2,533	3,029
Computer sciences and mathematics	1,965	1,878	2,113	2,017	2,122	2,024	3,388	NA	NA	NA
Computer sciences	1,654	1,621	1,818	1,736	1,856	1,746	3,050	NA	NA	NA
Mathematics	155	132	141	118	113	118	178	NA	NA	NA
Other computer sciences and mathematics	157	125	154	163	154	160	160	NA	NA	NA
Geosciences, atmospheric sciences, and ocean sciences (formerly Environmental sciences)	1,613	1,675	1,685	1,783	1,571	1,823	1,873	1,985	2,125	2,721
Atmospheric science and meteorology (formerly Atmospheric sciences)	531	516	517	564	288	310	345	327	403	NA
Geological and earth sciences (formerly Geological sciences)	143	211	129	141	45	39	44	287	320	NA
Ocean sciences and marine sciences (formerly Oceanography)	365	294	331	390	359	387	476	606	608	NA
Other geosciences, atmospheric sciences, and ocean sciences (formerly Other environmental sciences)	573	654	708	688	879	1,086	1,007	764	793	NA
Life sciences	14,932	15,415	16,468	17,516	18,818	19,423	21,720	19,232	22,558	21,942
Agricultural sciences	491	766	717	769	728	811	731	486	620	NA
Biological and biomedical sciences	NA	NA	NA	NA	NA	NA	NA	8,466	11,547	NA
Biological sciences (excluding environmental biology)	7,027	7,081	7,897	7,982	8,670	9,125	9,839	NA	NA	NA
Environmental biology	426	420	408	412	409	434	431	NA	NA	NA
Health sciences (formerly Medical sciences)	5,721	5,816	6,021	6,931	7,150	7,386	8,722	8,176	8,095	NA
Natural resources and conservation	NA	NA	NA	NA	NA	NA	NA	195	203	NA
Other life sciences	1,267	1,331	1,426	1,421	1,862	1,668	1,997	1,909	2,092	NA
Mathematics and statistics	NA	NA	NA	NA	NA	NA	NA	212	296	313
Physical sciences	1,846	1,889	1,999	1,864	1,951	1,909	1,907	1,864	2,650	2,914
Astronomy and astrophysics (formerly Astronomy)	156	157	154	153	8	6	1	1	*	NA
Chemistry	291	295	311	275	382	434	390	349	755	NA
Material science	NA	NA	NA	NA	NA	NA	NA	215	179	NA
Physics	989	471	1,139	1,079	1,023	875	1,061	618	1,019	NA
Other physical sciences	410	966	395	358	537	593	455	681	698	NA
Psychology	930	995	1,032	1,054	1,180	1,387	1,664	1,836	2,300	2,446
Biological aspects	1	5	4	*	1	1	1	*	11	NA
Social aspects	46	45	44	43	38	42	30	34	34	NA
Other psychological sciences	883	945	983	1,011	1,141	1,344	1,634	1,801	2,255	NA
Social sciences	1,049	792	849	668	665	704	698	832	1,151	1,338
Anthropology	2	2	2	3	4	2	1	20	21	NA
Economics	286	290	320	238	230	209	164	175	187	NA
Political science and government (formerly Political science)	1	4	1	5	2	4	8	9	8	NA
Sociology, demography, and population studies (formerly Sociology)	127	102	173	155	119	187	132	68	69	NA
Other social sciences ^a	632	395	352	267	311	302	393	560	866	NA
Engineering	8,343	8,290	9,314	9,522	10,173	11,661	10,324	11,438	11,758	12,835
Aeronautical engineering	1,386	1,356	1,357	1,442	1,019	1,128	1,023	NA	NA	NA
Aerospace, aeronautical, and astronautical engineering	NA	NA	NA	NA	NA	NA	NA	2,334	2,099	NA
Astronautical engineering	576	562	551	550	788	821	901	NA	NA	NA
Bioengineering and biomedical engineering	NA	NA	NA	NA	NA	NA	NA	13	64	NA

TABLE 95

Federal obligations for applied research, by detailed field of R&D: FYs 2014–23

(Dollars in millions)

Field	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (preliminary)
Chemical engineering	432	314	303	226	621	379	694	612	624	NA
Civil engineering	417	403	424	579	462	555	459	579	574	NA
Electrical, electronics, and communications engineering (formerly Electrical engineering)	992	669	835	878	772	751	675	691	661	NA
Industrial and manufacturing engineering	NA	NA	NA	NA	NA	NA	NA	250	2,029	NA
Mechanical engineering	374	198	251	326	388	527	407	175	294	NA
Metallurgical and materials engineering (formerly Metallurgy and materials engineering)	536	467	696	635	552	620	423	573	345	NA
Other engineering	3,629	4,320	4,895	4,886	5,573	6,881	5,741	6,212	5,067	NA
Other fields	NA	NA	NA	NA	NA	NA	NA	3,145	3,045	3,475
Business management and business administration	NA	NA	NA	NA	NA	NA	NA	86	79	NA
Communication and communications technologies	NA	NA	NA	NA	NA	NA	NA	12	21	NA
Education research	NA	NA	NA	NA	NA	NA	NA	627	707	NA
Humanities, including History	NA	NA	NA	NA	NA	NA	NA	*	*	NA
Law	NA	NA	NA	NA	NA	NA	NA	*	*	NA
Social work	NA	NA	NA	NA	NA	NA	NA	0	0	NA
Visual and performing arts	NA	NA	NA	NA	NA	NA	NA	0	0	NA
All other fields	NA	NA	NA	NA	NA	NA	NA	2,419	2,238	NA
Other sciences nec	925	1,364	1,352	2,176	1,912	2,168	2,185	NA	NA	NA

* = amount greater than \$0 but less than \$500,000. NA = not available; data were not collected at that level for that fiscal year.

nec = not elsewhere classified.

^a As of volume 71 (FYs 2021–22), Other social sciences does not include Education research or Law as of volume 71; those categories were moved to Other fields.

Note(s):

Because of rounding, detail may not add to total. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). As of volume 71 (FYs 2021–22), the fields of R&D (formerly, "fields of science and engineering") were revised for consistency with other National Center for Science and Engineering Statistics surveys; some fields were added, merged, or split, and some fields were renamed. Therefore, the data are not directly comparable with totals reported in previous years. See [technical table A-3](#) for additional notes associated with the taxonomy changes to the fields listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 96

Federal obligations for research and development for selected agencies, by state or location: FYs 2003–13

(Dollars in millions)

State or location	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All locations	101,366	109,733	116,586	119,302	124,900	125,092	138,975	138,156	132,794	135,995	122,985
Alabama	3,212	3,036	3,108	2,198	2,248	2,782	3,023	3,477	5,202	5,159	4,716
Alaska	399	461	495	212	264	222	247	236	196	159	185
Arizona	2,385	2,644	2,959	2,460	2,422	2,449	3,142	3,426	2,917	2,405	2,369
Arkansas	145	147	165	162	178	145	171	182	179	184	167
California	20,170	19,259	19,964	26,898	26,987	19,939	26,989	27,227	22,769	18,036	16,181
Colorado	1,735	2,068	2,265	2,189	2,798	2,668	3,862	4,348	3,816	3,745	3,394
Connecticut	2,068	2,123	2,400	1,947	2,117	1,815	2,365	2,193	2,426	2,231	2,517
Delaware	95	90	94	113	131	144	225	129	115	109	112
District of Columbia	2,986	3,329	4,162	4,193	4,278	17,537	4,265	3,890	3,014	3,339	3,908
Florida	2,854	3,265	2,590	3,346	4,078	2,290	3,734	3,142	2,482	2,356	2,282
Georgia	2,133	1,907	2,182	1,751	1,686	1,386	1,958	1,520	1,422	1,133	1,130
Hawaii	414	488	600	380	379	348	387	389	404	383	348
Idaho	218	289	290	300	287	355	388	479	430	447	381
Illinois	1,935	1,880	2,128	2,003	2,145	2,169	2,746	2,631	2,878	2,399	2,327
Indiana	574	557	567	583	597	672	1,109	989	903	838	693
Iowa	499	538	488	549	662	635	683	909	695	613	560
Kansas	269	287	358	294	318	300	464	348	368	232	234
Kentucky	247	252	296	240	222	252	319	287	242	308	307
Louisiana	453	447	444	323	419	406	406	331	597	314	278
Maine	167	210	292	229	379	168	194	163	180	248	170
Maryland	8,027	12,609	12,501	12,747	11,906	13,313	15,971	15,879	15,751	15,598	15,606
Massachusetts	5,492	5,964	6,592	6,876	7,529	6,883	9,047	8,747	7,758	6,279	5,691
Michigan	1,693	1,118	1,177	1,700	1,726	1,866	2,427	2,510	2,153	2,206	1,826
Minnesota	866	831	768	1,242	1,387	1,393	1,551	1,063	949	961	940
Mississippi	1,181	1,599	438	555	434	435	385	422	588	543	568
Missouri	1,349	3,059	4,202	1,316	1,221	1,111	1,285	1,151	1,193	1,123	1,056
Montana	131	189	182	151	654	159	171	139	182	190	135
Nebraska	168	210	193	178	230	205	220	240	262	262	201
Nevada	419	555	593	436	321	313	558	380	478	482	585
New Hampshire	512	422	514	400	340	294	458	350	406	491	296
New Jersey	2,088	2,274	2,525	2,173	2,192	2,193	2,492	2,853	2,583	2,167	1,727
New Mexico	3,090	3,363	3,593	3,315	3,478	3,503	3,696	3,338	3,456	3,379	3,421
New York	4,382	4,505	5,320	5,368	5,368	4,651	6,242	5,602	5,042	4,727	4,605
North Carolina	1,617	1,684	1,806	1,771	1,828	1,773	2,022	2,151	2,060	1,922	1,759
North Dakota	107	109	118	118	116	98	101	120	118	88	90
Ohio	2,967	2,794	2,961	2,724	3,661	2,580	4,460	4,099	3,555	3,436	2,426
Oklahoma	570	498	401	271	253	261	370	430	463	450	262
Oregon	514	505	650	510	506	581	635	675	711	632	529
Pennsylvania	3,989	3,731	3,677	3,300	3,360	3,279	4,298	4,963	4,513	3,725	3,295
Rhode Island	566	642	889	623	628	644	679	670	610	557	486
South Carolina	454	384	493	374	422	453	662	662	497	555	397
South Dakota	55	70	70	76	62	76	79	75	61	63	57
Tennessee	1,131	1,382	1,426	1,489	1,908	1,690	2,081	2,105	1,899	2,112	2,119
Texas	5,414	5,507	5,187	5,915	6,693	5,030	6,031	6,896	5,475	5,620	5,234
Utah	803	1,184	1,058	846	991	700	1,169	1,709	1,756	972	919
Vermont	201	417	263	106	108	121	151	142	124	103	103
Virginia	6,709	7,298	8,746	8,994	9,088	9,282	9,381	9,112	8,287	8,130	6,488
Washington	2,442	2,311	2,641	4,087	4,751	4,340	4,157	3,915	4,931	2,757	3,433
West Virginia	383	316	808	301	219	225	263	313	240	263	171
Wisconsin	658	646	652	636	671	661	886	796	742	734	654

TABLE 96

Federal obligations for research and development for selected agencies, by state or location: FYs 2003–13

(Dollars in millions)

State or location	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Wyoming	43	48	38	36	37	47	65	37	37	76	41
Outlying areas	323	135	161	161	178	160	237	263	269	193	229
Puerto Rico	112	101	101	99	86	85	96	95	97	71	83
Other areas ^a	211	34	59	62	93	75	141	168	172	122	146
Offices abroad ^b	61	99	97	138	40	87	68	54	36	92	166
Undistributed ^c	NA	NA	NA	NA	NA	NA	NA	NA	4,373	20,468	15,211

NA = not available; data were not collected at that level for that fiscal year.

^a Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.

^b Includes R&D performed or administered in foreign countries by the U.S. government.

^c Undistributed totals include Department of Defense (DOD) obligations for which the location of performance is not reported. It includes DOD obligations for industry R&D that were included in individual state totals prior to FY 2012 and obligations for other performers that were not reported prior to FY 2011.

