



National Center for Science and
Engineering Statistics

Survey of State Government Research and Development: FY 2022

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General Notes

These tables present the results of the FY 2022 Survey of State Government Research and Development (R&D), conducted by the Census Bureau under an interagency agreement with the National Center for Science and Engineering Statistics within the National Science Foundation. The Census Bureau employed a methodology similar to one they use to collect data from state and local governments on other censuses and surveys.

The survey was distributed to departments, agencies, commissions, public authorities, and other state-run entities within the 50 states, the District of Columbia, and Puerto Rico that were considered likely to conduct or fund R&D activities. (The District of Columbia and Puerto Rico are referred to as states and treated as state equivalents throughout this report.) Respondents that did not have a qualifying R&D activity were not required to complete the questionnaire beyond a screening question. All 50 states, the District of Columbia, and Puerto Rico participated in the survey. Respondents were asked to provide statistics on their total R&D expenditures and amounts for intramural and extramural performers; the amount of intramural R&D devoted to basic research, applied research, and experimental development activities by federal and nonfederal funds; the amount for which the federal government was an original source of funds for both intramural and extramural R&D and from which federal agency the funding came; and the amount of money allocated to particular government functions. An additional question asked for expenditures on construction and acquisition of R&D facilities and major equipment. Additional questions were asked about the number of employees (researchers, technicians, and support staff) and full-time equivalent personnel for intramural R&D.

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TABLE 1

State government expenditures for R&D and R&D plant, by state: FY 2022

(Dollars)

State	State R&D expenditures ^a	State R&D plant expenditures ^b
United States ^c	2,643,991,142	31,839,778
Alabama	88,219,991	0
Alaska	17,157,228	0
Arizona	7,946,421	0
Arkansas	9,759,708	0
California	490,081,806	5,700,000
Colorado	38,058,349	0
Connecticut	60,578,799	0
Delaware	3,446,375	0
District of Columbia	10,560,754	0
Florida	180,145,644	2,163,105
Georgia	24,988,379	0
Hawaii	6,337,851	5,750,000
Idaho	20,444,262	0
Illinois	16,463,839	0
Indiana	12,104,856	0
Iowa	10,636,720	0
Kansas	17,633,236	0
Kentucky	34,881,537	0
Louisiana	31,843,839	0
Maine	24,812,470	1,579,462
Maryland	31,280,581	0
Massachusetts	26,616,423	4,484,231
Michigan	30,525,914	0
Minnesota	25,093,959	0
Mississippi	9,788,541	0
Missouri	12,430,684	0
Montana	9,752,216	0
Nebraska	32,687,157	10,000
Nevada	3,643,395	0
New Hampshire	9,222,505	0
New Jersey	65,020,915	0
New Mexico	3,456,227	0
New York	506,283,025	70,000
North Carolina	38,818,576	1,000,000
North Dakota	17,874,336	0
Ohio	70,471,571	0
Oklahoma	27,646,238	0
Oregon	33,801,166	0
Pennsylvania	88,557,830	0
Rhode Island	8,361,413	0
South Carolina	50,056,315	2,000,000
South Dakota	4,595,753	500,000
Tennessee	38,959,330	0
Texas	247,609,284	0
Utah	8,837,531	0
Vermont	1,460,157	0
Virginia	40,253,504	50,400
Washington	60,886,219	8,532,580
West Virginia	9,180,282	0
Wisconsin	19,060,693	0

TABLE 1

State government expenditures for R&D and R&D plant, by state: FY 2022

(Dollars)

State	State R&D expenditures ^a	State R&D plant expenditures ^b
Wyoming	5,657,338	0
Puerto Rico ^d	17,058,786	0

^a State R&D expenditures do not include R&D plant.

^b State R&D plant expenditures include acquisition of land, facilities, major equipment, and major building renovations intended primarily for R&D use.

^c U.S. total reflects all 50 states and the District of Columbia.

^d Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 2

State government expenditures for R&D and R&D plant, by state and performer: FY 2022

(Dollars)

State	All R&D expenditures ^a	Intramural performers ^b	Extramural performers ^c				R&D plant ^f
			Total	Academic institutions	Companies and individuals ^d	Other ^e	
United States ^g	2,643,991,142	696,624,562	1,947,366,580	1,032,713,072	454,745,763	459,907,745	31,839,778
Alabama	88,219,991	12,081,222	76,138,769	12,354,753	691,474	63,092,542	0
Alaska	17,157,228	11,600,345	5,556,883	1,476,494	2,512,461	1,567,928	0
Arizona	7,946,421	2,039,798	5,906,623	4,170,522	1,648,151	87,950	0
Arkansas	9,759,708	220,653	9,539,055	7,858,723	380,332	1,300,000	0
California	490,081,806	87,712,398	402,369,408	128,557,417	91,219,461	182,592,530	5,700,000
Colorado	38,058,349	9,393,492	28,664,857	10,769,660	13,882,986	4,012,211	0
Connecticut	60,578,799	28,200,758	32,378,041	2,428,369	28,345,413	1,604,259	0
Delaware	3,446,375	1,568,167	1,878,208	1,108,165	711,743	58,300	0
District of Columbia	10,560,754	4,320,240	6,240,514	712,013	3,629,822	1,898,679	0
Florida	180,145,644	51,395,556	128,750,088	80,421,221	3,864,156	44,464,711	2,163,105
Georgia	24,988,379	2,884,258	22,104,121	6,905,171	11,334,225	3,864,725	0
Hawaii	6,337,851	201,790	6,136,061	3,980,790	2,085,271	70,000	5,750,000
Idaho	20,444,262	7,278,248	13,166,014	9,211,146	549,931	3,404,937	0
Illinois	16,463,839	554,067	15,909,772	13,980,583	435,210	1,493,979	0
Indiana	12,104,856	660,237	11,444,619	8,610,791	2,833,828	0	0
Iowa	10,636,720	2,912,086	7,724,634	6,716,097	989,049	19,488	0
Kansas	17,633,236	1,500,273	16,132,963	13,017,281	202,079	2,913,603	0
Kentucky	34,881,537	4,434,431	30,447,106	24,590,319	4,084,159	1,772,628	0
Louisiana	31,843,839	10,033,831	21,810,008	18,458,516	3,004,727	346,765	0
Maine	24,812,470	12,208,306	12,604,164	4,385,530	6,971,533	1,247,101	1,579,462
Maryland	31,280,581	864,022	30,416,559	25,771,680	2,612,842	2,032,037	0
Massachusetts	26,616,423	1,636,998	24,979,425	10,387,510	10,092,864	4,499,051	4,484,231
Michigan	30,525,914	254,848	30,271,066	13,679,420	619,972	15,971,674	0
Minnesota	25,093,959	3,038,564	22,055,395	14,721,856	4,570,534	2,763,005	0
Mississippi	9,788,541	2,820,168	6,968,373	3,754,922	1,028,977	2,184,474	0
Missouri	12,430,684	4,338,958	8,091,726	6,267,780	1,397,709	426,237	0
Montana	9,752,216	3,400,729	6,351,487	4,200,739	0	2,150,748	0
Nebraska	32,687,157	2,114,433	30,572,724	25,706,242	4,758,046	108,436	10,000
Nevada	3,643,395	208,642	3,434,753	2,200,553	283,100	951,100	0
New Hampshire	9,222,505	136,953	9,085,552	241,647	7,025,864	1,818,041	0
New Jersey	65,020,915	3,317,395	61,703,520	47,835,643	1,504,415	12,363,462	0
New Mexico	3,456,227	1,110,427	2,345,800	1,629,579	374,741	341,480	0
New York	506,283,025	274,950,816	231,332,209	154,930,297	47,930,079	28,471,833	70,000
North Carolina	38,818,576	17,505,611	21,312,965	14,454,020	5,333,677	1,525,268	1,000,000
North Dakota	17,874,336	131,121	17,743,215	6,647,965	9,559,797	1,535,453	0
Ohio	70,471,571	1,106,388	69,365,183	18,527,266	49,891,610	946,307	0
Oklahoma	27,646,238	1,946,574	25,699,664	17,857,716	3,693,891	4,148,057	0
Oregon	33,801,166	16,703,743	17,097,423	8,564,907	4,287,150	4,245,366	0
Pennsylvania	88,557,830	13,041,479	75,516,351	38,491,630	6,077,281	30,947,440	0
Rhode Island	8,361,413	5,438,324	2,923,089	895,354	836,124	1,191,611	0
South Carolina	50,056,315	29,595,672	20,460,643	5,652,030	1,826,919	12,981,694	2,000,000
South Dakota	4,595,753	237,313	4,358,440	2,989,627	624,054	744,759	500,000
Tennessee	38,959,330	314,273	38,645,057	5,999,804	32,645,253	0	0
Texas	247,609,284	2,368,161	245,241,123	200,096,480	43,539,743	1,604,900	0
Utah	8,837,531	6,375,939	2,461,592	1,559,806	794,455	107,331	0
Vermont	1,460,157	1,170,646	289,511	236,262	52,924	325	0
Virginia	40,253,504	15,546,707	24,706,797	13,951,050	8,277,124	2,478,623	50,400

TABLE 2

State government expenditures for R&D and R&D plant, by state and performer: FY 2022

(Dollars)

State	All R&D expenditures ^a	Intramural performers ^b	Extramural performers ^c				R&D plant ^f
			Total	Academic institutions	Companies and individuals ^d	Other ^e	
Washington	60,886,219	24,507,566	36,378,653	16,420,916	15,728,140	4,229,597	8,532,580
West Virginia	9,180,282	3,803,985	5,376,297	5,131,402	237,000	7,895	0
Wisconsin	19,060,693	5,209,332	13,851,361	3,395,186	7,405,745	3,050,430	0
Wyoming	5,657,338	2,228,619	3,428,719	800,222	2,359,722	268,775	0
Puerto Rico ^h	17,058,786	11,176,340	5,882,446	2,397,243	3,340,203	145,000	0

^a State R&D expenditures do not include R&D plant.

^b Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project.

^c Extramural performers are those outside the department or agency who perform R&D.

^d Companies and individuals include individuals under contract for research projects.

^e Other extramural performers include nonprofit organizations, including foundations; federal government departments and agencies; other departments or agencies within the state; other state governments; and county, city, special district, or regional local governments.

^f State R&D plant expenditures include acquisition of land, facilities, major equipment, and major building renovations intended primarily for R&D use.

^g U.S. total reflects all 50 states and the District of Columbia.

^h Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 3

State government expenditures for R&D, by state: FYs 2006–22

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ohio	55,068,629	114,086,509	NA	121,394,963	125,120,668	159,322,228	153,382,845	188,311,926	94,882,275	94,299,294	99,329,386	108,542,077	93,189,867	80,148,377	76,169,661	55,336,431	70,471,571
Oklahoma	8,922,036	10,731,050	NA	15,930,878	21,226,236	20,304,740	23,133,843	28,224,758	30,473,702	29,952,934	33,460,991	33,512,333	26,848,844	29,607,888	30,050,338	55,989,692	27,646,238
Oregon	7,382,722	7,389,914	NA	11,120,140	18,013,730	20,001,272	22,003,035	23,083,506	29,679,288	31,990,073	24,831,090	30,549,080	31,254,046	44,222,659	30,486,113	37,419,218	33,801,166
Pennsylvania	117,320,158	103,973,448	NA	95,896,714	87,913,796	75,491,812	80,600,099	66,429,400	35,432,244	75,024,127	73,188,503	92,505,396	101,610,656	85,050,999	103,098,941	93,621,093	88,557,830
Rhode Island	150,000	1,771,949	NA	1,877,724	1,461,239	1,947,727	2,028,402	1,640,778	3,225,472	2,594,978	3,372,460	3,791,008	3,364,527	5,512,380	4,594,040	10,226,630	8,361,413
South Carolina	22,427,746	31,969,826	NA	28,599,885	71,290,446	84,692,653	72,467,293	47,732,177	22,311,739	27,419,285	30,512,353	34,686,268	34,291,703	46,983,243	46,800,816	44,557,581	50,056,315
South Dakota	5,791,586	5,473,603	NA	4,430,602	3,762,637	3,629,155	3,447,633	3,660,854	5,067,005	4,211,838	4,511,516	3,665,413	4,137,189	2,953,214	2,913,274	3,193,289	4,595,753
Tennessee	5,355,000	4,549,998	NA	3,752,587	1,064,262	3,642,490	4,293,334	3,430,476	4,363,565	3,828,567	7,040,422	9,433,779	9,231,710	7,439,395	7,039,923	9,587,206	38,959,330
Texas	28,019,645	29,650,947	NA	49,381,346	35,163,655	47,372,367	146,989,380	185,199,541	162,287,552	185,094,332	255,132,755	294,485,067	228,578,310	233,030,466	205,206,977	255,731,862	247,609,284
Utah	3,214,170	2,752,228	NA	26,442,711	30,812,205	34,418,764	47,388,335	53,636,842	36,466,790	38,168,197	31,465,580	32,673,333	27,593,284	7,985,508	9,205,399	8,316,189	8,837,531
Vermont	1,680,533	1,529,805	NA	738,707	1,665,079	1,711,673	1,653,315	1,827,562	2,039,520	2,199,082	1,041,249	1,140,267	1,841,754	2,730,591	1,669,900	1,535,157	1,460,157
Virginia	11,579,623	15,486,526	NA	22,662,519	28,961,491	29,376,417	33,295,328	36,017,935	38,439,643	43,645,755	33,556,333	29,624,941	30,596,207	29,951,353	35,552,565	44,445,646	40,253,504
Washington	22,834,218	23,333,431	NA	16,284,702	38,073,580	45,498,369	49,553,326	47,122,876	40,357,249	38,002,018	35,183,195	42,969,819	37,093,288	51,963,060	57,239,095	56,690,210	60,886,219
West Virginia	6,024,577	22,179,830	NA	10,357,006	23,867,732	35,475,338	33,580,156	19,027,684	11,216,042	10,840,665	8,233,431	11,193,344	10,492,922	11,068,061	10,862,315	9,013,091	9,180,282
Wisconsin	10,949,155	13,774,600	NA	24,942,415	12,435,548	21,128,936	17,861,390	21,212,446	14,643,835	14,517,671	13,442,158	13,300,449	15,879,688	17,473,890	14,340,014	15,239,075	19,060,693
Wyoming	6,326,604	19,500,357	NA	4,806,630	5,471,379	5,419,398	6,879,286	6,497,386	6,444,053	5,160,617	5,425,545	5,641,115	4,886,290	5,232,930	6,391,060	6,865,263	5,657,338
Puerto Rico ^b	1,458,790	2,326,241	NA	9,316,754	4,031,391	4,217,869	7,625,412	7,949,965	6,569,500	5,673,544	na	na	na	na	na	na	17,058,786

na = not applicable; did not report to survey. NA = not available; survey was not conducted for FY 2008.

^a U.S. total reflects all 50 states and the District of Columbia.^b Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 4

State government expenditures for R&D for all performers, by state and source of funds: FY 2022

(Dollars)

State	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
United States ^b	2,643,991,142	691,149,390	1,952,841,752
Alabama	88,219,991	10,458,091	77,761,900
Alaska	17,157,228	8,260,099	8,897,129
Arizona	7,946,421	3,330,756	4,615,665
Arkansas	9,759,708	1,840,818	7,918,890
California	490,081,806	20,301,828	469,779,978
Colorado	38,058,349	5,096,962	32,961,387
Connecticut	60,578,799	14,622,416	45,956,383
Delaware	3,446,375	1,533,976	1,912,399
District of Columbia	10,560,754	8,368,175	2,192,579
Florida	180,145,644	27,469,288	152,676,356
Georgia	24,988,379	16,555,047	8,433,332
Hawaii	6,337,851	3,397,342	2,940,509
Idaho	20,444,262	11,009,398	9,434,864
Illinois	16,463,839	7,466,369	8,997,470
Indiana	12,104,856	7,098,396	5,006,460
Iowa	10,636,720	5,359,474	5,277,246
Kansas	17,633,236	9,188,967	8,444,269
Kentucky	34,881,537	10,566,579	24,314,958
Louisiana	31,843,839	17,690,354	14,153,485
Maine	24,812,470	13,633,417	11,179,053
Maryland	31,280,581	1,732,396	29,548,185
Massachusetts	26,616,423	7,056,757	19,559,666
Michigan	30,525,914	6,869,738	23,656,176
Minnesota	25,093,959	8,566,979	16,526,980
Mississippi	9,788,541	7,914,852	1,873,689
Missouri	12,430,684	4,836,862	7,593,822
Montana	9,752,216	5,647,319	4,104,897
Nebraska	32,687,157	3,981,578	28,705,579
Nevada	3,643,395	2,068,342	1,575,053
New Hampshire	9,222,505	756,259	8,466,246
New Jersey	65,020,915	6,943,253	58,077,662
New Mexico	3,456,227	2,479,360	976,867
New York	506,283,025	246,154,735	260,128,290
North Carolina	38,818,576	9,627,170	29,191,406
North Dakota	17,874,336	1,904,626	15,969,710
Ohio	70,471,571	8,153,111	62,318,460
Oklahoma	27,646,238	7,056,971	20,589,267
Oregon	33,801,166	13,854,858	19,946,308
Pennsylvania	88,557,830	10,203,586	78,354,244
Rhode Island	8,361,413	5,740,186	2,621,227
South Carolina	50,056,315	29,762,759	20,293,556
South Dakota	4,595,753	1,338,277	3,257,476
Tennessee	38,959,330	16,915,160	22,044,170
Texas	247,609,284	27,162,975	220,446,309
Utah	8,837,531	1,669,847	7,167,684
Vermont	1,460,157	1,295,178	164,979
Virginia	40,253,504	16,230,355	24,023,149
Washington	60,886,219	15,068,376	45,817,843
West Virginia	9,180,282	4,275,461	4,904,821

TABLE 4

State government expenditures for R&D for all performers, by state and source of funds: FY 2022

(Dollars)

State	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Wisconsin	19,060,693	9,117,475	9,943,218
Wyoming	5,657,338	3,516,837	2,140,501
Puerto Rico ^c	17,058,786	6,129,178	10,929,608

^a State and all others include companies; nonprofit organizations; other state governments; and city, county, regional, or other local governments.

^b U.S. total reflects all 50 states and the District of Columbia.

^c Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 5

State government expenditures for R&D for intramural performers, by state and source of funds: FY 2022

(Dollars)

State	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
United States ^a	696,624,562	311,066,576	348,675,628	6,284,071	12,340,267	15,884,092	2,373,928
Alabama	12,081,222	5,924,342	5,991,928	24,878	140,074	0	0
Alaska	11,600,345	3,986,600	4,552,345	3,061,400	0	0	0
Arizona	2,039,798	1,373,027	666,771	0	0	0	0
Arkansas	220,653	72,026	148,627	0	0	0	0
California	87,712,398	4,297,472	83,243,088	171,838	0	0	0
Colorado	9,393,492	2,130,681	7,132,723	0	70,000	88	60,000
Connecticut	28,200,758	11,521,538	16,679,220	0	0	0	0
Delaware	1,568,167	456,801	1,111,366	0	0	0	0
District of Columbia	4,320,240	3,165,443	1,121,627	0	33,170	0	0
Florida	51,395,556	14,754,507	32,842,033	8,262	49,905	3,400,905	339,944
Georgia	2,884,258	2,831,735	52,523	0	0	0	0
Hawaii	201,790	201,790	0	0	0	0	0
Idaho	7,278,248	5,902,655	896,502	377,471	24,002	77,618	0
Illinois	554,067	0	554,067	0	0	0	0
Indiana	660,237	508,583	151,654	0	0	0	0
Iowa	2,912,086	1,624,451	1,178,624	0	109,011	0	0
Kansas	1,500,273	943,443	530,445	0	0	0	26,385
Kentucky	4,434,431	3,020,549	1,413,882	0	0	0	0
Louisiana	10,033,831	7,470,302	2,563,529	0	0	0	0
Maine	12,208,306	9,340,175	2,060,192	12,860	776,163	18,916	0
Maryland	864,022	529,240	324,782	0	10,000	0	0
Massachusetts	1,636,998	658,878	678,120	300,000	0	0	0
Michigan	254,848	91,827	163,021	0	0	0	0
Minnesota	3,038,564	1,281,478	1,757,086	0	0	0	0
Mississippi	2,820,168	1,632,029	498,878	689,261	0	0	0
Missouri	4,338,958	1,457,390	2,881,568	0	0	0	0
Montana	3,400,729	2,613,939	737,128	0	49,662	0	0
Nebraska	2,114,433	719,735	1,359,781	0	34,917	0	0
Nevada	208,642	148,642	60,000	0	0	0	0
New Hampshire	136,953	109,562	27,391	0	0	0	0
New Jersey	3,317,395	762,485	2,554,910	0	0	0	0
New Mexico	1,110,427	776,670	228,230	0	105,527	0	0
New York	274,950,816	151,764,801	99,285,878	1,006,453	8,746,312	12,386,565	1,760,807
North Carolina	17,505,611	1,355,313	16,150,298	0	0	0	0
North Dakota	131,121	123,520	7,601	0	0	0	0
Ohio	1,106,388	688,488	417,900	0	0	0	0
Oklahoma	1,946,574	1,492,331	454,243	0	0	0	0
Oregon	16,703,743	11,475,817	4,894,743	333,183	0	0	0
Pennsylvania	13,041,479	6,303,696	6,675,313	10,000	52,470	0	0
Rhode Island	5,438,324	4,031,620	1,406,704	0	0	0	0
South Carolina	29,595,672	20,543,123	8,933,808	45,337	1,612	0	71,792
South Dakota	237,313	221,635	15,678	0	0	0	0
Tennessee	314,273	151,913	162,360	0	0	0	0
Texas	2,368,161	1,147,877	1,220,284	0	0	0	0
Utah	6,375,939	328,742	6,047,197	0	0	0	0
Vermont	1,170,646	1,116,130	54,516	0	0	0	0

TABLE 5

State government expenditures for R&D for intramural performers, by state and source of funds: FY 2022

(Dollars)

State	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Virginia	15,546,707	5,899,348	9,532,359	0	0	0	115,000
Washington	24,507,566	8,031,968	14,095,870	242,286	2,137,442	0	0
West Virginia	3,803,985	1,862,000	1,941,985	0	0	0	0
Wisconsin	5,209,332	2,785,057	2,424,275	0	0	0	0
Wyoming	2,228,619	1,435,202	792,575	842	0	0	0
Puerto Rico ^b	11,176,340	5,650,578	5,357,978	167,784	0	0	0

^a U.S. total reflects all 50 states and the District of Columbia.^b Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 6

State government expenditures for R&D by intramural performers, by state: FYs 2006–22

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ohio	1,515,058	283,131	NA	3,883,347	1,754,417	2,645,393	2,246,092	2,040,795	965,440	864,161	2,096,469	2,741,052	1,247,811	733,326	2,005,523	1,808,996	1,106,388
Oklahoma	83,333	252,516	NA	2,709,663	9,250	9,850	1,057,822	1,074,816	370,925	350,570	2,394,381	6,079,694	935,686	1,685,458	2,015,986	2,575,950	1,946,574
Oregon	3,318,194	2,851,734	NA	5,768,545	14,368,928	17,063,005	18,162,372	19,524,508	15,547,309	18,022,139	10,187,622	15,646,484	16,333,562	24,761,784	15,852,036	16,083,800	16,703,743
Pennsylvania	3,310,731	4,020,292	NA	2,992,367	5,052,858	5,826,832	5,632,495	6,675,458	7,012,137	7,387,261	6,451,626	9,100,618	7,237,397	8,579,205	7,874,722	8,172,000	13,041,479
Rhode Island	0	134,200	NA	67,000	53,547	80,000	20,000	225,050	389,829	281,200	175,000	6,000	1,638,664	2,767,111	3,098,833	8,118,721	5,438,324
South Carolina	15,780,585	26,968,153	NA	24,161,908	42,554,948	52,973,299	49,917,998	37,004,464	17,374,915	22,351,601	24,854,389	25,708,598	28,354,328	28,876,294	27,894,342	27,709,617	29,595,672
South Dakota	2,318,754	3,070,095	NA	424,407	722,906	652,055	60,976	114,425	220,000	240,000	432,788	437,052	330,492	361,072	327,346	359,853	237,313
Tennessee	704,000	595,010	NA	0	0	52,129	762,313	784,848	563,092	531,871	2,731,571	2,773,520	2,321,833	1,710,689	1,607,509	1,289,255	314,273
Texas	5,870,258	5,496,761	NA	4,763,897	2,813,346	9,823,374	12,375,067	11,746,259	2,673,588	2,745,383	4,289,841	4,135,685	3,201,472	3,855,855	3,165,023	2,686,856	2,368,161
Utah	964,170	1,333,630	NA	10,715,649	10,150,322	10,361,727	17,654,475	17,979,931	17,924,476	18,192,260	18,167,666	18,418,869	18,236,912	5,046,202	6,070,743	5,326,711	6,375,939
Vermont	848,787	847,350	NA	738,707	1,442,023	1,543,503	1,074,198	1,160,193	534,520	555,772	368,636	250,257	560,842	681,380	633,399	596,129	1,170,646
Virginia	5,045,794	7,577,630	NA	8,242,184	6,744,260	6,567,645	8,766,523	13,046,471	10,486,612	14,607,108	13,596,149	12,312,670	12,931,846	10,733,680	12,627,565	16,183,098	15,546,707
Washington	12,187,408	12,103,757	NA	8,136,939	10,916,316	11,745,788	12,875,297	12,820,150	9,824,415	10,470,091	14,446,035	14,515,938	15,395,106	19,986,935	23,415,061	21,349,303	24,507,566
West Virginia	1,767,688	2,414,915	NA	2,555,126	7,094,173	8,130,744	4,965,278	4,764,417	2,837,135	1,893,045	2,455,891	1,723,204	2,641,834	2,867,846	3,317,637	3,378,070	3,803,985
Wisconsin	5,534,273	4,766,000	NA	5,329,091	5,060,717	6,126,083	6,896,219	7,402,664	6,279,098	6,547,800	5,783,316	4,862,108	5,270,830	5,043,609	4,674,607	4,401,850	5,209,332
Wyoming	4,216,426	4,622,873	NA	2,601,053	3,609,627	3,134,016	3,615,536	3,001,092	1,837,188	1,883,135	2,560,853	2,821,077	2,362,454	1,286,491	2,875,496	2,339,942	2,228,619
Puerto Rico ^b	1,274,358	328,664	NA	8,352,468	2,300,000	2,500,000	6,360,716	6,084,344	5,193,888	4,454,166	na	na	na	na	na	na	11,176,340

na = not applicable; did not report to survey. NA = not available; survey was not conducted for FY 2008.

^a U.S. total reflects all 50 states and the District of Columbia.^b Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 7

State government expenditures for intramural R&D, by state and type of work: FY 2022

(Dollars)

State	All intramural R&D expenditures	Type of R&D		
		Basic research	Applied research	Experimental development
United States ^a	696,624,562	121,064,761	535,738,987	39,820,814
Alabama	12,081,222	2,540,933	6,290,289	3,250,000
Alaska	11,600,345	0	9,620,598	1,979,747
Arizona	2,039,798	561,258	1,478,263	277
Arkansas	220,653	0	220,653	0
California	87,712,398	2,881,172	80,629,330	4,201,896
Colorado	9,393,492	0	9,311,997	81,495
Connecticut	28,200,758	9,470,773	18,367,174	362,811
Delaware	1,568,167	0	1,568,167	0
District of Columbia	4,320,240	3,194,604	1,067,738	57,898
Florida	51,395,556	928,160	50,353,137	114,259
Georgia	2,884,258	1,110,000	1,017,945	756,313
Hawaii	201,790	0	199,748	2,042
Idaho	7,278,248	0	7,278,248	0
Illinois	554,067	110,813	443,254	0
Indiana	660,237	277,000	278,269	104,968
Iowa	2,912,086	0	2,912,086	0
Kansas	1,500,273	160,938	1,339,335	0
Kentucky	4,434,431	6,330	4,428,101	0
Louisiana	10,033,831	4,644,439	5,389,392	0
Maine	12,208,306	6,236,931	4,634,964	1,336,411
Maryland	864,022	0	66,573	797,449
Massachusetts	1,636,998	421,945	883,126	331,927
Michigan	254,848	74,436	180,412	0
Minnesota	3,038,564	0	3,038,564	0
Mississippi	2,820,168	100,000	924,073	1,796,095
Missouri	4,338,958	0	4,338,958	0
Montana	3,400,729	0	3,353,184	47,545
Nebraska	2,114,433	0	2,061,933	52,500
Nevada	208,642	0	208,642	0
New Hampshire	136,953	0	82,794	54,159
New Jersey	3,317,395	256,138	2,572,825	488,432
New Mexico	1,110,427	459,900	650,527	0
New York	274,950,816	71,806,169	199,458,572	3,686,075
North Carolina	17,505,611	2,673,526	14,832,085	0
North Dakota	131,121	93,115	38,006	0
Ohio	1,106,388	1,050,776	55,612	0
Oklahoma	1,946,574	606,661	554,074	785,839
Oregon	16,703,743	4,466,524	9,681,150	2,556,069
Pennsylvania	13,041,479	52,470	438,592	12,550,417
Rhode Island	5,438,324	1,905,103	3,533,221	0
South Carolina	29,595,672	1,356,617	27,572,156	666,899
South Dakota	237,313	3,000	231,313	3,000
Tennessee	314,273	0	314,273	0
Texas	2,368,161	377,760	1,903,118	87,283
Utah	6,375,939	0	6,375,939	0
Vermont	1,170,646	103,995	856,380	210,271
Virginia	15,546,707	1,420,441	12,380,960	1,745,306
Washington	24,507,566	143,571	22,860,464	1,503,531
West Virginia	3,803,985	0	3,623,834	180,151

TABLE 7

State government expenditures for intramural R&D, by state and type of work: FY 2022

(Dollars)

State	All intramural R&D expenditures	Type of R&D		
		Basic research	Applied research	Experimental development
Wisconsin	5,209,332	0	5,179,583	29,749
Wyoming	2,228,619	1,569,263	659,356	0
Puerto Rico ^b	11,176,340	6,273,867	2,902,414	2,000,059

^a U.S. total reflects all 50 states and the District of Columbia.^b Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 8

State government R&D expenditures, by state and function of R&D: FY 2022

(Dollars)

State	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
United States ^b	2,643,991,142	127,263,681	327,115,797	540,876,111	1,100,991,524	290,871,093	256,872,936
Alabama	88,219,991	326,726	667,842	70,126,266	1,751,080	3,692,380	11,655,697
Alaska	17,157,228	0	731,152	10,015,251	534,187	4,808,710	1,067,928
Arizona	7,946,421	1,311,266	0	1,140,215	3,518,749	1,414,933	561,258
Arkansas	9,759,708	5,336,054	0	1,558,599	275,000	1,079,240	1,510,815
California	490,081,806	7,753,869	191,774,566	64,903,411	173,274,157	39,260,000	13,115,803
Colorado	38,058,349	1,028,351	2,602,115	7,762,275	8,813,647	3,395,841	14,456,120
Connecticut	60,578,799	4,321,687	2,919,711	11,877,203	26,085,781	2,971,742	12,402,675
Delaware	3,446,375	0	10,495	2,229,910	0	1,205,970	0
District of Columbia	10,560,754	0	0	1,976,600	8,244,141	245,919	94,094
Florida	180,145,644	14,851,847	1,012,306	57,744,843	92,302,255	14,134,393	100,000
Georgia	24,988,379	0	7,759,750	12,722,663	0	4,505,966	0
Hawaii	6,337,851	932,423	282,042	632,000	1,033,000	2,793,386	665,000
Idaho	20,444,262	8,109,741	0	9,482,216	0	2,852,305	0
Illinois	16,463,839	1,977,021	0	1,956,250	400,000	9,782,913	2,347,655
Indiana	12,104,856	500,000	0	352,281	0	9,312,575	1,940,000
Iowa	10,636,720	179,657	0	3,688,099	0	6,142,926	626,038
Kansas	17,633,236	4,457,312	132,471	8,280,611	0	3,765,115	997,727
Kentucky	34,881,537	290,727	140,000	7,261,361	16,829,567	8,781,665	1,578,217
Louisiana	31,843,839	289,750	927,353	10,092,683	1,196,008	10,065,406	9,272,639
Maine	24,812,470	1,542,730	0	7,605,622	9,873,473	1,558,635	4,232,010
Maryland	31,280,581	0	2,000,000	410,466	26,227,112	2,643,003	0
Massachusetts	26,616,423	0	8,548,706	3,522,905	9,189,115	4,050,000	1,305,697
Michigan	30,525,914	2,756,984	0	880,828	20,662,258	6,225,844	0
Minnesota	25,093,959	4,545,874	0	4,929,165	0	15,618,920	0
Mississippi	9,788,541	114,017	0	6,374,191	0	3,300,333	0
Missouri	12,430,684	2,327,790	0	7,213,438	242,500	2,646,956	0
Montana	9,752,216	3,359,243	0	4,371,611	0	1,971,362	50,000
Nebraska	32,687,157	3,326,551	157,872	4,079,403	19,918,950	1,270,607	3,933,774
Nevada	3,643,395	208,642	0	474,700	0	1,632,800	1,327,253
New Hampshire	9,222,505	26,047	0	1,406,171	0	734,656	7,055,631
New Jersey	65,020,915	0	0	5,608,633	46,820,754	7,239,506	5,352,022
New Mexico	3,456,227	0	0	1,950,400	0	1,400,300	105,527
New York	506,283,025	8,293,408	65,172,565	21,860,827	308,203,902	10,073,889	92,678,434
North Carolina	38,818,576	14,078,340	1,680,920	6,263,664	5,202,825	9,103,250	2,489,577
North Dakota	17,874,336	3,145,930	9,398,767	624,754	3,313,396	1,298,374	93,115
Ohio	70,471,571	0	9,364,131	49,888,407	0	6,349,868	4,869,165
Oklahoma	27,646,238	1,514,338	883,335	3,000,003	16,139,607	4,292,220	1,816,735
Oregon	33,801,166	583,164	1,659,775	18,199,863	3,779,289	7,385,549	2,193,526
Pennsylvania	88,557,830	3,446,582	457,337	13,890,852	61,719,253	4,100,235	4,943,571
Rhode Island	8,361,413	99,985	136,999	6,658,944	363,485	900,000	202,000
South Carolina	50,056,315	1,770,038	562,345	29,745,041	13,374,650	2,581,949	2,022,292
South Dakota	4,595,753	2,486,260	0	0	0	2,109,493	0
Tennessee	38,959,330	0	0	314,273	0	5,399,804	33,245,253
Texas	247,609,284	1,353,356	0	6,661,241	214,612,352	24,982,335	0
Utah	8,837,531	305,965	0	5,847,503	0	2,684,063	0
Vermont	1,460,157	0	0	63,773	553,199	843,185	0
Virginia	40,253,504	3,267,434	412,180	10,742,492	2,963,275	16,489,762	6,378,361
Washington	60,886,219	13,620,631	15,236,975	22,916,358	1,362,789	4,527,700	3,221,766

TABLE 8

State government R&D expenditures, by state and function of R&D: FY 2022

(Dollars)

State	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
West Virginia	9,180,282	244,126	1,333,732	2,433,225	241,625	2,260,000	2,667,574
Wisconsin	19,060,693	2,539,311	0	7,047,780	1,314,143	4,217,027	3,942,432
Wyoming	5,657,338	640,504	1,150,355	2,086,841	656,000	768,083	355,555
Puerto Rico ^c	17,058,786	258,249	0	796,996	11,118,968	0	4,884,573

^a Other functions include, but are not limited to, corrections, criminal justice, education, forensic science, labor, public safety, and social services.

^b U.S. total reflects all 50 states and the District of Columbia.

