Federal R&D Funding, by Budget Function: Fiscal Years 2014–16

Detailed Statistical Tables | NSF 16-303 | November 2015

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General Notes

This report contains data on the budget authority provided to U.S. federal agencies to fund the research and development and R&D plant components of their programs in FYs 2014–16. *Budget authority* is the primary source of legal authorization to enter into obligations that will result in outlays. It is most commonly granted in the form of appropriations by the congressional committees assigned to determine the budget for each function.

The data tables in this report are a statistical supplement to the recent InfoBrief authored by the National Center for Science and Engineering Statistics (NCSES) (http://www.nsf.gov/statistics/2016/nsf16304/), and the material below discusses the main features of this new R&D budget authority data.

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TABLE 1. Federal budget authority for R&D and R&D plant, by budget function, ordered by FY 2014 R&D and R&D plant total: FYs 2014–16
(Millions of dollars)

Budget function	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	136,159	137,172	146,478	0.7	6.8
National defense	70,992	71,030	76,798	0.1	8.1
Health	31,099	31,443	32,443	1.1	3.2
Space flight, research, and supporting activities	11,228	11,629	11,991	3.6	3.1
General science and basic research	10,524	10,679	11,208	1.5	5.0
Energy	2,407	2,427	2,992	0.8	23.3
Natural resources and environment	2,328	2,414	2,727	3.7	13.0
Agriculture	2,077	2,142	2,584	3.1	20.6
Transportation	1,278	1,330	1,492	4.1	12.2
Veterans benefits and services	1,101	1,090	1,147	-1.0	5.2
Administration of justice	1,067	941	605	-11.8	-35.7
Commerce and housing credit	957	871	1,247	-9.0	43.1
Education, training, employment, and social services	542	578	542	6.6	-6.2
International affairs	410	410	496	0.0	21.0
Community and regional development	66	77	90	16.7	16.9
Income security	58	94	116	62.1	23.4
Medicare	25	18	0	-28.0	-100.0
R&D	133,547	134,749	143,686	0.9	6.6
National defense	70,611	70,770	76,376	0.2	7.9
Health	30,927	31,271	32,264	1.1	3.2
Space flight, research, and supporting activities	11,055	11,565	11,854	4.6	2.5
General science and basic research	9,482	9,607	10,030	1.3	4.4
Energy	2,387	2,407	2,970	0.9	23.4
Natural resources and environment	2,172	2,209	2,395	1.7	8.4
Agriculture	1,967	1,991	2,255	1.2	13.3
Transportation	1,261	1,305	1,460	3.5	11.9
Veterans benefits and services	1,101	1,059	1,114	-3.8	5.2
Administration of justice	634	627	597	-1.1	-4.8
Commerce and housing credit	877	797	1,163	-9.1	45.9
Education, training, employment, and social services	515	542	506	5.2	-6.6
International affairs	410	410	496	0.0	21.0
Community and regional development	66	77	90	16.7	16.9
Income security	58	94	116	62.1	23.4
Medicare	25	18	0	-28.0	-100.0
R&D plant	2,611	2,423	2,792	-7.2	15.2
National defense	381	260	422	-31.8	62.5
Health	172	172	180	-0.3	4.7
Space flight, research, and supporting activities	173	64	137	-63.0	114.1
General science and basic research	1,042	1,072	1,178	2.9	9.9
Energy	20	19	22	-3.6	11.2
Natural resources and environment	156	205	332	31.4	61.7
Agriculture	110	151	329	37.3	117.9
Transportation	17	25	32	47.1	28.0
Veterans benefits and services	0	31	33	-	6.5
Administration of justice	433	314	8	-27.5	-97.5
Commerce and housing credit	80	74	84	-7.5	12.9
Education, training, employment, and social services	27	36	36	33.3	0.0
International affairs	0	0	0	-	-

TABLE 1. Federal budget authority for R&D and R&D plant, by budget function, ordered by FY 2014 R&D and R&D plant total: FYs 2014–16
(Millions of dollars)

Budget function	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
Community and regional development	0	0	0	-	-
Income security	0	0	0	-	-
Medicare	0	0	0	-	-

NOTES: Detail may not add to total because of rounding. Percentage change calculated on unrounded data. In contrast to previous editions of this report, there is no budget authority for R&D reported for the Government (800) category in the fiscal years covered by this report. Accordingly, this category is not included in the above table this year.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 2. Distribution of federal budget authority for R&D and R&D plant, by budget function: FYs 2014–16
(Percent distribution)

Budget function	2014 actual	2015 preliminary	2016 proposed
R&D and R&D plant	100.0	100.0	100.0
National defense	52.1	51.8	52.4
Health	22.8	22.9	22.1
Space flight, research, and supporting activities	8.2	8.5	8.2
General science and basic research	7.7	7.8	7.7
Energy	1.8	1.8	2.0
Natural resources and environment	1.7	1.8	1.9
Agriculture	1.5	1.6	1.8
Transportation	0.9	1.0	1.0
Veterans benefits and services	0.8	0.8	0.8
Administration of justice	0.8	0.7	0.4
Commerce and housing credit	0.7	0.6	0.9
Education, training, employment, and social services	0.4	0.4	0.4
International affairs	0.3	0.3	0.3
Community and regional development	*	0.1	0.1
Income security	*	0.1	0.1
Medicare	*	*	0.0
R&D	100.0	100.0	100.0
National defense	52.9	52.5	53.2
Health	23.2	23.2	22.5
Space flight, research, and supporting activities	8.3	8.6	8.2
General science and basic research	7.1	7.1	7.0
Energy	1.8	1.8	2.1
Natural resources and environment	1.6	1.6	1.7
Agriculture	1.5	1.5	1.6
Transportation	0.9	1.0	1.0
Veterans benefits and services	0.8	0.8	0.8
Administration of justice	0.5	0.5	0.4
Commerce and housing credit	0.7	0.6	0.8
Education, training, employment, and social services	0.4	0.4	0.4
International affairs	0.3	0.3	0.3
Community and regional development	*	0.1	0.1
Income security	*	0.1	0.1
Medicare	*	*	0.0
R&D plant	100.0	100.0	100.0
National defense	14.6	10.7	15.1
Health	6.6	7.1	6.4
Space flight, research, and supporting activities	6.6	2.6	4.9
General science and basic research	39.9	44.2	42.2
Energy	0.8	0.8	0.8
Natural resources and environment	6.0	8.5	11.9
Agriculture	4.2	6.2	11.8
Transportation	0.7	1.0	1.1
Veterans benefits and services	0.0	1.3	1.2
Administration of justice	16.6	13.0	0.3
Commerce and housing credit	3.1	3.1	3.0
Education, training, employment, and social services	1.0	1.5	1.3
International affairs	0.0	0.0	0.0

TABLE 2. Distribution of federal budget authority for R&D and R&D plant, by budget function: FYs 2014–16
(Percent distribution)

Budget function	2014 actual	2015 preliminary	2016 proposed
Community and regional development	0.0	0.0	0.0
Income security	0.0	0.0	0.0
Medicare	0.0	0.0	0.0

* = value less than 0.05%.

NOTES: Detail may not add to total because of rounding. Budget functions are ordered as under the table 1 stub entry for "R&D and R&D plant." In contrast to previous editions of this report, there is no budget authority for R&D reported for the Government (800) category in the fiscal years covered by this report. Accordingly, this category is not included in the above table this year.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 3. Federal budget authority for R&D and R&D plant as percentage of total budget authority, by budget function: FYs 2014–16

Budget function	2014 actual	2015 preliminary	2016 proposed
All functions conducting R&D	5.3	4.9	5.0
National defense	11.4	11.9	12.4
Health	7.5	6.4	6.3
Space flight, research, and supporting activities	65.7	67.0	66.8
General science and basic research	85.1	85.8	85.5
Energy	44.3	31.7	38.7
Natural resources and environment	6.2	6.5	6.1
Agriculture	8.5	8.8	9.8
Transportation	1.5	1.6	1.4
Veterans benefits and services	0.7	0.7	0.7
Administration of justice	1.9	1.7	1.0
Commerce and housing credit[a]	na	na	57.2
Education, training, employment, and social services	0.6	0.4	0.4
International affairs	0.7	0.7	1.1
Community and regional development	0.4	0.4	0.3
Income security	*	*	*
Medicare	*	*	0.0

* = value less than 0.05%; na = not applicable.

[a] Total budget authority in the Commerce and housing credit function is a negative number (i.e., less than zero) in FY 2014 and FY 2015, primarily due to large offsetting collections and receipts leading to negative balances in the subfunctions for federal mortgage and credit programs and government-sponsored enterprise (e.g., Fannie Mae or Freddie Mac) purchase programs. This makes this function's R&D and R&D plant as percentages of total budget authority difficult to interpret. For perspective, R&D and R&D plant as a share of discretionary authority excluding these negative subfunctions is 22.3% for FY 2014, 19.9% for FY 2015, and 24.8% for FY 2016.

NOTES: Total budget authority includes discretionary and mandatory budget authority, less offsets. Budget functions are ordered as under the table 1 stub entries for "R&D and R&D plant." In contrast to previous editions of this report, there is no budget authority for R&D reported for the Government (800) category in the fiscal years covered by this report. Accordingly, this category is not included in the above table this year.

SOURCES: Agencies' submissions to the Office of Management and Budget (OMB) per MAX Schedule C, agencies' budget justification documents, supplemental data obtained from agencies' budget offices, and Executive Office of the President, OMB, *Budget of the United States Government, Fiscal Year 2016,* U.S. Government Printing Office (2015).