Note(s):

Because of rounding, detail may not add to total. Through volume 70 (FYs 2020–21), 11 agencies were required to report data for this section of the survey: the Departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Homeland Security, the Interior, and Transportation; the Environmental Protection Agency; the National Aeronautics and Space Administration; and the National Science Foundation. Obligations of these 11 agencies represented more than 97% of total federal R&D obligations in FY 2020. Starting with volume 62 (FYs 2012–14), an "undistributed" category was added to the geographic location tables for DOD obligations for which the location of performance is not reported. It includes DOD obligations for industry R&D that were included in individual state totals prior to FY 2012 and DOD obligations for other performers that were not reported prior to FY 2011. This change was applied retroactively to FY 2011 data. Although the nongeographic historical tables incorporate corrections to previously reported data that have been submitted by reporting agencies, corresponding corrections to geographic distributions are rarely obtainable. Geographic distribution of Department of Defense development funding to industry reflects location of prime contractors and not the numerous subcontractors who perform much of the R&D. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 97

Federal obligations for research and development, by state or location: FYs 2014–22

(Dollars in millions)

State or location	2014	2015	2016	2017	2018	2019	2020	2021	2022
All locations	127,927	125,846	113,002	115,508	125,737	138,170	162,959	188,861	189,604
Alabama	4,484	4,538	4,354	8,663	5,174	5,414	3,070	3,970	4,087
Alaska	137	208	212	280	300	334	279	323	273
Arizona	1,606	1,644	1,549	1,199	1,737	2,001	1,939	1,675	2,388
Arkansas	191	106	308	170	206	179	501	300	268
California	15,799	15,281	15,756	15,887	17,237	19,159	22,464	22,722	23,272
Colorado	3,611	3,506	4,183	3,396	4,917	5,268	5,024	6,292	4,639
Connecticut	2,287	2,293	2,366	2,349	2,568	2,673	2,566	2,600	2,642
Delaware	130	108	142	169	162	163	222	307	341
District of Columbia	3,980	4,222	4,204	4,867	6,158	6,228	16,315	37,464	33,917
Florida	2,448	2,933	2,782	2,880	3,179	3,892	4,061	4,095	4,250
Georgia	1,253	1,182	1,301	1,285	1,350	1,504	1,913	1,654	1,821
Hawaii	326	305	284	275	441	412	394	486	371
Idaho	598	533	568	679	824	920	840	672	702
Illinois	2,369	2,483	3,922	2,553	2,911	2,998	3,209	3,534	3,469
Indiana	771	678	719	690	781	894	1,104	1,081	1,277
Iowa	512	567	496	520	525	518	702	686	761
Kansas	187	194	188	212	233	283	352	414	445
Kentucky	297	297	273	289	303	313	354	542	413
Louisiana	285	254	279	397	321	432	437	457	512
Maine	131	138	137	158	188	189	185	249	230
Maryland	16,890	16,751	16,640	15,417	17,779	16,992	22,736	17,615	20,259
Massachusetts	6,269	6,055	5,533	5,238	6,036	6,838	8,850	9,570	8,495
Michigan	1,853	1,799	1,796	1,491	1,630	2,054	1,925	2,077	2,390
Minnesota	947	817	859	986	1,031	1,029	1,448	1,146	1,239
Mississippi	590	489	448	449	820	505	472	500	1,150
Missouri	1,039	1,296	1,259	1,604	1,492	2,375	2,080	2,059	1,838
Montana	171	152	170	151	195	191	213	287	292
Nebraska	234	216	205	211	211	244	255	303	325
Nevada	510	394	286	338	400	375	306	573	520
New Hampshire	336	342	374	351	472	669	483	526	445
New Jersey	1,968	1,632	1,677	1,963	2,367	2,834	2,885	3,400	3,386
New Mexico	3,714	3,543	3,662	3,383	3,630	3,756	3,502	3,884	3,484
New York	4,581	4,567	4,744	4,955	5,366	6,162	8,148	6,833	6,726
North Carolina	1,881	1,892	1,906	2,005	2,270	2,417	3,271	3,620	3,724
North Dakota	80	82	104	75	111	73	140	168	153
Ohio	2,454	2,639	2,497	2,550	4,207	5,188	5,216	3,861	8,243
Oklahoma	317	450	349	368	481	506	537	1,505	458
Oregon	602	558	544	573	627	697	814	1,070	812
Pennsylvania	3,695	3,710	3,981	3,788	4,148	4,093	5,214	4,547	4,912
Rhode Island	555	519	627	615	662	723	876	866	895
South Carolina	476	447	461	505	561	646	822	1,434	1,162
South Dakota	69	73	69	77	81	89	131	139	134
Tennessee	2,023	2,313	2,479	2,491	2,564	3,578	3,151	3,727	3,385
Texas	4,678	5,574	5,296	5,319	4,677	5,067	6,135	6,461	5,475
Utah	1,222	1,144	938	1,058	1,110	1,301	1,141	2,440	3,196
Vermont	116	82	82	81	97	120	129	244	162
Virginia	7,652	7,487	7,384	6,311	7,187	8,029	9,650	9,775	10,144
Washington	3,565	2,362	2,084	2,624	2,746	3,195	3,280	3,737	3,576
West Virginia	208	239	456	141	281	142	150	200	212
Wisconsin	701	701	723	730	759	840	908	989	1,115

TABLE 97

Federal obligations for research and development, by state or location: FYs 2014–22

(Dollars in millions)

State or location	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wyoming	46	53	44	46	49	68	87	197	80
Outlying areas	318	347	331	104	496	521	195	229	142
Puerto Rico	71	66	72	68	75	82	88	120	102
Other areas ^a	247	281	259	36	421	439	107	109	41
Offices abroad ^b	38	28	4	2	12	4	48	179	21
Undistributed ^c	16,728	15,624	969	2,594	1,666	3,073	1,829	5,177	4,973

^a Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.

^b Includes R&D performed or administered in foreign countries by the U.S. government.

^c Undistributed totals include Department of Defense (DOD) obligations for which the location of performance is not reported. It includes DOD obligations for businesses (formerly, "industry") R&D that were included in individual state totals prior to FY 2012 and obligations for other performers that were not reported prior to FY 2011. The undistributed total for FY 2019 also include Department of Health and Human Services' Biomedical Advanced Research and Development Authority obligations for which the location of performance could not be reported.

Note(s):

Because of rounding, detail may not add to total. Through volume 70 (FYs 2020–21), 11 agencies were required to report data for this section of the survey: the Departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Homeland Security, the Interior, and Transportation; the Environmental Protection Agency; the National Aeronautics and Space Administration; and the National Science Foundation. Obligations of these 11 agencies represented more than 97% of total federal R&D obligations in FY 2020. As of volume 71, all agencies report data for this section of the survey; therefore, the data are not directly comparable with totals reported in previous years. Although the nongeographic historical tables incorporate corrections to previously reported data that have been submitted by reporting agencies, corresponding corrections to geographic distributions are rarely obtainable. Geographic distribution of DOD development funding to businesses reflects location of prime contractors and not the numerous subcontractors who perform much of the R&D. Beginning with FY 2016, the totals reported for development obligations represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the DOD Budget Activity 7 (Operational System Development) obligations. Those funds, previously included in DOD's development obligation totals, support the development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate production funding in the current or subsequent fiscal year. Therefore, the data are not directly comparable with totals reported in previous years. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 98

Federal obligations for R&D plant for selected agencies, by state or location: FYs 2003–13

(Dollars in millions)

State or location	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All locations	4,240	3,979	3,749	2,093	2,111	1,893	3,591	6,563	4,100	2,089	1,856
Alabama	92	37	27	6	1	3	4	98	93	3	39
Alaska	134	127	16	5	8	4	174	58	6	7	8
Arizona	38	28	7	4	63	6	21	195	30	3	1
Arkansas	6	8	1	2	9	6	9	28	6	6	3
California	519	988	972	428	405	291	475	1,088	997	118	166
Colorado	97	83	89	98	184	116	279	300	141	108	151
Connecticut	49	47	88	4	2	6	3	123	94	2	2
Delaware	1	1	*	*	*	*	1	13	*	1	*
District of Columbia	19	118	33	106	73	77	180	365	237	135	168
Florida	173	121	107	2	11	13	57	141	90	48	38
Georgia	7	16	99	129	132	36	54	58	45	51	92
Hawaii	2	7	44	6	8	3	25	38	23	15	13
Idaho	7	23	23	7	9	6	17	25	31	41	1
Illinois	122	123	105	85	89	62	234	281	115	245	103
Indiana	12	8	4	3	4	4	7	35	7	2	3
Iowa	30	107	32	62	64	11	11	28	7	8	8
Kansas	2	1	10	*	2	*	3	13	4	6	2
Kentucky	3	7	25	7	1	6	3	22	5	8	1
Louisiana	57	17	15	37	6	3	27	28	15	1	12
Maine	1	5	4	4	2	1	6	1	1	*	2
Maryland	106	473	515	251	157	262	239	1,137	405	235	264
Massachusetts	233	22	90	49	33	14	49	103	31	28	14
Michigan	17	8	3	4	3	1	11	45	4	24	24
Minnesota	4	6	4	1	5	1	8	24	24	2	2
Mississippi	24	11	11	20	19	3	25	78	22	14	15
Missouri	21	5	11	6	1	2	6	31	4	7	3
Montana	7	3	6	7	1	1	2	23	*	0	1
Nebraska	1	2	*	1	1	1	1	22	1	1	1
Nevada	12	8	7	41	32	4	1	2	4	1	*
New Hampshire	3	7	3	4	1	1	2	11	2	2	1
New Jersey	72	51	51	57	90	53	83	74	40	52	56
New Mexico	188	269	183	111	29	185	109	191	97	54	83
New York	89	71	97	101	80	82	326	310	211	186	94
North Carolina	26	21	8	4	3	5	12	37	9	11	7
North Dakota	*	0	4	*	0	1	2	6	*	1	0
Ohio	26	19	26	17	21	17	24	101	55	62	5
Oklahoma	14	18	4	1	3	13	6	19	13	11	8
Oregon	8	7	4	3	4	3	5	36	18	10	10
Pennsylvania	80	27	25	17	13	35	38	127	15	23	13
Rhode Island	*	12	2	1	*	1	5	6	3	6	6
South Carolina	10	9	21	3	7	11	15	25	19	16	13
South Dakota	1	11	2	*	1	*	2	3	1	1	1
Tennessee	310	200	199	112	144	189	330	372	315	248	223
Texas	1,370	569	487	42	7	21	40	430	429	35	15
Utah	8	1	4	*	4	2	84	12	1	2	4
Vermont	0	1	1	*	*	1	1	3	1	*	*
Virginia	147	179	170	129	284	269	269	215	345	170	132
Washington	31	32	34	30	30	13	215	89	49	52	41
West Virginia	6	11	10	21	16	13	52	36	21	15	*
Wisconsin	48	56	58	65	47	31	37	33	10	11	6

TABLE 98

Federal obligations for R&D plant for selected agencies, by state or location: FYs 2003–13

(Dollars in millions)

State or location	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Wyoming	*	*	1	*	1	0	*	1	1	*	1
Outlying areas	2	2	1	*	2	8	4	23	2	*	1
Puerto Rico	2	2	1	*	2	4	4	16	2	*	1
Other areas ^a	0	0	0	0	0	4	*	7	0	0	0
Offices abroad ^b	1	0	1	2	0	0	0	0	0	0	0

* = amount greater than \$0 but less than \$500,000.

^a Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.^b Includes federal obligations for R&D plant located in foreign countries.**Note(s):**

Because of rounding, detail may not add to total. Through volume 70 (FYs 2020–21), 11 agencies were required to report data for this section of the survey: the Departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Homeland Security, the Interior, and Transportation; the Environmental Protection Agency; the National Aeronautics and Space Administration; and the National Science Foundation. Obligations of these 11 agencies represented more than 98% of federal R&D plant obligations in FY 2020. Although the nongeographic historical tables incorporate corrections to previously reported data that have been submitted by reporting agencies, corresponding corrections to geographic distributions are rarely obtainable. FYs 2009 and 2010 obligations include additional funding provided by the American Recovery and Reinvestment Act of 2009. Starting with volume 62 (FYs 2012–14), an "undistributed" category was added to the geographic location tables for DOD obligations for which the location of performance is not reported. It includes DOD obligations for business R&D (formerly, "industry") that were included in individual state totals prior to FY 2012 and DOD obligations for other performers that were not reported prior to FY 2011. This change was applied retroactively to FY 2011 data. See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE 99

Federal obligations for R&D plant, by state or location: FYs 2014–22

(Dollars in millions)

State or location	2014	2015	2016	2017	2018	2019	2020	2021	2022
All locations	2,178	2,792	2,402	2,594	3,806	4,329	6,081	4,282	6,172
Alabama	12	14	2	9	128	125	58	7	71
Alaska	8	8	10	7	17	7	12	9	12
Arizona	29	86	99	62	16	13	3	11	60
Arkansas	6	5	4	5	3	0	1	3	20
California	247	307	451	480	656	677	669	656	889
Colorado	170	74	113	46	267	365	141	137	75
Connecticut	3	2	1	2	3	1	*	20	14
Delaware	1	*	1	1	2	10	6	1	1
District of Columbia	225	40	50	32	325	151	98	134	163
Florida	104	30	29	18	80	34	128	74	78
Georgia	37	5	12	144	11	7	38	22	10
Hawaii	15	14	15	15	19	24	6	6	5
Idaho	3	81	89	117	0	3	250	322	818
Illinois	109	126	177	207	383	471	578	533	713
Indiana	1	8	8	4	4	9	1	2	1
Iowa	4	2	4	4	18	2	4	5	39
Kansas	1	816	1	14	11	12	13	13	10
Kentucky	1	1	3	*	2	7	64	6	14
Louisiana	2	1	3	17	21	26	24	30	58
Maine	1	1	1	1	1	*	0	0	*
Maryland	203	208	328	259	478	648	1,828	426	478
Massachusetts	27	25	30	30	18	40	19	22	92
Michigan	60	96	108	104	99	85	51	15	10
Minnesota	3	3	3	2	1	3	3	2	1
Mississippi	14	18	19	16	15	14	12	12	15
Missouri	10	5	12	6	5	11	45	11	20
Montana	*	1	4	*	3	*	2	*	1
Nebraska	1	3	*	*	*	1	0	2	24
Nevada	1	*	*	14	27	1	34	195	167
New Hampshire	*	1	2	*	2	1	3	7	6
New Jersey	72	45	46	47	49	81	41	205	77
New Mexico	90	86	66	40	87	257	73	202	145
New York	173	204	154	148	99	130	233	157	533
North Carolina	8	6	8	12	9	23	54	19	13
North Dakota	*	*	*	1	1	*	1	3	0
Ohio	4	8	121	76	83	95	81	67	74
Oklahoma	7	10	1	4	3	11	4	13	15
Oregon	12	14	18	145	104	144	53	27	67
Pennsylvania	10	35	25	25	17	12	214	25	20
Rhode Island	18	20	28	37	19	28	28	17	19
South Carolina	16	16	26	19	20	22	16	15	24
South Dakota	2	*	1	2	1	*	8	7	7
Tennessee	293	264	195	250	431	513	694	673	967
Texas	9	9	30	33	71	65	128	66	41
Utah	1	*	1	1	1	0	1	1	5
Vermont	2	*	*	*	2	1	6	1	0
Virginia	104	31	83	130	122	104	157	57	188
Washington	35	37	13	4	36	56	122	36	56
West Virginia	15	14	*	1	20	1	2	2	*
Wisconsin	7	9	8	2	4	13	68	2	48

TABLE 99

Federal obligations for R&D plant, by state or location: FYs 2014–22

(Dollars in millions)

State or location	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wyoming	1	*	0	0	1	11	6	0	0
Outlying areas	1	1	1	1	9	18	2	5	7
Puerto Rico	1	1	1	1	9	15	1	*	6
Other areas ^a	0	0	0	0	0	3	1	5	1
Offices abroad ^b	0	*	*	1	1	0	0	0	0
Undistributed ^c	0	0	1	0	0	0	0	0	1

* = amount greater than \$0 but less than \$500,000.