^c Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 9

State government expenditures for agriculture-related R&D, by state: FYs 2009–22

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
United States ^a	66,468,692	75,090,255	77,332,829	96,578,888	97,316,191	105,326,909	102,115,908	112,280,689	117,483,305	131,384,543	136,996,698	142,105,027	119,859,705	127,263,681
Alabama	0	0	0	0	0	0	250,000	0	0	0	0	0	104,373	326,726
Alaska	15,000	687,500	713,500	99,934	750,856	217,231	217,141	0	0	0	0	0	26,000	0
Arizona	220,751	142,816	732,254	616,827	549,556	944,617	718,324	945,226	887,874	723,371	1,054,913	1,041,995	1,071,301	1,311,266
Arkansas	6,755,483	6,643,460	7,945,440	8,803,765	8,857,097	8,483,250	8,248,838	7,513,291	9,063,778	7,087,642	12,519,460	12,606,385	6,614,526	5,336,054
California	6,235,149	3,091,420	4,057,537	5,640,401	5,039,599	7,470,645	8,225,669	7,475,484	6,695,567	5,834,873	7,705,454	7,116,436	6,934,080	7,753,869
Colorado	416,336	826,517	583,117	0	50,000	316,549	373,735	472,293	773,012	1,047,197	721,768	1,037,559	2,739,142	1,028,351
Connecticut	1,237,590	3,259,642	3,326,548	3,256,124	3,314,695	3,920,767	4,228,545	3,942,658	3,894,241	3,321,534	3,856,987	3,856,987	4,142,888	4,321,687
Delaware	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Florida	19,410,440	16,952,501	15,991,126	19,671,322	19,046,571	23,026,254	18,529,725	17,066,498	15,855,393	20,043,531	11,725,430	21,100,902	15,279,858	14,851,847
Georgia	0	0	0	0	0	0	0	0	0	0	633,607	255,642	0	0
Hawaii	233,394	505,967	914,799	1,516,064	1,516,064	80,000	60,000	2,179,089	1,544,443	3,700,895	1,680,702	1,977,000	524,528	932,423
Idaho	1,352,291	1,529,838	1,720,839	2,344,664	2,940,842	2,442,070	2,930,637	3,956,230	4,205,334	4,796,891	5,349,416	7,279,087	6,008,990	8,109,741
Illinois	18,096	0	0	0	0	0	139,697	2,839,551	2,975,635	2,975,635	3,989,560	3,140,385	2,019,400	1,977,021
Indiana	0	0	0	177,000	268,000	250,000	250,000	250,000	250,000	350,000	141,876	100,000	500,279	500,000
Iowa	0	0	0	0	0	0	0	0	0	0	0	60,000	170,448	179,657
Kansas	784,957	1,104,311	1,167,853	1,013,350	984,198	1,129,199	1,328,784	1,457,957	2,021,302	4,415,012	3,998,895	3,675,354	3,548,954	4,457,312
Kentucky	0	0	45,130	478,313	312,518	250,000	1,287,000	1,407,000	1,454,611	1,469,615	627,270	540,182	517,000	290,727
Louisiana	0	0	0	0	0	27,333	9,167	2,500	49,066	38,750	270,090	636,415	274,427	289,750
Maine	501,243	1,152,303	987,050	933,637	373,257	407,500	1,013,206	765,706	1,851,874	4,534,099	7,182,948	3,329,336	1,891,592	1,542,730
Maryland	336,650	228,000	451,700	300,000	384,771	200,000	200,000	245,456	379,919	352,432	357,910	269,157	0	0
Massachusetts	0	0	0	0	0	34,227	0	37,631	0	0	50,000	0	0	0
Michigan	206,282	36,910	82,793	493,895	548,396	3,190,880	3,150,111	1,279,134	1,444,252	1,437,876	1,246,732	3,316,092	1,216,089	2,756,984
Minnesota	987,608	1,301,382	1,387,590	1,721,463	1,981,417	2,725,197	2,938,310	5,516,597	4,972,707	3,929,309	3,701,150	5,526,168	4,789,550	4,545,874
Mississippi	0	0	0	0	0	84,209	0	49,896	0	1,027,288	599,632	1,213,684	1,564,195	114,017
Missouri	168,096	189,947	85,115	349,210	381,475	711,626	830,064	1,008,692	1,045,000	1,315,740	1,153,575	911,532	1,185,569	2,327,790
Montana	1,199,654	1,850,656	1,493,635	2,105,602	1,975,948	4,713,540	4,097,279	3,443,331	3,742,881	3,309,628	3,132,570	3,566,938	2,841,089	3,359,243
Nebraska	1,276,949	927,985	977,548	1,399,997	1,748,254	2,996,054	2,725,502	2,897,352	2,183,807	3,593,971	2,851,678	2,453,010	3,234,030	3,326,551
Nevada	0	0	0	0	0	10,000	0	0	0	140,823	184,774	188,146	237,064	208,642
New Hampshire	38,005	219,170	113,969	477,066	438,435	98,640	130,904	120,719	72,482	141,692	114,949	113,278	160,563	26,047
New Jersey	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	81,699	88,062	0	0	0	0	0	0	0
New York	1,869,720	2,117,582	1,779,089	1,748,998	1,383,413	2,265,729	2,605,432	4,885,323	9,014,755	10,578,603	10,612,279	7,919,165	8,731,413	8,293,408
North Carolina	10,568,425	12,625,716	12,878,500	17,944,847	17,947,847	12,239,391	12,050,000	12,225,000	14,972,009	17,220,343	14,132,932	13,961,296	14,123,005	14,078,340
North Dakota	935,619	1,444,526	2,014,848	2,521,725	2,475,547	2,504,192	2,674,205	3,311,263	3,511,678	3,334,741	2,998,472	2,955,514	3,177,142	3,145,930

TABLE 9

State government expenditures for agriculture-related R&D, by state: FYs 2009–22

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ohio	0	0	0	0	0	0	0	200,000	0	0	0	0	0	0
Oklahoma	1,610,660	1,295,705	1,608,677	1,862,336	2,500,477	1,708,188	1,811,266	2,340,454	1,719,116	1,713,695	1,058,791	2,158,072	1,329,150	1,514,338
Oregon	134,857	489,631	532,446	218,038	290,595	384,341	372,579	169,212	669,211	740,878	1,638,762	706,521	205,647	583,164
Pennsylvania	852,734	755,736	640,671	1,512,706	2,033,013	787,000	787,000	1,587,000	1,687,000	1,687,000	3,187,000	3,877,434	2,601,164	3,446,582
Rhode Island	0	0	0	166,820	40,000	0	0	0	43,868	50,000	49,042	45,615	53,000	99,985
South Carolina	421,699	0	92,305	62,024	157,702	534,646	498,748	354,516	665,133	931,700	1,013,153	809,303	1,839,876	1,770,038
South Dakota	50,000	25,000	0	75,000	75,000	3,219,622	2,928,142	2,777,400	2,029,617	2,285,632	1,690,563	1,526,155	2,013,292	2,486,260
Tennessee	0	0	0	0	0	0	0	0	0	150,000	0	0	0	0
Texas	1,972,975	3,618,361	2,877,596	2,758,683	2,650,989	3,557,354	808,544	1,761,471	688,365	1,053,502	1,229,300	1,151,413	932,510	1,353,356
Utah	1,000,000	3,589	113,336	4,508,902	3,989,111	1,688,670	2,035,321	1,096,257	1,326,188	435,393	0	0	0	305,965
Vermont	0	490,900	652,700	503,308	538,173	384,878	407,694	50,000	0	0	0	0	0	0
Virginia	806,328	2,285,378	2,213,361	1,633,434	1,631,509	730,636	1,120,676	3,142,288	2,679,432	2,560,373	2,765,452	2,445,328	3,118,841	3,267,434
Washington	4,587,406	8,340,489	8,317,099	8,098,988	8,954,794	10,769,035	11,203,711	12,385,554	11,904,380	11,663,031	17,797,227	17,505,768	11,882,329	13,620,631
West Virginia	0	0	151,428	206,137	93,033	0	0	0	0	25,000	25,000	10,000	166,685	244,126
Wisconsin	0	770,721	536,004	864,399	640,941	616,740	841,890	900,573	928,599	838,651	3,518,097	1,060,099	1,558,082	2,539,311
Wyoming	264,295	176,596	147,226	493,909	452,098	125,000	0	222,087	280,776	528,197	429,282	661,674	531,634	640,504
Puerto Rico ^b	649,048	0	0	507,174	649,048	550,000	683,157	na	na	na	na	na	na	258,249

na = not applicable; did not report to survey.

^a U.S. total reflects all 50 states and the District of Columbia.^b Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&D expenditures by function were surveyed beginning with the FY 2009 survey. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 10

State government expenditures for energy-related R&D, by state: FYs 2009–22

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
United States ^b	NA	227,404,238	265,645,943	238,545,588	192,380,008	157,200,057	383,145,992	368,028,147	307,574,426	397,036,953	323,076,738	390,847,851	410,273,614	327,115,797
Alabama	NA	988,806	1,279,672	788,212	509,974	386,692	688,913	134,432	206,926	282,748	255,807	117,181	178,809	667,842
Alaska	NA	1,359,100	1,301,000	1,438,817	1,799,951	35,860	53,202	1,020,450	1,002,160	2,120,127	1,102,206	500,000	500,000	731,152
Arizona	NA	267,174	1,702,776	6,243,529	7,630,643	1,547,000	658,000	216,988	0	0	0	0	0	0
Arkansas	NA	1,736,657	3,156,213	2,913,191	3,620,296	4,800,000	5,243,216	1,548,704	1,444,227	2,304,745	852,718	502,762	50,000	0
California	NA	105,072,000	95,975,000	75,756,774	55,577,129	52,593,000	263,254,000	251,116,066	184,568,270	243,987,483	202,262,559	256,532,543	267,900,000	191,774,566
Colorado	NA	1,464,536	409,252	313,762	254,860	1,934,715	2,241,216	1,839,587	2,304,024	1,099,099	3,184,039	3,347,250	2,846,991	2,602,115
Connecticut	NA	358,778	553,640	571,414	588,724	1,714,724	1,944,337	240,000	0	0	0	4,083,058	3,627,099	2,919,711
Delaware	NA	0	0	0	0	0	10,000	0	0	13,683	24,256	20,800	46,054	10,495
District of Columbia	NA	0	0	0	0	0	75,000	0	0	29,500	0	520,000	0	0
Florida	NA	3,571,447	4,158,768	8,476,266	990,320	355,629	1,117,124	2,371,453	716,664	585,190	557,060	784,693	554,984	1,012,306
Georgia	NA	1,000,000	1,200,000	800,000	0	3,096,465	3,148,268	5,976,273	6,235,488	9,382,400	6,335,903	5,825,649	9,067,079	7,759,750
Hawaii	NA	5,825,028	6,020,023	4,024,303	5,674,072	4,300,000	1,500,000	7,500,000	4,108,496	6,004,495	2,510,732	6,466,637	4,216,265	282,042
Idaho	NA	0	0	0	0	401,783	274,051	178,178	260,435	237,898	0	0	206,624	0
Illinois	NA	190,000	0	21,110	225,000	5,885,366	4,333,344	390,473	66,300	0	0	0	0	0
Indiana	NA	0	0	0	383,432	657,307	354,693	125,478	0	2,298,615	268,086	95,000	24,787	0
Iowa	NA	0	26,590,826	5,207,302	6,340,014	1,117,561	710,522	1,181,136	164,157	0	0	0	0	0
Kansas	NA	0	0	0	0	0	0	0	0	0	0	0	0	132,471
Kentucky	NA	4,256,458	3,372,112	4,809,927	5,976,089	2,403,100	2,443,000	774,052	296,900	301,357	2,020,000	171,000	386,000	140,000
Louisiana	NA	0	0	0	0	0	0	0	790,430	756,017	2,875,376	2,613,811	1,936,715	927,353
Maine	NA	5,000	5,000	821,675	480,594	415,000	986,000	1,311,000	0	0	0	0	31,830	0
Maryland	NA	40,000	25,000	300,000	300,000	200,000	200,000	200,000	189,999	646,989	1,181,872	1,168,566	0	2,000,000
Massachusetts	NA	0	0	0	0	2,640,446	4,998,471	3,982,930	6,660,272	3,906,259	5,049,247	4,183,011	5,044,038	8,548,706
Michigan	NA	0	0	0	0	0	0	0	0	0	0	0	0	0
Minnesota	NA	1,243,965	249,201	1,702,500	122,084	327,995	897,117	387,372	0	0	0	0	0	0
Mississippi	NA	1,550,000	1,250,000	0	0	22,914	1,739	0	0	0	0	0	0	0
Missouri	NA	0	0	0	0	0	0	0	0	0	0	500,000	0	0
Montana	NA	835,942	405,260	187,163	1,200	332,678	0	0	178,300	0	0	0	0	0
Nebraska	NA	5,000	10,000	196,427	236,100	100,000	0	266,783	177,207	495,519	4,000	0	350,000	157,872
Nevada	NA	0	0	0	0	0	0	0	0	0	0	0	0	0
New Hampshire	NA	0	0	0	0	0	0	19,920	86,235	0	8,938	0	15,000	0
New Jersey	NA	500,000	0	437,685	0	0	0	0	0	0	0	0	0	0
New Mexico	NA	0	0	0	57,083	0	0	0	0	83,198	82,970	169,166	79,323	0
New York	NA	29,744,916	45,608,891	41,789,076	27,061,407	36,809,190	45,627,241	50,958,594	55,855,216	86,541,730	51,407,945	65,977,562	60,426,855	65,172,565
North Carolina	NA	100,000	105,000	0	0	1,322,052	1,652,847	1,969,629	0	0	1,656,680	1,500,000	1,574,989	1,680,920
North Dakota	NA	4,153,800	5,200,850	2,778,935	3,931,762	6,858,556	5,705,731	3,826,839	8,098,449	9,031,575	6,229,265	10,111,495	24,409,679	9,398,767

TABLE 10

State government expenditures for energy-related R&D, by state: FYs 2009–22

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ohio	NA	41,236,142	47,150,392	62,348,681	52,267,399	6,472,561	11,048,550	14,930,905	15,281,674	15,071,024	14,557,578	11,929,919	8,291,260	9,364,131
Oklahoma	NA	387,401	149,201	330,000	323,800	1,246,000	1,625,000	2,733,540	1,390,000	977,210	684,211	599,094	550,284	883,335
Oregon	NA	175,000	50,000	0	0	7,099,464	7,467,172	3,774,000	3,000,000	2,250,000	4,550,000	1,590,000	2,400,000	1,659,775
Pennsylvania	NA	0	0	2,070,343	1,699,984	2,580,520	2,156,564	2,603,817	100,000	0	5,323,743	837,000	1,009,207	457,337
Rhode Island	NA	0	0	0	0	2,000	1,200	104,121	131,554	48,106	0	0	0	136,999
South Carolina	NA	863,890	871,078	484,124	251,410	56,129	163,885	213,958	206,826	92,280	86,506	125,624	474,350	562,345
South Dakota	NA	0	0	0	0	3,779	26,862	11,135	22,447	181,466	39,853	16,021	1,968	0
Tennessee	NA	0	35,764	6,553	0	0	0	213,026	0	106,514	106,514	106,514	0	0
Texas	NA	0	0	374,013	447,132	0	0	0	0	0	0	0	0	0
Utah	NA	7,375,546	7,209,348	4,125,214	4,558,744	2,076,936	4,835,743	1,213,403	2,525,845	1,909,139	0	500,540	0	0
Vermont	NA	300,000	300,000	167,769	179,391	223,802	239,382	0	0	0	0	0	0	0
Virginia	NA	10,301,835	8,564,304	8,321,652	10,400,000	5,789,258	6,263,600	549,281	528,160	360,108	350,000	179,664	409,898	412,180
Washington	NA	0	0	0	0	148,000	0	1,916,700	8,197,974	3,309,037	7,621,218	6,731,672	11,573,426	15,236,975
West Virginia	NA	2,495,817	2,737,372	102,719	159,332	857,387	820,450	1,689,433	1,456,024	2,486,309	1,703,058	1,390,229	872,617	1,333,732
Wisconsin	NA	0	0	250,000	150,000	30,000	30,000	0	0	66,000	0	0	0	0
Wyoming	NA	0	0	386,452	182,082	356,188	349,552	538,491	1,323,767	71,133	184,398	1,651,390	1,217,483	1,150,355
Puerto Rico ^c	NA	100,000	100,000	106,470	220,000	422,494	400,000	na	na	na	na	na	na	0

na = not applicable; did not report to survey. NA = not available; not collected as a separate R&D function for FY 2009.

^a Energy category was introduced with the FY 2010 and FY 2011 Survey of State Government Research and Development. Previously, energy-related R&D was reported primarily in the other category and in the environment and national resources category.

^b U.S. total reflects all 50 states and the District of Columbia.

^c Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Note(s):

State R&D expenditures by function were surveyed beginning with the FY 2009 survey. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 11

State government expenditures for environment and natural resources-related R&D, by state: FYs 2009–22

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
United States ^b	328,102,718	356,603,823	380,376,738	357,528,082	380,245,106	369,242,699	416,120,534	411,765,467	450,709,184	418,889,511	440,269,973	448,489,450	428,067,461	540,876,111
Alabama	7,694,078	8,922,103	13,521,133	12,879,773	9,984,291	4,106,869	5,718,986	12,848,739	14,685,442	13,608,231	9,403,795	5,930,160	6,080,232	70,126,266
Alaska	6,449,300	5,833,600	6,767,900	3,702,011	3,662,664	9,001,900	8,987,200	7,617,940	5,324,200	7,104,800	8,392,100	8,878,600	9,713,200	10,015,251
Arizona	6,356,155	6,023,906	5,743,162	5,327,071	6,689,903	6,184,876	7,012,194	4,253,582	2,220,204	1,755,221	1,077,891	1,849,760	1,682,113	1,140,215
Arkansas	345,832	658,590	680,971	707,557	942,106	0	303,087	530,436	0	2,249,406	2,426,103	2,455,409	1,143,026	1,558,599
California	48,172,325	30,914,302	43,443,294	26,096,846	30,615,059	28,842,415	30,382,163	30,970,439	34,984,578	41,221,163	40,709,827	46,017,594	46,696,431	64,903,411
Colorado	8,317,796	7,142,396	7,185,567	6,957,024	6,576,449	8,449,733	8,630,632	7,187,484	9,718,770	9,097,135	10,798,678	11,609,704	11,287,126	7,762,275
Connecticut	5,814,050	13,081,012	12,517,073	12,661,538	13,780,616	10,592,603	10,303,327	10,527,008	9,545,714	10,218,069	10,599,160	11,473,607	11,706,792	11,877,203
Delaware	1,433,562	2,139,720	2,359,902	2,231,693	2,754,545	1,988,655	2,048,014	1,849,169	1,973,153	2,686,413	2,701,302	2,241,188	2,125,080	2,229,910
District of Columbia	0	0	0	0	0	1,740,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,920,000	1,821,400	1,976,600
Florida	17,934,886	50,262,488	47,437,237	48,709,314	47,462,678	51,191,986	57,934,383	51,313,340	52,812,260	50,929,717	52,486,202	56,851,522	57,586,211	57,744,843
Georgia	0	0	0	2,607,843	3,999,505	2,584,180	3,062,308	2,027,695	2,221,630	0	3,871,745	1,164,256	3,132,706	12,722,663
Hawaii	4,497,068	5,229,835	5,607,794	4,533,302	4,484,602	6,929,035	7,849,438	6,483,585	4,975,227	1,363,167	895,592	385,278	320,500	632,000
Idaho	5,881,390	6,123,012	6,064,901	8,072,165	8,059,032	7,827,527	8,164,676	7,991,169	8,495,485	8,049,677	8,364,544	10,831,981	9,473,386	9,482,216
Illinois	56,800	0	0	0	0	0	0	0	0	0	0	0	2,000,000	1,956,250
Indiana	1,821,645	1,700,000	1,700,000	15,000	2,500	37,694	124,964	790,356	309,601	100,000	0	141,764	720,153	352,281
Iowa	0	7,074,696	3,640,397	3,278,552	3,517,000	4,135,147	4,279,253	3,981,402	3,892,642	3,669,395	3,797,923	4,170,756	2,994,029	3,688,099
Kansas	365,000	365,000	465,000	0	0	166,000	258,099	747,974	3,190,713	4,145,270	3,645,223	4,840,882	7,217,311	8,280,611
Kentucky	2,874,829	2,005,156	2,137,523	5,902,607	6,074,737	688,300	768,100	2,021,103	3,610,436	2,897,000	2,531,000	2,237,368	2,406,089	7,261,361
Louisiana	1,567,596	2,522,697	8,005,483	10,305,857	8,174,868	7,750,826	21,166,032	18,265,666	16,653,861	12,451,900	11,751,729	12,455,929	10,483,689	10,092,683
Maine	1,969,352	2,527,524	3,728,729	1,615,411	1,434,954	2,127,448	3,129,609	4,737,000	4,913,480	3,399,559	12,055,909	7,070,173	7,542,075	7,605,622
Maryland	6,853,050	390,000	616,000	963,777	947,472	1,191,164	3,070,807	790,790	2,328,795	1,680,353	1,625,725	1,184,063	900,754	410,466
Massachusetts	1,082,161	1,116,916	842,629	928,129	1,031,320	11,503,702	12,416,317	13,432,781	9,621,224	8,926,019	8,938,925	10,052,872	2,752,268	3,522,905
Michigan	2,320,826	4,792,530	4,595,080	3,164,059	4,582,027	3,561,675	4,025,524	7,519,042	8,548,682	471,572	1,555,898	1,265,405	1,690,204	880,828
Minnesota	1,566,712	1,813,748	794,167	673,544	1,662,951	2,678,015	3,562,237	3,499,210	3,446,554	3,790,153	5,356,934	3,365,930	3,612,375	4,929,165
Mississippi	2,105,823	3,634,374	3,295,081	1,458,268	1,562,376	917,631	566,320	1,025,908	2,162,824	6,216,398	5,579,050	4,637,046	4,036,645	6,374,191
Missouri	10,133,435	9,482,088	8,530,764	9,502,232	9,297,498	10,347,414	11,728,858	12,524,705	12,672,628	13,159,754	11,968,316	11,624,124	10,111,070	7,213,438
Montana	1,871,061	2,185,884	2,343,724	2,920,932	2,479,271	3,247,491	3,688,918	3,336,125	4,888,356	4,140,091	4,146,533	7,753,095	3,873,284	4,371,611
Nebraska	2,048,838	2,214,924	1,902,385	1,818,917	2,040,414	219,783	529,071	928,291	400,154	679,369	4,757,681	6,941,251	5,465,378	4,079,403
Nevada	0	32,942	47,582	46,905	45,408	170,494	192,802	83,663	4,967	100,000	128,914	222,553	439,233	474,700
New Hampshire	155,000	100,000	111,000	0	0	262,850	331,476	744,520	642,613	74,981	101,215	113,525	593,070	1,406,171
New Jersey	2,974,000	4,305,318	1,988,395	2,837,940	3,192,669	3,162,639	2,721,846	2,591,814	2,487,857	1,823,000	2,192,254	2,206,594	2,940,457	5,608,633
New Mexico	0	0	0	312,918	502,068	1,274,000	1,156,279	1,595,891	1,283,998	1,727,331	2,108,672	2,147,277	1,550,674	1,950,400
New York	36,911,399	29,002,576	19,416,212	25,121,628	23,232,954	24,029,807	21,834,761	21,338,549	25,507,577	23,271,335	33,457,115	30,312,324	31,482,716	21,860,827
North Carolina	20,919,615	5,076,664	6,817,285	3,011,692	3,136,983	2,864,841	2,901,909	5,490,244	6,354,160	7,534,575	7,935,915	7,263,072	5,733,496	6,263,664
North Dakota	587,710	22,500	15,000	0	0	825,000	825,000	432,220	1,339,067	1,150,015	1,546,256	789,902	918,049	624,754

TABLE 11

State government expenditures for environment and natural resources-related R&D, by state: FYs 2009–22

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ohio	6,306,109	38,137,758	38,596,214	15,477,600	38,073,964	36,843,569	42,606,559	46,302,620	61,383,778	50,609,867	46,098,202	50,405,927	31,774,578	49,888,407
Oklahoma	2,552,285	1,631,015	2,505,761	2,248,062	4,765,208	5,921,730	5,465,000	5,201,284	5,714,953	3,041,465	3,697,616	2,281,991	2,291,905	3,000,003
Oregon	8,279,562	14,867,136	16,924,664	19,780,040	20,153,209	17,070,483	18,412,322	11,208,431	16,722,907	14,527,986	19,896,508	16,706,262	17,198,988	18,199,863
Pennsylvania	9,395,553	7,891,207	7,749,253	8,058,329	9,069,833	8,792,509	9,129,370	9,043,493	7,739,820	8,326,030	8,385,384	8,868,958	10,393,255	13,890,852
Rhode Island	446,347	401,045	590,282	927,489	1,059,308	861,501	869,042	1,342,772	1,320,932	2,476,653	3,507,663	3,868,806	9,014,506	6,658,944
South Carolina	25,183,342	34,711,576	45,163,028	46,038,125	36,316,203	17,608,196	23,516,239	24,859,330	26,168,247	29,097,570	28,245,560	27,721,566	27,217,435	29,745,041
South Dakota	2,311,292	1,638,739	1,628,888	1,894,989	1,774,517	45,000	20,000	0	62,998	0	0	50,000	0	0
Tennessee	0	0	320,000	856,000	866,500	583,092	571,871	1,085,874	863,020	901,162	906,097	919,243	233,025	314,273
Texas	24,750,247	6,351,022	4,805,152	5,492,140	6,428,787	13,206,103	14,491,269	13,099,100	16,408,555	9,895,119	9,797,876	7,456,321	11,309,543	6,661,241
Utah	6,149,899	6,329,203	7,943,186	17,978,580	18,312,681	17,125,000	18,245,765	17,814,501	18,126,510	17,282,000	4,537,659	5,558,311	4,995,663	5,847,503
Vermont	0	75,000	75,000	115,469	102,379	252,928	90,683	153,931	50,195	49,859	308,227	282,511	274,477	63,773
Virginia	4,005,964	3,947,713	3,829,525	4,874,529	5,709,773	9,017,423	9,630,219	7,583,316	5,564,985	6,068,610	7,210,949	5,985,898	7,597,646	10,742,492
Washington	6,993,436	10,782,537	11,087,560	10,712,941	10,953,130	9,118,095	9,698,425	11,991,928	14,779,468	12,726,589	16,415,784	23,572,042	20,929,359	22,916,358
West Virginia	1,804,769	1,818,077	1,873,514	1,501,719	1,611,130	279,478	305,196	1,709,742	3,335,151	2,967,206	4,141,682	3,939,496	3,183,300	2,433,225
Wisconsin	15,201,270	6,717,528	10,197,725	9,081,222	8,894,211	7,183,900	7,569,100	6,503,000	7,237,000	7,206,044	6,060,492	5,423,223	6,879,700	7,047,780
Wyoming	3,641,349	4,607,766	4,765,616	4,126,343	4,225,353	4,731,992	3,824,884	2,388,305	2,013,813	2,022,282	2,152,148	2,043,931	2,542,859	2,086,841
Puerto Rico ^c	136,021	100,000	100,000	201,685	244,845	205,623	150,000	na	na	na	na	na	na	796,996

na = not applicable; did not report to survey.

^a Energy category was introduced with the FY 2010 and FY 2011 Survey of State Government Research and Development. Previously, energy-related R&D was reported primarily in the other category and in the environment and national resources category.^b U.S. total reflects all 50 states and the District of Columbia.^c Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&D expenditures by function were surveyed beginning with the FY 2009 survey. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 12

State government expenditures for health-related R&D, by state: FYs 2009–22

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
United States ^a	655,232,591	706,857,175	807,478,439	928,730,622	917,012,571	857,841,801	953,278,196	982,391,978	1,102,800,942	1,103,231,515	1,081,355,223	1,027,756,537	1,077,323,751	1,100,991,524
Alabama	0	0	0	0	0	1,000,000	2,829,600	0	0	980,000	1,080,000	2,000,000	2,163,596	1,751,080
Alaska	0	0	0	0	0	0	0	930,260	1,591,735	506,881	320,476	474,542	866,695	534,187
Arizona	27,750	8,330,000	8,330,000	8,805,168	11,203,068	8,881,971	5,294,706	9,412,703	9,980,905	7,818,486	13,843,058	11,085,857	8,467,153	3,518,749
Arkansas	0	0	0	479,000	806,060	75,000	726,189	3,963,571	725,427	1,152,372	3,477,448	2,813,075	200,000	275,000
California	126,845,475	148,970,628	225,037,368	253,217,501	217,140,177	216,614,046	221,214,363	199,522,966	203,217,560	287,551,776	224,834,054	171,494,281	142,503,729	173,274,157
Colorado	4,029,968	8,527,268	6,759,774	5,131,657	4,261,796	1,640,750	1,248,410	3,389,071	6,359,827	9,708,144	10,026,796	8,061,107	9,548,470	8,813,647
Connecticut	17,730,124	19,337,597	18,783,202	19,510,447	19,239,333	20,966,024	28,803,862	26,312,600	29,158,735	29,361,070	29,921,946	29,124,362	27,271,532	26,085,781
Delaware	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District of Columbia	487,411	503,267	956,728	656,448	861,058	563,442	174,578	527,470	805,139	1,792,224	1,716,302	1,929,090	5,983,318	8,244,141
Florida	18,478,377	39,962,706	65,570,757	47,079,479	38,775,780	67,376,045	102,896,382	72,373,725	118,404,672	98,470,122	90,372,743	92,452,504	93,311,821	92,302,255
Georgia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hawaii	0	0	0	190,000	190,000	0	0	0	0	263,750	0	0	37,500	1,033,000
Idaho	0	0	0	0	0	30,226	130,045	148,927	111,453	376,277	338,288	212,000	0	0
Illinois	4,107,400	2,596,733	680,013	4,383,094	3,550,718	1,433,534	2,552,945	2,340,975	1,797,019	217,779	15,596	399,924	295,040	400,000
Indiana	20,304,740	0	0	135,000	708,497	10,000,000	0	0	2,849,998	299,865	600,000	0	300,000	0
Iowa	0	0	0	0	0	0	0	56,706	79,418	0	61,000	0	0	0
Kansas	1,040,411	0	0	0	0	0	0	0	0	0	0	0	0	0
Kentucky	3,150,948	7,371,306	7,136,813	4,695,084	4,793,049	4,461,800	13,390,238	13,781,476	11,429,613	10,071,322	14,469,601	15,023,579	16,082,555	16,829,567
Louisiana	0	0	0	0	0	0	0	0	1,287,883	1,231,812	1,532,501	2,800,226	1,160,113	1,196,008
Maine	1,187,173	349,014	1,082,201	414,740	1,115,608	1,040,000	2,210,000	266,000	11,422,764	2,427,890	2,467,740	9,463,845	12,612,119	9,873,473
Maryland	8,801,328	17,699,478	13,611,823	17,851,235	24,603,993	26,800,000	20,500,000	23,700,000	23,800,000	23,800,000	22,520,611	24,466,432	25,100,000	26,227,112
Massachusetts	2,208,037	2,130,489	2,045,865	2,990,371	3,559,104	4,081,553	5,249,751	5,979,649	5,003,259	5,043,625	6,632,267	6,849,528	6,574,962	9,189,115
Michigan	0	0	0	0	0	0	0	2,122,805	134,052	0	88,488	0	20,000,000	20,662,258
Minnesota	0	0	0	0	0	2,500,000	2,500,000	56,970	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	21,534	48,741	26,867	56,987	509,035	103,760	233,307	592,500	242,500
Montana	822,627	822,299	848,774	202,778	39,483	577,157	642,384	389,076	491,415	311,826	311,826	0	0	0
Nebraska	15,035,043	15,097,864	15,548,482	16,056,068	16,245,250	18,200,000	17,312,977	18,084,908	18,473,914	20,240,268	18,986,705	19,977,610	19,480,431	19,918,950
Nevada	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Jersey	17,709,498	26,514,169	20,337,742	23,299,300	27,235,551	23,534,704	27,235,340	23,477,042	28,254,395	43,407,927	15,865,431	14,879,386	48,281,316	46,820,754
New Mexico	0	0	0	0	0	15,000	25,000	25,000	25,000	0	0	0	0	0
New York	280,837,508	283,069,421	282,851,404	277,519,794	270,756,889	256,559,541	243,968,723	269,492,703	284,862,343	267,111,534	315,479,125	313,857,986	289,740,653	308,203,902
North Carolina	0	50,000	50,000	0	0	0	7,966,618	6,899,677	3,686,679	0	778,247	3,810,296	3,665,704	5,202,825
North Dakota	100,000	0	0	0	0	0	0	0	0	0	29,510	349,127	5,182,820	3,313,396

TABLE 12

State government expenditures for health-related R&D, by state: FYs 2009–22

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ohio	41,320,535	19,731,000	13,231,000	12,112,168	9,039,545	4,508,615	3,246,554	7,565,421	5,676,625	4,017,450	3,200,453	2,752,778	2,141,824	0
Oklahoma	5,796,835	5,049,251	5,478,209	12,107,346	14,185,074	14,455,147	14,970,721	15,661,166	16,552,610	14,673,618	16,263,121	17,420,143	17,077,727	16,139,607
Oregon	0	0	0	0	0	1,000,000	1,000,000	2,000,000	3,736,168	4,400,000	6,000,000	3,100,000	5,127,824	3,779,289
Pennsylvania	66,341,905	70,998,595	59,182,594	56,902,179	44,055,514	11,421,718	52,398,628	51,364,919	47,614,029	52,933,326	53,335,777	73,605,865	72,166,914	61,719,253
Rhode Island	984,944	776,356	912,363	400,000	0	305,066	179,946	307,601	351,000	299,864	150,000	139,519	411,325	363,485
South Carolina	0	1,151,294	1,794,228	1,444,209	1,176,021	461,758	152,441	140,504	2,071,908	1,422,065	14,541,188	15,991,705	10,768,594	13,374,650
South Dakota	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0	0	450,000	0	0	0	0
Texas	123,000	123,000	15,838,498	115,648,847	155,001,396	131,883,911	149,991,410	212,222,958	251,174,470	200,381,853	204,708,613	175,905,076	222,983,844	214,612,352
Utah	10,409,824	12,853,867	14,602,894	18,745,639	24,346,306	8,226,438	8,531,383	4,418,669	6,739,754	4,592,665	12,780	4,850	5,350	0
Vermont	0	132,198	190,117	160,853	170,780	170,047	252,706	139,055	166,047	166,047	210,747	215,000	163,373	553,199
Virginia	1,560,000	611,496	4,370,815	4,273,179	1,806,000	6,113,236	6,250,104	3,723,667	3,065,856	3,458,734	3,183,007	3,829,173	4,132,097	2,963,275
Washington	2,418,730	13,547,879	20,997,880	22,801,588	19,586,521	11,904,246	8,364,171	0	0	1,188,578	1,188,510	1,260,394	1,367,538	1,362,789
West Virginia	0	0	0	0	0	179,292	179,280	566,871	892,283	1,050,330	1,296,852	712,330	293,814	241,625
Wisconsin	3,373,000	550,000	1,248,895	1,517,450	2,560,000	840,000	840,000	1,000,000	750,000	1,543,000	1,140,656	1,000,000	1,000,000	1,314,143
Wyoming	0	0	0	0	0	0	0	0	0	0	250,000	61,640	261,500	656,000
Puerto Rico ^b	6,599,988	3,050,000	3,250,000	6,259,429	5,695,724	4,036,171	3,123,280	na	na	na	na	na	na	11,118,968

na = not applicable; did not report to survey.