TABLE 4. Federal budget authority for basic research, by budget function: FYs 2014–16

Budget function	Millions of dollars			% change	
	2014 actual	2015 preliminary	2016 proposed	2014–15	2015–16
All functions conducting R&D	32,086	32,292	33,205	0.6	2.8
National defense	2,167	2,334	2,145	7.7	-8.1
Health	15,853	15,909	16,353	0.4	2.8
Space flight, research, and supporting activities	3,320	3,187	3,311	-4.0	3.9
General science and basic research	8,739	8,880	9,228	1.6	3.9
Energy	16	18	17	15.6	-6.9
Natural resources and environment	252	254	259	0.9	1.7
Agriculture	790	801	914	1.4	14.1
Transportation	0	0	0	-	-
Veterans benefits and services	451	429	450	-4.9	4.9
Administration of justice	58	54	58	-6.9	7.4
Commerce and housing credit	213	210	239	-1.3	13.5
Education, training, employment, and social services	227	215	232	-5.3	7.9
International affairs	0	0	0	-	-
Community and regional development	0	0	0	-	-
Income security	0	0	0	-	-
Medicare	0	0	0	-	-

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data. Budget functions are ordered as under the table 1 stub entries for "R&D and R&D plant." In contrast to previous editions of this report, there is no budget authority for R&D reported for the Government (800) category in the fiscal years covered by this report. Accordingly, this category is not included in the above table this year.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 5. Federal budget authority for National defense (050) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	70,992	71,030	76,798	0.1	8.1
Department of Defense, military (051)	65,995	66,275	72,119	0.4	8.8
RDT&E	63,458	64,007	69,976	0.9	9.3
Defense agencies	17,318	17,487	18,467	1.0	5.6
Defense Advanced Research Projects Agency	2,753	2,916	2,973	5.9	1.9
Missile Defense Agency	5,707	5,648	6,190	-1.0	9.6
Other defense agencies	8,858	8,923	9,304	0.7	4.3
Department of the Air Force	23,824	23,645	26,491	-0.7	12.0
Department of the Army	7,124	6,675	6,926	-6.3	3.8
Department of the Navy	14,946	15,991	17,922	7.0	12.1
Operational Test and Evaluation	246	209	171	-15.2	-18.3
Other military funding[a]	2,537	2,268	2,143	-10.6	-5.5
Department of Energy, atomic energy defense activities (053)	4,964	4,750	4,674	-4.3	-1.6
Defense environmental cleanup	21	14	17	-34.5	20.1
Naval reactors development	1,074	1,197	1,327	11.5	10.8
Nonproliferation	275	215	226	-21.8	5.2
Weapons activities	3,594	3,324	3,104	-7.5	-6.6
Department of Justice, Federal Bureau of Investigation (054)	33	5	5	-84.8	0.0
R&D	70,611	70,770	76,376	0.2	7.9
Department of Defense, military (051)	65,739	66,257	71,954	0.8	8.6
RDT&E	63,458	64,007	69,976	0.9	9.3
Defense agencies	17,318	17,487	18,467	1.0	5.6
Defense Advanced Research Projects Agency	2,753	2,916	2,973	5.9	1.9
Missile Defense Agency	5,707	5,648	6,190	-1.0	9.6
Other defense agencies	8,858	8,923	9,304	0.7	4.3
Department of the Air Force	23,824	23,645	26,491	-0.7	12.0
Department of the Army	7,124	6,675	6,926	-6.3	3.8
Department of the Navy	14,946	15,991	17,922	7.0	12.1
Operational Test and Evaluation	246	209	171	-15.2	-18.3
Other military funding[a]	2,281	2,250	1,978	-1.4	-12.1
Department of Energy, atomic energy defense activities (053)	4,839	4,509	4,417	-6.8	-2.0
Defense environmental cleanup	21	14	17	-34.5	20.1
Naval reactors development	1,036	1,042	1,159	0.6	11.2
Nonproliferation	275	215	226	-21.8	5.2
Weapons activities	3,507	3,238	3,015	-7.7	-6.9
Department of Justice, Federal Bureau of Investigation (054)	33	5	5	-84.8	0.0

RDT&E = research, development, test, and evaluation.

[a] This item includes appropriate personnel costs in direct support of conduct of R&D, other appropriations funding certain Department of Defense programs, and medical research funded outside RDT&E accounts.

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 6. Department of Defense, total obligational authority for research, development, test, and evaluation, by DOD budget activity: FYs 2014–16
(Millions of dollars)

Budget activity[a]	Funding category and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
	RDT&E total budget authority	63,483	63,823	69,977	0.5	9.6
	RDT&E total obligational authority[b]	63,458	64,007	69,976	0.9	9.3
1	Basic research	2,096	2,278	2,089	8.7	-8.3
	Defense agencies	555	616	592	11.0	-4.0
	Department of the Air Force	511	551	485	7.9	-11.9
	Department of the Army	425	460	425	8.2	-7.6
	Department of the Navy	604	650	587	7.6	-9.7
2	Applied research	4,523	4,648	4,713	2.8	1.4
	Defense agencies	1,623	1,696	1,752	4.5	3.3
	Department of the Air Force	1,124	1,101	1,217	-2.1	10.6
	Department of the Army	931	981	880	5.4	-10.4
	Department of the Navy	844	870	865	3.1	-0.6
3	Advanced technology development	5,102	5,326	5,464	4.4	2.6
	Defense agencies	2,810	2,948	3,230	4.9	9.6
	Department of the Air Force	624	630	676	0.9	7.3
	Department of the Army	1,045	1,113	896	6.5	-19.5
	Department of the Navy	623	635	663	2.0	4.4
4	Advanced component development and prototypes	11,655	12,491	14,404	7.2	15.3
	Defense agencies	6,142	6,336	6,817	3.2	7.6
	Department of the Air Force	936	1,407	2,063	50.3	46.6
	Department of the Army	425	305	500	-28.2	64.0
	Department of the Navy	4,152	4,444	5,025	7.0	13.1
5	System development and demonstration	11,154	11,112	12,771	-0.4	14.9
	Defense agencies	679	636	545	-6.4	-14.2
	Department of the Air Force	4,345	3,617	3,848	-16.8	6.4
	Department of the Army	1,956	1,622	2,069	-17.1	27.5
	Department of the Navy	4,174	5,237	6,309	25.5	20.5
6	RDT&E management support	5,296	4,396	4,185	-17.0	-4.8
	Defense agencies	1,161	1,021	856	-12.1	-16.2
	Department of the Air Force	1,418	1,179	1,175	-16.9	-0.3
	Department of the Army	1,317	1,015	1,028	-22.9	1.2
	Department of the Navy	1,153	973	956	-15.7	-1.7
	Operational test and evaluation	246	209	171	-15.2	-18.3
7	Operational system development	23,632	23,755	26,351	0.5	10.9
	Defense agencies	4,347	4,235	4,676	-2.6	10.4
	Department of the Air Force	14,864	15,160	17,027	2.0	12.3
	Department of the Army	1,025	1,178	1,129	14.9	-4.1
	Department of the Navy	3,395	3,182	3,518	-6.3	10.5
	Adjustment for RDT&E budget authority[b]	25	-184	1	na	na

na = not applicable.

DOD = Department of Defense; RDT&E = research, development, test, and evaluation.

[a] RDT&E budget activity codes are broad categories reflecting different types of RTD&E efforts, as specified in DOD Financial Management Regulation.

[b] Detailed budget information on DOD RDT&E activities is available only in total obligational authority (TOA), which is the sum of new budget authority, unobligated budget authority from previous years, and other authorized credits. The adjustment converts TOA to budget authority by subtracting unobligated budget from authority from previous years and other authorized credits from TOA.

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget (OMB) per MAX Schedule C, agencies' budget justification documents, supplemental data obtained from agencies' budget offices, and Executive Office of the President, OMB, *Budget of the United States Government, Fiscal Year 2016,* U.S. Government Printing Office (2015).

TABLE 7. Federal budget authority for International affairs (150) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	410	410	496	0.0	21.0
Agency for International Development (151)	321	321	407	0.0	26.8
Department of State (151)	77	77	77	0.0	0.0
International Security Assistance (152)	12	12	12	0.0	0.0
R&D	410	410	496	0.0	21.0
Agency for International Development (151)	321	321	407	0.0	26.8
Department of State (151)	77	77	77	0.0	0.0
International Security Assistance (152)	12	12	12	0.0	0.0

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 8. Federal budget authority for General science and basic research (251) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	10,524	10,679	11,208	1.5	5.0
Department of Energy					
Office of Science	4,724	4,680	4,900	-0.9	4.7
National Science Foundation[a]	5,800	5,999	6,309	3.4	5.2
Arctic Research Commission	1	1	1	8.5	5.0
Biological Sciences	721	731	748	1.4	2.3
Computer and Information Science and Engineering	893	922	954	3.3	3.5
Education and Human Resources	832	866	963	4.1	11.2
Engineering	833	892	949	7.1	6.4
Geosciences	1,321	1,304	1,365	-1.3	4.7
International and Integrative Activities[b]	481	na	na	-	-
Integrative Activities	na	425	459	-	7.9
International Science and Engineering	na	49	51	-	5.2
Major Research Equipment and Facilities	200	201	200	0.4	-0.2
Mathematical and Physical Sciences	1,268	1,337	1,366	5.4	2.2
Social, Behavioral and Economic Sciences	257	272	291	6.0	7.1
Budget authority adjustment[c]	-1,007	-1,002	-1,041	-0.5	3.9
R&D	9,482	9,607	10,030	1.3	4.4
Department of Energy					
Office of Science	4,079	4,046	4,167	-0.8	3.0
National Science Foundation[d]	5,403	5,562	5,864	2.9	5.4
Arctic Research Commission	1	1	1	8.5	5.0
Biological Sciences	721	731	748	1.4	2.3
Computer and Information Science and Engineering	893	922	954	3.3	3.5
Education and Human Resources	832	866	963	4.1	11.2
Engineering	833	892	949	7.1	6.4
Geosciences	1,321	1,304	1,365	-1.3	4.7
International and Integrative Activities[b]	481	na	na	-	-
Integrative Activities	na	425	459	-	7.9
International Science and Engineering	na	49	51	-	5.2
Mathematical and Physical Sciences	1,268	1,337	1,366	5.4	2.2
Social, Behavioral and Economic Sciences	257	272	291	6.0	7.1
Budget authority adjustment[e]	-1,204	-1,238	-1,285	2.8	3.8

na = not applicable.