^a Includes American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.^b Includes federal obligations for R&D plant located in foreign countries.^c Undistributed totals include Department of Defense (DOD) obligations for which the location of performance is not reported.**Note(s):**

Because of rounding, detail may not add to total. Through volume 70 (FYs 2020–21), 11 agencies were required to report data for this section of the survey: the Departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Homeland Security, the Interior, and Transportation; the Environmental Protection Agency; the National Aeronautics and Space Administration; and the National Science Foundation. Obligations of these 11 agencies represented more than 98% of federal R&D plant obligations in FY 2020. As of volume 71, all agencies report data for this section of the survey; therefore, the data are not directly comparable with totals reported in previous years. Although the nongeographic historical tables incorporate corrections to previously reported data that have been submitted by reporting agencies, corresponding corrections to geographic distributions are rarely obtainable. FYs 2020, 2021, and 2022 obligations include additional funding provided by supplemental COVID-19 pandemic-related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act). See [technical table A-2](#) for additional notes associated with the agencies listed in this table.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

Technical Notes

Survey Overview

Purpose. The annual Survey of Federal Funds for Research and Development (Federal Funds for R&D) is the primary source of information about federal funding for R&D in the United States. The results of the survey are also used in the federal government's calculation of U.S. gross domestic product at the national and state level, for policy analysis, and for budget purposes for the Federal Laboratory Consortium for Technology Transfer, the Small Business Innovation Research, and the Small Business Technology Transfer. In addition, as of volume 71, the [Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions](#) (Federal S&E Support Survey) was integrated into this survey as a module, making Federal Funds for R&D the comprehensive data source on federal science and engineering (S&E) funding to individual academic and nonprofit institutions.

Data collection authority. The information is solicited under the authority of the National Science Foundation Act of 1950, as amended, and the America COMPETES Reauthorization Act of 2010.

Survey contractor. Synectics for Management Decisions, Inc. (Synectics).

Survey sponsor. The National Center for Science and Engineering Statistics (NCSES) within the National Science Foundation (NSF).

Key Survey Information

Frequency. Annual.

Initial survey year. 1951.

Reference period. FYs 2022–23.

Response unit. Federal agencies.

Sample or census. Census.

Population size. For the FYs 2022–23 cycle, a total of 32 federal agencies reported R&D data. (See section “[Survey Design](#)” for details.)

Sample size. Not applicable; the survey is a census of all federal agencies that conduct R&D programs, excluding the Central Intelligence Agency (CIA).

Survey Design

Target population. The population consists of the federal agencies that conduct R&D programs, excluding the CIA. For the FYs 2022–23 cycle, a total of 32 federal agencies (14 federal departments and 18 independent agencies) reported R&D data.

Sampling frame. The survey is a census of all federal agencies that conduct R&D programs, excluding the CIA. The agencies are identified from information in the president's budget submitted to Congress. The Analytical Perspectives volume and the “Detailed Budget Estimates by Agency” section of the appendix to the president's budget identify agencies that receive funding for R&D.

Sample design. Not applicable.

Data Collection and Processing Methods

Data collection. Data for FYs 2022–23 (volume 72) were collected by Synectics under contract to NCSES (for a full list of fiscal years canvassed by survey volume reference, see [Table A-4](#)). Data collection began with an e-mail to each agency to verify the name, phone number, and e-mail address of each agency-level survey respondent. A Web-based data collection system is used for the survey. Because multiple subdivisions of some federal departments completed the survey, there were 72 agency-level respondents: 6 federal departments that reported for themselves, 48 agencies within another 8 federal departments, and 18 independent agencies. However, lower offices could also be authorized to enter data: in Federal Funds for R&D nomenclature, agency-level offices could authorize program offices, program offices could authorize field offices, and field offices could authorize branch offices. When these suboffices are included, there were 725 total respondents: 72 agencies, 95 program offices, 178 field offices, and 380 branch offices.

Since volume 66, each survey cycle collects information for 2 federal government fiscal years: the fiscal year just completed (FY 2022—i.e., 1 October 2021 through 30 September 2022) and the current fiscal year during the start of the survey collection period (i.e., FY 2023). FY 2022 data are completed transactions. FY 2023 data are estimates of congressional appropriation actions and apportionment and reprogramming decisions.

Data collection began on 10 May 2023, and the requested due date for data submissions was 5 August 2023. Data collection was extended until all surveyed agencies provided complete and final survey data in September 2023.

Mode. Federal Funds for R&D uses a Web-based data collection system. The Web-based system consists of a data collection component that allows survey respondents to enter their data online and a monitoring component that allows the data collection contractor to monitor support requests, data entry, and data issues. The Web-based system's two components are password protected so that only authorized respondents and staff can access them. However, some agencies submit their data in alternative formats such as Excel files, which are later imported into the Web-based system. All edit and trend checks are accomplished through the Web-based system. Final submission occurs through the Web-based system after all edit failures and trend checks have been resolved.

Response rate. The unit response rate is 100%.

Data checking. Data errors in Federal Funds for R&D are flagged automatically by the Web-based data collection system: respondents cannot submit their final data to NCSES until all required fields have been completed without errors. Once data are submitted, specially written SAS programs are run to check each agency's submission to identify possible discrepancies, to ensure data from all suboffices are included correctly, and to check that there were no inadvertent shifts in reporting from one year to the next. As always, respondents are contacted to resolve potential reporting errors that cannot be reconciled by the narratives. Explanations of questionable data are noted by the survey respondents for NCSES review.

Imputation. None.

Weighting. None.

Variance estimation. Not applicable.

Survey Quality Measures

Sampling error. Not applicable.

Coverage error. Given the existence of a complete list of all eligible agencies, there is no known coverage error. The CIA is purposely excluded.

Nonresponse error. There is no unit nonresponse. To increase item response, agencies are encouraged to estimate when actual data are unavailable. The survey instrument allows respondents to enter data or skip data fields; however, blank fields are not accepted for survey submission, and respondents must either populate the fields with data or with \$0 if the question is not applicable. There are several possible sources of nonresponse error by respondents, including inadvertently skipping data fields, skipping data fields when data are unavailable, or entering \$0 when specific data are unavailable.

Measurement error. Some measurement problems are known to exist in the Federal Funds of R&D data. Some agencies cannot report the full costs of R&D, the final performer of R&D, or R&D plant data.

For example, the Department of Defense (DOD) does not include headquarters' costs of planning and administering R&D programs, which are estimated at a fraction of 1% of its total cost. DOD has stated that identification of amounts at this level is impracticable.

The National Institutes of Health (NIH) in the Department of Health and Human Services (HHS) currently has many of its awards in its financial system without any field of R&D code. Therefore, NIH uses an alternate source to estimate its research dollars by field of R&D. NIH uses scientific class codes (based upon history of grant, content of the title, and the name of the awarding institute or center) as an approximation for field of R&D.

The National Aeronautics and Space Administration (NASA) does not include any field of R&D codes in its financial database. Consequently, NASA must estimate what percentage of the agency's research dollars are allocated into the fields of R&D.

Agencies are asked to report the ultimate performer of R&D. However, through past workshops, NCSES has learned that some agencies do not always track their R&D dollars to the ultimate performer of R&D. In the case of transfers to other federal agencies, the originating agency often does not have information on the final disposition of funding made by the receiving agency. Therefore, intragovernmental transfers, which are classified as federal intramural funding, may have some degree of extramural performance. This leads to some degree of misclassification of performers of R&D, but NCSES has not determined the extent of the errors in performer misclassification by the reporting agencies.

Differences in agency and NCSES classification of some performers will also lead to some degree of measurement error. For example, although many university research foundations are legally organized as nonprofit organizations and may be classified as such within a reporting agency's own system of record, NCSES classifies these as component units of higher education. These classification differences may contribute to differences in findings by the Federal Funds for R&D and the Federal S&E Support Survey in federal agency obligations to both higher education and nonprofit institutions.

R&D plant data are underreported to some extent because of the difficulty some agencies, particularly DOD and NASA, encounter in identifying and reporting these data. DOD's respondents report obligations for R&D plant that are funded under the agency's appropriation for construction, but they are able to identify only a small portion of the R&D plant support that is within R&D contracts funded from DOD's appropriation for research, development, testing, and evaluation (RDT&E). Similarly, NASA respondents cannot separately identify the portions of industrial R&D contracts that apply to R&D plant because these data are subsumed in the R&D data covering industrial performance. NASA R&D plant data for other performing sectors are reported separately.

Data Comparability (Changes)

Data revisions. When completing the current year's survey, agencies naturally revise their estimates for the last year of the previous report—in this case, FY 2022. Sometimes, survey submissions also reflect reappraisals and revisions in classification of various aspects of agencies' R&D programs; in those instances, NCSES requests that agencies provide revised prior year data to maintain consistency and comparability with the most recent R&D concepts.

For trend comparisons, use the historical data from only the most recent publication, which incorporates changes agencies have made in prior year data to reflect program reclassifications or other corrections. Do not use data published earlier.

Changes in survey coverage and population. This cycle (volume 72, FYs 2022–23), one department, the Department of Homeland Security (DHS), became the agency respondent instead of continuing to delegate that role to its bureaus; one agency was added as a respondent—the Department of Agriculture’s (USDA’s) Natural Resources Conservation Service; one agency, the Department of Transportation’s Maritime Administration, resumed reporting; and two agencies, the Department of Treasury’s Internal Revenue Service (IRS) and the independent agency the Federal Communications Commission, ceased to report.

Changes in questionnaire.

- No changes were made to the questionnaire for volume 72.
- The survey was redesigned for volume 71 (FYs 2021–22). The Federal S&E Support Survey was integrated as the final two questions in the Federal Funds for R&D questionnaire. (NCSES will continue to publish these data separately at <https://nces.nsf.gov/surveys/federal-support-survey/>.)
- Four other new questions were added to the standard and DOD versions of the questionnaire; the questions covered, for the fiscal year just completed (FY 2021), R&D deobligations (Standard and DOD Question 4), nonfederal R&D obligations by type of agreement (Standard Question 10 and DOD Question 11), R&D obligations provided to other federal agencies (Standard Question 11 and DOD Question 12), and R&D and R&D plant obligations to university affiliated research centers (Standard Question 17 and DOD Question 19). One new question added solely to the DOD questionnaire (DOD Question 6) was about obligations for Small Business Innovation Research and Small Business Technology Transfer for the fiscal year just completed and the current fiscal year at the time of collection (i.e., FYs 2021 and 2022). Many of the other survey questions were reorganized and revised.
- For volume 71, some changes were made within the questions for consistency with other NCSES surveys. Among the performer categories, federally funded R&D centers (FFRDCs), which in previous volumes were included among the extramural performers, became one of the intramural performers. Other changes include retitling of certain performer categories, where “industry” was changed to “businesses” and “universities and colleges” was changed to “higher education.”
- For volume 71, “field of R&D” was used instead of the former “field of science and engineering.” The survey started collecting field of R&D information for experimental development obligations; previously, field of R&D information was collected only for research obligations.
- For volume 71, federal obligations for research performed at higher education institutions, by detailed field of R&D was asked of all agencies. Previously these data had only been collected from the Departments of Agriculture, Defense, Energy, HHS, and Homeland Security; NASA; and NSF.
- For volume 71, geographic distribution of R&D obligations was asked of all agencies. Previously, these data had only been collected from the Departments of Agriculture, Commerce, Defense, Energy, HHS, Homeland Security; NASA; and NSF. Agencies are asked to provide the principal location (state or outlying area) of the work performed by the primary contractor, grantee, or intramural organization; assign the obligations to the location of the headquarters of the U.S. primary contractor, grantee, or intramural organization; or, for DOD agencies, list the funds as undistributed for classified funds.
- For volume 71, collection of data on funding type (stimulus and non-stimulus) was limited to Question 5 on type of R&D.
- For volume 71, grants and contracts for extramural R&D performers and obligations to University Affiliated Research Centers were added.

- For volume 70 (FYs 2020–21), agencies were requested to report COVID-19 pandemic-related R&D from the agency's initial appropriations, as well as from any stimulus funds received from the Coronavirus Aid, Relief, and Economic Security (CARES) Act, plus any other pandemic-related supplemental appropriations. Two tables in the questionnaire were modified to collect the stimulus and non-stimulus amounts separately (tables 1 and 2), and seven tables in the questionnaire (tables 6.1, 6.2, 7.1, 11.1, 11.2, 12.1, and 13.1) were added for respondents to specify stimulus and non-stimulus funding by various categories. The data on stimulus funding is reported in volume 70's data table 132. The Biomedical Advanced Research and Development Authority accounted for 66% of all COVID-19 R&D in FY 2020; these obligations primarily include transfers to the other agencies to help facilitate execution of contractual awards under Operation Warp Speed.
- For volume 70 (FYs 2020–21), the optional narrative tables that ask for comparisons of the R&D obligations reported in Federal Funds for R&D with corresponding amounts in the Federal S&E Support Survey (standard questionnaire only) were renumbered from tables 6B and 6C to tables 6A and 6B.
- In volumes 68 (FYs 2018–19) and 69 (FYs 2019–20), table 6A, which collected information on federal intramural R&D obligations, was deactivated, and agencies were instructed not to complete it.
- For volumes 66 (FYs 2016–17) and 67 (FYs 2017–18), table 6A (formerly table VI.A) was included, but it was modified so that it no longer collected laboratory names.
- Starting with volume 66 (FYs 2016–17), the survey collects 2 federal government fiscal years—actual data for the fiscal year just completed and estimates for the current fiscal year. Previously, the survey also collected projected obligations for the next fiscal year based on the president's budget request to Congress. For volume 66, data were collected for only 2 fiscal years due to the delayed FY 2018 budget formulation process. However, after consultation with data users, NCSSES determined that the projections were not as useful as the budget authority data presented in the budget request.
- In volume 66, the survey table numbering was changed from Roman numerals I–XI and, for selected agencies, the letters A–E, to Arabic numerals 1–16. The order of tables remained the same.
- In the volume 66 DOD-version of the questionnaire, the definition of major systems development was changed to represent DOD Budget Activities 4 through 6 instead of Budget Activities 4 through 7, and questions relating to funding for Operational Systems Development (Budget Activity 7) were added to the instrument. The survey's narrative tables 6 and 11 were removed from the DOD-version of the questionnaire.
- For volume 65 (FYs 2015–17), the survey reintroduced table VI.A to collect information on federal intramural R&D obligations, including the names and addresses of all federal laboratories that received federal intramural R&D obligations. The table was included in both the standard and DOD questionnaires.
- For volume 62 (FYs 2012–14), the survey added table VI.A to the standard questionnaire for that volume only to collect information on FY 2012 federal intramural R&D obligations, including the names and addresses of all federal laboratories that received federal intramural R&D obligations.
- In volumes 59 (FYs 2009–11) and 60 (FYs 2010–12), questions relating to funding from the American Recovery and Reinvestment Act of 2009 (ARRA) were added to the data collection instruments. The survey collected separate outlays and obligations for ARRA and non-ARRA sources of funding, by performer and geography for FYs 2009 and 2010.
- Starting with volume 59 (FYs 2009–11), federal funding data were requested in actual dollars (instead of rounded in thousands, as was done through volume 58).

