



Survey of State Government Research and Development: FY 2019

Data Tables | NSF 21-301 | October 26, 2020

General Notes	2
Data Tables	3
Technical Notes	87
Technical Tables	94
Acknowledgments and Suggested Citation	96
Appendix	97
Contact Us	100

General Notes

These tables present the results of the FY 2019 Survey of State Government Research and Development, conducted by the U.S. Census Bureau under an interagency agreement with the National Center for Science and Engineering Statistics (NCSES) within the National Science Foundation (NSF). The U.S. 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 and the District of Columbia participated in the survey. Puerto Rico did not participate this year. 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 was asked about the amount of expenditures for the construction and acquisition of R&D facilities and major equipment.

Data Tables

State agency expenditures for R&D and R&D plant: FY 2019

Table Title

- | | |
|---|--|
| 1 | State government expenditures for R&D and R&D plant, by state: FY 2019 |
| 2 | State government expenditures for R&D and R&D plant, by state and performer: FY 2019 |

State government expenditures for R&D, by state

Table Title

- | | |
|----|---|
| 3 | State government expenditures for R&D, by state: FYs 2006–19 |
| 4 | State government expenditures for R&D for all performers, by state and source of funds: FY 2019 |
| 5 | State government expenditures for R&D for intramural performers, by state and source of funds: FY 2019 |
| 6 | State government expenditures for R&D by intramural performers, by state: FYs 2006–19 |
| 7 | State government expenditures for intramural R&D, by state and type of work: FY 2019 |
| 8 | State R&D expenditures, by state and function of R&D: FY 2019 |
| 9 | State government expenditures for agriculture-related R&D, by state: FYs 2009–19 |
| 10 | State government expenditures for energy-related R&D, by state: FYs 2009–19 |
| 11 | State government expenditures for environment and natural resources-related R&D, by state: FYs 2009–19 |
| 12 | State government expenditures for health-related R&D, by state: FYs 2009–19 |
| 13 | State government expenditures for transportation-related R&D, by state: FYs 2009–19 |
| 14 | State government R&D expenditures for other functions not separately identified, by state: FYs 2009–19 |
| 15 | State government expenditures for R&D funded from federal sources, by state: FYs 2006–19 |
| 16 | State government expenditures for R&D funded from federal sources, by state and federal agency: FY 2019 |

State government expenditures for R&D, by state, department or agency

Table Title

- | | |
|----|---|
| 17 | State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2019 |
| 18 | State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2019 |
| 19 | State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2019 |

Table Title

[20](#) State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

[21](#) State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

TABLE 1

State government expenditures for R&D and R&D plant, by state: FY 2019

(Dollars)

State	State R&D expenditures ^a	State R&D plant expenditures ^b
United States ^c	2,426,882,959	10,290,679
Alabama	19,763,230	0
Alaska	12,502,109	0
Arizona	17,332,044	0
Arkansas	21,098,863	0
California	526,918,585	338,000
Colorado	36,586,577	0
Connecticut	57,241,037	0
Delaware	3,826,318	0
District of Columbia	4,222,412	0
Florida	170,508,724	4,168,184
Georgia	18,875,484	0
Hawaii	7,325,591	11,237
Idaho	17,828,263	52,080
Illinois	17,548,556	0
Indiana	12,357,151	0
Iowa	9,386,675	0
Kansas	12,355,458	0
Kentucky	26,668,173	0
Louisiana	35,142,225	0
Maine	32,592,625	0
Maryland	29,107,768	49,891
Massachusetts	28,425,439	0
Michigan	8,023,318	0
Minnesota	20,150,907	0
Mississippi	12,170,278	0
Missouri	15,055,845	0
Montana	8,794,140	5,794
Nebraska	28,167,688	0
Nevada	7,871,899	0
New Hampshire	8,432,696	0
New Jersey	23,886,758	0
New Mexico	3,585,944	0
New York	448,501,735	250,000
North Carolina	32,754,090	1,000,000
North Dakota	12,140,358	0
Ohio	97,758,379	0
Oklahoma	29,607,888	109,876
Oregon	44,222,659	2,000,000
Pennsylvania	85,050,999	10,000
Rhode Island	5,512,380	0
South Carolina	46,983,243	430,650
South Dakota	2,953,214	115,000
Tennessee	7,439,395	0
Texas	233,030,466	25
Utah	7,985,508	1,000
Vermont	2,730,591	47,661
Virginia	29,951,353	301,107
Washington	51,963,060	1,400,174
West Virginia	11,068,061	0
Wisconsin	17,473,890	0

TABLE 1

State government expenditures for R&D and R&D plant, by state: FY 2019

(Dollars)

State	State R&D expenditures ^a	State R&D plant expenditures ^b
Wyoming	6,002,910	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.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2019.

TABLE 2

State government expenditures for R&D and R&D plant, by state and performer: FY 2019

(Dollars)

State	All R&D expenditures ^a	Intramural performers ^b	Extramural performers ^c			R&D plant	
			Total	Academic institutions	Companies and individuals ^d		Other ^e
United States ^f	2,426,882,959	676,171,326	1,750,711,633	1,024,316,554	438,222,437	288,172,642	10,290,679
Alabama	19,763,230	7,412,961	12,350,269	6,601,893	143,357	5,605,019	0
Alaska	12,502,109	8,920,501	3,581,608	816,177	2,412,402	353,029	0
Arizona	17,332,044	761,096	16,570,948	11,068,716	900,213	4,602,019	0
Arkansas	21,098,863	66,099	21,032,764	20,576,710	447,500	8,554	0
California	526,918,585	73,081,146	453,837,439	159,254,746	187,118,114	107,464,579	338,000
Colorado	36,586,577	11,900,858	24,685,719	11,714,288	12,536,431	435,000	0
Connecticut	57,241,037	24,679,641	32,561,396	12,120,941	18,862,144	1,578,311	0
Delaware	3,826,318	2,558,634	1,267,684	741,945	449,251	76,488	0
District of Columbia	4,222,412	1,888,642	2,333,770	881,908	1,251,862	200,000	0
Florida	170,508,724	50,604,692	119,904,032	72,945,728	4,605,749	42,352,555	4,168,184
Georgia	18,875,484	3,539,835	15,335,649	10,178,649	2,801,451	2,355,549	0
Hawaii	7,325,591	257,625	7,067,966	1,559,669	5,012,297	496,000	11,237
Idaho	17,828,263	6,709,727	11,118,536	7,096,483	181,920	3,840,133	52,080
Illinois	17,548,556	1,171,225	16,377,331	12,313,520	158,084	3,905,727	0
Indiana	12,357,151	167,703	12,189,448	11,272,729	916,719	0	0
Iowa	9,386,675	3,279,267	6,107,408	5,781,844	308,139	17,425	0
Kansas	12,355,458	998,463	11,356,995	9,556,647	42,064	1,758,284	0
Kentucky	26,668,173	2,038,186	24,629,987	20,152,692	4,477,295	0	0
Louisiana	35,142,225	10,974,134	24,168,091	21,247,322	2,705,708	215,061	0
Maine	32,592,625	3,051,263	29,541,362	3,208,546	23,392,740	2,940,076	0
Maryland	29,107,768	989,368	28,118,400	25,174,517	1,702,691	1,241,192	49,891
Massachusetts	28,425,439	8,798,238	19,627,201	8,959,924	9,122,538	1,544,739	0
Michigan	8,023,318	336,227	7,687,091	4,128,401	732,368	2,826,322	0
Minnesota	20,150,907	2,027,757	18,123,150	11,789,528	3,284,164	3,049,458	0
Mississippi	12,170,278	1,755,759	10,414,519	5,478,277	2,776,582	2,159,660	0
Missouri	15,055,845	8,242,424	6,813,421	5,232,623	1,430,015	150,783	0
Montana	8,794,140	2,993,604	5,800,536	4,974,426	660,846	165,264	5,794
Nebraska	28,167,688	770,104	27,397,584	25,378,861	579,453	1,439,270	0
Nevada	7,871,899	184,774	7,687,125	5,576,601	200,360	1,910,164	0
New Hampshire	8,432,696	131,672	8,301,024	759,619	7,060,142	481,263	0
New Jersey	23,886,758	2,796,233	21,090,525	15,454,335	818,969	4,817,221	0
New Mexico	3,585,944	900,212	2,685,732	1,402,821	1,033,472	249,439	0
New York	448,501,735	276,773,893	171,727,842	109,787,947	28,123,417	33,816,478	250,000
North Carolina	32,754,090	18,400,435	14,353,655	11,216,518	1,446,990	1,690,147	1,000,000
North Dakota	12,140,358	421,989	11,718,369	9,153,941	1,328,298	1,236,130	0
Ohio	97,758,379	18,343,328	79,415,051	30,769,933	47,834,732	810,386	0
Oklahoma	29,607,888	1,685,458	27,922,430	20,226,951	1,260,669	6,434,810	109,876
Oregon	44,222,659	24,761,784	19,460,875	13,099,132	5,359,291	1,002,452	2,000,000
Pennsylvania	85,050,999	8,579,205	76,471,794	56,916,243	2,330,059	17,225,492	10,000
Rhode Island	5,512,380	2,767,111	2,745,269	555,519	1,622,583	567,167	0
South Carolina	46,983,243	28,876,294	18,106,949	4,550,112	770,248	12,786,589	430,650
South Dakota	2,953,214	361,072	2,592,142	1,635,276	600,435	356,431	115,000
Tennessee	7,439,395	1,710,689	5,728,706	5,362,863	203,125	162,718	0
Texas	233,030,466	3,855,855	229,174,611	197,242,687	30,913,924	1,018,000	25
Utah	7,985,508	5,046,202	2,939,306	1,537,784	1,401,522	0	1,000
Vermont	2,730,591	681,380	2,049,211	1,723,305	322,546	3,360	47,661
Virginia	29,951,353	10,733,680	19,217,673	15,784,840	2,539,994	892,839	301,107

TABLE 2

State government expenditures for R&D and R&D plant, by state and performer: FY 2019

(Dollars)

State	All R&D expenditures ^a	Intramural performers ^b	Extramural performers ^c			R&D plant	
			Total	Academic institutions	Companies and individuals ^d		Other ^e
Washington	51,963,060	19,986,935	31,976,125	18,755,971	5,056,820	8,163,334	1,400,174
West Virginia	11,068,061	2,867,846	8,200,215	8,047,584	0	152,631	0
Wisconsin	17,473,890	5,043,609	12,430,281	3,653,031	5,317,013	3,460,237	0
Wyoming	6,002,910	1,286,491	4,716,419	895,831	3,665,731	154,857	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 includes federal government; nonprofit organizations; city, county, regional, or other local governments; and other state governments.

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

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2019.

TABLE 3

State government expenditures for R&D, by state: FYs 2006–19

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
United States ^a	1,059,104,585	1,161,477,543	NA	1,616,483,243	1,756,297,891	1,990,338,324	2,042,260,292	2,028,219,263	1,905,585,762	2,265,232,945	2,314,376,833	2,468,241,348	2,537,343,980	2,426,882,959
Alabama	7,269,319	9,065,725	NA	12,929,167	15,113,917	19,684,063	17,352,984	13,292,741	18,532,534	24,486,963	24,798,503	25,768,709	21,652,816	19,763,230
Alaska	10,019,060	9,526,100	NA	7,741,467	9,274,800	11,349,400	5,467,944	6,689,384	12,031,675	11,258,203	10,072,650	9,198,095	10,811,808	12,502,109
Arizona	37,151,471	20,442,635	NA	9,363,943	17,682,315	18,626,577	22,809,895	27,810,970	18,820,149	14,942,124	15,679,948	14,008,740	12,937,292	17,332,044
Arkansas	4,869,648	7,658,199	NA	11,465,214	14,446,084	14,705,327	15,518,374	16,518,947	14,994,903	16,642,711	17,242,823	15,891,579	16,325,049	21,098,863
California	145,880,736	120,641,324	NA	299,929,949	328,982,383	407,616,001	401,522,758	346,942,036	356,158,885	568,971,595	547,188,835	485,647,081	633,060,621	526,918,585
Colorado	8,997,236	11,924,981	NA	14,849,581	20,828,274	18,141,931	14,928,809	14,471,683	15,745,589	16,321,056	16,647,592	25,575,648	30,640,420	36,586,577
Connecticut	19,209,064	29,285,710	NA	28,559,052	40,065,786	39,192,091	40,017,523	41,023,368	47,405,244	55,816,528	49,460,236	55,586,487	54,492,430	57,241,037
Delaware	2,812,102	2,611,108	NA	1,683,562	2,389,720	2,609,902	4,635,720	4,729,141	2,243,868	2,199,635	2,694,787	3,267,034	3,856,775	3,826,318
District of Columbia	1,173,076	2,009,000	NA	487,411	696,198	1,221,108	2,018,447	1,848,800	3,136,271	3,216,073	4,059,615	3,724,444	4,632,564	4,222,412
Florida	42,329,624	51,968,573	NA	66,513,756	120,848,726	150,764,438	136,706,540	118,781,266	157,004,903	191,598,669	156,057,854	201,901,742	186,499,418	170,508,724
Georgia	10,620,188	4,886,946	NA	6,662,887	8,923,795	11,690,663	12,820,412	12,697,846	11,776,221	10,052,848	13,093,428	14,043,200	18,120,602	18,875,484
Hawaii	12,067,849	22,643,330	NA	13,976,364	14,233,186	13,103,983	11,145,520	13,094,794	13,125,455	11,520,961	18,032,316	11,414,756	12,981,754	7,325,591
Idaho	2,280,873	2,739,006	NA	8,552,058	9,059,568	9,366,052	11,785,529	12,929,174	12,862,935	12,935,976	14,501,235	15,029,122	15,690,791	17,828,263
Illinois	37,184,281	28,372,676	NA	9,570,893	16,553,689	17,207,125	17,859,438	17,999,229	24,988,306	30,817,406	19,774,448	18,582,210	17,501,801	17,548,556
Indiana	6,220,575	40,534,381	NA	47,549,928	8,444,832	6,983,364	7,667,988	10,167,120	23,590,723	9,987,058	13,279,466	16,966,067	19,814,418	12,357,151
Iowa	13,564,062	6,790,053	NA	37,976,643	12,950,176	36,992,222	16,147,249	19,365,308	10,357,010	11,277,534	12,296,647	9,343,267	9,710,381	9,386,675
Kansas	14,348,384	11,752,696	NA	12,305,385	6,509,225	6,635,626	6,160,680	5,708,223	5,326,455	6,462,317	7,385,081	10,358,152	14,274,887	12,355,458
Kentucky	17,558,997	11,960,634	NA	13,938,134	20,410,096	20,498,849	19,886,257	19,751,055	14,556,867	25,794,534	30,660,613	30,443,216	22,452,966	26,668,173
Louisiana	11,216,568	6,587,314	NA	8,285,478	9,165,144	14,979,079	18,143,396	15,713,110	18,778,159	32,175,199	27,268,166	41,455,247	37,057,152	35,142,225
Maine	17,509,051	27,525,552	NA	6,400,019	8,847,471	9,918,765	7,094,736	6,109,793	6,857,948	12,609,815	11,429,706	22,652,044	15,991,134	32,592,625
Maryland	24,945,119	40,298,691	NA	21,093,331	22,825,402	20,084,540	21,890,225	29,467,445	29,981,260	24,852,978	26,447,700	29,520,356	30,959,732	29,107,768
Massachusetts	10,729,419	5,600,189	NA	3,290,198	4,884,430	4,878,927	3,918,500	4,590,424	18,259,928	22,664,539	23,432,991	27,737,023	23,000,903	28,425,439
Michigan	75,016,589	32,849,159	NA	8,630,209	9,469,440	9,802,873	12,557,954	12,830,423	12,252,555	12,675,635	17,120,981	16,946,986	7,689,982	8,023,318
Minnesota	6,219,201	10,529,048	NA	16,655,913	12,212,546	11,653,327	11,524,686	14,855,954	19,378,825	21,455,746	22,861,457	18,344,346	18,502,324	20,150,907
Mississippi	2,744,882	7,343,892	NA	3,623,953	7,168,109	7,420,851	6,260,080	4,863,312	1,313,376	780,616	2,339,335	4,269,574	9,205,489	12,170,278
Missouri	18,465,303	15,567,277	NA	15,797,247	13,329,841	13,658,961	13,041,450	13,051,110	15,065,613	16,673,693	14,750,488	15,064,354	16,341,267	15,055,845
Montana	8,606,319	8,200,230	NA	7,200,442	7,543,860	6,474,190	6,841,897	6,570,018	10,428,010	10,362,726	17,990,469	18,230,275	8,867,208	8,794,140
Nebraska	5,602,163	4,043,480	NA	19,415,644	19,232,691	19,561,651	22,167,304	23,274,333	23,421,771	22,475,420	25,143,505	22,608,157	26,564,385	28,167,688
Nevada	1,397,463	1,748,776	NA	1,510,607	1,081,407	1,440,630	1,166,762	1,640,871	3,438,157	3,107,166	5,716,452	10,996,862	7,283,496	7,871,899
New Hampshire	2,040,544	1,685,178	NA	1,860,269	1,804,156	1,921,421	2,241,149	1,788,396	1,448,090	1,607,080	1,520,798	1,924,282	8,269,040	8,432,696
New Jersey	25,900,482	19,981,741	NA	25,146,838	38,639,539	27,868,781	29,818,258	34,413,516	30,384,821	33,756,028	30,483,309	37,415,121	51,295,009	23,886,758
New Mexico	3,105,000	672,921	NA	1,655,529	1,422,955	1,821,583	1,793,561	2,015,961	4,175,116	4,084,876	4,772,978	4,474,459	3,360,115	3,585,944
New York	103,597,135	128,361,166	NA	375,422,634	391,259,392	405,346,642	382,226,391	382,143,207	377,015,244	370,585,484	404,833,101	434,294,353	450,161,190	448,501,735
North Carolina	14,344,310	37,607,109	NA	41,404,202	27,342,380	29,611,785	32,529,885	30,649,974	22,614,350	34,502,384	37,142,044	32,513,098	33,719,142	32,754,090
North Dakota	21,062,090	9,908,722	NA	16,415,807	6,352,675	8,072,257	6,034,991	7,364,184	10,784,572	9,611,936	8,470,309	14,851,522	16,108,458	12,140,358
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	109,022,128	99,810,743	97,758,379

TABLE 3

State government expenditures for R&D, by state: FYs 2006–19

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	6,002,910
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 = 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 2019

(Dollars)

State	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
United States ^b	2,426,882,959	560,855,931	1,866,027,028
Alabama	19,763,230	8,126,730	11,636,500
Alaska	12,502,109	4,540,940	7,961,169
Arizona	17,332,044	2,973,198	14,358,846
Arkansas	21,098,863	5,674,217	15,424,646
California	526,918,585	28,877,496	498,041,089
Colorado	36,586,577	7,347,294	29,239,283
Connecticut	57,241,037	15,827,200	41,413,837
Delaware	3,826,318	1,572,165	2,254,153
District of Columbia	4,222,412	2,025,098	2,197,314
Florida	170,508,724	24,512,331	145,996,393
Georgia	18,875,484	16,171,100	2,704,384
Hawaii	7,325,591	3,667,466	3,658,125
Idaho	17,828,263	10,596,005	7,232,258
Illinois	17,548,556	6,900,290	10,648,266
Indiana	12,357,151	6,100,000	6,257,151
Iowa	9,386,675	5,215,707	4,170,968
Kansas	12,355,458	5,465,441	6,890,017
Kentucky	26,668,173	6,577,173	20,091,000
Louisiana	35,142,225	21,317,872	13,824,353
Maine	32,592,625	3,830,784	28,761,841
Maryland	29,107,768	2,924,655	26,183,113
Massachusetts	28,425,439	10,952,465	17,472,974
Michigan	8,023,318	4,579,680	3,443,638
Minnesota	20,150,907	6,020,868	14,130,039
Mississippi	12,170,278	8,869,165	3,301,113
Missouri	15,055,845	5,102,079	9,953,766
Montana	8,794,140	4,577,231	4,216,909
Nebraska	28,167,688	4,371,507	23,796,181
Nevada	7,871,899	2,370,078	5,501,821
New Hampshire	8,432,696	715,823	7,716,873
New Jersey	23,886,758	2,890,436	20,996,322
New Mexico	3,585,944	2,415,620	1,170,324
New York	448,501,735	156,961,125	291,540,610
North Carolina	32,754,090	8,477,781	24,276,309
North Dakota	12,140,358	2,299,808	9,840,550
Ohio	97,758,379	8,126,122	89,632,257
Oklahoma	29,607,888	10,192,859	19,415,029
Oregon	44,222,659	17,340,000	26,882,659
Pennsylvania	85,050,999	9,903,377	75,147,622
Rhode Island	5,512,380	2,473,315	3,039,065
South Carolina	46,983,243	23,400,794	23,582,449
South Dakota	2,953,214	754,880	2,198,334
Tennessee	7,439,395	5,112,715	2,326,680
Texas	233,030,466	21,003,405	212,027,061
Utah	7,985,508	2,294,696	5,690,812
Vermont	2,730,591	2,225,472	505,119
Virginia	29,951,353	12,948,118	17,003,235
Washington	51,963,060	14,915,365	37,047,695
West Virginia	11,068,061	7,579,295	3,488,766

TABLE 4

State government expenditures for R&D for all performers, by state and source of funds: FY 2019

(Dollars)

State	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Wisconsin	17,473,890	9,448,498	8,025,392
Wyoming	6,002,910	2,290,192	3,712,718

^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.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2019.

TABLE 5

State government expenditures for R&D for intramural performers, by state and source of funds: FY 2019

(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	676,171,326	283,610,819	339,735,283	18,352,623	8,559,607	22,107,674	3,805,320
Alabama	7,412,961	2,697,147	2,359,216	2,328,636	27,962	0	0
Alaska	8,920,501	2,475,004	5,703,797	741,700	0	0	0
Arizona	761,096	760,636	460	0	0	0	0
Arkansas	66,099	51,999	14,100	0	0	0	0
California	73,081,146	6,019,861	67,042,255	0	0	0	19,030
Colorado	11,900,858	4,674,314	7,052,168	0	99,315	75,061	0
Connecticut	24,679,641	10,689,947	13,989,694	0	0	0	0
Delaware	2,558,634	575,433	1,958,945	0	24,256	0	0
District of Columbia	1,888,642	757,291	1,131,351	0	0	0	0
Florida	50,604,692	12,525,320	31,635,688	7,724	207,106	6,113,213	115,641
Georgia	3,539,835	3,228,702	311,133	0	0	0	0
Hawaii	257,625	257,625	0	0	0	0	0
Idaho	6,709,727	5,580,116	1,117,876	0	0	11,735	0
Illinois	1,171,225	0	1,171,225	0	0	0	0
Indiana	167,703	134,162	33,541	0	0	0	0
Iowa	3,279,267	1,718,515	1,552,564	1,688	6,500	0	0
Kansas	998,463	798,177	200,286	0	0	0	0
Kentucky	2,038,186	1,144,522	776,664	50,000	67,000	0	0
Louisiana	10,974,134	7,990,075	2,984,059	0	0	0	0
Maine	3,051,263	2,226,630	824,633	0	0	0	0
Maryland	989,368	548,991	332,377	0	10,000	0	98,000
Massachusetts	8,798,238	5,365,481	3,432,757	0	0	0	0
Michigan	336,227	0	336,227	0	0	0	0
Minnesota	2,027,757	1,982,257	45,500	0	0	0	0
Mississippi	1,755,759	1,238,192	456,634	57,865	3,068	0	0
Missouri	8,242,424	2,234,924	6,007,500	0	0	0	0
Montana	2,993,604	2,030,976	731,646	0	215,982	0	15,000
Nebraska	770,104	559,157	210,947	0	0	0	0
Nevada	184,774	124,774	60,000	0	0	0	0
New Hampshire	131,672	105,338	26,334	0	0	0	0
New Jersey	2,796,233	529,728	2,056,979	0	0	91,245	118,281
New Mexico	900,212	556,570	326,642	0	17,000	0	0
New York	276,773,893	133,841,304	103,928,744	12,173,840	7,767,253	15,711,133	3,351,619
North Carolina	18,400,435	1,305,723	17,094,712	0	0	0	0
North Dakota	421,989	62,006	359,983	0	0	0	0
Ohio	18,343,328	340,452	18,002,876	0	0	0	0
Oklahoma	1,685,458	1,232,184	439,274	14,000	0	0	0
Oregon	24,761,784	15,053,295	9,426,605	281,884	0	0	0
Pennsylvania	8,579,205	5,523,525	2,926,816	85,000	39,068	3,056	1,740
Rhode Island	2,767,111	1,611,698	1,155,413	0	0	0	0
South Carolina	28,876,294	20,460,819	8,130,784	175,537	23,145	0	86,009
South Dakota	361,072	225,826	135,246	0	0	0	0
Tennessee	1,710,689	1,040,042	618,695	0	51,952	0	0
Texas	3,855,855	2,702,556	1,153,299	0	0	0	0
Utah	5,046,202	388,305	4,657,897	0	0	0	0
Vermont	681,380	626,153	55,227	0	0	0	0

TABLE 5

State government expenditures for R&D for intramural performers, by state and source of funds: FY 2019

(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	10,733,680	4,618,539	6,115,141	0	0	0	0
Washington	19,986,935	9,528,084	7,945,032	2,411,588	0	102,231	0
West Virginia	2,867,846	1,400,595	1,448,112	19,139	0	0	0
Wisconsin	5,043,609	3,107,340	1,936,269	0	0	0	0
Wyoming	1,286,491	960,509	321,960	4,022	0	0	0

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

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 2019.