[a] Total National Science Foundation (NSF) budget shown here includes only R&D and R&D plant; however, subaccount budgets (Arctic Research Commission, Biological Sciences, etc.) include some non-R&D and non–R&D plant funding.

[b] The Office of Integrative and International Affairs was split into separate offices for Integrative Activities and International Science and Engineering beginning in FY 2015.

[c] Budget authority adjustment subtracts non-R&D and non–R&D plant spending (such as support and overhead) from subaccount budgets.

[d] Total NSF budget shown here includes funding for only R&D; however, subaccount budgets (Arctic Research Commission, Biological Sciences, etc.) include some non-R&D funding.

[e] Budget authority adjustment subtracts non-R&D spending (such as support, overhead, and R&D plant) from subaccount budgets.

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 9. Federal budget authority for Space flight, research, and supporting activities (252) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	11,228	11,629	11,991	3.6	3.1
National Aeronautics and Space Administration					
Cross-agency support	263	262	262	-0.4	0.0
Exploration	3,726	4,020	4,101	7.9	2.0
Exploration R&D	295	321	394	8.5	23.0
Exploration systems development	2,807	2,894	2,463	3.1	-14.9
Commercial space flight	624	805	1,244	28.9	54.5
Science	4,918	5,184	5,254	5.4	1.3
Astrophysics	660	688	689	4.2	0.2
Earth science	1,735	1,784	1,951	2.9	9.3
Heliophysics	614	637	651	3.8	2.1
James Webb Space Telescope	651	645	620	-0.9	-3.9
Planetary science	1,258	1,430	1,343	13.6	-6.1
Space operations	1,585	1,503	1,518	-5.2	1.0
International Space Station	1,562	1,495	1,500	-4.3	0.3
Space flight and support	23	8	18	-64.6	122.2
Space technology	563	596	720	5.9	20.7
Construction, environmental compliance, and remediation	173	64	137	-63.0	114.1
R&D	11,055	11,565	11,854	4.6	2.5
National Aeronautics and Space Administration					
Cross-agency support	263	262	262	-0.4	0.0
Exploration	3,726	4,020	4,101	7.9	2.0
Exploration R&D	295	321	394	8.5	23.0
Exploration systems development	2,807	2,894	2,463	3.1	-14.9
Commercial space flight	624	805	1,244	28.9	54.5
Science	4,918	5,184	5,254	5.4	1.3
Astrophysics	660	688	689	4.2	0.2
Earth science	1,735	1,784	1,951	2.9	9.3
Heliophysics	614	637	651	3.8	2.1
James Webb Space Telescope	651	645	620	-0.9	-3.9
Planetary science	1,258	1,430	1,343	13.6	-6.1
Space operations	1,585	1,503	1,518	-5.2	1.0
International Space Station	1,562	1,495	1,500	-4.3	0.3
Space flight and support	23	8	18	-64.6	122.2
Space technology	563	596	720	5.9	20.7
Construction, environmental compliance, and remediation	0	0	0	-	-

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 10. Federal budget authority for Energy (270) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	2,407	2,427	2,992	0.8	23.3
Department of Energy (271)	2,306	2,321	2,889	0.7	24.5
Energy programs	2,038	2,052	2,577	0.7	25.6
Energy efficiency and renewable energy	870	820	1,293	-5.8	57.8
Electricity delivery and energy reliability	92	93	117	1.4	25.4
Fossil energy	442	443	429	0.3	-3.0
Nuclear energy	634	697	738	9.9	5.9
Advanced Research Projects Agency-Energy (ARPA-E)	252	252	296	0.0	17.4
Bonneville Power Administration Fund	16	16	16	1.9	0.0
Nuclear Regulatory Commission (276)	88	92	91	4.5	-1.1
Tennessee Valley Authority (271)	10	11	9	10.0	-18.2
Department of Agriculture (271)					
National Institute of Food and Agriculture: Biomass R&D[a]	3	3	3	0.0	0.0
R&D	2,387	2,407	2,970	0.9	23.4
Department of Energy (271)	2,286	2,301	2,867	0.7	24.6
Energy programs	2,018	2,033	2,555	0.7	25.7
Energy efficiency and renewable energy	866	816	1,290	-5.8	58.0
Electricity delivery and energy reliability	92	93	117	1.4	25.4
Fossil energy	426	427	411	0.3	-3.7
Nuclear energy	634	697	738	9.9	5.9
Advanced Research Projects Agency-Energy (ARPA-E)	252	252	296	0.0	17.4
Bonneville Power Administration Fund	16	16	16	1.9	0.0
Nuclear Regulatory Commission (276)	88	92	91	4.5	-1.1
Tennessee Valley Authority (271)	10	11	9	10.0	-18.2
Department of Agriculture (271)					
National Institute of Food and Agriculture: Biomass R&D[a]	3	3	3	0.0	0.0

[a] The Biomass R&D program is a mandatory program authorized in the 2014 farm bill.

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 11. Federal budget authority for Natural resources and environment (300) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	2,328	2,414	2,727	3.7	13.0
Conservation and land management (302)	440	492	472	11.8	-4.1
Department of the Interior[a]	140	191	175	36.4	-8.4
Department of Agriculture	300	301	297	0.3	-1.3
Forest Service	300	301	297	0.3	-1.3
Pollution control and abatement (304)	540	523	530	-3.2	1.3
Environmental Protection Agency	538	521	528	-3.2	1.3
Oil spill response research	1	1	1	-10.0	-11.1
Science and technology	518	501	511	-3.3	2.0
Superfund	19	19	16	-1.6	-14.8
U.S. Coast Guard (DHS)	2	2	2	0.0	0.0
Recreational resources (303)	27	27	28	0.0	3.7
National Park Service (DOI)	27	27	28	0.0	3.7
Water resources (301)	43	24	24	-44.2	0.0
Army Corps of Engineers (DOD)	26	11	11	-57.7	0.0
Bureau of Reclamation (DOI)	17	13	13	-23.5	0.0
Other natural resources (306)	1,278	1,348	1,673	5.4	24.1
National Oceanic and Atmospheric Administration (DOC)	629	682	912	8.5	33.7
National Environmental Satellite, Data, and Information Service	24	26	26	7.8	-0.5
National Marine Fisheries Service	59	71	77	20.9	8.4
National Ocean Service	74	74	78	0.3	5.6
National Weather Service	18	19	26	2.7	37.5
Office of Oceanic and Atmospheric Research	386	411	471	6.6	14.6
Office of Marine and Aviation Operations	68	81	234	18.9	188.0
Geological Survey (DOI)	649	666	761	2.5	14.3
Administration and enterprise information	*	*	*	-9.7	4.0
Climate and land use change	96	100	140	4.2	40.1
Core science systems	84	83	96	-1.1	15.2
Ecosystems	153	157	176	2.8	12.3
Energy, minerals, and environmental health	92	92	103	0.8	12.0
Natural hazards	106	111	117	4.7	5.1
Water resources	118	122	128	2.9	5.4
R&D	2,172	2,209	2,395	1.7	8.5
Conservation and land management (302)	418	444	461	6.2	3.8
Department of the Interior[a]	127	152	173	19.7	13.8
Department of Agriculture	291	292	288	0.3	-1.4
Forest Service	291	292	288	0.3	-1.4
Pollution control and abatement (304)	535	518	525	-3.2	1.3
Environmental Protection Agency	533	516	523	-3.2	1.3
Oil spill response research	1	1	1	-10.0	-11.1
Science and technology	513	496	506	-3.3	2.0
Superfund	19	19	16	-1.6	-15.0
U.S. Coast Guard (DHS)	2	2	2	0.0	0.0
Recreational resources (303)	27	27	28	0.0	3.7
National Park Service (DOI)	27	27	28	0.0	3.7
Water resources (301)	43	24	24	-44.2	0.0
Army Corps of Engineers (DOD)	26	11	11	-57.7	0.0
Bureau of Reclamation (DOI)	17	13	13	-23.5	0.0
Other natural resources (306)	1,149	1,196	1,358	4.1	13.5
National Oceanic and Atmospheric Administration (DOC)	500	530	596	6.0	12.6
National Environmental Satellite, Data, and Information Service	24	26	26	7.8	-0.5
National Marine Fisheries Service	59	71	77	20.9	8.4
National Ocean Service	73	73	77	0.3	5.6

TABLE 11. Federal budget authority for Natural resources and environment (300) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
National Weather Service	18	15	22	-18.9	47.5
Office of Oceanic and Atmospheric Research	326	345	395	5.9	14.3
Office of Marine and Aviation Operations	0	0	0	-	-
Geological Survey (DOI)	649	666	761	2.5	14.3
Administration and enterprise information	*	*	*	-9.7	4.0
Climate and land use change	96	100	140	4.2	40.1
Core science systems	84	83	96	-1.1	15.2
Ecosystems	153	157	176	2.8	12.3
Energy, minerals, and environmental health	92	92	103	0.8	12.0
Natural hazards	106	111	117	4.7	5.1
Water resources	118	122	128	2.9	5.4

* = value less than $0.5 million.

DHS = Department of Homeland Security; DOC = Department of Commerce; DOD = Department of Defense; DOI = Department of the Interior.

[a] Includes Bureau of Land Management, Office of Surface Mining Reclamation and Enforcement, Fish and Wildlife Service, Bureau of Ocean Energy Management, Bureau of Safety and Environmental Enforcement, and Wildland Fire Management.