^a U.S. total reflects all 50 states and the District of Columbia.^b Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&D expenditures by function were surveyed beginning with the FY 2009 survey. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 13

State government expenditures for transportation-related R&D, by state: FYs 2009–22

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
United States ^a	242,284,805	247,322,194	265,500,923	252,070,334	265,514,142	254,719,885	246,570,344	264,596,307	265,470,160	258,418,727	260,024,511	279,442,920	300,352,569	290,871,093
Alabama	3,485,318	4,730,116	4,407,856	3,348,079	2,654,296	7,237,806	9,255,656	7,658,433	6,921,982	2,014,658	3,601,526	3,601,526	2,211,001	3,692,380
Alaska	1,277,167	1,394,600	2,567,000	227,182	475,913	2,776,684	2,000,660	504,000	1,280,000	1,080,000	2,687,327	5,340,365	8,565,493	4,808,710
Arizona	2,624,700	2,175,550	1,756,700	1,817,300	1,737,800	1,261,685	1,258,900	851,449	919,757	2,500,355	1,356,182	1,473,269	3,179,987	1,414,933
Arkansas	881,000	1,064,332	927,990	2,057,208	1,915,324	1,269,000	1,486,000	639,945	1,266,550	1,013,231	855,437	690,108	376,215	1,079,240
California	40,057,000	38,136,000	37,445,000	36,897,000	35,038,000	35,560,150	35,201,005	38,340,899	35,515,719	36,225,667	34,906,443	41,248,806	47,716,505	39,260,000
Colorado	1,424,481	1,930,506	2,270,155	1,623,980	2,338,837	2,099,101	1,881,210	1,476,466	1,128,528	1,750,822	3,288,163	3,268,633	3,791,995	3,395,841
Connecticut	3,777,288	4,028,757	4,011,628	4,018,000	4,100,000	3,936,126	5,409,867	2,370,317	3,516,438	3,150,000	3,283,420	2,734,495	2,408,289	2,971,742
Delaware	250,000	250,000	250,000	2,404,027	1,974,596	255,213	141,621	845,618	1,293,881	1,156,679	1,100,760	1,336,168	1,167,639	1,205,970
District of Columbia	0	192,931	264,380	1,361,999	987,742	754,327	828,377	1,532,145	919,305	723,440	422,412	239,295	289,382	245,919
Florida	9,830,053	9,804,294	15,645,022	11,836,984	10,300,582	15,054,989	11,121,055	12,932,838	14,112,753	16,470,858	15,367,289	13,322,175	11,527,555	14,134,393
Georgia	4,162,887	7,723,795	10,290,663	9,012,569	8,698,341	6,095,576	3,842,272	5,089,460	5,586,082	8,738,202	8,034,229	8,599,878	6,599,041	4,505,966
Hawaii	2,339,180	2,672,356	561,367	881,851	1,230,056	1,148,448	1,338,452	1,023,488	786,590	595,364	802,000	487,500	5,013,530	2,793,386
Idaho	1,318,377	1,406,718	1,580,312	1,368,700	1,929,300	2,161,329	1,436,567	2,015,633	1,956,415	1,861,276	3,339,242	3,317,794	2,144,749	2,852,305
Illinois	5,369,057	7,066,133	9,287,308	7,354,832	8,719,083	9,517,493	9,602,367	10,148,743	9,969,256	7,834,288	9,458,562	9,710,698	9,430,989	9,782,913
Indiana	4,000,000	5,616,545	4,074,838	6,927,051	8,444,691	10,584,435	7,483,614	5,021,323	6,477,522	10,641,648	8,495,933	8,734,644	8,261,486	9,312,575
Iowa	6,463,700	5,770,000	6,050,000	7,638,920	9,485,810	4,581,695	5,829,951	6,645,953	4,785,941	5,543,815	5,190,691	7,228,882	6,942,156	6,142,926
Kansas	7,416,636	5,039,914	5,002,773	5,147,330	4,724,025	3,923,777	3,749,587	3,872,000	3,049,000	3,960,800	3,714,875	3,637,912	3,237,535	3,765,115
Kentucky	4,228,240	4,042,181	4,425,113	3,324,600	1,964,500	5,769,400	6,294,300	8,442,000	7,461,167	7,152,574	7,020,302	7,158,996	8,931,685	8,781,665
Louisiana	6,717,882	6,642,447	6,396,052	6,975,472	6,965,116	11,000,000	11,000,000	9,000,000	9,000,000	9,500,000	10,000,000	9,200,000	9,185,327	10,065,406
Maine	563,379	709,306	505,860	354,463	521,444	868,000	1,003,000	1,253,000	903,000	780,000	1,136,000	824,000	1,500,000	1,558,635
Maryland	2,209,280	3,167,924	4,080,017	1,928,111	1,778,080	1,590,096	882,171	711,454	2,011,643	2,313,219	1,735,096	3,660,436	2,211,739	2,643,003
Massachusetts	0	1,637,025	1,504,260	0	0	0	0	0	3,480,037	1,700,000	4,425,000	3,840,000	3,767,017	4,050,000
Michigan	6,103,101	4,640,000	5,125,000	8,900,000	7,700,000	5,500,000	5,500,000	6,200,000	6,820,000	5,780,534	5,132,200	6,610,319	6,812,098	6,225,844
Minnesota	13,908,648	7,853,451	9,222,369	7,427,179	11,089,502	11,147,618	11,558,082	13,401,308	9,925,085	10,782,862	11,092,823	11,619,600	14,081,495	15,618,920
Mississippi	1,518,130	1,883,735	2,463,770	4,801,812	3,300,936	288,622	212,557	1,263,531	2,106,750	1,961,803	5,991,596	4,417,666	5,542,522	3,300,333
Missouri	5,495,716	3,657,806	5,043,082	3,190,008	3,372,137	3,985,039	4,066,030	1,190,224	1,289,739	1,356,738	1,830,194	1,557,401	2,120,015	2,646,956
Montana	876,558	917,662	1,168,956	1,418,422	2,061,516	1,418,000	1,663,000	2,886,974	1,215,380	722,979	820,527	1,810,989	1,732,922	1,971,362
Nebraska	1,014,814	986,918	1,123,236	1,647,512	1,721,453	1,708,434	1,810,483	2,966,171	1,373,075	1,355,258	1,409,861	1,985,947	1,735,953	1,270,607
Nevada	1,510,607	1,048,465	1,393,048	1,119,857	1,595,463	3,257,663	2,914,364	1,554,297	1,860,066	921,936	973,452	1,298,811	1,588,437	1,632,800
New Hampshire	1,167,264	1,009,986	1,196,452	1,380,083	1,226,961	786,600	844,700	260,640	673,806	669,797	807,378	661,587	605,207	734,656
New Jersey	4,153,340	6,570,052	5,542,644	3,243,333	3,985,296	3,687,478	3,798,842	4,414,453	6,672,869	6,064,082	2,717,094	3,125,627	5,440,354	7,239,506
New Mexico	1,655,529	1,422,955	1,821,583	941,856	1,249,365	1,648,017	1,577,835	1,352,087	502,000	1,403,431	1,377,302	2,808,156	1,316,767	1,400,300
New York	12,445,993	13,024,897	12,191,046	6,071,256	12,838,391	9,321,647	6,850,569	10,571,211	10,836,858	14,441,199	8,842,589	9,463,758	11,189,625	10,073,889
North Carolina	9,000,000	9,225,000	9,500,000	8,884,000	6,548,000	5,688,066	5,534,981	6,864,896	7,395,578	8,661,785	7,959,645	8,877,335	10,882,065	9,103,250
North Dakota	963,611	598,349	578,559	569,931	584,875	596,824	407,000	899,987	1,902,328	2,592,127	1,336,855	3,635,470	1,204,774	1,298,374

TABLE 13

State government expenditures for transportation-related R&D, by state: FYs 2009–22

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ohio	10,308,223	13,111,393	17,281,878	20,745,056	22,035,664	16,507,471	10,142,447	12,713,029	12,015,510	7,078,867	6,886,766	6,249,317	6,276,848	6,349,868
Oklahoma	3,818,308	3,845,728	4,101,968	2,497,372	4,030,997	4,873,928	3,817,249	4,554,002	4,365,557	5,700,014	6,849,411	6,480,977	4,963,501	4,292,220
Oregon	2,705,721	2,481,963	2,494,162	2,004,957	2,639,702	2,290,000	2,938,000	1,960,000	3,120,794	3,445,111	5,411,595	2,460,479	3,638,363	7,385,549
Pennsylvania	5,815,684	2,979,258	3,919,294	4,034,828	3,842,683	3,095,997	2,438,279	3,889,274	2,714,547	1,714,300	3,913,899	3,934,697	5,576,553	4,100,235
Rhode Island	446,433	283,838	445,082	334,093	541,470	1,576,999	1,436,793	183,000	1,164,842	0	1,225,000	0	185,472	900,000
South Carolina	2,476,225	1,384,632	1,581,676	1,967,442	1,942,501	1,594,110	2,160,647	2,225,883	2,497,762	2,178,465	2,159,379	1,851,635	2,646,350	2,581,949
South Dakota	2,069,310	2,098,898	2,000,267	1,477,644	1,811,337	1,798,604	1,236,834	1,722,981	1,550,351	1,670,091	1,222,798	1,321,098	1,178,029	2,109,493
Tennessee	3,752,587	1,064,262	3,286,726	3,369,468	2,505,628	3,780,473	3,256,696	2,911,522	3,528,759	2,659,034	3,107,664	2,650,589	6,683,667	5,399,804
Texas	22,535,124	25,071,272	23,851,121	22,715,697	20,671,237	13,640,184	19,803,109	28,049,226	26,213,677	17,247,836	17,294,677	20,694,167	20,505,965	24,982,335
Utah	800,000	2,600,000	2,600,000	2,030,000	2,430,000	2,293,133	1,470,900	2,375,221	3,955,036	3,374,087	3,435,069	3,141,698	3,315,176	2,684,063
Vermont	738,707	666,981	493,856	705,916	836,839	1,007,865	793,005	698,263	924,025	1,625,848	2,211,617	1,081,391	1,097,307	843,185
Virginia	9,443,286	8,931,272	8,469,431	9,974,446	14,128,627	12,779,955	17,554,526	16,692,096	15,877,244	15,739,313	12,889,933	19,782,914	18,505,828	16,489,762
Washington	2,285,130	5,402,675	5,095,830	4,893,607	4,257,879	5,450,000	5,450,000	5,607,000	4,852,000	4,852,000	5,596,000	4,890,000	7,528,900	4,527,700
West Virginia	950,000	5,100,000	5,583,425	2,518,000	2,729,000	2,477,760	2,193,922	2,690,000	3,935,000	2,400,000	2,124,711	2,028,215	2,257,746	2,260,000
Wisconsin	5,030,145	3,572,299	4,115,612	4,828,319	6,215,294	3,843,195	3,106,681	3,038,585	2,884,850	4,084,993	3,754,645	4,106,692	2,176,168	4,217,027
Wyoming	900,986	687,017	506,556	1,872,582	1,637,853	1,230,873	986,181	1,085,282	955,106	1,227,341	1,428,942	1,240,805	1,105,147	768,083
Puerto Rico ^b	200,000	180,000	180,000	200,000	200,000	560,000	560,000	na	na	na	na	na	na	0

na = not applicable; did not report to survey.

^a U.S. total reflects all 50 states and the District of Columbia.^b Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&D expenditures by function were surveyed beginning with the FY 2009 survey. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 14

State government R&D expenditures for other functions not separately identified, by state: FYs 2009–22

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
United States ^b	324,394,437	143,020,206	194,003,452	168,806,778	175,751,245	161,254,411	164,001,971	175,314,245	223,723,280	221,761,855	170,319,834	155,473,832	177,356,368	256,872,936
Alabama	1,749,771	472,892	475,402	336,920	144,180	5,801,167	5,743,808	4,156,899	3,954,359	4,767,179	5,422,102	14,046,688	19,074,334	11,655,697
Alaska	0	0	0	0	0	0	0	0	0	0	0	0	0	1,067,928
Arizona	134,587	742,869	361,685	0	0	0	0	0	0	139,859	0	559,621	610,954	561,258
Arkansas	3,482,899	4,343,045	1,994,713	557,653	378,064	367,653	635,381	3,046,876	3,391,597	2,517,653	967,697	853,429	1,525,000	1,510,815
California	78,620,000	2,798,033	1,657,802	3,914,236	3,532,072	15,078,629	10,694,395	19,762,981	20,665,387	18,239,659	16,500,248	11,490,937	8,483,554	13,115,803
Colorado	661,000	937,051	934,066	902,386	989,741	1,304,741	1,945,853	2,282,691	5,291,487	7,938,023	8,567,133	7,041,385	8,222,524	14,456,120
Connecticut	0	0	0	0	0	6,275,000	5,126,590	6,067,653	9,471,359	8,441,757	9,579,524	7,538,344	5,894,102	12,402,675
Delaware	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	78,502	138,118	0	0	87,400	83,698	252,283	34,566	94,094
Florida	860,000	295,290	1,961,528	933,175	2,205,335	0	0	0	0	0	0	88,406	100,000	100,000
Georgia	2,500,000	200,000	200,000	400,000	0	0	0	0	0	0	0	31,813	0	0
Hawaii	6,906,722	0	0	0	0	667,972	773,071	846,154	0	1,054,083	1,436,565	1,806,130	203,500	665,000
Idaho	0	0	0	0	0	0	0	211,098	0	368,772	436,773	242,114	376,305	0
Illinois	19,540	6,700,823	7,239,804	6,100,402	5,504,428	8,151,913	14,189,053	4,054,706	3,774,000	6,474,099	4,084,838	2,804,910	2,468,113	2,347,655
Indiana	21,423,543	1,128,287	1,208,526	413,937	360,000	2,061,287	1,773,787	7,092,309	7,078,946	6,124,290	2,851,256	520,000	678,500	1,940,000
Iowa	31,512,943	105,480	710,999	22,475	22,484	522,607	457,808	431,450	421,109	497,171	337,061	417,493	472,395	626,038
Kansas	2,698,381	0	0	0	0	107,479	1,125,847	1,307,150	2,097,137	1,753,805	996,465	998,756	998,754	997,727
Kentucky	3,684,117	2,734,995	3,382,158	675,726	630,162	984,267	1,611,896	4,234,982	6,190,489	561,098	0	1,651,000	1,413,739	1,578,217
Louisiana	0	0	577,544	862,067	573,126	0	0	0	13,674,007	13,078,673	8,712,529	4,259,471	9,075,190	9,272,639
Maine	2,178,872	4,104,324	3,609,925	2,954,810	2,183,936	2,000,000	4,268,000	3,097,000	3,560,926	4,849,586	9,750,028	8,348,636	8,814,847	4,232,010
Maryland	2,893,023	1,300,000	1,300,000	547,102	1,453,129	0	0	800,000	810,000	2,166,739	1,686,554	2,658,368	0	0
Massachusetts	0	0	486,173	0	0	0	0	0	2,972,231	3,425,000	6,870,000	6,775,000	5,169,336	1,305,697
Michigan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minnesota	192,945	0	0	0	0	0	0	0	0	0	0	0	0	0
Mississippi	0	100,000	412,000	0	0	0	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montana	2,430,542	931,417	213,841	7,000	12,600	139,144	271,145	7,934,963	7,713,943	382,684	382,684	0	0	50,000
Nebraska	40,000	0	0	1,048,383	1,282,862	197,500	97,387	0	0	200,000	157,763	1,066,000	1,072,155	3,933,774
Nevada	0	0	0	0	0	0	0	4,078,492	9,131,829	6,120,737	6,584,759	3,055,388	1,958,195	1,327,253
New Hampshire	500,000	475,000	500,000	384,000	123,000	300,000	300,000	374,999	449,146	7,382,570	7,400,216	7,333,128	7,301,367	7,055,631
New Jersey	310,000	750,000	0	0	0	0	0	0	0	0	3,111,979	3,543,318	3,131,288	5,352,022
New Mexico	0	0	0	538,787	207,445	1,156,400	1,237,700	1,800,000	2,663,461	146,155	17,000	103,000	108,053	105,527
New York	43,358,014	34,300,000	43,500,000	29,975,639	46,870,153	48,029,330	49,698,758	47,586,721	48,217,604	48,216,789	28,702,682	26,276,536	15,675,047	92,678,434
North Carolina	916,162	265,000	261,000	2,689,346	3,017,144	500,000	4,396,029	3,692,598	104,672	302,439	290,671	480,186	891,454	2,489,577
North Dakota	13,828,867	133,500	263,000	164,400	372,000	0	0	0	0	0	0	223,743	247,149	93,115

TABLE 14

State government R&D expenditures for other functions not separately identified, by state: FYs 2009–22

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ohio	63,460,096	12,904,375	43,062,744	42,699,340	66,895,354	30,550,059	27,255,184	17,617,411	14,184,490	16,412,659	9,405,378	4,831,720	6,851,921	4,869,165
Oklahoma	2,152,790	9,017,136	6,460,924	4,088,727	2,419,202	2,268,709	2,263,698	2,970,545	3,770,097	742,842	1,054,738	1,110,061	29,777,125	1,816,735
Oregon	0	0	0	0	0	1,835,000	1,800,000	5,719,447	3,300,000	5,890,071	6,725,794	5,922,851	8,848,396	2,193,526
Pennsylvania	13,490,838	5,289,000	4,000,000	8,021,714	5,728,373	8,754,500	8,114,286	4,700,000	32,650,000	36,950,000	10,905,196	11,974,987	1,874,000	4,943,571
Rhode Island	0	0	0	200,000	0	479,906	107,997	1,434,966	778,812	489,904	580,675	540,100	562,327	202,000
South Carolina	518,619	33,179,054	35,190,338	22,471,369	7,888,340	2,056,900	927,325	2,718,162	3,076,392	569,623	937,457	300,983	1,610,976	2,022,292
South Dakota	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tennessee	0	0	0	61,313	58,348	0	0	2,830,000	5,042,000	4,965,000	3,319,120	3,363,577	2,670,514	33,245,253
Texas	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Utah	8,082,988	1,650,000	1,950,000	0	0	5,056,613	3,049,085	4,547,529	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	415,612	0	0	0	0	90,998	0	0
Virginia	6,846,941	2,883,797	1,928,981	4,218,088	2,342,026	4,009,135	2,826,630	1,865,685	1,909,264	2,409,069	3,552,012	3,329,588	10,681,336	6,378,361
Washington	0	0	0	3,046,202	3,370,552	2,967,873	3,285,711	3,282,013	3,235,997	3,354,053	3,344,321	3,279,219	3,408,658	3,221,766
West Virginia	7,602,237	14,453,838	25,129,599	29,251,581	14,435,189	7,422,125	7,341,817	1,577,385	1,574,886	1,564,077	1,776,758	2,782,045	2,238,929	2,667,574
Wisconsin	1,338,000	825,000	5,030,700	1,320,000	2,752,000	2,130,000	2,130,000	2,000,000	1,500,000	2,141,000	3,000,000	2,750,000	3,625,125	3,942,432
Wyoming	0	0	0	0	0	0	0	1,191,380	1,067,653	1,037,337	788,160	731,620	1,206,640	355,555
Puerto Rico ^c	1,731,697	601,391	587,869	350,654	940,348	795,212	757,107	na	na	na	na	na	na	4,884,573

na = not applicable; did not report to survey.

^a Energy category was introduced with the FY 2010 and FY 2011 Survey of State Government Research and Development. Previously, energy-related R&D was reported primarily in the other category and in the environment and national resources category.

^b U.S. total reflects all 50 states and the District of Columbia.

^c Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Note(s):

State R&D expenditures by function were surveyed beginning with the FY 2009 survey. State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D. Other R&D functions include, but are not limited to, corrections, criminal justice, education, forensic science, labor, public safety, and social services.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 15

State government expenditures for R&D funded from federal sources, by state: FYs 2006–22

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ohio	8,767,534	8,253,286	NA	5,141,853	3,351,457	4,455,517	6,415,795	10,584,324	6,979,454	6,437,833	9,624,514	9,889,818	9,948,825	8,126,122	8,463,693	8,732,356	8,153,111
Oklahoma	643,333	3,296,216	NA	5,120,111	5,229,705	6,138,385	5,283,506	8,289,178	8,986,041	7,578,340	8,390,649	11,350,041	8,183,905	10,192,859	7,922,136	7,560,791	7,056,971
Oregon	2,245,190	2,470,211	NA	3,957,639	12,870,466	14,753,575	17,582,132	16,942,402	9,815,170	10,390,644	9,900,748	11,365,484	13,498,683	17,340,000	11,978,580	14,233,548	13,854,858
Pennsylvania	4,278,736	5,321,876	NA	5,975,911	5,882,402	6,652,868	6,442,990	6,002,259	5,353,083	4,830,151	5,686,837	7,498,785	6,801,366	9,903,377	19,656,077	10,315,593	10,203,586
Rhode Island	150,000	403,939	NA	396,154	281,728	515,480	487,305	664,190	1,251,398	1,114,694	1,361,000	1,470,052	852,644	2,473,315	1,918,239	6,631,735	5,740,186
South Carolina	19,731,986	29,773,259	NA	22,877,576	59,873,605	71,204,639	59,056,716	33,931,311	16,290,802	20,114,487	20,737,825	23,646,742	24,143,358	23,400,794	30,291,219	27,721,413	29,762,759
South Dakota	3,011,796	3,847,153	NA	3,522,778	3,145,143	2,882,410	2,618,318	2,840,315	1,427,976	1,003,921	1,255,737	909,739	1,150,602	754,880	752,592	725,396	1,338,277
Tennessee	4,658,000	3,638,000	NA	3,002,070	851,410	2,985,145	3,594,115	2,906,011	3,368,748	2,903,575	5,128,836	5,755,973	5,385,899	5,112,715	4,792,328	7,551,808	16,915,160
Texas	20,318,659	19,853,357	NA	22,174,250	21,943,248	21,488,561	20,949,356	20,382,696	17,280,822	21,106,336	28,647,673	28,163,945	20,766,503	21,003,405	23,192,709	23,447,625	27,162,975
Utah	1,800,000	1,880,823	NA	5,593,015	20,724,230	20,687,819	21,153,987	25,727,343	755,484	1,077,198	807,539	1,711,697	1,355,017	2,294,696	1,721,014	1,701,485	1,669,847
Vermont	1,282,280	783,845	NA	610,565	1,100,865	1,184,957	1,121,698	1,240,063	1,583,729	1,183,900	905,065	940,123	1,647,291	2,225,472	1,119,199	1,081,618	1,295,178
Virginia	6,387,630	9,427,028	NA	11,409,211	9,370,939	9,735,857	9,710,044	8,149,554	12,804,594	13,040,444	10,654,905	9,141,544	9,633,966	12,948,118	14,998,852	19,106,082	16,230,355
Washington	7,728,621	8,091,640	NA	5,925,432	9,841,190	9,420,257	8,462,965	8,292,342	11,078,789	12,398,340	11,677,113	9,374,759	11,948,543	14,915,365	14,747,139	17,162,043	15,068,376
West Virginia	2,663,801	5,008,707	NA	3,733,032	7,830,732	6,157,841	8,139,084	7,256,479	6,299,975	7,333,474	3,729,381	6,799,242	6,681,206	7,579,295	6,903,375	5,247,993	4,275,461
Wisconsin	4,772,502	6,316,820	NA	8,656,553	7,890,044	15,611,863	9,632,605	13,741,242	9,388,919	9,471,310	8,658,738	8,233,839	6,971,498	9,448,498	8,358,684	5,893,866	9,117,475
Wyoming	1,688,296	10,903,754	NA	1,068,548	815,693	809,183	1,345,319	1,457,932	2,346,866	2,100,967	1,620,007	2,464,097	2,380,392	2,290,192	3,555,506	3,124,556	3,516,837
Puerto Rico ^b	103,503	0	NA	4,946,080	1,702,000	1,850,000	4,070,151	3,931,918	1,489,553	1,561,588	na	na	na	na	na	na	6,129,178

na = not applicable; did not report to survey. NA = not available; survey was not conducted for FY 2008.

^a U.S. total reflects all 50 states and the District of Columbia.^b Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development.

TABLE 16

State government expenditures for R&D funded from federal sources, by state and federal agency: FY 2022

(Dollars)

State	Total federal	DOC	DOD	DOE	DOI	DOT	ED	EPA	HHS	NSF	USDA	Other ^a
United States ^b	691,149,390	22,570,600	23,481,199	27,591,876	105,895,411	192,375,917	16,726,692	7,275,111	210,121,140	41,946,883	30,692,606	12,471,955
Alabama	10,458,091	82,342	184,113	474,723	2,455,579	3,303,930	1,447,475	4,837	0	547,738	93,319	1,864,035
Alaska	8,260,099	0	0	11,754	1,643,559	6,147,954	0	382,208	0	0	0	74,624
Arizona	3,330,756	0	0	0	1,061,745	1,131,946	0	0	0	0	1,137,065	0
Arkansas	1,840,818	0	0	0	977,426	863,392	0	0	0	0	0	0
California	20,301,828	112,254	0	0	1,357,341	16,060,000	1,619,410	1,052,067	46,500	0	54,256	0
Colorado	5,096,962	0	6,000	0	998,132	3,390,841	0	68,494	0	0	508,906	124,589
Connecticut	14,622,416	0	0	0	5,622,094	2,612,447	0	6,009	2,778,359	0	3,603,507	0
Delaware	1,533,976	95,828	0	0	429,872	907,347	0	74,000	0	26,929	0	0
District of Columbia	8,368,175	0	0	0	0	272,011	0	30,000	8,066,164	0	0	0
Florida	27,469,288	7,371,059	346,937	748,895	7,492,763	6,319,934	0	822,222	0	52,205	4,285,903	29,370
Georgia	16,555,047	543,007	0	11,629,167	662,664	3,720,209	0	0	0	0	0	0
Hawaii	3,397,342	0	2,042	0	0	2,011,079	0	0	198,221	0	850,000	336,000
Idaho	11,009,398	0	0	4,383,260	2,850,967	2,151,772	0	0	0	0	1,623,399	0
Illinois	7,466,369	0	0	0	0	7,466,369	0	0	0	0	0	0
Indiana	7,098,396	0	0	0	29,313	6,383,115	0	0	0	0	685,968	0
Iowa	5,359,474	0	0	0	1,963,217	2,916,341	0	0	0	0	232,493	247,423
Kansas	9,188,967	0	0	0	7,025,468	2,007,023	0	87,429	0	0	0	69,047
Kentucky	10,566,579	0	0	0	4,837,624	5,722,625	0	0	0	0	6,330	0
Louisiana	17,690,354	78,881	0	219,661	4,048,646	8,000,000	0	0	0	3,593,982	0	1,749,184
Maine	13,633,417	1,710,625	0	0	2,274,245	1,200,000	0	0	8,369,624	3,923	75,000	0
Maryland	1,732,396	0	0	0	237,993	1,474,403	0	20,000	0	0	0	0
Massachusetts	7,056,757	414,223	1,063,372	0	437,716	3,500,000	0	22,369	1,619,077	0	0	0
Michigan	6,869,738	0	0	0	0	5,515,325	0	228,439	602,087	0	523,887	0
Minnesota	8,566,979	0	0	0	1,384,576	6,371,527	0	0	0	0	810,876	0
Mississippi	7,914,852	751,841	0	0	3,193,954	3,021,441	0	0	0	0	114,017	833,599
Missouri	4,836,862	0	219,853	0	1,506,774	2,137,081	0	22,586	0	0	450,568	500,000
Montana	5,647,319	0	0	0	2,857,852	1,086,076	0	10,000	0	0	1,673,147	20,244
Nebraska	3,981,578	0	410,460	0	2,008,392	900,175	0	0	0	0	662,551	0
Nevada	2,068,342	0	0	0	0	1,919,700	0	0	0	0	148,642	0
New Hampshire	756,259	0	0	0	0	735,187	0	0	0	0	21,072	0
New Jersey	6,943,253	135,992	0	0	283,898	5,697,692	0	470,304	29,247	0	0	326,120
New Mexico	2,479,360	0	0	0	1,350,750	1,120,240	0	8,370	0	0	0	0
New York	246,154,735	315,982	19,595,112	3,450,000	402,196	5,261,954	201,099	1,002,567	176,553,690	36,523,494	2,833,759	14,882
North Carolina	9,627,170	718,568	0	0	0	8,339,000	0	149,727	0	0	0	419,875
North Dakota	1,904,626	0	0	0	0	1,264,241	0	0	0	0	93,115	547,270

TABLE 16

State government expenditures for R&D funded from federal sources, by state and federal agency: FY 2022

(Dollars)

State	Total federal	DOC	DOD	DOE	DOI	DOT	ED	EPA	HHS	NSF	USDA	Other ^a
Ohio	8,153,111	326,454	0	0	2,177,529	5,128,021	160,000	361,107	0	0	0	0
Oklahoma	7,056,971	0	0	0	1,647,936	3,281,609	0	239,362	1,444,468	0	443,596	0
Oregon	13,854,858	557,542	895,824	4,046,198	4,774,371	2,873,418	105,304	0	157,956	0	52,651	391,594
Pennsylvania	10,203,586	43,288	0	0	6,081,564	2,890,235	0	80,000	0	0	1,108,499	0
Rhode Island	5,740,186	322,919	0	0	4,742,267	675,000	0	0	0	0	0	0
South Carolina	29,762,759	8,151,576	728,469	130,555	12,375,697	1,952,420	0	193,764	5,976,959	5,000	248,319	0
South Dakota	1,338,277	0	0	0	0	1,338,277	0	0	0	0	0	0
Tennessee	16,915,160	0	0	0	151,913	4,319,843	12,443,404	0	0	0	0	0
Texas	27,162,975	0	0	0	3,187,153	20,774,235	0	0	1,718,344	0	874,117	609,126
Utah	1,669,847	0	0	0	0	1,232,665	0	131,217	0	0	305,965	0
Vermont	1,295,178	0	0	0	0	741,979	0	0	553,199	0	0	0
Virginia	16,230,355	96,662	0	0	3,104,054	6,298,398	750,000	196,631	519,300	421	949,916	4,314,973
Washington	15,068,376	741,557	29,017	1,652,851	2,806,150	3,744,600	0	1,170,795	1,487,945	0	3,435,461	0
West Virginia	4,275,461	0	0	0	1,639,699	1,710,000	0	0	0	681,636	244,126	0
Wisconsin	9,117,475	0	0	0	2,714,667	3,870,248	0	440,607	0	0	2,091,953	0
Wyoming	3,516,837	0	0	844,812	1,097,655	612,592	0	0	0	511,555	450,223	0
Puerto Rico ^c	6,129,178	0	0	0	0	0	0	0	6,066,299	62,879	0	0

DOC = Department of Commerce; DOD = Department of Defense; DOE = Department of Energy; DOI = Department of the Interior; DOT = Department of Transportation; ED = Department of Education; EPA = Environmental Protection Agency; HHS = Department of Health and Human Services; NSF = National Science Foundation; USDA = Department of Agriculture.

^a Other includes the Departments of Housing and Urban Development, Homeland Security, Justice, Labor, Treasury, and Veterans Affairs; National Aeronautics and Space Administration; and others.

^b U.S. total reflects all 50 states and the District of Columbia.

^c Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Note(s):

State R&D totals can display considerable volatility between survey years due to several national and state-specific factors. Large changes are not unusual, especially for discretionary spending items such as R&D.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2022

(Dollars)

State and department or agency	R&D performers ^a			R&D plant ^b
	All	Intramural	Extramural	
United States ^c	2,643,991,142	696,624,562	1,947,366,580	31,839,778
Alabama	88,219,991	12,081,222	76,138,769	0
Commerce, Department of	63,419,633	0	63,419,633	0
Conservation and Natural Resources, Department of; Wildlife and Freshwater Fisheries Division	1,219,039	0	1,219,039	0
Economic and Community Affairs, Department of	1,693,012	0	1,693,012	0
Education, Department of	6,214,729	4,918,832	1,295,897	0
Forensic Sciences, Department of	208,094	208,094	0	0
Geological Survey	3,563,032	3,563,032	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	3,684,864	3,391,264	293,600	0
Supercomputer Authority	4,553,801	0	4,553,801	0
Transportation, Department of	3,663,787	0	3,663,787	0
Alaska	17,157,228	11,600,345	5,556,883	0
Energy Authority	231,152	0	231,152	0
Environmental Conservation, Department of	534,187	59,405	474,782	0
Housing Finance Corporation	500,000	0	500,000	0
Natural Resources, Department of; Division of Geological and Geophysical Surveys	9,216,400	9,216,400	0	0
Railroad Corporation	3,636,619	1,868,960	1,767,659	0
Transportation and Public Facilities, Department of	3,038,870	455,580	2,583,290	0
Arizona	7,946,421	2,039,798	5,906,623	0
Agriculture, Department of	1,412,034	0	1,412,034	0
Game and Fish Department	1,039,447	950,977	88,470	0
Health Services, Department of	3,518,749	0	3,518,749	0
Juvenile Corrections, Department of	561,258	561,258	0	0
Transportation, Department of	1,414,933	527,563	887,370	0
Arkansas	9,759,708	220,653	9,539,055	0
Beef Council	50,605	0	50,605	0
Corn and Grain Sorghum Promotion Board	984,233	0	984,233	0
Economic Development Commission	1,675,000	0	1,675,000	0
Game and Fish Commission	1,159,178	0	1,159,178	0
Midwest Dairy Association, Arkansas Division	10,386	0	10,386	0
Natural Heritage Commission	160,921	154,039	6,882	0
Rice Research and Promotion Board	2,396,257	0	2,396,257	0
Soybean Promotion Board	2,207,956	0	2,207,956	0
Transportation, Department of	1,079,240	66,614	1,012,626	0
Wheat Promotion Board	35,932	0	35,932	0
California	490,081,806	87,712,398	402,369,408	5,700,000
Air Resources Board	17,251,207	10,750,232	6,500,975	0
Children and Families Commission (First 5 California)	7,739,521	482,323	7,257,198	0
Conservation, Department of	1,259,204	838,198	421,006	0
Corrections and Rehabilitation, Department of	2,301,034	0	2,301,034	0
Covered California	3,799,165	0	3,799,165	0
Dairy Council	50,373	0	50,373	0
Delta Stewardship Council	5,201,966	0	5,201,966	0
Earthquake Authority	539,832	537,832	2,000	0
Energy Commission	130,400,000	19,700,000	110,700,000	0
Environmental Health Hazard Assessment, Office of	19,844,985	18,649,950	1,195,035	0
Food and Agriculture, Department of	5,012,081	0	5,012,081	0
Forestry and Fire Protection, Department of	21,200,000	2,500,000	18,700,000	0
Horse Racing Board	710,513	0	710,513	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2022

(Dollars)

State and department or agency	R&D performers ^a			R&D plant ^b
	All	Intramural	Extramural	
Housing and Community Development, Department of	500,000	500,000	0	0
Institute for Regenerative Medicine	122,808,196	0	122,808,196	0
Mental Health Services Oversight and Accountability Commission	2,500,000	2,500,000	0	0
Motor Vehicles, Department of	1,776,392	1,761,138	15,254	0
Parks And Recreation, Department of	1,515,260	0	1,515,260	0
Pesticide Regulation, Department of	14,058,135	10,955,679	3,102,456	0
Public Health, Department of	6,155,476	442,500	5,712,976	0
Public Utilities Commission, Executive Division	61,374,566	0	61,374,566	0
Rehabilitation, Department of	1,619,410	812,759	806,651	0
State Coastal Conservancy	942,260	0	942,260	0
State Water Resources Control Board	8,564,983	740,800	7,824,183	0
Toxic Substances Control, Department of	645,987	645,987	0	0
Transportation, Department of	39,260,000	15,795,000	23,465,000	0
Water Resources, Department of	13,051,260	100,000	12,951,260	5,700,000
Colorado	38,058,349	9,393,492	28,664,857	0
Agriculture, Department of	581,906	353,700	228,206	0
Economic Development and International Trade, Office of	20,576,916	0	20,576,916	0
Higher Education Competitive, Research Authority	1,443,141	0	1,443,141	0
Higher Education, Department of	2,425,000	0	2,425,000	0
Natural Resources, Department of	5,062,623	5,031,147	31,476	0
Public Health and Environment, Department of	3,363,873	2,575,872	788,001	0
Public Safety, Department of; Division of Criminal Justice	985,007	742,007	243,000	0
Transportation, Department of	3,390,841	690,766	2,700,075	0
Wine Industry Development Board	229,042	0	229,042	0
Connecticut	60,578,799	28,200,758	32,378,041	0
Agricultural Experiment Station	13,756,272	13,756,272	0	0
Energy and Environmental Protection, Department of	7,320,822	6,524,227	796,595	0
Innovation Inc.	28,919,435	0	28,919,435	0
Mental Health and Addiction Services, Department of	7,217,443	7,217,443	0	0
Public Health, Department of	1,780	0	1,780	0
Social Services, Department of	391,305	391,305	0	0
Transportation, Department of	2,971,742	311,511	2,660,231	0
Delaware	3,446,375	1,568,167	1,878,208	0
Geological Survey	1,618,967	1,568,167	50,800	0
Natural Resources and Environmental Control, Department of	646,147	0	646,147	0
Sustainable Energy Utility	10,495	0	10,495	0
Transportation, Department of	1,170,766	0	1,170,766	0
District of Columbia	10,560,754	4,320,240	6,240,514	0
Energy and Environment, Department of	476,600	0	476,600	0
Health, Department of	8,244,141	3,194,604	5,049,537	0
Transportation, Department of	340,013	125,636	214,377	0
Water and Sewer Authority	1,500,000	1,000,000	500,000	0
Florida	180,145,644	51,395,556	128,750,088	2,163,105
Agriculture and Consumer Services, Department of	18,305,424	927,308	17,378,116	0
Citrus, Department of	850,364	115,111	735,253	0
Environmental Protection, Department of	68,838	0	68,838	0
Fish and Wildlife Conservation Commission	55,428,229	49,103,851	6,324,378	2,034,470
Gaming Control Commission	100,000	0	100,000	0
Health, Department of	91,360,963	0	91,360,963	0
Space Florida	1,305,000	0	1,305,000	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2022

(Dollars)

State and department or agency	R&D performers ^a			R&D plant ^b
	All	Intramural	Extramural	
Transportation, Department of	12,726,826	1,249,286	11,477,540	128,635
Georgia	24,988,379	2,884,258	22,104,121	0
Natural Resources, Department of	1,452,630	127,945	1,324,685	0
Southern States Energy Board	19,326,825	2,756,313	16,570,512	0
Transportation, Department of	4,208,924	0	4,208,924	0
Hawaii	6,337,851	201,790	6,136,061	5,750,000
Agriculture, Department of	1,098,423	199,748	898,675	0
Business, Economic Development, and Tourism, Department of	2,022,042	2,042	2,020,000	0
Land and Natural Resources, Department of	424,000	0	424,000	0
Natural Energy Laboratory of Hawaii Authority	0	0	0	5,750,000
Transportation, Department of	2,793,386	0	2,793,386	0
Idaho	20,444,262	7,278,248	13,166,014	0
Agriculture, Department of	1,623,399	0	1,623,399	0
Barley Commission	367,497	0	367,497	0
Bean Commission	33,833	0	33,833	0
Beef Council	211,642	0	211,642	0
Commerce, Department of	1,289,693	0	1,289,693	0
Dairy West	2,999,460	0	2,999,460	0
Fish and Game, Department of	9,041,798	7,151,744	1,890,054	0
Oilseed Commission	72,645	0	72,645	0
Pea and Lentil Commission	177,697	0	177,697	0
Potato Commission	878,871	0	878,871	0
Transportation Department	2,467,766	126,504	2,341,262	0
Wheat Commission	1,279,961	0	1,279,961	0
Illinois	16,463,839	554,067	15,909,772	0
Children and Family Services, Department of	2,347,655	0	2,347,655	0
Midwest Dairy Association, Illinois Division	20,772	0	20,772	0
Nutrient Research and Education Council	3,912,499	0	3,912,499	0
Public Health, Department of	400,000	0	400,000	0
Transportation, Department of	9,782,913	554,067	9,228,846	0
Indiana	12,104,856	660,237	11,444,619	0
Economic Development Corporation	3,399,111	0	3,399,111	0
Natural Resources, Department of	852,281	586,968	265,313	0
Transportation, Department of	7,853,464	73,269	7,780,195	0
Iowa	10,636,720	2,912,086	7,724,634	0
Beef Industry Council	60,218	0	60,218	0
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	626,038	626,038	0	0
Midwest Dairy Association, Iowa Division	119,439	0	119,439	0
Natural Resources, Department of	3,688,099	2,286,048	1,402,051	0
Transportation, Department of	6,142,926	0	6,142,926	0
Kansas	17,633,236	1,500,273	16,132,963	0
Corn Commission	311,744	0	311,744	0
Grain Sorghum Commission	700,000	0	700,000	0
Midwest Dairy Association, Kansas Division	15,579	0	15,579	0
Soybean Commission	1,248,862	0	1,248,862	0
State Board of Regents	997,727	4,462	993,265	0
Sunflower Commission	20,000	0	20,000	0
Transportation, Department of	3,765,115	1,061,231	2,703,884	0
Water Office	1,207,240	434,580	772,660	0
Wheat Commission	2,245,000	0	2,245,000	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2022

(Dollars)

State and department or agency	R&D performers ^a			R&D plant ^b
	All	Intramural	Extramural	
Wildlife and Parks, Department of	7,121,969	0	7,121,969	0
Kentucky	34,881,537	4,434,431	30,447,106	0
Economic Development, Cabinet for	3,447,809	0	3,447,809	0
Fish and Wildlife Resources, Department of	6,989,041	4,428,101	2,560,940	0
Horse Racing Commission	70,000	0	70,000	0
Nature Preserves, Office of Kentucky	42,320	6,330	35,990	0
Postsecondary Education, Council on	11,572,700	0	11,572,700	0
Public Health, Department for	3,767,275	0	3,767,275	0
Soybean Promotion Board	210,727	0	210,727	0
Transportation Cabinet	8,781,665	0	8,781,665	0
Louisiana	31,843,839	10,033,831	21,810,008	0
Board of Regents	12,613,939	0	12,613,939	0
Coastal Protection and Restoration Authority	3,681,012	509,392	3,171,620	0
Transportation and Development, Department of	10,000,000	5,000,000	5,000,000	0
Wildlife and Fisheries, Department of	5,548,888	4,524,439	1,024,449	0
Maine	24,812,470	12,208,306	12,604,164	1,579,462
Agriculture, Conservation and Forestry, Department of	1,889,382	1,682,997	206,385	0
Aquaculture Innovation Center	555,101	435,877	119,224	0
Inland Fisheries and Wildlife, Department of	1,080,841	763,201	317,640	0
Marine Resources, Department of	2,712,300	2,589,300	123,000	0
MDI Biological Laboratory, Center for Biomedical Innovation	9,143,683	6,236,931	2,906,752	386,921
Technology Institute	7,931,163	0	7,931,163	1,192,541
Transportation, Department of	1,500,000	500,000	1,000,000	0
Maryland	31,280,581	864,022	30,416,559	0
Energy Administration	2,000,000	0	2,000,000	0
Health, Department of	15,000,000	0	15,000,000	0
Natural Resources, Department of	410,466	272,429	138,037	0
Technology Development Corporation	11,227,112	0	11,227,112	0
Transportation, Department of	2,643,003	591,593	2,051,410	0
Massachusetts	26,616,423	1,636,998	24,979,425	4,484,231
Clean Energy Technology Center	6,848,706	0	6,848,706	0
Environmental Protection, Department of	1,771,575	278,302	1,493,273	0
Fish and Game, Department of	1,064,180	842,896	221,284	0
Gaming Commission	2,831,240	215,800	2,615,440	0
MassVentures	3,400,000	0	3,400,000	0
Mental Health, Department of	2,306,184	0	2,306,184	0
Public Health, Department of	1,888,570	0	1,888,570	0
Technology Park Corporation	1,805,968	0	1,805,968	4,484,231
Transportation, Department of	4,050,000	0	4,050,000	0
Water Resources Authority	650,000	300,000	350,000	0
Michigan	30,525,914	254,848	30,271,066	0
Agriculture and Rural Development, Department of	3,198,958	68,044	3,130,914	0
Environmental, Great Lakes, and Energy, Department of	438,854	186,804	252,050	0
Health and Human Services	662,258	0	662,258	0
Licensing and Regulatory Affairs	20,000,000	0	20,000,000	0
Transportation, Department of	6,225,844	0	6,225,844	0
Minnesota	25,093,959	3,038,564	22,055,395	0
Agriculture, Department of	5,160,630	996,789	4,163,841	0
Forest Resources Council	75,000	0	75,000	0
Midwest Dairy Association, Minnesota Division	228,492	0	228,492	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2022