TABLE 6

State government expenditures for R&D by intramural performers, by state: FYs 2006–19

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
United States ^a	278,804,902	337,554,442	NA	544,768,301	666,474,213	715,619,606	671,902,599	657,514,410	582,262,610	585,025,545	604,530,902	636,516,183	635,482,835	676,171,326
Alabama	4,339,426	5,786,160	NA	9,138,896	9,749,394	14,250,319	8,612,718	9,160,769	4,589,652	6,167,637	11,438,924	13,806,194	11,465,666	7,412,961
Alaska	5,356,472	7,541,700	NA	6,387,016	7,885,200	9,004,800	5,346,296	5,963,195	9,399,991	9,464,543	7,791,729	6,608,776	7,376,047	8,920,501
Arizona	8,576,436	6,833,220	NA	6,869,506	7,545,171	7,410,362	13,303,829	16,141,770	8,953,596	8,268,168	5,938,520	3,742,746	1,618,025	761,096
Arkansas	1,073,285	420,340	NA	467,767	5,406,407	6,077,854	3,006,648	2,992,079	708,544	660,969	576,503	747,577	202,770	66,099
California	35,104,016	29,987,603	NA	48,407,683	59,744,655	69,864,773	59,490,293	57,262,060	53,984,295	55,223,244	68,155,837	77,743,824	78,250,013	73,081,146
Colorado	6,594,969	7,004,927	NA	9,395,554	7,108,498	6,942,978	8,170,313	8,248,707	8,178,672	8,467,517	7,733,398	9,193,948	9,119,788	11,900,858
Connecticut	14,519,731	13,979,139	NA	12,571,612	22,561,170	23,573,706	24,039,989	25,612,853	20,533,902	21,885,609	20,919,179	21,181,282	22,502,799	24,679,641
Delaware	1,207,011	2,011,600	NA	1,021,115	1,968,736	2,049,018	2,181,693	2,514,545	1,888,698	1,709,791	1,671,853	1,867,003	2,532,597	2,558,634
District of Columbia	302,000	2,009,000	NA	0	189,691	220,886	354,612	435,813	1,444,007	1,541,038	1,379,944	1,525,542	2,021,912	1,888,642
Florida	10,013,516	9,073,670	NA	10,356,355	50,546,200	48,327,623	48,910,954	47,372,831	44,017,593	45,015,557	44,254,939	44,546,892	51,598,115	50,604,692
Georgia	861,231	60,551	NA	3,500,000	3,200,000	3,600,000	4,145,859	2,041,101	1,766,014	1,709,229	2,303,714	2,608,350	2,345,600	3,539,835
Hawaii	2,329,186	7,617,547	NA	3,268,044	3,049,593	3,667,047	4,267,994	4,320,992	1,038,877	1,659,573	2,412,169	1,406,938	213,163	257,625
Idaho	257,926	1,127,217	NA	4,397,225	4,616,645	4,430,450	7,179,818	7,836,031	6,783,779	6,469,463	6,576,466	6,591,001	6,172,889	6,709,727
Illinois	17,617,332	18,022,400	NA	1,304,428	1,948,263	2,049,697	1,618,580	1,663,080	1,678,403	1,550,890	1,251,225	1,251,225	1,171,225	1,171,225
Indiana	2,364,046	36,349,207	NA	941,982	975,000	975,000	870,605	1,022,370	675,629	657,583	619,999	809,062	243,160	167,703
Iowa	5,754,032	363,153	NA	953,909	625,480	1,260,999	4,376,976	5,603,029	3,884,026	3,696,335	3,796,688	3,590,701	2,897,292	3,279,267
Kansas	2,137,741	1,636,784	NA	1,598,127	1,448,133	1,501,433	1,484,948	1,577,722	1,427,786	1,333,800	2,817,975	2,210,187	2,089,000	998,463
Kentucky	3,702,849	998,840	NA	6,241,919	1,635,906	2,137,354	2,893,270	2,962,965	454,669	734,444	1,547,014	4,414,627	2,135,186	2,038,186
Louisiana	7,530,897	4,259,147	NA	5,014,571	6,523,169	7,493,894	4,884,739	5,081,221	8,785,247	9,325,390	12,536,416	10,944,624	13,442,234	10,974,134
Maine	0	330,000	NA	1,566,832	1,542,846	1,883,123	1,071,798	1,154,177	2,048,918	2,911,504	2,970,210	2,999,641	2,802,497	3,051,263
Maryland	6,086,183	16,726,066	NA	5,683,023	1,962,000	1,928,700	513,661	572,247	906,472	846,300	327,732	1,077,744	2,744,392	989,368
Massachusetts	3,623,773	922,416	NA	831,202	862,331	785,738	917,177	1,083,202	10,934,792	11,254,392	12,613,509	9,071,354	8,362,815	8,798,238
Michigan	1,527,314	1,373,780	NA	1,800,696	1,688,930	1,509,097	2,277,811	2,651,063	626,768	702,187	1,249,998	1,287,328	0	336,227
Minnesota	2,132,277	2,904,128	NA	1,974,655	1,507,582	1,509,585	1,471,472	1,007,122	2,284,757	2,828,032	2,195,086	1,481,345	672,674	2,027,757
Mississippi	1,484,612	5,728,190	NA	2,884,940	3,933,046	4,028,133	1,890,566	2,094,537	510,446	252,513	190,826	1,192,864	1,791,073	1,755,759
Missouri	12,171,794	9,815,796	NA	9,289,817	8,065,733	7,546,964	7,274,626	6,696,607	6,922,875	7,284,056	7,900,361	7,593,953	7,809,676	8,242,424
Montana	2,404,391	1,007,000	NA	1,304,712	1,604,601	1,694,519	1,669,440	2,035,229	2,238,501	2,273,458	2,675,607	3,759,869	2,684,109	2,993,604
Nebraska	436,000	291,000	NA	125,000	327,845	320,392	303,472	368,009	769,135	534,852	465,732	373,809	579,718	770,104
Nevada	323,042	581,534	NA	342,744	295,579	364,476	376,301	366,804	9,927	3,893	5,000	3,950	140,823	184,774
New Hampshire	424,762	167,708	NA	1,018,069	502,616	591,869	760,392	683,882	84,253	82,781	367,680	460,000	151,247	131,672
New Jersey	5,483,784	5,093,922	NA	4,278,027	3,407,529	2,980,802	2,952,996	2,920,843	1,814,000	1,864,000	1,703,700	1,800,400	1,691,900	2,796,233
New Mexico	3,000,000	576,921	NA	535,531	560,955	494,193	671,314	768,893	2,462,904	2,539,877	1,390,991	860,774	1,240,504	900,212
New York	42,047,823	31,635,352	NA	266,188,075	311,702,575	318,563,367	277,561,513	267,002,282	259,604,368	243,064,412	237,318,047	246,099,969	240,591,998	276,773,893
North Carolina	3,789,289	27,479,434	NA	31,451,251	18,843,326	19,478,718	20,437,242	20,501,169	14,636,872	14,929,283	17,853,240	19,865,183	19,372,111	18,400,435
North Dakota	762,297	500,943	NA	568,135	591,770	366,294	530,023	429,670	1,373,563	1,189,828	588,458	1,784,624	1,827,872	421,989
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	3,221,103	7,868,687	18,343,328

TABLE 6

State government expenditures for R&D by intramural performers, by state: FYs 2006–19

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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 = 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 2019

(Dollars)

State	All intramural R&D expenditures	Type of R&D		
		Basic research	Applied research	Experimental development
United States ^a	676,171,326	128,918,619	524,336,386	22,916,321
Alabama	7,412,961	19,672	7,393,289	0
Alaska	8,920,501	0	8,537,868	382,633
Arizona	761,096	0	761,096	0
Arkansas	66,099	0	66,099	0
California	73,081,146	6,128,768	63,507,985	3,444,393
Colorado	11,900,858	214,365	11,291,869	394,624
Connecticut	24,679,641	2,613,994	21,930,545	135,102
Delaware	2,558,634	0	2,558,634	0
District of Columbia	1,888,642	796,043	1,046,300	46,299
Florida	50,604,692	110,432	48,946,582	1,547,678
Georgia	3,539,835	0	3,539,835	0
Hawaii	257,625	0	160,217	97,408
Idaho	6,709,727	0	6,709,727	0
Illinois	1,171,225	0	234,245	936,980
Indiana	167,703	0	167,703	0
Iowa	3,279,267	0	3,279,267	0
Kansas	998,463	3,200	995,263	0
Kentucky	2,038,186	0	2,038,186	0
Louisiana	10,974,134	5,652,835	5,321,299	0
Maine	3,051,263	274,630	2,316,633	460,000
Maryland	989,368	0	989,368	0
Massachusetts	8,798,238	7,830,000	968,238	0
Michigan	336,227	336,227	0	0
Minnesota	2,027,757	0	2,027,757	0
Mississippi	1,755,759	0	1,531,554	224,205
Missouri	8,242,424	0	8,242,424	0
Montana	2,993,604	15,000	2,839,662	138,942
Nebraska	770,104	752,988	17,116	0
Nevada	184,774	184,774	0	0
New Hampshire	131,672	0	11,595	120,077
New Jersey	2,796,233	301,979	2,494,254	0
New Mexico	900,212	0	900,212	0
New York	276,773,893	76,355,155	195,441,402	4,977,336
North Carolina	18,400,435	2,605,710	14,289,257	1,505,468
North Dakota	421,989	344,482	77,507	0
Ohio	18,343,328	18,085,873	257,455	0
Oklahoma	1,685,458	587,700	907,543	190,215
Oregon	24,761,784	0	24,736,475	25,309
Pennsylvania	8,579,205	0	8,468,277	110,928
Rhode Island	2,767,111	0	2,767,111	0
South Carolina	28,876,294	1,500,234	26,700,927	675,133
South Dakota	361,072	3,000	355,072	3,000
Tennessee	1,710,689	19,256	1,562,241	129,192
Texas	3,855,855	0	3,855,855	0
Utah	5,046,202	12,780	5,033,422	0
Vermont	681,380	86,121	373,543	221,716
Virginia	10,733,680	1,649,761	8,449,093	634,826
Washington	19,986,935	2,203,631	11,268,447	6,514,857
West Virginia	2,867,846	104,588	2,763,258	0

TABLE 7

State government expenditures for intramural R&D, by state and type of work: FY 2019

(Dollars)

State	All intramural R&D expenditures	Type of R&D		
		Basic research	Applied research	Experimental development
Wisconsin	5,043,609	0	5,043,609	0
Wyoming	1,286,491	125,421	1,161,070	0

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

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2019.

TABLE 8

State R&D expenditures, by state and function of R&D: FY 2019

(Dollars)

State	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
United States ^b	2,426,882,959	136,395,698	323,154,258	452,269,973	1,082,056,223	260,024,511	172,982,296
Alabama	19,763,230	0	255,807	9,403,795	1,080,000	3,601,526	5,422,102
Alaska	12,502,109	0	1,102,206	8,392,100	320,476	2,687,327	0
Arizona	17,332,044	1,054,913	0	1,077,891	13,843,058	1,356,182	0
Arkansas	21,098,863	12,519,460	852,718	2,426,103	3,477,448	855,437	967,697
California	526,918,585	7,004,454	202,262,559	40,709,827	225,535,054	34,906,443	16,500,248
Colorado	36,586,577	721,768	3,184,039	10,798,678	10,026,796	3,288,163	8,567,133
Connecticut	57,241,037	3,856,987	0	10,599,160	29,921,946	3,283,420	9,579,524
Delaware	3,826,318	0	24,256	2,701,302	0	1,100,760	0
District of Columbia	4,222,412	0	0	2,000,000	1,716,302	422,412	83,698
Florida	170,508,724	11,725,430	557,060	52,486,202	90,372,743	15,367,289	0
Georgia	18,875,484	633,607	6,335,903	3,871,745	0	8,034,229	0
Hawaii	7,325,591	1,680,702	2,510,732	895,592	0	802,000	1,436,565
Idaho	17,828,263	5,349,416	0	8,364,544	338,288	3,339,242	436,773
Illinois	17,548,556	3,989,560	0	0	15,596	9,458,562	4,084,838
Indiana	12,357,151	141,876	268,086	0	600,000	8,495,933	2,851,256
Iowa	9,386,675	0	0	3,797,923	61,000	5,190,691	337,061
Kansas	12,355,458	3,998,895	0	3,645,223	0	3,714,875	996,465
Kentucky	26,668,173	627,270	2,020,000	2,531,000	14,469,601	7,020,302	0
Louisiana	35,142,225	270,090	2,875,376	11,751,729	1,532,501	10,000,000	8,712,529
Maine	32,592,625	7,182,948	0	12,055,909	2,467,740	1,136,000	9,750,028
Maryland	29,107,768	357,910	1,181,872	1,625,725	22,520,611	1,735,096	1,686,554
Massachusetts	28,425,439	50,000	5,049,247	8,938,925	6,632,267	4,425,000	3,330,000
Michigan	8,023,318	1,246,732	0	1,555,898	88,488	5,132,200	0
Minnesota	20,150,907	3,701,150	0	5,356,934	0	11,092,823	0
Mississippi	12,170,278	599,632	0	5,579,050	0	5,991,596	0
Missouri	15,055,845	1,153,575	0	11,968,316	103,760	1,830,194	0
Montana	8,794,140	3,132,570	0	4,146,533	311,826	820,527	382,684
Nebraska	28,167,688	2,851,678	4,000	4,757,681	18,986,705	1,409,861	157,763
Nevada	7,871,899	184,774	0	128,914	0	973,452	6,584,759
New Hampshire	8,432,696	114,949	8,938	101,215	0	807,378	7,400,216
New Jersey	23,886,758	0	0	2,192,254	15,865,431	2,717,094	3,111,979
New Mexico	3,585,944	0	82,970	2,108,672	0	1,377,302	17,000
New York	448,501,735	10,612,279	51,407,945	33,457,115	315,479,125	8,842,589	28,702,682
North Carolina	32,754,090	14,132,932	1,656,680	7,935,915	778,247	7,959,645	290,671
North Dakota	12,140,358	2,998,472	6,229,265	1,546,256	29,510	1,336,855	0
Ohio	97,758,379	0	14,557,578	58,098,202	3,200,453	6,886,766	15,015,380
Oklahoma	29,607,888	1,058,791	684,211	3,697,616	16,263,121	6,849,411	1,054,738
Oregon	44,222,659	1,638,762	4,550,000	19,896,508	6,000,000	5,411,595	6,725,794
Pennsylvania	85,050,999	3,187,000	5,323,743	8,385,384	53,335,777	3,913,899	10,905,196
Rhode Island	5,512,380	49,042	0	3,507,663	150,000	1,225,000	580,675
South Carolina	46,983,243	1,013,153	86,506	28,245,560	14,541,188	2,159,379	937,457
South Dakota	2,953,214	1,690,563	39,853	0	0	1,222,798	0
Tennessee	7,439,395	0	106,514	906,097	0	3,107,664	3,319,120
Texas	233,030,466	1,229,300	0	9,797,876	204,708,613	17,294,677	0
Utah	7,985,508	0	0	4,537,659	12,780	3,435,069	0
Vermont	2,730,591	0	0	308,227	210,747	2,211,617	0
Virginia	29,951,353	2,765,452	350,000	7,210,949	3,183,007	12,889,933	3,552,012
Washington	51,963,060	17,797,227	7,621,218	16,415,784	1,188,510	5,596,000	3,344,321
West Virginia	11,068,061	25,000	1,703,058	4,141,682	1,296,852	2,124,711	1,776,758

TABLE 8

State R&D expenditures, by state and function of R&D: FY 2019

(Dollars)

State	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Wisconsin	17,473,890	3,518,097	0	6,060,492	1,140,656	3,754,645	3,000,000
Wyoming	6,002,910	529,282	261,918	2,152,148	250,000	1,428,942	1,380,620

^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.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2019.

TABLE 9

State government expenditures for agriculture-related R&D, by state: FYs 2009–19

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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	136,395,698
Alabama	0	0	0	0	0	0	250,000	0	0	0	0
Alaska	15,000	687,500	713,500	99,934	750,856	217,231	217,141	0	0	0	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
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
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	7,004,454
Colorado	416,336	826,517	583,117	0	50,000	316,549	373,735	472,293	773,012	1,047,197	721,768
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
Delaware	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
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
Georgia	0	0	0	0	0	0	0	0	0	0	633,607
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
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
Illinois	18,096	0	0	0	0	0	139,697	2,839,551	2,975,635	2,975,635	3,989,560
Indiana	0	0	0	177,000	268,000	250,000	250,000	250,000	250,000	350,000	141,876
Iowa	0	0	0	0	0	0	0	0	0	0	0
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
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
Louisiana	0	0	0	0	0	27,333	9,167	2,500	49,066	38,750	270,090
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
Maryland	336,650	228,000	451,700	300,000	384,771	200,000	200,000	245,456	379,919	352,432	357,910
Massachusetts	0	0	0	0	0	34,227	0	37,631	0	0	50,000
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
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
Mississippi	0	0	0	0	0	84,209	0	49,896	0	1,027,288	599,632
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
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
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
Nevada	0	0	0	0	0	10,000	0	0	0	140,823	184,774
New Hampshire	38,005	219,170	113,969	477,066	438,435	98,640	130,904	120,719	72,482	141,692	114,949
New Jersey	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
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
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
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
Ohio	0	0	0	0	0	0	0	200,000	0	0	0

TABLE 9

State government expenditures for agriculture-related R&D, by state: FYs 2009–19

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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
Oregon	134,857	489,631	532,446	218,038	290,595	384,341	372,579	169,212	669,211	740,878	1,638,762
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
Rhode Island	0	0	0	166,820	40,000	0	0	0	43,868	50,000	49,042
South Carolina	421,699	0	92,305	62,024	157,702	534,646	498,748	354,516	665,133	931,700	1,013,153
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
Tennessee	0	0	0	0	0	0	0	0	0	150,000	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
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
Vermont	0	490,900	652,700	503,308	538,173	384,878	407,694	50,000	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
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
West Virginia	0	0	151,428	206,137	93,033	0	0	0	0	25,000	25,000
Wisconsin	0	770,721	536,004	864,399	640,941	616,740	841,890	900,573	928,599	838,651	3,518,097
Wyoming	264,295	176,596	147,226	493,909	452,098	125,000	0	222,087	280,776	528,197	529,282
Puerto Rico ^b	649,048	0	0	507,174	649,048	550,000	683,157	na	na	na	na

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 2009–19

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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	323,154,258
Alabama	NA	988,806	1,279,672	788,212	509,974	386,692	688,913	134,432	206,926	282,748	255,807
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
Arizona	NA	267,174	1,702,776	6,243,529	7,630,643	1,547,000	658,000	216,988	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
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
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
Connecticut	NA	358,778	553,640	571,414	588,724	1,714,724	1,944,337	240,000	0	0	0
Delaware	NA	0	0	0	0	0	10,000	0	0	13,683	24,256
District of Columbia	NA	0	0	0	0	0	75,000	0	0	29,500	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
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
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
Idaho	NA	0	0	0	0	401,783	274,051	178,178	260,435	237,898	0
Illinois	NA	190,000	0	21,110	225,000	5,885,366	4,333,344	390,473	66,300	0	0
Indiana	NA	0	0	0	383,432	657,307	354,693	125,478	0	2,298,615	268,086
Iowa	NA	0	26,590,826	5,207,302	6,340,014	1,117,561	710,522	1,181,136	164,157	0	0
Kansas	NA	0	0	0	0	0	0	0	0	0	0
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
Louisiana	NA	0	0	0	0	0	0	0	790,430	756,017	2,875,376
Maine	NA	5,000	5,000	821,675	480,594	415,000	986,000	1,311,000	0	0	0
Maryland	NA	40,000	25,000	300,000	300,000	200,000	200,000	200,000	189,999	646,989	1,181,872
Massachusetts	NA	0	0	0	0	2,640,446	4,998,471	3,982,930	6,660,272	3,906,259	5,049,247
Michigan	NA	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
Mississippi	NA	1,550,000	1,250,000	0	0	22,914	1,739	0	0	0	0
Missouri	NA	0	0	0	0	0	0	0	0	0	0
Montana	NA	835,942	405,260	187,163	1,200	332,678	0	0	178,300	0	0
Nebraska	NA	5,000	10,000	196,427	236,100	100,000	0	266,783	177,207	495,519	4,000
Nevada	NA	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
New Jersey	NA	500,000	0	437,685	0	0	0	0	0	0	0
New Mexico	NA	0	0	0	57,083	0	0	0	0	83,198	82,970
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
North Carolina	NA	100,000	105,000	0	0	1,322,052	1,652,847	1,969,629	0	0	1,656,680
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

TABLE 10

State government expenditures for energy-related R&D, by state: FYs 2009–19

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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
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
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
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
Rhode Island	NA	0	0	0	0	2,000	1,200	104,121	131,554	48,106	0
South Carolina	NA	863,890	871,078	484,124	251,410	56,129	163,885	213,958	206,826	92,280	86,506
South Dakota	NA	0	0	0	0	3,779	26,862	11,135	22,447	181,466	39,853
Tennessee	NA	0	35,764	6,553	0	0	0	213,026	0	106,514	106,514
Texas	NA	0	0	374,013	447,132	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
Vermont	NA	300,000	300,000	167,769	179,391	223,802	239,382	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
Washington	NA	0	0	0	0	148,000	0	1,916,700	8,197,974	3,309,037	7,621,218
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
Wisconsin	NA	0	0	250,000	150,000	30,000	30,000	0	0	66,000	0
Wyoming	NA	0	0	386,452	182,082	356,188	349,552	538,491	1,323,767	71,133	261,918
Puerto Rico ^c	NA	100,000	100,000	106,470	220,000	422,494	400,000	na	na	na	na

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 Other and Environment and natural resources categories.

^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 2009–19

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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	451,189,235	422,889,511	452,269,973
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
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
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
Arkansas	345,832	658,590	680,971	707,557	942,106	0	303,087	530,436	0	2,249,406	2,426,103
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
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
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
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
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
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
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
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
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
Illinois	56,800	0	0	0	0	0	0	0	0	0	0
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
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
Kansas	365,000	365,000	465,000	0	0	166,000	258,099	747,974	3,190,713	4,145,270	3,645,223
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
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
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
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
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
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
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
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
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
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
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
Nevada	0	32,942	47,582	46,905	45,408	170,494	192,802	83,663	4,967	100,000	128,914
New Hampshire	155,000	100,000	111,000	0	0	262,850	331,476	744,520	642,613	74,981	101,215
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
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
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
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
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

TABLE 11

State government expenditures for environment and natural resources-related R&D, by state: FYs 2009–19

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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	61,863,829	54,609,867	58,098,202
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
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
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
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
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
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
Tennessee	0	0	320,000	856,000	866,500	583,092	571,871	1,085,874	863,020	901,162	906,097
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
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
Vermont	0	75,000	75,000	115,469	102,379	252,928	90,683	153,931	50,195	49,859	308,227
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
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
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
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
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
Puerto Rico ^c	136,021	100,000	100,000	201,685	244,845	205,623	150,000	na	na	na	na

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 Other and Environment and natural resources categories.

^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 2009–19

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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	1,082,056,223
Alabama	0	0	0	0	0	1,000,000	2,829,600	0	0	980,000	1,080,000
Alaska	0	0	0	0	0	0	0	930,260	1,591,735	506,881	320,476
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
Arkansas	0	0	0	479,000	806,060	75,000	726,189	3,963,571	725,427	1,152,372	3,477,448
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	225,535,054
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
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
Delaware	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
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
Georgia	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
Idaho	0	0	0	0	0	30,226	130,045	148,927	111,453	376,277	338,288
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
Indiana	20,304,740	0	0	135,000	708,497	10,000,000	0	0	2,849,998	299,865	600,000
Iowa	0	0	0	0	0	0	0	56,706	79,418	0	61,000
Kansas	1,040,411	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
Louisiana	0	0	0	0	0	0	0	0	1,287,883	1,231,812	1,532,501
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
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
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
Michigan	0	0	0	0	0	0	0	2,122,805	134,052	0	88,488
Minnesota	0	0	0	0	0	2,500,000	2,500,000	56,970	0	0	0
Mississippi	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
Montana	822,627	822,299	848,774	202,778	39,483	577,157	642,384	389,076	491,415	311,826	311,826
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
Nevada	0	0	0	0	0	0	0	0	0	0	0
New Hampshire	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
New Mexico	0	0	0	0	0	15,000	25,000	25,000	25,000	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
North Carolina	0	50,000	50,000	0	0	0	7,966,618	6,899,677	3,686,679	0	778,247
North Dakota	100,000	0	0	0	0	0	0	0	0	0	29,510
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

TABLE 12

State government expenditures for health-related R&D, by state: FYs 2009–19

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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
Oregon	0	0	0	0	0	1,000,000	1,000,000	2,000,000	3,736,168	4,400,000	6,000,000
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
Rhode Island	984,944	776,356	912,363	400,000	0	305,066	179,946	307,601	351,000	299,864	150,000
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
South Dakota	0	0	0	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0	0	450,000	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
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
Vermont	0	132,198	190,117	160,853	170,780	170,047	252,706	139,055	166,047	166,047	210,747
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
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
West Virginia	0	0	0	0	0	179,292	179,280	566,871	892,283	1,050,330	1,296,852
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
Wyoming	0	0	0	0	0	0	0	0	0	0	250,000
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 = 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 2009–19

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
Massachusetts	0	1,637,025	1,504,260	0	0	0	0	0	3,480,037	1,700,000	4,425,000
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
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
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
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
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
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
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
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
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
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
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
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
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
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

TABLE 13

State government expenditures for transportation-related R&D, by state: FYs 2009–19

(Dollars)

State	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
Puerto Rico ^b	200,000	180,000	180,000	200,000	200,000	560,000	560,000	na	na	na	na

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 2009–19

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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	224,382,731	172,982,296
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
Alaska	0	0	0	0	0	0	0	0	0	0	0
Arizona	134,587	742,869	361,685	0	0	0	0	0	0	139,859	0
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
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
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
Connecticut	0	0	0	0	0	6,275,000	5,126,590	6,067,653	9,471,359	8,441,757	9,579,524
Delaware	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
Florida	860,000	295,290	1,961,528	933,175	2,205,335	0	0	0	0	0	0
Georgia	2,500,000	200,000	200,000	400,000	0	0	0	0	0	0	0
Hawaii	6,906,722	0	0	0	0	667,972	773,071	846,154	0	1,054,083	1,436,565
Idaho	0	0	0	0	0	0	0	211,098	0	368,772	436,773
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
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
Iowa	31,512,943	105,480	710,999	22,475	22,484	522,607	457,808	431,450	421,109	497,171	337,061
Kansas	2,698,381	0	0	0	0	107,479	1,125,847	1,307,150	2,097,137	1,753,805	996,465
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
Louisiana	0	0	577,544	862,067	573,126	0	0	0	13,674,007	13,078,673	8,712,529
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
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
Massachusetts	0	0	486,173	0	0	0	0	0	2,972,231	3,425,000	3,330,000
Michigan	0	0	0	0	0	0	0	0	0	0	0
Minnesota	192,945	0	0	0	0	0	0	0	0	0	0
Mississippi	0	100,000	412,000	0	0	0	0	0	0	0	0
Missouri	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
Nebraska	40,000	0	0	1,048,383	1,282,862	197,500	97,387	0	0	200,000	157,763
Nevada	0	0	0	0	0	0	0	4,078,492	9,131,829	6,120,737	6,584,759
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
New Jersey	310,000	750,000	0	0	0	0	0	0	0	0	3,111,979
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
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
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
North Dakota	13,828,867	133,500	263,000	164,400	372,000	0	0	0	0	0	0

TABLE 14

State government R&D expenditures for other functions not separately identified, by state: FYs 2009–19

(Dollars)

State	2009 ^a	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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	19,033,535	15,015,380
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
Oregon	0	0	0	0	0	1,835,000	1,800,000	5,719,447	3,300,000	5,890,071	6,725,794
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
Rhode Island	0	0	0	200,000	0	479,906	107,997	1,434,966	778,812	489,904	580,675
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
South Dakota	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
Texas	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
Vermont	0	0	0	0	0	0	415,612	0	0	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
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
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
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
Wyoming	0	0	0	0	0	0	0	1,191,380	1,067,653	1,037,337	1,380,620
Puerto Rico ^c	1,731,697	601,391	587,869	350,654	940,348	795,212	757,107	na	na	na	na

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 Other and Environment and natural resources categories.