Changes in reporting procedures or classification.

- FY 2022. During the volume 72 cycle (FYs 2022–23), NASA revised its FY 2021 data by field of R&D and performer categories based on improved classification procedures developed during the volume 72 reporting period.

- FY 2021. During the volume 71 cycle (FYs 2021–22), NCSSES decided to remove “U.S.” from names like “U.S. Space Force” to conform with other surveys. For Federal Funds for R&D, this change will first appear in the detailed statistical tables.
- FY 2020. For volume 70 (FYs 2020 and 2021), data include obligations from supplemental COVID-19 pandemic-related appropriations (e.g., CARES Act) plus any other pandemic-related supplemental appropriations.
- FY 2020. The Department of Energy’s (DOE’s) Naval Reactor Program reclassified some of its R&D obligations from industry-administered FFRDCs to the industry sector.
- FY 2020. The Department of the Air Force (AF) and the DOE’s Energy Efficiency and Renewable Energy (EERE) partially revised their FY 2019 data. AF revised its operational system development classified program numbers for businesses excluding business or industry-administered FFRDCs, and EERE revised its outlay numbers.
- FY 2019. For volume 69 (FYs 2019–20), FY 2020 preliminary data do not include obligations from supplemental COVID-19 pandemic-related appropriations (e.g., CARES Act).
- FY 2019. The Biomedical Advanced Research and Development Authority began reporting. For volume 69 (FYs 2019–20), it could not submit any geographical data, so its data were reported as undistributed on the state tables.
- FY 2019. The U.S. Agency for Global Media (formerly the Broadcasting Board of Governors), which did not report data between FY 2008 and FY 2018, resumed reporting.
- FY 2018. The HHS Centers for Medicare and Medicaid (CMS) funding was reported by the CMS Office of Financial Management at an agency-wide level instead of by the CMS Center for Medicare and Medicaid Innovation and its R&D group, the Office of Research, Development, and Information, which used to report at a component level.
- FY 2018. The Department of State added the Global Health Programs R&D funding.
- FY 2018. The Department of Veterans Affairs added funds for the Medical Services support to the existing R&D funding to fully report the total cost of intramural R&D. Although the Medical Services do not directly fund specific R&D activities, they host intramural research programs that were not previously reported.
- FY 2018. DHS’s Countering Weapons of Mass Destruction (CWMD) Office was established on 7 December 2017. CWMD consolidated primarily the Domestic Nuclear Detection Office (DNDO) and a majority of the Office of Health Affairs, as well as other DHS elements. Prior to FY 2018, data reported for the CWMD would have been under the DNDO.
- FY 2018. DOE revised its FYs 2016 and 2017 data after discovering its Office of Fossil Energy reported “in thousands” instead of actual dollars for volumes 66 (FYs 2016–17) and 67 (FYs 2017–18).
- FY 2018. USDA’s Economic Research Service (ERS) partially revised its FYs 2009 and 2010 data during the volume 61 (FYs 2011–13) cycle. NCSSES discovered a discrepancy that was corrected during the volume 68 cycle, completing the revision.
- FY 2018. DHS’s Transportation Security Administration, which did not report data between FY 2010 and FY 2017, resumed reporting for volume 68 (FYs 2018–19).
- FY 2018. DHS’s U.S. Secret Service, which did not report data between FY 2009 and FY 2017, resumed reporting for volume 68 (FYs 2018–19).
- FY 2018. NCSSES discovered that in some past volumes, the obligations reported for basic research in certain foreign countries were greater than the corresponding obligations reported for R&D; the following data were corrected as a result: DOD and Chemical and Biological Defense FY 2003 data, defense agencies and activities FY 2003 and FY 2011 data, AF FY 2009 data, and Department of the Navy FY 2005, FY 2011, and FY 2013 data; DOE and Office of Science FY 2009 data; HHS and Centers for Disease Control and Prevention (CDC) FY 2008 and FY 2017 data; and NSF FY 2001

data. NCSES also discovered that some obligations reported for academic performers were greater than the corresponding obligations reported for total performers, and DOD and AF FY 2009 data, DOE and Fossil Energy FY 1999 data, and NASA FY 2008 data were corrected. Finally, NCSES discovered a problem with FY 2017 HHS CDC personnel costs data, which were then also corrected.

- FY 2017. The Department of the Treasury's IRS performed a detailed evaluation and assessment of its programs and determined that none of its functions can be defined as R&D activity as defined in Office of Management and Budget (OMB) Circular A-11. The review included discussions with program owners and relevant contractors who perform work on behalf of the IRS. The IRS also provided a negative response to the OMB data call on R&D under Circular A-11 for the same reference period (FYs 2017–18). Despite no longer having any R&D obligations, the IRS still sponsors an FFRDC, the Center for Enterprise Modernization.
- FY 2017. NASA estimated that the revised OMB definition for "experimental development" reduced its reported R&D total by about \$2.7 billion in FY 2017 and \$2.9 billion in FY 2018 from what would have been reported under the previous definition prior to volume 66 (FYs 2016–17).
- FY 2017. The Patient-Centered Outcomes Research Trust Fund (PCORTF) was established by Congress through the Patient Protection and Affordable Care Act of 2010, signed by the president on 23 March 2010. PCORTF began reporting for volume 67 (FYs 2017–18), but it also submitted data for FYs 2011–16.
- FY 2017. The Tennessee Valley Authority, which did not report data between FY 1999 and FY 2016, resumed reporting for volume 67 (FYs 2017–18).
- FY 2017. The U.S. Postal Service, which did not report data between FY 1999 and FY 2016, resumed reporting for volume 67 (FYs 2017–18) and submitted data for FYs 2015–16.
- FY 2017. During the volume 67 (FYs 2017–18) data collection, DHS's Science and Technology Directorate revised its FY 2016 data.
- FY 2016. The Administrative Office of the U.S. Courts began reporting as of volume 66 (FYs 2016–17).
- Beginning with FY 2016, the totals reported for development obligations and outlays represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the DOD Budget Activity 7 (Operational System Development) obligations and outlays. Those funds, previously included in DOD's development totals, support the development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year. Therefore, the data are not directly comparable with totals reported in previous years.
- Prior to the volume 66 launch, the definitions of basic research, applied research, experimental development, R&D, and R&D plant were revised to match the definitions used by OMB in the July 2016 version of Circular A-11, Section 84 (Schedule C).
- FYs 2016–17. Before the volume 66 survey cycle, NSF updated the list of foreign performers in Federal Funds R&D to match the list of countries and territories in the Department of State's Bureau of Intelligence and Research fact sheet of Independent States in the World and fact sheet of Dependencies and Areas of Special Sovereignty. Country lists in volume 66 data tables and later may differ from those in previous reports.
- FY 2015. The HHS Administration for Community Living (ACL) began reporting in FY 2015, replacing the Administration on Aging, which was transferred to ACL when ACL was established on 18 April 2012. Several programs that serve older adults and people with disabilities were transferred from other agencies to ACL, including a number of programs from the Department of Education due to the 2014 Workforce Innovation and Opportunities Act.
- FY 2015. The Department of the Interior's Bureau of Land Management and U.S. Fish and Wildlife Service, which did not report data between FY 1999 and FY 2014, resumed reporting.

- In January 2014, all Research and Innovative Technology Administration programs were transferred into the Office of the Assistant Secretary for Research and Technology in the Office of the Secretary of Transportation.
- FY 2014. DHS's Domestic Nuclear Detection Office began reporting for FY 2014.
- FY 2014. The Department of State data for FY 2014 were excluded due to their poor quality.
- FY 2013. NASA revamped its reporting process so that the data for FY 2012 forward are not directly comparable with totals reported in previous years.
- FY 2012. NASA began reporting International Space Station (ISS) obligations as research rather than R&D plant.
- Starting with volume 62 (FYs 2012–14), an “undistributed” category was added to the geographic location tables for DOD obligations for which the location of performance is not reported. It includes DOD obligations for industry R&D that were included in individual state totals prior to FY 2012 and DOD obligations for other performers that were not reported prior to FY 2011. This change was applied retroactively to FY 2011 data.
- Starting with volume 61 (FYs 2011–13), DOD subagencies other than the Defense Advanced Research Projects Agency were reported as an aggregate total under other defense agencies to enable complete reporting of DOD R&D (both unclassified and classified). Consequently, DOD began reporting additional classified R&D not previously reported by its subagencies.
- FY 2011. USDA's ERS partially revised its data for FYs 2009 and 2010 during the volume 61 (FYs 2011–13) cycle.
- FY 2010. NASA resumed reporting ISS obligations as R&D plant.
- FYs 2000–09. Beginning in FY 2000, AF did not report Budget Activity 6.7 Operational Systems Development data because the agency misunderstood the reporting requirements. During the volume 57 data collection cycle, AF edited prior year data for FYs 2000–07 to include Budget Activity 6.7 Operational Systems Development data. These data revisions were derived from FY 2007 distribution percentages that were then applied backward to revise data for FYs 2000–06.
- FYs 2006–07. NASA's R&D obligations decreased by \$1 billion. Of this amount, \$850 million was accounted for by obligations for operational projects that NASA excluded in FY 2007 but reported in FY 2006. The remainder was from an overall decrease in obligations between FYs 2006 and 2007.
- FY 2006. NASA reclassified funding for the following items as operational costs: Space Operations, the Hubble Space Telescope, the Stratospheric Observatory for Infrared Astronomy, and the James Webb Space Telescope. This funding was previously reported as R&D plant.
- FYs 2005–07. Before the volume 55 survey cycle, NSF updated the list of foreign performers in Federal Funds R&D to match the list of countries and territories in the Department of State's Bureau of Intelligence and Research fact sheet of Independent States in the World and fact sheet of Dependencies and Areas of Special Sovereignty. Area and country lists in volume 55 data tables and later may differ from those in previous reports.
- FYs 2004–06. NASA implemented a full-cost budget approach, which includes all of the direct and indirect costs for procurement, personnel, travel, and other infrastructure-related expenses relative to a particular program and project. NASA's data for FY 2004 and later years may not be directly comparable with its data for FY 2003 and earlier years.
- FY 2004. NIH revised its financial database; beginning with FY 2004, NIH records no longer contain information on the field of S&E. Data for FY 2004 and later years are not directly comparable with data for FY 2003 and earlier years.
- Data for FYs 2003–06 from the Substance Abuse and Mental Health Services Administration (SAMHSA) are estimates based on SAMHSA's obligations by program activity budget and previously reported funding for development.
- FY 2003. SAMHSA reclassified some of its funding categories as non-R&D that had been considered to be R&D in prior years.

- On 25 November 2002, the president signed the Homeland Security Act of 2002, establishing DHS. DHS includes the R&D activities previously reported by the Federal Emergency Management Agency, the Science and Technology Directorate, the Transportation Security Administration, the U.S. Coast Guard, and the U.S. Secret Service.
- FY 2000. NASA reclassified the ISS as a physical asset, reclassified ISS Research as equipment, and transferred funding for the program from R&D to R&D plant.
- FY 2000. NIH reclassified as research the activities that it had previously classified as development. NIH data for FY 2000 forward reflect this change. For more information on the classification changes at NASA and NIH, refer to *Classification Revisions Reduce Reported Federal Development Obligations* (InfoBrief NSF 02-309), February 2002, available at <https://www.nsf.gov/statistics/nsf02309>.
- FYs 1996–98. The lines on the survey instrument for the special foreign currency program and for detailed field of S&E were eliminated beginning with the volume 46 survey cycle. Two tables depicting data on foreign performers by region, country, and agency that were removed before publication of volume 43 were reinstated with volume 46.
- FYs 1994–96. During the volume 44 survey cycle, the Director for Defense Research and Engineering (DDR&E) at DOD requested that NSF further clarify the true character of DOD’s R&D program, particularly as it compares with other federal agencies, by adding more detail to development obligations reported by DOD respondents. Specifically, DOD requested that NSF allow DOD agencies to report development obligations in two separate categories: advanced technology development and major systems development.

An excerpt from a letter written by Robert V. Tuohy, Chief, Program Analysis and Integration at DDR&E, to John E. Jankowski, Program Director, Research and Development Statistics Program, Division of Science Resources Statistics, NSF, explains the reasoning behind the DDR&E request:

“The DOD’s R&D program is divided into two major pieces, Science and Technology (S&T) and Major Systems Development. The other federal agencies’ entire R&D programs are equivalent in nature to DOD’s S&T program, with the exception of the Department of Energy and possibly NASA. Comparing those other agency programs to DOD’s program, including the development of weapons systems such as F-22 Fighter and the New Attack Submarine, is misleading.”