(Dollars)

State and department or agency	R&D performers ^a			R&D plant ^b
	All	Intramural	Extramural	
Natural Resources, Department of	2,220,492	2,041,775	178,717	0
Pollution Control Agency	233,164	0	233,164	0
Transportation, Department of	17,176,181	0	17,176,181	0
Mississippi	9,788,541	2,820,168	6,968,373	0
Agriculture and Commerce, Department of	114,017	0	114,017	0
Environmental Quality, Department of	833,599	97,936	735,663	0
Gulf States Marine Fisheries Commission	927,742	91,946	835,796	0
Marine Resources, Department of	2,131,369	1,796,095	335,274	0
Transportation, Department of	3,300,333	100,000	3,200,333	0
Wildlife, Fisheries, and Parks, Department of	2,481,481	734,191	1,747,290	0
Missouri	12,430,684	4,338,958	8,091,726	0
Agriculture, Department of	1,197,350	0	1,197,350	0
Conservation, Department of	7,039,079	4,338,958	2,700,121	0
Mental Health, Department of	242,500	0	242,500	0
Natural Resources, Department of	174,359	0	174,359	0
Technology Corporation	500,000	0	500,000	0
Transportation, Department of	2,646,956	0	2,646,956	0
Wine and Grape Board	630,440	0	630,440	0
Montana	9,752,216	3,400,729	6,351,487	0
Agriculture, Department of	3,359,243	0	3,359,243	0
Environmental Quality, Department of	55,000	55,000	0	0
Fish, Wildlife and Parks, Department of	3,824,321	2,786,890	1,037,431	0
Natural Resources and Conservation, Department of	42,740	36,794	5,946	0
Transportation, Department of	2,470,912	522,045	1,948,867	0
Nebraska	32,687,157	2,114,433	30,572,724	10,000
Agriculture, Department of	880,683	0	880,683	0
Corn Board	798,965	0	798,965	0
Dry Bean Commission	305,376	0	305,376	0
Economic Development, Department of	6,618,124	0	6,618,124	0
Game and Parks Commission	3,935,042	2,021,933	1,913,109	0
Grain Sorghum Board	5,000	0	5,000	0
Health and Human Services, Department of	18,833,700	0	18,833,700	0
Midwest Dairy Association, Nebraska Division	31,158	0	31,158	0
Natural Resources, Department of	50,000	0	50,000	0
Pea And Lentil Commission	1,390	0	1,390	0
Transportation, Department of	1,217,719	92,500	1,125,219	10,000
Wheat Board	10,000	0	10,000	0
Nevada	3,643,395	208,642	3,434,753	0
Agriculture, Department of	208,642	208,642	0	0
Economic Development, Governor's office of	1,327,253	0	1,327,253	0
Transportation, Department of	2,107,500	0	2,107,500	0
New Hampshire	9,222,505	136,953	9,085,552	0
Agriculture, Markets and Food, Department of	43,897	0	43,897	0
Business and Economic Affairs, Department of	7,000,000	0	7,000,000	0
Environmental Services, Department of	1,259,624	0	1,259,624	0
Transportation, Department of	918,984	136,953	782,031	0
New Jersey	65,020,915	3,317,395	61,703,520	0
Agriculture, Department of	180,151	180,151	0	0
Children and Families, Department of	368,019	196,441	171,578	0
Community Affairs, Department of	22,000	5,000	17,000	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2022

(Dollars)

State and department or agency	R&D performers ^a			R&D plant ^b
	All	Intramural	Extramural	
Corrections, Department of	416,034	416,034	0	0
Environmental Protection, Department of	6,493,270	2,122,182	4,371,088	0
Health, Department of	45,343,885	0	45,343,885	0
Pinelands Commission	412,081	351,618	60,463	0
Secretary of Higher Education, Office of	4,500,000	0	4,500,000	0
State Parole Board, New Jersey	45,969	45,969	0	0
Transit, New Jersey	251,362	0	251,362	0
Transportation, Department of	6,988,144	0	6,988,144	0
New Mexico	3,456,227	1,110,427	2,345,800	0
Cultural Affairs, Department of	105,527	105,527	0	0
Game and Fish, Department of	1,765,554	545,000	1,220,554	0
Transportation, Department of	1,400,300	459,900	940,400	0
Western State Air Resources Council	184,846	0	184,846	0
New York	506,283,025	274,950,816	231,332,209	70,000
Agriculture and Markets, Department of	7,728,860	2,365,000	5,363,860	0
Economic Development, Department of	103,874,022	0	103,874,022	0
Energy Research and Development Authority	56,620,719	6,494,503	50,126,216	0
Environmental Conservation, Department of	8,217,418	4,399,864	3,817,554	0
Health, Department of	58,241,006	29,578,789	28,662,217	0
Mental Health, Office of	170,676,444	145,294,992	25,381,452	70,000
People with Developmental Disabilities, Office of	1,682,143	1,682,143	0	0
Power Authority	9,714,648	1,759,883	7,954,765	0
Roswell Park Comprehensive Cancer Center	71,562,773	71,562,773	0	0
State Museum	10,982,258	10,584,848	397,410	0
Thoroughbred Breeding and Development Fund Corp.	405,292	0	405,292	0
Transportation, Department of	6,577,442	1,228,021	5,349,421	0
North Carolina	38,818,576	17,505,611	21,312,965	1,000,000
Agriculture and Consumer Services, Department of	15,422,911	13,922,911	1,500,000	1,000,000
Biotechnology Center	2,841,679	0	2,841,679	0
Environmental Quality, Department of	3,275,157	1,223,587	2,051,570	0
Natural and Cultural Resources, Department of	2,425,310	1,809,113	616,197	0
Science Technology & Innovation, Office of	4,660,090	0	4,660,090	0
Transportation, Department of	10,050,000	550,000	9,500,000	0
Wine and Grape Growers Council	143,429	0	143,429	0
North Dakota	17,874,336	131,121	17,743,215	0
Agriculture, Department of	3,313,396	0	3,313,396	0
Dry Pea and Lentil Commission	282,308	0	282,308	0
Game and Fish, Department of	595,698	0	595,698	0
Historical Society of North Dakota	93,115	93,115	0	0
Industrial Commission	9,398,767	0	9,398,767	0
Midwest Dairy Association, North Dakota Division	5,193	0	5,193	0
Soybean Council	1,622,297	0	1,622,297	0
Transportation, Department of	1,298,374	38,006	1,260,368	0
Wheat Commission	1,265,188	0	1,265,188	0
Ohio	70,471,571	1,106,388	69,365,183	0
Development, Department of	57,980,338	0	57,980,338	0
Education, Department of	180,000	20,000	160,000	0
Environmental Protection Agency	379,412	379,412	0	0
Natural Resources, Department of	3,723,242	706,976	3,016,266	0
Transportation, Department of	6,349,868	0	6,349,868	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2022

(Dollars)

State and department or agency	R&D performers ^a			R&D plant ^b
	All	Intramural	Extramural	
Water Development Authority	1,858,711	0	1,858,711	0
Oklahoma	27,646,238	1,946,574	25,699,664	0
Advancement of Science and Technology, Center for the	8,629,841	0	8,629,841	0
Agriculture, Food, and Forestry, Department of	443,596	0	443,596	0
Environmental Quality, Department of	345,916	296,338	49,578	0
Grand River Dam Authority	525,000	315,000	210,000	0
Health, Department of	1,053,610	412,095	641,515	0
Human Services, Department of	459,801	459,801	0	0
Midwest Dairy Association, Oklahoma Division	5,193	0	5,193	0
Tobacco Settlement Endowment Trust	10,903,905	0	10,903,905	0
Transportation, Department of	3,568,372	460,033	3,108,339	0
Wildlife Conservation, Department of	1,711,004	3,307	1,707,697	0
Oregon	33,801,166	16,703,743	17,097,423	0
Agriculture, Department of	248,348	0	248,348	0
Business Oregon	11,252,148	0	11,252,148	0
Environmental Quality, Department of	145,000	145,000	0	0
Fish and Wildlife, Department of	14,109,145	11,930,138	2,179,007	0
Forestry, Department of	700,000	350,000	350,000	0
Geology and Mineral Industries, Department of	942,340	942,340	0	0
Human Services, Department of	778,318	778,318	0	0
Transportation, Department of	4,292,580	1,706,746	2,585,834	0
Water Resources Department	1,067,424	843,686	223,738	0
Watershed Enhancement Board	265,863	7,515	258,348	0
Pennsylvania	88,557,830	13,041,479	75,516,351	0
Agriculture, Department of	3,206,582	0	3,206,582	0
Community and Economic Development, Department of	22,100,000	0	22,100,000	0
Conservation and Natural Resources, Department of	505,181	158,742	346,439	0
Environmental Protection, Department of	196,401	46,493	149,908	0
Fish and Boat Commission	348,312	272,099	76,213	0
Game Commission	12,697,359	12,444,145	253,214	0
Health, Department of	46,483,760	0	46,483,760	0
Susquehanna River Basin Commission	130,000	120,000	10,000	0
Transportation, Department of	2,890,235	0	2,890,235	0
Rhode Island	8,361,413	5,438,324	2,923,089	0
Commerce Corporation	986,076	0	986,076	0
Fish and Wildlife; Environmental Management, Department of	4,044,625	3,183,962	860,663	0
Marine Fisheries; Environmental Management, Department of	2,169,953	1,905,103	264,850	0
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	181,937	181,937	0	0
Transportation, Department of	900,000	150,000	750,000	0
Water Resources Board	78,822	17,322	61,500	0
South Carolina	50,056,315	29,595,672	20,460,643	2,000,000
Agriculture, Department of	1,180,047	0	1,180,047	0
Disabilities and Special Needs, Department of	11,798,260	0	11,798,260	2,000,000
Health and Environmental Control, Department of	1,146,936	1,146,936	0	0
Mental Health, Department of	39,467	39,467	0	0
Natural Resources, Department of	26,580,926	26,296,034	284,892	0
Public Service Authority	512,345	0	512,345	0
Research Authority	3,197,270	0	3,197,270	0
Sea Grant Consortium	3,144,115	2,096,811	1,047,304	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2022

(Dollars)

State and department or agency	R&D performers ^a			R&D plant ^b
	All	Intramural	Extramural	
Transportation, Department of	2,456,949	16,424	2,440,525	0
South Dakota	4,595,753	237,313	4,358,440	500,000
Corn Utilization Council	50,000	0	50,000	0
Midwest Dairy Association, South Dakota Division	67,509	0	67,509	0
Nutrient Research and Education Council	972,936	0	972,936	0
Oilseeds Council	352,798	0	352,798	0
Pulse Crop Council	31,390	0	31,390	0
Soybean Research and Promotion Council	449,642	14,068	435,574	500,000
Transportation, Department of	2,109,493	223,245	1,886,248	0
Weed and Pest Control Commission	47,000	0	47,000	0
Wheat Commission	514,985	0	514,985	0
Tennessee	38,959,330	314,273	38,645,057	0
Education, Department of	26,245,253	0	26,245,253	0
Environment and Conservation, Department of	314,273	314,273	0	0
LaunchTN	7,000,000	0	7,000,000	0
Transportation, Department of	5,399,804	0	5,399,804	0
Texas	247,609,284	2,368,161	245,241,123	0
Agriculture, Department of	1,353,356	0	1,353,356	0
Alzheimer's Research and Care Consortium (TARCC)	4,384,547	0	4,384,547	0
Cancer Prevention and Research Institute	208,262,268	0	208,262,268	0
Environmental Quality, Commission on	1,490,243	0	1,490,243	0
Parks and Wildlife Department	4,445,763	1,811,293	2,634,470	0
State Health Services, Department of	1,965,537	556,868	1,408,669	0
Transportation, Department of	24,982,335	0	24,982,335	0
Water Development Board	725,235	0	725,235	0
Utah	8,837,531	6,375,939	2,461,592	0
Agriculture And Food, Department Of	305,965	0	305,965	0
Environmental Quality, Department of	618,560	131,217	487,343	0
Natural Resources, Department of	5,228,943	5,228,943	0	0
Transportation, Department of	2,684,063	1,015,779	1,668,284	0
Vermont	1,460,157	1,170,646	289,511	0
Agriculture, Food, and Markets, Agency of	63,773	0	63,773	0
Human Services, Agency of	553,199	553,199	0	0
Transportation, Agency of	843,185	617,447	225,738	0
Virginia	40,253,504	15,546,707	24,706,797	50,400
Agriculture and Consumer Services, Department of	2,949,439	0	2,949,439	0
Behavioral Health And Developmental Services, Department of	1,240	1,240	0	0
Commonwealth Health Research Board	1,249,650	0	1,249,650	0
Education, Department of	1,115,000	865,000	250,000	0
Energy, Department of	1,629,726	1,600,703	29,023	0
Environmental Quality, Department of	347,705	189,776	157,929	0
Forensic Science, Department of	1,016,000	1,016,000	0	50,400
Forestry, Department of	610,930	610,930	0	0
Foundation for Healthy Youth	808,437	0	808,437	0
Innovation Partnership Corporation	10,980,762	1,695,306	9,285,456	0
Institute for Advanced Learning and Research	73,000	73,000	0	0
Marine Resources Commission	1,990,284	330,022	1,660,262	0
Natural History, Museum of	856,356	856,356	0	0
Rail And Public Transportation	260,000	0	260,000	0
Social Services, Department of	1,000,000	1,000,000	0	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2022

(Dollars)

State and department or agency	R&D performers ^a			R&D plant ^b
	All	Intramural	Extramural	
Transportation, Department of	13,652,178	7,308,374	6,343,804	0
Wildlife Resources, Department of	1,712,797	0	1,712,797	0
Washington	60,886,219	24,507,566	36,378,653	8,532,580
Agriculture, Department of	3,415,009	0	3,415,009	0
Alfalfa Seed Commission	20,000	0	20,000	0
Asparagus Commission	40,000	0	40,000	0
Blueberry Commission	217,000	0	217,000	0
Commerce, Department of	14,792,431	0	14,792,431	8,495,766
Cranberry Commission	15,880	0	15,880	0
Dairy Products Commission	80,000	0	80,000	0
Ecology, Department of	1,353,380	1,312,992	40,388	0
Fish and Wildlife, Department of	11,727,293	11,593,810	133,483	0
Fruit Commission	97,789	0	97,789	0
Grain Commission	2,046,962	0	2,046,962	0
Health, Department of	1,265,000	1,202,000	63,000	0
Hop Commission	134,868	0	134,868	36,814
Labor and Industries, Department of	3,221,766	3,221,766	0	0
Mint Commission	32,739	0	32,739	0
Natural Resources, Department of	7,767,429	5,269,465	2,497,964	0
Oilseeds Commission	120,538	0	120,538	0
Pesticide Registration, Commission on	405,000	0	405,000	0
Potato Commission	895,660	0	895,660	0
Puget Sound Partnership	2,512,800	12,800	2,500,000	0
Pulse Crops Commission	124,303	0	124,303	0
Red Raspberry Commission	180,470	0	180,470	0
Transportation, Department of	4,527,700	1,559,500	2,968,200	0
Tree Fruit Research Commission	5,231,737	335,233	4,896,504	0
Turfgrass Seed Commission	157,209	0	157,209	0
Wine Commission	503,256	0	503,256	0
West Virginia	9,180,282	3,803,985	5,376,297	0
Agriculture, Department of	244,126	244,126	0	0
Geological and Economic Survey	2,053,431	1,772,083	281,348	0
Higher Education Policy Commission	2,748,699	171,450	2,577,249	0
Natural Resources, Department of	1,874,026	1,616,326	257,700	0
Transportation, Department of	2,260,000	0	2,260,000	0
Wisconsin	19,060,693	5,209,332	13,851,361	0
Agriculture, Trade and Consumer Protection, Department of	2,539,311	0	2,539,311	0
Economic Development Corporation	5,256,575	0	5,256,575	0
Natural Resources, Department of	7,047,780	4,804,163	2,243,617	0
Transportation, Department of	4,217,027	405,169	3,811,858	0
Wyoming	5,657,338	2,228,619	3,428,719	0
Agriculture, Department of	640,504	0	640,504	0
Business Council	1,011,555	0	1,011,555	0
Enhanced Oil Recovery Institute	1,032,669	423,984	608,685	0
Game and Fish Department	1,658,878	1,472,216	186,662	0
State Geological Survey	235,372	235,372	0	0
Transportation, Department of	768,083	97,047	671,036	0
Water Development Office	310,277	0	310,277	0
Puerto Rico ^d	17,058,786	11,176,340	5,882,446	0
Comprehensive Cancer Center	8,273,926	8,273,926	0	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2022

(Dollars)

State and department or agency	R&D performers ^a			R&D plant ^b
	All	Intramural	Extramural	
Economic Development & Commerce	760,000	0	760,000	0
Innovation & Technology Services	3,555,203	850,000	2,705,203	0
Institute of Statistics	1,462,042	1,462,042	0	0
Mental Health and Anti-Addiction Services Administration	225,000	0	225,000	0
Science, Technology and Research Trust	2,782,615	590,372	2,192,243	0

^a Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project. Extramural performers are those outside the department or agency who perform R&D.

^b State R&D plant expenditures include acquisition of land, facilities, major equipment, and major building renovations intended primarily for R&D use.

^c U.S. total reflects all 50 states and the District of Columbia.

^d Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
United States ^b	2,643,991,142	691,149,390	1,952,841,752
Alabama	88,219,991	10,458,091	77,761,900
Commerce, Department of	63,419,633	0	63,419,633
Conservation and Natural Resources, Department of; Wildlife and Freshwater Fisheries Division	1,219,039	877,523	341,516
Economic and Community Affairs, Department of	1,693,012	0	1,693,012
Education, Department of	6,214,729	1,447,475	4,767,254
Forensic Sciences, Department of	208,094	0	208,094
Geological Survey	3,563,032	1,673,936	1,889,096
Marine Environmental Science Consortium, Dauphin Island Sea Lab	3,684,864	3,155,227	529,637
Supercomputer Authority	4,553,801	0	4,553,801
Transportation, Department of	3,663,787	3,303,930	359,857
Alaska	17,157,228	8,260,099	8,897,129
Energy Authority	231,152	11,754	219,398
Environmental Conservation, Department of	534,187	358,991	175,196
Housing Finance Corporation	500,000	0	500,000
Natural Resources, Department of; Division of Geological and Geophysical Surveys	9,216,400	1,741,400	7,475,000
Railroad Corporation	3,636,619	3,503,272	133,347
Transportation and Public Facilities, Department of	3,038,870	2,644,682	394,188
Arizona	7,946,421	3,330,756	4,615,665
Agriculture, Department of	1,412,034	1,237,833	174,201
Game and Fish Department	1,039,447	960,977	78,470
Health Services, Department of	3,518,749	0	3,518,749
Juvenile Corrections, Department of	561,258	0	561,258
Transportation, Department of	1,414,933	1,131,946	282,987
Arkansas	9,759,708	1,840,818	7,918,890
Beef Council	50,605	0	50,605
Corn and Grain Sorghum Promotion Board	984,233	0	984,233
Economic Development Commission	1,675,000	0	1,675,000
Game and Fish Commission	1,159,178	958,691	200,487
Midwest Dairy Association, Arkansas Division	10,386	0	10,386
Natural Heritage Commission	160,921	18,735	142,186
Rice Research and Promotion Board	2,396,257	0	2,396,257
Soybean Promotion Board	2,207,956	0	2,207,956
Transportation, Department of	1,079,240	863,392	215,848
Wheat Promotion Board	35,932	0	35,932
California	490,081,806	20,301,828	469,779,978
Air Resources Board	17,251,207	74,677	17,176,530
Children and Families Commission (First 5 California)	7,739,521	0	7,739,521
Conservation, Department of	1,259,204	402,213	856,991
Corrections and Rehabilitation, Department of	2,301,034	0	2,301,034
Covered California	3,799,165	0	3,799,165
Dairy Council	50,373	0	50,373
Delta Stewardship Council	5,201,966	955,128	4,246,838
Earthquake Authority	539,832	0	539,832
Energy Commission	130,400,000	0	130,400,000
Environmental Health Hazard Assessment, Office of	19,844,985	0	19,844,985
Food and Agriculture, Department of	5,012,081	54,256	4,957,825

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Forestry and Fire Protection, Department of	21,200,000	0	21,200,000
Horse Racing Board	710,513	0	710,513
Housing and Community Development, Department of	500,000	0	500,000
Institute for Regenerative Medicine	122,808,196	0	122,808,196
Mental Health Services Oversight and Accountability Commission	2,500,000	0	2,500,000
Motor Vehicles, Department of	1,776,392	0	1,776,392
Parks And Recreation, Department of	1,515,260	0	1,515,260
Pesticide Regulation, Department of	14,058,135	109,485	13,948,650
Public Health, Department of	6,155,476	46,500	6,108,976
Public Utilities Commission, Executive Division	61,374,566	0	61,374,566
Rehabilitation, Department of	1,619,410	1,619,410	0
State Coastal Conservancy	942,260	173,892	768,368
State Water Resources Control Board	8,564,983	806,267	7,758,716
Toxic Substances Control, Department of	645,987	0	645,987
Transportation, Department of	39,260,000	16,060,000	23,200,000
Water Resources, Department of	13,051,260	0	13,051,260
Colorado	38,058,349	5,096,962	32,961,387
Agriculture, Department of	581,906	576,906	5,000
Economic Development and International Trade, Office of	20,576,916	0	20,576,916
Higher Education Competitive, Research Authority	1,443,141	0	1,443,141
Higher Education, Department of	2,425,000	0	2,425,000
Natural Resources, Department of	5,062,623	998,132	4,064,491
Public Health and Environment, Department of	3,363,873	6,494	3,357,379
Public Safety, Department of; Division of Criminal Justice	985,007	124,589	860,418
Transportation, Department of	3,390,841	3,390,841	0
Wine Industry Development Board	229,042	0	229,042
Connecticut	60,578,799	14,622,416	45,956,383
Agricultural Experiment Station	13,756,272	5,475,135	8,281,137
Energy and Environmental Protection, Department of	7,320,822	5,622,094	1,698,728
Innovation Inc.	28,919,435	0	28,919,435
Mental Health and Addiction Services, Department of	7,217,443	910,960	6,306,483
Public Health, Department of	1,780	1,780	0
Social Services, Department of	391,305	0	391,305
Transportation, Department of	2,971,742	2,612,447	359,295
Delaware	3,446,375	1,533,976	1,912,399
Geological Survey	1,618,967	456,801	1,162,166
Natural Resources and Environmental Control, Department of	646,147	169,828	476,319
Sustainable Energy Utility	10,495	0	10,495
Transportation, Department of	1,170,766	907,347	263,419
District of Columbia	10,560,754	8,368,175	2,192,579
Energy and Environment, Department of	476,600	30,000	446,600
Health, Department of	8,244,141	8,066,164	177,977
Transportation, Department of	340,013	272,011	68,002
Water and Sewer Authority	1,500,000	0	1,500,000
Florida	180,145,644	27,469,288	152,676,356
Agriculture and Consumer Services, Department of	18,305,424	5,135,974	13,169,450
Citrus, Department of	850,364	0	850,364
Environmental Protection, Department of	68,838	62,212	6,626
Fish and Wildlife Conservation Commission	55,428,229	15,951,168	39,477,061

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Gaming Control Commission	100,000	0	100,000
Health, Department of	91,360,963	0	91,360,963
Space Florida	1,305,000	0	1,305,000
Transportation, Department of	12,726,826	6,319,934	6,406,892
Georgia	24,988,379	16,555,047	8,433,332
Natural Resources, Department of	1,452,630	1,205,671	246,959
Southern States Energy Board	19,326,825	11,629,167	7,697,658
Transportation, Department of	4,208,924	3,720,209	488,715
Hawaii	6,337,851	3,397,342	2,940,509
Agriculture, Department of	1,098,423	960,221	138,202
Business, Economic Development, and Tourism, Department of	2,022,042	2,042	2,020,000
Land and Natural Resources, Department of	424,000	424,000	0
Natural Energy Laboratory of Hawaii Authority	0	0	0
Transportation, Department of	2,793,386	2,011,079	782,307
Idaho	20,444,262	11,009,398	9,434,864
Agriculture, Department of	1,623,399	1,623,399	0
Barley Commission	367,497	0	367,497
Bean Commission	33,833	0	33,833
Beef Council	211,642	0	211,642
Commerce, Department of	1,289,693	0	1,289,693
Dairy West	2,999,460	0	2,999,460
Fish and Game, Department of	9,041,798	7,234,227	1,807,571
Oilseed Commission	72,645	0	72,645
Pea and Lentil Commission	177,697	0	177,697
Potato Commission	878,871	0	878,871
Transportation Department	2,467,766	2,151,772	315,994
Wheat Commission	1,279,961	0	1,279,961
Illinois	16,463,839	7,466,369	8,997,470
Children and Family Services, Department of	2,347,655	0	2,347,655
Midwest Dairy Association, Illinois Division	20,772	0	20,772
Nutrient Research and Education Council	3,912,499	0	3,912,499
Public Health, Department of	400,000	0	400,000
Transportation, Department of	9,782,913	7,466,369	2,316,544
Indiana	12,104,856	7,098,396	5,006,460
Economic Development Corporation	3,399,111	0	3,399,111
Natural Resources, Department of	852,281	715,281	137,000
Transportation, Department of	7,853,464	6,383,115	1,470,349
Iowa	10,636,720	5,359,474	5,277,246
Beef Industry Council	60,218	0	60,218
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	626,038	247,423	378,615
Midwest Dairy Association, Iowa Division	119,439	0	119,439
Natural Resources, Department of	3,688,099	2,195,710	1,492,389
Transportation, Department of	6,142,926	2,916,341	3,226,585
Kansas	17,633,236	9,188,967	8,444,269
Corn Commission	311,744	0	311,744
Grain Sorghum Commission	700,000	0	700,000
Midwest Dairy Association, Kansas Division	15,579	0	15,579
Soybean Commission	1,248,862	0	1,248,862

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
State Board of Regents	997,727	0	997,727
Sunflower Commission	20,000	0	20,000
Transportation, Department of	3,765,115	2,007,023	1,758,092
Water Office	1,207,240	156,476	1,050,764
Wheat Commission	2,245,000	0	2,245,000
Wildlife and Parks, Department of	7,121,969	7,025,468	96,501
Kentucky	34,881,537	10,566,579	24,314,958
Economic Development, Cabinet for	3,447,809	0	3,447,809
Fish and Wildlife Resources, Department of	6,989,041	4,837,624	2,151,417
Horse Racing Commission	70,000	0	70,000
Nature Preserves, Office of Kentucky	42,320	6,330	35,990
Postsecondary Education, Council on	11,572,700	0	11,572,700
Public Health, Department for	3,767,275	0	3,767,275
Soybean Promotion Board	210,727	0	210,727
Transportation Cabinet	8,781,665	5,722,625	3,059,040
Louisiana	31,843,839	17,690,354	14,153,485
Board of Regents	12,613,939	4,874,950	7,738,989
Coastal Protection and Restoration Authority	3,681,012	687,877	2,993,135
Transportation and Development, Department of	10,000,000	8,000,000	2,000,000
Wildlife and Fisheries, Department of	5,548,888	4,127,527	1,421,361
Maine	24,812,470	13,633,417	11,179,053
Agriculture, Conservation and Forestry, Department of	1,889,382	896,721	992,661
Aquaculture Innovation Center	555,101	150,000	405,101
Inland Fisheries and Wildlife, Department of	1,080,841	847,899	232,942
Marine Resources, Department of	2,712,300	2,165,250	547,050
MDI Biological Laboratory, Center for Biomedical Innovation	9,143,683	8,373,547	770,136
Technology Institute	7,931,163	0	7,931,163
Transportation, Department of	1,500,000	1,200,000	300,000
Maryland	31,280,581	1,732,396	29,548,185
Energy Administration	2,000,000	0	2,000,000
Health, Department of	15,000,000	0	15,000,000
Natural Resources, Department of	410,466	257,993	152,473
Technology Development Corporation	11,227,112	0	11,227,112
Transportation, Department of	2,643,003	1,474,403	1,168,600
Massachusetts	26,616,423	7,056,757	19,559,666
Clean Energy Technology Center	6,848,706	0	6,848,706
Environmental Protection, Department of	1,771,575	22,369	1,749,206
Fish and Game, Department of	1,064,180	769,643	294,537
Gaming Commission	2,831,240	0	2,831,240
MassVentures	3,400,000	0	3,400,000
Mental Health, Department of	2,306,184	115,801	2,190,383
Public Health, Department of	1,888,570	1,503,276	385,294
Technology Park Corporation	1,805,968	1,145,668	660,300
Transportation, Department of	4,050,000	3,500,000	550,000
Water Resources Authority	650,000	0	650,000
Michigan	30,525,914	6,869,738	23,656,176
Agriculture and Rural Development, Department of	3,198,958	523,887	2,675,071
Environmental, Great Lakes, and Energy, Department of	438,854	228,439	210,415
Health and Human Services	662,258	602,087	60,171

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Licensing and Regulatory Affairs	20,000,000	0	20,000,000
Transportation, Department of	6,225,844	5,515,325	710,519
Minnesota	25,093,959	8,566,979	16,526,980
Agriculture, Department of	5,160,630	810,876	4,349,754
Forest Resources Council	75,000	0	75,000
Midwest Dairy Association, Minnesota Division	228,492	0	228,492
Natural Resources, Department of	2,220,492	1,384,576	835,916
Pollution Control Agency	233,164	0	233,164
Transportation, Department of	17,176,181	6,371,527	10,804,654
Mississippi	9,788,541	7,914,852	1,873,689
Agriculture and Commerce, Department of	114,017	114,017	0
Environmental Quality, Department of	833,599	833,599	0
Gulf States Marine Fisheries Commission	927,742	927,742	0
Marine Resources, Department of	2,131,369	1,146,778	984,591
Transportation, Department of	3,300,333	3,021,441	278,892
Wildlife, Fisheries, and Parks, Department of	2,481,481	1,871,275	610,206
Missouri	12,430,684	4,836,862	7,593,822
Agriculture, Department of	1,197,350	450,447	746,903
Conservation, Department of	7,039,079	1,726,748	5,312,331
Mental Health, Department of	242,500	0	242,500
Natural Resources, Department of	174,359	22,586	151,773
Technology Corporation	500,000	500,000	0
Transportation, Department of	2,646,956	2,137,081	509,875
Wine and Grape Board	630,440	0	630,440
Montana	9,752,216	5,647,319	4,104,897
Agriculture, Department of	3,359,243	1,412,609	1,946,634
Environmental Quality, Department of	55,000	10,000	45,000
Fish, Wildlife and Parks, Department of	3,824,321	3,095,894	728,427
Natural Resources and Conservation, Department of	42,740	42,740	0
Transportation, Department of	2,470,912	1,086,076	1,384,836
Nebraska	32,687,157	3,981,578	28,705,579
Agriculture, Department of	880,683	662,551	218,132
Corn Board	798,965	0	798,965
Dry Bean Commission	305,376	0	305,376
Economic Development, Department of	6,618,124	0	6,618,124
Game and Parks Commission	3,935,042	2,418,852	1,516,190
Grain Sorghum Board	5,000	0	5,000
Health and Human Services, Department of	18,833,700	0	18,833,700
Midwest Dairy Association, Nebraska Division	31,158	0	31,158
Natural Resources, Department of	50,000	0	50,000
Pea And Lentil Commission	1,390	0	1,390
Transportation, Department of	1,217,719	900,175	317,544
Wheat Board	10,000	0	10,000
Nevada	3,643,395	2,068,342	1,575,053
Agriculture, Department of	208,642	148,642	60,000
Economic Development, Governor's office of	1,327,253	0	1,327,253
Transportation, Department of	2,107,500	1,919,700	187,800
New Hampshire	9,222,505	756,259	8,466,246
Agriculture, Markets and Food, Department of	43,897	21,072	22,825

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Business and Economic Affairs, Department of	7,000,000	0	7,000,000
Environmental Services, Department of	1,259,624	0	1,259,624
Transportation, Department of	918,984	735,187	183,797
New Jersey	65,020,915	6,943,253	58,077,662
Agriculture, Department of	180,151	180,151	0
Children and Families, Department of	368,019	29,247	338,772
Community Affairs, Department of	22,000	0	22,000
Corrections, Department of	416,034	0	416,034
Environmental Protection, Department of	6,493,270	478,113	6,015,157
Health, Department of	45,343,885	0	45,343,885
Pinelands Commission	412,081	412,081	0
Secretary of Higher Education, Office of	4,500,000	0	4,500,000
State Parole Board, New Jersey	45,969	45,969	0
Transit, New Jersey	251,362	0	251,362
Transportation, Department of	6,988,144	5,797,692	1,190,452
New Mexico	3,456,227	2,479,360	976,867
Cultural Affairs, Department of	105,527	0	105,527
Game and Fish, Department of	1,765,554	1,350,750	414,804
Transportation, Department of	1,400,300	1,120,240	280,060
Western State Air Resources Council	184,846	8,370	176,476
New York	506,283,025	246,154,735	260,128,290
Agriculture and Markets, Department of	7,728,860	2,935,000	4,793,860
Economic Development, Department of	103,874,022	62,729,999	41,144,023
Energy Research and Development Authority	56,620,719	0	56,620,719
Environmental Conservation, Department of	8,217,418	1,388,549	6,828,869
Health, Department of	58,241,006	20,543,519	37,697,487
Mental Health, Office of	170,676,444	97,095,551	73,580,893
People with Developmental Disabilities, Office of	1,682,143	1,471,237	210,906
Power Authority	9,714,648	300,000	9,414,648
Roswell Park Comprehensive Cancer Center	71,562,773	54,056,730	17,506,043
State Museum	10,982,258	372,196	10,610,062
Thoroughbred Breeding and Development Fund Corp.	405,292	0	405,292
Transportation, Department of	6,577,442	5,261,954	1,315,488
North Carolina	38,818,576	9,627,170	29,191,406
Agriculture and Consumer Services, Department of	15,422,911	0	15,422,911
Biotechnology Center	2,841,679	0	2,841,679
Environmental Quality, Department of	3,275,157	1,288,170	1,986,987
Natural and Cultural Resources, Department of	2,425,310	0	2,425,310
Science Technology & Innovation, Office of	4,660,090	0	4,660,090
Transportation, Department of	10,050,000	8,339,000	1,711,000
Wine and Grape Growers Council	143,429	0	143,429
North Dakota	17,874,336	1,904,626	15,969,710
Agriculture, Department of	3,313,396	0	3,313,396
Dry Pea and Lentil Commission	282,308	0	282,308
Game and Fish, Department of	595,698	547,270	48,428
Historical Society of North Dakota	93,115	93,115	0
Industrial Commission	9,398,767	0	9,398,767
Midwest Dairy Association, North Dakota Division	5,193	0	5,193
Soybean Council	1,622,297	0	1,622,297

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Transportation, Department of	1,298,374	1,264,241	34,133
Wheat Commission	1,265,188	0	1,265,188
Ohio	70,471,571	8,153,111	62,318,460
Development, Department of	57,980,338	0	57,980,338
Education, Department of	180,000	160,000	20,000
Environmental Protection Agency	379,412	361,107	18,305
Natural Resources, Department of	3,723,242	2,503,983	1,219,259
Transportation, Department of	6,349,868	5,128,021	1,221,847
Water Development Authority	1,858,711	0	1,858,711
Oklahoma	27,646,238	7,056,971	20,589,267
Advancement of Science and Technology, Center for the	8,629,841	0	8,629,841
Agriculture, Food, and Forestry, Department of	443,596	443,596	0
Environmental Quality, Department of	345,916	239,362	106,554
Grand River Dam Authority	525,000	0	525,000
Health, Department of	1,053,610	1,053,610	0
Human Services, Department of	459,801	390,858	68,943
Midwest Dairy Association, Oklahoma Division	5,193	0	5,193
Tobacco Settlement Endowment Trust	10,903,905	0	10,903,905
Transportation, Department of	3,568,372	3,281,609	286,763
Wildlife Conservation, Department of	1,711,004	1,647,936	63,068
Oregon	33,801,166	13,854,858	19,946,308
Agriculture, Department of	248,348	0	248,348
Business Oregon	11,252,148	0	11,252,148
Environmental Quality, Department of	145,000	0	145,000
Fish and Wildlife, Department of	14,109,145	9,774,300	4,334,845
Forestry, Department of	700,000	0	700,000
Geology and Mineral Industries, Department of	942,340	888,824	53,516
Human Services, Department of	778,318	315,911	462,407
Transportation, Department of	4,292,580	2,873,418	1,419,162
Water Resources Department	1,067,424	0	1,067,424
Watershed Enhancement Board	265,863	2,405	263,458
Pennsylvania	88,557,830	10,203,586	78,354,244
Agriculture, Department of	3,206,582	975,731	2,230,851
Community and Economic Development, Department of	22,100,000	0	22,100,000
Conservation and Natural Resources, Department of	505,181	0	505,181
Environmental Protection, Department of	196,401	0	196,401
Fish and Boat Commission	348,312	184,998	163,314
Game Commission	12,697,359	6,072,622	6,624,737
Health, Department of	46,483,760	0	46,483,760
Susquehanna River Basin Commission	130,000	80,000	50,000
Transportation, Department of	2,890,235	2,890,235	0
Rhode Island	8,361,413	5,740,186	2,621,227
Commerce Corporation	986,076	0	986,076
Fish and Wildlife; Environmental Management, Department of	4,044,625	3,248,635	795,990
Marine Fisheries; Environmental Management, Department of	2,169,953	1,663,937	506,016
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	181,937	152,614	29,323
Transportation, Department of	900,000	675,000	225,000
Water Resources Board	78,822	0	78,822