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 12. Federal budget authority for Agriculture (350) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	2,077	2,142	2,584	3.1	20.6
Agricultural research and services (352)					
Department of Agriculture	2,077	2,142	2,584	3.1	20.6
Agricultural Research Service	1,148	1,203	1,424	4.8	18.4
Animal and Plant Health Inspection Service	44	40	40	-9.1	0.0
Economic Research Service	78	85	86	9.0	1.2
Foreign Agricultural Service	1	1	1	0.0	0.0
National Agricultural Statistics Service	9	9	11	0.0	22.2
National Institute of Food and Agriculture	797	804	1,022	0.9	27.1
R&D	1,967	1,991	2,255	1.2	13.3
Agricultural research and services (352)					
Department of Agriculture	1,967	1,991	2,255	1.2	13.3
Agricultural Research Service	1,038	1,052	1,095	1.3	4.1
Animal and Plant Health Inspection Service	44	40	40	-9.1	0.0
Economic Research Service	78	85	86	9.0	1.2
Foreign Agricultural Service	1	1	1	0.0	0.0
National Agricultural Statistics Service	9	9	11	0.0	22.2
National Institute of Food and Agriculture	797	804	1,022	0.9	27.1

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 13. Federal budget authority for Commerce and housing credit (370) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	957	871	1,247	-9.0	43.1
Other advancement of commerce (376)					
Department of Commerce	929	852	1,228	-8.3	44.1
Bureau of the Census	263	146	300	-44.5	105.5
National Institute of Standards and Technology	655	668	888	2.0	32.9
Construction of research facilities	56	50	59	-10.2	17.3
Industrial technology services	14	7	154	-46.0	2000.1
Scientific and technical research and services	585	610	675	4.3	10.6
National Oceanic and Atmospheric Administration	6	27	24	350.0	-11.1
National Marine Fisheries Service	6	27	24	350.0	-11.1
National Telecommunications and Information Administration	5	11	16	120.0	45.5
U.S. Postal Service	20	19	19	-5.0	0.0
Department of the Treasury	8	0	0	-100.0	-
R&D	877	797	1,163	-9.2	46.1
Other advancement of commerce (376)					
Department of Commerce	849	778	1,144	-8.4	47.2
Bureau of the Census	263	146	300	-44.5	105.5
National Institute of Standards and Technology	575	594	804	3.3	35.5
Construction of research facilities	0	0	0	-	-
Industrial technology services	14	7	154	-46.0	2000.1
Scientific and technical research and services	561	586	651	4.4	11.0
National Oceanic and Atmospheric Administration	6	27	24	350.0	-11.1
National Marine Fisheries Service	6	27	24	350.0	-11.1
National Telecommunications and Information Administration	5	11	16	120.0	45.5
U.S. Postal Service	20	19	19	-5.0	0.0
Department of the Treasury	8	0	0	-100.0	-

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submission to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 14. Federal budget authority for Transportation (400) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	1,278	1,330	1,492	4.1	12.1
Air transportation (402)	738	797	813	8.0	2.0
Federal Aviation Administration (DOT)	276	280	374	1.7	33.4
National Aeronautics and Space Administration					
Aeronautics research	462	516	439	11.8	-15.0
Ground transportation (401) (DOT)	493	485	625	-1.6	29.0
Federal Highway Administration	369	364	453	-1.4	24.6
Federal Motor Carrier Safety Administration	8	6	11	-19.4	74.0
Federal Railroad Administration	39	43	52	9.9	21.7
Federal Transit Administration	12	10	28	-20.5	190.9
National Highway Traffic Safety Administration	65	63	81	-4.0	30.2
Water transportation (403)	19	18	18	-5.6	0.3
U.S. Coast Guard (DHS)	19	18	18	-5.6	0.3
Other transportation (407) (DOT)[a]	29	31	36	7.7	15.7
R&D	1,261	1,305	1,460	3.5	11.8
Air transportation (402)	721	772	781	7.1	1.2
Federal Aviation Administration (DOT)	259	255	342	-1.4	34.0
National Aeronautics and Space Administration					
Aeronautics research	462	516	439	11.8	-15.0
Ground transportation (401) (DOT)	493	485	625	-1.6	29.0
Federal Highway Administration	369	364	453	-1.4	24.6
Federal Motor Carrier Safety Administration	8	6	11	-19.4	74.0
Federal Railroad Administration	39	43	52	9.9	21.7
Federal Transit Administration	12	10	28	-20.5	190.9
National Highway Traffic Safety Administration	65	63	81	-4.0	30.2
Water transportation (403)	19	18	18	-5.6	0.3
U.S. Coast Guard (DHS)	19	18	18	-5.6	0.3
Other transportation (407) (DOT)[a]	29	31	36	7.7	15.7

DHS = Department of Homeland Security; DOT = Department of Transportation.

[a] Includes the Office of the Secretary of DOT and the Pipeline and Hazardous Materials Safety Administration.

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 15. Federal budget authority for Community and regional development (450) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	66	77	90	16.7	16.9
Department of Housing and Urban Development (451)	61	72	85	18.0	18.1
Department of the Interior (452)	5	5	5	0.0	0.0
Bureau of Indian Affairs and Bureau of Indian Education	5	5	5	0.0	0.0
R&D	66	77	90	16.7	16.9
Department of Housing and Urban Development (451)	61	72	85	18.0	18.1
Department of the Interior (452)	5	5	5	0.0	0.0
Bureau of Indian Affairs and Bureau of Indian Education	5	5	5	0.0	0.0

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submission to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 16. Federal budget authority for Education, training, employment, and social services (500) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	542	578	542	6.6	-6.2
Research and general education aids (501, 502, 503)	469	505	540	7.7	6.9
Department of Education programs	242	260	279	7.4	7.3
Smithsonian Institution programs	227	245	261	7.9	6.5
Social services (506)	73	73	2	0.0	-97.3
Administration for children and families (HHS)	0	0	2	-	-
Rehabilitation services (ED)	73	73	0	0.0	-100.0
R&D	515	542	506	5.2	-6.6
Research and general education aids (501, 502, 503)	442	469	504	6.1	7.5
Department of Education programs	242	260	279	7.4	7.3
Smithsonian Institution programs	200	209	225	4.5	7.7
Social services (506)	73	73	2	0.0	-97.3
Administration for children and families (HHS)	0	0	2	-	-
Rehabilitation services (ED)	73	73	0	0.0	-100.0

ED = Department of Education; HHS = Department of Health and Human Services.

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 17. Federal budget authority for Health (550) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	31,099	31,443	32,443	1.1	3.2
Consumer and occupational health and safety (554)	431	416	421	-3.5	1.2
Consumer Product Safety Commission	2	2	7	0.0	250.0
Food and Drug Administration (HHS)	425	410	410	-3.5	0.0
Occupational Safety and Health Administration (DOL)	4	4	4	0.0	0.0
Health care services and health research and training (551, 552)	30,668	31,027	32,022	1.2	3.2
Department of Health and Human Services	30,162	30,449	31,444	1.0	3.3
Agency for Healthcare Research and Quality	388	384	385	-1.0	0.3
Centers for Disease Control and Prevention	400	398	398	-0.5	0.0
Departmental management (other)	100	157	163	57.0	3.8
Health Resources and Services Administration	23	22	22	-4.3	0.0
National Institutes of Health	29,251	29,488	30,476	0.8	3.4
Patient-Centered Outcomes Research Trust Fund[a]	506	578	578	14.2	0.0
R&D	30,927	31,271	32,264	1.1	3.2
Consumer and occupational health and safety (554)	395	381	386	-3.5	1.3
Consumer Product Safety Commission	2	2	7	0.0	250.0
Food and Drug Administration (HHS)	389	375	375	-3.6	0.0
Occupational Safety and Health Administration (DOL)	4	4	4	0.0	0.0
Health care services and health research and training (551, 552)	30,532	30,890	31,878	1.2	3.2
Department of Health and Human Services	30,026	30,312	31,300	1.0	3.3
Agency for Healthcare Research and Quality	388	384	385	-1.0	0.3
Centers for Disease Control and Prevention	400	398	398	-0.5	0.0
Departmental management (other)	100	157	163	57.0	3.8
Health Resources and Services Administration	23	22	22	-4.3	0.0
National Institutes of Health	29,115	29,351	30,332	0.8	3.3
Patient-Centered Outcomes Research Trust Fund[a]	506	578	578	14.2	0.0

DOL = Department of Labor; HHS = Department of Health and Human Services.

[a] Established by the Patient Protection and Affordable Care Act (P.L. 111-148) to prioritize and fund comparative effectiveness research. Funds are partially managed by the private, nonprofit Patient-Centered Outcomes Research Institute.