^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 2006–19

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
United States ^a	255,400,683	279,267,900	NA	427,193,729	535,196,259	566,896,209	541,892,652	525,458,601	483,187,498	482,539,820	509,239,249	540,645,678	532,149,801	560,855,931
Alabama	3,636,117	4,968,557	NA	8,118,750	11,332,512	12,632,066	12,966,760	6,682,218	7,543,639	8,931,316	13,217,714	11,383,605	8,523,193	8,126,730
Alaska	5,647,941	4,945,800	NA	2,956,434	2,766,100	4,548,900	206,004	395,154	3,871,691	2,812,832	1,709,208	2,419,834	2,275,990	4,540,940
Arizona	5,659,756	5,436,201	NA	6,302,846	7,013,167	8,138,077	12,004,585	14,307,201	8,490,200	8,321,298	5,300,664	3,437,562	4,329,332	2,973,198
Arkansas	2,066,318	1,224,152	NA	3,578,975	2,473,992	4,465,149	8,031,452	8,588,120	5,015,200	6,238,800	7,575,244	6,581,901	6,295,667	5,674,217
California	27,867,854	13,491,703	NA	21,031,780	23,698,863	21,016,057	22,646,488	20,235,896	19,504,949	20,343,864	22,209,845	29,772,940	33,014,863	28,877,496
Colorado	4,044,780	4,684,285	NA	4,612,094	6,363,519	5,930,771	5,170,087	6,017,553	4,133,204	3,668,094	3,112,212	4,193,326	4,897,272	7,347,294
Connecticut	6,735,926	6,906,959	NA	6,507,528	11,067,425	11,158,166	11,904,666	13,751,916	12,150,832	13,036,055	13,926,972	13,638,682	13,800,338	15,827,200
Delaware	277,211	844,200	NA	566,184	796,963	847,732	1,687,502	1,684,136	691,432	862,471	1,210,192	1,548,842	1,742,603	1,572,165
District of Columbia	938,460	1,621,000	NA	487,411	657,612	1,168,232	1,712,507	1,467,091	1,277,405	1,035,397	848,770	1,249,571	2,359,043	2,025,098
Florida	9,887,481	9,439,483	NA	13,605,050	27,629,492	26,588,661	26,701,503	25,537,040	25,536,046	22,302,689	21,594,312	26,259,352	26,978,471	24,512,331
Georgia	5,545,780	2,763,180	NA	2,918,071	5,018,230	6,919,140	8,600,759	10,454,723	10,548,856	8,055,609	11,377,179	12,488,470	16,868,348	16,171,100
Hawaii	8,578,749	17,593,176	NA	10,716,399	11,483,268	10,343,631	8,180,435	9,594,181	9,214,342	6,940,018	13,543,956	8,424,072	6,649,466	3,667,466
Idaho	652,451	1,276,787	NA	3,986,193	4,716,185	4,925,050	6,959,273	7,971,555	8,208,360	7,130,703	8,670,010	8,699,138	7,910,743	10,596,005
Illinois	1,521,332	1,990,000	NA	3,414,851	4,851,170	7,033,966	5,421,531	6,176,896	7,032,929	6,913,774	9,304,530	6,902,678	5,330,301	6,900,290
Indiana	4,428,024	4,017,815	NA	4,681,045	6,559,869	5,428,287	6,187,545	7,252,510	9,738,835	7,358,178	5,189,705	5,270,053	6,000,000	6,100,000
Iowa	4,388,234	2,424,713	NA	1,949,200	4,210,203	3,391,265	3,370,143	3,960,205	5,481,288	5,615,415	5,714,200	4,745,317	5,823,675	5,215,707
Kansas	4,864,624	4,107,233	NA	5,619,610	3,625,557	3,675,258	3,356,770	2,983,235	2,360,850	2,138,068	4,036,102	4,875,065	5,768,271	5,465,441
Kentucky	6,823,866	6,315,996	NA	4,755,197	5,263,230	5,873,846	6,170,250	4,316,909	5,266,569	5,935,717	8,070,770	8,364,540	7,475,368	6,577,173
Louisiana	6,382,762	4,125,505	NA	4,539,936	4,929,033	5,536,833	7,295,467	7,412,982	9,900,000	10,012,449	14,853,950	24,199,118	21,892,547	21,317,872
Maine	0	65,000	NA	1,304,294	1,836,035	2,439,296	1,167,751	1,158,805	2,038,174	2,952,778	3,557,605	3,276,573	3,057,355	3,830,784
Maryland	5,053,001	7,228,749	NA	4,234,200	1,643,939	1,551,214	1,888,327	1,944,190	1,782,810	1,649,862	940,143	2,557,338	4,220,626	2,924,655
Massachusetts	1,125,989	1,200,525	NA	379,847	814,609	1,209,020	1,328,828	1,803,176	5,480,624	6,490,647	6,615,788	8,499,880	6,838,085	10,952,465
Michigan	4,127,849	3,910,171	NA	6,054,036	6,885,798	7,110,347	8,187,688	8,454,896	8,417,785	8,346,295	9,760,802	9,352,419	5,774,656	4,579,680
Minnesota	2,002,686	3,083,506	NA	4,864,789	3,457,202	3,782,840	3,718,840	3,652,840	4,827,540	4,814,486	6,772,202	4,757,077	4,443,333	6,020,868
Mississippi	2,285,202	6,272,085	NA	2,926,523	5,671,257	5,454,392	5,174,275	3,937,121	971,637	618,485	2,036,701	3,479,041	5,695,540	8,869,165
Missouri	5,473,754	4,962,973	NA	5,556,085	3,161,177	4,103,709	3,702,943	3,521,812	4,887,547	5,641,298	3,684,515	3,979,736	4,114,609	5,102,079
Montana	2,913,589	1,837,440	NA	2,249,403	2,659,895	2,868,954	2,907,039	3,463,568	3,254,014	3,672,296	4,640,449	5,546,645	4,365,342	4,577,231
Nebraska	1,940,130	1,275,191	NA	1,162,077	878,999	1,071,515	1,900,163	1,973,878	1,607,015	1,668,537	2,703,884	1,406,169	1,681,576	4,371,507
Nevada	505,000	1,115,700	NA	1,242,142	688,933	320,608	469,512	1,001,898	2,771,066	2,515,000	1,752,237	2,091,202	1,147,161	2,370,078
New Hampshire	1,793,026	1,599,228	NA	937,998	896,396	1,081,852	1,302,649	1,071,409	959,521	1,113,769	683,400	874,200	694,217	715,823
New Jersey	2,927,179	4,040,714	NA	4,293,720	3,735,882	4,387,432	3,628,894	3,989,987	3,453,756	4,041,326	4,398,146	6,367,385	5,773,046	2,890,436
New Mexico	0	538,337	NA	1,324,423	1,072,611	1,443,195	1,434,849	1,592,483	2,086,119	1,966,767	1,959,974	1,325,804	2,201,370	2,415,620
New York	11,175,919	7,858,707	NA	160,779,049	175,534,885	174,021,455	156,066,229	154,054,612	162,053,306	150,683,260	142,916,034	153,685,522	150,807,413	156,961,125
North Carolina	8,043,625	13,118,979	NA	8,477,435	10,223,740	11,187,114	7,904,917	6,075,886	6,418,931	15,605,925	15,392,504	7,949,309	9,085,073	8,477,781
North Dakota	5,957,704	3,713,936	NA	1,895,456	575,654	557,822	540,086	564,878	1,199,176	1,020,728	1,172,763	2,327,432	2,965,210	2,299,808
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

TABLE 15

State government expenditures for R&D funded from federal sources, by state: FYs 2006–19

(Dollars)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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 = 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 2019

(Dollars)

State	Total federal	DOC	DOD	DOE	DOI	DOT	ED	EPA	HHS	NSF	USDA	Other ^a
United States ^b	560,855,931	21,596,841	3,954,995	23,599,253	96,591,625	174,997,694	15,109,847	5,024,968	162,354,167	14,703,084	26,901,456	16,022,001
Alabama	8,126,730	1,027,454	30,045	195,517	2,495,836	3,194,428	0	425,000	125,000	633,450	0	0
Alaska	4,540,940	0	0	2,162	2,043,200	2,263,067	0	192,511	0	0	0	40,000
Arizona	2,973,198	0	0	0	932,097	1,201,213	0	0	0	0	839,888	0
Arkansas	5,674,217	0	0	0	801,224	644,349	0	0	0	4,228,644	0	0
California	28,877,496	130,000	0	0	21,000	16,872,875	10,800,000	453,255	337,879	0	162,487	100,000
Colorado	7,347,294	0	162,100	0	3,383,119	2,061,320	195,000	108,955	313,660	0	1,046,140	77,000
Connecticut	15,827,200	0	0	0	4,974,749	2,876,205	452,289	26,338	4,230,817	115,574	3,151,228	0
Delaware	1,572,165	225,311	0	44,546	419,510	880,608	0	0	0	2,190	0	0
District of Columbia	2,025,098	0	0	0	0	308,796	0	0	1,632,604	0	0	83,698
Florida	24,512,331	5,683,511	87,528	0	5,396,203	7,365,700	0	649,053	0	15,887	5,146,283	168,166
Georgia	16,171,100	62,821	0	9,901,639	1,276,009	4,930,631	0	0	0	0	0	0
Hawaii	3,667,466	0	2,510,732	0	119,903	647,000	0	0	0	0	389,831	0
Idaho	10,596,005	0	0	3,652,096	2,955,749	3,066,056	0	0	0	0	922,104	0
Illinois	6,900,290	0	0	0	0	6,664,217	0	0	236,073	0	0	0
Indiana	6,100,000	0	0	0	0	6,100,000	0	0	0	0	0	0
Iowa	5,215,707	0	0	0	1,950,027	3,079,469	0	0	61,000	0	0	125,211
Kansas	5,465,441	0	0	0	2,943,980	2,451,650	0	9,811	0	0	0	60,000
Kentucky	6,577,173	0	0	0	1,296,547	5,104,626	0	0	0	0	36,000	140,000
Louisiana	21,317,872	52,625	0	2,400,108	4,470,364	8,000,000	217,096	0	0	4,706,935	0	1,470,744
Maine	3,830,784	1,344,000	0	0	1,190,094	1,013,000	0	0	0	0	270,000	13,690
Maryland	2,924,655	0	0	0	534,487	1,751,766	638,402	0	0	0	0	0
Massachusetts	10,952,465	0	0	0	5,200,000	3,740,000	0	25,481	1,986,984	0	0	0
Michigan	4,579,680	0	0	0	0	4,298,100	0	25,000	0	0	256,580	0
Minnesota	6,020,868	0	0	0	1,462,164	3,748,822	0	0	210,460	0	599,422	0
Mississippi	8,869,165	707,908	0	0	1,720,732	5,185,681	0	0	0	0	97,454	1,157,390
Missouri	5,102,079	0	0	0	3,214,056	1,142,471	0	203,384	12,331	0	89,837	440,000
Montana	4,577,231	0	0	0	2,612,629	489,154	0	118,456	0	0	1,269,010	87,982
Nebraska	4,371,507	0	0	0	2,214,775	1,409,860	0	30,182	0	0	716,690	0
Nevada	2,370,078	0	0	0	0	910,521	0	0	0	0	124,774	1,334,783
New Hampshire	715,823	0	0	0	0	666,358	0	0	0	0	49,465	0
New Jersey	2,890,436	0	0	0	415,141	2,027,708	0	447,587	0	0	0	0
New Mexico	2,415,620	0	0	0	500,000	1,327,520	0	233,785	0	0	0	354,315
New York	156,961,125	359,503	36,924	0	1,001,468	3,888,529	0	826,780	146,398,155	818,374	3,229,762	401,630
North Carolina	8,477,781	480,589	0	0	362,572	7,634,620	0	0	0	0	0	0
North Dakota	2,299,808	0	0	0	1,062,194	1,237,614	0	0	0	0	0	0

TABLE 16

State government expenditures for R&D funded from federal sources, by state and federal agency: FY 2019

(Dollars)

State	Total federal	DOC	DOD	DOE	DOI	DOT	ED	EPA	HHS	NSF	USDA	Other ^a
Ohio	8,126,122	224,834	0	0	1,716,849	5,569,439	615,000	0	0	0	0	0
Oklahoma	10,192,859	68,517	0	0	2,688,962	6,105,753	0	0	694,823	0	634,804	0
Oregon	17,340,000	2,370,758	658,928	4,236,320	4,435,905	2,278,749	154,853	458,000	2,274,733	0	45,014	426,740
Pennsylvania	9,903,377	0	0	0	6,254,899	3,543,478	0	105,000	0	0	0	0
Rhode Island	2,473,315	139,767	0	0	1,753,548	580,000	0	0	0	0	0	0
South Carolina	23,400,794	6,936,554	468,738	184,760	12,009,549	1,688,098	0	41,919	1,565,175	0	158,268	347,733
South Dakota	754,880	0	0	0	0	715,027	0	0	0	39,853	0	0
Tennessee	5,112,715	0	0	90,190	205,620	2,486,131	2,037,207	293,567	0	0	0	0
Texas	21,003,405	0	0	0	0	13,586,715	0	34,363	270,000	0	1,229,300	5,883,027
Utah	2,294,696	0	0	0	0	2,294,696	0	0	0	0	0	0
Vermont	2,225,472	0	0	0	0	2,014,725	0	0	210,747	0	0	0
Virginia	12,948,118	388,593	0	2,059	2,306,452	5,839,457	0	0	282,414	82,907	765,844	3,280,392
Washington	14,915,365	1,394,096	0	2,775,776	2,911,533	3,613,000	0	135,741	1,511,312	0	2,544,407	29,500
West Virginia	7,579,295	0	0	114,080	1,317,484	2,088,461	0	0	0	4,059,270	0	0
Wisconsin	9,448,498	0	0	0	3,080,909	3,418,692	0	180,800	0	0	2,768,097	0
Wyoming	2,290,192	0	0	0	940,086	991,339	0	0	0	0	358,767	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, State, Treasury, and Veterans Affairs; National Aeronautics and Space Administration; and others.

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

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 2019.

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2019

(Dollars)

State and department or agency	R&D performers ^a			R&D plant
	All	Intramural	Extramural	
United States ^b	2,426,882,959	676,171,326	1,750,711,633	10,290,679
Alabama	19,763,230	7,412,961	12,350,269	0
Commerce, Department of	2,500,000	0	2,500,000	0
Conservation and Natural Resources, Department of: Wildlife and Freshwater Fisheries Division	2,908,673	0	2,908,673	0
Education, Department of	610,000	480,000	130,000	0
Forensic Sciences, Department of	238,454	238,454	0	0
Geological Survey	2,321,007	2,321,007	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	4,373,500	4,373,500	0	0
Supercomputer Authority	3,153,648	0	3,153,648	0
Transportation, Department of	3,657,948	0	3,657,948	0
Alaska	12,502,109	8,920,501	3,581,608	0
Energy Authority	102,206	0	102,206	0
Environmental Conservation, Department of	320,476	114,393	206,083	0
Housing Finance Corporation	1,000,000	0	1,000,000	0
Natural Resources, Division of Geological and Geophysical Surveys, Department of	8,392,100	8,392,100	0	0
Railroad Corporation	1,330,621	320,258	1,010,363	0
Transportation and Public Facilities, Department of	1,356,706	93,750	1,262,956	0
Arizona	17,332,044	761,096	16,570,948	0
Agriculture, Department of	1,176,374	0	1,176,374	0
Game and Fish Department	811,096	761,096	50,000	0
Health Services, Department of	13,843,058	0	13,843,058	0
Transportation, Department of	1,501,516	0	1,501,516	0
Arkansas	21,098,863	66,099	21,032,764	0
Beef Council	40,250	0	40,250	0
Corn and Grain Sorghum Board	965,000	0	965,000	0
Economic Development Commission	7,068,797	0	7,068,797	0
Game and Fish Commission	802,324	1,100	801,224	0
Rice Research and Promotion Board	8,623,500	0	8,623,500	0
Soybean Promotion Board	2,625,555	0	2,625,555	0
State Plant Board	118,000	0	118,000	0
Transportation, Department of	805,437	64,999	740,438	0
Wheat Promotion Board	50,000	0	50,000	0
California	526,918,585	73,081,146	453,837,439	338,000
Air Resources Board	15,271,608	10,753,671	4,517,937	0
Children and Families Commission	1,895,000	0	1,895,000	0
Conservation, Department of	184,000	0	184,000	0
Corrections and Rehabilitation, Department of	2,237,305	0	2,237,305	0
Covered California	3,489,452	0	3,489,452	0
Delta Stewardship Council	6,372,069	0	6,372,069	0
Earthquake Authority	1,816,792	0	1,816,792	0
Energy Commission	165,441,000	17,472,000	147,969,000	0
Environmental Health Hazard Assessment, Office of	17,563,188	15,375,492	2,187,696	0
Food and Agriculture, Department of	4,871,361	0	4,871,361	0
Forestry and Fire Protection, Department of	3,665,406	512,919	3,152,487	0
Horse Racing Board	701,000	0	701,000	0
Housing and Community Development	50,000	0	50,000	0
Institute for Regenerative Medicine	184,982,872	0	184,982,872	0
Mental Health Services Oversight and Accountability Commission	2,500,000	0	2,500,000	0
Motor Vehicles, Department of	1,331,851	1,331,851	0	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2019

(Dollars)

State and department or agency	R&D performers ^a			R&D plant
	All	Intramural	Extramural	
Parks and Recreation, Department of	1,500,000	140,000	1,360,000	0
Pesticide Regulation, Department of	12,746,628	8,968,747	3,777,881	0
Public Health, Department of	3,313,977	1,676,000	1,637,977	338,000
Public Utilities Commission, Executive Division	37,221,559	0	37,221,559	0
Rehabilitation, Department of	10,800,000	1,993,764	8,806,236	0
Social Services, Department of	151,151	151,151	0	0
State Coastal Conservancy	838,000	0	838,000	0
State Water Resources Control Board	8,768,254	2,496,841	6,271,413	0
Transportation, Department of	34,906,443	11,341,072	23,565,371	0
Water Resources, Department of	4,299,669	867,638	3,432,031	0
Colorado	36,586,577	11,900,858	24,685,719	0
Agriculture, Department of	1,316,868	1,092,868	224,000	0
Economic Development and International Trade, Office of	15,192,123	0	15,192,123	0
Higher Education Competitive, Research Authority	1,700,000	0	1,700,000	0
Higher Education, Department of	745,000	45,000	700,000	0
Natural Resources, Department of	7,567,568	7,562,568	5,000	0
Public Health and Environment, Department of	5,585,075	2,028,422	3,556,653	0
Public Safety, Department of	1,077,000	1,077,000	0	0
Transportation, Department of	3,194,911	95,000	3,099,911	0
Wine Industry Development Board	208,032	0	208,032	0
Connecticut	57,241,037	24,679,641	32,561,396	0
Agricultural Experiment Station	12,445,226	12,445,226	0	0
Children and Families, Department of	81,949	0	81,949	0
Education, Department of	452,289	25,000	427,289	0
Energy and Environmental Protection, Department of	6,623,689	6,002,512	621,177	0
Innovation Inc.	26,858,089	0	26,858,089	0
Mental Health and Addiction Services, Department of	5,951,993	5,951,993	0	0
Public Health, Department of	114,974	0	114,974	0
Social Services, Department of	1,429,408	0	1,429,408	0
Transportation, Department of	3,283,420	254,910	3,028,510	0
Delaware	3,826,318	2,558,634	1,267,684	0
Geological Survey	2,441,975	2,391,175	50,800	0
Natural Resources and Environmental Control, Department of	259,327	143,203	116,124	0
Sustainable Energy Utility	24,256	24,256	0	0
Transportation, Department of	1,100,760	0	1,100,760	0
District of Columbia	4,222,412	1,888,642	2,333,770	0
Health, Department of	1,800,000	796,043	1,003,957	0
Transportation, Department of	422,412	92,599	329,813	0
Water and Sewer Authority	2,000,000	1,000,000	1,000,000	0
Florida	170,508,724	50,604,692	119,904,032	4,168,184
Agriculture and Consumer Services, Department of	12,822,683	1,547,678	11,275,005	0
Citrus, Department of	941,902	110,432	831,470	0
Environmental Protection, Department of	63,430	63,430	0	0
Fish and Wildlife Conservation Commission	52,150,203	47,252,513	4,897,690	4,168,184
Health, Department of	89,163,217	0	89,163,217	0
Space Florida	1,497,850	0	1,497,850	0
Transportation, Department of	13,869,439	1,630,639	12,238,800	0
Georgia	18,875,484	3,539,835	15,335,649	0
Natural Resources, Department of	1,956,371	896,266	1,060,105	0
Seed Development Commission	633,607	0	633,607	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2019

(Dollars)

State and department or agency	R&D performers ^a			R&D plant
	All	Intramural	Extramural	
Southern States Energy Board	10,501,076	2,643,569	7,857,507	0
Transportation, Department of	5,784,430	0	5,784,430	0
Hawaii	7,325,591	257,625	7,067,966	11,237
Agriculture, Department of	680,702	257,625	423,077	0
Business, Economic Development, and Tourism, Department of	3,947,297	0	3,947,297	11,237
Land and Natural Resources, Department of	895,592	0	895,592	0
Natural Energy Laboratory	1,000,000	0	1,000,000	0
Transportation, Department of	802,000	0	802,000	0
Idaho	17,828,263	6,709,727	11,118,536	52,080
Agriculture, Department of	922,104	2,571	919,533	0
Alfalfa and Clover Seed Commission	15,000	0	15,000	0
Barley Commission	237,498	0	237,498	0
Bean Commission	26,400	0	26,400	0
Beef Council	16,500	0	16,500	0
Commerce, Department of	1,016,728	0	1,016,728	0
Dairy West	2,000,000	0	2,000,000	0
Environmental Quality, Department of	460,000	0	460,000	0
Fish and Game, Department of	7,904,544	6,594,251	1,310,293	0
Honey Commission	1,635	0	1,635	0
Oilseed Commission	61,565	0	61,565	0
Pea and Lentil Commission	80,836	0	80,836	0
Potato Commission	850,000	0	850,000	0
Transportation Department	3,339,242	112,905	3,226,337	0
Wheat Commission	896,211	0	896,211	52,080
Illinois	17,548,556	1,171,225	16,377,331	0
Children and Family Services, Department of	3,848,765	0	3,848,765	0
Human Services, Department of	236,073	0	236,073	0
Nutrient Research and Education	3,989,560	0	3,989,560	0
Public Health, Department of	15,596	0	15,596	0
Transportation, Department of	9,458,562	1,171,225	8,287,337	0
Indiana	12,357,151	167,703	12,189,448	0
Economic Development Corporation	3,936,062	0	3,936,062	0
Natural Resources, Department of	100,000	0	100,000	0
Transportation, Department of	8,321,089	167,703	8,153,386	0
Iowa	9,386,675	3,279,267	6,107,408	0
Human Rights, Criminal and Juvenile Justice Planning, Division of	433,061	411,045	22,016	0
Natural Resources, Department of	3,797,923	2,868,222	929,701	0
Transportation, Department of	5,155,691	0	5,155,691	0
Kansas	12,355,458	998,463	11,356,995	0
Corn Commission	850,050	0	850,050	0
Grain Sorghum Commission	444,660	0	444,660	0
Soybean Commission	1,463,379	0	1,463,379	0
State Board of Regents	996,465	3,200	993,265	0
Transportation, Department of	3,714,875	985,452	2,729,423	0
Water Office	465,725	9,811	455,914	0
Wheat Commission	1,240,806	0	1,240,806	0
Wildlife, Parks, and Tours	3,179,498	0	3,179,498	0
Kentucky	26,668,173	2,038,186	24,629,987	0
Behavioral Health, Developmental and Intellectual Disabilities	67,500	0	67,500	0
Economic Development, Cabinet for	4,040,000	0	4,040,000	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2019

(Dollars)

State and department or agency	R&D performers ^a			R&D plant
	All	Intramural	Extramural	
Environmental Protection, Department of	100,000	10,000	90,000	0
Fish and Wildlife Resources, Department of	2,000,000	1,745,186	254,814	0
Horse Racing Commission	293,414	0	293,414	0
Nature Preserves, Office of	401,000	283,000	118,000	0
Postsecondary Education, Council on	10,559,315	0	10,559,315	0
Public Health, Department for	1,586,642	0	1,586,642	0
Soybean Promotion Board	600,000	0	600,000	0
Transportation Cabinet	7,020,302	0	7,020,302	0
Louisiana	35,142,225	10,974,134	24,168,091	0
Agriculture and Forestry, Department of	26,840	0	26,840	0
Board of Regents	15,162,504	0	15,162,504	0
Coastal Protection and Restoration Authority	3,368,965	466,210	2,902,755	0
Education, Department of	428,589	355,089	73,500	0
Transportation and Development, Department of	10,000,000	4,500,000	5,500,000	0
Wildlife and Fisheries, Department of	6,155,327	5,652,835	502,492	0
Maine	32,592,625	3,051,263	29,541,362	0
Agriculture, Conservation and Forestry, Department of	650,363	329,763	320,600	0
Inland Fisheries and Wildlife, Department of	719,045	0	719,045	0
Marine Resources, Department of	2,341,500	2,236,500	105,000	0
Technology Institute	27,745,717	0	27,745,717	0
Transportation, Department of	1,136,000	485,000	651,000	0
Maryland	29,107,768	989,368	28,118,400	49,891
Education, Department of	638,402	0	638,402	0
Energy Administration	1,032,429	0	1,032,429	49,891
Health and Mental Hygiene, Department of	13,000,000	0	13,000,000	0
Natural Resources, Department of	1,476,425	586,649	889,776	0
Technology Development Corporation	10,620,513	0	10,620,513	0
Transportation, Department of	2,339,999	402,719	1,937,280	0
Massachusetts	28,425,439	8,798,238	19,627,201	0
Clean Energy Technology Center	4,999,247	0	4,999,247	0
Environmental Protection, Department of	288,925	223,238	65,687	0
Fish and Game, Department of	8,550,000	8,050,000	500,000	0
Gaming Commission	2,125,000	0	2,125,000	0
Life Sciences Center	1,000,000	0	1,000,000	0
Massventures	3,300,000	0	3,300,000	0
Mental Health, Department of	1,300,000	0	1,300,000	0
Public Health, Department of	2,237,267	0	2,237,267	0
Transportation, Department of	4,425,000	425,000	4,000,000	0
Water Resources Authority	200,000	100,000	100,000	0
Michigan	8,023,318	336,227	7,687,091	0
Agriculture and Rural Development, Department of	1,246,732	0	1,246,732	0
Environmental, Great Lakes and Energy, Department of	639,875	336,227	303,648	0
Health and Human Services	88,488	0	88,488	0
Natural Resources, Department of	916,023	0	916,023	0
Transportation, Department of	5,132,200	0	5,132,200	0
Minnesota	20,150,907	2,027,757	18,123,150	0
Agriculture, Department of	6,177,224	520,093	5,657,131	0
Forest Resources Council	140,000	30,000	110,000	0
Natural Resources, Department of	1,462,164	1,462,164	0	0
Pollution Control Agency	100,277	0	100,277	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2019

(Dollars)

State and department or agency	R&D performers ^a			R&D plant
	All	Intramural	Extramural	
Transportation, Department of	12,271,242	15,500	12,255,742	0
Mississippi	12,170,278	1,755,759	10,414,519	0
Agriculture and Commerce, Department of	97,454	0	97,454	0
Environmental Quality, Department of	1,157,390	83,910	1,073,480	0
Gulf States Marine Fisheries Commission	661,034	0	661,034	0
Marine Resources, Department of	2,141,085	224,205	1,916,880	0
Transportation, Department of	5,991,596	462,995	5,528,601	0
Wildlife, Fisheries, and Parks, Department of	2,121,719	984,649	1,137,070	0
Missouri	15,055,845	8,242,424	6,813,421	0
Agriculture, Department of	79,966	0	79,966	0
Conservation, Department of	11,163,017	8,200,487	2,962,530	0
Health and Senior Services	28,760	28,760	0	0
Natural Resources, Department of	792,133	13,177	778,956	0
Technology Corporation	615,000	0	615,000	0
Transportation, Department of	1,430,194	0	1,430,194	0
Wine and Grape Board	946,775	0	946,775	0
Montana	8,794,140	2,993,604	5,800,536	5,794
Agriculture, Department of	3,132,570	0	3,132,570	0
Environmental Quality, Department of	153,592	98,756	54,836	0
Fish, Wildlife and Parks	3,833,321	2,740,906	1,092,415	0
Natural Resources and Conservation, Department of	59,620	59,620	0	0
Research and Commercialization, Board of	794,510	0	794,510	0
Transportation, Department of	820,527	94,322	726,205	5,794
Nebraska	28,167,688	770,104	27,397,584	0
Agriculture, Department of	1,193,067	752,988	440,079	0
Corn Board	1,107,026	0	1,107,026	0
Dry Bean Commission	192,000	0	192,000	0
Economic Development, Department of	1,111,752	0	1,111,752	0
Game and Parks Commission	2,857,952	5,000	2,852,952	0
Grain Sorghum Board	15,000	0	15,000	0
Health and Human Services	18,562,794	0	18,562,794	0
Natural Resources, Department of	1,346,572	12,116	1,334,456	0
Transportation, Department of	1,453,039	0	1,453,039	0
Wheat Board	328,486	0	328,486	0
Nevada	7,871,899	184,774	7,687,125	0
Agriculture, Department of	184,774	184,774	0	0
Economic Development, Governor's office of	6,584,759	0	6,584,759	0
Transportation, Department of	1,102,366	0	1,102,366	0
New Hampshire	8,432,696	131,672	8,301,024	0
Agriculture, Markets and Food, Department of	154,699	0	154,699	0
Business and Economic Affairs	7,275,000	0	7,275,000	0
Natural & Cultural Resources, Department of	61,465	0	61,465	0
Transportation, Department of	941,532	131,672	809,860	0
New Jersey	23,886,758	2,796,233	21,090,525	0
Community Affairs, Department of	310,000	75,000	235,000	0
Corrections, Department of	301,979	301,979	0	0
Environmental Protection, Department of	2,474,000	1,772,000	702,000	0
Health, Department of	1,936,431	0	1,936,431	0
Pinelands Commission	647,254	647,254	0	0
Research Initiatives, Office of	13,000,000	0	13,000,000	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2019

(Dollars)