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
South Carolina	50,056,315	29,762,759	20,293,556
Agriculture, Department of	1,180,047	234,809	945,238
Disabilities and Special Needs, Department of	11,798,260	4,863,960	6,934,300
Health and Environmental Control, Department of	1,146,936	1,075,144	71,792
Mental Health, Department of	39,467	37,855	1,612
Natural Resources, Department of	26,580,926	18,374,254	8,206,672
Public Service Authority	512,345	0	512,345
Research Authority	3,197,270	836,251	2,361,019
Sea Grant Consortium	3,144,115	2,388,066	756,049
Transportation, Department of	2,456,949	1,952,420	504,529
South Dakota	4,595,753	1,338,277	3,257,476
Corn Utilization Council	50,000	0	50,000
Midwest Dairy Association, South Dakota Division	67,509	0	67,509
Nutrient Research and Education Council	972,936	0	972,936
Oilseeds Council	352,798	0	352,798
Pulse Crop Council	31,390	0	31,390
Soybean Research and Promotion Council	449,642	0	449,642
Transportation, Department of	2,109,493	1,338,277	771,216
Weed and Pest Control Commission	47,000	0	47,000
Wheat Commission	514,985	0	514,985
Tennessee	38,959,330	16,915,160	22,044,170
Education, Department of	26,245,253	12,443,404	13,801,849
Environment and Conservation, Department of	314,273	151,913	162,360
LaunchTN	7,000,000	0	7,000,000
Transportation, Department of	5,399,804	4,319,843	1,079,961
Texas	247,609,284	27,162,975	220,446,309
Agriculture, Department of	1,353,356	810,017	543,339
Alzheimer's Research and Care Consortium (TARCC)	4,384,547	0	4,384,547
Cancer Prevention and Research Institute	208,262,268	0	208,262,268
Environmental Quality, Commission on	1,490,243	609,126	881,117
Parks and Wildlife Department	4,445,763	3,251,253	1,194,510
State Health Services, Department of	1,965,537	1,718,344	247,193
Transportation, Department of	24,982,335	20,774,235	4,208,100
Water Development Board	725,235	0	725,235
Utah	8,837,531	1,669,847	7,167,684
Agriculture And Food, Department Of	305,965	305,965	0
Environmental Quality, Department of	618,560	131,217	487,343
Natural Resources, Department of	5,228,943	0	5,228,943
Transportation, Department of	2,684,063	1,232,665	1,451,398
Vermont	1,460,157	1,295,178	164,979
Agriculture, Food, and Markets, Agency of	63,773	0	63,773
Human Services, Agency of	553,199	553,199	0
Transportation, Agency of	843,185	741,979	101,206
Virginia	40,253,504	16,230,355	24,023,149
Agriculture and Consumer Services, Department of	2,949,439	374,319	2,575,120
Behavioral Health And Developmental Services, Department of	1,240	0	1,240
Commonwealth Health Research Board	1,249,650	0	1,249,650
Education, Department of	1,115,000	750,000	365,000
Energy, Department of	1,629,726	717,742	911,984

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Environmental Quality, Department of	347,705	298,739	48,966
Forensic Science, Department of	1,016,000	327,000	689,000
Forestry, Department of	610,930	458,198	152,732
Foundation for Healthy Youth	808,437	0	808,437
Innovation Partnership Corporation	10,980,762	3,996,085	6,984,677
Institute for Advanced Learning and Research	73,000	0	73,000
Marine Resources Commission	1,990,284	1,651,875	338,409
Natural History, Museum of	856,356	421	855,935
Rail And Public Transportation	260,000	0	260,000
Social Services, Department of	1,000,000	500,000	500,000
Transportation, Department of	13,652,178	6,298,398	7,353,780
Wildlife Resources, Department of	1,712,797	857,578	855,219
Washington	60,886,219	15,068,376	45,817,843
Agriculture, Department of	3,415,009	2,503,676	911,333
Alfalfa Seed Commission	20,000	0	20,000
Asparagus Commission	40,000	0	40,000
Blueberry Commission	217,000	0	217,000
Commerce, Department of	14,792,431	0	14,792,431
Cranberry Commission	15,880	0	15,880
Dairy Products Commission	80,000	0	80,000
Ecology, Department of	1,353,380	171,355	1,182,025
Fish and Wildlife, Department of	11,727,293	4,833,459	6,893,834
Fruit Commission	97,789	0	97,789
Grain Commission	2,046,962	0	2,046,962
Health, Department of	1,265,000	898,000	367,000
Hop Commission	134,868	0	134,868
Labor and Industries, Department of	3,221,766	625,945	2,595,821
Mint Commission	32,739	0	32,739
Natural Resources, Department of	7,767,429	281,577	7,485,852
Oilseeds Commission	120,538	0	120,538
Pesticide Registration, Commission on	405,000	0	405,000
Potato Commission	895,660	0	895,660
Puget Sound Partnership	2,512,800	1,103,200	1,409,600
Pulse Crops Commission	124,303	0	124,303
Red Raspberry Commission	180,470	0	180,470
Transportation, Department of	4,527,700	3,744,600	783,100
Tree Fruit Research Commission	5,231,737	906,564	4,325,173
Turfgrass Seed Commission	157,209	0	157,209
Wine Commission	503,256	0	503,256
West Virginia	9,180,282	4,275,461	4,904,821
Agriculture, Department of	244,126	244,126	0
Geological and Economic Survey	2,053,431	234,180	1,819,251
Higher Education Policy Commission	2,748,699	681,636	2,067,063
Natural Resources, Department of	1,874,026	1,405,519	468,507
Transportation, Department of	2,260,000	1,710,000	550,000
Wisconsin	19,060,693	9,117,475	9,943,218
Agriculture, Trade and Consumer Protection, Department of	2,539,311	2,091,953	447,358
Economic Development Corporation	5,256,575	0	5,256,575
Natural Resources, Department of	7,047,780	3,155,274	3,892,506

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Transportation, Department of	4,217,027	3,870,248	346,779
Wyoming	5,657,338	3,516,837	2,140,501
Agriculture, Department of	640,504	228,171	412,333
Business Council	1,011,555	711,555	300,000
Enhanced Oil Recovery Institute	1,032,669	644,812	387,857
Game and Fish Department	1,658,878	1,161,165	497,713
State Geological Survey	235,372	158,542	76,830
Transportation, Department of	768,083	612,592	155,491
Water Development Office	310,277	0	310,277
Puerto Rico ^c	17,058,786	6,129,178	10,929,608
Comprehensive Cancer Center	8,273,926	4,811,207	3,462,719
Economic Development & Commerce	760,000	0	760,000
Innovation & Technology Services	3,555,203	253,600	3,301,603
Institute of Statistics	1,462,042	248,999	1,213,043
Mental Health and Anti-Addiction Services Administration	225,000	225,000	0
Science, Technology and Research Trust	2,782,615	590,372	2,192,243

^a State and all others category includes primarily other state governments and city, county, regional, township, or other local governments; it also includes nonprofit organizations and companies.

^b U.S. total reflects all 50 states and the District of Columbia.

^c Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
United States ^a	696,624,562	311,066,576	348,675,628	6,284,071	12,340,267	15,884,092	2,373,928
Alabama	12,081,222	5,924,342	5,991,928	24,878	140,074	0	0
Education, Department of	4,918,832	1,388,779	3,530,053	0	0	0	0
Forensic Sciences, Department of	208,094	0	208,094	0	0	0	0
Geological Survey	3,563,032	1,673,936	1,774,928	24,878	89,290	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	3,391,264	2,861,627	478,853	0	50,784	0	0
Alaska	11,600,345	3,986,600	4,552,345	3,061,400	0	0	0
Environmental Conservation, Department of	59,405	36,974	22,431	0	0	0	0
Natural Resources, Department of; Division of Geological and Geophysical Surveys	9,216,400	1,741,400	4,413,600	3,061,400	0	0	0
Railroad Corporation	1,868,960	1,843,762	25,198	0	0	0	0
Transportation and Public Facilities, Department of	455,580	364,464	91,116	0	0	0	0
Arizona	2,039,798	1,373,027	666,771	0	0	0	0
Game and Fish Department	950,977	950,977	0	0	0	0	0
Juvenile Corrections, Department of	561,258	0	561,258	0	0	0	0
Transportation, Department of	527,563	422,050	105,513	0	0	0	0
Arkansas	220,653	72,026	148,627	0	0	0	0
Natural Heritage Commission	154,039	18,735	135,304	0	0	0	0
Transportation, Department of	66,614	53,291	13,323	0	0	0	0
California	87,712,398	4,297,472	83,243,088	171,838	0	0	0
Air Resources Board	10,750,232	0	10,750,232	0	0	0	0
Children and Families Commission (First 5 California)	482,323	0	482,323	0	0	0	0
Conservation, Department of	838,198	397,213	440,985	0	0	0	0
Earthquake Authority	537,832	0	537,832	0	0	0	0
Energy Commission	19,700,000	0	19,700,000	0	0	0	0
Environmental Health Hazard Assessment, Office of	18,649,950	0	18,649,950	0	0	0	0
Forestry and Fire Protection, Department of	2,500,000	0	2,500,000	0	0	0	0
Housing and Community Development, Department of	500,000	0	500,000	0	0	0	0
Mental Health Services Oversight and Accountability Commission	2,500,000	0	2,500,000	0	0	0	0

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Motor Vehicles, Department of	1,761,138	0	1,589,300	171,838	0	0	0
Pesticide Regulation, Department of	10,955,679	0	10,955,679	0	0	0	0
Public Health, Department of	442,500	46,500	396,000	0	0	0	0
Rehabilitation, Department of	812,759	812,759	0	0	0	0	0
State Water Resources Control Board	740,800	0	740,800	0	0	0	0
Toxic Substances Control, Department of	645,987	0	645,987	0	0	0	0
Transportation, Department of	15,795,000	3,041,000	12,754,000	0	0	0	0
Water Resources, Department of	100,000	0	100,000	0	0	0	0
Colorado	9,393,492	2,130,681	7,132,723	0	70,000	88	60,000
Agriculture, Department of	353,700	353,700	0	0	0	0	0
Natural Resources, Department of	5,031,147	998,132	3,902,927	0	70,000	88	60,000
Public Health and Environment, Department of	2,575,872	6,494	2,569,378	0	0	0	0
Public Safety, Department of; Division of Criminal Justice	742,007	81,589	660,418	0	0	0	0
Transportation, Department of	690,766	690,766	0	0	0	0	0
Connecticut	28,200,758	11,521,538	16,679,220	0	0	0	0
Agricultural Experiment Station	13,756,272	5,475,135	8,281,137	0	0	0	0
Energy and Environmental Protection, Department of	6,524,227	4,927,766	1,596,461	0	0	0	0
Mental Health and Addiction Services, Department of	7,217,443	910,960	6,306,483	0	0	0	0
Social Services, Department of	391,305	0	391,305	0	0	0	0
Transportation, Department of	311,511	207,677	103,834	0	0	0	0
Delaware	1,568,167	456,801	1,111,366	0	0	0	0
Geological Survey	1,568,167	456,801	1,111,366	0	0	0	0
District of Columbia	4,320,240	3,165,443	1,121,627	0	33,170	0	0
Health, Department of	3,194,604	3,064,934	96,500	0	33,170	0	0
Transportation, Department of	125,636	100,509	25,127	0	0	0	0
Water and Sewer Authority	1,000,000	0	1,000,000	0	0	0	0
Florida	51,395,556	14,754,507	32,842,033	8,262	49,905	3,400,905	339,944
Agriculture and Consumer Services, Department of	927,308	813,049	114,259	0	0	0	0
Citrus, Department of	115,111	0	115,111	0	0	0	0

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Fish and Wildlife Conservation Commission	49,103,851	13,941,458	31,363,377	8,262	49,905	3,400,905	339,944
Transportation, Department of	1,249,286	0	1,249,286	0	0	0	0
Georgia	2,884,258	2,831,735	52,523	0	0	0	0
Natural Resources, Department of	127,945	75,422	52,523	0	0	0	0
Southern States Energy Board	2,756,313	2,756,313	0	0	0	0	0
Hawaii	201,790	201,790	0	0	0	0	0
Agriculture, Department of	199,748	199,748	0	0	0	0	0
Business, Economic Development, and Tourism, Department of	2,042	2,042	0	0	0	0	0
Idaho	7,278,248	5,902,655	896,502	377,471	24,002	77,618	0
Fish and Game, Department of	7,151,744	5,801,452	871,201	377,471	24,002	77,618	0
Transportation Department	126,504	101,203	25,301	0	0	0	0
Illinois	554,067	0	554,067	0	0	0	0
Transportation, Department of	554,067	0	554,067	0	0	0	0
Indiana	660,237	508,583	151,654	0	0	0	0
Natural Resources, Department of	586,968	449,968	137,000	0	0	0	0
Transportation, Department of	73,269	58,615	14,654	0	0	0	0
Iowa	2,912,086	1,624,451	1,178,624	0	109,011	0	0
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	626,038	247,423	269,604	0	109,011	0	0
Natural Resources, Department of	2,286,048	1,377,028	909,020	0	0	0	0
Kansas	1,500,273	943,443	530,445	0	0	0	26,385
State Board of Regents	4,462	0	4,462	0	0	0	0
Transportation, Department of	1,061,231	786,967	274,264	0	0	0	0
Water Office	434,580	156,476	251,719	0	0	0	26,385
Kentucky	4,434,431	3,020,549	1,413,882	0	0	0	0
Fish and Wildlife Resources, Department of	4,428,101	3,014,219	1,413,882	0	0	0	0
Nature Preserves, Office of Kentucky	6,330	6,330	0	0	0	0	0
Louisiana	10,033,831	7,470,302	2,563,529	0	0	0	0
Coastal Protection and Restoration Authority	509,392	27,435	481,957	0	0	0	0
Transportation and Development, Department of	5,000,000	4,000,000	1,000,000	0	0	0	0

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Wildlife and Fisheries, Department of	4,524,439	3,442,867	1,081,572	0	0	0	0
Maine	12,208,306	9,340,175	2,060,192	12,860	776,163	18,916	0
Agriculture, Conservation and Forestry, Department of	1,682,997	690,336	992,661	0	0	0	0
Aquaculture Innovation Center	435,877	150,000	256,000	0	29,877	0	0
Inland Fisheries and Wildlife, Department of	763,201	590,794	153,491	0	0	18,916	0
Marine Resources, Department of	2,589,300	2,042,250	547,050	0	0	0	0
MDI Biological Laboratory, Center for Biomedical Innovation	6,236,931	5,466,795	10,990	12,860	746,286	0	0
Transportation, Department of	500,000	400,000	100,000	0	0	0	0
Maryland	864,022	529,240	324,782	0	10,000	0	0
Natural Resources, Department of	272,429	215,965	46,464	0	10,000	0	0
Transportation, Department of	591,593	313,275	278,318	0	0	0	0
Massachusetts	1,636,998	658,878	678,120	300,000	0	0	0
Environmental Protection, Department of	278,302	22,369	255,933	0	0	0	0
Fish and Game, Department of	842,896	636,509	206,387	0	0	0	0
Gaming Commission	215,800	0	215,800	0	0	0	0
Water Resources Authority	300,000	0	0	300,000	0	0	0
Michigan	254,848	91,827	163,021	0	0	0	0
Agriculture and Rural Development, Department of	68,044	68,044	0	0	0	0	0
Environmental, Great Lakes, and Energy, Department of	186,804	23,783	163,021	0	0	0	0
Minnesota	3,038,564	1,281,478	1,757,086	0	0	0	0
Agriculture, Department of	996,789	0	996,789	0	0	0	0
Natural Resources, Department of	2,041,775	1,281,478	760,297	0	0	0	0
Mississippi	2,820,168	1,632,029	498,878	689,261	0	0	0
Environmental Quality, Department of	97,936	97,936	0	0	0	0	0
Gulf States Marine Fisheries Commission	91,946	91,946	0	0	0	0	0
Marine Resources, Department of	1,796,095	811,504	295,330	689,261	0	0	0
Transportation, Department of	100,000	80,000	20,000	0	0	0	0
Wildlife, Fisheries, and Parks, Department of	734,191	550,643	183,548	0	0	0	0

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Missouri	4,338,958	1,457,390	2,881,568	0	0	0	0
Conservation, Department of	4,338,958	1,457,390	2,881,568	0	0	0	0
Montana	3,400,729	2,613,939	737,128	0	49,662	0	0
Environmental Quality, Department of	55,000	10,000	45,000	0	0	0	0
Fish, Wildlife and Parks, Department of	2,786,890	2,149,509	587,719	0	49,662	0	0
Natural Resources and Conservation, Department of	36,794	36,794	0	0	0	0	0
Transportation, Department of	522,045	417,636	104,409	0	0	0	0
Nebraska	2,114,433	719,735	1,359,781	0	34,917	0	0
Game and Parks Commission	2,021,933	719,735	1,267,281	0	34,917	0	0
Transportation, Department of	92,500	0	92,500	0	0	0	0
Nevada	208,642	148,642	60,000	0	0	0	0
Agriculture, Department of	208,642	148,642	60,000	0	0	0	0
New Hampshire	136,953	109,562	27,391	0	0	0	0
Transportation, Department of	136,953	109,562	27,391	0	0	0	0
New Jersey	3,317,395	762,485	2,554,910	0	0	0	0
Agriculture, Department of	180,151	180,151	0	0	0	0	0
Children and Families, Department of	196,441	29,247	167,194	0	0	0	0
Community Affairs, Department of	5,000	0	5,000	0	0	0	0
Corrections, Department of	416,034	0	416,034	0	0	0	0
Environmental Protection, Department of	2,122,182	155,500	1,966,682	0	0	0	0
Pinelands Commission	351,618	351,618	0	0	0	0	0
State Parole Board, New Jersey	45,969	45,969	0	0	0	0	0
New Mexico	1,110,427	776,670	228,230	0	105,527	0	0
Cultural Affairs, Department of	105,527	0	0	0	105,527	0	0
Game and Fish, Department of	545,000	408,750	136,250	0	0	0	0
Transportation, Department of	459,900	367,920	91,980	0	0	0	0
New York	274,950,816	151,764,801	99,285,878	1,006,453	8,746,312	12,386,565	1,760,807
Agriculture and Markets, Department of	2,365,000	2,365,000	0	0	0	0	0
Energy Research and Development Authority	6,494,503	0	6,494,503	0	0	0	0
Environmental Conservation, Department of	4,399,864	1,233,549	3,166,315	0	0	0	0

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Health, Department of	29,578,789	15,963,950	11,019,395	1,006,453	1,079,606	100,578	408,807
Mental Health, Office of	145,294,992	75,019,722	62,100,000	0	5,266,676	2,128,571	780,023
People with Developmental Disabilities, Office of	1,682,143	1,471,237	0	0	210,906	0	0
Power Authority	1,759,883	300,000	1,459,883	0	0	0	0
Roswell Park Comprehensive Cancer Center	71,562,773	54,056,730	4,587,526	0	2,189,124	10,157,416	571,977
State Museum	10,584,848	372,196	10,212,652	0	0	0	0
Transportation, Department of	1,228,021	982,417	245,604	0	0	0	0
North Carolina	17,505,611	1,355,313	16,150,298	0	0	0	0
Agriculture and Consumer Services, Department of	13,922,911	0	13,922,911	0	0	0	0
Environmental Quality, Department of	1,223,587	915,313	308,274	0	0	0	0
Natural and Cultural Resources, Department of	1,809,113	0	1,809,113	0	0	0	0
Transportation, Department of	550,000	440,000	110,000	0	0	0	0
North Dakota	131,121	123,520	7,601	0	0	0	0
Historical Society of North Dakota	93,115	93,115	0	0	0	0	0
Transportation, Department of	38,006	30,405	7,601	0	0	0	0
Ohio	1,106,388	688,488	417,900	0	0	0	0
Education, Department of	20,000	0	20,000	0	0	0	0
Environmental Protection Agency	379,412	361,107	18,305	0	0	0	0
Natural Resources, Department of	706,976	327,381	379,595	0	0	0	0
Oklahoma	1,946,574	1,492,331	454,243	0	0	0	0
Environmental Quality, Department of	296,338	239,362	56,976	0	0	0	0
Grand River Dam Authority	315,000	0	315,000	0	0	0	0
Health, Department of	412,095	412,095	0	0	0	0	0
Human Services, Department of	459,801	390,858	68,943	0	0	0	0
Transportation, Department of	460,033	450,016	10,017	0	0	0	0
Wildlife Conservation, Department of	3,307	0	3,307	0	0	0	0
Oregon	16,703,743	11,475,817	4,894,743	333,183	0	0	0
Environmental Quality, Department of	145,000	0	145,000	0	0	0	0
Fish and Wildlife, Department of	11,930,138	9,463,926	2,466,212	0	0	0	0
Forestry, Department of	350,000	0	350,000	0	0	0	0
Geology and Mineral Industries, Department of	942,340	888,824	29,484	24,032	0	0	0

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Human Services, Department of	778,318	315,911	462,407	0	0	0	0
Transportation, Department of	1,706,746	804,751	901,995	0	0	0	0
Water Resources Department	843,686	0	534,535	309,151	0	0	0
Watershed Enhancement Board	7,515	2,405	5,110	0	0	0	0
Pennsylvania	13,041,479	6,303,696	6,675,313	10,000	52,470	0	0
Conservation and Natural Resources, Department of	158,742	0	106,272	0	52,470	0	0
Environmental Protection, Department of	46,493	0	46,493	0	0	0	0
Fish and Boat Commission	272,099	151,074	121,025	0	0	0	0
Game Commission	12,444,145	6,072,622	6,371,523	0	0	0	0
Susquehanna River Basin Commission	120,000	80,000	30,000	10,000	0	0	0
Rhode Island	5,438,324	4,031,620	1,406,704	0	0	0	0
Fish and Wildlife; Environmental Management, Department of	3,183,962	2,387,972	795,990	0	0	0	0
Marine Fisheries; Environmental Management, Department of	1,905,103	1,441,034	464,069	0	0	0	0
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	181,937	152,614	29,323	0	0	0	0
Transportation, Department of	150,000	50,000	100,000	0	0	0	0
Water Resources Board	17,322	0	17,322	0	0	0	0
South Carolina	29,595,672	20,543,123	8,933,808	45,337	1,612	0	71,792
Health and Environmental Control, Department of	1,146,936	1,075,144	0	0	0	0	71,792
Mental Health, Department of	39,467	37,855	0	0	1,612	0	0
Natural Resources, Department of	26,296,034	18,089,362	8,206,672	0	0	0	0
Sea Grant Consortium	2,096,811	1,340,762	710,712	45,337	0	0	0
Transportation, Department of	16,424	0	16,424	0	0	0	0
South Dakota	237,313	221,635	15,678	0	0	0	0
Soybean Research and Promotion Council	14,068	0	14,068	0	0	0	0
Transportation, Department of	223,245	221,635	1,610	0	0	0	0
Tennessee	314,273	151,913	162,360	0	0	0	0

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Environment and Conservation, Department of	314,273	151,913	162,360	0	0	0	0
Texas	2,368,161	1,147,877	1,220,284	0	0	0	0
Parks and Wildlife Department	1,811,293	838,202	973,091	0	0	0	0
State Health Services, Department of	556,868	309,675	247,193	0	0	0	0
Utah	6,375,939	328,742	6,047,197	0	0	0	0
Environmental Quality, Department of	131,217	131,217	0	0	0	0	0
Natural Resources, Department of	5,228,943	0	5,228,943	0	0	0	0
Transportation, Department of	1,015,779	197,525	818,254	0	0	0	0
Vermont	1,170,646	1,116,130	54,516	0	0	0	0
Human Services, Agency of	553,199	553,199	0	0	0	0	0
Transportation, Agency of	617,447	562,931	54,516	0	0	0	0
Virginia	15,546,707	5,899,348	9,532,359	0	0	0	115,000
Behavioral Health And Developmental Services, Department of	1,240	0	1,240	0	0	0	0
Education, Department of	865,000	500,000	250,000	0	0	0	115,000
Energy, Department of	1,600,703	688,719	911,984	0	0	0	0
Environmental Quality, Department of	189,776	140,810	48,966	0	0	0	0
Forensic Science, Department of	1,016,000	327,000	689,000	0	0	0	0
Forestry, Department of	610,930	458,198	152,732	0	0	0	0
Innovation Partnership Corporation	1,695,306	391,297	1,304,009	0	0	0	0
Institute for Advanced Learning and Research	73,000	0	73,000	0	0	0	0
Marine Resources Commission	330,022	230,701	99,321	0	0	0	0
Natural History, Museum of	856,356	421	855,935	0	0	0	0
Social Services, Department of	1,000,000	500,000	500,000	0	0	0	0
Transportation, Department of	7,308,374	2,662,202	4,646,172	0	0	0	0
Washington	24,507,566	8,031,968	14,095,870	242,286	2,137,442	0	0
Ecology, Department of	1,312,992	171,355	1,135,037	0	6,600	0	0
Fish and Wildlife, Department of	11,593,810	4,795,377	4,541,920	187,624	2,068,889	0	0
Health, Department of	1,202,000	853,000	349,000	0	0	0	0
Labor and Industries, Department of	3,221,766	625,945	2,595,821	0	0	0	0
Natural Resources, Department of	5,269,465	281,577	4,871,273	54,662	61,953	0	0
Puget Sound Partnership	12,800	3,200	9,600	0	0	0	0

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2022

(Dollars)

State and department or agency	R&D expenditures for intramural performers	Source of funds					
		Federal government	Own state government	Other nonfederal governments	Nonprofit organizations	Businesses and individuals	Higher education institutions
Transportation, Department of	1,559,500	1,285,000	274,500	0	0	0	0
Tree Fruit Research Commission	335,233	16,514	318,719	0	0	0	0
West Virginia	3,803,985	1,862,000	1,941,985	0	0	0	0
Agriculture, Department of	244,126	244,126	0	0	0	0	0
Geological and Economic Survey	1,772,083	234,180	1,537,903	0	0	0	0
Higher Education Policy Commission	171,450	171,450	0	0	0	0	0
Natural Resources, Department of	1,616,326	1,212,244	404,082	0	0	0	0
Wisconsin	5,209,332	2,785,057	2,424,275	0	0	0	0
Natural Resources, Department of	4,804,163	2,460,922	2,343,241	0	0	0	0
Transportation, Department of	405,169	324,135	81,034	0	0	0	0
Wyoming	2,228,619	1,435,202	792,575	842	0	0	0
Enhanced Oil Recovery Institute	423,984	177,377	246,607	0	0	0	0
Game and Fish Department	1,472,216	1,021,645	449,729	842	0	0	0
State Geological Survey	235,372	158,542	76,830	0	0	0	0
Transportation, Department of	97,047	77,638	19,409	0	0	0	0
Puerto Rico ^b	11,176,340	5,650,578	5,357,978	167,784	0	0	0
Comprehensive Cancer Center	8,273,926	4,811,207	3,294,935	167,784	0	0	0
Innovation & Technology Services	850,000	0	850,000	0	0	0	0
Institute of Statistics	1,462,042	248,999	1,213,043	0	0	0	0
Science, Technology and Research Trust	590,372	590,372	0	0	0	0	0

^a U.S. total reflects all 50 states and the District of Columbia.^b Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Note(s):**

Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
United States ^e	2,643,991,142	696,624,562	1,947,366,580	1,032,713,072	454,745,763	459,907,745
Alabama	88,219,991	12,081,222	76,138,769	12,354,753	691,474	63,092,542
Commerce, Department of	63,419,633	0	63,419,633	1,000,000	419,633	62,000,000
Conservation and Natural Resources, Department of; Wildlife and Freshwater Fisheries Division	1,219,039	0	1,219,039	1,219,039	0	0
Economic and Community Affairs, Department of	1,693,012	0	1,693,012	1,421,171	271,841	0
Education, Department of	6,214,729	4,918,832	1,295,897	203,355	0	1,092,542
Forensic Sciences, Department of	208,094	208,094	0	0	0	0
Geological Survey	3,563,032	3,563,032	0	0	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	3,684,864	3,391,264	293,600	293,600	0	0
Supercomputer Authority	4,553,801	0	4,553,801	4,553,801	0	0
Transportation, Department of	3,663,787	0	3,663,787	3,663,787	0	0
Alaska	17,157,228	11,600,345	5,556,883	1,476,494	2,512,461	1,567,928
Energy Authority	231,152	0	231,152	0	231,152	0
Environmental Conservation, Department of	534,187	59,405	474,782	135,724	339,058	0
Housing Finance Corporation	500,000	0	500,000	0	0	500,000
Natural Resources, Department of; Division of Geological and Geophysical Surveys	9,216,400	9,216,400	0	0	0	0
Railroad Corporation	3,636,619	1,868,960	1,767,659	0	1,767,659	0
Transportation and Public Facilities, Department of	3,038,870	455,580	2,583,290	1,340,770	174,592	1,067,928
Arizona	7,946,421	2,039,798	5,906,623	4,170,522	1,648,151	87,950
Agriculture, Department of	1,412,034	0	1,412,034	1,337,508	74,526	0
Game and Fish Department	1,039,447	950,977	88,470	68,590	4,980	14,900
Health Services, Department of	3,518,749	0	3,518,749	2,671,491	847,258	0
Juvenile Corrections, Department of	561,258	561,258	0	0	0	0
Transportation, Department of	1,414,933	527,563	887,370	92,933	721,387	73,050
Arkansas	9,759,708	220,653	9,539,055	7,858,723	380,332	1,300,000
Beef Council	50,605	0	50,605	50,605	0	0
Corn and Grain Sorghum Promotion Board	984,233	0	984,233	984,233	0	0
Economic Development Commission	1,675,000	0	1,675,000	0	375,000	1,300,000
Game and Fish Commission	1,159,178	0	1,159,178	1,159,178	0	0
Midwest Dairy Association, Arkansas Division	10,386	0	10,386	10,386	0	0
Natural Heritage Commission	160,921	154,039	6,882	1,550	5,332	0
Rice Research and Promotion Board	2,396,257	0	2,396,257	2,396,257	0	0
Soybean Promotion Board	2,207,956	0	2,207,956	2,207,956	0	0
Transportation, Department of	1,079,240	66,614	1,012,626	1,012,626	0	0
Wheat Promotion Board	35,932	0	35,932	35,932	0	0
California	490,081,806	87,712,398	402,369,408	128,557,417	91,219,461	182,592,530
Air Resources Board	17,251,207	10,750,232	6,500,975	6,031,375	340,237	129,363
Children and Families Commission (First 5 California)	7,739,521	482,323	7,257,198	618,328	0	6,638,870
Conservation, Department of	1,259,204	838,198	421,006	287,292	4,318	129,396

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
Corrections and Rehabilitation, Department of	2,301,034	0	2,301,034	0	2,301,034	0
Covered California	3,799,165	0	3,799,165	947,165	2,852,000	0
Dairy Council	50,373	0	50,373	50,373	0	0
Delta Stewardship Council	5,201,966	0	5,201,966	3,623,121	761,198	817,647
Earthquake Authority	539,832	537,832	2,000	0	0	2,000
Energy Commission	130,400,000	19,700,000	110,700,000	4,200,000	61,500,000	45,000,000
Environmental Health Hazard Assessment, Office of	19,844,985	18,649,950	1,195,035	1,184,985	10,050	0
Food and Agriculture, Department of	5,012,081	0	5,012,081	3,833,095	0	1,178,986
Forestry and Fire Protection, Department of	21,200,000	2,500,000	18,700,000	12,600,000	0	6,100,000
Horse Racing Board	710,513	0	710,513	710,513	0	0
Housing and Community Development, Department of	500,000	500,000	0	0	0	0
Institute for Regenerative Medicine	122,808,196	0	122,808,196	57,682,110	20,830,491	44,295,595
Mental Health Services Oversight and Accountability Commission	2,500,000	2,500,000	0	0	0	0
Motor Vehicles, Department of	1,776,392	1,761,138	15,254	15,254	0	0
Parks And Recreation, Department of	1,515,260	0	1,515,260	1,515,260	0	0
Pesticide Regulation, Department of	14,058,135	10,955,679	3,102,456	921,250	0	2,181,206
Public Health, Department of	6,155,476	442,500	5,712,976	5,712,976	0	0
Public Utilities Commission, Executive Division	61,374,566	0	61,374,566	0	0	61,374,566
Rehabilitation, Department of	1,619,410	812,759	806,651	806,651	0	0
State Coastal Conservancy	942,260	0	942,260	159,736	119,474	663,050
State Water Resources Control Board	8,564,983	740,800	7,824,183	1,566,738	943,659	5,313,786
Toxic Substances Control, Department of	645,987	645,987	0	0	0	0
Transportation, Department of	39,260,000	15,795,000	23,465,000	15,685,000	731,000	7,049,000
Water Resources, Department of	13,051,260	100,000	12,951,260	10,406,195	826,000	1,719,065
Colorado	38,058,349	9,393,492	28,664,857	10,769,660	13,882,986	4,012,211
Agriculture, Department of	581,906	353,700	228,206	223,206	0	5,000
Economic Development and International Trade, Office of	20,576,916	0	20,576,916	4,822,844	13,360,704	2,393,368
Higher Education Competitive, Research Authority	1,443,141	0	1,443,141	1,443,141	0	0
Higher Education, Department of	2,425,000	0	2,425,000	2,425,000	0	0
Natural Resources, Department of	5,062,623	5,031,147	31,476	26,476	0	5,000
Public Health and Environment, Department of	3,363,873	2,575,872	788,001	788,001	0	0
Public Safety, Department of; Division of Criminal Justice	985,007	742,007	243,000	0	243,000	0
Transportation, Department of	3,390,841	690,766	2,700,075	811,950	279,282	1,608,843
Wine Industry Development Board	229,042	0	229,042	229,042	0	0
Connecticut	60,578,799	28,200,758	32,378,041	2,428,369	28,345,413	1,604,259
Agricultural Experiment Station	13,756,272	13,756,272	0	0	0	0
Energy and Environmental Protection, Department of	7,320,822	6,524,227	796,595	784,140	0	12,455
Innovation Inc.	28,919,435	0	28,919,435	365,144	28,345,413	208,878

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
Mental Health and Addiction Services, Department of	7,217,443	7,217,443	0	0	0	0
Public Health, Department of	1,780	0	1,780	1,780	0	0
Social Services, Department of	391,305	391,305	0	0	0	0
Transportation, Department of	2,971,742	311,511	2,660,231	1,277,305	0	1,382,926
Delaware	3,446,375	1,568,167	1,878,208	1,108,165	711,743	58,300
Geological Survey	1,618,967	1,568,167	50,800	0	0	50,800
Natural Resources and Environmental Control, Department of	646,147	0	646,147	646,147	0	0
Sustainable Energy Utility	10,495	0	10,495	0	2,995	7,500
Transportation, Department of	1,170,766	0	1,170,766	462,018	708,748	0
District of Columbia	10,560,754	4,320,240	6,240,514	712,013	3,629,822	1,898,679
Energy and Environment, Department of	476,600	0	476,600	141,600	0	335,000
Health, Department of	8,244,141	3,194,604	5,049,537	0	3,539,245	1,510,292
Transportation, Department of	340,013	125,636	214,377	120,413	40,577	53,387
Water and Sewer Authority	1,500,000	1,000,000	500,000	450,000	50,000	0
Florida	180,145,644	51,395,556	128,750,088	80,421,221	3,864,156	44,464,711
Agriculture and Consumer Services, Department of	18,305,424	927,308	17,378,116	8,540,995	119,270	8,717,851
Citrus, Department of	850,364	115,111	735,253	143,203	92,050	500,000
Environmental Protection, Department of	68,838	0	68,838	0	68,838	0
Fish and Wildlife Conservation Commission	55,428,229	49,103,851	6,324,378	2,120,146	1,908,741	2,295,491
Gaming Control Commission	100,000	0	100,000	100,000	0	0
Health, Department of	91,360,963	0	91,360,963	58,409,594	0	32,951,369
Space Florida	1,305,000	0	1,305,000	110,000	1,195,000	0
Transportation, Department of	12,726,826	1,249,286	11,477,540	10,997,283	480,257	0
Georgia	24,988,379	2,884,258	22,104,121	6,905,171	11,334,225	3,864,725
Natural Resources, Department of	1,452,630	127,945	1,324,685	1,324,685	0	0
Southern States Energy Board	19,326,825	2,756,313	16,570,512	3,136,910	11,334,225	2,099,377
Transportation, Department of	4,208,924	0	4,208,924	2,443,576	0	1,765,348
Hawaii	6,337,851	201,790	6,136,061	3,980,790	2,085,271	70,000
Agriculture, Department of	1,098,423	199,748	898,675	851,404	47,271	0
Business, Economic Development, and Tourism, Department of	2,022,042	2,042	2,020,000	0	2,020,000	0
Land and Natural Resources, Department of	424,000	0	424,000	336,000	18,000	70,000
Natural Energy Laboratory of Hawaii Authority	0	0	0	0	0	0
Transportation, Department of	2,793,386	0	2,793,386	2,793,386	0	0
Idaho	20,444,262	7,278,248	13,166,014	9,211,146	549,931	3,404,937
Agriculture, Department of	1,623,399	0	1,623,399	743,413	0	879,986
Barley Commission	367,497	0	367,497	367,497	0	0
Bean Commission	33,833	0	33,833	33,833	0	0
Beef Council	211,642	0	211,642	192,442	19,200	0
Commerce, Department of	1,289,693	0	1,289,693	1,289,693	0	0
Dairy West	2,999,460	0	2,999,460	2,999,460	0	0
Fish and Game, Department of	9,041,798	7,151,744	1,890,054	907,601	0	982,453
Oilseed Commission	72,645	0	72,645	52,645	20,000	0