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 18. National Institutes of Health, federal budget authority for R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Organization and program (by FY 2014 rank order)	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	29,251	29,488	30,476	0.8	3.4
National Cancer Institute	4,863	4,883	5,028	0.4	3.0
National Institute of Allergy and Infectious Diseases	4,343	4,359	4,555	0.4	4.5
National Heart, Lung, and Blood Institute	2,901	2,899	2,972	-0.1	2.5
National Institute of General Medical Sciences	2,166	2,175	2,236	0.4	2.8
National Institute of Diabetes and Digestive and Kidney Diseases	1,825	1,839	1,877	0.8	2.1
National Institute of Neurological Disorders and Stroke	1,557	1,573	1,629	1.1	3.5
Office of the Director	1,268	1,375	1,403	8.5	2.0
National Institute of Mental Health	1,380	1,394	1,450	1.0	4.0
National Institute of Child Health and Human Development	1,251	1,253	1,284	0.2	2.5
National Institute on Aging	1,149	1,174	1,242	2.2	5.8
National Institute on Drug Abuse	994	992	1,023	-0.2	3.2
National Institute of Environmental Health Sciences[a]	723	724	739	0.2	2.0
National Eye Institute	664	665	683	0.1	2.7
National Center for Advancing Translation Sciences	621	620	648	-0.1	4.4
National Institute of Arthritis and Musculoskeletal and Skin Diseases	504	505	517	0.2	2.3
National Human Genome Research Institute	492	492	507	0.1	3.1
National Institute on Alcohol Abuse and Alcoholism	434	434	446	0.0	2.7
National Institute on Deafness and Other Communication Disorders	392	392	403	0.0	2.7
National Institute of Dental and Craniofacial Research	385	385	394	0.0	2.4
National Library of Medicine	328	337	394	2.7	16.8
National Institute of Biomedical Imaging and Bioengineering	298	298	308	0.0	3.2
National Institute on Minority Health and Health Disparities	268	271	282	0.9	3.9
National Institute of Nursing Research	128	130	134	1.8	2.8
National Center for Complementary and Alternative Medicine	121	121	124	-0.2	2.8
John E. Fogarty International Center	68	68	70	0.0	2.8
Buildings and facilities	128	129	129	0.4	0.0
R&D	29,115	29,351	30,332	0.8	3.3
National Cancer Institute	4,855	4,875	5,012	0.4	2.8
National Institute of Allergy and Infectious Diseases	4,343	4,359	4,555	0.4	4.5
National Heart, Lung, and Blood Institute	2,901	2,899	2,972	-0.1	2.5
National Institute of General Medical Sciences	2,166	2,175	2,236	0.4	2.8
National Institute of Diabetes and Digestive and Kidney Diseases	1,825	1,839	1,877	0.8	2.1
National Institute of Neurological Disorders and Stroke	1,557	1,573	1,629	1.1	3.5
Office of the Director	1,268	1,375	1,403	8.5	2.0
National Institute of Mental Health	1,380	1,394	1,450	1.0	4.0
National Institute of Child Health and Human Development	1,251	1,253	1,284	0.2	2.5
National Institute on Aging	1,149	1,174	1,242	2.2	5.8
National Institute on Drug Abuse	994	992	1,023	-0.2	3.2
National Institute of Environmental Health Sciences[a]	723	724	739	0.2	2.0
National Eye Institute	664	665	683	0.1	2.7
National Center for Advancing Translation Sciences	621	620	648	-0.1	4.4
National Institute of Arthritis and Musculoskeletal and Skin Diseases	504	505	517	0.2	2.3
National Human Genome Research Institute	492	492	507	0.1	3.1
National Institute on Alcohol Abuse and Alcoholism	434	434	446	0.0	2.7
National Institute on Deafness and Other Communication Disorders	392	392	403	0.0	2.7
National Institute of Dental and Craniofacial Research	385	385	394	0.0	2.4
National Library of Medicine	328	337	394	2.7	16.8
National Institute of Biomedical Imaging and Bioengineering	298	298	308	0.0	3.2
National Institute on Minority Health and Health Disparities	268	271	282	0.9	3.9

TABLE 18. National Institutes of Health, federal budget authority for R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Organization and program (by FY 2014 rank order)	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
National Institute of Nursing Research	128	130	134	1.8	2.8
National Center for Complementary and Alternative Medicine	121	121	124	-0.2	2.8
John E. Fogarty International Center	68	68	70	0.0	2.8

[a] Includes funding from Superfund-related transfers and appropriations.

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data. Institute totals exclude non-R&D components of institute budgets.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 19. Federal budget authority for Medicare (570) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	25	18	0	-28.0	-100.0
Department of Health and Human Services (571)					
Centers for Medicare and Medicaid Services	25	18	0	-28.0	-100.0
R&D	25	18	0	-28.0	-100.0
Department of Health and Human Services (571)					
Centers for Medicare and Medicaid Services	25	18	0	-28.0	-100.0

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 20. Federal budget authority for Income security (600) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	58	94	116	62.1	23.4
Department of Health and Human Services (609)					
Administration for Children and Families	11	11	15	0.0	36.4
Social Security Administration (609)	47	83	101	76.6	21.7
R&D	58	94	116	62.1	23.4
Department of Health and Human Services (609)					
Administration for Children and Families	11	11	15	0.0	36.4
Social Security Administration (609)	47	83	101	76.6	21.7

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 21. Federal budget authority for Veterans benefits and services (700) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	1,101	1,090	1,147	-1.0	5.2
Department of Veterans Affairs					
Medical and prosthetic research (703)	586	589	622	0.5	5.6
Medical services (703)	515	501	525	-2.7	4.8
R&D	1,101	1,059	1,114	-3.8	5.2
Department of Veterans Affairs					
Medical and prosthetic research (703)	586	589	622	0.5	5.6
Medical services (703)	515	470	492	-8.7	4.7

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data. Data include administration and operating expenses related to Department of Veterans Affairs research.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 22. Federal budget authority for Administration of justice (750) R&D and R&D plant: FYs 2014–16
(Millions of dollars)

Budget function and agency	2014 actual	2015 preliminary	2016 proposed	2014–15 (% change)	2015–16 (% change)
R&D and R&D plant	1,067	941	605	-11.8	-35.7
Department of Homeland Security (751)	1,011	885	549	-12.5	-38.0
Department of Justice	56	56	56	0.0	0.0
Federal Prison System (753)	11	11	11	0.0	0.0
Office of Justice Programs (754)	45	45	45	0.0	0.0
R&D	634	627	597	-1.1	-4.8
Department of Homeland Security (751)	578	571	541	-1.2	-5.3
Department of Justice	56	56	56	0.0	0.0
Federal Prison System (753)	11	11	11	0.0	0.0
Office of Justice Programs (754)	45	45	45	0.0	0.0

NOTES: Detail may not add to total because of rounding. Percentage change is calculated based on unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 23. Federal funding for R&D, R&D plant, and basic research, by budget function: FYs 1955–2016
(Millions of dollars)

Fiscal year	Total for all budget functions	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)	General government (800)	Other[a]
R&D and R&D plant[b]																			
2000	83,581	43,161	200	5,593	8,437	1,000	2,082	1,561	530	1,664	46	429	18,121	na	25	645	73	14	na
2001	91,505	46,202	252	6,353	8,951	1,320	2,138	1,826	468	1,654	54	424	21,023	na	30	719	88	3	na
2002	103,057	53,731	279	6,605	9,227	1,332	2,175	1,909	549	1,889	50	426	23,998	na	37	756	91	3	na
2003	118,065	63,708	269	6,999	9,677	1,412	2,198	2,042	534	1,888	48	444	27,677	na	38	817	316	0	na
2004	126,270	70,344	264	7,352	9,746	1,369	2,244	1,910	499	1,881	47	469	28,480	na	47	866	752	0	na
2005	131,259	74,641	255	7,477	9,656	1,324	2,245	2,094	475	1,866	45	495	29,129	na	35	742	779	0	na
2006	136,019	78,737	255	7,539	10,401	1,244	2,219	2,118	461	1,730	55	523	28,932	na	27	769	1,008	0	na
2007	141,890	82,658	246	8,712	10,988	1,922	2,096	1,950	516	1,380	49	577	29,581	na	27	820	369	0	na
2008	144,391	85,129	255	9,007	10,672	2,076	2,202	1,997	560	1,413	50	549	29,212	na	27	886	355	0	na
2009[c]	164,292	85,642	255	14,128	9,060	3,794	2,615	2,249	1,051	1,461	62	553	42,051	30	63	943	335	0	na
Non-ARRA	145,553	85,342	255	9,941	8,374	2,234	2,371	2,073	641	1,357	62	543	30,989	30	63	943	335	0	na
ARRA	18,739	300	0	4,187	686	1,560	244	176	410	104	0	10	11,062	0	0	0	0	0	na
2010	148,962	86,789	194	10,509	8,232	2,570	2,430	2,206	668	1,517	109	581	31,693	36	77	1,034	318	0	na
2011	144,379	83,226	196	10,581	8,658	2,265	2,314	1,768	650	1,420	83	636	30,990	180	68	1,160	184	0	na
2012	143,737	79,875	269	10,536	10,801	2,231	2,300	2,005	698	1,511	58	640	31,411	80	18	1,160	143	1	na
2013	132,477	70,781	350	9,620	10,476	2,289	2,169	1,818	795	1,359	54	572	30,200	72	26	1,164	730	0	na
2014	136,159	70,992	410	10,524	11,228	2,407	2,328	2,077	957	1,278	66	542	31,099	25	58	1,101	1,067	0	na
2015 preliminary	137,172	71,030	410	10,679	11,629	2,427	2,414	2,142	871	1,330	77	578	31,443	18	94	1,090	941	0	na
2016 proposed	146,478	76,798	496	11,208	11,991	2,992	2,727	2,584	1,247	1,492	90	542	32,443	0	116	1,147	605	0	na
R&D[d]																			
1955	2,533	2,151	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67	na	NA	NA	NA	NA	315
1956	2,988	2,535	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	83	na	NA	NA	NA	NA	370
1957	3,932	3,327	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	140	na	NA	NA	NA	NA	465
1958	4,570	3,801	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	177	na	NA	NA	NA	NA	592
1959	6,694	5,556	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	233	na	NA	NA	NA	NA	904
1960	7,552	6,107	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	305	na	NA	NA	NA	NA	1,140
1961	9,059	7,005	NA	137	777	373	73	125	NA	55	NA	NA	405	na	NA	NA	NA	NA	108
1962	10,290	7,238	NA	187	1,413	448	108	136	NA	101	NA	NA	551	na	NA	NA	NA	NA	107
1963	12,495	7,764	NA	246	2,812	515	120	146	NA	142	NA	NA	626	na	NA	NA	NA	NA	125
1964	14,225	7,829	NA	277	4,241	571	134	165	NA	122	NA	NA	728	na	NA	NA	NA	NA	160
1965	14,614	7,342	NA	304	4,887	585	159	195	NA	147	NA	NA	792	na	NA	NA	NA	NA	203