- FYs 1990–92. Since volume 40, DOD has reported research obligations and development obligations separately. Tables reporting obligations for research, by state and performer, and obligations for development, by state and performer, were specifically created for DOD. Circumstances specific to DOD are (1) DOD funds the preponderance of federal development and (2) DOD development funded at institutions of higher education is typically performed at university-affiliated nonacademic laboratories, which are separate from universities’ academic departments, where university research is typically performed.

Definitions

Agency and subdivision. An agency is an organization of the federal government whose principal executive officer reports to the president. The Library of Congress and the Administrative Office of the U.S. Courts are also included in the survey, even though the chief officer of the Library of Congress reports to Congress and the U.S. Courts are part of the judicial branch. Subdivision refers to any organizational unit of a reporting agency, such as a bureau, division, office, or service.

Development. See R&D and R&D plant.

Fields of R&D (formerly fields of science and engineering). A list of the 41 fields of R&D reported on can be found on the survey questionnaire. In the data tables, the fields are grouped into 9 major areas: computer and information sciences; geosciences, atmospheric sciences, and ocean sciences; life sciences; mathematics and statistics; physical sciences; psychology; social sciences; engineering; and other fields. [Table A-3](#) provides a crosswalk of the fields of science and engineering used in volume 70 and earlier surveys to the revised fields of R&D collected under volume 71.

Federal obligations for research performed at higher education institutions, by detailed field of R&D. As of volume 71, all respondents were required to report these obligations. Previously, this information was reported by seven agencies (the Departments of Agriculture, Defense, Energy, Health and Human Services, and Homeland Security; NASA; and NSF).

Geographic distribution of R&D obligations. As of volume 71, all respondents were required to respond to this portion of the survey. Previously, the 11 largest R&D funding agencies responded to this portion (the Departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Homeland Security, the Interior, and Transportation; the Environmental Protection Agency; NASA; and NSF). Respondents are asked to provide the principal location (state or outlying area) of the work performed by the primary contractor, grantee, or intramural organization, assign the obligations to the location of the headquarters of the U.S. primary contractor, grantee, or intramural organization, or list the funds as undistributed.

Obligations and outlays. Obligations represent the amounts for orders placed, contracts awarded, services received, and similar transactions during a given period, regardless of when funds were appropriated and when future payment of money is required. Outlays represent the amounts for checks issued and cash payments made during a given period, regardless of when funds were appropriated.

Performer. A group or organization carrying out an operational function or an extramural organization or a person receiving support or providing services under a contract or grant.

- *Intramural performers* are agencies of the federal government, including federal employees who work on R&D both onsite and offsite and, as of volume 71, FFRDCs.
 - *Federal.* The work of agencies of the federal government is carried out directly by agency personnel. Obligations reported under this category are for activities performed or to be performed by the reporting agency itself or are for funds that the agency transfers to another federal agency for performance of R&D (intragovernmental transfers). Although the receiving agency may obligate these funds to extramural performers (businesses, universities and colleges, other nonprofit institutions, FFRDCs, nonfederal government, and foreign) they are reported as part of the federal sector by the originating agency.

Federal activities cover not only actual intramural R&D performance but also the costs associated with administration of intramural R&D programs and extramural R&D procurements by federal personnel. Intramural activities also include the costs of supplies and off-the-shelf equipment (equipment that has gone beyond the development or prototype stage) procured for use in intramural R&D. For example, an operational launch vehicle purchased from an extramural source by NASA and used for intramural performance of R&D is reported as a part of the cost of intramural R&D.

- *Federally funded research and development centers (FFRDCs)*—R&D-performing organizations that are exclusively or substantially financed by the federal government and are supported by the federal government either to meet a particular R&D objective or in some instances to provide major facilities at universities for research and associated training purposes. Each center is administered by an industrial firm, a university, or another nonprofit institution (see <https://www.nsf.gov/statistics/ffrdclist/> for the Master Government List of FFRDCs maintained by NSF).

- *Extramural performers* are organizations outside the federal sector that perform R&D with federal funds under contract, grant, or cooperative agreement. Only costs associated with actual R&D performance are reported. Types of extramural performers:
 - *Businesses (previously "Industry or industrial firms")*—Organizations that may legally distribute net earnings to individuals or to other organizations.
 - *Higher education institutions (previously "Universities and colleges")*—Institutions of higher education in the United States that engage primarily in providing resident or accredited instruction for a not less than a 2-year program above the secondary school level that is acceptable for full credit toward a bachelor's degree or that provide not less than a 1-year program of training above the secondary school level that prepares students for gainful employment in a recognized occupation. Included are colleges of liberal arts; schools of arts and sciences; professional schools, as in engineering and medicine, including affiliated hospitals and associated research institutes; and agricultural experiment stations. Other examples of universities and colleges include community colleges, 4-year colleges, universities, and freestanding professional schools (medical schools, law schools, etc.).
 - *Other nonprofit institutions*—Private organizations other than educational institutions whose net earnings do not benefit either private stockholders or individuals and other private organizations organized for the exclusive purpose of turning over their entire net earnings to such nonprofit organizations. Examples of nonprofit institutions include foundations, trade associations, charities, and research organizations.
 - *State and local governments*—State and local government agencies, excluding state or local universities and colleges, agricultural experiment stations, medical schools, and affiliated hospitals. (Federal R&D funds obligated directly to such state and local institutions are excluded in this category. However, they are included under the universities and colleges category in this report.) R&D activities under the state and local governments category are performed either by the state or local agencies themselves or by other organizations under grants or contracts from such agencies. Regardless of the ultimate performer, federal R&D funds directed to state and local governments are reported only under this sector.
 - *Non-U.S. performers (previously "Foreign performers")*—Other nations' citizens, organizations, universities and colleges, governments, as well as international organizations located outside the United States, that perform R&D. In most cases, foreigners performing R&D in the United States are not reported here. Excluded from this category are U.S. agencies, U.S. organizations, or U.S. citizens performing R&D abroad for the federal government. Examples of foreign performers include the North Atlantic Treaty Organization, the United Nations Educational, Scientific, and Cultural Organization, and the World Health Organization. An exception in the past was made in the case of U.S. citizens performing R&D abroad under special foreign-currency funds; these activities were included under the foreign performers category but have not been collected since the mid-1990s.
 - *Private individuals*—When an R&D grant or contract is awarded directly to a private individual, obligations incurred are placed under the category businesses.

R&D and R&D plant. Amounts for R&D and R&D plant include all direct, incidental, or related costs resulting from, or necessary to, performance of R&D and costs of R&D plant as defined below, regardless of whether R&D is performed by a federal agency (intramurally) or by private individuals and organizations under grant or contract (extramurally). R&D excludes routine product testing, quality control, mapping and surveys, collection of general-purpose statistics, experimental production, and the training of scientific personnel.

- *Research* is defined as systematic study directed toward fuller scientific knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objectives of the sponsoring agency.

- *Basic research* is defined as experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts. Basic research may include activities with broad or general applications in mind, such as the study of how plant genomes change, but should exclude research directed toward a specific application or requirement, such as the optimization of the genome of a specific crop species.
- *Applied research* is defined as original investigation undertaken in order to acquire new knowledge. Applied research is, however, directed primarily toward a specific practical aim or objective.
- *Development*, also known as experimental development, is defined as creative and systematic work, drawing on knowledge gained from research and practical experience, which is directed at producing new products or processes or improving existing products or processes. Like research, experimental development will result in gaining additional knowledge.

For reporting experimental development activities, the following are included:

The production of materials, devices, and systems or methods, including the design, construction, and testing of experimental prototypes.

Technology demonstrations, in cases where a system or component is being demonstrated at scale for the first time, and it is realistic to expect additional refinements to the design (feedback R&D) following the demonstration. However, not all activities that are identified as “technology demonstrations” are R&D.

However, experimental development excludes the following:

User demonstrations where the cost and benefits of a system are being validated for a specific use case. This includes low-rate initial production activities.

Pre-production development, which is defined as non-experimental work on a product or system before it goes into full production, including activities such as tooling and development of production facilities.

To better differentiate between the part of the federal R&D budget that supports science and key enabling technologies (including technologies for military and nondefense applications) and the part that primarily supports testing and evaluation (mostly of defense-related systems), NSF collects development dollars from DOD in two categories: advanced technology development and major systems development.

DOD uses RDT&E Budget Activities 1–7 to classify data into the survey categories. Within DOD’s research categories, basic research is classified as Budget Activity 1, and applied research is classified as Budget Activity 2. Within DOD’s development categories, advanced technology development is classified as Budget Activity 3. Starting in volume 66, major systems development is classified as Budget Activities 4–6 instead of Budget Activities 4–7 and includes advanced component development and prototypes, system development and demonstration, and RDT&E management support; data on Budget Activity 7, operational systems development, is collected separately. (Note: As a historical artifact from previous DOD budget authority terminology, funds for Budget Activity categories 1 through 7 are sometimes referred to as 6.1 through 6.7 monies.)

- *Demonstration* includes amounts for activities that are part of R&D (i.e., that are intended to prove or to test whether a technology or method does in fact work). Demonstrations intended primarily to make information available about new technologies or methods are excluded.

- *R&D plant* is defined as spending on both R&D facilities and major equipment as defined in OMB Circular A-11 Section 84 (Schedule C) and includes physical assets, such as land, structures, equipment, and intellectual property (e.g., software or applications) that have an estimated useful life of 2 years or more. Reporting for R&D plant includes the purchase, construction, manufacture, rehabilitation, or major improvement of physical assets regardless of whether the assets are owned or operated by the federal government, states, municipalities, or private individuals. The cost of the asset includes both its purchase price and all other costs incurred to bring it to a form and location suitable for use.
- For reporting construction of R&D facilities and major moveable R&D equipment, include the following:

Construction of facilities that are necessary for the execution of an R&D program. This may include land, major fixed equipment, and supporting infrastructure such as a sewer line, or housing at a remote location. Many laboratory buildings will include a mixture of R&D facilities and office space. The fraction of the building that is considered to be used for R&D may be calculated based on the percentage of square footage that is used for R&D.

Acquisition, design, or production of major movable equipment, such as mass spectrometers, research vessels, DNA sequencers, and other movable major instrumentation for use in R&D activities.

Programs of \$1 million or more that are devoted to the purchase or construction of R&D major equipment.

Exclude the following:

Construction of other non-R&D facilities.

Minor equipment purchases, such as personal computers, standard microscopes, and simple spectrometers (report these costs under total R&D, not R&D Plant).

Obligations for foreign R&D plant are limited to federal funds for facilities that are located abroad and used in support of foreign R&D.

Technical Tables

Table	Title
A-1	Agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72
A-2	Notes associated with agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72
A-3	Crosswalk for the Survey of Federal Funds for Research and Development: Volume 70 and volume 71
A-4	Survey of Federal Funds for Research and Development, by volume number and federal fiscal years surveyed

TABLE A-1
Agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72

(Agency key)

Agency	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72						
Office of Economic Opportunity	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Office of Emergency Preparedness	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Office of Personnel Management	X	X	X	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
Office of Science and Technology	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Office of Telecommunications Policy	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Office of Thrift Supervision	X	X	X	X	X	X	X	X	X	X	X	X	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Patient-Centered Outcomes Research Trust Fund	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Postal Service	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	T	T	T	T	T	T	T	T	X	X	X	X	X	X	X	X	X	X	X		
RESTORE Act Centers of Excellence Research Grants Program	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	X	X	X		
Small Business Administration	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T			
Smithsonian Institution	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Social Security Administration	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Special Action Office for Drug Abuse Prevention	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Tennessee Valley Authority	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O	O	O	O	O	O	O	O	O	T	T	T	T	T	T	T	T	T	X	X	X	X	X	X	X	X	X	X		

N = the agency did not exist as such; therefore, no data are available. O = the agency existed but had no R&D to report. T = the agency existed, but data were not collected at this level. X = the agency existed, and data were collected and submitted by the agency. Z = the agency existed but was unable to report.

DT&E = Developmental test and evaluation. RDT&E = Research and development, testing, and evaluation.

Note(s):

This table summarizes which agencies have reported to the Survey of Federal Funds for Research and Development (Federal Funds for R&D) and have been included in Federal Funds for R&D reports for volume 29 (FYs 1979–81) through volume 72 (FYs 2022–23). For volume 72, actual data were collected for FY 2022, and estimates were collected for FY 2023.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

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Notes associated with agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72

(Notes)

Department	Explanatory information
Department of Agriculture	
Agricultural Marketing Service	Although the Agricultural Marketing Service (AMS) was established in April 1972, FY 1979 was the first year in which Congress appropriated funds to this agency. Data reported for AMS include funds for the Office of Transportation beginning in 1989. The Grain Inspection, Packers, and Stockyards Administration (GIPSA) was re-organized and absorbed in AMS in September 2017. Because GIPSA R&D projects were closed out, the transfer did not have much effect on the FY 2018 funding reported by AMS.
Agricultural Research Service	The Human Nutrition Information Service merged with the Agricultural Research Service on 20 February 1994.
Agricultural Stabilization and Conservation Service	The Agricultural Stabilization and Conservation Service was abolished as of 20 October 1994.
Cooperative State Research, Education, and Extension Service	The Cooperative State Research Service merged with the Extension Service on 19 October 1994 to become the Cooperative State Research, Education, and Extension Service (CSREES) due to reorganization of the Department of Agriculture. CSREES changed its name to the National Institute of Food and Agriculture in FY 2008.
Economic Research Service	Data reported for the Economics, Statistics, and Cooperative Service include programs of the Economic Research Service (ERS), the Statistical Reporting Service (SRS), and the Farmer Cooperative Service for FYs 1977–79. Data reported for the Economics and Statistics Service include programs of ERS and SRS for FY 1980.
Economics and Statistics Service	Data reported for the Economics and Statistics Service include programs of the Economic Research Service and the Statistical Reporting Service for FY 1980.
Economics, Statistics, and Cooperative Service	Data reported for the Economics, Statistics, and Cooperative Service include programs of the Economic Research Service, the Statistical Reporting Service, and the Farmer Cooperative Service for FYs 1977–79.
Federal Grain Inspection Service	The Federal Grain Inspection Service was abolished on 20 October 1994, and the Grain Inspection, Packers, and Stockyards Administration assumed its functions.
Foreign Agricultural Service	The Office of International Cooperation and Development became part of the Foreign Agricultural Service (FAS) in June 1994. Data reported for FAS include funds appropriated to International Cooperation and Development programs within FAS as of FY 1994.
Grain Inspection, Packers, and Stockyards Administration	The Federal Grain Inspection Service was abolished on 20 October 1994, and the Grain Inspection, Packers, and Stockyards Administration (GIPSA) assumed its functions. GIPSA was reorganized and absorbed in the Agricultural Marketing Service in September 2017; GIPSA funding for FY 2017 declined because GIPSA R&D projects were closed out. GIPSA was eliminated as a standalone agency as of 14 November 2017, so no funding was reported for FY 2018.
Human Nutrition Information Service	The Human Nutrition Information Service merged with the Agricultural Research Service on 20 February 1994.
National Institute of Food and Agriculture	The National Institute of Food and Agriculture was created through the Food, Conservation, and Energy Act of 2008 and replaced the former Cooperative State Research, Education, and Extension Service.
Natural Resources Conservation Service	The Soil Conservation Service became part of the Department of Agriculture in 1990; it was renamed the Natural Resources Conservation Service (NRCS) in 1994. NRCS started reporting for volume 71 (FYs 2021–22) because the Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions (Federal S&E Support Survey) was integrated as a module in volume 71 of the Survey of Federal Funds for R&D. NRCS continued to have no R&D data to report but did have S&E obligations to report in the module of the Federal S&E Support Survey module.
Office of International Cooperation and Development	The Office of International Cooperation and Development became part of the Foreign Agricultural Service (FAS) in June 1994. Data reported for FAS include funds appropriated to International Cooperation and Development programs within FAS as of FY 1994.
Office of Transportation	Data reported for the Agricultural Marketing Service include funds for the Office of Transportation beginning in 1989.
Rural Business-Cooperative Service	This agency's name changed from the Rural Business and Cooperative Development Service to the Rural Business-Cooperative Service on 30 January 1996.