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
Pea and Lentil Commission	177,697	0	177,697	177,697	0	0
Potato Commission	878,871	0	878,871	725,121	95,750	58,000
Transportation Department	2,467,766	126,504	2,341,262	441,783	414,981	1,484,498
Wheat Commission	1,279,961	0	1,279,961	1,279,961	0	0
Illinois	16,463,839	554,067	15,909,772	13,980,583	435,210	1,493,979
Children and Family Services, Department of	2,347,655	0	2,347,655	2,347,655	0	0
Midwest Dairy Association, Illinois Division	20,772	0	20,772	20,772	0	0
Nutrient Research and Education Council	3,912,499	0	3,912,499	3,912,499	0	0
Public Health, Department of	400,000	0	400,000	0	0	400,000
Transportation, Department of	9,782,913	554,067	9,228,846	7,699,657	435,210	1,093,979
Indiana	12,104,856	660,237	11,444,619	8,610,791	2,833,828	0
Economic Development Corporation	3,399,111	0	3,399,111	565,283	2,833,828	0
Natural Resources, Department of	852,281	586,968	265,313	265,313	0	0
Transportation, Department of	7,853,464	73,269	7,780,195	7,780,195	0	0
Iowa	10,636,720	2,912,086	7,724,634	6,716,097	989,049	19,488
Beef Industry Council	60,218	0	60,218	60,218	0	0
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	626,038	626,038	0	0	0	0
Midwest Dairy Association, Iowa Division	119,439	0	119,439	119,439	0	0
Natural Resources, Department of	3,688,099	2,286,048	1,402,051	1,261,613	120,950	19,488
Transportation, Department of	6,142,926	0	6,142,926	5,274,827	868,099	0
Kansas	17,633,236	1,500,273	16,132,963	13,017,281	202,079	2,913,603
Corn Commission	311,744	0	311,744	311,744	0	0
Grain Sorghum Commission	700,000	0	700,000	700,000	0	0
Midwest Dairy Association, Kansas Division	15,579	0	15,579	15,579	0	0
Soybean Commission	1,248,862	0	1,248,862	931,346	0	317,516
State Board of Regents	997,727	4,462	993,265	993,265	0	0
Sunflower Commission	20,000	0	20,000	10,000	0	10,000
Transportation, Department of	3,765,115	1,061,231	2,703,884	1,379,749	104,079	1,220,056
Water Office	1,207,240	434,580	772,660	430,629	0	342,031
Wheat Commission	2,245,000	0	2,245,000	1,123,000	98,000	1,024,000
Wildlife and Parks, Department of	7,121,969	0	7,121,969	7,121,969	0	0
Kentucky	34,881,537	4,434,431	30,447,106	24,590,319	4,084,159	1,772,628
Economic Development, Cabinet for	3,447,809	0	3,447,809	1,648,739	1,799,070	0
Fish and Wildlife Resources, Department of	6,989,041	4,428,101	2,560,940	274,438	2,285,089	1,413
Horse Racing Commission	70,000	0	70,000	55,000	0	15,000
Nature Preserves, Office of Kentucky	42,320	6,330	35,990	35,990	0	0
Postsecondary Education, Council on	11,572,700	0	11,572,700	11,572,700	0	0
Public Health, Department for	3,767,275	0	3,767,275	3,767,275	0	0
Soybean Promotion Board	210,727	0	210,727	210,727	0	0
Transportation Cabinet	8,781,665	0	8,781,665	7,025,450	0	1,756,215
Louisiana	31,843,839	10,033,831	21,810,008	18,458,516	3,004,727	346,765
Board of Regents	12,613,939	0	12,613,939	12,613,939	0	0

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
Coastal Protection and Restoration Authority	3,681,012	509,392	3,171,620	606,938	2,410,009	154,673
Transportation and Development, Department of	10,000,000	5,000,000	5,000,000	4,500,000	500,000	0
Wildlife and Fisheries, Department of	5,548,888	4,524,439	1,024,449	737,639	94,718	192,092
Maine	24,812,470	12,208,306	12,604,164	4,385,530	6,971,533	1,247,101
Agriculture, Conservation and Forestry, Department of	1,889,382	1,682,997	206,385	12,368	194,017	0
Aquaculture Innovation Center	555,101	435,877	119,224	59,612	0	59,612
Inland Fisheries and Wildlife, Department of	1,080,841	763,201	317,640	317,640	0	0
Marine Resources, Department of	2,712,300	2,589,300	123,000	0	123,000	0
MDI Biological Laboratory, Center for Biomedical Innovation	9,143,683	6,236,931	2,906,752	2,468,630	0	438,122
Technology Institute	7,931,163	0	7,931,163	927,280	6,254,516	749,367
Transportation, Department of	1,500,000	500,000	1,000,000	600,000	400,000	0
Maryland	31,280,581	864,022	30,416,559	25,771,680	2,612,842	2,032,037
Energy Administration	2,000,000	0	2,000,000	0	0	2,000,000
Health, Department of	15,000,000	0	15,000,000	15,000,000	0	0
Natural Resources, Department of	410,466	272,429	138,037	88,000	18,000	32,037
Technology Development Corporation	11,227,112	0	11,227,112	9,582,270	1,644,842	0
Transportation, Department of	2,643,003	591,593	2,051,410	1,101,410	950,000	0
Massachusetts	26,616,423	1,636,998	24,979,425	10,387,510	10,092,864	4,499,051
Clean Energy Technology Center	6,848,706	0	6,848,706	765,531	4,948,191	1,134,984
Environmental Protection, Department of	1,771,575	278,302	1,493,273	829,988	661,061	2,224
Fish and Game, Department of	1,064,180	842,896	221,284	119,903	2,440	98,941
Gaming Commission	2,831,240	215,800	2,615,440	2,165,440	271,000	179,000
MassVentures	3,400,000	0	3,400,000	400,000	3,000,000	0
Mental Health, Department of	2,306,184	0	2,306,184	1,147,969	879,776	278,439
Public Health, Department of	1,888,570	0	1,888,570	1,590,226	277,896	20,448
Technology Park Corporation	1,805,968	0	1,805,968	1,141,453	22,500	642,015
Transportation, Department of	4,050,000	0	4,050,000	2,227,000	30,000	1,793,000
Water Resources Authority	650,000	300,000	350,000	0	0	350,000
Michigan	30,525,914	254,848	30,271,066	13,679,420	619,972	15,971,674
Agriculture and Rural Development, Department of	3,198,958	68,044	3,130,914	2,801,540	0	329,374
Environmental, Great Lakes, and Energy, Department of	438,854	186,804	252,050	169,268	82,782	0
Health and Human Services	662,258	0	662,258	662,258	0	0
Licensing and Regulatory Affairs	20,000,000	0	20,000,000	7,020,950	0	12,979,050
Transportation, Department of	6,225,844	0	6,225,844	3,025,404	537,190	2,663,250
Minnesota	25,093,959	3,038,564	22,055,395	14,721,856	4,570,534	2,763,005
Agriculture, Department of	5,160,630	996,789	4,163,841	3,469,866	242,003	451,972
Forest Resources Council	75,000	0	75,000	75,000	0	0
Midwest Dairy Association, Minnesota Division	228,492	0	228,492	228,492	0	0
Natural Resources, Department of	2,220,492	2,041,775	178,717	174,428	4,289	0
Pollution Control Agency	233,164	0	233,164	0	204,071	29,093
Transportation, Department of	17,176,181	0	17,176,181	10,774,070	4,120,171	2,281,940
Mississippi	9,788,541	2,820,168	6,968,373	3,754,922	1,028,977	2,184,474

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
Agriculture and Commerce, Department of	114,017	0	114,017	114,017	0	0
Environmental Quality, Department of	833,599	97,936	735,663	735,663	0	0
Gulf States Marine Fisheries Commission	927,742	91,946	835,796	569,178	52,018	214,600
Marine Resources, Department of	2,131,369	1,796,095	335,274	335,274	0	0
Transportation, Department of	3,300,333	100,000	3,200,333	350,000	944,459	1,905,874
Wildlife, Fisheries, and Parks, Department of	2,481,481	734,191	1,747,290	1,650,790	32,500	64,000
Missouri	12,430,684	4,338,958	8,091,726	6,267,780	1,397,709	426,237
Agriculture, Department of	1,197,350	0	1,197,350	992,495	204,855	0
Conservation, Department of	7,039,079	4,338,958	2,700,121	2,343,013	0	357,108
Mental Health, Department of	242,500	0	242,500	242,500	0	0
Natural Resources, Department of	174,359	0	174,359	105,230	0	69,129
Technology Corporation	500,000	0	500,000	0	500,000	0
Transportation, Department of	2,646,956	0	2,646,956	1,954,102	692,854	0
Wine and Grape Board	630,440	0	630,440	630,440	0	0
Montana	9,752,216	3,400,729	6,351,487	4,200,739	0	2,150,748
Agriculture, Department of	3,359,243	0	3,359,243	3,359,243	0	0
Environmental Quality, Department of	55,000	55,000	0	0	0	0
Fish, Wildlife and Parks, Department of	3,824,321	2,786,890	1,037,431	0	0	1,037,431
Natural Resources and Conservation, Department of	42,740	36,794	5,946	5,946	0	0
Transportation, Department of	2,470,912	522,045	1,948,867	835,550	0	1,113,317
Nebraska	32,687,157	2,114,433	30,572,724	25,706,242	4,758,046	108,436
Agriculture, Department of	880,683	0	880,683	853,349	13,768	13,566
Corn Board	798,965	0	798,965	798,965	0	0
Dry Bean Commission	305,376	0	305,376	305,376	0	0
Economic Development, Department of	6,618,124	0	6,618,124	2,032,624	4,585,500	0
Game and Parks Commission	3,935,042	2,021,933	1,913,109	1,719,461	108,778	84,870
Grain Sorghum Board	5,000	0	5,000	5,000	0	0
Health and Human Services, Department of	18,833,700	0	18,833,700	18,833,700	0	0
Midwest Dairy Association, Nebraska Division	31,158	0	31,158	31,158	0	0
Natural Resources, Department of	50,000	0	50,000	0	50,000	0
Pea And Lentil Commission	1,390	0	1,390	1,390	0	0
Transportation, Department of	1,217,719	92,500	1,125,219	1,125,219	0	0
Wheat Board	10,000	0	10,000	0	0	10,000
Nevada	3,643,395	208,642	3,434,753	2,200,553	283,100	951,100
Agriculture, Department of	208,642	208,642	0	0	0	0
Economic Development, Governor's office of	1,327,253	0	1,327,253	1,327,253	0	0
Transportation, Department of	2,107,500	0	2,107,500	873,300	283,100	951,100
New Hampshire	9,222,505	136,953	9,085,552	241,647	7,025,864	1,818,041
Agriculture, Markets and Food, Department of	43,897	0	43,897	21,072	0	22,825
Business and Economic Affairs, Department of	7,000,000	0	7,000,000	0	7,000,000	0
Environmental Services, Department of	1,259,624	0	1,259,624	9,840	0	1,249,784
Transportation, Department of	918,984	136,953	782,031	210,735	25,864	545,432

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
New Jersey	65,020,915	3,317,395	61,703,520	47,835,643	1,504,415	12,363,462
Agriculture, Department of	180,151	180,151	0	0	0	0
Children and Families, Department of	368,019	196,441	171,578	91,578	0	80,000
Community Affairs, Department of	22,000	5,000	17,000	0	17,000	0
Corrections, Department of	416,034	416,034	0	0	0	0
Environmental Protection, Department of	6,493,270	2,122,182	4,371,088	4,055,096	236,500	79,492
Health, Department of	45,343,885	0	45,343,885	34,139,915	0	11,203,970
Pinelands Commission	412,081	351,618	60,463	0	60,463	0
Secretary of Higher Education, Office of	4,500,000	0	4,500,000	3,500,000	0	1,000,000
State Parole Board, New Jersey	45,969	45,969	0	0	0	0
Transit, New Jersey	251,362	0	251,362	251,362	0	0
Transportation, Department of	6,988,144	0	6,988,144	5,797,692	1,190,452	0
New Mexico	3,456,227	1,110,427	2,345,800	1,629,579	374,741	341,480
Cultural Affairs, Department of	105,527	105,527	0	0	0	0
Game and Fish, Department of	1,765,554	545,000	1,220,554	889,179	89,895	241,480
Transportation, Department of	1,400,300	459,900	940,400	740,400	100,000	100,000
Western State Air Resources Council	184,846	0	184,846	0	184,846	0
New York	506,283,025	274,950,816	231,332,209	154,930,297	47,930,079	28,471,833
Agriculture and Markets, Department of	7,728,860	2,365,000	5,363,860	2,043,860	0	3,320,000
Economic Development, Department of	103,874,022	0	103,874,022	97,874,022	1,000,000	5,000,000
Energy Research and Development Authority	56,620,719	6,494,503	50,126,216	6,855,709	38,625,226	4,645,281
Environmental Conservation, Department of	8,217,418	4,399,864	3,817,554	3,465,824	210,500	141,230
Health, Department of	58,241,006	29,578,789	28,662,217	18,665,207	2,539,456	7,457,554
Mental Health, Office of	170,676,444	145,294,992	25,381,452	24,805,237	513,212	63,003
People with Developmental Disabilities, Office of	1,682,143	1,682,143	0	0	0	0
Power Authority	9,714,648	1,759,883	7,954,765	110,000	0	7,844,765
Roswell Park Comprehensive Cancer Center	71,562,773	71,562,773	0	0	0	0
State Museum	10,982,258	10,584,848	397,410	397,410	0	0
Thoroughbred Breeding and Development Fund Corp.	405,292	0	405,292	405,292	0	0
Transportation, Department of	6,577,442	1,228,021	5,349,421	307,736	5,041,685	0
North Carolina	38,818,576	17,505,611	21,312,965	14,454,020	5,333,677	1,525,268
Agriculture and Consumer Services, Department of	15,422,911	13,922,911	1,500,000	1,300,000	200,000	0
Biotechnology Center	2,841,679	0	2,841,679	2,841,679	0	0
Environmental Quality, Department of	3,275,157	1,223,587	2,051,570	564,324	459,987	1,027,259
Natural and Cultural Resources, Department of	2,425,310	1,809,113	616,197	218,188	0	398,009
Science Technology & Innovation, Office of	4,660,090	0	4,660,090	0	4,660,090	0
Transportation, Department of	10,050,000	550,000	9,500,000	9,500,000	0	0
Wine and Grape Growers Council	143,429	0	143,429	29,829	13,600	100,000
North Dakota	17,874,336	131,121	17,743,215	6,647,965	9,559,797	1,535,453
Agriculture, Department of	3,313,396	0	3,313,396	0	3,222,007	91,389

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
Dry Pea and Lentil Commission	282,308	0	282,308	282,308	0	0
Game and Fish, Department of	595,698	0	595,698	359,197	6,234	230,267
Historical Society of North Dakota	93,115	93,115	0	0	0	0
Industrial Commission	9,398,767	0	9,398,767	3,267,555	6,120,122	11,090
Midwest Dairy Association, North Dakota Division	5,193	0	5,193	5,193	0	0
Soybean Council	1,622,297	0	1,622,297	1,410,863	211,434	0
Transportation, Department of	1,298,374	38,006	1,260,368	132,661	0	1,127,707
Wheat Commission	1,265,188	0	1,265,188	1,190,188	0	75,000
Ohio	70,471,571	1,106,388	69,365,183	18,527,266	49,891,610	946,307
Development, Department of	57,980,338	0	57,980,338	11,396,832	46,583,506	0
Education, Department of	180,000	20,000	160,000	130,000	30,000	0
Environmental Protection Agency	379,412	379,412	0	0	0	0
Natural Resources, Department of	3,723,242	706,976	3,016,266	2,850,856	0	165,410
Transportation, Department of	6,349,868	0	6,349,868	2,836,444	3,278,104	235,320
Water Development Authority	1,858,711	0	1,858,711	1,313,134	0	545,577
Oklahoma	27,646,238	1,946,574	25,699,664	17,857,716	3,693,891	4,148,057
Advancement of Science and Technology, Center for the	8,629,841	0	8,629,841	4,707,013	3,607,828	315,000
Agriculture, Food, and Forestry, Department of	443,596	0	443,596	443,596	0	0
Environmental Quality, Department of	345,916	296,338	49,578	15,880	0	33,698
Grand River Dam Authority	525,000	315,000	210,000	210,000	0	0
Health, Department of	1,053,610	412,095	641,515	641,515	0	0
Human Services, Department of	459,801	459,801	0	0	0	0
Midwest Dairy Association, Oklahoma Division	5,193	0	5,193	5,193	0	0
Tobacco Settlement Endowment Trust	10,903,905	0	10,903,905	8,589,848	0	2,314,057
Transportation, Department of	3,568,372	460,033	3,108,339	1,547,665	86,063	1,474,611
Wildlife Conservation, Department of	1,711,004	3,307	1,707,697	1,697,006	0	10,691
Oregon	33,801,166	16,703,743	17,097,423	8,564,907	4,287,150	4,245,366
Agriculture, Department of	248,348	0	248,348	246,348	2,000	0
Business Oregon	11,252,148	0	11,252,148	4,403,988	3,348,160	3,500,000
Environmental Quality, Department of	145,000	145,000	0	0	0	0
Fish and Wildlife, Department of	14,109,145	11,930,138	2,179,007	1,436,198	732,529	10,280
Forestry, Department of	700,000	350,000	350,000	50,000	150,000	150,000
Geology and Mineral Industries, Department of	942,340	942,340	0	0	0	0
Human Services, Department of	778,318	778,318	0	0	0	0
Transportation, Department of	4,292,580	1,706,746	2,585,834	2,428,373	54,461	103,000
Water Resources Department	1,067,424	843,686	223,738	0	0	223,738
Watershed Enhancement Board	265,863	7,515	258,348	0	0	258,348
Pennsylvania	88,557,830	13,041,479	75,516,351	38,491,630	6,077,281	30,947,440
Agriculture, Department of	3,206,582	0	3,206,582	2,809,612	90,000	306,970
Community and Economic Development, Department of	22,100,000	0	22,100,000	5,350,000	0	16,750,000
Conservation and Natural Resources, Department of	505,181	158,742	346,439	148,479	0	197,960
Environmental Protection, Department of	196,401	46,493	149,908	0	149,908	0

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
Fish and Boat Commission	348,312	272,099	76,213	76,213	0	0
Game Commission	12,697,359	12,444,145	253,214	253,214	0	0
Health, Department of	46,483,760	0	46,483,760	28,941,250	3,850,000	13,692,510
Susquehanna River Basin Commission	130,000	120,000	10,000	10,000	0	0
Transportation, Department of	2,890,235	0	2,890,235	902,862	1,987,373	0
Rhode Island	8,361,413	5,438,324	2,923,089	895,354	836,124	1,191,611
Commerce Corporation	986,076	0	986,076	149,952	836,124	0
Fish and Wildlife; Environmental Management, Department of	4,044,625	3,183,962	860,663	356,577	0	504,086
Marine Fisheries; Environmental Management, Department of	2,169,953	1,905,103	264,850	88,825	0	176,025
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	181,937	181,937	0	0	0	0
Transportation, Department of	900,000	150,000	750,000	300,000	0	450,000
Water Resources Board	78,822	17,322	61,500	0	0	61,500
South Carolina	50,056,315	29,595,672	20,460,643	5,652,030	1,826,919	12,981,694
Agriculture, Department of	1,180,047	0	1,180,047	1,180,047	0	0
Disabilities and Special Needs, Department of	11,798,260	0	11,798,260	0	0	11,798,260
Health and Environmental Control, Department of	1,146,936	1,146,936	0	0	0	0
Mental Health, Department of	39,467	39,467	0	0	0	0
Natural Resources, Department of	26,580,926	26,296,034	284,892	251,688	0	33,204
Public Service Authority	512,345	0	512,345	30,000	0	482,345
Research Authority	3,197,270	0	3,197,270	1,370,351	1,826,919	0
Sea Grant Consortium	3,144,115	2,096,811	1,047,304	894,899	0	152,405
Transportation, Department of	2,456,949	16,424	2,440,525	1,925,045	0	515,480
South Dakota	4,595,753	237,313	4,358,440	2,989,627	624,054	744,759
Corn Utilization Council	50,000	0	50,000	50,000	0	0
Midwest Dairy Association, South Dakota Division	67,509	0	67,509	67,509	0	0
Nutrient Research and Education Council	972,936	0	972,936	972,936	0	0
Oilseeds Council	352,798	0	352,798	92,628	0	260,170
Pulse Crop Council	31,390	0	31,390	31,390	0	0
Soybean Research and Promotion Council	449,642	14,068	435,574	270,603	10,000	154,971
Transportation, Department of	2,109,493	223,245	1,886,248	942,576	614,054	329,618
Weed and Pest Control Commission	47,000	0	47,000	47,000	0	0
Wheat Commission	514,985	0	514,985	514,985	0	0
Tennessee	38,959,330	314,273	38,645,057	5,999,804	32,645,253	0
Education, Department of	26,245,253	0	26,245,253	600,000	25,645,253	0
Environment and Conservation, Department of	314,273	314,273	0	0	0	0
LaunchTN	7,000,000	0	7,000,000	0	7,000,000	0
Transportation, Department of	5,399,804	0	5,399,804	5,399,804	0	0
Texas	247,609,284	2,368,161	245,241,123	200,096,480	43,539,743	1,604,900
Agriculture, Department of	1,353,356	0	1,353,356	1,103,356	0	250,000
Alzheimer's Research and Care Consortium (TARCC)	4,384,547	0	4,384,547	4,384,547	0	0

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
Cancer Prevention and Research Institute	208,262,268	0	208,262,268	166,029,285	42,232,983	0
Environmental Quality, Commission on	1,490,243	0	1,490,243	794,113	696,130	0
Parks and Wildlife Department	4,445,763	1,811,293	2,634,470	2,606,370	0	28,100
State Health Services, Department of	1,965,537	556,868	1,408,669	1,408,669	0	0
Transportation, Department of	24,982,335	0	24,982,335	23,665,535	0	1,316,800
Water Development Board	725,235	0	725,235	104,605	610,630	10,000
Utah	8,837,531	6,375,939	2,461,592	1,559,806	794,455	107,331
Agriculture And Food, Department Of	305,965	0	305,965	229,988	0	75,977
Environmental Quality, Department of	618,560	131,217	487,343	382,186	73,803	31,354
Natural Resources, Department of	5,228,943	5,228,943	0	0	0	0
Transportation, Department of	2,684,063	1,015,779	1,668,284	947,632	720,652	0
Vermont	1,460,157	1,170,646	289,511	236,262	52,924	325
Agriculture, Food, and Markets, Agency of	63,773	0	63,773	27,000	36,773	0
Human Services, Agency of	553,199	553,199	0	0	0	0
Transportation, Agency of	843,185	617,447	225,738	209,262	16,151	325
Virginia	40,253,504	15,546,707	24,706,797	13,951,050	8,277,124	2,478,623
Agriculture and Consumer Services, Department of	2,949,439	0	2,949,439	2,608,793	0	340,646
Behavioral Health And Developmental Services, Department of	1,240	1,240	0	0	0	0
Commonwealth Health Research Board	1,249,650	0	1,249,650	1,249,650	0	0
Education, Department of	1,115,000	865,000	250,000	250,000	0	0
Energy, Department of	1,629,726	1,600,703	29,023	29,023	0	0
Environmental Quality, Department of	347,705	189,776	157,929	49,403	6,072	102,454
Forensic Science, Department of	1,016,000	1,016,000	0	0	0	0
Forestry, Department of	610,930	610,930	0	0	0	0
Foundation for Healthy Youth	808,437	0	808,437	808,437	0	0
Innovation Partnership Corporation	10,980,762	1,695,306	9,285,456	1,014,404	8,271,052	0
Institute for Advanced Learning and Research	73,000	73,000	0	0	0	0
Marine Resources Commission	1,990,284	330,022	1,660,262	0	0	1,660,262
Natural History, Museum of	856,356	856,356	0	0	0	0
Rail And Public Transportation	260,000	0	260,000	0	0	260,000
Social Services, Department of	1,000,000	1,000,000	0	0	0	0
Transportation, Department of	13,652,178	7,308,374	6,343,804	6,343,804	0	0
Wildlife Resources, Department of	1,712,797	0	1,712,797	1,597,536	0	115,261
Washington	60,886,219	24,507,566	36,378,653	16,420,916	15,728,140	4,229,597
Agriculture, Department of	3,415,009	0	3,415,009	2,737,033	391,412	286,564
Alfalfa Seed Commission	20,000	0	20,000	20,000	0	0
Asparagus Commission	40,000	0	40,000	0	40,000	0
Blueberry Commission	217,000	0	217,000	0	217,000	0
Commerce, Department of	14,792,431	0	14,792,431	377,385	12,618,549	1,796,497
Cranberry Commission	15,880	0	15,880	0	15,880	0
Dairy Products Commission	80,000	0	80,000	20,000	0	60,000
Ecology, Department of	1,353,380	1,312,992	40,388	40,388	0	0
Fish and Wildlife, Department of	11,727,293	11,593,810	133,483	122,467	0	11,016
Fruit Commission	97,789	0	97,789	61,862	0	35,927

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Intramural performers ^a	Extramural performers ^b			
			Total	Academic institutions	Companies and individuals ^c	Other ^d
Grain Commission	2,046,962	0	2,046,962	2,046,962	0	0
Health, Department of	1,265,000	1,202,000	63,000	63,000	0	0
Hop Commission	134,868	0	134,868	134,868	0	0
Labor and Industries, Department of	3,221,766	3,221,766	0	0	0	0
Mint Commission	32,739	0	32,739	32,739	0	0
Natural Resources, Department of	7,767,429	5,269,465	2,497,964	1,209,267	593,807	694,890
Oilseeds Commission	120,538	0	120,538	120,538	0	0
Pesticide Registration, Commission on	405,000	0	405,000	405,000	0	0
Potato Commission	895,660	0	895,660	736,407	55,000	104,253
Puget Sound Partnership	2,512,800	12,800	2,500,000	1,600,000	450,000	450,000
Pulse Crops Commission	124,303	0	124,303	124,303	0	0
Red Raspberry Commission	180,470	0	180,470	98,743	56,052	25,675
Transportation, Department of	4,527,700	1,559,500	2,968,200	2,665,700	215,600	86,900
Tree Fruit Research Commission	5,231,737	335,233	4,896,504	3,143,789	1,074,840	677,875
Turfgrass Seed Commission	157,209	0	157,209	157,209	0	0
Wine Commission	503,256	0	503,256	503,256	0	0
West Virginia	9,180,282	3,803,985	5,376,297	5,131,402	237,000	7,895
Agriculture, Department of	244,126	244,126	0	0	0	0
Geological and Economic Survey	2,053,431	1,772,083	281,348	281,348	0	0
Higher Education Policy Commission	2,748,699	171,450	2,577,249	2,569,354	0	7,895
Natural Resources, Department of	1,874,026	1,616,326	257,700	20,700	237,000	0
Transportation, Department of	2,260,000	0	2,260,000	2,260,000	0	0
Wisconsin	19,060,693	5,209,332	13,851,361	3,395,186	7,405,745	3,050,430
Agriculture, Trade and Consumer Protection, Department of	2,539,311	0	2,539,311	1,198,272	1,138,309	202,730
Economic Development Corporation	5,256,575	0	5,256,575	0	5,256,575	0
Natural Resources, Department of	7,047,780	4,804,163	2,243,617	1,533,566	366,975	343,076
Transportation, Department of	4,217,027	405,169	3,811,858	663,348	643,886	2,504,624
Wyoming	5,657,338	2,228,619	3,428,719	800,222	2,359,722	268,775
Agriculture, Department of	640,504	0	640,504	344,452	27,277	268,775
Business Council	1,011,555	0	1,011,555	0	1,011,555	0
Enhanced Oil Recovery Institute	1,032,669	423,984	608,685	0	608,685	0
Game and Fish Department	1,658,878	1,472,216	186,662	136,118	50,544	0
State Geological Survey	235,372	235,372	0	0	0	0
Transportation, Department of	768,083	97,047	671,036	9,375	661,661	0
Water Development Office	310,277	0	310,277	310,277	0	0
Puerto Rico ^f	17,058,786	11,176,340	5,882,446	2,397,243	3,340,203	145,000
Comprehensive Cancer Center	8,273,926	8,273,926	0	0	0	0
Economic Development & Commerce	760,000	0	760,000	200,000	560,000	0
Innovation & Technology Services	3,555,203	850,000	2,705,203	0	2,705,203	0
Institute of Statistics	1,462,042	1,462,042	0	0	0	0
Mental Health and Anti-Addiction Services Administration	225,000	0	225,000	225,000	0	0
Science, Technology and Research Trust	2,782,615	590,372	2,192,243	1,972,243	75,000	145,000

^a Intramural performers include a department's or agency's own employees who perform R&D and services performed by others in support of an internal R&D project.

^b Extramural performers are those outside the department or agency who perform R&D.

^c Companies and individuals include individuals under contract for research projects.

^d Other extramural performers include nonprofit organizations, including foundations; federal government departments and agencies; other departments or agencies within the state; other state governments; and county, city, special district, or regional local governments.

^e U.S. total reflects all 50 states and the District of Columbia.

^f Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
United States ^b	2,643,991,142	127,263,681	327,115,797	540,876,111	1,100,991,524	290,871,093	256,872,936
Alabama	88,219,991	326,726	667,842	70,126,266	1,751,080	3,692,380	11,655,697
Commerce, Department of	63,419,633	0	0	62,000,000	1,419,633	0	0
Conservation and Natural Resources, Department of; Wildlife and Freshwater Fisheries Division	1,219,039	0	0	1,219,039	0	0	0
Economic and Community Affairs, Department of	1,693,012	326,726	85,710	241,463	331,447	28,593	679,073
Education, Department of	6,214,729	0	0	0	0	0	6,214,729
Forensic Sciences, Department of	208,094	0	0	0	0	0	208,094
Geological Survey	3,563,032	0	582,132	2,980,900	0	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	3,684,864	0	0	3,684,864	0	0	0
Supercomputer Authority	4,553,801	0	0	0	0	0	4,553,801
Transportation, Department of	3,663,787	0	0	0	0	3,663,787	0
Alaska	17,157,228	0	731,152	10,015,251	534,187	4,808,710	1,067,928
Energy Authority	231,152	0	231,152	0	0	0	0
Environmental Conservation, Department of	534,187	0	0	0	534,187	0	0
Housing Finance Corporation	500,000	0	500,000	0	0	0	0
Natural Resources, Department of; Division of Geological and Geophysical Surveys	9,216,400	0	0	9,216,400	0	0	0
Railroad Corporation	3,636,619	0	0	0	0	3,636,619	0
Transportation and Public Facilities, Department of	3,038,870	0	0	798,851	0	1,172,091	1,067,928
Arizona	7,946,421	1,311,266	0	1,140,215	3,518,749	1,414,933	561,258
Agriculture, Department of	1,412,034	1,311,266	0	100,768	0	0	0
Game and Fish Department	1,039,447	0	0	1,039,447	0	0	0
Health Services, Department of	3,518,749	0	0	0	3,518,749	0	0
Juvenile Corrections, Department of	561,258	0	0	0	0	0	561,258
Transportation, Department of	1,414,933	0	0	0	0	1,414,933	0
Arkansas	9,759,708	5,336,054	0	1,558,599	275,000	1,079,240	1,510,815
Beef Council	50,605	50,605	0	0	0	0	0
Corn and Grain Sorghum Promotion Board	984,233	809,733	0	174,500	0	0	0
Economic Development Commission	1,675,000	0	0	0	275,000	0	1,400,000
Game and Fish Commission	1,159,178	0	0	1,159,178	0	0	0
Midwest Dairy Association, Arkansas Division	10,386	10,386	0	0	0	0	0
Natural Heritage Commission	160,921	0	0	160,921	0	0	0
Rice Research and Promotion Board	2,396,257	2,396,257	0	0	0	0	0
Soybean Promotion Board	2,207,956	2,033,141	0	64,000	0	0	110,815
Transportation, Department of	1,079,240	0	0	0	0	1,079,240	0
Wheat Promotion Board	35,932	35,932	0	0	0	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
California	490,081,806	7,753,869	191,774,566	64,903,411	173,274,157	39,260,000	13,115,803
Air Resources Board	17,251,207	0	0	17,251,207	0	0	0
Children and Families Commission (First 5 California)	7,739,521	0	0	0	0	0	7,739,521
Conservation, Department of	1,259,204	0	0	843,198	0	0	416,006
Corrections and Rehabilitation, Department of	2,301,034	0	0	0	0	0	2,301,034
Covered California	3,799,165	0	0	0	3,799,165	0	0
Dairy Council	50,373	0	0	0	50,373	0	0
Delta Stewardship Council	5,201,966	0	0	5,201,966	0	0	0
Earthquake Authority	539,832	0	0	0	0	0	539,832
Energy Commission	130,400,000	0	130,400,000	0	0	0	0
Environmental Health Hazard Assessment, Office of	19,844,985	0	0	0	19,844,985	0	0
Food and Agriculture, Department of	5,012,081	5,012,081	0	0	0	0	0
Forestry and Fire Protection, Department of	21,200,000	0	0	16,200,000	5,000,000	0	0
Horse Racing Board	710,513	710,513	0	0	0	0	0
Housing and Community Development, Department of	500,000	0	0	0	0	0	500,000
Institute for Regenerative Medicine	122,808,196	0	0	0	122,808,196	0	0
Mental Health Services Oversight and Accountability Commission	2,500,000	0	0	0	2,500,000	0	0
Motor Vehicles, Department of	1,776,392	0	0	0	1,776,392	0	0
Parks And Recreation, Department of	1,515,260	0	0	1,515,260	0	0	0
Pesticide Regulation, Department of	14,058,135	1,981,560	0	2,147,005	9,929,570	0	0
Public Health, Department of	6,155,476	0	0	316,000	5,839,476	0	0
Public Utilities Commission, Executive Division	61,374,566	0	61,374,566	0	0	0	0
Rehabilitation, Department of	1,619,410	0	0	0	0	0	1,619,410
State Coastal Conservancy	942,260	0	0	942,260	0	0	0
State Water Resources Control Board	8,564,983	49,715	0	6,789,268	1,726,000	0	0
Toxic Substances Control, Department of	645,987	0	0	645,987	0	0	0
Transportation, Department of	39,260,000	0	0	0	0	39,260,000	0
Water Resources, Department of	13,051,260	0	0	13,051,260	0	0	0
Colorado	38,058,349	1,028,351	2,602,115	7,762,275	8,813,647	3,395,841	14,456,120
Agriculture, Department of	581,906	228,206	0	0	353,700	0	0
Economic Development and International Trade, Office of	20,576,916	571,103	2,435,049	0	7,671,891	0	9,898,873
Higher Education Competitive, Research Authority	1,443,141	0	167,066	129,275	0	0	1,146,800
Higher Education, Department of	2,425,000	0	0	0	0	0	2,425,000