TABLE 23. Federal funding for R&D, R&D plant, and basic research, by budget function: FYs 1955–2016
(Millions of dollars)

Fiscal year	Total for all budget functions	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)	General government (800)	Other[a]
1966	15,320	7,536	NA	377	4,976	575	189	201	NA	251	NA	NA	900	na	NA	NA	NA	NA	315
1967	16,529	8,566	18	409	4,778	600	320	218	43	380	37	154	915	na	48	41	*	3	na
1968	15,921	8,275	17	437	4,304	657	331	217	48	304	44	166	1,021	na	50	45	1	5	na
1969	15,641	8,356	26	433	3,799	597	323	221	54	404	32	169	1,088	na	78	50	5	5	na
1970	15,339	7,981	32	452	3,606	574	340	238	79	535	47	164	1,084	na	136	59	9	6	na
1971	15,543	8,110	32	513	3,048	556	416	259	90	728	65	215	1,288	na	145	63	10	7	na
1972	16,496	8,902	29	625	2,932	574	479	294	50	558	66	235	1,547	na	106	69	23	8	na
1973	16,800	9,002	28	658	2,824	630	554	308	50	572	78	290	1,585	na	106	74	33	7	na
1974	17,410	9,016	24	749	2,702	759	516	313	51	693	82	236	2,069	na	71	85	35	9	na
1975	19,039	9,679	29	813	2,764	1,363	624	342	65	635	93	239	2,170	na	72	95	44	12	na
1976	20,780	10,430	42	858	3,130	1,649	683	383	69	631	109	255	2,351	na	48	98	35	12	na
1977	23,450	11,864	66	974	2,832	2,562	753	457	71	708	101	230	2,629	na	55	107	30	13	na
1978	25,976	12,899	57	1,050	2,939	3,134	904	501	77	768	92	345	2,968	na	67	111	44	20	na
1979	28,208	13,791	117	1,119	3,136	3,461	1,010	552	93	798	127	354	3,401	na	57	123	47	23	na
1980	29,739	14,946	125	1,233	2,738	3,603	999	585	101	887	119	468	3,694	na	47	126	45	22	na
1981	33,735	18,413	160	1,340	3,111	3,501	1,061	659	106	869	104	298	3,871	na	43	143	34	22	na
1982	36,115	22,070	165	1,359	2,584	3,012	965	693	104	791	63	228	3,869	na	32	139	31	10	na
1983	38,768	24,936	177	1,502	2,134	2,578	952	745	107	876	44	189	4,298	na	32	157	37	6	na
1984	44,214	29,287	192	1,676	2,300	2,581	963	762	110	1,040	46	200	4,779	na	26	218	24	8	na
1985	49,887	33,698	210	1,862	2,725	2,389	1,059	836	114	1,030	50	220	5,418	na	21	193	47	17	na
1986	53,249	36,926	211	1,873	2,894	2,286	1,062	815	111	917	88	248	5,565	na	14	183	41	14	na
1987	57,069	39,152	223	2,042	3,398	2,053	1,133	822	110	908	99	267	6,556	na	25	215	49	17	na
1988	59,106	40,099	224	2,160	3,683	2,126	1,160	882	122	896	108	285	7,076	na	23	195	51	17	na
1989	62,115	40,642	279	2,373	4,555	2,419	1,255	907	128	1,064	74	347	7,773	na	27	212	45	15	na
1990	63,781	39,925	375	2,410	5,765	2,726	1,386	950	140	1,045	67	374	8,308	na	33	216	44	17	na
1991	65,898	39,328	378	2,635	6,511	2,953	1,582	1,052	178	1,231	88	433	9,226	na	30	219	51	4	na
1992	68,398	40,083	371	2,659	6,744	3,099	1,688	1,155	192	1,523	127	365	10,055	na	37	245	51	4	na
1993	69,884	41,249	382	2,691	6,988	2,677	1,802	1,152	220	1,703	57	348	10,280	na	36	250	49	*	na
1994	68,331	37,764	254	2,712	7,414	2,873	2,062	1,193	380	1,888	68	373	10,993	na	45	265	46	0	na
1995	68,791	37,204	287	2,794	7,916	2,844	1,988	1,194	525	1,833	70	369	11,407	na	43	257	59	1	na
1996	69,049	37,801	252	2,846	7,844	2,521	1,802	1,176	432	1,795	50	331	11,867	na	16	259	56	2	na
1997	71,653	39,591	190	2,944	7,844	2,372	1,886	1,203	409	1,785	48	373	12,670	na	9	267	59	2	na

TABLE 23. Federal funding for R&D, R&D plant, and basic research, by budget function: FYs 1955–2016
(Millions of dollars)

Fiscal year	Total for all budget functions	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)	General government (800)	Other[a]
1998	73,569	39,823	163	4,360	8,198	948	1,855	1,249	398	1,833	42	444	13,576	na	18	587	72	2	na
1999	77,637	41,306	190	4,690	8,245	1,131	1,842	1,288	432	1,725	59	403	15,553	na	38	644	88	3	na
2000	78,664	42,580	200	4,977	5,363	996	1,999	1,426	406	1,636	46	418	17,869	na	25	645	73	6	na
2001	86,756	45,713	252	5,468	6,126	1,314	2,096	1,657	429	1,640	54	411	20,758	na	30	719	88	3	na
2002	97,624	53,016	279	5,753	6,270	1,327	2,160	1,606	467	1,838	50	411	23,560	na	37	756	91	3	na
2003	112,544	63,048	269	6,129	7,355	1,403	2,151	1,708	463	1,869	48	430	26,517	na	38	817	299	0	na
2004	121,867	69,593	264	6,466	7,612	1,343	2,168	1,750	454	1,863	47	459	28,251	na	47	866	684	0	na
2005	126,601	74,047	255	6,570	7,300	1,296	2,168	1,820	423	1,847	45	470	28,824	na	35	742	758	0	na
2006	131,624	78,037	255	6,691	8,204	1,195	2,120	1,869	390	1,711	55	495	28,797	na	27	769	1,008	0	na
2007	138,087	82,272	246	7,809	9,024	1,893	1,936	1,857	428	1,361	49	536	29,461	na	27	819	369	0	na
2008	140,113	84,713	255	8,234	8,323	1,896	2,106	1,864	450	1,394	50	497	29,063	na	27	886	355	0	na
2009[c]	156,009	85,166	255	11,840	6,891	3,318	2,245	1,935	618	1,440	62	479	40,389	30	63	943	335	0	na
Non-ARRA	140,903	84,866	255	8,885	6,205	2,014	2,171	1,935	507	1,336	62	469	30,827	30	63	943	335	0	na
ARRA	15,106	300	0	2,955	686	1,304	74	0	111	104	0	10	9,562	0	0	0	0	0	na
2010	146,596	86,517	194	9,280	8,232	2,455	2,237	2,043	550	1,496	109	535	31,488	36	77	1,034	313	0	na
2011	142,457	82,972	196	9,483	8,398	2,233	2,171	1,916	548	1,420	83	578	30,903	180	68	1,160	172	0	na
2012	141,450	79,559	269	9,304	10,661	2,197	2,147	1,920	607	1,486	58	597	31,243	80	18	1,160	143	1	na
2013	130,861	70,620	350	8,802	10,476	2,269	2,020	1,753	719	1,337	54	536	30,044	72	26	1,164	618	0	na
2014	133,547	70,611	410	9,482	11,055	2,387	2,172	1,967	877	1,261	66	515	30,927	25	58	1,101	634	0	na
2015 preliminary	134,749	70,770	410	9,607	11,565	2,407	2,209	1,991	797	1,305	77	542	31,271	18	94	1,059	627	0	na
2016 proposed	143,687	76,376	496	10,030	11,854	2,970	2,395	2,255	1,163	1,460	90	506	32,264	0	116	1,114	597	0	na
Basic research[e]																			
1978	3,665	320	*	962	412	157	207	197	9	70	8	57	1,246	0	2	9	10	0	na
1979	4,108	365	0	1,026	440	172	131	222	10	75	8	59	1,579	0	1	10	10	*	na
1980	4,716	552	0	1,152	482	200	136	246	15	79	8	61	1,761	0	1	14	9	*	na
1981	5,107	610	12	1,256	445	220	131	281	17	89	5	66	1,951	0	3	15	5	3	na
1982	5,305	696	10	1,296	434	260	139	295	17	102	7	78	1,953	0	0	13	4	2	na
1983	6,247	788	10	1,439	501	320	156	326	19	117	6	70	2,475	0	0	14	4	3	na
1984	7,072	845	3	1,606	646	365	192	353	20	125	5	77	2,813	0	0	15	5	3	na
1985	7,810	856	4	1,779	498	428	206	406	23	255	6	86	3,243	0	0	15	4	4	na
1986	8,193	960	5	1,795	737	456	204	390	26	184	6	83	3,324	0	0	15	5	5	na
1987	9,021	900	3	1,942	843	511	206	397	26	231	4	78	3,851	0	0	17	8	4	na

TABLE 23. Federal funding for R&D, R&D plant, and basic research, by budget function: FYs 1955–2016
(Millions of dollars)