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Notes associated with agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72

(Notes)

Department	Explanatory information
Department of Commerce	
Maritime Administration	In 1981, the Maritime Administration moved from the Department of Commerce to the Department of Transportation. The Maritime Administration resumed reporting for volume 71 (FYs 2021–22). It had last reported for volume 30 (FYs 1980–82).
National Fire Prevention and Control Administration	Functions for the National Fire Prevention and Control Administration transferred from the Department of Commerce to the Federal Emergency Management Agency as of 1 April 1979.
Department of Defense	<p>Since volume 40, the Department of Defense (DOD) has reported research obligations and development obligations separately. Tables reporting obligations for research, by state and performer, and obligations for development, by state and performer, were specifically created for DOD. Circumstances specific to DOD are (1) DOD funds the preponderance of federal development and (2) DOD development funded at institutions of higher education is typically performed at university-affiliated nonacademic laboratories, which are separate from universities' academic departments, where university research is typically performed.</p> <p>During the volume 44 survey cycle, the Director for Defense Research and Engineering (DDR&E) at DOD requested that the National Science Foundation (NSF) further clarify the true character of DOD's R&D program, particularly as it compares with other federal agencies, by adding more detail to development obligations reported by DOD respondents. Specifically, DOD requested that NSF allow DOD agencies to report development obligations in two separate categories: advanced technology development and major systems development. An excerpt from a letter written by Robert V. Tuohy, Chief, Program Analysis and Integration at DDR&E, to John E. Jankowski, Program Director, Research and Development Statistics Program, Division of Science Resources Statistics, NSF, explains the reasoning behind the DDR&E request: "The DOD's R&D program is divided into two major pieces, Science and Technology (S&T) and Major Systems Development. The other federal agencies' entire R&D programs are equivalent in nature to DOD's S&T program, with the exception of the Department of Energy and possibly the National Aeronautics and Space Administration. Comparing those other agency programs to DOD's program, including the development of weapons systems such as F-22 Fighter and the New Attack Submarine, is misleading."</p> <p>Not all DOD agencies with development obligations are able to categorize them according to the advanced technology and major systems development breakdown. Therefore, in the volume 46 (FYs 1996–98) survey cycle, total DOD development does not equal the sum of total DOD advanced technology development and total DOD major systems development.</p> <p>Beginning with volume 54 (FYs 2004–06), DOD now requires its reporting agencies to adhere to DOD control numbers when providing data to the Survey of Federal Funds for Research and Development.</p> <p>Starting with volume 61 (FYs 2011–13), DOD subagencies other than the Defense Advanced Research Projects Agency were reported as an aggregate total under other defense agencies to enable complete reporting of DOD R&D (both unclassified and classified). Consequently, DOD began reporting additional classified R&D not previously reported by its subagencies.</p> <p>Starting with volume 62 (FYs 2012–14), an "undistributed" category was added to the geographic location tables for DOD obligations for which the location of performance is not reported. It includes DOD obligations for industry R&D that were included in individual state totals prior to FY 2012 and DOD obligations for other performers that were not reported prior to FY 2011. This change was applied retroactively to FY 2011 data.</p> <p>Beginning with FY 2016, the totals reported for development outlays represent a refinement to this category by more narrowly defining it to be "experimental development." Most notably, totals for development do not include the DOD Budget Activity 7 (Operational System Development) outlays. Those funds, previously included in DOD's development outlay totals, support the development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year. Therefore, the data are not directly comparable with totals reported in previous years.</p> <p>As of volume 66 (FYs 2016–17), the definition of major systems development was changed to represent DOD Budget Activities 4 through 6 instead of Budget Activities 4 through 7.</p> <p>Funding for DOD's Operational System Development (Budget Activity 7) was first reported as a separate category for volume 66 (FYs 2016–17).</p>
Defense Agencies	
Chemical and Biological Defense	<p>Before FY 2000, R&D of Chemical and Biological Defense was reported with the Washington Headquarters Services.</p> <p>Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.</p>
Defense Advanced Research Projects Agency	This agency's name changed to the Advanced Research Projects Agency on 13 July 1993, and it was changed back to Defense Advanced Research Projects Agency in February 1996.

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Notes associated with agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72

(Notes)

Department	Explanatory information
Defense Business Transformation Agency	The Defense Business Transformation Agency was established on 7 October 2005.
	Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.
Defense Contract Management Agency	Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.
Defense Health Agency	Beginning with volume 70 (FYs 2020–21), Defense Health Agency began reporting as a separate agency under the Department of Defense.
Defense Information Systems Agency	Data reported for the Defense Information Systems Agency included data for the Defense Technical Information Center (DTIC) until FY 2006, when DTIC became a separate field activity.
	Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.
Defense Logistics Agency	Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.
Defense Security Cooperation Agency	Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.
Defense Special Weapons Agency	The Defense Nuclear Agency was renamed the Defense Special Weapons Agency (DSWA) in 1996 as a result of a new charter and an expanded mission.
	The Defense Threat Reduction Agency (DTRA) was established on 1 October 1998. DTRA was formed through a merger of elements of the Office of the Secretary of Defense staff, the Defense Technology Security Administration, DSWA, and the On-Site Inspection Agency.
Defense Technical Information Center	In FY 2006, the Defense Technical Information Center became a separate field activity; in prior years, these data were reported as part of the Defense Information Systems Agency.
	Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.
Defense Threat Reduction Agency	The Defense Threat Reduction Agency (DTRA) was established on 1 October 1998. DTRA was formed through a merger of elements of the Office of the Secretary of Defense staff, the Defense Technology Security Administration, the Defense Special Weapons Agency, and the On-Site Inspection Agency.
	Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.
Joint Staff	The name of this agency changed from Joint Chiefs of Staff to Joint Staff in FY 1986.
	Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.
Missile Defense Agency	Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.
National Imagery and Mapping Agency	The Defense Mapping Agency merged with the newly created National Imagery and Mapping Agency on 1 October 1996.
Office of the Secretary of Defense	In FY 2006, the Washington Headquarters Service was renamed the Office of the Secretary of Defense (OSD).
	Beginning with volume 61 (FYs 2011–13), excepting the Defense Advanced Research Projects Agency, OSD began reporting for the agencies that had been presented under Department of Defense agencies and activities and Operational Test and Evaluation, Director. These are now reported under Other defense agencies.
Other defense agencies	Beginning in FY 2011, Other defense agencies displays aggregated data of Department of Defense subagencies engaged in classified R&D projects.
Special Operations Command	Beginning with volume 61 (FYs 2011–13), agency totals are included in the category Other defense agencies.
Uniformed Services University of the Health Sciences	Data for the Uniformed Services University of the Health Sciences are included with the Washington Headquarters Services' submission as of volume 45 (FYs 1995–97).
Washington Headquarters Services	Data for the Uniformed Services University of the Health Sciences are included with the Washington Headquarters Services' (WHS's) submission as of volume 45 (FYs 1995–97).
	Public Law No. 103-160, Section 1703, made the Office of the Secretary of Defense (OSD) responsible for the Chemical and Biological Defense Program (CBDP). Section 1701 required the creation of CBDP research, development, test, and evaluation program elements be established in the President's Budget for FYs 1996–97. Data for these new program elements are included in the Survey of Federal Funds for Research and Development as of volume 46 (FYs 1996–98). Since FY 2000, R&D of Chemical and Biological Defense has been reported separately from the WHS.
	WHS's basic research data were revised in volume 47 (FYs 1997–99) to reflect changes that were not incorporated in volume 46 (FYs 1996–98).
	In FY 2006, WHS was renamed OSD.

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Notes associated with agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72

(Notes)

Department	Explanatory information
Defense Civil Preparedness Agency	Functions for the Defense Civil Preparedness Agency transferred from the Department of Defense to the Federal Emergency Management Agency on 20 July 1979.
Department of the Air Force	Beginning in FY 2000, Air Force did not report Budget Activity 6.7 Operational System Development data because the agency misunderstood the reporting requirements. During the volume 57 data collection cycle, Air Force edited prior-year data for FYs 2000–07 to include Budget Activity 6.7 Operational System Development data. These data revisions were derived from FY 2007 distribution percentages that were then applied backward to revise data for FYs 2000–06. Beginning in FY 2011, the Air Force stopped reporting classified R&D projects by location and started reporting them as undistributed. Space Command stopped reporting as part of the Air Force after volume 69 (FYs 2019–20); it was replaced by the Space Force, which is now an independent service within the Department of Defense.
Department of the Army	
Civil Functions	The Department of the Army (DA), Civil Functions (Corps of Engineers), development activities are appropriated by the Energy and Water Development and Related Agencies Appropriations Act and therefore cannot be categorized according to the advanced technology and major systems development breakdown. For accounting purposes, the funds are shown in the advanced technology total for DA.
Operational Test and Evaluation, Director	On 7 June 1999, the Secretary of Defense approved the disestablishment of the Office of the Director, Test, Systems Engineering and Evaluation. As a result of the restructure, the Director, Operational Test and Evaluation, assumed management responsibility for the Central Test and Evaluation Investment Program and the Test and Evaluation Program, excluding the Joint Test and Evaluation Program.
Other defense agencies	Beginning with volume 61 (FYs 2011–13), Other defense agencies displays aggregated data of Department of Defense (DOD) subagencies engaged in classified R&D projects. DOD does not report the location of performance for these projects; rather they report these obligations as undistributed.
Space Force	Founded 20 December 2019 as an independent service, the Space Force began reporting for volume 70 (FYs 2020–21).
Test and Evaluation, Deputy under Secretary of Defense	On 7 June 1999, the Secretary of Defense approved the disestablishment of the Office of the Director, Test, Systems Engineering and Evaluation. As a result of the restructure, the Director, Operational Test and Evaluation, assumed management responsibility for the Central Test and Evaluation Investment Program and the Test and Evaluation Program, excluding the Joint Test and Evaluation Program. Beginning with volume 61 (FYs 2011–13), agency totals are included in Other defense agencies.
Department of Education	Several programs that serve older adults and people with disabilities were transferred from other agencies to the Department of Health and Human Services' Administration for Community Living, including a number of programs from the Department of Education due to the 2014 Workforce Innovation and Opportunities Act.
Department of Energy	In January 1996, the Bureau of Mines was abolished, and some of its activities were transferred to the Bureau of Land Management, the Geological Survey, and the Department of Energy.
Advanced Research Projects Agency-Energy	In FY 2007, the president signed the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act (America COMPETES), which authorized the creation of the Advanced Research Projects Agency-Energy. In FY 2009, Congress appropriated \$400 million to fund the agency's first projects.
Bonneville Power Administration	In FY 1982, the Bonneville Power Administration (BPA) became part of the Department of Energy. BPA ceased to be a respondent as of the volume 68 (FYs 2018–19) data collection cycle.
Energy Delivery and Energy Reliability	In March 2003, the Department of Energy (DOE) created the Office of Electric Transmission and Distribution and the Office of Energy Assurance. In 2005, both offices and elements of the DOE Office of Fossil Energy were merged into the new Office of Electricity Delivery and Energy Reliability.
Office of Cybersecurity, Energy Security, and Emergency Response	In March 2018, the Department of Energy (DOE) created the Office of Cybersecurity, Energy Security, and Emergency Response. Data were first collected on vol. 68 with estimated R&D obligations for FY 2019.
Department of Health and Human Services	
Administration on Aging	In FY 1991, Human Development Services was replaced by the Administration for Children and Families (ACF) and by the Administration on Aging (AOA). Since FY 1992, data shown for ACF have been separate from obligations for AOA. In FY 2012, AOA was transferred to the Administration for Community Living.
Administration for Children and Families	Obligations reported for the Administration for Children and Families (ACF) may be incomplete for FY 1992 due to unavailability of data.