State and department or agency	R&D performers ^a			R&D plant
	All	Intramural	Extramural	
Secretary of Higher Education, Office of	2,500,000	0	2,500,000	0
Transit, New Jersey	103,000	0	103,000	0
Transportation, Department of	2,614,094	0	2,614,094	0
New Mexico	3,585,944	900,212	2,685,732	0
Cultural Affairs, Department of	17,000	17,000	0	0
Game and Fish, Department of	1,000,000	500,000	500,000	0
Transportation, Department of	1,659,400	383,212	1,276,188	0
Western State Air Resources Council	909,544	0	909,544	0
New York	448,501,735	276,773,893	171,727,842	250,000
Agriculture and Markets, Department of	9,864,543	1,965,000	7,899,543	0
Economic Development, Department of	39,780,251	0	39,780,251	0
Energy Research and Development Authority	53,546,621	7,889,945	45,656,676	0
Environmental Conservation, Department of	8,942,166	4,306,743	4,635,423	0
Health, Department of	82,781,352	34,197,760	48,583,592	0
Mental Health, Office of	156,275,133	139,961,648	16,313,485	250,000
People with Developmental Disabilities, Office of	1,849,940	1,849,940	0	0
Power Authority	8,707,710	3,913,638	4,794,072	0
Roswell Park Cancer Institute	71,920,211	71,920,211	0	0
State Museum	10,022,519	9,124,024	898,495	0
Thoroughbred Breeding and Development Fund Corp.	388,449	0	388,449	0
Transportation, Department of	4,422,840	1,644,984	2,777,856	0
North Carolina	32,754,090	18,400,435	14,353,655	1,000,000
Agriculture and Consumer Services, Department of	15,422,911	13,922,911	1,500,000	1,000,000
Environmental Quality, Department of	3,460,387	1,158,611	2,301,776	0
Golden Leaf, The	65,000	0	65,000	0
Natural and Cultural Resources, Department of	3,473,399	2,605,710	867,689	0
Science, Technology & Innovation, Board of	1,201,990	0	1,201,990	0
Transportation, Department of	9,010,403	713,203	8,297,200	0
Wine and Grape Growers Council	120,000	0	120,000	0
North Dakota	12,140,358	421,989	11,718,369	0
Agriculture, Department of	299,153	0	299,153	0
Dairy Promotion Commission	155,170	0	155,170	0
Dry Pea and Lentil Commission	135,023	0	135,023	0
Game and Fish, Department of	1,375,151	0	1,375,151	0
Industrial Commission	6,226,265	344,482	5,881,783	0
Soybean Council	1,573,679	0	1,573,679	0
Transportation, Department of	1,279,171	77,507	1,201,664	0
Wheat Commission	1,096,746	0	1,096,746	0
Ohio	97,758,379	18,343,328	79,415,051	0
Development Services Agency	85,774,800	17,610,002	68,164,798	0
Education, Department of	615,000	0	615,000	0
Environmental Protection Agency	20,174	0	20,174	0
Natural Resources, Department of	2,940,286	733,326	2,206,960	0
Transportation, Department of	6,886,442	0	6,886,442	0
Water Development Authority	1,521,677	0	1,521,677	0
Oklahoma	29,607,888	1,685,458	27,922,430	109,876
Advancement of Science and Technology, Center for the	5,753,552	0	5,753,552	109,876
Agriculture, Food, and Forestry, Department of	634,804	0	634,804	0
Environmental Quality, Department of	80,399	0	80,399	0
Health, Department of	608,140	608,140	0	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2019

(Dollars)

State and department or agency	R&D performers ^a			R&D plant
	All	Intramural	Extramural	
Human Services, Department of	134,244	134,244	0	0
Tobacco Settlement Endowment Trust	12,300,000	0	12,300,000	0
Transportation, Department of	6,511,466	943,074	5,568,392	0
Wildlife Conservation, Department of	3,585,283	0	3,585,283	0
Oregon	44,222,659	24,761,784	19,460,875	2,000,000
Agriculture, Department of	388,762	0	388,762	0
Business Oregon	14,800,000	0	14,800,000	2,000,000
Education, Department of	657,595	657,595	0	0
Environmental Quality, Department of	458,000	41,000	417,000	0
Fish and Wildlife, Department of	14,235,414	12,974,798	1,260,616	0
Forestry, Department of	522,777	383,592	139,185	0
Geology and Mineral Industries, Department of	814,431	814,431	0	0
Human Services, Department of	5,535,728	5,535,728	0	0
Transportation, Department of	5,090,034	3,901,901	1,188,133	0
Water Resources Department	810,484	435,331	375,153	0
Watershed Enhancement Board	909,434	17,408	892,026	0
Pennsylvania	85,050,999	8,579,205	76,471,794	10,000
Agriculture, Department of	2,187,000	0	2,187,000	0
Community and Economic Development, Department of	21,600,000	0	21,600,000	0
Conservation and Natural Resources, Department of	42,124	42,124	0	0
Environmental Protection, Department of	1,445,473	50,000	1,395,473	10,000
Fish and Boat Commission	131,845	93,639	38,206	0
Game Commission	9,287,658	7,796,543	1,491,115	0
Health, Department of	46,293,000	0	46,293,000	0
Susquehanna River Basin Commission	150,000	130,000	20,000	0
Transportation, Department of	3,913,899	466,899	3,447,000	0
Rhode Island	5,512,380	2,767,111	2,745,269	0
Commerce Corporation	1,203,652	0	1,203,652	0
Environmental Management, Department of	3,028,728	2,667,111	361,617	0
Transportation, Department of	1,225,000	100,000	1,125,000	0
Water Resources Board	55,000	0	55,000	0
South Carolina	46,983,243	28,876,294	18,106,949	430,650
Agriculture, Department of	1,035,394	0	1,035,394	0
Disabilities and Special Needs, Department of	12,226,376	0	12,226,376	430,650
Health and Environmental Control, Department of	1,585,652	1,331,451	254,201	0
Mental Health, Department of	100,884	0	100,884	0
Natural Resources, Department of	26,062,760	25,807,753	255,007	0
Public Service Authority	30,000	0	30,000	0
Research Authority	1,401,205	0	1,401,205	0
Sea Grant Consortium	2,381,593	1,687,833	693,760	0
Transportation, Department of	2,159,379	49,257	2,110,122	0
South Dakota	2,953,214	361,072	2,592,142	115,000
Corn Utilization Council	250,000	0	250,000	0
Oilseeds Council	216,845	0	216,845	0
Pulse Crop Council	13,352	0	13,352	0
Science and Technology Authority	39,853	0	39,853	0
Soybean Research and Promotion Council	718,122	12,965	705,157	0
Transportation, Department of	1,222,798	348,107	874,691	0
Weed and Pest Control Commission	45,314	0	45,314	0
Wheat Commission	446,930	0	446,930	115,000

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2019

(Dollars)

State and department or agency	R&D performers ^a			R&D plant
	All	Intramural	Extramural	
Tennessee	7,439,395	1,710,689	5,728,706	0
Education, Department of	3,319,120	1,168,921	2,150,199	0
Environment and Conservation, Department of	843,184	372,341	470,843	0
Geological Survey	169,427	169,427	0	0
Transportation, Department of	3,107,664	0	3,107,664	0
Texas	233,030,466	3,855,855	229,174,611	25
Agriculture, Department of	1,229,300	0	1,229,300	0
Alzheimer's Research and Care Consortium (TARCC)	3,204,342	0	3,204,342	0
Cancer Prevention and Research Institute	201,159,271	0	201,159,271	0
Environmental Quality, Commission on	1,687,165	96,160	1,591,005	0
Parks and Wildlife Department	7,378,821	3,534,695	3,844,126	0
State Health Services, Department of	345,000	225,000	120,000	25
Transportation, Department of	17,294,677	0	17,294,677	0
Water Development Board	731,890	0	731,890	0
Utah	7,985,508	5,046,202	2,939,306	1,000
Environmental Quality, Department of	416,398	19,514	396,884	0
Health, Department of	12,780	12,780	0	0
Natural Resources, Department of	4,121,261	4,121,261	0	0
Transportation, Department of	3,435,069	892,647	2,542,422	1,000
Vermont	2,730,591	681,380	2,049,211	47,661
Agriculture, Food, and Markets, Agency of	308,227	0	308,227	0
Human Services, Agency of	210,747	210,747	0	0
Transportation, Agency of	2,211,617	470,633	1,740,984	47,661
Virginia	29,951,353	10,733,680	19,217,673	301,107
Aging and Rehabilitation, Department of	134,914	52,951	81,963	0
Agriculture and Consumer Services, Department of	2,615,452	0	2,615,452	0
Commonwealth Health Research Board	1,080,163	0	1,080,163	0
Environmental Quality, Department of	287,560	21,842	265,718	0
Forensic Science, Department of	854,800	854,800	0	0
Forestry, Department of	467,501	437,362	30,139	0
Foundation for Healthy Youth	858,392	0	858,392	0
Game and Inland Fisheries, Department of	2,296,869	0	2,296,869	0
Innovative Technology, Center for	4,416,750	634,826	3,781,924	0
Marine Resources Commission	2,471,043	0	2,471,043	0
Mines, Minerals and Energy, Department of	655,308	617,808	37,500	0
Natural History, Museum of	872,668	872,668	0	0
Social Services, Department of	150,000	0	150,000	0
Transportation, Department of	12,789,933	7,241,423	5,548,510	301,107
Washington	51,963,060	19,986,935	31,976,125	1,400,174
Agriculture, Department of	2,767,808	0	2,767,808	0
Alfalfa Seed Commission	34,000	0	34,000	0
Asparagus Commission	74,166	0	74,166	0
Blueberry Commission	252,000	0	252,000	0
Commerce, Department of	5,826,443	0	5,826,443	124,874
Cranberry Commission	6,000	0	6,000	0
Dairy Products Commission	15,000	0	15,000	0
Ecology, Department of	882,120	612,918	269,202	0
Fish and Wildlife, Department of	8,390,579	8,375,177	15,402	0
Fruit Commission	306,223	0	306,223	0
Grain Commission	2,224,046	0	2,224,046	0

TABLE 17

State agency expenditures for R&D and R&D plant, by state, department or agency, and R&D performer: FY 2019

(Dollars)

State and department or agency	R&D performers ^a			R&D plant
	All	Intramural	Extramural	
Health, Department of	1,108,855	1,053,412	55,443	0
Hop Commission	168,357	0	168,357	0
Labor and Industries, Department of	3,344,321	3,344,321	0	0
Mint Commission	50,382	0	50,382	0
Natural Resources, Department of	8,307,815	3,584,826	4,722,989	0
Oilseeds Commission	10,000	0	10,000	0
Pesticide Registration, Commission on	455,000	0	455,000	0
Potato Commission	953,022	0	953,022	0
Puget Sound Partnership	630,045	0	630,045	0
Pulse Crop Commission	187,098	0	187,098	0
Red Raspberry Commission	349,396	0	349,396	0
Seed Potato Commission	16,003	0	16,003	0
Transportation, Department of	5,596,000	1,410,000	4,186,000	0
Tree Fruit Research Commission	9,668,382	1,606,281	8,062,101	0
Turfgrass Seed Commission	100,815	0	100,815	0
Wine Commission	239,184	0	239,184	1,275,300
West Virginia	11,068,061	2,867,846	8,200,215	0
Geological and Economic Survey	1,713,935	1,316,725	397,210	0
Higher Education Policy Commission	5,571,715	153,833	5,417,882	0
Justice and Community Services, Division of	8,000	8,000	0	0
Natural Resources, Department of	1,649,700	1,284,700	365,000	0
Transportation, Department of	2,124,711	104,588	2,020,123	0
Wisconsin	17,473,890	5,043,609	12,430,281	0
Agriculture, Trade and Consumer Protection, Department of	2,768,097	0	2,768,097	0
Economic Development Corporation	4,750,000	0	4,750,000	0
Natural Resources, Department of	6,201,148	4,781,539	1,419,609	0
Transportation, Department of	3,754,645	262,070	3,492,575	0
Wyoming	6,002,910	1,286,491	4,716,419	0
Agriculture, Department of	380,882	0	380,882	0
Business Council	2,466,307	0	2,466,307	0
Enterprise Technology Services	41,420	41,420	0	0
Game and Fish Department	1,110,856	977,107	133,749	0
State Engineer, Office of	250,000	0	250,000	0
State Geological Survey	183,963	183,963	0	0
Transportation, Department of	1,218,971	84,001	1,134,970	0
Water Development Office	350,511	0	350,511	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 U.S. total reflects all 50 states and the District of Columbia.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2019.

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
United States ^b	2,426,882,959	560,855,931	1,866,027,028
Alabama	19,763,230	8,126,730	11,636,500
Commerce, Department of	2,500,000	0	2,500,000
Conservation and Natural Resources, Department of: Wildlife and Freshwater Fisheries Division	2,908,673	2,235,155	673,518
Education, Department of	610,000	0	610,000
Forensic Sciences, Department of	238,454	0	238,454
Geological Survey	2,321,007	585,647	1,735,360
Marine Environmental Science Consortium, Dauphin Island Sea Lab	4,373,500	2,111,500	2,262,000
Supercomputer Authority	3,153,648	0	3,153,648
Transportation, Department of	3,657,948	3,194,428	463,520
Alaska	12,502,109	4,540,940	7,961,169
Energy Authority	102,206	2,162	100,044
Environmental Conservation, Department of	320,476	160,511	159,965
Housing Finance Corporation	1,000,000	0	1,000,000
Natural Resources, Division of Geological and Geophysical Surveys, Department of	8,392,100	2,115,200	6,276,900
Railroad Corporation	1,330,621	1,064,496	266,125
Transportation and Public Facilities, Department of	1,356,706	1,198,571	158,135
Arizona	17,332,044	2,973,198	14,358,846
Agriculture, Department of	1,176,374	961,349	215,025
Game and Fish Department	811,096	810,636	460
Health Services, Department of	13,843,058	0	13,843,058
Transportation, Department of	1,501,516	1,201,213	300,303
Arkansas	21,098,863	5,674,217	15,424,646
Beef Council	40,250	0	40,250
Corn and Grain Sorghum Board	965,000	0	965,000
Economic Development Commission	7,068,797	4,228,644	2,840,153
Game and Fish Commission	802,324	801,224	1,100
Rice Research and Promotion Board	8,623,500	0	8,623,500
Soybean Promotion Board	2,625,555	0	2,625,555
State Plant Board	118,000	0	118,000
Transportation, Department of	805,437	644,349	161,088
Wheat Promotion Board	50,000	0	50,000
California	526,918,585	28,877,496	498,041,089
Air Resources Board	15,271,608	0	15,271,608
Children and Families Commission	1,895,000	0	1,895,000
Conservation, Department of	184,000	0	184,000
Corrections and Rehabilitation, Department of	2,237,305	0	2,237,305
Covered California	3,489,452	0	3,489,452
Delta Stewardship Council	6,372,069	0	6,372,069
Earthquake Authority	1,816,792	0	1,816,792
Energy Commission	165,441,000	0	165,441,000
Environmental Health Hazard Assessment, Office of	17,563,188	0	17,563,188
Food and Agriculture, Department of	4,871,361	162,487	4,708,874
Forestry and Fire Protection, Department of	3,665,406	0	3,665,406
Horse Racing Board	701,000	0	701,000
Housing and Community Development	50,000	0	50,000
Institute for Regenerative Medicine	184,982,872	0	184,982,872
Mental Health Services Oversight and Accountability Commission	2,500,000	0	2,500,000

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Motor Vehicles, Department of	1,331,851	158,341	1,173,510
Parks and Recreation, Department of	1,500,000	0	1,500,000
Pesticide Regulation, Department of	12,746,628	96,050	12,650,578
Public Health, Department of	3,313,977	231,000	3,082,977
Public Utilities Commission, Executive Division	37,221,559	0	37,221,559
Rehabilitation, Department of	10,800,000	10,800,000	0
Social Services, Department of	151,151	106,879	44,272
State Coastal Conservancy	838,000	230,000	608,000
State Water Resources Control Board	8,768,254	357,205	8,411,049
Transportation, Department of	34,906,443	16,714,534	18,191,909
Water Resources, Department of	4,299,669	21,000	4,278,669
Colorado	36,586,577	7,347,294	29,239,283
Agriculture, Department of	1,316,868	1,311,615	5,253
Economic Development and International Trade, Office of	15,192,123	0	15,192,123
Higher Education Competitive, Research Authority	1,700,000	0	1,700,000
Higher Education, Department of	745,000	195,000	550,000
Natural Resources, Department of	7,567,568	3,383,119	4,184,449
Public Health and Environment, Department of	5,585,075	319,240	5,265,835
Public Safety, Department of	1,077,000	77,000	1,000,000
Transportation, Department of	3,194,911	2,061,320	1,133,591
Wine Industry Development Board	208,032	0	208,032
Connecticut	57,241,037	15,827,200	41,413,837
Agricultural Experiment Station	12,445,226	5,337,429	7,107,797
Children and Families, Department of	81,949	81,395	554
Education, Department of	452,289	452,289	0
Energy and Environmental Protection, Department of	6,623,689	4,974,749	1,648,940
Innovation Inc.	26,858,089	0	26,858,089
Mental Health and Addiction Services, Department of	5,951,993	671,805	5,280,188
Public Health, Department of	114,974	3,920	111,054
Social Services, Department of	1,429,408	1,429,408	0
Transportation, Department of	3,283,420	2,876,205	407,215
Delaware	3,826,318	1,572,165	2,254,153
Geological Survey	2,441,975	476,779	1,965,196
Natural Resources and Environmental Control, Department of	259,327	214,778	44,549
Sustainable Energy Utility	24,256	0	24,256
Transportation, Department of	1,100,760	880,608	220,152
District of Columbia	4,222,412	2,025,098	2,197,314
Health, Department of	1,800,000	1,716,302	83,698
Transportation, Department of	422,412	308,796	113,616
Water and Sewer Authority	2,000,000	0	2,000,000
Florida	170,508,724	24,512,331	145,996,393
Agriculture and Consumer Services, Department of	12,822,683	5,092,702	7,729,981
Citrus, Department of	941,902	0	941,902
Environmental Protection, Department of	63,430	0	63,430
Fish and Wildlife Conservation Commission	52,150,203	12,053,929	40,096,274
Health, Department of	89,163,217	0	89,163,217
Space Florida	1,497,850	0	1,497,850
Transportation, Department of	13,869,439	7,365,700	6,503,739
Georgia	18,875,484	16,171,100	2,704,384

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Natural Resources, Department of	1,956,371	1,338,830	617,541
Seed Development Commission	633,607	0	633,607
Southern States Energy Board	10,501,076	9,901,639	599,437
Transportation, Department of	5,784,430	4,930,631	853,799
Hawaii	7,325,591	3,667,466	3,658,125
Agriculture, Department of	680,702	419,734	260,968
Business, Economic Development, and Tourism, Department of	3,947,297	2,510,732	1,436,565
Land and Natural Resources, Department of	895,592	90,000	805,592
Natural Energy Laboratory	1,000,000	0	1,000,000
Transportation, Department of	802,000	647,000	155,000
Idaho	17,828,263	10,596,005	7,232,258
Agriculture, Department of	922,104	922,104	0
Alfalfa and Clover Seed Commission	15,000	0	15,000
Barley Commission	237,498	0	237,498
Bean Commission	26,400	0	26,400
Beef Council	16,500	0	16,500
Commerce, Department of	1,016,728	0	1,016,728
Dairy West	2,000,000	0	2,000,000
Environmental Quality, Department of	460,000	0	460,000
Fish and Game, Department of	7,904,544	6,607,845	1,296,699
Honey Commission	1,635	0	1,635
Oilseed Commission	61,565	0	61,565
Pea and Lentil Commission	80,836	0	80,836
Potato Commission	850,000	0	850,000
Transportation Department	3,339,242	3,066,056	273,186
Wheat Commission	896,211	0	896,211
Illinois	17,548,556	6,900,290	10,648,266
Children and Family Services, Department of	3,848,765	0	3,848,765
Human Services, Department of	236,073	236,073	0
Nutrient Research and Education	3,989,560	0	3,989,560
Public Health, Department of	15,596	0	15,596
Transportation, Department of	9,458,562	6,664,217	2,794,345
Indiana	12,357,151	6,100,000	6,257,151
Economic Development Corporation	3,936,062	0	3,936,062
Natural Resources, Department of	100,000	0	100,000
Transportation, Department of	8,321,089	6,100,000	2,221,089
Iowa	9,386,675	5,215,707	4,170,968
Human Rights, Criminal and Juvenile Justice Planning, Division of	433,061	221,211	211,850
Natural Resources, Department of	3,797,923	1,950,027	1,847,896
Transportation, Department of	5,155,691	3,044,469	2,111,222
Kansas	12,355,458	5,465,441	6,890,017
Corn Commission	850,050	0	850,050
Grain Sorghum Commission	444,660	0	444,660
Soybean Commission	1,463,379	0	1,463,379
State Board of Regents	996,465	0	996,465
Transportation, Department of	3,714,875	2,451,650	1,263,225
Water Office	465,725	69,811	395,914
Wheat Commission	1,240,806	0	1,240,806
Wildlife, Parks, and Tours	3,179,498	2,943,980	235,518

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Kentucky	26,668,173	6,577,173	20,091,000
Behavioral Health, Developmental and Intellectual Disabilities	67,500	0	67,500
Economic Development, Cabinet for	4,040,000	40,000	4,000,000
Environmental Protection, Department of	100,000	100,000	0
Fish and Wildlife Resources, Department of	2,000,000	1,266,547	733,453
Horse Racing Commission	293,414	0	293,414
Nature Preserves, Office of	401,000	66,000	335,000
Postsecondary Education, Council on	10,559,315	0	10,559,315
Public Health, Department for	1,586,642	0	1,586,642
Soybean Promotion Board	600,000	0	600,000
Transportation Cabinet	7,020,302	5,104,626	1,915,676
Louisiana	35,142,225	21,317,872	13,824,353
Agriculture and Forestry, Department of	26,840	0	26,840
Board of Regents	15,162,504	7,948,222	7,214,282
Coastal Protection and Restoration Authority	3,368,965	629,565	2,739,400
Education, Department of	428,589	217,096	211,493
Transportation and Development, Department of	10,000,000	8,000,000	2,000,000
Wildlife and Fisheries, Department of	6,155,327	4,522,989	1,632,338
Maine	32,592,625	3,830,784	28,761,841
Agriculture, Conservation and Forestry, Department of	650,363	395,230	255,133
Inland Fisheries and Wildlife, Department of	719,045	553,554	165,491
Marine Resources, Department of	2,341,500	1,869,000	472,500
Technology Institute	27,745,717	0	27,745,717
Transportation, Department of	1,136,000	1,013,000	123,000
Maryland	29,107,768	2,924,655	26,183,113
Education, Department of	638,402	638,402	0
Energy Administration	1,032,429	0	1,032,429
Health and Mental Hygiene, Department of	13,000,000	0	13,000,000
Natural Resources, Department of	1,476,425	534,487	941,938
Technology Development Corporation	10,620,513	0	10,620,513
Transportation, Department of	2,339,999	1,751,766	588,233
Massachusetts	28,425,439	10,952,465	17,472,974
Clean Energy Technology Center	4,999,247	0	4,999,247
Environmental Protection, Department of	288,925	25,481	263,444
Fish and Game, Department of	8,550,000	5,200,000	3,350,000
Gaming Commission	2,125,000	0	2,125,000
Life Sciences Center	1,000,000	0	1,000,000
Massventures	3,300,000	0	3,300,000
Mental Health, Department of	1,300,000	0	1,300,000
Public Health, Department of	2,237,267	1,986,984	250,283
Transportation, Department of	4,425,000	3,740,000	685,000
Water Resources Authority	200,000	0	200,000
Michigan	8,023,318	4,579,680	3,443,638
Agriculture and Rural Development, Department of	1,246,732	281,580	965,152
Environmental, Great Lakes and Energy, Department of	639,875	0	639,875
Health and Human Services	88,488	0	88,488
Natural Resources, Department of	916,023	0	916,023
Transportation, Department of	5,132,200	4,298,100	834,100
Minnesota	20,150,907	6,020,868	14,130,039

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Agriculture, Department of	6,177,224	809,882	5,367,342
Forest Resources Council	140,000	0	140,000
Natural Resources, Department of	1,462,164	1,462,164	0
Pollution Control Agency	100,277	0	100,277
Transportation, Department of	12,271,242	3,748,822	8,522,420
Mississippi	12,170,278	8,869,165	3,301,113
Agriculture and Commerce, Department of	97,454	97,454	0
Environmental Quality, Department of	1,157,390	1,157,390	0
Gulf States Marine Fisheries Commission	661,034	661,034	0
Marine Resources, Department of	2,141,085	261,173	1,879,912
Transportation, Department of	5,991,596	5,185,681	805,915
Wildlife, Fisheries, and Parks, Department of	2,121,719	1,506,433	615,286
Missouri	15,055,845	5,102,079	9,953,766
Agriculture, Department of	79,966	79,966	0
Conservation, Department of	11,163,017	3,230,514	7,932,503
Health and Senior Services	28,760	12,331	16,429
Natural Resources, Department of	792,133	196,797	595,336
Technology Corporation	615,000	440,000	175,000
Transportation, Department of	1,430,194	1,142,471	287,723
Wine and Grape Board	946,775	0	946,775
Montana	8,794,140	4,577,231	4,216,909
Agriculture, Department of	3,132,570	1,020,523	2,112,047
Environmental Quality, Department of	153,592	118,456	35,136
Fish, Wildlife and Parks	3,833,321	2,949,098	884,223
Natural Resources and Conservation, Department of	59,620	0	59,620
Research and Commercialization, Board of	794,510	0	794,510
Transportation, Department of	820,527	489,154	331,373
Nebraska	28,167,688	4,371,507	23,796,181
Agriculture, Department of	1,193,067	746,872	446,195
Corn Board	1,107,026	0	1,107,026
Dry Bean Commission	192,000	0	192,000
Economic Development, Department of	1,111,752	0	1,111,752
Game and Parks Commission	2,857,952	2,214,775	643,177
Grain Sorghum Board	15,000	0	15,000
Health and Human Services	18,562,794	0	18,562,794
Natural Resources, Department of	1,346,572	0	1,346,572
Transportation, Department of	1,453,039	1,409,860	43,179
Wheat Board	328,486	0	328,486
Nevada	7,871,899	2,370,078	5,501,821
Agriculture, Department of	184,774	124,774	60,000
Economic Development, Governor's office of	6,584,759	1,334,783	5,249,976
Transportation, Department of	1,102,366	910,521	191,845
New Hampshire	8,432,696	715,823	7,716,873
Agriculture, Markets and Food, Department of	154,699	0	154,699
Business and Economic Affairs	7,275,000	0	7,275,000
Natural & Cultural Resources, Department of	61,465	49,465	12,000
Transportation, Department of	941,532	666,358	275,174
New Jersey	23,886,758	2,890,436	20,996,322
Community Affairs, Department of	310,000	0	310,000

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Corrections, Department of	301,979	0	301,979
Environmental Protection, Department of	2,474,000	425,000	2,049,000
Health, Department of	1,936,431	0	1,936,431
Pinelands Commission	647,254	437,728	209,526
Research Initiatives, Office of	13,000,000	0	13,000,000
Secretary of Higher Education, Office of	2,500,000	0	2,500,000
Transit, New Jersey	103,000	0	103,000
Transportation, Department of	2,614,094	2,027,708	586,386
New Mexico	3,585,944	2,415,620	1,170,324
Cultural Affairs, Department of	17,000	0	17,000
Game and Fish, Department of	1,000,000	500,000	500,000
Transportation, Department of	1,659,400	1,327,520	331,880
Western State Air Resources Council	909,544	588,100	321,444
New York	448,501,735	156,961,125	291,540,610
Agriculture and Markets, Department of	9,864,543	2,734,171	7,130,372
Economic Development, Department of	39,780,251	0	39,780,251
Energy Research and Development Authority	53,546,621	0	53,546,621
Environmental Conservation, Department of	8,942,166	2,025,184	6,916,982
Health, Department of	82,781,352	21,146,363	61,634,989
Mental Health, Office of	156,275,133	84,359,723	71,915,410
People with Developmental Disabilities, Office of	1,849,940	1,087,592	762,348
Power Authority	8,707,710	0	8,707,710
Roswell Park Cancer Institute	71,920,211	41,531,303	30,388,908
State Museum	10,022,519	188,260	9,834,259
Thoroughbred Breeding and Development Fund Corp.	388,449	0	388,449
Transportation, Department of	4,422,840	3,888,529	534,311
North Carolina	32,754,090	8,477,781	24,276,309
Agriculture and Consumer Services, Department of	15,422,911	0	15,422,911
Environmental Quality, Department of	3,460,387	801,212	2,659,175
Golden Leaf, The	65,000	0	65,000
Natural and Cultural Resources, Department of	3,473,399	41,949	3,431,450
Science, Technology & Innovation, Board of	1,201,990	0	1,201,990
Transportation, Department of	9,010,403	7,634,620	1,375,783
Wine and Grape Growers Council	120,000	0	120,000
North Dakota	12,140,358	2,299,808	9,840,550
Agriculture, Department of	299,153	0	299,153
Dairy Promotion Commission	155,170	0	155,170
Dry Pea and Lentil Commission	135,023	0	135,023
Game and Fish, Department of	1,375,151	1,062,194	312,957
Industrial Commission	6,226,265	0	6,226,265
Soybean Council	1,573,679	0	1,573,679
Transportation, Department of	1,279,171	1,237,614	41,557
Wheat Commission	1,096,746	0	1,096,746
Ohio	97,758,379	8,126,122	89,632,257
Development Services Agency	85,774,800	0	85,774,800
Education, Department of	615,000	615,000	0
Environmental Protection Agency	20,174	0	20,174
Natural Resources, Department of	2,940,286	1,941,683	998,603
Transportation, Department of	6,886,442	5,569,439	1,317,003