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Natural Resources, Department of	5,062,623	0	0	5,057,128	55	5,000	440
Public Health and Environment, Department of	3,363,873	0	0	2,575,872	788,001	0	0
Public Safety, Department of; Division of Criminal Justice	985,007	0	0	0	0	0	985,007
Transportation, Department of	3,390,841	0	0	0	0	3,390,841	0
Wine Industry Development Board	229,042	229,042	0	0	0	0	0
Connecticut	60,578,799	4,321,687	2,919,711	11,877,203	26,085,781	2,971,742	12,402,675
Agricultural Experiment Station	13,756,272	4,321,687	0	4,556,381	4,878,204	0	0
Energy and Environmental Protection, Department of	7,320,822	0	0	7,320,822	0	0	0
Innovation Inc.	28,919,435	0	2,919,711	0	13,988,354	0	12,011,370
Mental Health and Addiction Services, Department of	7,217,443	0	0	0	7,217,443	0	0
Public Health, Department of	1,780	0	0	0	1,780	0	0
Social Services, Department of	391,305	0	0	0	0	0	391,305
Transportation, Department of	2,971,742	0	0	0	0	2,971,742	0
Delaware	3,446,375	0	10,495	2,229,910	0	1,205,970	0
Geological Survey	1,618,967	0	0	1,583,763	0	35,204	0
Natural Resources and Environmental Control, Department of	646,147	0	0	646,147	0	0	0
Sustainable Energy Utility	10,495	0	10,495	0	0	0	0
Transportation, Department of	1,170,766	0	0	0	0	1,170,766	0
District of Columbia	10,560,754	0	0	1,976,600	8,244,141	245,919	94,094
Energy and Environment, Department of	476,600	0	0	476,600	0	0	0
Health, Department of	8,244,141	0	0	0	8,244,141	0	0
Transportation, Department of	340,013	0	0	0	0	245,919	94,094
Water and Sewer Authority	1,500,000	0	0	1,500,000	0	0	0
Florida	180,145,644	14,851,847	1,012,306	57,744,843	92,302,255	14,134,393	100,000
Agriculture and Consumer Services, Department of	18,305,424	14,351,847	1,012,306	2,247,776	590,928	102,567	0
Citrus, Department of	850,364	500,000	0	0	350,364	0	0
Environmental Protection, Department of	68,838	0	0	68,838	0	0	0
Fish and Wildlife Conservation Commission	55,428,229	0	0	55,428,229	0	0	0
Gaming Control Commission	100,000	0	0	0	0	0	100,000
Health, Department of	91,360,963	0	0	0	91,360,963	0	0
Space Florida	1,305,000	0	0	0	0	1,305,000	0
Transportation, Department of	12,726,826	0	0	0	0	12,726,826	0
Georgia	24,988,379	0	7,759,750	12,722,663	0	4,505,966	0
Natural Resources, Department of	1,452,630	0	0	1,452,630	0	0	0
Southern States Energy Board	19,326,825	0	7,759,750	11,270,033	0	297,042	0
Transportation, Department of	4,208,924	0	0	0	0	4,208,924	0
Hawaii	6,337,851	932,423	282,042	632,000	1,033,000	2,793,386	665,000
Agriculture, Department of	1,098,423	598,423	0	0	500,000	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Business, Economic Development, and Tourism, Department of	2,022,042	334,000	282,042	208,000	533,000	0	665,000
Land and Natural Resources, Department of	424,000	0	0	424,000	0	0	0
Natural Energy Laboratory of Hawaii Authority	0	0	0	0	0	0	0
Transportation, Department of	2,793,386	0	0	0	0	2,793,386	0
Idaho	20,444,262	8,109,741	0	9,482,216	0	2,852,305	0
Agriculture, Department of	1,623,399	1,623,399	0	0	0	0	0
Barley Commission	367,497	367,497	0	0	0	0	0
Bean Commission	33,833	33,833	0	0	0	0	0
Beef Council	211,642	211,642	0	0	0	0	0
Commerce, Department of	1,289,693	464,736	0	440,418	0	384,539	0
Dairy West	2,999,460	2,999,460	0	0	0	0	0
Fish and Game, Department of	9,041,798	0	0	9,041,798	0	0	0
Oilseed Commission	72,645	72,645	0	0	0	0	0
Pea and Lentil Commission	177,697	177,697	0	0	0	0	0
Potato Commission	878,871	878,871	0	0	0	0	0
Transportation Department	2,467,766	0	0	0	0	2,467,766	0
Wheat Commission	1,279,961	1,279,961	0	0	0	0	0
Illinois	16,463,839	1,977,021	0	1,956,250	400,000	9,782,913	2,347,655
Children and Family Services, Department of	2,347,655	0	0	0	0	0	2,347,655
Midwest Dairy Association, Illinois Division	20,772	20,772	0	0	0	0	0
Nutrient Research and Education Council	3,912,499	1,956,249	0	1,956,250	0	0	0
Public Health, Department of	400,000	0	0	0	400,000	0	0
Transportation, Department of	9,782,913	0	0	0	0	9,782,913	0
Indiana	12,104,856	500,000	0	352,281	0	9,312,575	1,940,000
Economic Development Corporation	3,399,111	0	0	0	0	1,459,111	1,940,000
Natural Resources, Department of	852,281	500,000	0	352,281	0	0	0
Transportation, Department of	7,853,464	0	0	0	0	7,853,464	0
Iowa	10,636,720	179,657	0	3,688,099	0	6,142,926	626,038
Beef Industry Council	60,218	60,218	0	0	0	0	0
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	626,038	0	0	0	0	0	626,038
Midwest Dairy Association, Iowa Division	119,439	119,439	0	0	0	0	0
Natural Resources, Department of	3,688,099	0	0	3,688,099	0	0	0
Transportation, Department of	6,142,926	0	0	0	0	6,142,926	0
Kansas	17,633,236	4,457,312	132,471	8,280,611	0	3,765,115	997,727
Corn Commission	311,744	179,273	132,471	0	0	0	0
Grain Sorghum Commission	700,000	700,000	0	0	0	0	0
Midwest Dairy Association, Kansas Division	15,579	15,579	0	0	0	0	0
Soybean Commission	1,248,862	1,248,862	0	0	0	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
State Board of Regents	997,727	0	0	0	0	0	997,727
Sunflower Commission	20,000	20,000	0	0	0	0	0
Transportation, Department of	3,765,115	0	0	0	0	3,765,115	0
Water Office	1,207,240	48,598	0	1,158,642	0	0	0
Wheat Commission	2,245,000	2,245,000	0	0	0	0	0
Wildlife and Parks, Department of	7,121,969	0	0	7,121,969	0	0	0
Kentucky	34,881,537	290,727	140,000	7,261,361	16,829,567	8,781,665	1,578,217
Economic Development, Cabinet for	3,447,809	80,000	140,000	230,000	1,419,592	0	1,578,217
Fish and Wildlife Resources, Department of	6,989,041	0	0	6,989,041	0	0	0
Horse Racing Commission	70,000	0	0	0	70,000	0	0
Nature Preserves, Office of Kentucky	42,320	0	0	42,320	0	0	0
Postsecondary Education, Council on	11,572,700	0	0	0	11,572,700	0	0
Public Health, Department for	3,767,275	0	0	0	3,767,275	0	0
Soybean Promotion Board	210,727	210,727	0	0	0	0	0
Transportation Cabinet	8,781,665	0	0	0	0	8,781,665	0
Louisiana	31,843,839	289,750	927,353	10,092,683	1,196,008	10,065,406	9,272,639
Board of Regents	12,613,939	289,750	927,353	862,783	1,196,008	65,406	9,272,639
Coastal Protection and Restoration Authority	3,681,012	0	0	3,681,012	0	0	0
Transportation and Development, Department of	10,000,000	0	0	0	0	10,000,000	0
Wildlife and Fisheries, Department of	5,548,888	0	0	5,548,888	0	0	0
Maine	24,812,470	1,542,730	0	7,605,622	9,873,473	1,558,635	4,232,010
Agriculture, Conservation and Forestry, Department of	1,889,382	0	0	1,889,382	0	0	0
Aquaculture Innovation Center	555,101	555,101	0	0	0	0	0
Inland Fisheries and Wildlife, Department of	1,080,841	0	0	1,080,841	0	0	0
Marine Resources, Department of	2,712,300	0	0	2,712,300	0	0	0
MDI Biological Laboratory, Center for Biomedical Innovation	9,143,683	0	0	0	9,085,048	58,635	0
Technology Institute	7,931,163	987,629	0	1,923,099	788,425	0	4,232,010
Transportation, Department of	1,500,000	0	0	0	0	1,500,000	0
Maryland	31,280,581	0	2,000,000	410,466	26,227,112	2,643,003	0
Energy Administration	2,000,000	0	2,000,000	0	0	0	0
Health, Department of	15,000,000	0	0	0	15,000,000	0	0
Natural Resources, Department of	410,466	0	0	410,466	0	0	0
Technology Development Corporation	11,227,112	0	0	0	11,227,112	0	0
Transportation, Department of	2,643,003	0	0	0	0	2,643,003	0
Massachusetts	26,616,423	0	8,548,706	3,522,905	9,189,115	4,050,000	1,305,697
Clean Energy Technology Center	6,848,706	0	6,848,706	0	0	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Environmental Protection, Department of	1,771,575	0	0	1,771,575	0	0	0
Fish and Game, Department of	1,064,180	0	0	1,064,180	0	0	0
Gaming Commission	2,831,240	0	0	0	2,791,240	0	40,000
MassVentures	3,400,000	0	1,700,000	0	1,700,000	0	0
Mental Health, Department of	2,306,184	0	0	0	2,306,184	0	0
Public Health, Department of	1,888,570	0	0	0	1,888,570	0	0
Technology Park Corporation	1,805,968	0	0	337,150	203,121	0	1,265,697
Transportation, Department of	4,050,000	0	0	0	0	4,050,000	0
Water Resources Authority	650,000	0	0	350,000	300,000	0	0
Michigan	30,525,914	2,756,984	0	880,828	20,662,258	6,225,844	0
Agriculture and Rural Development, Department of	3,198,958	2,756,984	0	441,974	0	0	0
Environmental, Great Lakes, and Energy, Department of	438,854	0	0	438,854	0	0	0
Health and Human Services	662,258	0	0	0	662,258	0	0
Licensing and Regulatory Affairs	20,000,000	0	0	0	20,000,000	0	0
Transportation, Department of	6,225,844	0	0	0	0	6,225,844	0
Minnesota	25,093,959	4,545,874	0	4,929,165	0	15,618,920	0
Agriculture, Department of	5,160,630	4,317,382	0	843,248	0	0	0
Forest Resources Council	75,000	0	0	75,000	0	0	0
Midwest Dairy Association, Minnesota Division	228,492	228,492	0	0	0	0	0
Natural Resources, Department of	2,220,492	0	0	2,220,492	0	0	0
Pollution Control Agency	233,164	0	0	233,164	0	0	0
Transportation, Department of	17,176,181	0	0	1,557,261	0	15,618,920	0
Mississippi	9,788,541	114,017	0	6,374,191	0	3,300,333	0
Agriculture and Commerce, Department of	114,017	114,017	0	0	0	0	0
Environmental Quality, Department of	833,599	0	0	833,599	0	0	0
Gulf States Marine Fisheries Commission	927,742	0	0	927,742	0	0	0
Marine Resources, Department of	2,131,369	0	0	2,131,369	0	0	0
Transportation, Department of	3,300,333	0	0	0	0	3,300,333	0
Wildlife, Fisheries, and Parks, Department of	2,481,481	0	0	2,481,481	0	0	0
Missouri	12,430,684	2,327,790	0	7,213,438	242,500	2,646,956	0
Agriculture, Department of	1,197,350	1,197,350	0	0	0	0	0
Conservation, Department of	7,039,079	0	0	7,039,079	0	0	0
Mental Health, Department of	242,500	0	0	0	242,500	0	0
Natural Resources, Department of	174,359	0	0	174,359	0	0	0
Technology Corporation	500,000	500,000	0	0	0	0	0
Transportation, Department of	2,646,956	0	0	0	0	2,646,956	0
Wine and Grape Board	630,440	630,440	0	0	0	0	0
Montana	9,752,216	3,359,243	0	4,371,611	0	1,971,362	50,000
Agriculture, Department of	3,359,243	3,359,243	0	0	0	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Environmental Quality, Department of	55,000	0	0	55,000	0	0	0
Fish, Wildlife and Parks, Department of	3,824,321	0	0	3,824,321	0	0	0
Natural Resources and Conservation, Department of	42,740	0	0	42,740	0	0	0
Transportation, Department of	2,470,912	0	0	449,550	0	1,971,362	50,000
Nebraska	32,687,157	3,326,551	157,872	4,079,403	19,918,950	1,270,607	3,933,774
Agriculture, Department of	880,683	880,683	0	0	0	0	0
Corn Board	798,965	605,344	112,872	0	0	80,749	0
Dry Bean Commission	305,376	305,376	0	0	0	0	0
Economic Development, Department of	6,618,124	1,487,600	45,000	0	1,085,250	66,500	3,933,774
Game and Parks Commission	3,935,042	0	0	3,935,042	0	0	0
Grain Sorghum Board	5,000	5,000	0	0	0	0	0
Health and Human Services, Department of	18,833,700	0	0	0	18,833,700	0	0
Midwest Dairy Association, Nebraska Division	31,158	31,158	0	0	0	0	0
Natural Resources, Department of	50,000	0	0	50,000	0	0	0
Pea And Lentil Commission	1,390	1,390	0	0	0	0	0
Transportation, Department of	1,217,719	0	0	94,361	0	1,123,358	0
Wheat Board	10,000	10,000	0	0	0	0	0
Nevada	3,643,395	208,642	0	474,700	0	1,632,800	1,327,253
Agriculture, Department of	208,642	208,642	0	0	0	0	0
Economic Development, Governor's office of	1,327,253	0	0	0	0	0	1,327,253
Transportation, Department of	2,107,500	0	0	474,700	0	1,632,800	0
New Hampshire	9,222,505	26,047	0	1,406,171	0	734,656	7,055,631
Agriculture, Markets and Food, Department of	43,897	26,047	0	17,850	0	0	0
Business and Economic Affairs, Department of	7,000,000	0	0	0	0	0	7,000,000
Environmental Services, Department of	1,259,624	0	0	1,259,624	0	0	0
Transportation, Department of	918,984	0	0	128,697	0	734,656	55,631
New Jersey	65,020,915	0	0	5,608,633	46,820,754	7,239,506	5,352,022
Agriculture, Department of	180,151	0	0	0	180,151	0	0
Children and Families, Department of	368,019	0	0	0	0	0	368,019
Community Affairs, Department of	22,000	0	0	0	0	0	22,000
Corrections, Department of	416,034	0	0	0	0	0	416,034
Environmental Protection, Department of	6,493,270	0	0	5,196,552	1,296,718	0	0
Health, Department of	45,343,885	0	0	0	45,343,885	0	0
Pinelands Commission	412,081	0	0	412,081	0	0	0
Secretary of Higher Education, Office of	4,500,000	0	0	0	0	0	4,500,000
State Parole Board, New Jersey	45,969	0	0	0	0	0	45,969

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Transit, New Jersey	251,362	0	0	0	0	251,362	0
Transportation, Department of	6,988,144	0	0	0	0	6,988,144	0
New Mexico	3,456,227	0	0	1,950,400	0	1,400,300	105,527
Cultural Affairs, Department of	105,527	0	0	0	0	0	105,527
Game and Fish, Department of	1,765,554	0	0	1,765,554	0	0	0
Transportation, Department of	1,400,300	0	0	0	0	1,400,300	0
Western State Air Resources Council	184,846	0	0	184,846	0	0	0
New York	506,283,025	8,293,408	65,172,565	21,860,827	308,203,902	10,073,889	92,678,434
Agriculture and Markets, Department of	7,728,860	7,419,400	0	309,460	0	0	0
Economic Development, Department of	103,874,022	0	3,150,000	0	8,095,588	0	92,628,434
Energy Research and Development Authority	56,620,719	0	52,923,298	330,349	0	3,367,072	0
Environmental Conservation, Department of	8,217,418	0	0	8,217,418	0	0	0
Health, Department of	58,241,006	301,329	0	1,807,973	56,131,704	0	0
Mental Health, Office of	170,676,444	0	0	0	170,676,444	0	0
People with Developmental Disabilities, Office of	1,682,143	0	0	0	1,632,143	0	50,000
Power Authority	9,714,648	167,387	9,099,267	213,369	105,250	129,375	0
Roswell Park Comprehensive Cancer Center	71,562,773	0	0	0	71,562,773	0	0
State Museum	10,982,258	0	0	10,982,258	0	0	0
Thoroughbred Breeding and Development Fund Corp.	405,292	405,292	0	0	0	0	0
Transportation, Department of	6,577,442	0	0	0	0	6,577,442	0
North Carolina	38,818,576	14,078,340	1,680,920	6,263,664	5,202,825	9,103,250	2,489,577
Agriculture and Consumer Services, Department of	15,422,911	13,922,911	1,500,000	0	0	0	0
Biotechnology Center	2,841,679	0	0	0	2,841,679	0	0
Environmental Quality, Department of	3,275,157	0	0	2,778,079	0	0	497,078
Natural and Cultural Resources, Department of	2,425,310	0	0	2,425,310	0	0	0
Science Technology & Innovation, Office of	4,660,090	12,000	180,920	105,275	2,361,146	8,250	1,992,499
Transportation, Department of	10,050,000	0	0	955,000	0	9,095,000	0
Wine and Grape Growers Council	143,429	143,429	0	0	0	0	0
North Dakota	17,874,336	3,145,930	9,398,767	624,754	3,313,396	1,298,374	93,115
Agriculture, Department of	3,313,396	0	0	0	3,313,396	0	0
Dry Pea and Lentil Commission	282,308	282,308	0	0	0	0	0
Game and Fish, Department of	595,698	0	0	595,698	0	0	0
Historical Society of North Dakota	93,115	0	0	0	0	0	93,115
Industrial Commission	9,398,767	0	9,398,767	0	0	0	0
Midwest Dairy Association, North Dakota Division	5,193	5,193	0	0	0	0	0
Soybean Council	1,622,297	1,593,241	0	29,056	0	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Transportation, Department of	1,298,374	0	0	0	0	1,298,374	0
Wheat Commission	1,265,188	1,265,188	0	0	0	0	0
Ohio	70,471,571	0	9,364,131	49,888,407	0	6,349,868	4,869,165
Development, Department of	57,980,338	0	9,315,678	43,975,495	0	0	4,689,165
Education, Department of	180,000	0	0	0	0	0	180,000
Environmental Protection Agency	379,412	0	0	379,412	0	0	0
Natural Resources, Department of	3,723,242	0	48,453	3,674,789	0	0	0
Transportation, Department of	6,349,868	0	0	0	0	6,349,868	0
Water Development Authority	1,858,711	0	0	1,858,711	0	0	0
Oklahoma	27,646,238	1,514,338	883,335	3,000,003	16,139,607	4,292,220	1,816,735
Advancement of Science and Technology, Center for the	8,629,841	1,065,549	883,335	418,083	4,182,092	723,848	1,356,934
Agriculture, Food, and Forestry, Department of	443,596	443,596	0	0	0	0	0
Environmental Quality, Department of	345,916	0	0	345,916	0	0	0
Grand River Dam Authority	525,000	0	0	525,000	0	0	0
Health, Department of	1,053,610	0	0	0	1,053,610	0	0
Human Services, Department of	459,801	0	0	0	0	0	459,801
Midwest Dairy Association, Oklahoma Division	5,193	5,193	0	0	0	0	0
Tobacco Settlement Endowment Trust	10,903,905	0	0	0	10,903,905	0	0
Transportation, Department of	3,568,372	0	0	0	0	3,568,372	0
Wildlife Conservation, Department of	1,711,004	0	0	1,711,004	0	0	0
Oregon	33,801,166	583,164	1,659,775	18,199,863	3,779,289	7,385,549	2,193,526
Agriculture, Department of	248,348	248,348	0	0	0	0	0
Business Oregon	11,252,148	334,816	1,659,775	759,816	3,545,794	3,225,412	1,726,535
Environmental Quality, Department of	145,000	0	0	145,000	0	0	0
Fish and Wildlife, Department of	14,109,145	0	0	14,109,145	0	0	0
Forestry, Department of	700,000	0	0	700,000	0	0	0
Geology and Mineral Industries, Department of	942,340	0	0	942,340	0	0	0
Human Services, Department of	778,318	0	0	77,832	233,495	0	466,991
Transportation, Department of	4,292,580	0	0	132,443	0	4,160,137	0
Water Resources Department	1,067,424	0	0	1,067,424	0	0	0
Watershed Enhancement Board	265,863	0	0	265,863	0	0	0
Pennsylvania	88,557,830	3,446,582	457,337	13,890,852	61,719,253	4,100,235	4,943,571
Agriculture, Department of	3,206,582	3,206,582	0	0	0	0	0
Community and Economic Development, Department of	22,100,000	240,000	307,429	210,000	15,189,000	1,210,000	4,943,571
Conservation and Natural Resources, Department of	505,181	0	0	505,181	0	0	0
Environmental Protection, Department of	196,401	0	149,908	0	46,493	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Fish and Boat Commission	348,312	0	0	348,312	0	0	0
Game Commission	12,697,359	0	0	12,697,359	0	0	0
Health, Department of	46,483,760	0	0	0	46,483,760	0	0
Susquehanna River Basin Commission	130,000	0	0	130,000	0	0	0
Transportation, Department of	2,890,235	0	0	0	0	2,890,235	0
Rhode Island	8,361,413	99,985	136,999	6,658,944	363,485	900,000	202,000
Commerce Corporation	986,076	99,985	136,999	183,607	363,485	0	202,000
Fish and Wildlife; Environmental Management, Department of	4,044,625	0	0	4,044,625	0	0	0
Marine Fisheries; Environmental Management, Department of	2,169,953	0	0	2,169,953	0	0	0
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	181,937	0	0	181,937	0	0	0
Transportation, Department of	900,000	0	0	0	0	900,000	0
Water Resources Board	78,822	0	0	78,822	0	0	0
South Carolina	50,056,315	1,770,038	562,345	29,745,041	13,374,650	2,581,949	2,022,292
Agriculture, Department of	1,180,047	1,130,047	50,000	0	0	0	0
Disabilities and Special Needs, Department of	11,798,260	0	0	0	11,798,260	0	0
Health and Environmental Control, Department of	1,146,936	459,991	0	0	686,945	0	0
Mental Health, Department of	39,467	0	0	0	39,467	0	0
Natural Resources, Department of	26,580,926	0	0	26,580,926	0	0	0
Public Service Authority	512,345	0	512,345	0	0	0	0
Research Authority	3,197,270	180,000	0	25,000	849,978	125,000	2,017,292
Sea Grant Consortium	3,144,115	0	0	3,139,115	0	0	5,000
Transportation, Department of	2,456,949	0	0	0	0	2,456,949	0
South Dakota	4,595,753	2,486,260	0	0	0	2,109,493	0
Corn Utilization Council	50,000	50,000	0	0	0	0	0
Midwest Dairy Association, South Dakota Division	67,509	67,509	0	0	0	0	0
Nutrient Research and Education Council	972,936	972,936	0	0	0	0	0
Oilseeds Council	352,798	352,798	0	0	0	0	0
Pulse Crop Council	31,390	31,390	0	0	0	0	0
Soybean Research and Promotion Council	449,642	449,642	0	0	0	0	0
Transportation, Department of	2,109,493	0	0	0	0	2,109,493	0
Weed and Pest Control Commission	47,000	47,000	0	0	0	0	0
Wheat Commission	514,985	514,985	0	0	0	0	0
Tennessee	38,959,330	0	0	314,273	0	5,399,804	33,245,253
Education, Department of	26,245,253	0	0	0	0	0	26,245,253
Environment and Conservation, Department of	314,273	0	0	314,273	0	0	0
LaunchTN	7,000,000	0	0	0	0	0	7,000,000

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Transportation, Department of	5,399,804	0	0	0	0	5,399,804	0
Texas	247,609,284	1,353,356	0	6,661,241	214,612,352	24,982,335	0
Agriculture, Department of	1,353,356	1,353,356	0	0	0	0	0
Alzheimer's Research and Care Consortium (TARCC)	4,384,547	0	0	0	4,384,547	0	0
Cancer Prevention and Research Institute	208,262,268	0	0	0	208,262,268	0	0
Environmental Quality, Commission on	1,490,243	0	0	1,490,243	0	0	0
Parks and Wildlife Department	4,445,763	0	0	4,445,763	0	0	0
State Health Services, Department of	1,965,537	0	0	0	1,965,537	0	0
Transportation, Department of	24,982,335	0	0	0	0	24,982,335	0
Water Development Board	725,235	0	0	725,235	0	0	0
Utah	8,837,531	305,965	0	5,847,503	0	2,684,063	0
Agriculture And Food, Department Of	305,965	305,965	0	0	0	0	0
Environmental Quality, Department of	618,560	0	0	618,560	0	0	0
Natural Resources, Department of	5,228,943	0	0	5,228,943	0	0	0
Transportation, Department of	2,684,063	0	0	0	0	2,684,063	0
Vermont	1,460,157	0	0	63,773	553,199	843,185	0
Agriculture, Food, and Markets, Agency of	63,773	0	0	63,773	0	0	0
Human Services, Agency of	553,199	0	0	0	553,199	0	0
Transportation, Agency of	843,185	0	0	0	0	843,185	0
Virginia	40,253,504	3,267,434	412,180	10,742,492	2,963,275	16,489,762	6,378,361
Agriculture and Consumer Services, Department of	2,949,439	2,949,439	0	0	0	0	0
Behavioral Health And Developmental Services, Department of	1,240	0	0	0	0	0	1,240
Commonwealth Health Research Board	1,249,650	0	0	0	1,249,650	0	0
Education, Department of	1,115,000	0	0	0	0	0	1,115,000
Energy, Department of	1,629,726	0	0	1,629,726	0	0	0
Environmental Quality, Department of	347,705	0	0	347,705	0	0	0
Forensic Science, Department of	1,016,000	0	0	0	0	0	1,016,000
Forestry, Department of	610,930	0	0	610,930	0	0	0
Foundation for Healthy Youth	808,437	0	0	0	808,437	0	0
Innovation Partnership Corporation	10,980,762	244,995	412,180	3,594,694	905,188	2,577,584	3,246,121
Institute for Advanced Learning and Research	73,000	73,000	0	0	0	0	0
Marine Resources Commission	1,990,284	0	0	1,990,284	0	0	0
Natural History, Museum of	856,356	0	0	856,356	0	0	0
Rail And Public Transportation	260,000	0	0	0	0	260,000	0
Social Services, Department of	1,000,000	0	0	0	0	0	1,000,000
Transportation, Department of	13,652,178	0	0	0	0	13,652,178	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Wildlife Resources, Department of	1,712,797	0	0	1,712,797	0	0	0
Washington	60,886,219	13,620,631	15,236,975	22,916,358	1,362,789	4,527,700	3,221,766
Agriculture, Department of	3,415,009	3,415,009	0	0	0	0	0
Alfalfa Seed Commission	20,000	20,000	0	0	0	0	0
Asparagus Commission	40,000	40,000	0	0	0	0	0
Blueberry Commission	217,000	217,000	0	0	0	0	0
Commerce, Department of	14,792,431	0	14,792,431	0	0	0	0
Cranberry Commission	15,880	15,880	0	0	0	0	0
Dairy Products Commission	80,000	80,000	0	0	0	0	0
Ecology, Department of	1,353,380	0	0	1,353,380	0	0	0
Fish and Wildlife, Department of	11,727,293	0	0	11,727,293	0	0	0
Fruit Commission	97,789	0	0	0	97,789	0	0
Grain Commission	2,046,962	2,046,962	0	0	0	0	0
Health, Department of	1,265,000	0	0	0	1,265,000	0	0
Hop Commission	134,868	134,868	0	0	0	0	0
Labor and Industries, Department of	3,221,766	0	0	0	0	0	3,221,766
Mint Commission	32,739	32,739	0	0	0	0	0
Natural Resources, Department of	7,767,429	0	444,544	7,322,885	0	0	0
Oilseeds Commission	120,538	120,538	0	0	0	0	0
Pesticide Registration, Commission on	405,000	405,000	0	0	0	0	0
Potato Commission	895,660	895,660	0	0	0	0	0
Puget Sound Partnership	2,512,800	0	0	2,512,800	0	0	0
Pulse Crops Commission	124,303	124,303	0	0	0	0	0
Red Raspberry Commission	180,470	180,470	0	0	0	0	0
Transportation, Department of	4,527,700	0	0	0	0	4,527,700	0
Tree Fruit Research Commission	5,231,737	5,231,737	0	0	0	0	0
Turfgrass Seed Commission	157,209	157,209	0	0	0	0	0
Wine Commission	503,256	503,256	0	0	0	0	0
West Virginia	9,180,282	244,126	1,333,732	2,433,225	241,625	2,260,000	2,667,574
Agriculture, Department of	244,126	244,126	0	0	0	0	0
Geological and Economic Survey	2,053,431	0	1,161,760	527,209	0	0	364,462
Higher Education Policy Commission	2,748,699	0	171,972	31,990	241,625	0	2,303,112
Natural Resources, Department of	1,874,026	0	0	1,874,026	0	0	0
Transportation, Department of	2,260,000	0	0	0	0	2,260,000	0
Wisconsin	19,060,693	2,539,311	0	7,047,780	1,314,143	4,217,027	3,942,432
Agriculture, Trade and Consumer Protection, Department of	2,539,311	2,539,311	0	0	0	0	0
Economic Development Corporation	5,256,575	0	0	0	1,314,143	0	3,942,432
Natural Resources, Department of	7,047,780	0	0	7,047,780	0	0	0
Transportation, Department of	4,217,027	0	0	0	0	4,217,027	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2022

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Wyoming	5,657,338	640,504	1,150,355	2,086,841	656,000	768,083	355,555
Agriculture, Department of	640,504	640,504	0	0	0	0	0
Business Council	1,011,555	0	0	0	656,000	0	355,555
Enhanced Oil Recovery Institute	1,032,669	0	1,032,669	0	0	0	0
Game and Fish Department	1,658,878	0	0	1,658,878	0	0	0
State Geological Survey	235,372	0	117,686	117,686	0	0	0
Transportation, Department of	768,083	0	0	0	0	768,083	0
Water Development Office	310,277	0	0	310,277	0	0	0
Puerto Rico ^c	17,058,786	258,249	0	796,996	11,118,968	0	4,884,573
Comprehensive Cancer Center	8,273,926	0	0	0	7,893,217	0	380,709
Economic Development & Commerce	760,000	0	0	160,000	420,000	0	180,000
Innovation & Technology Services	3,555,203	0	0	0	678,603	0	2,876,600
Institute of Statistics	1,462,042	0	0	0	339,960	0	1,122,082
Mental Health and Anti-Addiction Services Administration	225,000	0	0	0	225,000	0	0
Science, Technology and Research Trust	2,782,615	258,249	0	636,996	1,562,188	0	325,182

^a Other functions include, but are not limited to, corrections, criminal justice, education, forensic science, labor, public safety, and social services.

^b U.S. total reflects all 50 states and the District of Columbia.

^c Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 22

State government R&D intramural personnel, by state, headcount, and full-time equivalent: FY 2022

(Number)

State	R&D personnel headcount				R&D personnel (full-time equivalent)			
	Total	Researchers ^a	Technicians	Support staff	Total	Researchers ^a	Technicians	Support staff
United States ^b	9,444	4,962	3,128	1,354	6,056.1	3,402.8	1,765.9	887.4
Alabama	103	60	28	15	77.2	58.0	9.4	9.8
Alaska	94	58	21	15	77.7	51.5	17.5	8.7
Arizona	40	21	14	5	34.3	17.5	12.0	4.8
Arkansas	10	6	1	3	4.1	3.0	0.3	0.8
California	630	458	41	131	561.3	412.3	31.0	118.0
Colorado	107	64	37	6	49.1	41.3	6.3	1.5
Connecticut	261	173	34	54	154.4	108.6	30.0	15.8
Delaware	16	10	3	3	16.0	10.0	3.0	3.0
District of Columbia	29	7	10	12	14.7	6.2	4.5	4.0
Florida	874	667	73	134	626.2	494.3	35.3	96.6
Georgia	11	7	1	3	8.6	5.7	1.0	1.9
Hawaii	12	5	1	6	4.9	1.5	0.2	3.2
Idaho	87	28	54	5	69.7	20.2	45.6	3.9
Illinois	8	4	2	2	5.6	3.3	1.5	0.8
Indiana	46	22	17	7	16.9	11.5	4.0	1.4
Iowa	43	28	14	1	26.9	15.9	10.3	0.7
Kansas	25	16	4	5	19.1	11.1	4.0	4.0
Kentucky	222	124	92	6	15.3	11.5	3.5	0.3
Louisiana	240	128	69	43	101.3	62.9	28.8	9.6
Maine	173	73	52	48	149.6	58.9	49.0	41.7
Maryland	42	23	13	6	30.3	17.0	9.3	4.0
Massachusetts	86	37	41	8	16.0	9.7	4.7	1.6
Michigan	7	2	4	1	0.7	0.5	0.0	0.2
Minnesota	82	50	23	9	60.9	42.0	12.9	6.0
Mississippi	136	40	85	11	38.9	13.9	21.6	3.4
Missouri	228	77	143	8	113.0	60.0	51.0	2.0
Montana	102	27	68	7	15.3	4.6	5.7	5.0
Nebraska	45	22	22	1	33.7	21.5	11.2	1.0
Nevada	3	1	2	0	1.5	0.5	1.0	0.0
New Hampshire	16	2	3	11	2.2	2.0	0.1	0.1
New Jersey	54	48	2	4	23.5	19.0	1.5	3.0
New Mexico	27	15	6	6	11.1	7.0	1.8	2.3
New York	3,102	1,438	1,252	412	2,308.1	1,023.6	914.7	369.8
North Carolina	208	98	78	32	171.3	77.3	69.0	25.0
North Dakota	11	10	1	0	4.8	4.5	0.3	0.0
Ohio	32	16	11	5	9.6	6.5	2.7	0.4
Oklahoma	59	25	28	6	18.2	10.0	5.9	2.3
Oregon	278	99	156	23	147.1	73.9	64.5	8.7
Pennsylvania	176	85	84	7	112.0	48.4	57.0	6.6
Rhode Island	48	41	2	5	35.5	30.0	1.0	4.5
South Carolina	437	210	143	84	250.4	143.3	77.0	30.1
South Dakota	6	5	0	1	4.5	4.0	0.0	0.5
Tennessee	7	6	0	1	7.0	6.0	0.0	1.0
Texas	56	39	6	11	37.1	25.3	6.0	5.8
Utah	80	47	22	11	38.8	29.6	7.2	2.0
Vermont	30	9	17	4	6.3	1.6	4.1	0.6
Virginia	154	82	39	33	113.7	70.1	25.3	18.3
Washington	640	352	173	115	270.7	173.2	62.0	35.5
West Virginia	115	47	49	19	80.2	40.0	32.0	8.2

TABLE 22

State government R&D intramural personnel, by state, headcount, and full-time equivalent: FY 2022

(Number)

State	R&D personnel headcount				R&D personnel (full-time equivalent)			
	Total	Researchers ^a	Technicians	Support staff	Total	Researchers ^a	Technicians	Support staff
Wisconsin	105	34	66	5	25.2	19.6	0.6	5.0
Wyoming	41	16	21	4	35.6	13.0	18.6	4.0
Puerto Rico ^c	153	31	75	47	115.4	24.7	58.3	32.4

^a Researchers include R&D scientists and engineers and their managers.

^b U.S. total reflects all 50 states and the District of Columbia.

^c Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

TABLE 23

State agency R&D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2022

(Number)

State and department or agency	R&D personnel headcount				R&D personnel (full-time equivalent)			
	Total	Researchers ^a	Technicians	Support staff	Total	Researchers ^a	Technicians	Support staff
United States ^b	9,444	4,962	3,128	1,354	6,056.1	3,402.8	1,765.9	887.4
Alabama	103	60	28	15	77.2	58.0	9.4	9.8
Education, Department of	25	25	0	0	25.0	25.0	0.0	0.0
Forensic Sciences, Department of	2	2	0	0	2.0	2.0	0.0	0.0
Geological Survey	34	28	3	3	32.2	28.0	2.4	1.8
Marine Environmental Science Consortium, Dauphin Island Sea Lab	42	5	25	12	18.0	3.0	7.0	8.0
Alaska	94	58	21	15	77.7	51.5	17.5	8.7
Environmental Conservation, Department of	5	1	0	4	0.7	0.5	0.0	0.2
Natural Resources, Department of; Division of Geological and Geophysical Surveys	67	44	16	7	67.0	44.0	16.0	7.0
Railroad Corporation	16	10	5	1	6.5	4.0	1.5	1.0
Transportation and Public Facilities, Department of	6	3	0	3	3.5	3.0	0.0	0.5
Arizona	40	21	14	5	34.3	17.5	12.0	4.8
Game and Fish Department	23	14	8	1	17.3	10.5	6.0	0.8
Juvenile Corrections, Department of	5	3	2	0	5.0	3.0	2.0	0.0
Transportation, Department of	12	4	4	4	12.0	4.0	4.0	4.0
Arkansas	10	6	1	3	4.1	3.0	0.3	0.8
Natural Heritage Commission	2	2	0	0	2.0	2.0	0.0	0.0
Transportation, Department of	8	4	1	3	2.1	1.0	0.3	0.8
California	630	458	41	131	561.3	412.3	31.0	118.0
Air Resources Board	71	58	3	10	70.0	58.0	2.4	9.6
Children and Families Commission (First 5 California)	2	2	0	0	2.0	2.0	0.0	0.0
Conservation, Department of	16	14	2	0	5.1	5.0	0.1	0.0
Earthquake Authority	4	2	0	2	3.0	1.5	0.0	1.5
Energy Commission	103	86	0	17	103.0	86.0	0.0	17.0
Environmental Health Hazard Assessment, Office of	123	88	0	35	121.0	87.4	0.0	33.6
Forestry and Fire Protection, Department of	28	12	12	4	10.0	5.0	5.0	0.0
Housing and Community Development, Department of	24	3	20	1	24.0	3.0	20.0	1.0
Mental Health Services Oversight and Accountability Commission	14	12	0	2	14.0	12.0	0.0	2.0
Motor Vehicles, Department of	18	14	0	4	17.2	14.0	0.0	3.2
Pesticide Regulation, Department of	84	60	0	24	83.6	59.7	0.0	23.9
Public Health, Department of	8	8	0	0	2.5	2.5	0.0	0.0
Rehabilitation, Department of	12	0	0	12	10.5	0.0	0.0	10.5
State Water Resources Control Board	22	17	0	5	10.0	9.3	0.0	0.7
Toxic Substances Control, Department of	15	15	0	0	3.4	3.4	0.0	0.0
Transportation, Department of	81	62	4	15	80.0	61.5	3.5	15.0
Water Resources, Department of	5	5	0	0	2.0	2.0	0.0	0.0
Colorado	107	64	37	6	49.1	41.3	6.3	1.5
Agriculture, Department of	35	5	30	0	7.2	1.4	5.8	0.0
Natural Resources, Department of	51	39	7	5	23.0	22.0	0.5	0.5
Public Health and Environment, Department of	9	9	0	0	8.7	8.7	0.0	0.0
Public Safety, Department of; Division of Criminal Justice	7	7	0	0	5.2	5.2	0.0	0.0
Transportation, Department of	5	4	0	1	5.0	4.0	0.0	1.0

TABLE 23

State agency R&D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2022

(Number)

State and department or agency	R&D personnel headcount				R&D personnel (full-time equivalent)			
	Total	Researchers ^a	Technicians	Support staff	Total	Researchers ^a	Technicians	Support staff
Connecticut	261	173	34	54	154.4	108.6	30.0	15.8
Agricultural Experiment Station	88	48	26	14	88.0	48.0	26.0	14.0
Energy and Environmental Protection, Department of	55	47	8	0	27.0	23.0	4.0	0.0
Mental Health and Addiction Services, Department of	41	40	0	1	33.3	32.3	0.0	1.0
Social Services, Department of	32	32	0	0	2.2	2.2	0.0	0.0
Transportation, Department of	45	6	0	39	3.9	3.1	0.0	0.8
Delaware	16	10	3	3	16.0	10.0	3.0	3.0
Geological Survey	16	10	3	3	16.0	10.0	3.0	3.0
District of Columbia	29	7	10	12	14.7	6.2	4.5	4.0
Health, Department of	23	2	9	12	9.7	1.7	4.0	4.0
Transportation, Department of	2	1	1	0	1.5	1.0	0.5	0.0
Water and Sewer Authority	4	4	0	0	3.5	3.5	0.0	0.0
Florida	874	667	73	134	626.2	494.3	35.3	96.6
Agriculture and Consumer Services, Department of	11	4	7	0	11.0	4.0	7.0	0.0
Citrus, Department of	2	1	1	0	1.5	0.0	0.5	1.0
Fish and Wildlife Conservation Commission	849	658	58	133	605.0	488.0	22.0	95.0
Transportation, Department of	12	4	7	1	8.7	2.3	5.8	0.6
Georgia	11	7	1	3	8.6	5.7	1.0	1.9
Natural Resources, Department of	2	2	0	0	1.5	1.5	0.0	0.0
Southern States Energy Board	9	5	1	3	7.1	4.2	1.0	1.9
Hawaii	12	5	1	6	4.9	1.5	0.2	3.2
Agriculture, Department of	10	5	1	4	2.9	1.5	0.2	1.2
Business, Economic Development, and Tourism, Department of	2	0	0	2	2.0	0.0	0.0	2.0
Idaho	87	28	54	5	69.7	20.2	45.6	3.9
Fish and Game, Department of	85	28	54	3	67.7	20.2	45.6	1.9
Transportation Department	2	0	0	2	2.0	0.0	0.0	2.0
Illinois	8	4	2	2	5.6	3.3	1.5	0.8
Transportation, Department of	8	4	2	2	5.6	3.3	1.5	0.8
Indiana	46	22	17	7	16.9	11.5	4.0	1.4
Natural Resources, Department of	16	12	3	1	1.5	1.5	0.0	0.0
Transportation, Department of	30	10	14	6	15.4	10.0	4.0	1.4
Iowa	43	28	14	1	26.9	15.9	10.3	0.7
Human Rights, Criminal and Juvenile Justice Planning, Division of, Department of	11	11	0	0	5.0	5.0	0.0	0.0
Natural Resources, Department of	32	17	14	1	21.9	10.9	10.3	0.7
Kansas	25	16	4	5	19.1	11.1	4.0	4.0
State Board of Regents	2	2	0	0	0.1	0.1	0.0	0.0
Transportation, Department of	16	9	4	3	16.0	9.0	4.0	3.0
Water Office	7	5	0	2	3.0	2.0	0.0	1.0
Kentucky	222	124	92	6	15.3	11.5	3.5	0.3
Fish and Wildlife Resources, Department of	220	122	92	6	14.3	10.5	3.5	0.3
Nature Preserves, Office of Kentucky	2	2	0	0	1.0	1.0	0.0	0.0
Louisiana	240	128	69	43	101.3	62.9	28.8	9.6
Coastal Protection and Restoration Authority	11	7	0	4	7.5	6.5	0.0	1.0
Transportation and Development, Department of	55	25	25	5	55.0	25.0	25.0	5.0