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Notes associated with agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72

(Notes)

Department	Explanatory information
	In FY 1991, Human Development Services was replaced by ACF and by the Administration on Aging (AOA). Since FY 1992, data shown for ACF have been separate from obligations for AOA.
Administration for Community Living	The Administration for Community Living (ACL) began reporting in FY 2015, replacing the Administration on Aging, which was transferred to ACL when ACL was established on 18 April 2012. Several programs that serve older adults and people with disabilities were transferred from other agencies to ACL, including a number of programs from the Department of Education due to the 2014 Workforce Innovation and Opportunities Act. Prior to FY 2012, data reported for the ACL was for the Administration on Aging.
Agency for Healthcare Research and Quality	In FY 1991, the Agency for Health Care Policy and Research (AHCPR) became separate from the Office of the Assistant Secretary for Health. AHCPR was renamed the Agency for Healthcare Research and Quality as stated in the Healthcare Research and Quality Act of 1999, signed by the president on 6 December 1999.
Agency for Toxic Substances and Disease Registry	Prior to FY 2000, data reported for the Environmental Protection Agency include R&D data for the Agency for Toxic Substances and Disease Registry.
Alcohol, Drug Abuse, and Mental Health Administration	Due to reorganization within the Department of Health and Human Services, the Alcohol, Drug Abuse, and Mental Health Administration ceased to exist as of October 1992, and its R&D functions are reported with National Institutes of Health data beginning with FY 1992. However, research support for some fields (such as psychology) in FY 1992 seems to be underreported.
Biomedical Advanced Research and Development Authority	The Biomedical Advanced Research and Development Authority began reporting for volume 69 (FYs 2019–20). It could not submit any geographical data for FY 2019, so its data were reported as undistributed on the state tables.
Centers for Medicare and Medicaid Services	The Health Care Financing Administration became the Centers for Medicare and Medicaid Services (CMS) as of 1 July 2001. Starting with volume 68 (FYs 2018–19), CMS funding was reported by the CMS Office of Financial Management at an agency-wide level instead of by the CMS Center for Medicare and Medicaid Innovation and its R&D group, the Office of Research, Development, and Information, which used to report at a component level.
Health Care Financing Administration	The Health Care Financing Administration became the Centers for Medicare and Medicaid Services as of 1 July 2001.
Human Development Services	In FY 1991, Human Development Services was replaced by the Administration for Children and Families (ACF) and by the Administration on Aging (AOA). Since FY 1992, data shown for ACF have been separate from obligations for AOA.
National Institutes of Health	Due to reorganization within the Department of Health and Human Services, the Alcohol, Drug Abuse, and Mental Health Administration ceased to exist as of October 1992, and its R&D functions have been reported with National Institutes of Health (NIH) data since FY 1992. However, research support for some fields (such as psychology) in FY 1992 seems to be underreported. In FY 2000, NIH reclassified as research the activities that it had previously classified as development; NIH data for FY 2000 forward reflect this change. For more information on the classification changes at the National Aeronautics and Space Administration and NIH, refer to Classification Revisions Reduce Reported Federal Development Obligations (InfoBrief NSF 02-309), February 2002, available at https://www.nsf.gov/statistics/nsf02309/ . NIH revised its financial database; beginning with FY 2004, NIH records no longer contain information on the field of science and engineering. Data for FY 2004 and later years are not directly comparable with data for FY 2003 and earlier years.
Office of the Assistant Secretary for Health	In FY 1991, the Agency for Health Care Policy and Research became separate from the Office of the Assistant Secretary for Health (ASH). ASH merged with the Office of the Secretary of Health and Human Services (OS) as of FY 1996. The merger created a new role for the Assistant Secretary for Health who became head of the Office of Public Health and Science, a new division within OS.
Office of the Secretary of Health and Human Services	The Office of the Assistant Secretary for Health merged with the Office of the Secretary of Health and Human Services (OS) as of FY 1996. The merger created a new role for the Assistant Secretary for Health who became head of the Office of Public Health and Science, a new division within OS.
Office of Public Health and Science	The Office of the Assistant Secretary for Health merged with the Office of the Secretary of Health and Human Services (OS) as of FY 1996. The merger created a new role for the Assistant Secretary for Health who became head of the Office of Public Health and Science, a new division within OS.

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(Notes)

Department	Explanatory information
Social Security Administration	Effective 31 March 1995, the Social Security Administration became an independent agency; it is no longer part of the Department of Health and Human Services.
Substance Abuse and Mental Health Services Administration	In FY 2003, the Substance Abuse and Mental Health Services Administration (SAMHSA) reclassified some of its funding categories as non-R&D that were considered R&D in prior years.
	Data for FYs 2003–06 from SAMHSA are estimates based on SAMHSA's obligations by program activity budget and previously reported funding for development.
Department of Homeland Security	On 25 November 2002, the president signed the Homeland Security Act of 2002, establishing the Department of Homeland Security (DHS). DHS includes the R&D activities previously reported by the Coast Guard, the Federal Emergency Management Agency, the Science and Technology Directorate, the Secret Service, and the Transportation Security Administration.
Countering Weapons of Mass Destruction Office	The Countering Weapons of Mass Destruction (CWMD) Office was established on 7 December 2017. CWMD consolidated primarily the Domestic Nuclear Detection Office (DNDO) and a majority of the Office of Health Affairs, as well as other DHS elements. Prior to FY 2018, data reported for the CWMD would have been under the DNDO.
Domestic Nuclear Detection Office	The Domestic Nuclear Detection Office (DNDO) began reporting for FY 2014. It was consolidated under the Countering Weapons of Mass Destruction (CWMD) Office in December 2017. All of its funding is reported under the CWMD.
Science and Technology Directorate	The Transportation Security Laboratory (TSL) initially existed under the Transportation Security Administration (TSA) of the Department of Homeland Security (DHS), but in the 2005 DHS reorganization, TSL was moved from TSA to the Science and Technology Directorate.
	During the volume 67 (FYs 2017–18) data collection, the Science and Technology Directorate revised its FY 2016 data.
Secret Service	The Secret Service, which did not report data between FY 2009 and FY 2017, resumed reporting for volume 68 (FYs 2018–19).
Transportation Security Administration	The Transportation Security Administration, which did not report data between FY 2010 and FY 2017, resumed reporting for volume 68 (FYs 2018–19).
Department of the Interior	
Bonneville Power Administration	In FY 1982, the Bonneville Power Administration became part of the Department of Energy.
Bureau of Land Management	In January 1996, the Bureau of Mines was abolished, and some of its activities were transferred to the Bureau of Land Management (BLM), the Geological Survey, and the Department of Energy.
	BLM, which did not report data between FY 1999 and FY 2014, resumed reporting for volume 65 (FYs 2015–17).
Bureau of Mines	In January 1996, the Bureau of Mines was abolished, and some of its activities were transferred to the Bureau of Land Management, the Geological Survey, and the Department of Energy.
Bureau of Ocean Energy Management	The Bureau of Ocean Energy Management, Regulation and Enforcement was split into the Bureau of Ocean Energy Management and the Bureau of Safety and Environmental Enforcement in FY 2012.
Bureau of Ocean Energy Management, Regulation, and Enforcement	On 19 May 2010, the Minerals Management Service was renamed the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE).
	BOEMRE was split into the Bureau of Ocean Energy Management and the Bureau of Safety and Environmental Enforcement in FY 2012.
Bureau of Safety and Environmental Enforcement	The Bureau of Ocean Energy Management, Regulation and Enforcement was split into the Bureau of Ocean Energy Management and the Bureau of Safety and Environmental Enforcement in FY 2012.
Fish and Wildlife Service	The name of the National Biological Survey changed to the National Biological Service (NBS) on 5 January 1995. Since FY 1994, the NBS has performed all biological research activities formerly funded by the Fish and Wildlife Service (FWS) and the National Park Service.
	FWS, which did not report data between FY 1999 and FY 2014, resumed reporting for volume 65 (FYs 2015–17).
Geological Survey	The Office of Water Research and Technology has been combined with the Geological Survey (USGS) since 1985.
	Funding for the National Biological Service (NBS) comes from the USGS congressional appropriation. Since FY 1996, data for NBS have been included with the USGS submission.
	In January 1996, the Bureau of Mines was abolished, and some of its activities were transferred to the Bureau of Land Management, the USGS, and the Department of Energy.
Minerals Management Service	On 19 May 2010, the Minerals Management Service was renamed the Bureau of Ocean Energy Management, Regulation, and Enforcement.

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Notes associated with agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72

(Notes)

Department	Explanatory information
National Biological Service	The name of the National Biological Survey changed to the National Biological Service (NBS) on 5 January 1995. Since FY 1994, NBS has performed all biological research activities formerly funded by the Fish and Wildlife Service and the National Park Service.
	Funding for NBS comes from the Geological Survey's congressional appropriation. Since FY 1996, data for the NBS have been included with the Geological Survey submission.
National Park Service	The name of the National Biological Survey changed to the National Biological Service (NBS) on 5 January 1995. Since FY 1994, NBS has performed all biological research activities formerly funded by the Fish and Wildlife Service and the National Park Service (NPS).
	Obligations for FYs 2003–08 are for the NPS natural resources program; data for the cultural resources program were not available.
Office of the Secretary of the Interior	The Department of the Interior's Office of the Secretary has not funded any R&D activities since FY 1995.
Office of Water Research and Technology	The Office of Water Research and Technology has been combined with the Geological Survey since 1985.
Department of Justice	
Drug Enforcement Administration	Large differences exist between the Drug Enforcement Administration's R&D funding amounts for FYs 1996 and 1997 due to changes in the agency's R&D programs.
Immigration and Naturalization Service	On 1 March 2003, service and benefit functions of Immigration and Naturalization Service were transferred to the Department of Homeland Security as the Citizenship and Immigration Services.
Department of Labor	
Labor-Management Relations and Cooperative Programs	In 1984, Labor-Management Relations and Cooperative Programs replaced the Labor-Management Services Administration.
Labor-Management Services Administration	In 1984, the Labor-Management Services Administration was replaced by the Labor-Management Relations and Cooperative Programs.
Department of State	The Agency for International Development (AID) transferred from the Department of State (DOS) to the International Development Cooperation Agency on 1 October 1979.
	Increases in outlays and obligations reported by DOS during the volume 44 (FYs 1994–96) survey cycle reflect reporting of moneys received through interagency agreements with AID. DOS transfers these outlays and obligations to other R&D performers.
	Effective 1 April 1999, all functions and authorities of the Arms Control and Disarmament Agency were transferred to DOS.
	On 1 October 1999, the Information Agency was integrated into DOS.
	DOS data for FY 2014 were excluded due to their poor quality.
	As of volume 68 (FYs 2018–19), DOS added the Global Health Programs R&D funding.
Agency for International Development	The Agency for International Development (AID) transferred from the Department of State (DOS) to the International Development Cooperation Agency on 1 October 1979.
	Increases in outlays and obligations reported by DOS during the volume 44 (FYs 1994–96) survey cycle reflect reporting of moneys received through interagency agreements with AID. DOS transfers these outlays and obligations to other R&D performers.
Department of Transportation	The Department of Transportation (DOT) did not become operational until 1967. Prior to 1966, similar obligations appear under DOT's organizational predecessors: the Bureau of Public Roads, the Coast Guard (formerly part of the Department of the Treasury and transferred to the Department of Homeland Security in 2003), the Federal Aviation Agency, the Office of Transportation Research and Development, and other components of the Department of Commerce vested with transportation functions.
Coast Guard	On 25 November 2002, the president signed the Homeland Security Act of 2002, establishing the Department of Homeland Security (DHS). DHS includes the R&D activities previously reported by the Coast Guard.
Federal Highway Administration	The Federal Motor Carrier Safety Administration, formerly a part of the Federal Highway Administration, was established within the Department of Transportation on 1 January 2000, as stated in the Motor Carrier Safety Improvement Act of 1999 (Public Law No. 106-159, 113 Stat. 1748 [9 December 1999]).

TABLE A-2

Notes associated with agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72

(Notes)

Department	Explanatory information
Federal Motor Carrier Safety Administration	The Federal Motor Carrier Safety Administration, formerly a part of the Federal Highway Administration, was established within the Department of Transportation on 1 January 2000, as stated in the Motor Carrier Safety Improvement Act of 1999 (Public Law No. 106-159, 113 Stat. 1748 [9 December 1999]).
Federal Transit Administration	The name of this agency changed from the Urban Mass Transit Administration to the Federal Transit Administration on 18 December 1991.
Maritime Administration	In 1981, the Maritime Administration moved from the Department of Commerce to the Department of Transportation.
Research and Innovative Technology Administration	In January 2014, all Research and Innovative Technology Administration programs were transferred into the Office of the Assistant Secretary for Research and Technology in the Office of the Secretary of Transportation.
Department of the Treasury	
Customs Service	Beginning in FY 2003, the Customs Service Research and Development program was transferred to other subagencies of the Department of Homeland Security.
Internal Revenue Service	Due to the reorganization of the Internal Revenue Service (IRS) and subsequent unavailability of data, FY 1992 figures were taken from estimates made in the volume 41 (FYs 1991–93) submission. Large changes in obligations reported by IRS for volume 44 (FYs 1994–96) are due to shifts in research funding. In 2017, the IRS performed a detailed evaluation and assessment of its programs and determined that none of its functions can be defined as an R&D activity as defined in Office of Management and Budget Circular A-11. Despite not having any R&D obligations, the IRS initially was retained as a respondent because it sponsors a federally funded research and development center, the Center for Enterprise Modernization. It was decided to remove IRS from the target population as of volume 72 (FYs 2022–23).
Office of Thrift Supervision	In 1989, the Federal Home Loan Bank Board was replaced by the Office of Thrift Supervision (OTS). In 1990, OTS became part of the Department of the Treasury. As of 21 July 2011, OTS merged with the Office of the Comptroller of the Currency; it ceased to exist on 19 October 2011.
Secret Service	On 25 November 2002, the president signed the Homeland Security Act of 2002, establishing the Department of Homeland Security (DHS). DHS includes the R&D activities previously reported by the Secret Service.
Department of Veterans Affairs	During volume 68 (FYs 2018–19), the Department of Veterans Affairs added funds for the Medical Services Support to the existing R&D funding to fully report the total cost of intramural R&D. Although the Medical Services Support do not directly fund specific R&D activities, they do cover the additional expense of hosting intramural research programs that were not previously reported.
Other agencies	
Administrative Office of the U.S. Courts	The Administrative Office of the U.S. Courts began reporting as of volume 66 (FYs 2016–17).
Agency for Global Media	On 22 August 2018, as part of a modernization effort, the Broadcasting Board of Governors changed its name to the Agency for Global Media (AGM). AGM did not submit data from FY 2008 through FY 2018 but began reporting again for volume 69 (FYs 2019–20).
Agency for International Development	Increases in outlays and obligations reported by the Department of State (DOS) during the volume 44 (FYs 1994–96) survey cycle reflect reporting of moneys received through interagency agreements with the Agency for International Development (AID). DOS transfers these outlays and obligations to other R&D performers. AID's new integrated system for budget and accounting records used to report data for volume 48 (FYs 1998–2000) did not contain codes for determining either fields of science and engineering or performer data. The National Science Foundation estimated these data based on AID's Budget Authority (FYs 2000–02) and AID's Survey of Federal Funds for Research and Development submission to volume 44 (FYs 1994–96). AID transferred from DOS to the International Development Cooperation Agency on 1 October 1979.
Arms Control and Disarmament Agency	FY 1994 figures for the Arms Control and Disarmament Agency (ACDA) are based on the agency's volume 43 submission for FY 1993. Effective 1 April 1999, all functions and authorities of ACDA were transferred to the Department of State.
Broadcasting Board of Governors	The Broadcasting Board of Governors (BBG) became an independent federal entity on 1 October 1999, as mandated by the Foreign Affairs Reform and Restructuring Act (Public Law 105-277), signed by the president on 21 October 1998. On 22 August 2018, as part of a modernization effort, the BBG changed its name to the Agency for Global Media.
Consumer Product Safety Commission	The Consumer Product Safety Commission did not submit data from FY 2004 through FY 2011 but began reporting again for volume 62 (FYs 2012–14).
Environmental Protection Agency	Before FY 2000, data reported for the Environmental Protection Agency (EPA) included R&D data for the Agency for Toxic Substances and Disease Registry.