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Water Development Authority	1,521,677	0	1,521,677
Oklahoma	29,607,888	10,192,859	19,415,029
Advancement of Science and Technology, Center for the	5,753,552	68,517	5,685,035
Agriculture, Food, and Forestry, Department of	634,804	634,804	0
Environmental Quality, Department of	80,399	0	80,399
Health, Department of	608,140	594,140	14,000
Human Services, Department of	134,244	100,683	33,561
Tobacco Settlement Endowment Trust	12,300,000	0	12,300,000
Transportation, Department of	6,511,466	6,105,753	405,713
Wildlife Conservation, Department of	3,585,283	2,688,962	896,321
Oregon	44,222,659	17,340,000	26,882,659
Agriculture, Department of	388,762	0	388,762
Business Oregon	14,800,000	1,850,000	12,950,000
Education, Department of	657,595	154,853	502,742
Environmental Quality, Department of	458,000	458,000	0
Fish and Wildlife, Department of	14,235,414	9,519,129	4,716,285
Forestry, Department of	522,777	45,014	477,763
Geology and Mineral Industries, Department of	814,431	754,133	60,298
Human Services, Department of	5,535,728	2,274,733	3,260,995
Transportation, Department of	5,090,034	2,278,749	2,811,285
Water Resources Department	810,484	0	810,484
Watershed Enhancement Board	909,434	5,389	904,045
Pennsylvania	85,050,999	9,903,377	75,147,622
Agriculture, Department of	2,187,000	0	2,187,000
Community and Economic Development, Department of	21,600,000	0	21,600,000
Conservation and Natural Resources, Department of	42,124	0	42,124
Environmental Protection, Department of	1,445,473	229,012	1,216,461
Fish and Boat Commission	131,845	41,137	90,708
Game Commission	9,287,658	6,044,750	3,242,908
Health, Department of	46,293,000	0	46,293,000
Susquehanna River Basin Commission	150,000	45,000	105,000
Transportation, Department of	3,913,899	3,543,478	370,421
Rhode Island	5,512,380	2,473,315	3,039,065
Commerce Corporation	1,203,652	0	1,203,652
Environmental Management, Department of	3,028,728	1,893,315	1,135,413
Transportation, Department of	1,225,000	580,000	645,000
Water Resources Board	55,000	0	55,000
South Carolina	46,983,243	23,400,794	23,582,449
Agriculture, Department of	1,035,394	94,446	940,948
Disabilities and Special Needs, Department of	12,226,376	0	12,226,376
Health and Environmental Control, Department of	1,585,652	1,585,652	0
Mental Health, Department of	100,884	0	100,884
Natural Resources, Department of	26,062,760	18,357,022	7,705,738
Public Service Authority	30,000	0	30,000
Research Authority	1,401,205	0	1,401,205
Sea Grant Consortium	2,381,593	1,675,576	706,017
Transportation, Department of	2,159,379	1,688,098	471,281
South Dakota	2,953,214	754,880	2,198,334
Corn Utilization Council	250,000	0	250,000

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Oilseeds Council	216,845	0	216,845
Pulse Crop Council	13,352	0	13,352
Science and Technology Authority	39,853	39,853	0
Soybean Research and Promotion Council	718,122	0	718,122
Transportation, Department of	1,222,798	715,027	507,771
Weed and Pest Control Commission	45,314	0	45,314
Wheat Commission	446,930	0	446,930
Tennessee	7,439,395	5,112,715	2,326,680
Education, Department of	3,319,120	2,037,207	1,281,913
Environment and Conservation, Department of	843,184	497,404	345,780
Geological Survey	169,427	91,973	77,454
Transportation, Department of	3,107,664	2,486,131	621,533
Texas	233,030,466	21,003,405	212,027,061
Agriculture, Department of	1,229,300	1,229,300	0
Alzheimer's Research and Care Consortium (TARCC)	3,204,342	0	3,204,342
Cancer Prevention and Research Institute	201,159,271	0	201,159,271
Environmental Quality, Commission on	1,687,165	841,005	846,160
Parks and Wildlife Department	7,378,821	5,076,385	2,302,436
State Health Services, Department of	345,000	270,000	75,000
Transportation, Department of	17,294,677	13,586,715	3,707,962
Water Development Board	731,890	0	731,890
Utah	7,985,508	2,294,696	5,690,812
Environmental Quality, Department of	416,398	0	416,398
Health, Department of	12,780	0	12,780
Natural Resources, Department of	4,121,261	0	4,121,261
Transportation, Department of	3,435,069	2,294,696	1,140,373
Vermont	2,730,591	2,225,472	505,119
Agriculture, Food, and Markets, Agency of	308,227	0	308,227
Human Services, Agency of	210,747	210,747	0
Transportation, Agency of	2,211,617	2,014,725	196,892
Virginia	29,951,353	12,948,118	17,003,235
Aging and Rehabilitation, Department of	134,914	134,914	0
Agriculture and Consumer Services, Department of	2,615,452	418,207	2,197,245
Commonwealth Health Research Board	1,080,163	0	1,080,163
Environmental Quality, Department of	287,560	287,560	0
Forensic Science, Department of	854,800	145,600	709,200
Forestry, Department of	467,501	347,637	119,864
Foundation for Healthy Youth	858,392	0	858,392
Game and Inland Fisheries, Department of	2,296,869	1,478,135	818,734
Innovative Technology, Center for	4,416,750	1,714,882	2,701,868
Marine Resources Commission	2,471,043	1,986,691	484,352
Mines, Minerals and Energy, Department of	655,308	437,128	218,180
Natural History, Museum of	872,668	82,907	789,761
Social Services, Department of	150,000	75,000	75,000
Transportation, Department of	12,789,933	5,839,457	6,950,476
Washington	51,963,060	14,915,365	37,047,695
Agriculture, Department of	2,767,808	2,369,403	398,405
Alfalfa Seed Commission	34,000	0	34,000
Asparagus Commission	74,166	0	74,166

TABLE 18

State agency expenditures for R&D for all performers, by state, department or agency, and source of funds: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Source of funds	
		Federal government	State and all others ^a
Blueberry Commission	252,000	0	252,000
Commerce, Department of	5,826,443	0	5,826,443
Cranberry Commission	6,000	0	6,000
Dairy Products Commission	15,000	0	15,000
Ecology, Department of	882,120	229,839	652,281
Fish and Wildlife, Department of	8,390,579	4,991,513	3,399,066
Fruit Commission	306,223	0	306,223
Grain Commission	2,224,046	0	2,224,046
Health, Department of	1,108,855	871,903	236,952
Hop Commission	168,357	15,338	153,019
Labor and Industries, Department of	3,344,321	639,409	2,704,912
Mint Commission	50,382	0	50,382
Natural Resources, Department of	8,307,815	1,932,609	6,375,206
Oilseeds Commission	10,000	0	10,000
Pesticide Registration, Commission on	455,000	0	455,000
Potato Commission	953,022	0	953,022
Puget Sound Partnership	630,045	92,685	537,360
Pulse Crop Commission	187,098	0	187,098
Red Raspberry Commission	349,396	115,632	233,764
Seed Potato Commission	16,003	0	16,003
Transportation, Department of	5,596,000	3,613,000	1,983,000
Tree Fruit Research Commission	9,668,382	44,034	9,624,348
Turfgrass Seed Commission	100,815	0	100,815
Wine Commission	239,184	0	239,184
West Virginia	11,068,061	7,579,295	3,488,766
Geological and Economic Survey	1,713,935	227,364	1,486,571
Higher Education Policy Commission	5,571,715	4,059,270	1,512,445
Justice and Community Services, Division of	8,000	0	8,000
Natural Resources, Department of	1,649,700	1,204,200	445,500
Transportation, Department of	2,124,711	2,088,461	36,250
Wisconsin	17,473,890	9,448,498	8,025,392
Agriculture, Trade and Consumer Protection, Department of	2,768,097	2,768,097	0
Economic Development Corporation	4,750,000	0	4,750,000
Natural Resources, Department of	6,201,148	3,261,709	2,939,439
Transportation, Department of	3,754,645	3,418,692	335,953
Wyoming	6,002,910	2,290,192	3,712,718
Agriculture, Department of	380,882	239,023	141,859
Business Council	2,466,307	0	2,466,307
Enterprise Technology Services	41,420	0	41,420
Game and Fish Department	1,110,856	785,867	324,989
State Engineer, Office of	250,000	100,000	150,000
State Geological Survey	183,963	173,963	10,000
Transportation, Department of	1,218,971	991,339	227,632
Water Development Office	350,511	0	350,511

^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.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2019.

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2019
(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	676,171,326	283,610,819	339,735,283	18,352,623	8,559,607	22,107,674	3,805,320
Alabama	7,412,961	2,697,147	2,359,216	2,328,636	27,962	0	0
Education, Department of	480,000	0	480,000	0	0	0	0
Forensic Sciences, Department of	238,454	0	238,454	0	0	0	0
Geological Survey	2,321,007	585,647	1,528,762	178,636	27,962	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	4,373,500	2,111,500	112,000	2,150,000	0	0	0
Alaska	8,920,501	2,475,004	5,703,797	741,700	0	0	0
Environmental Conservation, Department of	114,393	28,598	85,795	0	0	0	0
Natural Resources, Division of Geological and Geophysical Surveys, Department of	8,392,100	2,115,200	5,535,200	741,700	0	0	0
Railroad Corporation	320,258	256,206	64,052	0	0	0	0
Transportation and Public Facilities, Department of	93,750	75,000	18,750	0	0	0	0
Arizona	761,096	760,636	460	0	0	0	0
Game and Fish Department	761,096	760,636	460	0	0	0	0
Arkansas	66,099	51,999	14,100	0	0	0	0
Game and Fish Commission	1,100	0	1,100	0	0	0	0
Transportation, Department of	64,999	51,999	13,000	0	0	0	0
California	73,081,146	6,019,861	67,042,255	0	0	0	19,030
Air Resources Board	10,753,671	0	10,753,671	0	0	0	0
Energy Commission	17,472,000	0	17,472,000	0	0	0	0
Environmental Health Hazard Assessment, Office of	15,375,492	0	15,375,492	0	0	0	0
Forestry and Fire Protection, Department of	512,919	0	512,919	0	0	0	0
Motor Vehicles, Department of	1,331,851	158,341	1,154,480	0	0	0	19,030
Parks and Recreation, Department of	140,000	0	140,000	0	0	0	0
Pesticide Regulation, Department of	8,968,747	0	8,968,747	0	0	0	0
Public Health, Department of	1,676,000	231,000	1,445,000	0	0	0	0
Rehabilitation, Department of	1,993,764	1,993,764	0	0	0	0	0
Social Services, Department of	151,151	106,879	44,272	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 2019
(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
State Water Resources Control Board	2,496,841	171,205	2,325,636	0	0	0	0
Transportation, Department of	11,341,072	3,337,672	8,003,400	0	0	0	0
Water Resources, Department of	867,638	21,000	846,638	0	0	0	0
Colorado	11,900,858	4,674,314	7,052,168	0	99,315	75,061	0
Agriculture, Department of	1,092,868	1,087,615	5,253	0	0	0	0
Higher Education, Department of	45,000	45,000	0	0	0	0	0
Natural Resources, Department of	7,562,568	3,383,119	4,005,073	0	99,315	75,061	0
Public Health and Environment, Department of	2,028,422	5,580	2,022,842	0	0	0	0
Public Safety, Department of	1,077,000	77,000	1,000,000	0	0	0	0
Transportation, Department of	95,000	76,000	19,000	0	0	0	0
Connecticut	24,679,641	10,689,947	13,989,694	0	0	0	0
Agricultural Experiment Station	12,445,226	5,337,429	7,107,797	0	0	0	0
Education, Department of	25,000	25,000	0	0	0	0	0
Energy and Environmental Protection, Department of	6,002,512	4,485,773	1,516,739	0	0	0	0
Mental Health and Addiction Services, Department of	5,951,993	671,805	5,280,188	0	0	0	0
Transportation, Department of	254,910	169,940	84,970	0	0	0	0
Delaware	2,558,634	575,433	1,958,945	0	24,256	0	0
Geological Survey	2,391,175	476,779	1,914,396	0	0	0	0
Natural Resources and Environmental Control, Department of	143,203	98,654	44,549	0	0	0	0
Sustainable Energy Utility	24,256	0	0	0	24,256	0	0
District of Columbia	1,888,642	757,291	1,131,351	0	0	0	0
Health, Department of	796,043	712,345	83,698	0	0	0	0
Transportation, Department of	92,599	44,946	47,653	0	0	0	0
Water and Sewer Authority	1,000,000	0	1,000,000	0	0	0	0
Florida	50,604,692	12,525,320	31,635,688	7,724	207,106	6,113,213	115,641
Agriculture and Consumer Services, Department of	1,547,678	1,510,880	36,798	0	0	0	0
Citrus, Department of	110,432	0	110,432	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 2019
(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
Environmental Protection, Department of	63,430	0	63,430	0	0	0	0
Fish and Wildlife Conservation Commission	47,252,513	11,014,440	29,794,389	7,724	207,106	6,113,213	115,641
Transportation, Department of	1,630,639	0	1,630,639	0	0	0	0
Georgia	3,539,835	3,228,702	311,133	0	0	0	0
Natural Resources, Department of	896,266	585,133	311,133	0	0	0	0
Southern States Energy Board	2,643,569	2,643,569	0	0	0	0	0
Hawaii	257,625	257,625	0	0	0	0	0
Agriculture, Department of	257,625	257,625	0	0	0	0	0
Idaho	6,709,727	5,580,116	1,117,876	0	0	11,735	0
Agriculture, Department of	2,571	2,571	0	0	0	0	0
Fish and Game, Department of	6,594,251	5,487,221	1,095,295	0	0	11,735	0
Transportation Department	112,905	90,324	22,581	0	0	0	0
Illinois	1,171,225	0	1,171,225	0	0	0	0
Transportation, Department of	1,171,225	0	1,171,225	0	0	0	0
Indiana	167,703	134,162	33,541	0	0	0	0
Transportation, Department of	167,703	134,162	33,541	0	0	0	0
Iowa	3,279,267	1,718,515	1,552,564	1,688	6,500	0	0
Human Rights, Criminal and Juvenile Justice Planning, Division of	411,045	199,195	210,162	1,688	0	0	0
Natural Resources, Department of	2,868,222	1,519,320	1,342,402	0	6,500	0	0
Kansas	998,463	798,177	200,286	0	0	0	0
State Board of Regents	3,200	0	3,200	0	0	0	0
Transportation, Department of	985,452	788,366	197,086	0	0	0	0
Water Office	9,811	9,811	0	0	0	0	0
Kentucky	2,038,186	1,144,522	776,664	50,000	67,000	0	0
Environmental Protection, Department of	10,000	10,000	0	0	0	0	0
Fish and Wildlife Resources, Department of	1,745,186	1,068,522	676,664	0	0	0	0
Nature Preserves, Office of	283,000	66,000	100,000	50,000	67,000	0	0
Louisiana	10,974,134	7,990,075	2,984,059	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 2019
(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
Coastal Protection and Restoration Authority	466,210	25,110	441,100	0	0	0	0
Education, Department of	355,089	168,596	186,493	0	0	0	0
Transportation and Development, Department of	4,500,000	3,600,000	900,000	0	0	0	0
Wildlife and Fisheries, Department of	5,652,835	4,196,369	1,456,466	0	0	0	0
Maine	3,051,263	2,226,630	824,633	0	0	0	0
Agriculture, Conservation and Forestry, Department of	329,763	74,630	255,133	0	0	0	0
Marine Resources, Department of	2,236,500	1,764,000	472,500	0	0	0	0
Transportation, Department of	485,000	388,000	97,000	0	0	0	0
Maryland	989,368	548,991	332,377	0	10,000	0	98,000
Natural Resources, Department of	586,649	400,991	175,658	0	10,000	0	0
Transportation, Department of	402,719	148,000	156,719	0	0	0	98,000
Massachusetts	8,798,238	5,365,481	3,432,757	0	0	0	0
Environmental Protection, Department of	223,238	25,481	197,757	0	0	0	0
Fish and Game, Department of	8,050,000	5,000,000	3,050,000	0	0	0	0
Transportation, Department of	425,000	340,000	85,000	0	0	0	0
Water Resources Authority	100,000	0	100,000	0	0	0	0
Michigan	336,227	0	336,227	0	0	0	0
Environmental, Great Lakes and Energy, Department of	336,227	0	336,227	0	0	0	0
Minnesota	2,027,757	1,982,257	45,500	0	0	0	0
Agriculture, Department of	520,093	520,093	0	0	0	0	0
Forest Resources Council	30,000	0	30,000	0	0	0	0
Natural Resources, Department of	1,462,164	1,462,164	0	0	0	0	0
Transportation, Department of	15,500	0	15,500	0	0	0	0
Mississippi	1,755,759	1,238,192	456,634	57,865	3,068	0	0
Environmental Quality, Department of	83,910	83,910	0	0	0	0	0
Marine Resources, Department of	224,205	131,161	32,111	57,865	3,068	0	0
Transportation, Department of	462,995	370,396	92,599	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 2019
(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, Fisheries, and Parks, Department of	984,649	652,725	331,924	0	0	0	0
Missouri	8,242,424	2,234,924	6,007,500	0	0	0	0
Conservation, Department of	8,200,487	2,222,593	5,977,894	0	0	0	0
Health and Senior Services	28,760	12,331	16,429	0	0	0	0
Natural Resources, Department of	13,177	0	13,177	0	0	0	0
Montana	2,993,604	2,030,976	731,646	0	215,982	0	15,000
Environmental Quality, Department of	98,756	63,620	35,136	0	0	0	0
Fish, Wildlife and Parks	2,740,906	1,891,898	633,026	0	215,982	0	0
Natural Resources and Conservation, Department of	59,620	0	44,620	0	0	0	15,000
Transportation, Department of	94,322	75,458	18,864	0	0	0	0
Nebraska	770,104	559,157	210,947	0	0	0	0
Agriculture, Department of	752,988	559,157	193,831	0	0	0	0
Game and Parks Commission	5,000	0	5,000	0	0	0	0
Natural Resources, Department of	12,116	0	12,116	0	0	0	0
Nevada	184,774	124,774	60,000	0	0	0	0
Agriculture, Department of	184,774	124,774	60,000	0	0	0	0
New Hampshire	131,672	105,338	26,334	0	0	0	0
Transportation, Department of	131,672	105,338	26,334	0	0	0	0
New Jersey	2,796,233	529,728	2,056,979	0	0	91,245	118,281
Community Affairs, Department of	75,000	0	75,000	0	0	0	0
Corrections, Department of	301,979	0	301,979	0	0	0	0
Environmental Protection, Department of	1,772,000	92,000	1,680,000	0	0	0	0
Pinelands Commission	647,254	437,728	0	0	0	91,245	118,281
New Mexico	900,212	556,570	326,642	0	17,000	0	0
Cultural Affairs, Department of	17,000	0	0	0	17,000	0	0
Game and Fish, Department of	500,000	250,000	250,000	0	0	0	0
Transportation, Department of	383,212	306,570	76,642	0	0	0	0
New York	276,773,893	133,841,304	103,928,744	12,173,840	7,767,253	15,711,133	3,351,619
Agriculture and Markets, Department of	1,965,000	1,965,000	0	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 2019
(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
Energy Research and Development Authority	7,889,945	0	7,889,945	0	0	0	0
Environmental Conservation, Department of	4,306,743	1,261,283	3,045,460	0	0	0	0
Health, Department of	34,197,760	18,238,659	13,515,677	468,089	1,642,367	112,308	220,660
Mental Health, Office of	139,961,648	68,253,220	58,701,507	0	4,335,039	5,828,733	2,843,149
People with Developmental Disabilities, Office of	1,849,940	1,087,592	400,953	0	361,395	0	0
Power Authority	3,913,638	0	3,563,035	285,000	65,603	0	0
Roswell Park Cancer Institute	71,920,211	41,531,303	7,547,406	11,420,751	1,362,849	9,770,092	287,810
State Museum	9,124,024	188,260	8,935,764	0	0	0	0
Transportation, Department of	1,644,984	1,315,987	328,997	0	0	0	0
North Carolina	18,400,435	1,305,723	17,094,712	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	1,158,611	801,212	357,399	0	0	0	0
Natural and Cultural Resources, Department of	2,605,710	41,949	2,563,761	0	0	0	0
Transportation, Department of	713,203	462,562	250,641	0	0	0	0
North Dakota	421,989	62,006	359,983	0	0	0	0
Industrial Commission	344,482	0	344,482	0	0	0	0
Transportation, Department of	77,507	62,006	15,501	0	0	0	0
Ohio	18,343,328	340,452	18,002,876	0	0	0	0
Development Services Agency	17,610,002	0	17,610,002	0	0	0	0
Natural Resources, Department of	733,326	340,452	392,874	0	0	0	0
Oklahoma	1,685,458	1,232,184	439,274	14,000	0	0	0
Health, Department of	608,140	594,140	0	14,000	0	0	0
Human Services, Department of	134,244	100,683	33,561	0	0	0	0
Transportation, Department of	943,074	537,361	405,713	0	0	0	0
Oregon	24,761,784	15,053,295	9,426,605	281,884	0	0	0
Education, Department of	657,595	154,853	502,742	0	0	0	0
Environmental Quality, Department of	41,000	41,000	0	0	0	0	0
Fish and Wildlife, Department of	12,974,798	9,519,129	3,455,669	0	0	0	0
Forestry, Department of	383,592	25,309	358,283	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 2019
(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
Geology and Mineral Industries, Department of	814,431	754,133	29,575	30,723	0	0	0
Human Services, Department of	5,535,728	2,274,733	3,260,995	0	0	0	0
Transportation, Department of	3,901,901	2,278,749	1,623,152	0	0	0	0
Water Resources Department	435,331	0	184,170	251,161	0	0	0
Watershed Enhancement Board	17,408	5,389	12,019	0	0	0	0
Pennsylvania	8,579,205	5,523,525	2,926,816	85,000	39,068	3,056	1,740
Conservation and Natural Resources, Department of	42,124	0	0	0	39,068	3,056	0
Environmental Protection, Department of	50,000	30,000	20,000	0	0	0	0
Fish and Boat Commission	93,639	41,137	50,762	0	0	0	1,740
Game Commission	7,796,543	5,033,910	2,762,633	0	0	0	0
Susquehanna River Basin Commission	130,000	45,000	0	85,000	0	0	0
Transportation, Department of	466,899	373,478	93,421	0	0	0	0
Rhode Island	2,767,111	1,611,698	1,155,413	0	0	0	0
Environmental Management, Department of	2,667,111	1,531,698	1,135,413	0	0	0	0
Transportation, Department of	100,000	80,000	20,000	0	0	0	0
South Carolina	28,876,294	20,460,819	8,130,784	175,537	23,145	0	86,009
Health and Environmental Control, Department of	1,331,451	1,331,451	0	0	0	0	0
Natural Resources, Department of	25,807,753	18,102,015	7,491,453	175,537	0	0	38,748
Sea Grant Consortium	1,687,833	1,027,353	590,074	0	23,145	0	47,261
Transportation, Department of	49,257	0	49,257	0	0	0	0
South Dakota	361,072	225,826	135,246	0	0	0	0
Soybean Research and Promotion Council	12,965	0	12,965	0	0	0	0
Transportation, Department of	348,107	225,826	122,281	0	0	0	0
Tennessee	1,710,689	1,040,042	618,695	0	51,952	0	0
Education, Department of	1,168,921	817,008	299,961	0	51,952	0	0
Environment and Conservation, Department of	372,341	131,061	241,280	0	0	0	0
Geological Survey	169,427	91,973	77,454	0	0	0	0
Texas	3,855,855	2,702,556	1,153,299	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 2019
(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
Environmental Quality, Commission on	96,160	0	96,160	0	0	0	0
Parks and Wildlife Department	3,534,695	2,552,556	982,139	0	0	0	0
State Health Services, Department of	225,000	150,000	75,000	0	0	0	0
Utah	5,046,202	388,305	4,657,897	0	0	0	0
Environmental Quality, Department of	19,514	0	19,514	0	0	0	0
Health, Department of	12,780	0	12,780	0	0	0	0
Natural Resources, Department of	4,121,261	0	4,121,261	0	0	0	0
Transportation, Department of	892,647	388,305	504,342	0	0	0	0
Vermont	681,380	626,153	55,227	0	0	0	0
Human Services, Agency of	210,747	210,747	0	0	0	0	0
Transportation, Agency of	470,633	415,406	55,227	0	0	0	0
Virginia	10,733,680	4,618,539	6,115,141	0	0	0	0
Aging and Rehabilitation, Department of	52,951	52,951	0	0	0	0	0
Environmental Quality, Department of	21,842	21,842	0	0	0	0	0
Forensic Science, Department of	854,800	145,600	709,200	0	0	0	0
Forestry, Department of	437,362	317,498	119,864	0	0	0	0
Innovative Technology, Center for	634,826	281,131	353,695	0	0	0	0
Mines, Minerals and Energy, Department of	617,808	399,628	218,180	0	0	0	0
Natural History, Museum of	872,668	82,907	789,761	0	0	0	0
Transportation, Department of	7,241,423	3,316,982	3,924,441	0	0	0	0
Washington	19,986,935	9,528,084	7,945,032	2,411,588	0	102,231	0
Ecology, Department of	612,918	199,842	384,276	0	0	28,800	0
Fish and Wildlife, Department of	8,375,177	4,991,513	972,076	2,411,588	0	0	0
Health, Department of	1,053,412	828,308	225,104	0	0	0	0
Labor and Industries, Department of	3,344,321	639,409	2,704,912	0	0	0	0
Natural Resources, Department of	3,584,826	1,796,102	1,788,724	0	0	0	0
Transportation, Department of	1,410,000	1,063,000	347,000	0	0	0	0
Tree Fruit Research Commission	1,606,281	9,910	1,522,940	0	0	73,431	0
West Virginia	2,867,846	1,400,595	1,448,112	19,139	0	0	0

TABLE 19

State agency expenditures for R&D for intramural performers, by state, department or agency, and source of funds: FY 2019
(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
Geological and Economic Survey	1,316,725	227,364	1,070,222	19,139	0	0	0
Higher Education Policy Commission	153,833	153,833	0	0	0	0	0
Justice and Community Services, Division of	8,000	0	8,000	0	0	0	0
Natural Resources, Department of	1,284,700	929,200	355,500	0	0	0	0
Transportation, Department of	104,588	90,198	14,390	0	0	0	0
Wisconsin	5,043,609	3,107,340	1,936,269	0	0	0	0
Natural Resources, Department of	4,781,539	2,897,684	1,883,855	0	0	0	0
Transportation, Department of	262,070	209,656	52,414	0	0	0	0
Wyoming	1,286,491	960,509	321,960	4,022	0	0	0
Enterprise Technology Services	41,420	0	41,420	0	0	0	0
Game and Fish Department	977,107	719,345	253,740	4,022	0	0	0
State Geological Survey	183,963	173,963	10,000	0	0	0	0
Transportation, Department of	84,001	67,201	16,800	0	0	0	0

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

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 2019.