Fiscal year	Total for all budget functions	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)	General government (800)	Other[a]
1988	9,553	905	3	2,061	944	571	210	428	28	197	7	83	4,087	0	0	17	8	5	na
1989	10,648	965	3	2,265	1,099	703	331	433	29	287	3	92	4,413	0	0	16	7	3	na
1990	11,288	964	4	2,306	1,389	761	336	456	31	242	3	106	4,661	0	0	16	9	3	na
1991	12,405	1,188	6	2,526	1,479	878	389	486	39	246	10	115	5,021	0	0	16	6	0	na
1992	12,973	1,147	6	2,532	1,499	921	383	528	35	266	11	118	5,506	0	0	16	5	0	na
1993	13,440	1,323	8	2,553	1,588	917	376	553	34	238	10	121	5,700	0	0	16	5	0	na
1994	13,552	1,174	6	2,542	1,796	921	224	567	38	220	9	145	5,889	0	0	16	5	0	na
1995	13,772	1,181	0	2,622	1,614	930	187	565	35	389	3	153	6,068	0	0	16	9	0	na
1996	14,442	1,165	2	2,662	1,685	1,182	147	547	37	456	0	140	6,395	0	0	13	12	0	na
1997	14,961	1,090	2	2,753	1,653	1,288	153	548	34	420	0	142	6,852	0	0	14	13	0	na
1998	15,523	1,067	1	4,121	1,610	34	145	571	35	411	0	133	7,356	0	0	23	16	0	na
1999	17,433	1,110	0	4,464	1,667	36	142	602	41	358	0	99	8,634	0	0	263	18	0	na
2000	19,470	1,184	42	4,722	1,616	36	146	651	39	542	0	107	10,099	0	0	266	20	0	na
2001	21,376	1,303	50	5,187	1,695	40	215	749	50	17	0	112	11,642	0	0	289	27	0	na
2002	23,848	1,404	53	5,561	1,912	45	471	762	56	17	0	115	12,957	0	0	465	30	0	na
2003	25,323	1,409	18	5,907	2,206	40	185	824	53	23	1	125	14,162	0	0	327	42	0	na
2004	26,529	1,380	18	6,198	2,473	32	201	780	46	20	0	125	14,850	0	0	347	58	0	na
2005	27,678	1,508	18	6,238	2,486	31	195	789	53	65	0	130	15,826	0	0	297	42	0	na
2006	27,336	1,490	18	6,406	2,299	8	195	805	66	0	0	131	15,532	0	0	318	68	0	na
2007	28,166	1,533	18	6,887	2,318	7	260	821	92	2	0	149	15,637	0	0	335	106	0	na
2008	28,740	1,631	18	7,260	2,183	16	210	790	98	0	0	146	15,909	0	0	354	125	0	na
2009[c]	36,400	1,772	18	10,727	932	28	219	799	152	0	0	155	21,108	0	0	375	115	0	na
Non-ARRA	28,161	1,769	18	7,913	900	28	219	799	112	0	0	145	15,767	0	0	375	115	0	na
ARRA	8,240	3	0	2,814	32	0	0	0	40	0	0	10	5,341	0	0	0	0	0	na
2010	29,614	1,849	0	8,578	1,109	57	223	881	131	0	0	174	16,125	0	0	413	74	0	na
2011	29,888	1,940	0	8,738	1,199	47	218	823	154	0	0	207	16,002	0	0	438	122	0	na
2012	31,846	2,066	0	8,491	3,181	57	135	847	163	0	0	206	16,196	0	0	470	33	0	na
2013	30,202	1,950	0	8,147	2,950	17	120	762	192	0	0	208	15,317	0	0	476	63	0	na

TABLE 23. Federal funding for R&D, R&D plant, and basic research, by budget function: FYs 1955–2016
(Millions of dollars)

Fiscal year	Total for all budget functions	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)	General government (800)	Other[a]
2014	32,086	2,167	0	8,739	3,320	16	252	790	213	0	0	227	15,853	0	0	451	58	0	na
2015 preliminary	32,292	2,334	0	8,880	3,187	18	254	801	210	0	0	215	15,909	0	0	429	54	0	na
2016 proposed	33,205	2,145	0	9,228	3,311	17	259	914	239	0	0	232	16,353	0	0	450	58	0	na

* = amount less than $500,000. na = not applicable. NA = not available; data were not collected for all budget functions in all years.

ARRA = American Recovery and Reinvestment Act of 2009.

[a] Other includes amounts not explicitly tallied in one of the separately identified categories.

[b] Data on budget authority for R&D plant were not tabulated before FY 2000.

[c] Total for FY 2009 is the sum of non-ARRA and ARRA funds.

[d] Data for 1955–77 are obligations; data for 1978–2016 are budget authority.

[e] Not all basic research funded by the federal government falls into the General science and basic research (251) category. Federal funding for basic research arises in other functional categories—such as National defense or Health—and is included in the category funding totals there.

NOTES: Detail may not add to total because of rounding. In FY 2007, the Department of Homeland Security (DHS) changed its R&D portfolio to reclassify funding in National defense and most Administration of justice as General science and basic research; in FY 2013, this was reclassified back as Administration of justice. In FY 2004, DHS changed its R&D portfolio to reclassify funding in General science and basic research and in Agriculture as Administration of justice. In FY 2000, the National Aeronautics and Space Administration (NASA) transferred funding for the International Space Station program from R&D to R&D plant; the change is reflected in the budget authority for Space flight, research, and supporting activities. In both FY 2009 and FY 2012, NASA revised the classification of its R&D and non-R&D funding. In FY 2000, the National Institutes of Health in the Department of Health and Human Services classified all of its previous development activities as basic research or applied research, with resulting increase in Health basic research. In FY 1998, many Department of Energy programs were reclassified from Energy to General science and basic research. In FY 1998, the Department of Veterans Affairs began reporting medical care support funds as a part of its total research budgetary resources; change is reflected in budget authority for Veteran benefits and services.

SOURCES: Data from FYs 1955–94 are from agencies' submissions to the Office of Management and Budget (OMB), circular no. A-11, exhibit 44A, "Research and development activities," and from supplemental data obtained from agencies' budget offices. Data from FYs 1995–2016 are from agencies' submissions to OMB per MAX Schedule C, budget justification documents, and supplemental data obtained from agencies' budget offices.

TABLE 24. Federal funding for R&D for national defense and civilian functions: FYs 1955–2016

Fiscal year	Current $millions			% distribution		
	Total	National defense	Civilian functions	Total	National defense	Civilian functions
R&D obligations						
1955	2,533	2,151	382	100.0	84.9	15.1
1956	2,988	2,535	453	100.0	84.8	15.2
1957	3,932	3,327	605	100.0	84.6	15.4
1958	4,570	3,801	769	100.0	83.2	16.8
1959	6,694	5,556	1,138	100.0	83.0	17.0
1960	7,552	6,107	1,445	100.0	80.9	19.1
1961	9,059	7,005	2,054	100.0	77.3	22.7
1962	10,290	7,238	3,052	100.0	70.3	29.7
1963	12,495	7,764	4,731	100.0	62.1	37.9
1964	14,225	7,829	6,396	100.0	55.0	45.0
1965	14,614	7,342	7,272	100.0	50.2	49.8
1966	15,320	7,536	7,784	100.0	49.2	50.8
1967	16,529	8,566	7,963	100.0	51.8	48.2
1968	15,921	8,275	7,646	100.0	52.0	48.0
1969	15,641	8,356	7,285	100.0	53.4	46.6
1970	15,339	7,981	7,358	100.0	52.0	48.0
1971	15,543	8,110	7,433	100.0	52.2	47.8
1972	16,496	8,902	7,594	100.0	54.0	46.0
1973	16,800	9,002	7,798	100.0	53.6	46.4
1974	17,410	9,016	8,394	100.0	51.8	48.2
1975	19,039	9,679	9,360	100.0	50.8	49.2
1976	20,780	10,430	10,350	100.0	50.2	49.8
1977	23,450	11,864	11,586	100.0	50.6	49.4
R&D authority						
1978	25,976	12,899	13,077	100.0	49.7	50.3
1979	28,208	13,791	14,417	100.0	48.9	51.1
1980	29,739	14,946	14,793	100.0	50.3	49.7
1981	33,735	18,413	15,322	100.0	54.6	45.4
1982	36,115	22,070	14,045	100.0	61.1	38.9
1983	38,768	24,936	13,832	100.0	64.3	35.7
1984	44,214	29,287	14,927	100.0	66.2	33.8
1985	49,887	33,698	16,189	100.0	67.5	32.5
1986	53,249	36,926	16,323	100.0	69.3	30.7
1987	57,069	39,152	17,917	100.0	68.6	31.4
1988	59,106	40,099	19,007	100.0	67.8	32.2
1989	62,115	40,642	21,473	100.0	65.5	34.5
1990	63,781	39,925	23,856	100.0	62.6	37.4
1991	65,898	39,328	26,570	100.0	59.7	40.3
1992	68,398	40,083	28,315	100.0	58.6	41.4
1993	69,884	41,249	28,635	100.0	59.0	41.0
1994	68,331	37,764	30,566	100.0	55.3	44.7
1995	68,791	37,204	31,587	100.0	54.1	45.9
1996	69,049	37,801	31,248	100.0	54.7	45.3
1997	71,653	39,591	32,062	100.0	55.3	44.7
1998	73,569	39,823	33,746	100.0	54.1	45.9
1999	77,637	41,306	36,332	100.0	53.2	46.8
2000	78,664	42,580	36,084	100.0	54.1	45.9
2001	86,756	45,713	41,043	100.0	52.7	47.3
2002	97,624	53,016	44,608	100.0	54.3	45.7
2003	112,544	63,048	49,495	100.0	56.0	44.0
2004	121,867	69,593	52,274	100.0	57.1	42.9
2005	126,601	74,047	52,554	100.0	58.5	41.5
2006	131,624	78,037	53,586	100.0	59.3	40.7
2007	138,087	82,272	55,815	100.0	59.6	40.4

TABLE 24. Federal funding for R&D for national defense and civilian functions: FYs 1955–2016

Fiscal year	Current $millions			% distribution		
	Total	National defense	Civilian functions	Total	National defense	Civilian functions
2008	140,113	84,713	55,400	100.0	60.5	39.5
2009[a]	156,009	85,166	70,843	100.0	54.6	45.4
Non-ARRA	140,903	84,866	56,037	100.0	60.2	39.8
ARRA	15,106	300	14,806	100.0	2.0	98.0
2010	146,596	86,517	60,079	100.0	59.0	41.0
2011	144,379	83,226	61,154	100.0	57.6	42.4
2012	141,450	79,559	61,891	100.0	56.2	43.8
2013	130,861	70,620	60,241	100.0	54.0	46.0
2014	133,547	70,611	62,937	100.0	52.9	47.1
2015 preliminary	134,749	70,770	63,979	100.0	52.5	47.5
2016 proposed	143,686	76,376	67,310	100.0	53.2	46.8

ARRA = American Recovery and Reinvestment Act of 2009.