TABLE A-2

Notes associated with agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72

(Notes)

Department	Explanatory information
	In FY 2010, the EPA was unable to report R&D or R&D plant by performer or by location. Percentage distributions calculated from EPA's data submission for FY 2009 were used to estimate its FY 2010 R&D by performer and its location.
Federal Emergency Management Agency	The Federal Emergency Management Agency (FEMA) was activated 1 April 1979, by Executive Order 12127. FEMA merged many of the separate disaster-related responsibilities, including the National Fire Prevention and Control Administration, whose 1978 funds are reported under FEMA. Functions for the Defense Civil Preparedness Agency transferred from the Department of Defense to FEMA on 20 July 1979. Functions for the National Fire Prevention and Control Administration transferred from the Department of Commerce to FEMA on 1 April 1979. Functions were transferred to the Department of Homeland Security (DHS) by act of 25 Nov. 2002 (116 Stat. 2213) and absorbed into DHS effective 1 March 2003.
General Services Administration	Since 1985, the National Archives and Records Administration has been separate from the General Services Administration.
Information Agency	Data reported for the Information Agency include funds for the former International Communication Agency for FYs 1977–81. On 1 October 1999, the Information Agency was integrated into the Department of State.
International Development Cooperation Agency	The Agency for International Development transferred from the Department of State to the International Development Cooperation Agency on 1 October 1979.
International Trade Commission	In 2000, the International Trade Commission stopped classifying any of its activities as R&D.
National Aeronautics and Space Administration	During the volume 45 (FYs 1995–97) survey cycle, the National Aeronautics and Space Administration (NASA) made a statistical adjustment to the 1994 and 1995 field of science and engineering values to diminish a computational error introduced by its software. In FY 2000, NASA reclassified the International Space Station (ISS) as a physical asset, reclassified ISS Research as equipment, and transferred funding for the program from R&D to R&D plant. In FYs 2004–06, NASA implemented a full-cost budget approach, which includes all of the direct and indirect costs for procurement, personnel, travel, and other infrastructure-related expenses relative to a particular program and project. NASA's data for FY 2004 and later years may not be directly comparable with its data for FY 2003 and earlier years. In FY 2006, NASA reclassified funding for the following items as operational costs: Space Operations, the Hubble Space Telescope, the Stratospheric Observatory for Infrared Astronomy, and the James Webb Space Telescope. This funding was previously reported as R&D plant. Between FYs 2006 and 2007, NASA's R&D obligations decreased by \$1 billion. Of this amount, \$850 million was accounted for by obligations for operational projects that NASA excluded in FY 2007 but reported in FY 2006. The remainder was from an overall decrease in obligations between FYs 2006 and 2007. In FY 2010, NASA resumed reporting ISS obligations as R&D plant. In FY 2012, NASA began reporting ISS obligations as research rather than R&D plant. In FY 2013, NASA revamped its reporting process so that the data for FY 2012 forward are not directly comparable with totals reported in previous years. NASA estimated that the revised Office of Management and Budget definition for "experimental development" reduced its reported R&D total by about \$2.7 billion in FY 2017 and \$2.9 billion in FY 2018 from what would have been reported under the previous definition prior to volume 66 (FYs 2016–17). During the volume 72 cycle (FYs 2022–23), NASA revised its FY 2021 data by field of R&D and performer categories based on improved classification procedures developed during the volume 72 reporting period.
National Archives and Records Administration	Since 1985, the National Archives and Records Administration has been separate from the General Services Administration.
National Science Foundation	The National Science Foundation made changes to its field of science and engineering coding system, producing changes to some of the FY 1996 field of science data (such as mechanical engineering). These changes are reflected in the historical data tables.
Patient-Centered Outcomes Research Trust Fund	The Patient-Centered Outcomes Research Trust Fund (PCORTF) was established by Congress through the Patient Protection and Affordable Care Act of 2010, signed by the president on 23 March 2010. PCORTF began reporting for volume 67 (FYs 2017–18), but it also submitted data for FYs 2011–16.
Postal Service	The Postal Service, which did not report data between FY 1999 and FY 2016, resumed reporting for volume 67 (FYs 2017–18) and submitted data for FYs 2015–16.

TABLE A-2

Notes associated with agencies included in the Survey of Federal Funds for Research and Development: Volumes 29–72

(Notes)

Department	Explanatory information
Office of Thrift Supervision	In 1989, the Federal Home Loan Bank Board was replaced by the Office of Thrift Supervision (OTS). In 1990, OTS became part of the Department of the Treasury.
Social Security Administration	Effective 31 March 1995, the Social Security Administration became an independent agency; it is no longer part of the Department of Health and Human Services.
Tennessee Valley Authority	During the volume 47 (FYs 1997–99) survey cycle, the Tennessee Valley Authority (TVA) made adjustments to its FY 1996 R&D values to correct reporting errors. TVA reported that in recent years, most of the funds TVA had reported had been those invested by TVA's Office of Power rather than congressionally appropriated funds. In addition, a substantial amount of congressionally appropriated funds earmarked for environmental compliance and site restoration was erroneously reported as R&D in past years. TVA determined that these funds did not meet the criteria for classification as R&D spending. Some trend shifts are related to these adjustments because TVA could only make revisions as far back as 1996.
	TVA, which did not report data between FY 1999 and FY 2016, resumed reporting for volume 67 (FYs 2017–18).

Note(s):

These notes include explanatory information on federal agencies' reports for volume 29 (FYs 1979–81) through volume 72 (FYs 2022–23) of the Survey of Federal Funds for Research and Development (Federal Funds for R&D). For volume 72, actual data were collected for FY 2022, and estimates were collected for FY 2023.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE A-3

Crosswalk for the Survey of Federal Funds for Research and Development: Volume 70 and volume 71

(Notes)

Volume 70 (field of science and engineering)	Change	Volume 71 (field of R&D)
Computer sciences and mathematics; Computer sciences	Separated	Computer and information sciences
Mathematics; Other computer sciences and mathematics	Separated	Mathematics and statistics
Environmental sciences	New wording	Geosciences, atmospheric sciences, and ocean sciences
Atmospheric sciences	New wording	Atmospheric science and meteorology
Geological sciences	New wording	Geological and earth sciences
Oceanography	New wording	Ocean sciences and marine sciences
Other environmental sciences	New wording	Other geosciences, atmospheric sciences, and ocean sciences
Life sciences		Life sciences
Agricultural sciences		Agricultural sciences
Biological sciences (excluding environmental) Environmental biology	Combined	Biological and biomedical sciences
Medical sciences	New wording	Health sciences
	New item	Natural resources and conservation
Other life sciences		Other life sciences
Physical sciences		Physical sciences
Astronomy	New wording	Astronomy and astrophysics
Chemistry		Chemistry
	New item	Materials science
Physics		Physics
Other physical sciences		Other physical sciences
Psychology		Psychology
Biological aspects		Biological aspects
Social aspects		Social aspects
Other psychological sciences		Other psychological sciences
Social sciences		Social sciences
Anthropology		Anthropology
Economics		Economics
Political science	New wording	Political science and government
Sociology	New wording	Sociology, demography, and population studies
Other social sciences		Other social sciences (Education research and Law moved to Other fields)
Engineering		Engineering
Aeronautical engineering; Astronautical engineering	Combined	Aerospace, aeronautical, and astronautical engineering
	New item	Bioengineering and biomedical engineering
Chemical engineering		Chemical engineering
Civil engineering		Civil engineering
Electrical engineering	New wording	Electrical, electronics, and communications engineering
	New item	Industrial and manufacturing engineering
Mechanical engineering		Mechanical engineering
Metallurgy and materials engineering	New wording	Metallurgical and materials engineering
Other engineering		Other engineering
	- New section	Other fields

TABLE A-3

Crosswalk for the Survey of Federal Funds for Research and Development: Volume 70 and volume 71

(Notes)

Volume 70 (field of science and engineering)	Change	Volume 71 (field of R&D)
-		Business management and business administration
-		Communication and communications technologies
-	Separated	Education research (separated from Other social sciences)
-		Humanities, including History
-	Separated	Law (separated from Other social sciences)
-		Social work
-		Visual and performing arts
-		All other fields

Note(s):

This table summarizes changes in the taxonomy from volume 70 (FYs 2020–21; fields of science and engineering) to volume 71 (FYs 2021–22; fields of research and development).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

TABLE A-4

Survey of Federal Funds for Research and Development, by volume number and federal fiscal years surveyed

(Survey volume number and fiscal year)

Volume number	Prior year actual	Current year estimate	Budget year projection
Volume 1	1951	1952	na
Volume 2	1952	1953	1954
Volume 3	1953	1954	1955
Volume 4	1954	1955	1956
Volume 5	1955	1956	1957
Volume 6	1956	1957	1958
Volume 7	1957	1958	1959
Volume 8	1958	1959	1960
Volume 9	1959	1960	1961
Volume 10	1960	1961	1962
Volume 11	1961	1962	1963
Volume 12	1962	1963	1964
Volume 13	1963	1964	1965
Volume 14	1964	1965	1966
Volume 15	1965	1966	1967
Volume 16	1966	1967	1968
Volume 17	1967	1968	1969
Volume 18	1968	1969	1970
Volume 19	1969	1970	1971
Volume 20	1970	1971	1972
Volume 21	1971	1972	1973
Volume 22	1972	1973	1974
Volume 23	1973	1974	1975
Volume 24	1974	1975	1976
Volume 25	1975	1976	1977
Volume 26	1976	1977	1978
Volume 27	1977	1978	1979
Volume 28	1978	1979	1980
Volume 29	1979	1980	1981
Volume 30	1980	1981	1982
Volume 31	1981	1982	1983
Volume 32	1982	1983	1984
Volume 33	1983	1984	1985
Volume 34	1984	1985	1986
Volume 35	1985	1986	1987
Volume 36	1986	1987	1988
Volume 37	1987	1988	1989
Volume 38	1988	1989	1990
Volume 39	1989	1990	1991
Volume 40	1990	1991	1992
Volume 41	1991	1992	1993
Volume 42	1992	1993	1994
Volume 43	1993	1994	1995
Volume 44	1994	1995	1996
Volume 45	1995	1996	1997
Volume 46	1996	1997	1998
Volume 47	1997	1998	1999
Volume 48	1998	1999	2000
Volume 49	1999	2000	2001
Volume 50	2000	2001	2002
Volume 51	2001	2002	2003

TABLE A-4

Survey of Federal Funds for Research and Development, by volume number and federal fiscal years surveyed

(Survey volume number and fiscal year)

Volume number	Prior year actual	Current year estimate	Budget year projection
Volume 52	2002	2003	2004
Volume 53	2003	2004	2005
Volume 54	2004	2005	2006
Volume 55	2005	2006	2007
Volume 56	2006	2007	2008
Volume 57	2007	2008	2009
Volume 58	2008	2009	2010
Volume 59	2009	2010	2011
Volume 60	2010	2011	2012
Volume 61	2011	2012	2013
Volume 62	2012	2013	2014
Volume 63	2013	2014	2015
Volume 64	2014	2015	2016
Volume 65	2015	2016	2017
Volume 66	2016	2017	na
Volume 67	2017	2018	na
Volume 68	2018	2019	na
Volume 69	2019	2020	na
Volume 70	2020	2021	na
Volume 71	2021	2022	na
Volume 72	2022	2023	na

na = not applicable; data were not collected.

Note(s):

Prior year actuals refer to the final obligations for the given fiscal year. Current year estimates refer to the fiscal year that was still open while the survey was conducted; for current year estimates, preliminary obligations have been made for the given fiscal year but final obligations are not yet available. Budget year projections refer to the fiscal year that has not yet started and thus no obligations have yet been made. The Congressional Budget and Impoundment Act of 1974 (Section 501 of P.L. 93-344, codified at 31 U.S.C. 1102) changed the federal fiscal year from 1 July to 30 June to the current cycle of 1 October to 30 September effective with FY 1977. A 3-month transition period from 1 July 1976 to 30 September 1976 was provided for under the Fiscal Year Transition Act (P.L. 94-274). The National Center for Science and Engineering Statistics discontinued the collection of the budget year projections for R&D effective with volume 66.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.

Acknowledgments and Suggested Citation

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