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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	2,426,882,959	676,171,326	1,750,711,633	1,024,316,554	438,222,437	288,172,642
Alabama	19,763,230	7,412,961	12,350,269	6,601,893	143,357	5,605,019
Commerce, Department of	2,500,000	0	2,500,000	1,000,000	0	1,500,000
Conservation and Natural Resources, Department of: Wildlife and Freshwater Fisheries Division	2,908,673	0	2,908,673	2,765,316	143,357	0
Education, Department of	610,000	480,000	130,000	130,000	0	0
Forensic Sciences, Department of	238,454	238,454	0	0	0	0
Geological Survey	2,321,007	2,321,007	0	0	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	4,373,500	4,373,500	0	0	0	0
Supercomputer Authority	3,153,648	0	3,153,648	1,270,513	0	1,883,135
Transportation, Department of	3,657,948	0	3,657,948	1,436,064	0	2,221,884
Alaska	12,502,109	8,920,501	3,581,608	816,177	2,412,402	353,029
Energy Authority	102,206	0	102,206	0	102,206	0
Environmental Conservation, Department of	320,476	114,393	206,083	0	206,083	0
Housing Finance Corporation	1,000,000	0	1,000,000	0	1,000,000	0
Natural Resources, Division of Geological and Geophysical Surveys, Department of	8,392,100	8,392,100	0	0	0	0
Railroad Corporation	1,330,621	320,258	1,010,363	0	1,010,363	0
Transportation and Public Facilities, Department of	1,356,706	93,750	1,262,956	816,177	93,750	353,029
Arizona	17,332,044	761,096	16,570,948	11,068,716	900,213	4,602,019
Agriculture, Department of	1,176,374	0	1,176,374	1,080,980	95,394	0
Game and Fish Department	811,096	761,096	50,000	50,000	0	0
Health Services, Department of	13,843,058	0	13,843,058	9,386,373	0	4,456,685
Transportation, Department of	1,501,516	0	1,501,516	551,363	804,819	145,334
Arkansas	21,098,863	66,099	21,032,764	20,576,710	447,500	8,554
Beef Council	40,250	0	40,250	40,250	0	0
Corn and Grain Sorghum Board	965,000	0	965,000	965,000	0	0
Economic Development Commission	7,068,797	0	7,068,797	6,621,297	447,500	0
Game and Fish Commission	802,324	1,100	801,224	792,670	0	8,554
Rice Research and Promotion Board	8,623,500	0	8,623,500	8,623,500	0	0
Soybean Promotion Board	2,625,555	0	2,625,555	2,625,555	0	0
State Plant Board	118,000	0	118,000	118,000	0	0
Transportation, Department of	805,437	64,999	740,438	740,438	0	0
Wheat Promotion Board	50,000	0	50,000	50,000	0	0
California	526,918,585	73,081,146	453,837,439	159,254,746	187,118,114	107,464,579
Air Resources Board	15,271,608	10,753,671	4,517,937	2,703,168	1,449,392	365,377
Children and Families Commission	1,895,000	0	1,895,000	850,000	0	1,045,000
Conservation, Department of	184,000	0	184,000	184,000	0	0
Corrections and Rehabilitation, Department of	2,237,305	0	2,237,305	0	2,237,305	0
Covered California	3,489,452	0	3,489,452	0	3,489,452	0
Delta Stewardship Council	6,372,069	0	6,372,069	4,642,792	695,141	1,034,136
Earthquake Authority	1,816,792	0	1,816,792	483,176	999,640	333,976
Energy Commission	165,441,000	17,472,000	147,969,000	16,276,590	125,773,650	5,918,760
Environmental Health Hazard Assessment, Office of	17,563,188	15,375,492	2,187,696	1,964,802	4,950	217,944

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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
Food and Agriculture, Department of	4,871,361	0	4,871,361	3,648,962	0	1,222,399
Forestry and Fire Protection, Department of	3,665,406	512,919	3,152,487	3,152,487	0	0
Horse Racing Board	701,000	0	701,000	701,000	0	0
Housing and Community Development	50,000	0	50,000	50,000	0	0
Institute for Regenerative Medicine	184,982,872	0	184,982,872	94,180,823	50,196,566	40,605,483
Mental Health Services Oversight and Accountability Commission	2,500,000	0	2,500,000	2,500,000	0	0
Motor Vehicles, Department of	1,331,851	1,331,851	0	0	0	0
Parks and Recreation, Department of	1,500,000	140,000	1,360,000	1,360,000	0	0
Pesticide Regulation, Department of	12,746,628	8,968,747	3,777,881	1,118,656	0	2,659,225
Public Health, Department of	3,313,977	1,676,000	1,637,977	1,637,977	0	0
Public Utilities Commission, Executive Division	37,221,559	0	37,221,559	400,000	0	36,821,559
Rehabilitation, Department of	10,800,000	1,993,764	8,806,236	2,009,288	0	6,796,948
Social Services, Department of	151,151	151,151	0	0	0	0
State Coastal Conservancy	838,000	0	838,000	133,000	18,000	687,000
State Water Resources Control Board	8,768,254	2,496,841	6,271,413	1,954,552	1,129,104	3,187,757
Transportation, Department of	34,906,443	11,341,072	23,565,371	15,943,442	1,052,914	6,569,015
Water Resources, Department of	4,299,669	867,638	3,432,031	3,360,031	72,000	0
Colorado	36,586,577	11,900,858	24,685,719	11,714,288	12,536,431	435,000
Agriculture, Department of	1,316,868	1,092,868	224,000	208,000	16,000	0
Economic Development and International Trade, Office of	15,192,123	0	15,192,123	3,733,536	11,058,587	400,000
Higher Education Competitive, Research Authority	1,700,000	0	1,700,000	1,700,000	0	0
Higher Education, Department of	745,000	45,000	700,000	620,000	45,000	35,000
Natural Resources, Department of	7,567,568	7,562,568	5,000	0	5,000	0
Public Health and Environment, Department of	5,585,075	2,028,422	3,556,653	2,313,208	1,243,445	0
Public Safety, Department of	1,077,000	1,077,000	0	0	0	0
Transportation, Department of	3,194,911	95,000	3,099,911	2,931,512	168,399	0
Wine Industry Development Board	208,032	0	208,032	208,032	0	0
Connecticut	57,241,037	24,679,641	32,561,396	12,120,941	18,862,144	1,578,311
Agricultural Experiment Station	12,445,226	12,445,226	0	0	0	0
Children and Families, Department of	81,949	0	81,949	924	0	81,025
Education, Department of	452,289	25,000	427,289	427,289	0	0
Energy and Environmental Protection, Department of	6,623,689	6,002,512	621,177	569,652	51,525	0
Innovation Inc.	26,858,089	0	26,858,089	8,047,470	18,810,619	0
Mental Health and Addiction Services, Department of	5,951,993	5,951,993	0	0	0	0
Public Health, Department of	114,974	0	114,974	114,974	0	0
Social Services, Department of	1,429,408	0	1,429,408	1,429,408	0	0
Transportation, Department of	3,283,420	254,910	3,028,510	1,531,224	0	1,497,286
Delaware	3,826,318	2,558,634	1,267,684	741,945	449,251	76,488
Geological Survey	2,441,975	2,391,175	50,800	0	0	50,800
Natural Resources and Environmental Control, Department of	259,327	143,203	116,124	90,436	0	25,688
Sustainable Energy Utility	24,256	24,256	0	0	0	0
Transportation, Department of	1,100,760	0	1,100,760	651,509	449,251	0

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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
District of Columbia	4,222,412	1,888,642	2,333,770	881,908	1,251,862	200,000
Health, Department of	1,800,000	796,043	1,003,957	174,170	829,787	0
Transportation, Department of	422,412	92,599	329,813	207,738	122,075	0
Water and Sewer Authority	2,000,000	1,000,000	1,000,000	500,000	300,000	200,000
Florida	170,508,724	50,604,692	119,904,032	72,945,728	4,605,749	42,352,555
Agriculture and Consumer Services, Department of	12,822,683	1,547,678	11,275,005	5,765,864	161,561	5,347,580
Citrus, Department of	941,902	110,432	831,470	181,470	0	650,000
Environmental Protection, Department of	63,430	63,430	0	0	0	0
Fish and Wildlife Conservation Commission	52,150,203	47,252,513	4,897,690	1,331,380	2,000,060	1,566,250
Health, Department of	89,163,217	0	89,163,217	54,374,492	0	34,788,725
Space Florida	1,497,850	0	1,497,850	228,000	1,269,850	0
Transportation, Department of	13,869,439	1,630,639	12,238,800	11,064,522	1,174,278	0
Georgia	18,875,484	3,539,835	15,335,649	10,178,649	2,801,451	2,355,549
Natural Resources, Department of	1,956,371	896,266	1,060,105	1,002,405	0	57,700
Seed Development Commission	633,607	0	633,607	633,607	0	0
Southern States Energy Board	10,501,076	2,643,569	7,857,507	2,758,207	2,801,451	2,297,849
Transportation, Department of	5,784,430	0	5,784,430	5,784,430	0	0
Hawaii	7,325,591	257,625	7,067,966	1,559,669	5,012,297	496,000
Agriculture, Department of	680,702	257,625	423,077	333,077	40,000	50,000
Business, Economic Development, and Tourism, Department of	3,947,297	0	3,947,297	0	3,947,297	0
Land and Natural Resources, Department of	895,592	0	895,592	701,592	25,000	169,000
Natural Energy Laboratory	1,000,000	0	1,000,000	0	1,000,000	0
Transportation, Department of	802,000	0	802,000	525,000	0	277,000
Idaho	17,828,263	6,709,727	11,118,536	7,096,483	181,920	3,840,133
Agriculture, Department of	922,104	2,571	919,533	548,120	0	371,413
Alfalfa and Clover Seed Commission	15,000	0	15,000	15,000	0	0
Barley Commission	237,498	0	237,498	190,498	0	47,000
Bean Commission	26,400	0	26,400	26,400	0	0
Beef Council	16,500	0	16,500	16,500	0	0
Commerce, Department of	1,016,728	0	1,016,728	1,016,728	0	0
Dairy West	2,000,000	0	2,000,000	2,000,000	0	0
Environmental Quality, Department of	460,000	0	460,000	0	0	460,000
Fish and Game, Department of	7,904,544	6,594,251	1,310,293	523,944	0	786,349
Honey Commission	1,635	0	1,635	1,635	0	0
Oilseed Commission	61,565	0	61,565	61,565	0	0
Pea and Lentil Commission	80,836	0	80,836	80,836	0	0
Potato Commission	850,000	0	850,000	750,000	100,000	0
Transportation Department	3,339,242	112,905	3,226,337	1,041,103	81,920	2,103,314
Wheat Commission	896,211	0	896,211	824,154	0	72,057
Illinois	17,548,556	1,171,225	16,377,331	12,313,520	158,084	3,905,727
Children and Family Services, Department of	3,848,765	0	3,848,765	3,848,765	0	0
Human Services, Department of	236,073	0	236,073	236,073	0	0
Nutrient Research and Education	3,989,560	0	3,989,560	3,989,560	0	0
Public Health, Department of	15,596	0	15,596	0	0	15,596

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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
Transportation, Department of	9,458,562	1,171,225	8,287,337	4,239,122	158,084	3,890,131
Indiana	12,357,151	167,703	12,189,448	11,272,729	916,719	0
Economic Development Corporation	3,936,062	0	3,936,062	3,019,343	916,719	0
Natural Resources, Department of	100,000	0	100,000	100,000	0	0
Transportation, Department of	8,321,089	167,703	8,153,386	8,153,386	0	0
Iowa	9,386,675	3,279,267	6,107,408	5,781,844	308,139	17,425
Human Rights, Criminal and Juvenile Justice Planning, Division of	433,061	411,045	22,016	22,016	0	0
Natural Resources, Department of	3,797,923	2,868,222	929,701	820,116	92,160	17,425
Transportation, Department of	5,155,691	0	5,155,691	4,939,712	215,979	0
Kansas	12,355,458	998,463	11,356,995	9,556,647	42,064	1,758,284
Corn Commission	850,050	0	850,050	850,050	0	0
Grain Sorghum Commission	444,660	0	444,660	444,660	0	0
Soybean Commission	1,463,379	0	1,463,379	1,463,379	0	0
State Board of Regents	996,465	3,200	993,265	993,265	0	0
Transportation, Department of	3,714,875	985,452	2,729,423	1,066,139	0	1,663,284
Water Office	465,725	9,811	455,914	360,914	0	95,000
Wheat Commission	1,240,806	0	1,240,806	1,198,742	42,064	0
Wildlife, Parks, and Tours	3,179,498	0	3,179,498	3,179,498	0	0
Kentucky	26,668,173	2,038,186	24,629,987	20,152,692	4,477,295	0
Behavioral Health, Developmental and Intellectual Disabilities	67,500	0	67,500	0	67,500	0
Economic Development, Cabinet for	4,040,000	0	4,040,000	0	4,040,000	0
Environmental Protection, Department of	100,000	10,000	90,000	0	90,000	0
Fish and Wildlife Resources, Department of	2,000,000	1,745,186	254,814	56,789	198,025	0
Horse Racing Commission	293,414	0	293,414	236,144	57,270	0
Nature Preserves, Office of	401,000	283,000	118,000	93,500	24,500	0
Postsecondary Education, Council on	10,559,315	0	10,559,315	10,559,315	0	0
Public Health, Department for	1,586,642	0	1,586,642	1,586,642	0	0
Soybean Promotion Board	600,000	0	600,000	600,000	0	0
Transportation Cabinet	7,020,302	0	7,020,302	7,020,302	0	0
Louisiana	35,142,225	10,974,134	24,168,091	21,247,322	2,705,708	215,061
Agriculture and Forestry, Department of	26,840	0	26,840	26,840	0	0
Board of Regents	15,162,504	0	15,162,504	15,162,504	0	0
Coastal Protection and Restoration Authority	3,368,965	466,210	2,902,755	555,486	2,205,708	141,561
Education, Department of	428,589	355,089	73,500	0	0	73,500
Transportation and Development, Department of	10,000,000	4,500,000	5,500,000	5,000,000	500,000	0
Wildlife and Fisheries, Department of	6,155,327	5,652,835	502,492	502,492	0	0
Maine	32,592,625	3,051,263	29,541,362	3,208,546	23,392,740	2,940,076
Agriculture, Conservation and Forestry, Department of	650,363	329,763	320,600	0	320,600	0
Inland Fisheries and Wildlife, Department of	719,045	0	719,045	719,045	0	0
Marine Resources, Department of	2,341,500	2,236,500	105,000	0	105,000	0
Technology Institute	27,745,717	0	27,745,717	1,838,501	22,967,140	2,940,076
Transportation, Department of	1,136,000	485,000	651,000	651,000	0	0
Maryland	29,107,768	989,368	28,118,400	25,174,517	1,702,691	1,241,192

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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
Education, Department of	638,402	0	638,402	638,402	0	0
Energy Administration	1,032,429	0	1,032,429	7,429	0	1,025,000
Health and Mental Hygiene, Department of	13,000,000	0	13,000,000	13,000,000	0	0
Natural Resources, Department of	1,476,425	586,649	889,776	835,467	54,309	0
Technology Development Corporation	10,620,513	0	10,620,513	9,241,839	1,378,674	0
Transportation, Department of	2,339,999	402,719	1,937,280	1,451,380	269,708	216,192
Massachusetts	28,425,439	8,798,238	19,627,201	8,959,924	9,122,538	1,544,739
Clean Energy Technology Center	4,999,247	0	4,999,247	1,004,327	3,737,625	257,295
Environmental Protection, Department of	288,925	223,238	65,687	31,291	34,396	0
Fish and Game, Department of	8,550,000	8,050,000	500,000	250,000	0	250,000
Gaming Commission	2,125,000	0	2,125,000	2,095,000	30,000	0
Life Sciences Center	1,000,000	0	1,000,000	0	1,000,000	0
Massventures	3,300,000	0	3,300,000	0	3,300,000	0
Mental Health, Department of	1,300,000	0	1,300,000	1,300,000	0	0
Public Health, Department of	2,237,267	0	2,237,267	1,179,306	1,020,517	37,444
Transportation, Department of	4,425,000	425,000	4,000,000	3,000,000	0	1,000,000
Water Resources Authority	200,000	100,000	100,000	100,000	0	0
Michigan	8,023,318	336,227	7,687,091	4,128,401	732,368	2,826,322
Agriculture and Rural Development, Department of	1,246,732	0	1,246,732	862,914	46,896	336,922
Environmental, Great Lakes and Energy, Department of	639,875	336,227	303,648	241,876	61,772	0
Health and Human Services	88,488	0	88,488	88,488	0	0
Natural Resources, Department of	916,023	0	916,023	916,023	0	0
Transportation, Department of	5,132,200	0	5,132,200	2,019,100	623,700	2,489,400
Minnesota	20,150,907	2,027,757	18,123,150	11,789,528	3,284,164	3,049,458
Agriculture, Department of	6,177,224	520,093	5,657,131	4,740,601	247,494	669,036
Forest Resources Council	140,000	30,000	110,000	110,000	0	0
Natural Resources, Department of	1,462,164	1,462,164	0	0	0	0
Pollution Control Agency	100,277	0	100,277	16,038	79,381	4,858
Transportation, Department of	12,271,242	15,500	12,255,742	6,922,889	2,957,289	2,375,564
Mississippi	12,170,278	1,755,759	10,414,519	5,478,277	2,776,582	2,159,660
Agriculture and Commerce, Department of	97,454	0	97,454	97,454	0	0
Environmental Quality, Department of	1,157,390	83,910	1,073,480	1,073,480	0	0
Gulf States Marine Fisheries Commission	661,034	0	661,034	545,483	0	115,551
Marine Resources, Department of	2,141,085	224,205	1,916,880	1,916,880	0	0
Transportation, Department of	5,991,596	462,995	5,528,601	790,000	2,776,582	1,962,019
Wildlife, Fisheries, and Parks, Department of	2,121,719	984,649	1,137,070	1,054,980	0	82,090
Missouri	15,055,845	8,242,424	6,813,421	5,232,623	1,430,015	150,783
Agriculture, Department of	79,966	0	79,966	79,966	0	0
Conservation, Department of	11,163,017	8,200,487	2,962,530	2,554,575	407,955	0
Health and Senior Services	28,760	28,760	0	0	0	0
Natural Resources, Department of	792,133	13,177	778,956	648,173	0	130,783
Technology Corporation	615,000	0	615,000	0	615,000	0
Transportation, Department of	1,430,194	0	1,430,194	1,003,134	407,060	20,000

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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
Wine and Grape Board	946,775	0	946,775	946,775	0	0
Montana	8,794,140	2,993,604	5,800,536	4,974,426	660,846	165,264
Agriculture, Department of	3,132,570	0	3,132,570	3,132,570	0	0
Environmental Quality, Department of	153,592	98,756	54,836	2,666	156	52,014
Fish, Wildlife and Parks	3,833,321	2,740,906	1,092,415	1,092,415	0	0
Natural Resources and Conservation, Department of	59,620	59,620	0	0	0	0
Research and Commercialization, Board of	794,510	0	794,510	162,500	632,010	0
Transportation, Department of	820,527	94,322	726,205	584,275	28,680	113,250
Nebraska	28,167,688	770,104	27,397,584	25,378,861	579,453	1,439,270
Agriculture, Department of	1,193,067	752,988	440,079	0	357,242	82,837
Corn Board	1,107,026	0	1,107,026	957,026	0	150,000
Dry Bean Commission	192,000	0	192,000	192,000	0	0
Economic Development, Department of	1,111,752	0	1,111,752	964,259	147,493	0
Game and Parks Commission	2,857,952	5,000	2,852,952	2,852,952	0	0
Grain Sorghum Board	15,000	0	15,000	15,000	0	0
Health and Human Services	18,562,794	0	18,562,794	18,562,794	0	0
Natural Resources, Department of	1,346,572	12,116	1,334,456	58,305	74,718	1,201,433
Transportation, Department of	1,453,039	0	1,453,039	1,453,039	0	0
Wheat Board	328,486	0	328,486	323,486	0	5,000
Nevada	7,871,899	184,774	7,687,125	5,576,601	200,360	1,910,164
Agriculture, Department of	184,774	184,774	0	0	0	0
Economic Development, Governor's office of	6,584,759	0	6,584,759	4,919,976	0	1,664,783
Transportation, Department of	1,102,366	0	1,102,366	656,625	200,360	245,381
New Hampshire	8,432,696	131,672	8,301,024	759,619	7,060,142	481,263
Agriculture, Markets and Food, Department of	154,699	0	154,699	114,949	0	39,750
Business and Economic Affairs	7,275,000	0	7,275,000	275,000	7,000,000	0
Natural & Cultural Resources, Department of	61,465	0	61,465	61,465	0	0
Transportation, Department of	941,532	131,672	809,860	308,205	60,142	441,513
New Jersey	23,886,758	2,796,233	21,090,525	15,454,335	818,969	4,817,221
Community Affairs, Department of	310,000	75,000	235,000	235,000	0	0
Corrections, Department of	301,979	301,979	0	0	0	0
Environmental Protection, Department of	2,474,000	1,772,000	702,000	554,000	148,000	0
Health, Department of	1,936,431	0	1,936,431	1,751,848	184,583	0
Pinelands Commission	647,254	647,254	0	0	0	0
Research Initiatives, Office of	13,000,000	0	13,000,000	8,182,779	0	4,817,221
Secretary of Higher Education, Office of	2,500,000	0	2,500,000	2,500,000	0	0
Transit, New Jersey	103,000	0	103,000	103,000	0	0
Transportation, Department of	2,614,094	0	2,614,094	2,127,708	486,386	0
New Mexico	3,585,944	900,212	2,685,732	1,402,821	1,033,472	249,439
Cultural Affairs, Department of	17,000	17,000	0	0	0	0
Game and Fish, Department of	1,000,000	500,000	500,000	500,000	0	0
Transportation, Department of	1,659,400	383,212	1,276,188	832,230	194,519	249,439
Western State Air Resources Council	909,544	0	909,544	70,591	838,953	0
New York	448,501,735	276,773,893	171,727,842	109,787,947	28,123,417	33,816,478

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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 Markets, Department of	9,864,543	1,965,000	7,899,543	7,539,543	0	360,000
Economic Development, Department of	39,780,251	0	39,780,251	39,780,251	0	0
Energy Research and Development Authority	53,546,621	7,889,945	45,656,676	7,612,185	23,794,417	14,250,074
Environmental Conservation, Department of	8,942,166	4,306,743	4,635,423	3,408,391	1,138,833	88,199
Health, Department of	82,781,352	34,197,760	48,583,592	34,104,316	1,201,465	13,277,811
Mental Health, Office of	156,275,133	139,961,648	16,313,485	15,147,134	0	1,166,351
People with Developmental Disabilities, Office of	1,849,940	1,849,940	0	0	0	0
Power Authority	8,707,710	3,913,638	4,794,072	120,029	0	4,674,043
Roswell Park Cancer Institute	71,920,211	71,920,211	0	0	0	0
State Museum	10,022,519	9,124,024	898,495	898,495	0	0
Thoroughbred Breeding and Development Fund Corp.	388,449	0	388,449	388,449	0	0
Transportation, Department of	4,422,840	1,644,984	2,777,856	789,154	1,988,702	0
North Carolina	32,754,090	18,400,435	14,353,655	11,216,518	1,446,990	1,690,147
Agriculture and Consumer Services, Department of	15,422,911	13,922,911	1,500,000	1,300,000	200,000	0
Environmental Quality, Department of	3,460,387	1,158,611	2,301,776	1,479,318	0	822,458
Golden Leaf, The	65,000	0	65,000	65,000	0	0
Natural and Cultural Resources, Department of	3,473,399	2,605,710	867,689	0	0	867,689
Science, Technology & Innovation, Board of	1,201,990	0	1,201,990	0	1,201,990	0
Transportation, Department of	9,010,403	713,203	8,297,200	8,297,200	0	0
Wine and Grape Growers Council	120,000	0	120,000	75,000	45,000	0
North Dakota	12,140,358	421,989	11,718,369	9,153,941	1,328,298	1,236,130
Agriculture, Department of	299,153	0	299,153	290,744	8,409	0
Dairy Promotion Commission	155,170	0	155,170	0	0	155,170
Dry Pea and Lentil Commission	135,023	0	135,023	135,023	0	0
Game and Fish, Department of	1,375,151	0	1,375,151	1,251,281	123,870	0
Industrial Commission	6,226,265	344,482	5,881,783	4,808,160	1,073,623	0
Soybean Council	1,573,679	0	1,573,679	1,550,179	23,500	0
Transportation, Department of	1,279,171	77,507	1,201,664	71,808	98,896	1,030,960
Wheat Commission	1,096,746	0	1,096,746	1,046,746	0	50,000
Ohio	97,758,379	18,343,328	79,415,051	30,769,933	47,834,732	810,386
Development Services Agency	85,774,800	17,610,002	68,164,798	21,623,992	46,540,806	0
Education, Department of	615,000	0	615,000	450,000	0	165,000
Environmental Protection Agency	20,174	0	20,174	0	20,174	0
Natural Resources, Department of	2,940,286	733,326	2,206,960	2,104,313	51,646	51,001
Transportation, Department of	6,886,442	0	6,886,442	5,544,971	1,222,106	119,365
Water Development Authority	1,521,677	0	1,521,677	1,046,657	0	475,020
Oklahoma	29,607,888	1,685,458	27,922,430	20,226,951	1,260,669	6,434,810
Advancement of Science and Technology, Center for the	5,753,552	0	5,753,552	4,012,857	1,253,421	487,274
Agriculture, Food, and Forestry, Department of	634,804	0	634,804	634,804	0	0
Environmental Quality, Department of	80,399	0	80,399	30,399	0	50,000
Health, Department of	608,140	608,140	0	0	0	0
Human Services, Department of	134,244	134,244	0	0	0	0

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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
Tobacco Settlement Endowment Trust	12,300,000	0	12,300,000	9,300,000	0	3,000,000
Transportation, Department of	6,511,466	943,074	5,568,392	3,998,892	0	1,569,500
Wildlife Conservation, Department of	3,585,283	0	3,585,283	2,249,999	7,248	1,328,036
Oregon	44,222,659	24,761,784	19,460,875	13,099,132	5,359,291	1,002,452
Agriculture, Department of	388,762	0	388,762	388,762	0	0
Business Oregon	14,800,000	0	14,800,000	10,000,000	4,800,000	0
Education, Department of	657,595	657,595	0	0	0	0
Environmental Quality, Department of	458,000	41,000	417,000	417,000	0	0
Fish and Wildlife, Department of	14,235,414	12,974,798	1,260,616	1,260,616	0	0
Forestry, Department of	522,777	383,592	139,185	44,915	74,565	19,705
Geology and Mineral Industries, Department of	814,431	814,431	0	0	0	0
Human Services, Department of	5,535,728	5,535,728	0	0	0	0
Transportation, Department of	5,090,034	3,901,901	1,188,133	987,839	109,573	90,721
Water Resources Department	810,484	435,331	375,153	0	375,153	0
Watershed Enhancement Board	909,434	17,408	892,026	0	0	892,026
Pennsylvania	85,050,999	8,579,205	76,471,794	56,916,243	2,330,059	17,225,492
Agriculture, Department of	2,187,000	0	2,187,000	1,459,449	727,551	0
Community and Economic Development, Department of	21,600,000	0	21,600,000	4,600,000	0	17,000,000
Conservation and Natural Resources, Department of	42,124	42,124	0	0	0	0
Environmental Protection, Department of	1,445,473	50,000	1,395,473	1,184,471	150,000	61,002
Fish and Boat Commission	131,845	93,639	38,206	38,206	0	0
Game Commission	9,287,658	7,796,543	1,491,115	384,117	952,508	154,490
Health, Department of	46,293,000	0	46,293,000	46,293,000	0	0
Susquehanna River Basin Commission	150,000	130,000	20,000	10,000	0	10,000
Transportation, Department of	3,913,899	466,899	3,447,000	2,947,000	500,000	0
Rhode Island	5,512,380	2,767,111	2,745,269	555,519	1,622,583	567,167
Commerce Corporation	1,203,652	0	1,203,652	381,069	822,583	0
Environmental Management, Department of	3,028,728	2,667,111	361,617	49,450	0	312,167
Transportation, Department of	1,225,000	100,000	1,125,000	125,000	800,000	200,000
Water Resources Board	55,000	0	55,000	0	0	55,000
South Carolina	46,983,243	28,876,294	18,106,949	4,550,112	770,248	12,786,589
Agriculture, Department of	1,035,394	0	1,035,394	1,035,394	0	0
Disabilities and Special Needs, Department of	12,226,376	0	12,226,376	0	0	12,226,376
Health and Environmental Control, Department of	1,585,652	1,331,451	254,201	200,939	0	53,262
Mental Health, Department of	100,884	0	100,884	100,884	0	0
Natural Resources, Department of	26,062,760	25,807,753	255,007	245,007	10,000	0
Public Service Authority	30,000	0	30,000	30,000	0	0
Research Authority	1,401,205	0	1,401,205	640,957	760,248	0
Sea Grant Consortium	2,381,593	1,687,833	693,760	655,630	0	38,130
Transportation, Department of	2,159,379	49,257	2,110,122	1,641,301	0	468,821
South Dakota	2,953,214	361,072	2,592,142	1,635,276	600,435	356,431
Corn Utilization Council	250,000	0	250,000	250,000	0	0
Oilseeds Council	216,845	0	216,845	42,914	0	173,931