[a] Total for FY 2009 is the sum of non-ARRA and ARRA funds..

NOTES: The National defense function includes Department of Defense military activities and Department of Energy atomic energy defense programs; some years also include defense-related R&D in the Department of Homeland Security and the Department of Justice. Civilian functions include all other federally funded R&D activities.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

Appendix. Technical Notes

Overview

All activities covered by the federal budget, including R&D, are classified into 20 broad functional categories (see "Budget Functions and Classifying R&D"). Currently, R&D activities are present in 15 of the 20 categories.

The data tables in this report provide R&D budget authority detail by agency and major programs for each of the categories in which R&D is present. Several concluding tables also include budget authority figures for R&D in FY 2012 and earlier years.

The figures for FY 2014 are the actual budget authority received by federal agencies for R&D that year. Those for FY 2015 are preliminary, reflecting agency reporting and final appropriations outcomes. The FY 2016 figures are the administration's proposed funding levels, based chiefly on the President's *Budget of the United States Government, Fiscal Year 2016*, but they also reflect agency documents and other Office of Management and Budget (OMB) data available through July 2015. The proposed figures for FY 2016 are the basis for subsequent legislative activity in the Congress to enact the federal government's annual budget.

Data reported here as "preliminary" or "proposed" will be revised in subsequent editions of this report to reflect the later congressional appropriation actions and agency program-funding decisions.

Definitions

Research, Development, and R&D Plant

In this report, R&D refers to basic research, applied research, and development activities in science and engineering.

Research is systematic study directed toward fuller scientific knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objective of the sponsoring agency:

> *Basic research* is systematic study directed toward fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications toward processes or products in mind.
>
> *Applied research* is systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.

Development is systematic application of knowledge or understanding directed toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements. It excludes quality control, routine product testing, and production.

Funds for conducting R&D include those for personnel, program supervision, and administrative support directly associated with R&D activities. Expendable or movable equipment needed to conduct R&D—for example, microscopes or spectrometers—is also included.

R&D plant includes such R&D facilities as reactors, wind tunnels, or particle accelerators or the construction, repair, or alteration of such facilities.

The data exclude all non-R&D activities performed within budget functions that conduct R&D and all functions in which no R&D is conducted.

Budget Authority, Obligations, and Outlays

The federal R&D funding data presented here (with only a few noted exceptions) are provided in terms of budget authority. Budget authority is used because it is the initial budget stage for congressional action on the President's proposed budget. Budget authority imposes a ceiling on obligations and outlays; obligations and outlays flow from budget authority.

Budget authority is the primary source of legal authorization to enter into obligations that will result in outlays. Budget authority is most commonly granted in the form of appropriations by the congressional committees assigned to determine the budget for each function.

Obligations represent the amounts for orders placed, contracts awarded, services received, and similar transactions during a given period, regardless of when the funds were appropriated and when the future payment of money is required.

Outlays represent the amounts for checks issued and cash payments made during a given period, regardless of when the funds were appropriated or obligated.

Budget Functions and Classifying R&D

The federal budget total is the sum of funding across the 20 broad functional categories. These categories are National defense (function 050); International affairs (150); General science, space, and technology (250); Energy (270); Natural resources and environment (300); Agriculture (350); Commerce and housing credit (370); Transportation (400); Community and regional development (450); Education, training, employment, benefits and services (700); Administration of justice (750); General government (800); Net interest (900); Allowances (920 and social services (500); Health (550); Medicare (570); Income security (600); Social security (650); Veterans); and Undistributed offsetting receipts (950).

R&D has never been reported in 4 of these 20 functions: Social security (650), Net interest (900), Allowances (920), and Undistributed offsetting receipts (950). As such, data on these categories are not present in this report, except indirectly, where R&D is described as a proportion of total federal budget authority.

Small amounts of R&D had been reported in the General government (800) category up through FY 2002 but turned to zero thereafter. A small amount of R&D was again reported in FY 2012 but returned to zero throughout the FY 2013–16 period covered in this report.

To better highlight R&D areas of high interest, the data tables in this report split the General science, space, and technology (250) category into its two subfunctions: General science and basic research (251) and Space flight, research, and supporting activities (252).

Overall, this report's data tables separately cover 16 functional categories: 14 at the broad functional category level and 2 at the subcategory level.

Each specific R&D activity is assigned to only one functional category—consistent with the official codes used in budget documents, even though the R&D activity may address the objectives of several functions. For example, all R&D activities sponsored by the Department of Defense (except for those of the U.S. Army Corps of Engineers) are classified as National defense (050), even though some of these have secondary objectives, such as Space flight, research, and supporting activities (252) or Health (550).

Nonetheless, an agency's overall R&D effort can involve multiple activities spread across several functional categories, which means that a functional category can show the presence of several agencies. For example, the federal funding for the past national project to map the human genome, which involved the activities of several agencies and a number of R&D programs, appeared in the categories of Health (550) and General science and basic research (251).

Finally, not all federally sponsored basic research is categorized in the General science and basic research (251) subfunction. Some basic research is included in many of the other functional categories. Also, not all of the R&D included in the 251 subfunction is basic research—some is applied research.

Table A-1 maps the mix of agency funding of R&D activities in FYs 2014–16 across the budget function categories.

Data Sources

The federal budget does not include a separately identified R&D account. Furthermore, most appropriations for R&D are not directly labeled as such (except in certain program areas, such as defense, energy, health, and environment). As such, most funds for R&D are not line items in agency budget submissions but are included instead as part of general program funding.

To provide information on federal R&D funding, OMB requires all agencies with R&D funding levels greater than $10 million annually to submit data on their R&D programs as part of their annual budget submissions. Such agencies are requested to provide data on their funding levels for basic research, applied research, development, R&D facilities, and capital equipment for R&D, in accordance with OMB's Circular No. A-11, MAX Schedule C, "Research and Development Activities" (https://www.whitehouse.gov/sites/default/files/omb/assets/a11_current_year/s84.pdf)

The data in this report were collected between March and July 2015 and represent the agencies' best estimates of actual and proposed federal funding for R&D over the FY 2014–16 period. The data are based primarily on information provided to OMB by 26 agencies and account for an estimated 99% of all federally sponsored R&D activities. The data reflect R&D funding information that became available from individual agencies after the administration's budget was prepared and released after the February 2015 publication of the *Budget of the United States Government, Fiscal Year 2016*. This later information consists of budget justification documents that agencies submit to the Congress and supplemental, program-specific information obtained from agency budget and program staff, collected through July 2015. Accordingly, the budget numbers reported for individual activities, programs, or agencies may differ somewhat from those published in the President's budget or in agency budget documents.

Table	Technical Table
A-1	Agency and budget function crosswalk, federal R&D funding, by budget function: FYs 2014–16

TABLE A-1. Agency and budget function crosswalk, federal R&D funding, by budget function: FYs 2014–16

Agency	Budget function															
	National defense (050)	International affairs (150)	General science and basic research (251)	Space flight, research, and supporting activities (252)	Energy (270)	Natural resources and environment (300)	Agriculture (350)	Commerce and housing credit (370)	Transportation (400)	Community and regional development (450)	Education, training, employment, and social services (500)	Health (550)	Medicare (570)	Income security (600)	Veterans benefits and services (700)	Administration of justice (750)
Agency for International Development		●														
Army Corps of Engineers (civil)						●										
Consumer Product Safety Commission												●				
Department of Agriculture					●	●	●									
Department of Commerce						●		●								
Department of Defense (military)	●															
Department of Education											●					
Department of Energy	●		●		●											
Department of Health and Human Services											●	●	●	●		
Department of Homeland Security						●			●							●
Department of Housing and Urban Development										●						
Department of the Interior						●				●						
Department of Justice	●															●
Department of Labor												●				
Department of State		●														
Department of the Treasury								●								
Department of Transportation									●							
Department of Veterans Affairs															●	
Environmental Protection Agency						●										
International Security Assistance		●														
National Aeronautics and Space Administration				●					●							
National Science Foundation			●													
Nuclear Regulatory Commission					●											
Patient-Centered Outcomes Research Trust Fund												●				
Smithsonian Institution											●					
Social Security Administration														●		
Tennessee Valley Authority					●											
U.S. Postal Service								●								

● = R&D function funded by specified agency.

SOURCES: Agencies' submissions to the Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, and supplemental data obtained from agencies' budget offices.

Suggested Citation, Acknowledgments

National Science Foundation, National Center for Science and Engineering Statistics. 2015. *Federal R&D Funding, by Budget Function: Fiscal Years 2014–16*. Detailed Statistical Tables NSF 16-303. Arlington, VA. Available at http://www.nsf.gov/statistics/2016/nsf16303/.

The statistical tables in this report were compiled for the National Center for Science and Engineering Statistics (NCSES) by the American Association for the Advancement of Science (AAAS), R&D Budget and Policy Program (Matthew Hourihan, Director). NCSES and AAAS thank the program and budget offices at the agencies that provided information for this report.

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