TABLE 23

State agency R&D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2022

(Number)

State and department or agency	R&D personnel headcount				R&D personnel (full-time equivalent)			
	Total	Researchers ^a	Technicians	Support staff	Total	Researchers ^a	Technicians	Support staff
Wildlife and Fisheries, Department of	174	96	44	34	38.8	31.4	3.8	3.6
Maine	173	73	52	48	149.6	58.9	49.0	41.7
Agriculture, Conservation and Forestry, Department of	11	7	2	2	10.0	7.0	2.0	1.0
Aquaculture Innovation Center	4	2	2	0	4.0	2.0	2.0	0.0
Inland Fisheries and Wildlife, Department of	35	15	15	5	26.0	8.0	15.0	3.0
Marine Resources, Department of	42	29	9	4	31.4	22.4	6.5	2.5
MDI Biological Laboratory, Center for Biomedical Innovation	78	18	23	37	75.2	17.5	22.5	35.2
Transportation, Department of	3	2	1	0	3.0	2.0	1.0	0.0
Maryland	42	23	13	6	30.3	17.0	9.3	4.0
Natural Resources, Department of	25	17	7	1	24.3	17.0	6.3	1.0
Transportation, Department of	17	6	6	5	6.0	0.0	3.0	3.0
Massachusetts	86	37	41	8	16.0	9.7	4.7	1.6
Environmental Protection, Department of	32	12	16	4	6.0	3.0	2.0	1.0
Fish and Game, Department of	50	22	24	4	8.0	5.0	2.5	0.5
Gaming Commission	2	2	0	0	1.6	1.5	0.0	0.1
Water Resources Authority	2	1	1	0	0.4	0.2	0.2	0.0
Michigan	7	2	4	1	0.7	0.5	0.0	0.2
Agriculture and Rural Development, Department of	1	1	0	0	0.5	0.5	0.0	0.0
Environmental, Great Lakes, and Energy, Department of	6	1	4	1	0.2	0.0	0.0	0.2
Minnesota	82	50	23	9	60.9	42.0	12.9	6.0
Agriculture, Department of	30	11	15	4	8.9	3.0	4.9	1.0
Natural Resources, Department of	52	39	8	5	52.0	39.0	8.0	5.0
Mississippi	136	40	85	11	38.9	13.9	21.6	3.4
Environmental Quality, Department of	12	4	0	8	0.5	0.1	0.0	0.4
Gulf States Marine Fisheries Commission	1	1	0	0	1.0	1.0	0.0	0.0
Marine Resources, Department of	7	5	2	0	2.3	1.5	0.8	0.0
Transportation, Department of	3	0	0	3	3.0	0.0	0.0	3.0
Wildlife, Fisheries, and Parks, Department of	113	30	83	0	32.1	11.3	20.8	0.0
Missouri	228	77	143	8	113.0	60.0	51.0	2.0
Conservation, Department of	228	77	143	8	113.0	60.0	51.0	2.0
Montana	102	27	68	7	15.3	4.6	5.7	5.0
Environmental Quality, Department of	3	2	1	0	1.2	1.0	0.2	0.0
Fish, Wildlife and Parks, Department of	50	21	26	3	9.4	3.2	5.2	1.0
Natural Resources and Conservation, Department of	4	4	0	0	0.4	0.4	0.0	0.0
Transportation, Department of	45	0	41	4	4.3	0.0	0.3	4.0
Nebraska	45	22	22	1	33.7	21.5	11.2	1.0
Game and Parks Commission	35	20	14	1	32.0	20.0	11.0	1.0
Transportation, Department of	10	2	8	0	1.7	1.5	0.2	0.0
Nevada	3	1	2	0	1.5	0.5	1.0	0.0
Agriculture, Department of	3	1	2	0	1.5	0.5	1.0	0.0
New Hampshire	16	2	3	11	2.2	2.0	0.1	0.1
Transportation, Department of	16	2	3	11	2.2	2.0	0.1	0.1
New Jersey	54	48	2	4	23.5	19.0	1.5	3.0
Agriculture, Department of	4	2	1	1	4.0	2.0	1.0	1.0
Children and Families, Department of	16	16	0	0	1.9	1.9	0.0	0.0

TABLE 23

State agency R&D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2022

(Number)

State and department or agency	R&D personnel headcount				R&D personnel (full-time equivalent)			
	Total	Researchers ^a	Technicians	Support staff	Total	Researchers ^a	Technicians	Support staff
Community Affairs, Department of	2	2	0	0	0.1	0.1	0.0	0.0
Corrections, Department of	4	4	0	0	4.0	4.0	0.0	0.0
Environmental Protection, Department of	20	18	1	1	10.0	9.0	0.5	0.5
Pinelands Commission	5	5	0	0	1.0	1.0	0.0	0.0
State Parole Board, New Jersey	3	1	0	2	2.5	1.0	0.0	1.5
New Mexico	27	15	6	6	11.1	7.0	1.8	2.3
Cultural Affairs, Department of	1	1	0	0	0.7	0.7	0.0	0.0
Game and Fish, Department of	20	10	6	4	4.4	2.3	1.8	0.3
Transportation, Department of	6	4	0	2	6.0	4.0	0.0	2.0
New York	3,102	1,438	1,252	412	2,308.1	1,023.6	914.7	369.8
Agriculture and Markets, Department of	14	13	1	0	8.0	7.0	1.0	0.0
Energy Research and Development Authority	33	20	0	13	26.5	20.0	0.0	6.5
Environmental Conservation, Department of	87	55	24	8	47.2	28.9	15.8	2.5
Health, Department of	345	235	89	21	234.0	166.8	52.9	14.3
Mental Health, Office of	1,516	639	686	191	998.0	368.0	455.0	175.0
People with Developmental Disabilities, Office of	28	17	4	7	18.5	10.1	2.1	6.3
Power Authority	11	10	0	1	11.0	10.0	0.0	1.0
Roswell Park Comprehensive Cancer Center	990	419	407	164	887.3	382.8	347.3	157.2
State Museum	73	27	41	5	72.6	27.0	40.6	5.0
Transportation, Department of	5	3	0	2	5.0	3.0	0.0	2.0
North Carolina	208	98	78	32	171.3	77.3	69.0	25.0
Agriculture and Consumer Services, Department of	125	50	59	16	125.0	50.0	59.0	16.0
Environmental Quality, Department of	39	18	12	9	23.8	12.3	5.5	6.0
Natural and Cultural Resources, Department of	39	26	7	6	17.5	11.0	3.5	3.0
Transportation, Department of	5	4	0	1	5.0	4.0	1.0	0.0
North Dakota	11	10	1	0	4.8	4.5	0.3	0.0
Historical Society of North Dakota	5	5	0	0	2.0	2.0	0.0	0.0
Transportation, Department of	6	5	1	0	2.8	2.5	0.3	0.0
Ohio	32	16	11	5	9.6	6.5	2.7	0.4
Education, Department of	1	1	0	0	0.1	0.1	0.0	0.0
Environmental Protection Agency	9	3	4	2	0.7	0.2	0.4	0.1
Natural Resources, Department of	22	12	7	3	8.8	6.2	2.3	0.3
Oklahoma	59	25	28	6	18.2	10.0	5.9	2.3
Environmental Quality, Department of	30	12	16	2	2.4	1.0	1.4	0.0
Grand River Dam Authority	8	3	4	1	2.0	1.5	0.5	0.0
Health, Department of	12	5	6	1	5.8	2.5	3.0	0.3
Human Services, Department of	2	0	1	1	1.0	0.0	0.0	1.0
Transportation, Department of	6	4	1	1	6.0	4.0	1.0	1.0
Wildlife Conservation, Department of	1	1	0	0	1.0	1.0	0.0	0.0
Oregon	278	99	156	23	147.1	73.9	64.5	8.7
Environmental Quality, Department of	7	4	3	0	0.9	0.7	0.2	0.0
Fish and Wildlife, Department of	194	50	134	10	90.8	33.2	53.3	4.3
Forestry, Department of	20	5	10	5	8.5	5.0	2.5	1.0
Geology and Mineral Industries, Department of	15	10	2	3	6.8	5.0	1.5	0.3
Human Services, Department of	21	11	7	3	21.0	11.0	7.0	3.0
Transportation, Department of	8	8	0	0	8.0	8.0	0.0	0.0

TABLE 23

State agency R&D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2022

(Number)

State and department or agency	R&D personnel headcount				R&D personnel (full-time equivalent)			
	Total	Researchers ^a	Technicians	Support staff	Total	Researchers ^a	Technicians	Support staff
Water Resources Department	11	11	0	0	11.0	11.0	0.0	0.0
Watershed Enhancement Board	2	0	0	2	0.1	0.0	0.0	0.1
Pennsylvania	176	85	84	7	112.0	48.4	57.0	6.6
Conservation and Natural Resources, Department of	6	5	1	0	3.5	1.4	0.6	1.5
Environmental Protection, Department of	6	6	0	0	0.4	0.4	0.0	0.0
Fish and Boat Commission	38	22	16	0	2.1	1.0	1.1	0.0
Game Commission	114	45	64	5	105.0	45.0	55.0	5.0
Susquehanna River Basin Commission	12	7	3	2	1.0	0.6	0.3	0.1
Rhode Island	48	41	2	5	35.5	30.0	1.0	4.5
Fish and Wildlife; Environmental Management, Department of	22	20	0	2	12.0	10.0	0.0	2.0
Marine Fisheries; Environmental Management, Department of	19	17	0	2	19.0	17.0	0.0	2.0
Narragansett Bay National Estuarine Research Reserve; Environmental Management, Department of	3	2	1	0	2.5	2.0	0.5	0.0
Transportation, Department of	3	1	1	1	1.5	0.5	0.5	0.5
Water Resources Board	1	1	0	0	0.5	0.5	0.0	0.0
South Carolina	437	210	143	84	250.4	143.3	77.0	30.1
Health and Environmental Control, Department of	74	33	4	37	7.5	5.8	1.0	0.7
Mental Health, Department of	2	1	0	1	0.2	0.1	0.0	0.1
Natural Resources, Department of	326	151	137	38	222.0	124.0	76.0	22.0
Sea Grant Consortium	20	12	2	6	18.0	12.0	0.0	6.0
Transportation, Department of	15	13	0	2	2.7	1.4	0.0	1.3
South Dakota	6	5	0	1	4.5	4.0	0.0	0.5
Soybean Research and Promotion Council	1	0	0	1	0.5	0.0	0.0	0.5
Transportation, Department of	5	5	0	0	4.0	4.0	0.0	0.0
Tennessee	7	6	0	1	7.0	6.0	0.0	1.0
Environment and Conservation, Department of	7	6	0	1	7.0	6.0	0.0	1.0
Texas	56	39	6	11	37.1	25.3	6.0	5.8
Parks and Wildlife Department	29	19	5	5	23.3	14.5	5.0	3.8
State Health Services, Department of	27	20	1	6	13.8	10.8	1.0	2.0
Utah	80	47	22	11	38.8	29.6	7.2	2.0
Environmental Quality, Department of	13	3	10	0	0.8	0.6	0.2	0.0
Natural Resources, Department of	60	40	10	10	31.0	25.0	5.0	1.0
Transportation, Department of	7	4	2	1	7.0	4.0	2.0	1.0
Vermont	30	9	17	4	6.3	1.6	4.1	0.6
Human Services, Agency of	13	5	5	3	4.6	0.0	4.0	0.6
Transportation, Agency of	17	4	12	1	1.7	1.6	0.1	0.0
Virginia	154	82	39	33	113.7	70.1	25.3	18.3
Education, Department of	5	3	1	1	2.2	1.6	0.3	0.3
Energy, Department of	21	17	3	1	17.5	14.5	2.0	1.0
Environmental Quality, Department of	2	2	0	0	0.2	0.2	0.0	0.0
Forensic Science, Department of	7	7	0	0	6.0	6.0	0.0	0.0
Forestry, Department of	6	1	5	0	6.0	1.0	5.0	0.0
Innovation Partnership Corporation	10	2	0	8	6.0	1.0	0.0	5.0
Institute for Advanced Learning and Research	2	1	1	0	1.0	1.0	0.0	0.0

TABLE 23

State agency R&D intramural personnel, by state, department or agency, headcount, and full-time equivalent: FY 2022

(Number)

State and department or agency	R&D personnel headcount				R&D personnel (full-time equivalent)			
	Total	Researchers ^a	Technicians	Support staff	Total	Researchers ^a	Technicians	Support staff
Marine Resources Commission	2	1	1	0	2.0	1.0	1.0	0.0
Natural History, Museum of	10	4	2	4	10.0	4.0	2.0	4.0
Social Services, Department of	18	6	10	2	17.0	6.0	10.0	1.0
Transportation, Department of	71	38	16	17	45.8	33.8	5.0	7.0
Washington	640	352	173	115	270.7	173.2	62.0	35.5
Ecology, Department of	44	21	22	1	12.9	5.6	7.0	0.3
Fish and Wildlife, Department of	421	259	82	80	149.0	106.0	35.0	8.0
Health, Department of	11	7	2	2	6.9	4.8	1.0	1.1
Labor and Industries, Department of	28	24	0	4	28.0	24.0	0.0	4.0
Natural Resources, Department of	107	33	54	20	52.0	26.0	12.0	14.0
Puget Sound Partnership	2	2	0	0	0.9	0.8	0.0	0.1
Transportation, Department of	15	3	7	5	11.0	3.0	3.0	5.0
Tree Fruit Research Commission	12	3	6	3	10.0	3.0	4.0	3.0
West Virginia	115	47	49	19	80.2	40.0	32.0	8.2
Agriculture, Department of	4	4	0	0	4.0	3.0	0.0	1.0
Geological and Economic Survey	34	21	8	5	34.0	21.0	8.0	5.0
Higher Education Policy Commission	3	0	0	3	1.2	0.0	0.0	1.2
Natural Resources, Department of	74	22	41	11	41.0	16.0	24.0	1.0
Wisconsin	105	34	66	5	25.2	19.6	0.6	5.0
Natural Resources, Department of	41	33	8	0	20.2	19.6	0.6	0.0
Transportation, Department of	64	1	58	5	5.0	0.0	0.0	5.0
Wyoming	41	16	21	4	35.6	13.0	18.6	4.0
Enhanced Oil Recovery Institute	11	6	3	2	7.8	3.0	2.8	2.0
Game and Fish Department	11	0	11	0	11.0	0.0	11.0	0.0
State Geological Survey	16	10	4	2	16.0	10.0	4.0	2.0
Transportation, Department of	3	0	3	0	0.8	0.0	0.8	0.0
Puerto Rico ^c	153	31	75	47	115.4	24.7	58.3	32.4
Comprehensive Cancer Center	88	9	48	31	78.0	9.0	48.0	21.0
Innovation & Technology Services	11	0	7	4	2.9	0.0	1.7	1.2
Institute of Statistics	35	7	20	8	20.5	5.7	8.6	6.2
Science, Technology and Research Trust	19	15	0	4	14.0	10.0	0.0	4.0

^a Researchers include R&D scientists and engineers and their managers.^b U.S. total reflects all 50 states and the District of Columbia.^c Puerto Rico is not included in U.S. total due to its classification as a U.S. territory.**Source(s):**

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.

Technical Notes

Survey Overview (FY 2022 survey cycle)

Purpose. The Survey of State Government Research and Development (R&D) is the only source for comprehensive uniform statistics regarding the extent of R&D activity performed and funded by departments and agencies in each of the nation's 50 state governments, the government of the District of Columbia, and the government of Puerto Rico.

Data collection authority. The information is solicited under the National Science Foundation (NSF) Act of 1950, as amended; the America COMPETES Reauthorization Act of 2010; and Title 13, U.S. Code, § 8(b). It is collected under Office of Management and Budget control number 0607-0933, expiration date 31 July 2023.

Survey contractor. The Census Bureau, under NSF interagency agreement number NCSE-2203296, collected, processed, and tabulated the statistics in this report.

Survey sponsor. The National Center for Science and Engineering Statistics (NCSES) within NSF.

Key Survey Information

Frequency. Annual.

Initial survey year. FY 2006.

Reference period. State government fiscal year ending in 2022.

Response unit. State government departments, agencies, commissions, public authorities, institutions, and other entities that operate separately or somewhat autonomously from the central state government—but where the state government maintains administrative or fiscal control over their activities—with the capacity to perform or fund R&D; units are collectively referred to as *agencies*.

Sample or census. Census.

Population size. The population comprised 505 agencies from the 50 state governments, the District of Columbia, and Puerto Rico with the capacity to perform or fund R&D during FY 2022. This year, agencies that reported \$0 R&D the last three survey cycles were marked as inactive for this survey cycle. These will be reactivated for the FY 2023 survey cycle.

Sample size. Not applicable.

Survey Design

Target population. State government departments, agencies, commissions, public authorities, institutions, and other entities that operate separately or somewhat autonomously from the central state government but where the state government maintains administrative or fiscal control over their activities, as defined by the Census Bureau's [Government Finance and Employment Classification Manual](#) (see chapter 1), and that funded or performed R&D for state government FY 2022. Several industry-specific state commissions, which are generally chartered by state legislatures but are administered independently, are considered state agencies and are included in the survey's population. State-run colleges and universities, which are canvassed as part of NCSES's Higher Education Research and Development (HERD) Survey, are excluded from the survey frame. State-run laboratories or experiment stations controlled by state universities are also excluded from the respondent universe, as are any entities determined to be nonprofit or private, as defined by the Census Bureau government classification criteria. However, because agricultural experiment stations in Connecticut are legally organized as a state government-dependent agency and because they are not affiliated with any university system, they are included in the survey's population.

Sampling frame. The total universe includes all state government-dependent units, including those for the District of Columbia and Puerto Rico, with the capacity to perform and fund R&D, identified with the aid of a state coordinator who is appointed by the governor of each state. For the FY 2022 survey, state coordinators were provided with a list of agencies that were previously identified from the FY 2021 survey cycle as having the potential to perform or fund R&D. In addition, these lists included agencies identified from a systematic review of state session laws and additional review of agencies reporting to the Census Bureau's [Census of Governments](#) program by Census Bureau and NCSSES staff. Coordinators were asked to review this list and add agencies that they believed were involved with R&D and were not already identified. State coordinators also adjusted the agency universe to remove agencies that have never had any qualifying R&D to report to NCSSES, to add any agencies that were missing or could have R&D to report, to address organizational changes within their respective states since the previous survey, and to provide updated agency contact information.

Sample design. The Survey of State Government R&D is a census.

Data Collection and Processing Methods

Data collection. For FY 2022, e-mails were sent to the chief of staff for all governors asking them to appoint a state coordinator. Census Bureau staff also reached out to prior state coordinators asking if they would be willing to continue to serve as the coordinators for the FY 2022 cycle. On a flow basis, state coordinators were sent a spreadsheet of agencies and contacts that were surveyed for the FY 2021 Survey of State Government R&D and asked to add agencies that might have some R&D, remove agencies from the survey universe that no longer perform or fund R&D or have been reorganized, and update agency points of contact. Once the state coordinators completed updates to the list of active agencies to be surveyed, they then sent introductory e-mails to the agency respondents stating that respondents would be receiving an e-mail with instructions and the survey form to be completed and e-mailed back to the Census Bureau. The state coordinators sent the updated spreadsheet of agencies and contacts back to the Census Bureau. After receiving the list of updated agencies, agencies identified as having the potential to perform or fund R&D were then e-mailed the survey form. Upon completion by all agencies within a state, the state coordinators were provided with a spreadsheet of agency responses to review the survey results before they were provided to NCSSES for final analysis and dissemination.

Mode. State agencies were e-mailed a fillable Portable Document Format (PDF) form with auto summations and edits built in and were asked to complete the form. State coordinators were given a spreadsheet of potential state agencies and contact information to review and revise as necessary to add agencies to be surveyed, remove others from the survey as inactive, or make corrections to agency points of contact.

Response rates. Response rates were calculated for the FY 2022 Survey of State Government R&D and are available in [table A-1](#).

All 50 state governments and the District of Columbia participated in the survey. A total of 31 of 52 state coordinators updated their spreadsheet. However, only 13 of 52 state coordinators officially responded to verify the final aggregate data for their states. For those agencies that did not have a coordinator appointed, final aggregate data files were sent to staff at NCSSES for review. Some or all agencies submitted data in those states where the coordinator did not verify data officially. A coordinator was not appointed in Arizona, Georgia, Indiana, Louisiana, Massachusetts, Nevada, New Mexico, New York, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, Tennessee, and West Virginia. Historically, NCSSES has partnered with the Puerto Rico Institute of Statistics to collect information on R&D spending from Puerto Rico agencies. The Institute conducts its own survey of R&D activities in the territory and uses the NCSSES survey questions for its collections of government agencies and provides the results to NCSSES. Although the governor's office did not appoint a coordinator for this year's survey, they were able to provide a contact at the Department of Economic Development and Commerce who was able to provide an updated list of agencies and current contacts. Surveys were then sent directly to each agency in Puerto Rico. Responses were received from 9 of the 10 agencies in Puerto Rico that were sent the survey for the FY 2022 cycle.

The final agency response was 502 of 505 agencies (99.4%).

The following agencies did not respond to the survey and as a result may contribute to an undercount in the estimated public expenditures for R&D activities:

- New Mexico Department of Cultural Affairs
- Vermont Agency of Education
- Puerto Rico Molecular Sciences Research Center

Of the 502 agencies that responded, 400 (79.7%) reported having some R&D activity in FY 2022.

Data editing. Initial agency data submissions were received via fillable forms e-mailed to the Census Bureau analyst. Basic logical edit checks, review of respondent comments, and comparisons of data from previous surveys allowed Census Bureau and NCSES staff to detect data errors and work with respondents to correct them. Census Bureau and NCSES staff also conducted follow-up calls to agencies with major data changes in R&D between FY 2021 and FY 2022 to ensure the accuracy of the survey data. Major data changes are dependent on the state and type of agency. After all the agencies in a state submitted responses, a spreadsheet of aggregated agency data was sent to the coordinators. They were asked to perform a final verification of aggregated agency data.

Imputation. Data was imputed for one agency for this cycle. New Mexico Department of Cultural Affairs was imputed using the average of prior year reporting patterns. The reported total for Midwest Dairy was broken out across the divisions in Arkansas, Illinois, Iowa, Kansas, Minnesota, Nebraska, North Dakota, Oklahoma, and South Dakota based on percentages each division contributed as per the annual report. All state and national totals are aggregates of reported agency data. Each state government's organizational structure, laws, and delegation of powers within its purview are unique. No universally applied methods of imputation can be used across all state government agencies and still account for these structural differences. This is consistent with basic statistical methods used by the Census Bureau's Census of Governments, Survey of State Government Finance. Therefore, R&D expenditures may be underestimated in states where agencies failed to respond. When imputation methods are needed, they are handled on an individual state-by-state basis.

Weighting. Not applicable.

Variance estimation. Not applicable.

Survey Quality Measures

Sampling error. Not applicable.

Coverage error. In addition to a Census Bureau review of state session laws to identify agencies with the capacity to fund R&D, NCSES utilizes the expertise of an appointed state coordinator to assist in identifying state government agencies that have the capacity to perform or fund R&D. State coordinators are also offered the opportunity to review survey responses from their respective state agencies before results are finalized for data release. In cases where the state coordinator refused to cooperate or where some agencies failed to respond to the survey, it is possible there may be an undercount of state government R&D activities. The undercount may occur despite efforts by NCSES and Census Bureau staff to conduct additional queries and outreach with state agencies that did not appoint a state coordinator. In other instances, the appointed state coordinator could misinterpret the survey definition and examples of qualifying R&D activities and thus fail to identify all state government-dependent units with the capacity to perform or fund R&D. However, no measures of coverage error are produced.

Nonresponse error. Of the 505 agencies in the survey universe, 502 (99.4%) responded to the survey. Of the 502 respondents, 400 (79.7%) reported having R&D activities in FY 2022. A mathematical statistical method was used to impute one nonresponding agency known to have R&D in the past, namely the New Mexico Department of Cultural Affairs. No other imputation was used for the other nonresponding agencies because the other agencies historically have reported not having R&D. An agency in Puerto Rico was removed from the survey because it reported expenditures for the entire agency budget rather than an R&D amount. Nonresponse error is minimal.

Measurement error. The most common form of nonsampling error in the Survey of State Government R&D is in respondents' interpretation of the survey definition of qualifying R&D activities. To mitigate any potential misinterpretations, several steps were taken. NCSSES provided a series of examples specific to the types of activities performed or funded by state government agencies in the survey questionnaire's definitions and examples. All responses, including the initial agency data submissions and final state coordinator verifications, were received via e-mail or phone. Census Bureau staff performed basic logical edit checks and reviewed respondent comments, allowing staff to detect errors and work with state respondents to correct them. Despite these efforts, some of the data reported could include expenditures for non-R&D activities, such as non-R&D salaries, commercialization, environmental testing, or routine survey or monitoring work. Similarly, some state data may also exclude minor R&D expenditure amounts from agencies not surveyed.

Data Comparability

State government R&D totals can display considerable volatility between survey cycles. For example, state agency expenditures are influenced by several national and state-specific factors, and large changes (either increases or decreases) are not unusual, especially for discretionary spending items such as R&D. States often will create special funds to support specific research activities for a limited time. These funds may have a one-time appropriation from the legislature and expire within 2–5 fiscal years; state agencies obligate those funds for specific R&D projects, depending on availability and expiration of funding authority, as well as other program-specific and administrative considerations. Data reported are agency direct expenditures for R&D in a given fiscal year, not obligations. As such, in the case of multiyear grants to extramural performers, an agency's expenditures for that fiscal year may be greater than its obligations because expenditures may include spending from the previous year's appropriations, depending on the specific budget authority granted by the legislature. It is likely that some portion of the reported changes reflects measurement and coverage errors. In the case of R&D funds for extramural performers, some agencies were able to report only multiyear obligations rather than single-year expenditures.

The survey asked about state agencies' expenditures for R&D at the end of FY 2022. Most states and Puerto Rico have a fiscal year that begins 1 July and ends the following 30 June. For example, FY 2022 is the state fiscal period beginning on 1 July 2021 and ending on 30 June 2022. There are, however, five exceptions to the 30 June fiscal year end: New York (ends 31 March); Texas (ends 31 August); and Alabama, the District of Columbia, and Michigan (all end 30 September). For comparability, all states, the District of Columbia, and Puerto Rico are surveyed at the same time.

A state's R&D priorities may be shaped by the state's unique legislative and budgeting processes. State budget practices vary considerably due to both political and historical reasons. Nineteen states enact biennial budgets. Of these states, Montana, Nevada, North Dakota, and Texas have both biennial legislative sessions and biennial budgets. The remaining 15 states of Connecticut, Hawaii, Indiana, Kentucky, Maine, Minnesota, Nebraska, New Hampshire, North Carolina, Ohio, Oregon, Virginia, Washington, Wisconsin, and Wyoming hold annual legislative sessions but maintain biennial budgeting. Only North Dakota and Wyoming enact consolidated 2-year budgets; other biennial budget states enact two annual budgets at one time. As such, the nature of a state's budget priorities for R&D may be determined on a biennial basis in some states; in others, however, it may be determined on an annual basis. In states with biennial budgets, the legislatures will often make supplemental appropriations to the second-year budget, which may result in further changes to the initial funding priorities.

The data exclude R&D expenditures by state governments that did not flow through state agencies' budgets. The state totals do not include direct appropriations from state legislatures to colleges and universities. Higher education institutions' expenditures from state government appropriations are available from NCSSES's [HERD Survey](#). For FY 2022, state government agencies reported \$1 billion in expenditures used to support R&D performance by academic institutions. A major factor for the difference between totals reported in NCSSES's HERD Survey and the Survey of State Government R&D is that direct appropriations to state-run universities are included in the former but not in the latter. Another likely factor is the exclusion of R&D at agricultural experiment stations from the state survey totals because they are generally associated with land-grant colleges and universities and are canvassed on the HERD Survey.

Direct comparison of state agency expenditures should also be viewed with caution because state governments often reorganize departments and agencies such that some divisions and offices that were part of one agency may be moved to another agency. In other instances, entire departments may be reorganized into newly created departments. Although the FY 2022 Survey of State Government R&D encountered several instances of these organizational changes in several states, the survey itself is not designed to measure specific changes in state government organization. To account for these and other changes in the data between FY 2021 and FY 2022, staff from the Census Bureau and NCSSES conducted follow-up calls for some agencies with major data changes, depending on the type of agency and state, to ensure the accuracy of the survey data.

Data specific to state government agencies were first released with the FY 2009 survey results and are also included in the FY 2022 data tables. Specific agency-level data for FY 2006 and FY 2007 are not available.

The current Survey of State Government R&D has been conducted for FY 2006, FY 2007, FY 2009, FYs 2010–11, FYs 2012–13, FYs 2014–15, FY 2016, FY 2017, FY 2018, FY 2019, FY 2020, FY 2021, and FY 2022. (No survey was conducted for state governments for FY 2008.) Data presented in trend tables in this report are from the most recently completed survey cycle. References to prior-year data should be restricted to those published in this report for two reasons: (1) when completing the current year's survey, survey respondents may revise their prior year's data, and (2) NCSSES reviews data for prior years for consistency with current-year responses and, if necessary, may revise these data in consultation with respondents.

NCSSES has collected state government R&D data for FY 1964, FY 1965, FY 1967, FY 1968, FY 1972, FY 1973, and FY 1977 in collaboration with the Census Bureau's Census of Governments and related programs. For FY 1987, FY 1988, and FY 1995, data collections of state government R&D were conducted by nonfederal organizations that were supported by NSF grants. As a result of differences in the survey populations, in definitions of covered R&D activities, and in collection methods over time, the results of these historical surveys are not comparable with the statistics collected for the FY 2006 and subsequent Surveys of State Government R&D.

Changes in survey coverage and population. Each year, state coordinators update the universe of agencies most likely to have funded or performed R&D based on changes in funding authority, organization changes within the government, or other initiatives by the legislature. No survey was conducted for state governments for FY 2008. Beginning with the FY 2009 survey cycle, state coordinators were no longer able to overwrite the aggregate R&D data reported by state agencies to correct or modify the state total. Any changes or revisions were now required to be made at the state government agency level.

Changes in questionnaire.

- FY 2009. The FY 2009 questionnaire was the first to collect state government R&D activities by governmental functions of agriculture, environment and natural resources, health, transportation, and other.
- FYs 2010 and 2011. The survey was reorganized as a biennial survey and collected 2 fiscal years of data on one questionnaire. In addition, the energy category was added to the list of specific government functions of R&D.

- FYs 2012 and 2013. A minor change to the instructions in question 1 for extramural performers was made from “R&D done for your department/agency” to “R&D funded by your department/agency” to ensure that all R&D-related projects that the agency funds regardless of the end result (i.e., grants) were properly included.
- FYs 2014 and 2015. The survey was revised to collect additional details about R&D funding and performance to better align with the Organisation for Economic Co-operation and Development (OECD) *2002 Frascati Manual*, the most recent edition available at survey launch. These changes include source of funds for extramural R&D performance supported by federal funds, state funds, or other funds. For all federal funds received for both intramural and extramural R&D, respondents were asked how much was received from specific federal agencies. For intramural R&D performance, respondents were asked how much of federal, state, and other funding was classified as basic research, applied research, or experimental development.
- FY 2016. Survey reporting period changed from a biennial to annual survey. Questions remained the same with some minor additions to examples and wording changes. A remarks box was added for respondents to provide comments.
- FY 2017. The “other” category for Internal Sources of R&D was split into multiple categories: nonfederal government funds, nonprofit organizations, businesses, and higher education institutions.
- FY 2018. No changes were made.
- FY 2019. A question asking about the amount of time it takes to complete the survey was added for administrative purposes.
- FY 2020. Two new questions were added asking for the number of intramural R&D personnel and the number of full-time equivalent employees for researchers, technicians, and support staff. Data from these new questions are not available this year.
- FY 2021. The survey was restructured to group related questions together. For example, questions on expenditures for R&D performed internally by type of R&D, internal R&D employees, and internal full-time equivalent R&D personnel were moved to follow the internal R&D expenditures question. Similarly, questions on expenditures for R&D performed externally and expenditures for R&D performed externally by type of entity were moved to follow the internal R&D questions. All questions asking for crosscuts on the total R&D expenditures were moved to follow both internal and external R&D-related questions.
- FY 2022. The “other” category for external performance of R&D was split into multiple categories: nonprofit organizations, other governments (i.e., federal, federally funded research and development centers, other state governments, and local governments), and other performers not elsewhere classified. Expenditures for construction and acquisition of land and facilities was broken into internal and external. Neither one of these changes was published in the data tables.

Changes in reporting procedures or classification.

- FY 2018. Online reporting was replaced with a fillable PDF with automated summations and edits built into the survey instrument.
- FYs 2019–21. No changes were made.
- FY 2022. Census Bureau staff reached out to Puerto Rico agencies directly with the fillable PDF survey form, and agencies responded to the Census Bureau. Puerto Rico did not report data for FYs 2016 through 2021 but resumed reporting in FY 2022. Between FY 2005 and 2016, the Puerto Rico Institute of Statistics (PRIS) conducted its own survey of R&D. Staff from the Census Bureau and NCSSES worked with staff at PRIS to ensure questions relevant to the Survey of State Government R&D were consistent with those asked by the PRIS during their survey. PRIS would send agency responses to the Census Bureau and NCSSES for addition into the Survey of State Government R&D. Between FYs 2016 and 2022, PRIS suspended its own survey and Census Bureau staff provided a copy of the fillable PDF survey

to the Puerto Rico Coordinator to send to agencies and provide responses back to the Census Bureau. However, agencies did not respond to requests from the coordinator in Puerto Rico during this time. For the FY 2022 survey, the coordinator in Puerto Rico recommended Census Bureau staff reach out to specific agencies identified by the coordinator for survey responses.

Definitions

Applied research. Original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily toward a specific, practical aim or objective.

Basic research. Experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.

Construction and acquisition of facilities used primarily for R&D. Includes the acquisition of, construction of, and major repairs or alterations to structures, works, equipment, facilities, or land for use in R&D activities. Construction and acquisition of land and facilities used primarily for R&D includes major costs for construction and purchase of buildings to be primarily used as R&D facilities.

Experimental development. Systematic work, drawing on knowledge gained from research and practical experience and producing additional knowledge, which is directed to producing new products or processes or to improving existing products or processes.

Performers, extramural. Those outside the department or agency who perform R&D under the administrative oversight or control of that department or agency. This may include projects for the department or agency as well as the department's or agency's extramural research programs. Extramural performers include the following:

- *Academic institutions.* Public or private universities and colleges.
- *Companies and individuals.* Performers under contract for research projects or that received grants for research projects.
- *Nonprofit organizations.* This would include foundations.
- *Other governments.* Government departments and agencies; other departments or agencies within the state; other state governments; and county, city, special district, or regional local governments either within their own state or in other states.
- *Other performers not elsewhere classified.*

Performers, intramural. Department's or agency's own employees who perform R&D, which includes R&D performed by those employees and services performed by others in support of an internal R&D project (e.g., laboratory testing).

Research and development. Comprise creative and systematic work undertaken in order to increase the stock of knowledge—including knowledge of humankind, culture, and society—and to devise new applications of available knowledge. Sources and examples of R&D funding include the following:

- *Federal government.* Grants, contracts, awards, and appropriations from the U.S. government.
- *State.* Appropriations from the state legislature, agricultural commodity assessments, bond funds, general funds, restricted funds, revenue funds, state grants, tobacco settlement funds, lottery proceeds, funds from other agencies within the state, and revenue from charges, fees, or fines.
- *Nonprofit organizations.* Includes funding from foundations.
- *Nonfederal government.* Funding from other state governments, county, city, regional, or other local governments.

- *Businesses.* Grants and contracts from companies.
- *Higher education institutions.* Funding from public or private universities and colleges.
- *R&D employee count.*
 - *Researchers.* For example, biologists, psychologists, research scientists and engineers, primary investigators, and R&D managers.
 - *Technicians.* Equivalent staff includes wildlife technicians, lab technicians, and field staff.
 - *Support staff.* For example, accountants, facilities management, grant specialist, and clerical staff.
- *Full-time equivalent R&D personnel.* Calculated as the total working hours spent working on R&D during your state government's fiscal year divided by the number of hours representing a full-time schedule within the same period.

Technical Tables

Table	Title
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A-1	Final response rates and agencies reporting R&D to the survey: FY 2022
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TABLE A-1

Final response rates and agencies reporting R&D to the survey: FY 2022

(Number and percent)

Agencies selected	Agencies surveyed	Responses		R&D reported	
		Agencies	Percent	Agencies	Percent
All agencies	505	502	99.4	400	79.7
SOURCE: National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2022.					

Acknowledgments and Suggested Citation

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