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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
Pulse Crop Council	13,352	0	13,352	13,352	0	0
Science and Technology Authority	39,853	0	39,853	39,853	0	0
Soybean Research and Promotion Council	718,122	12,965	705,157	522,657	0	182,500
Transportation, Department of	1,222,798	348,107	874,691	274,256	600,435	0
Weed and Pest Control Commission	45,314	0	45,314	45,314	0	0
Wheat Commission	446,930	0	446,930	446,930	0	0
Tennessee	7,439,395	1,710,689	5,728,706	5,362,863	203,125	162,718
Education, Department of	3,319,120	1,168,921	2,150,199	2,140,199	0	10,000
Environment and Conservation, Department of	843,184	372,341	470,843	115,000	203,125	152,718
Geological Survey	169,427	169,427	0	0	0	0
Transportation, Department of	3,107,664	0	3,107,664	3,107,664	0	0
Texas	233,030,466	3,855,855	229,174,611	197,242,687	30,913,924	1,018,000
Agriculture, Department of	1,229,300	0	1,229,300	723,173	0	506,127
Alzheimer's Research and Care Consortium (TARCC)	3,204,342	0	3,204,342	3,204,342	0	0
Cancer Prevention and Research Institute	201,159,271	0	201,159,271	170,695,783	30,463,488	0
Environmental Quality, Commission on	1,687,165	96,160	1,591,005	1,591,005	0	0
Parks and Wildlife Department	7,378,821	3,534,695	3,844,126	3,526,525	0	317,601
State Health Services, Department of	345,000	225,000	120,000	120,000	0	0
Transportation, Department of	17,294,677	0	17,294,677	17,294,677	0	0
Water Development Board	731,890	0	731,890	87,182	450,436	194,272
Utah	7,985,508	5,046,202	2,939,306	1,537,784	1,401,522	0
Environmental Quality, Department of	416,398	19,514	396,884	322,919	73,965	0
Health, Department of	12,780	12,780	0	0	0	0
Natural Resources, Department of	4,121,261	4,121,261	0	0	0	0
Transportation, Department of	3,435,069	892,647	2,542,422	1,214,865	1,327,557	0
Vermont	2,730,591	681,380	2,049,211	1,723,305	322,546	3,360
Agriculture, Food, and Markets, Agency of	308,227	0	308,227	0	308,227	0
Human Services, Agency of	210,747	210,747	0	0	0	0
Transportation, Agency of	2,211,617	470,633	1,740,984	1,723,305	14,319	3,360
Virginia	29,951,353	10,733,680	19,217,673	15,784,840	2,539,994	892,839
Aging and Rehabilitation, Department of	134,914	52,951	81,963	81,963	0	0
Agriculture and Consumer Services, Department of	2,615,452	0	2,615,452	2,417,307	8,145	190,000
Commonwealth Health Research Board	1,080,163	0	1,080,163	1,080,163	0	0
Environmental Quality, Department of	287,560	21,842	265,718	189,128	0	76,590
Forensic Science, Department of	854,800	854,800	0	0	0	0
Forestry, Department of	467,501	437,362	30,139	30,139	0	0
Foundation for Healthy Youth	858,392	0	858,392	858,392	0	0
Game and Inland Fisheries, Department of	2,296,869	0	2,296,869	1,831,120	39,500	426,249
Innovative Technology, Center for	4,416,750	634,826	3,781,924	1,264,575	2,317,349	200,000
Marine Resources Commission	2,471,043	0	2,471,043	2,471,043	0	0
Mines, Minerals and Energy, Department of	655,308	617,808	37,500	12,500	25,000	0
Natural History, Museum of	872,668	872,668	0	0	0	0
Social Services, Department of	150,000	0	150,000	0	150,000	0

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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
Transportation, Department of	12,789,933	7,241,423	5,548,510	5,548,510	0	0
Washington	51,963,060	19,986,935	31,976,125	18,755,971	5,056,820	8,163,334
Agriculture, Department of	2,767,808	0	2,767,808	2,042,177	20,000	705,631
Alfalfa Seed Commission	34,000	0	34,000	34,000	0	0
Asparagus Commission	74,166	0	74,166	0	74,166	0
Blueberry Commission	252,000	0	252,000	0	252,000	0
Commerce, Department of	5,826,443	0	5,826,443	278,639	2,126,562	3,421,242
Cranberry Commission	6,000	0	6,000	6,000	0	0
Dairy Products Commission	15,000	0	15,000	15,000	0	0
Ecology, Department of	882,120	612,918	269,202	13,078	256,124	0
Fish and Wildlife, Department of	8,390,579	8,375,177	15,402	0	0	15,402
Fruit Commission	306,223	0	306,223	57,142	249,081	0
Grain Commission	2,224,046	0	2,224,046	2,224,046	0	0
Health, Department of	1,108,855	1,053,412	55,443	55,443	0	0
Hop Commission	168,357	0	168,357	142,357	26,000	0
Labor and Industries, Department of	3,344,321	3,344,321	0	0	0	0
Mint Commission	50,382	0	50,382	50,382	0	0
Natural Resources, Department of	8,307,815	3,584,826	4,722,989	991,577	531,528	3,199,884
Oilseeds Commission	10,000	0	10,000	0	0	10,000
Pesticide Registration, Commission on	455,000	0	455,000	295,750	159,250	0
Potato Commission	953,022	0	953,022	736,254	50,000	166,768
Puget Sound Partnership	630,045	0	630,045	181,101	196,894	252,050
Pulse Crop Commission	187,098	0	187,098	187,098	0	0
Red Raspberry Commission	349,396	0	349,396	304,896	44,500	0
Seed Potato Commission	16,003	0	16,003	0	16,003	0
Transportation, Department of	5,596,000	1,410,000	4,186,000	3,345,000	841,000	0
Tree Fruit Research Commission	9,668,382	1,606,281	8,062,101	7,491,032	178,712	392,357
Turfgrass Seed Commission	100,815	0	100,815	65,815	35,000	0
Wine Commission	239,184	0	239,184	239,184	0	0
West Virginia	11,068,061	2,867,846	8,200,215	8,047,584	0	152,631
Geological and Economic Survey	1,713,935	1,316,725	397,210	244,579	0	152,631
Higher Education Policy Commission	5,571,715	153,833	5,417,882	5,417,882	0	0
Justice and Community Services, Division of	8,000	8,000	0	0	0	0
Natural Resources, Department of	1,649,700	1,284,700	365,000	365,000	0	0
Transportation, Department of	2,124,711	104,588	2,020,123	2,020,123	0	0
Wisconsin	17,473,890	5,043,609	12,430,281	3,653,031	5,317,013	3,460,237
Agriculture, Trade and Consumer Protection, Department of	2,768,097	0	2,768,097	1,737,169	51,160	979,768
Economic Development Corporation	4,750,000	0	4,750,000	0	4,750,000	0
Natural Resources, Department of	6,201,148	4,781,539	1,419,609	1,014,019	0	405,590
Transportation, Department of	3,754,645	262,070	3,492,575	901,843	515,853	2,074,879
Wyoming	6,002,910	1,286,491	4,716,419	895,831	3,665,731	154,857
Agriculture, Department of	380,882	0	380,882	136,893	89,132	154,857
Business Council	2,466,307	0	2,466,307	0	2,466,307	0
Enterprise Technology Services	41,420	41,420	0	0	0	0
Game and Fish Department	1,110,856	977,107	133,749	133,749	0	0
State Engineer, Office of	250,000	0	250,000	250,000	0	0
State Geological Survey	183,963	183,963	0	0	0	0

TABLE 20

State agency expenditures for R&D, by state, department or agency, and performer: FY 2019

(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
Transportation, Department of	1,218,971	84,001	1,134,970	24,678	1,110,292	0
Water Development Office	350,511	0	350,511	350,511	0	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.

^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 includes federal government; nonprofit organizations; city, county, regional, or other local governments; and other state governments.

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

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2019.

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
United States ^b	2,426,882,959	136,395,698	323,154,258	452,269,973	1,082,056,223	260,024,511	172,982,296
Alabama	19,763,230	0	255,807	9,403,795	1,080,000	3,601,526	5,422,102
Commerce, Department of	2,500,000	0	0	0	1,000,000	0	1,500,000
Conservation and Natural Resources, Department of: Wildlife and Freshwater Fisheries Division	2,908,673	0	0	2,908,673	0	0	0
Education, Department of	610,000	0	0	0	80,000	0	530,000
Forensic Sciences, Department of	238,454	0	0	0	0	0	238,454
Geological Survey	2,321,007	0	255,807	2,065,200	0	0	0
Marine Environmental Science Consortium, Dauphin Island Sea Lab	4,373,500	0	0	4,373,500	0	0	0
Supercomputer Authority	3,153,648	0	0	0	0	0	3,153,648
Transportation, Department of	3,657,948	0	0	56,422	0	3,601,526	0
Alaska	12,502,109	0	1,102,206	8,392,100	320,476	2,687,327	0
Energy Authority	102,206	0	102,206	0	0	0	0
Environmental Conservation, Department of	320,476	0	0	0	320,476	0	0
Housing Finance Corporation	1,000,000	0	1,000,000	0	0	0	0
Natural Resources, Division of Geological and Geophysical Surveys, Department of	8,392,100	0	0	8,392,100	0	0	0
Railroad Corporation	1,330,621	0	0	0	0	1,330,621	0
Transportation and Public Facilities, Department of	1,356,706	0	0	0	0	1,356,706	0
Arizona	17,332,044	1,054,913	0	1,077,891	13,843,058	1,356,182	0
Agriculture, Department of	1,176,374	1,054,913	0	121,461	0	0	0
Game and Fish Department	811,096	0	0	811,096	0	0	0
Health Services, Department of	13,843,058	0	0	0	13,843,058	0	0
Transportation, Department of	1,501,516	0	0	145,334	0	1,356,182	0
Arkansas	21,098,863	12,519,460	852,718	2,426,103	3,477,448	855,437	967,697
Beef Council	40,250	40,250	0	0	0	0	0
Corn and Grain Sorghum Board	965,000	965,000	0	0	0	0	0
Economic Development Commission	7,068,797	97,155	852,718	1,623,779	3,477,448	50,000	967,697
Game and Fish Commission	802,324	0	0	802,324	0	0	0
Rice Research and Promotion Board	8,623,500	8,623,500	0	0	0	0	0
Soybean Promotion Board	2,625,555	2,625,555	0	0	0	0	0
State Plant Board	118,000	118,000	0	0	0	0	0
Transportation, Department of	805,437	0	0	0	0	805,437	0
Wheat Promotion Board	50,000	50,000	0	0	0	0	0
California	526,918,585	7,004,454	202,262,559	40,709,827	225,535,054	34,906,443	16,500,248
Air Resources Board	15,271,608	0	0	15,271,608	0	0	0
Children and Families Commission	1,895,000	0	0	0	850,000	0	1,045,000
Conservation, Department of	184,000	0	0	184,000	0	0	0
Corrections and Rehabilitation, Department of	2,237,305	0	0	0	0	0	2,237,305
Covered California	3,489,452	0	0	0	3,489,452	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Delta Stewardship Council	6,372,069	0	0	6,372,069	0	0	0
Earthquake Authority	1,816,792	0	0	0	0	0	1,816,792
Energy Commission	165,441,000	0	165,441,000	0	0	0	0
Environmental Health Hazard Assessment, Office of	17,563,188	0	0	0	17,563,188	0	0
Food and Agriculture, Department of	4,871,361	4,871,361	0	0	0	0	0
Forestry and Fire Protection, Department of	3,665,406	0	0	3,665,406	0	0	0
Horse Racing Board	701,000	0	0	0	701,000	0	0
Housing and Community Development	50,000	0	0	0	0	0	50,000
Institute for Regenerative Medicine	184,982,872	0	0	0	184,982,872	0	0
Mental Health Services Oversight and Accountability Commission	2,500,000	0	0	0	2,500,000	0	0
Motor Vehicles, Department of	1,331,851	0	0	0	1,331,851	0	0
Parks and Recreation, Department of	1,500,000	0	0	1,500,000	0	0	0
Pesticide Regulation, Department of	12,746,628	2,133,093	0	1,892,221	8,721,314	0	0
Public Health, Department of	3,313,977	0	0	400,000	2,913,977	0	0
Public Utilities Commission, Executive Division	37,221,559	0	36,821,559	0	0	0	400,000
Rehabilitation, Department of	10,800,000	0	0	0	0	0	10,800,000
Social Services, Department of	151,151	0	0	0	0	0	151,151
State Coastal Conservancy	838,000	0	0	838,000	0	0	0
State Water Resources Control Board	8,768,254	0	0	6,286,854	2,481,400	0	0
Transportation, Department of	34,906,443	0	0	0	0	34,906,443	0
Water Resources, Department of	4,299,669	0	0	4,299,669	0	0	0
Colorado	36,586,577	721,768	3,184,039	10,798,678	10,026,796	3,288,163	8,567,133
Agriculture, Department of	1,316,868	263,736	0	1,053,132	0	0	0
Economic Development and International Trade, Office of	15,192,123	250,000	2,784,039	75,000	6,470,143	88,252	5,524,689
Higher Education Competitive, Research Authority	1,700,000	0	400,000	100,000	0	0	1,200,000
Higher Education, Department of	745,000	0	0	0	0	0	745,000
Natural Resources, Department of	7,567,568	0	0	7,542,124	0	5,000	20,444
Public Health and Environment, Department of	5,585,075	0	0	2,028,422	3,556,653	0	0
Public Safety, Department of	1,077,000	0	0	0	0	0	1,077,000
Transportation, Department of	3,194,911	0	0	0	0	3,194,911	0
Wine Industry Development Board	208,032	208,032	0	0	0	0	0
Connecticut	57,241,037	3,856,987	0	10,599,160	29,921,946	3,283,420	9,579,524
Agricultural Experiment Station	12,445,226	3,856,987	0	3,975,471	4,612,768	0	0
Children and Families, Department of	81,949	0	0	0	0	0	81,949

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Education, Department of	452,289	0	0	0	0	0	452,289
Energy and Environmental Protection, Department of	6,623,689	0	0	6,623,689	0	0	0
Innovation Inc.	26,858,089	0	0	0	17,812,803	0	9,045,286
Mental Health and Addiction Services, Department of	5,951,993	0	0	0	5,951,993	0	0
Public Health, Department of	114,974	0	0	0	114,974	0	0
Social Services, Department of	1,429,408	0	0	0	1,429,408	0	0
Transportation, Department of	3,283,420	0	0	0	0	3,283,420	0
Delaware	3,826,318	0	24,256	2,701,302	0	1,100,760	0
Geological Survey	2,441,975	0	0	2,441,975	0	0	0
Natural Resources and Environmental Control, Department of	259,327	0	0	259,327	0	0	0
Sustainable Energy Utility	24,256	0	24,256	0	0	0	0
Transportation, Department of	1,100,760	0	0	0	0	1,100,760	0
District of Columbia	4,222,412	0	0	2,000,000	1,716,302	422,412	83,698
Health, Department of	1,800,000	0	0	0	1,716,302	0	83,698
Transportation, Department of	422,412	0	0	0	0	422,412	0
Water and Sewer Authority	2,000,000	0	0	2,000,000	0	0	0
Florida	170,508,724	11,725,430	557,060	52,486,202	90,372,743	15,367,289	0
Agriculture and Consumer Services, Department of	12,822,683	11,075,430	557,060	272,569	917,624	0	0
Citrus, Department of	941,902	650,000	0	0	291,902	0	0
Environmental Protection, Department of	63,430	0	0	63,430	0	0	0
Fish and Wildlife Conservation Commission	52,150,203	0	0	52,150,203	0	0	0
Health, Department of	89,163,217	0	0	0	89,163,217	0	0
Space Florida	1,497,850	0	0	0	0	1,497,850	0
Transportation, Department of	13,869,439	0	0	0	0	13,869,439	0
Georgia	18,875,484	633,607	6,335,903	3,871,745	0	8,034,229	0
Natural Resources, Department of	1,956,371	0	0	1,956,371	0	0	0
Seed Development Commission	633,607	633,607	0	0	0	0	0
Southern States Energy Board	10,501,076	0	6,335,903	1,915,374	0	2,249,799	0
Transportation, Department of	5,784,430	0	0	0	0	5,784,430	0
Hawaii	7,325,591	1,680,702	2,510,732	895,592	0	802,000	1,436,565
Agriculture, Department of	680,702	680,702	0	0	0	0	0
Business, Economic Development, and Tourism, Department of	3,947,297	0	2,510,732	0	0	0	1,436,565
Land and Natural Resources, Department of	895,592	0	0	895,592	0	0	0
Natural Energy Laboratory	1,000,000	1,000,000	0	0	0	0	0
Transportation, Department of	802,000	0	0	0	0	802,000	0
Idaho	17,828,263	5,349,416	0	8,364,544	338,288	3,339,242	436,773
Agriculture, Department of	922,104	922,104	0	0	0	0	0
Alfalfa and Clover Seed Commission	15,000	15,000	0	0	0	0	0
Barley Commission	237,498	237,498	0	0	0	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Bean Commission	26,400	26,400	0	0	0	0	0
Beef Council	16,500	16,500	0	0	0	0	0
Commerce, Department of	1,016,728	241,667	0	0	338,288	0	436,773
Dairy West	2,000,000	2,000,000	0	0	0	0	0
Environmental Quality, Department of	460,000	0	0	460,000	0	0	0
Fish and Game, Department of	7,904,544	0	0	7,904,544	0	0	0
Honey Commission	1,635	1,635	0	0	0	0	0
Oilseed Commission	61,565	61,565	0	0	0	0	0
Pea and Lentil Commission	80,836	80,836	0	0	0	0	0
Potato Commission	850,000	850,000	0	0	0	0	0
Transportation Department	3,339,242	0	0	0	0	3,339,242	0
Wheat Commission	896,211	896,211	0	0	0	0	0
Illinois	17,548,556	3,989,560	0	0	15,596	9,458,562	4,084,838
Children and Family Services, Department of	3,848,765	0	0	0	0	0	3,848,765
Human Services, Department of	236,073	0	0	0	0	0	236,073
Nutrient Research and Education	3,989,560	3,989,560	0	0	0	0	0
Public Health, Department of	15,596	0	0	0	15,596	0	0
Transportation, Department of	9,458,562	0	0	0	0	9,458,562	0
Indiana	12,357,151	141,876	268,086	0	600,000	8,495,933	2,851,256
Economic Development Corporation	3,936,062	41,876	268,086	0	600,000	174,844	2,851,256
Natural Resources, Department of	100,000	100,000	0	0	0	0	0
Transportation, Department of	8,321,089	0	0	0	0	8,321,089	0
Iowa	9,386,675	0	0	3,797,923	61,000	5,190,691	337,061
Human Rights, Criminal and Juvenile Justice Planning, Division of	433,061	0	0	0	61,000	35,000	337,061
Natural Resources, Department of	3,797,923	0	0	3,797,923	0	0	0
Transportation, Department of	5,155,691	0	0	0	0	5,155,691	0
Kansas	12,355,458	3,998,895	0	3,645,223	0	3,714,875	996,465
Corn Commission	850,050	850,050	0	0	0	0	0
Grain Sorghum Commission	444,660	444,660	0	0	0	0	0
Soybean Commission	1,463,379	1,463,379	0	0	0	0	0
State Board of Regents	996,465	0	0	0	0	0	996,465
Transportation, Department of	3,714,875	0	0	0	0	3,714,875	0
Water Office	465,725	0	0	465,725	0	0	0
Wheat Commission	1,240,806	1,240,806	0	0	0	0	0
Wildlife, Parks, and Tours	3,179,498	0	0	3,179,498	0	0	0
Kentucky	26,668,173	627,270	2,020,000	2,531,000	14,469,601	7,020,302	0
Behavioral Health, Developmental and Intellectual Disabilities	67,500	0	0	0	67,500	0	0
Economic Development, Cabinet for	4,040,000	0	2,020,000	0	2,020,000	0	0
Environmental Protection, Department of	100,000	0	0	100,000	0	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Fish and Wildlife Resources, Department of	2,000,000	0	0	2,000,000	0	0	0
Horse Racing Commission	293,414	27,270	0	30,000	236,144	0	0
Nature Preserves, Office of	401,000	0	0	401,000	0	0	0
Postsecondary Education, Council on	10,559,315	0	0	0	10,559,315	0	0
Public Health, Department for	1,586,642	0	0	0	1,586,642	0	0
Soybean Promotion Board	600,000	600,000	0	0	0	0	0
Transportation Cabinet	7,020,302	0	0	0	0	7,020,302	0
Louisiana	35,142,225	270,090	2,875,376	11,751,729	1,532,501	10,000,000	8,712,529
Agriculture and Forestry, Department of	26,840	26,840	0	0	0	0	0
Board of Regents	15,162,504	243,250	2,875,376	2,227,437	1,532,501	0	8,283,940
Coastal Protection and Restoration Authority	3,368,965	0	0	3,368,965	0	0	0
Education, Department of	428,589	0	0	0	0	0	428,589
Transportation and Development, Department of	10,000,000	0	0	0	0	10,000,000	0
Wildlife and Fisheries, Department of	6,155,327	0	0	6,155,327	0	0	0
Maine	32,592,625	7,182,948	0	12,055,909	2,467,740	1,136,000	9,750,028
Agriculture, Conservation and Forestry, Department of	650,363	325,133	0	325,230	0	0	0
Inland Fisheries and Wildlife, Department of	719,045	0	0	719,045	0	0	0
Marine Resources, Department of	2,341,500	0	0	2,341,500	0	0	0
Technology Institute	27,745,717	6,857,815	0	8,670,134	2,467,740	0	9,750,028
Transportation, Department of	1,136,000	0	0	0	0	1,136,000	0
Maryland	29,107,768	357,910	1,181,872	1,625,725	22,520,611	1,735,096	1,686,554
Education, Department of	638,402	0	0	0	0	0	638,402
Energy Administration	1,032,429	0	1,025,000	7,429	0	0	0
Health and Mental Hygiene, Department of	13,000,000	0	0	0	13,000,000	0	0
Natural Resources, Department of	1,476,425	354,160	131,872	990,393	0	0	0
Technology Development Corporation	10,620,513	3,750	25,000	3,750	9,520,611	19,250	1,048,152
Transportation, Department of	2,339,999	0	0	624,153	0	1,715,846	0
Massachusetts	28,425,439	50,000	5,049,247	8,938,925	6,632,267	4,425,000	3,330,000
Clean Energy Technology Center	4,999,247	0	4,999,247	0	0	0	0
Environmental Protection, Department of	288,925	0	0	288,925	0	0	0
Fish and Game, Department of	8,550,000	50,000	0	8,500,000	0	0	0
Gaming Commission	2,125,000	0	0	0	2,095,000	0	30,000
Life Sciences Center	1,000,000	0	0	0	1,000,000	0	0
Massventures	3,300,000	0	0	0	0	0	3,300,000
Mental Health, Department of	1,300,000	0	0	0	1,300,000	0	0
Public Health, Department of	2,237,267	0	0	0	2,237,267	0	0
Transportation, Department of	4,425,000	0	0	0	0	4,425,000	0
Water Resources Authority	200,000	0	50,000	150,000	0	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Michigan	8,023,318	1,246,732	0	1,555,898	88,488	5,132,200	0
Agriculture and Rural Development, Department of	1,246,732	1,246,732	0	0	0	0	0
Environmental, Great Lakes and Energy, Department of	639,875	0	0	639,875	0	0	0
Health and Human Services	88,488	0	0	0	88,488	0	0
Natural Resources, Department of	916,023	0	0	916,023	0	0	0
Transportation, Department of	5,132,200	0	0	0	0	5,132,200	0
Minnesota	20,150,907	3,701,150	0	5,356,934	0	11,092,823	0
Agriculture, Department of	6,177,224	3,701,150	0	2,476,074	0	0	0
Forest Resources Council	140,000	0	0	140,000	0	0	0
Natural Resources, Department of	1,462,164	0	0	1,462,164	0	0	0
Pollution Control Agency	100,277	0	0	100,277	0	0	0
Transportation, Department of	12,271,242	0	0	1,178,419	0	11,092,823	0
Mississippi	12,170,278	599,632	0	5,579,050	0	5,991,596	0
Agriculture and Commerce, Department of	97,454	97,454	0	0	0	0	0
Environmental Quality, Department of	1,157,390	0	0	1,157,390	0	0	0
Gulf States Marine Fisheries Commission	661,034	502,178	0	158,856	0	0	0
Marine Resources, Department of	2,141,085	0	0	2,141,085	0	0	0
Transportation, Department of	5,991,596	0	0	0	0	5,991,596	0
Wildlife, Fisheries, and Parks, Department of	2,121,719	0	0	2,121,719	0	0	0
Missouri	15,055,845	1,153,575	0	11,968,316	103,760	1,830,194	0
Agriculture, Department of	79,966	66,800	0	13,166	0	0	0
Conservation, Department of	11,163,017	0	0	11,163,017	0	0	0
Health and Senior Services	28,760	0	0	0	28,760	0	0
Natural Resources, Department of	792,133	0	0	792,133	0	0	0
Technology Corporation	615,000	140,000	0	0	75,000	400,000	0
Transportation, Department of	1,430,194	0	0	0	0	1,430,194	0
Wine and Grape Board	946,775	946,775	0	0	0	0	0
Montana	8,794,140	3,132,570	0	4,146,533	311,826	820,527	382,684
Agriculture, Department of	3,132,570	3,132,570	0	0	0	0	0
Environmental Quality, Department of	153,592	0	0	153,592	0	0	0
Fish, Wildlife and Parks	3,833,321	0	0	3,833,321	0	0	0
Natural Resources and Conservation, Department of	59,620	0	0	59,620	0	0	0
Research and Commercialization, Board of	794,510	0	0	100,000	311,826	0	382,684
Transportation, Department of	820,527	0	0	0	0	820,527	0
Nebraska	28,167,688	2,851,678	4,000	4,757,681	18,986,705	1,409,861	157,763
Agriculture, Department of	1,193,067	1,193,067	0	0	0	0	0
Corn Board	1,107,026	697,047	0	409,979	0	0	0
Dry Bean Commission	192,000	192,000	0	0	0	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Economic Development, Department of	1,111,752	430,078	0	100,000	423,911	0	157,763
Game and Parks Commission	2,857,952	0	0	2,857,952	0	0	0
Grain Sorghum Board	15,000	11,000	4,000	0	0	0	0
Health and Human Services	18,562,794	0	0	0	18,562,794	0	0
Natural Resources, Department of	1,346,572	0	0	1,346,572	0	0	0
Transportation, Department of	1,453,039	0	0	43,178	0	1,409,861	0
Wheat Board	328,486	328,486	0	0	0	0	0
Nevada	7,871,899	184,774	0	128,914	0	973,452	6,584,759
Agriculture, Department of	184,774	184,774	0	0	0	0	0
Economic Development, Governor's office of	6,584,759	0	0	0	0	0	6,584,759
Transportation, Department of	1,102,366	0	0	128,914	0	973,452	0
New Hampshire	8,432,696	114,949	8,938	101,215	0	807,378	7,400,216
Agriculture, Markets and Food, Department of	154,699	114,949	0	39,750	0	0	0
Business and Economic Affairs	7,275,000	0	0	0	0	0	7,275,000
Natural & Cultural Resources, Department of	61,465	0	0	61,465	0	0	0
Transportation, Department of	941,532	0	8,938	0	0	807,378	125,216
New Jersey	23,886,758	0	0	2,192,254	15,865,431	2,717,094	3,111,979
Community Affairs, Department of	310,000	0	0	0	0	0	310,000
Corrections, Department of	301,979	0	0	0	0	0	301,979
Environmental Protection, Department of	2,474,000	0	0	1,545,000	929,000	0	0
Health, Department of	1,936,431	0	0	0	1,936,431	0	0
Pinelands Commission	647,254	0	0	647,254	0	0	0
Research Initiatives, Office of	13,000,000	0	0	0	13,000,000	0	0
Secretary of Higher Education, Office of	2,500,000	0	0	0	0	0	2,500,000
Transit, New Jersey	103,000	0	0	0	0	103,000	0
Transportation, Department of	2,614,094	0	0	0	0	2,614,094	0
New Mexico	3,585,944	0	82,970	2,108,672	0	1,377,302	17,000
Cultural Affairs, Department of	17,000	0	0	0	0	0	17,000
Game and Fish, Department of	1,000,000	0	0	1,000,000	0	0	0
Transportation, Department of	1,659,400	0	82,970	199,128	0	1,377,302	0
Western State Air Resources Council	909,544	0	0	909,544	0	0	0
New York	448,501,735	10,612,279	51,407,945	33,457,115	315,479,125	8,842,589	28,702,682
Agriculture and Markets, Department of	9,864,543	9,504,543	0	360,000	0	0	0
Economic Development, Department of	39,780,251	246,490	5,352,405	356,094	5,367,044	0	28,458,218
Energy Research and Development Authority	53,546,621	0	38,192,117	10,934,755	0	4,419,749	0
Environmental Conservation, Department of	8,942,166	0	0	8,942,166	0	0	0
Health, Department of	82,781,352	368,437	0	2,210,623	80,202,292	0	0
Mental Health, Office of	156,275,133	0	0	0	156,275,133	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
People with Developmental Disabilities, Office of	1,849,940	0	0	0	1,605,476	0	244,464
Power Authority	8,707,710	104,360	7,863,423	630,958	108,969	0	0
Roswell Park Cancer Institute	71,920,211	0	0	0	71,920,211	0	0
State Museum	10,022,519	0	0	10,022,519	0	0	0
Thoroughbred Breeding and Development Fund Corp.	388,449	388,449	0	0	0	0	0
Transportation, Department of	4,422,840	0	0	0	0	4,422,840	0
North Carolina	32,754,090	14,132,932	1,656,680	7,935,915	778,247	7,959,645	290,671
Agriculture and Consumer Services, Department of	15,422,911	13,922,911	1,500,000	0	0	0	0
Environmental Quality, Department of	3,460,387	0	0	3,460,387	0	0	0
Golden Leaf, The	65,000	65,000	0	0	0	0	0
Natural and Cultural Resources, Department of	3,473,399	0	0	3,431,450	0	0	41,949
Science, Technology & Innovation, Board of	1,201,990	98,959	150,000	0	778,247	0	174,784
Transportation, Department of	9,010,403	0	6,680	1,044,078	0	7,959,645	0
Wine and Grape Growers Council	120,000	46,062	0	0	0	0	73,938
North Dakota	12,140,358	2,998,472	6,229,265	1,546,256	29,510	1,336,855	0
Agriculture, Department of	299,153	299,153	0	0	0	0	0
Dairy Promotion Commission	155,170	155,170	0	0	0	0	0
Dry Pea and Lentil Commission	135,023	135,023	0	0	0	0	0
Game and Fish, Department of	1,375,151	0	0	1,375,151	0	0	0
Industrial Commission	6,226,265	0	6,226,265	0	0	0	0
Soybean Council	1,573,679	1,312,380	3,000	171,105	29,510	57,684	0
Transportation, Department of	1,279,171	0	0	0	0	1,279,171	0
Wheat Commission	1,096,746	1,096,746	0	0	0	0	0
Ohio	97,758,379	0	14,557,578	58,098,202	3,200,453	6,886,766	15,015,380
Development Services Agency	85,774,800	0	14,557,578	53,616,065	3,200,453	324	14,400,380
Education, Department of	615,000	0	0	0	0	0	615,000
Environmental Protection Agency	20,174	0	0	20,174	0	0	0
Natural Resources, Department of	2,940,286	0	0	2,940,286	0	0	0
Transportation, Department of	6,886,442	0	0	0	0	6,886,442	0
Water Development Authority	1,521,677	0	0	1,521,677	0	0	0
Oklahoma	29,607,888	1,058,791	684,211	3,697,616	16,263,121	6,849,411	1,054,738
Advancement of Science and Technology, Center for the	5,753,552	423,987	684,211	112,333	3,324,582	287,945	920,494
Agriculture, Food, and Forestry, Department of	634,804	634,804	0	0	0	0	0
Environmental Quality, Department of	80,399	0	0	0	30,399	50,000	0
Health, Department of	608,140	0	0	0	608,140	0	0
Human Services, Department of	134,244	0	0	0	0	0	134,244
Tobacco Settlement Endowment Trust	12,300,000	0	0	0	12,300,000	0	0
Transportation, Department of	6,511,466	0	0	0	0	6,511,466	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Wildlife Conservation, Department of	3,585,283	0	0	3,585,283	0	0	0
Oregon	44,222,659	1,638,762	4,550,000	19,896,508	6,000,000	5,411,595	6,725,794
Agriculture, Department of	388,762	388,762	0	0	0	0	0
Business Oregon	14,800,000	1,250,000	4,550,000	2,250,000	6,000,000	750,000	0
Education, Department of	657,595	0	0	0	0	0	657,595
Environmental Quality, Department of	458,000	0	0	0	0	0	458,000
Fish and Wildlife, Department of	14,235,414	0	0	14,235,414	0	0	0
Forestry, Department of	522,777	0	0	522,777	0	0	0
Geology and Mineral Industries, Department of	814,431	0	0	739,960	0	0	74,471
Human Services, Department of	5,535,728	0	0	0	0	0	5,535,728
Transportation, Department of	5,090,034	0	0	428,439	0	4,661,595	0
Water Resources Department	810,484	0	0	810,484	0	0	0
Watershed Enhancement Board	909,434	0	0	909,434	0	0	0
Pennsylvania	85,050,999	3,187,000	5,323,743	8,385,384	53,335,777	3,913,899	10,905,196
Agriculture, Department of	2,187,000	2,187,000	0	0	0	0	0
Community and Economic Development, Department of	21,600,000	1,000,000	5,000,000	0	5,000,000	0	10,600,000
Conservation and Natural Resources, Department of	42,124	0	0	42,124	0	0	0
Environmental Protection, Department of	1,445,473	0	323,743	1,121,730	0	0	0
Fish and Boat Commission	131,845	0	0	131,845	0	0	0
Game Commission	9,287,658	0	0	6,939,685	2,042,777	0	305,196
Health, Department of	46,293,000	0	0	0	46,293,000	0	0
Susquehanna River Basin Commission	150,000	0	0	150,000	0	0	0
Transportation, Department of	3,913,899	0	0	0	0	3,913,899	0
Rhode Island	5,512,380	49,042	0	3,507,663	150,000	1,225,000	580,675
Commerce Corporation	1,203,652	49,042	0	423,935	150,000	0	580,675
Environmental Management, Department of	3,028,728	0	0	3,028,728	0	0	0
Transportation, Department of	1,225,000	0	0	0	0	1,225,000	0
Water Resources Board	55,000	0	0	55,000	0	0	0
South Carolina	46,983,243	1,013,153	86,506	28,245,560	14,541,188	2,159,379	937,457
Agriculture, Department of	1,035,394	970,156	0	0	0	0	65,238
Disabilities and Special Needs, Department of	12,226,376	0	0	0	12,226,376	0	0
Health and Environmental Control, Department of	1,585,652	0	0	0	1,585,652	0	0
Mental Health, Department of	100,884	0	0	0	100,884	0	0
Natural Resources, Department of	26,062,760	0	0	26,062,760	0	0	0
Public Service Authority	30,000	0	30,000	0	0	0	0
Research Authority	1,401,205	36,500	0	5,000	628,276	0	731,429
Sea Grant Consortium	2,381,593	6,497	56,506	2,177,800	0	0	140,790
Transportation, Department of	2,159,379	0	0	0	0	2,159,379	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
South Dakota	2,953,214	1,690,563	39,853	0	0	1,222,798	0
Corn Utilization Council	250,000	250,000	0	0	0	0	0
Oilseeds Council	216,845	216,845	0	0	0	0	0
Pulse Crop Council	13,352	13,352	0	0	0	0	0
Science and Technology Authority	39,853	0	39,853	0	0	0	0
Soybean Research and Promotion Council	718,122	718,122	0	0	0	0	0
Transportation, Department of	1,222,798	0	0	0	0	1,222,798	0
Weed and Pest Control Commission	45,314	45,314	0	0	0	0	0
Wheat Commission	446,930	446,930	0	0	0	0	0
Tennessee	7,439,395	0	106,514	906,097	0	3,107,664	3,319,120
Education, Department of	3,319,120	0	0	0	0	0	3,319,120
Environment and Conservation, Department of	843,184	0	106,514	736,670	0	0	0
Geological Survey	169,427	0	0	169,427	0	0	0
Transportation, Department of	3,107,664	0	0	0	0	3,107,664	0
Texas	233,030,466	1,229,300	0	9,797,876	204,708,613	17,294,677	0
Agriculture, Department of	1,229,300	1,229,300	0	0	0	0	0
Alzheimer's Research and Care Consortium (TARCC)	3,204,342	0	0	0	3,204,342	0	0
Cancer Prevention and Research Institute	201,159,271	0	0	0	201,159,271	0	0
Environmental Quality, Commission on	1,687,165	0	0	1,687,165	0	0	0
Parks and Wildlife Department	7,378,821	0	0	7,378,821	0	0	0
State Health Services, Department of	345,000	0	0	0	345,000	0	0
Transportation, Department of	17,294,677	0	0	0	0	17,294,677	0
Water Development Board	731,890	0	0	731,890	0	0	0
Utah	7,985,508	0	0	4,537,659	12,780	3,435,069	0
Environmental Quality, Department of	416,398	0	0	416,398	0	0	0
Health, Department of	12,780	0	0	0	12,780	0	0
Natural Resources, Department of	4,121,261	0	0	4,121,261	0	0	0
Transportation, Department of	3,435,069	0	0	0	0	3,435,069	0
Vermont	2,730,591	0	0	308,227	210,747	2,211,617	0
Agriculture, Food, and Markets, Agency of	308,227	0	0	308,227	0	0	0
Human Services, Agency of	210,747	0	0	0	210,747	0	0
Transportation, Agency of	2,211,617	0	0	0	0	2,211,617	0
Virginia	29,951,353	2,765,452	350,000	7,210,949	3,183,007	12,889,933	3,552,012
Aging and Rehabilitation, Department of	134,914	0	0	0	134,914	0	0
Agriculture and Consumer Services, Department of	2,615,452	2,615,452	0	0	0	0	0
Commonwealth Health Research Board	1,080,163	0	0	0	1,080,163	0	0
Environmental Quality, Department of	287,560	0	0	287,560	0	0	0

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Forensic Science, Department of	854,800	0	0	0	0	0	854,800
Forestry, Department of	467,501	0	0	467,501	0	0	0
Foundation for Healthy Youth	858,392	0	0	0	858,392	0	0
Game and Inland Fisheries, Department of	2,296,869	0	0	2,296,869	0	0	0
Innovative Technology, Center for	4,416,750	150,000	350,000	160,000	1,109,538	100,000	2,547,212
Marine Resources Commission	2,471,043	0	0	2,471,043	0	0	0
Mines, Minerals and Energy, Department of	655,308	0	0	655,308	0	0	0
Natural History, Museum of	872,668	0	0	872,668	0	0	0
Social Services, Department of	150,000	0	0	0	0	0	150,000
Transportation, Department of	12,789,933	0	0	0	0	12,789,933	0
Washington	51,963,060	17,797,227	7,621,218	16,415,784	1,188,510	5,596,000	3,344,321
Agriculture, Department of	2,767,808	2,767,808	0	0	0	0	0
Alfalfa Seed Commission	34,000	34,000	0	0	0	0	0
Asparagus Commission	74,166	74,166	0	0	0	0	0
Blueberry Commission	252,000	252,000	0	0	0	0	0
Commerce, Department of	5,826,443	0	5,826,443	0	0	0	0
Cranberry Commission	6,000	6,000	0	0	0	0	0
Dairy Products Commission	15,000	15,000	0	0	0	0	0
Ecology, Department of	882,120	0	0	882,120	0	0	0
Fish and Wildlife, Department of	8,390,579	0	1,794,775	6,595,804	0	0	0
Fruit Commission	306,223	226,568	0	0	79,655	0	0
Grain Commission	2,224,046	2,224,046	0	0	0	0	0
Health, Department of	1,108,855	0	0	0	1,108,855	0	0
Hop Commission	168,357	168,357	0	0	0	0	0
Labor and Industries, Department of	3,344,321	0	0	0	0	0	3,344,321
Mint Commission	50,382	50,382	0	0	0	0	0
Natural Resources, Department of	8,307,815	0	0	8,307,815	0	0	0
Oilseeds Commission	10,000	10,000	0	0	0	0	0
Pesticide Registration, Commission on	455,000	455,000	0	0	0	0	0
Potato Commission	953,022	953,022	0	0	0	0	0
Puget Sound Partnership	630,045	0	0	630,045	0	0	0
Pulse Crop Commission	187,098	187,098	0	0	0	0	0
Red Raspberry Commission	349,396	349,396	0	0	0	0	0
Seed Potato Commission	16,003	16,003	0	0	0	0	0
Transportation, Department of	5,596,000	0	0	0	0	5,596,000	0
Tree Fruit Research Commission	9,668,382	9,668,382	0	0	0	0	0
Turfgrass Seed Commission	100,815	100,815	0	0	0	0	0
Wine Commission	239,184	239,184	0	0	0	0	0
West Virginia	11,068,061	25,000	1,703,058	4,141,682	1,296,852	2,124,711	1,776,758
Geological and Economic Survey	1,713,935	0	1,064,096	202,437	0	0	447,402
Higher Education Policy Commission	5,571,715	0	638,962	2,314,545	1,296,852	0	1,321,356

TABLE 21

State agency expenditures for R&D, by state, department or agency, and function of R&D: FY 2019

(Dollars)

State and department or agency	All R&D expenditures	Agriculture	Energy	Environment and natural resources	Health	Transportation	Other ^a
Justice and Community Services, Division of	8,000	0	0	0	0	0	8,000
Natural Resources, Department of	1,649,700	25,000	0	1,624,700	0	0	0
Transportation, Department of	2,124,711	0	0	0	0	2,124,711	0
Wisconsin	17,473,890	3,518,097	0	6,060,492	1,140,656	3,754,645	3,000,000
Agriculture, Trade and Consumer Protection, Department of	2,768,097	2,768,097	0	0	0	0	0
Economic Development Corporation	4,750,000	750,000	0	0	1,000,000	0	3,000,000
Natural Resources, Department of	6,201,148	0	0	6,060,492	140,656	0	0
Transportation, Department of	3,754,645	0	0	0	0	3,754,645	0
Wyoming	6,002,910	529,282	261,918	2,152,148	250,000	1,428,942	1,380,620
Agriculture, Department of	380,882	380,882	0	0	0	0	0
Business Council	2,466,307	148,400	169,936	348,800	250,000	209,971	1,339,200
Enterprise Technology Services	41,420	0	0	0	0	0	41,420
Game and Fish Department	1,110,856	0	0	1,110,856	0	0	0
State Engineer, Office of	250,000	0	0	250,000	0	0	0
State Geological Survey	183,963	0	91,982	91,981	0	0	0
Transportation, Department of	1,218,971	0	0	0	0	1,218,971	0
Water Development Office	350,511	0	0	350,511	0	0	0

^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.

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2019.

Technical Notes

Survey Overview (FY 2019 survey cycle)

Purpose. The Survey of State Government Research and Development 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, United States Code, § 8(b). It is collected under Office of Management and Budget control number 0607-0933, expiration date 30 June 2022.

Survey contractor. The U.S. Census Bureau, under NSF interagency agreement number NCSE-1902852, 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. 2006.

Reference period. State governments' fiscal year ending in 2019.

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 747 agencies from the 50 state governments, the District of Columbia, and Puerto Rico with the capacity to perform or fund R&D during FY 2019.

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 U.S. Census Bureau's *Government Finance and Employment Classification Manual* (see chapter 1), and that funded or performed R&D for state government FY 2019. 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 U.S. 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.

Sample design. The Survey of State Government Research and Development is a census. For the FY 2019 survey, state coordinators were provided with a list of agencies that were previously identified from the FY 2018 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 U.S. Census Bureau's **Census of Governments** program by U.S. Census Bureau and NCSES 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 made adjustments to the agency universe to remove agencies that have never had any qualifying R&D to report to NCSES, to address organizational changes within their respective states since the previous survey, and to provide updated agency contact information.

Data Collection and Processing Methods

Data collection. On 1 August 2019, a letter was sent to the office of each state governor, as well as to the governor of Puerto Rico and the mayor of the District of Columbia, asking them to appoint a state coordinator who would provide updates to the universe of state government-dependent agencies that had the capacity to perform or fund R&D during FY 2019 (see "**Appendix**"). On a flow basis, as governors responded, state coordinators were sent a spreadsheet of agencies and contacts that were surveyed for the FY 2018 Survey of State Government Research and Development 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 U.S. Census Bureau. The state coordinators sent the updated spreadsheet of agencies and contacts back to the U.S. 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 NCSES for final analysis and dissemination.

Mode. State agencies were e-mailed a fillable 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 2019 Survey of State Government Research and Development and are available in **table A-1**.

All 50 state governments and the District of Columbia participated in the survey. A total of 37 of 52 states appointed coordinators. However, only 11 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 NCSES 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 Georgia, Idaho, Illinois, Kentucky, Louisiana, Massachusetts, Minnesota, New Mexico, New York, Ohio, Rhode Island, South Carolina, Vermont, Virginia, and the District of Columbia. Historically, NCSES 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 NCSES survey questions for its collections of government agencies and provides the results to NCSES. Puerto Rico's Governor's Office did appoint a coordinator for the 2019 survey cycle, and the Puerto Rico Institute of Statistics did respond to multiple requests for information. Even though NCSES communicated with Puerto Rico this year, no data were received for FY 2019 from the 19 agencies in Puerto Rico that previously provided data to NCSES.

The final agency response was 711 of 747 agencies (95.2%). If agencies were unable to answer the survey request, staff from the U.S. Census Bureau and NCSES compiled R&D estimates from publicly available financial statements in lieu of a direct response when such materials were available. This includes data for the following state agencies: Kansas Corn Commission, Soybean Commission, and Massachusetts MassVentures.

In addition to the 19 agencies in Puerto Rico, the following agencies did not respond to the survey and as a result may contribute to an undercount in their states' public expenditures for R&D activities:

- California Resources Recycling and Recovery, Seismic Safety Commission, and the Department of Toxic Substances Control;
- District of Columbia Department of Forensic Sciences;
- Georgia Department of Education;
- Kentucky Governor's Office of Early Childhood Development;
- Massachusetts Commission for the Deaf and Hard of Hearing and Technology Park Corporation;
- Maine Department of Environmental Protection;
- Michigan Economic Development Corporation;
- Minnesota Department of Health;
- New Mexico Energy, Minerals, and Natural Resources; Museum of Natural History and Science; Sentencing Commission; and Spaceport Authority;
- Ohio Industrial Commission;
- Oklahoma Works.

Of the 711 agencies that responded, 383 (53.9%) reported having some R&D activity in FY 2019.

Data editing. After all of the agencies in a state have submitted responses, a spreadsheet of aggregated agency data is sent to the coordinators. They were asked to perform a final verification of aggregated agency data. Initial agency data submissions were received via fillable forms e-mailed to the U.S. Census Bureau analyst. Basic logical edit checks, review of respondent comments, and comparisons of data from previous surveys allowed U.S. Census Bureau and NCSES staff to detect data errors and work with respondents to correct them. U.S. Census Bureau and NCSES staff also conducted follow-up calls to agencies with data changes of plus or minus 50% and at least \$1 million in R&D between FY 2018 and FY 2019 to ensure the accuracy of the survey data.

Imputation. No statistical methods were used to account for nonresponding agencies. 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. There are no formally established methods of imputation for state government agencies that account for these structural differences. This is consistent with basic statistical methods used by the U.S. 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 agency financial reports were publicly available, some agency research expenditures were compiled by staff from the U.S. Census Bureau and NCSES.

Weighting. Not applicable.

Variance estimation. Not applicable.

Survey Quality Measures

Sampling error. Not applicable.

Coverage error. In addition to a U.S. 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 were 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 U.S. 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.

Nonresponse error. Of the 747 agencies in the survey universe, 711 (95.2%) responded to the survey. Of the 711 respondents, 383 (53.9%) reported having R&D activities in FY 2019. No statistical methods were used to account for nonresponding agencies.

Measurement error. The most common form of nonsampling error in the Survey of State Government Research and Development is in respondents' interpretation of the survey definition of qualifying R&D activities. To mitigate any potential misinterpretations, several steps were taken. NCSES 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. U.S. 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 multi-year obligations rather than single-year expenditures.

The survey asked about state agencies' expenditures for R&D at the end of FY 2019. Most states and Puerto Rico have a fiscal year that begins 1 July and ends the following 30 June. For example, FY 2019 is the state fiscal period beginning on 1 July 2018 and ending on 30 June 2019. There are, however, five exceptions to the 30 June fiscal year end: New York (ends 31 March), Texas (ends 31 August), Alabama (ends 30 September), and the District of Columbia and Michigan (ends 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 NCSES's HERD Survey (<https://www.nsf.gov/statistics/srvyherd/>). For FY 2019, state government agencies reported \$1.0 billion in expenditures used to support R&D performance by academic institutions. A major factor for the difference between totals reported in NCSES's HERD Survey and the Survey of State Government Research and Development is 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 2019 Survey of State Government Research and Development 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, U.S. Census Bureau and NCSES staff conducted follow-up calls for agencies with data changes of plus or minus 50% and at least \$1 million between FY 2018 and FY 2019 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 2019 data tables. Specific agency-level data for FY 2006 and FY 2007 are not available.

The current Survey of State Government Research and Development 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, and FY 2019. (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) NCSES reviews data for prior years for consistency with current-year responses and, if necessary, may revise these data in consultation with respondents.

NCSES 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 U.S. 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 Research and Development.

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 two 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 detail 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. Question 4: The “other” category for Internal Sources of R&D was split into multiple categories: non-federal government funds, nonprofit organizations, businesses, and higher education institutions.
- FY 2018. No changes were made.
- FY 2019. Question 12: A question asking about the amount of time it takes to complete survey. This question was added for administrative purposes.

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.
- FY 2019. No changes were made.

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.
- *Other.* Nonprofit organizations, including foundations; other departments or agencies within the state; other state governments; county, municipal, township, or other local governments; federal government.

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.
- *Non-federal 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.

Technical Tables

Table Title

A-1 Final response rates and agencies reporting R&D to the survey: FY 2019

TECHNICAL TABLE A-1

Final response rates and agencies reporting R&D to the survey: FY 2019

(Number and percent)

Agencies selected	Agencies surveyed	Responses		R&D reported	
		Number	Percent	Number	Percent
All agencies	747	711	95.2	383	53.9

Source(s):

National Center for Science and Engineering Statistics, Survey of State Government Research and Development, FY 2019.

Acknowledgments and Suggested Citation

Acknowledgments

Christopher Pece of the National Center for Science and Engineering Statistics (NCSES) developed and coordinated this report under the leadership of Emilda B. Rivers, NCSES Director; Vipin Arora, NCSES Deputy Director; Samson Adeshiyan, former NCSES Chief Statistician; and John Jankowski, NCSES Program Director. Mark Fiegner (NCSES) reviewed the report.

Under NCSES interagency agreement with the U.S. Census Bureau, Vicki Kuppala and Millicent Grant, under the supervision of Michael Flaherty, Chief, Research, Development, and Innovation Surveys Branch at the U.S. Census Bureau, compiled the tables in this report. Elizabeth Willhide and Millicent Grant at the U.S. Census Bureau also conducted legal review of state sessions laws and agency founding legislation to update the survey frame. Publication processing support was provided by Christine Hamel, Tanya Gore, and Joe Newman (NCSES).

NCSES thanks the program and budget offices at the state agencies that provided information for this report.

Suggested Citation

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Appendix

Letter to the governors of each state, the mayor of the District of Columbia, and the governor of Puerto Rico requesting that they appoint a coordinator for the FY 2019 Survey of State Government Research and Development.



UNITED STATES DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. Census Bureau
 Washington, DC 20233-0001
 OFFICE OF THE DIRECTOR

SGRD-G

August 1, 2019

The Honorable <<GOVNAME>>
 <<GOVADDRESS1>><<GOVLAST>>
 <<GOVADDRESS2>>
 <<GOVADDRESS3>>
 <<GOVCITY>>, <<GOVSTATE>> <<GOVZIP>>-<<GOVZIP4>>

**A Message from the
 U.S. Census Bureau and the National Center for Science and Engineering Statistics**

We write to request that your office appoint a coordinator for the **Fiscal Year (FY) 2019 Survey of State Government Research and Development**. The U.S. Census Bureau is collaborating with the National Center for Science and Engineering Statistics (NCSES) within the National Science Foundation (NSF) to collect research and development (R&D) expenditure information from the 50 states, the District of Columbia, and Puerto Rico. You may recall that your state participated in the FY2018 survey. Your survey response will be compiled by the Census Bureau and forwarded to the NCSES, the federal agency charged with collecting and reporting national R&D statistics. These statistics are used to measure states' contributions to our Nation's science and technology base, a building block of a strong U.S. economy.

Your state coordinator will be asked to confirm the names and contact information for your state departments and agencies that are most likely to fund or conduct R&D activities. These departments and agencies will receive a questionnaire asking about their R&D activities. The coordinator also will serve as the authorizing official for your state's response after all departments and agencies complete their survey questionnaires. The coordinator may be called upon to assist the Census Bureau and the NCSES in obtaining responses from any non-responding agencies.

To ensure the NCSES issues the most accurate statistics for your state's R&D investments, it is important that all agencies selected for the survey respond, even if they do not have qualifying R&D expenditures for fiscal year ending in 2019. Since each state is a unique legal and economic entity, there are no standard methods for imputing R&D for any non-responding agencies. Therefore, any non-response may contribute to an undercount in official U.S. government statistics of your state's public investments in R&D.

Please contact Vicki Kuppala, Census Bureau survey analyst for this survey, with the name and contact information for your state coordinator by e-mailing erd.sgrd@census.gov or calling 1-888-340-7525. Please respond by August 20, 2019. For the FY2018 survey, <<CONTACT NAME>> served as your state's survey coordinator.

Thank you in advance for your help to ensure an accurate measurement of our Nation's R&D expenditures by state governments. You can find previous survey results and additional information on the NSF web page: <http://www.nsf.gov/statistics/srvystaterd/>.

Sincerely,

Emilda Rivers
Director
National Center for Science and Engineering Statistics
National Science Foundation

Steven D. Dillingham
Director
U.S. Census Bureau



[census.gov](https://www.census.gov)

OMB Number

This collection has been approved by the Office of Management and Budget (OMB). The eight-digit OMB approval number is 0607-0933. Without this approval, we could not conduct this survey.

Authority and Confidentiality

Title 13, United States Code, Section 8(b) and Title 42, United States Code, Sections 1861-76 (National Science Foundation Act of 1950, as amended), authorizes the U.S. Census Bureau to conduct this collection on behalf of the National Science Foundation and to request your assistance. These data are subject to provisions of Title 13, United States Code, Section 9(b), which exempts data that are customarily provided in public records from rules of confidentiality.

Burden Estimate Statement

We estimate this collection of information to average 5 minutes per response. Send comments regarding this burden estimate or any other aspect of this voluntary collection of information, including suggestions for reducing this burden to: ERD Survey Comments 0607-0933, U.S. Census Bureau, 4600 Silver Hill Road, Room ERD-6H128, Washington, DC 20233. You may e-mail comments to erd.survey@census.gov; use ERD Survey Comments 0607-0933 as the subject.

Contact Us

Report Author

Christopher Pece
Survey Manager
Research and Development Statistics Program, NCSES
Tel: (703) 292-7788
E-mail: cpece@nsf.gov

NCSES

National Center for Science and Engineering Statistics
Directorate for Social, Behavioral and Economic Sciences
National Science Foundation
2415 Eisenhower Avenue, Suite W14200
Alexandria, VA 22314
Tel: (703) 292-8780
FIRS: (800) 877-8339
TDD: (800) 281-8749
E-mail ncsesweb@nsf.gov