

NATIONAL SCIENCE FOUNDATION

Federal Funds

RESEARCH AND RELATED ACTIVITIES

For necessary expenses in carrying out the National Science Foundation Act of 1950 (42 U.S.C. 1861 et seq.), and Public Law 86–209 (42 U.S.C. 1880 et seq.); services as authorized by section 3109 of title 5, United States Code; maintenance and operation of aircraft and purchase of flight services for research support; acquisition of aircraft; and authorized travel; \$5,662,960,000, to remain available until September 30, 2021, of which not to exceed \$500,000,000 shall remain available until expended for polar research and operations support, and for reimbursement to other Federal agencies for operational and science support and logistical and other related activities for the United States Antarctic program: Provided, That receipts for scientific support services and materials furnished by the National Research Centers and other National Science Foundation supported research facilities may be credited to this appropriation.

Note.—A full-year 2019 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Continuing Appropriations Act, 2019 (Division C of P.L. 115–245, as amended). The amounts included for 2019 reflect the annualized level provided by the continuing resolution.

Program and Financing (in millions of dollars)

Identification code 049–0100–0–1–999		2018 actual	2019 est.	2020 est.
Obligations by program activity:				
0001	Biological Sciences	756	756	683
0002	Computer and Information Science and Engineering	961	961	883
0003	Engineering	978	976	882
0005	Geosciences	908	908	787
0006	Mathematical and Physical Sciences	1,503	1,512	1,256
0007	Social, Behavioral and Economic Sciences	251	249	230
0008	Integrative Activities	471	455	491
0009	Office of International Science and Engineering	49	49	46
0010	Office of Polar Programs	502	497	403
0013	Arctic Research Commission	1	1	2
0799	Total direct obligations	6,380	6,364	5,663
0801	Research and Related Activities (Reimbursable)	77	120	120
0900	Total new obligations, unexpired accounts	6,457	6,484	5,783
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	34	30	.....
1021	Recoveries of prior year unpaid obligations	24	.....	.....
1033	Recoveries of prior year paid obligations	1	.....	.....
1050	Unobligated balance (total)	59	30	.....
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	6,351	6,334	5,663
Spending authority from offsetting collections, discretionary:				
1700	Collected	57	120	120
1701	Change in uncollected payments, Federal sources	24	.....	.....
1750	Spending auth from offsetting collections, disc (total)	81	120	120
1900	Budget authority (total)	6,432	6,454	5,783
1930	Total budgetary resources available	6,491	6,484	5,783
Memorandum (non-add) entries:				
1940	Unobligated balance expiring	–4	.....	.....
1941	Unexpired unobligated balance, end of year	30	.....	.....
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	10,235	10,860	11,526
3010	New obligations, unexpired accounts	6,457	6,484	5,783
3011	Obligations ("upward adjustments"), expired accounts	4	.....	.....
3020	Outlays (gross)	–5,762	–5,818	–5,766
3040	Recoveries of prior year unpaid obligations, unexpired	–24	.....	.....
3041	Recoveries of prior year unpaid obligations, expired	–50	.....	.....
3050	Unpaid obligations, end of year	10,860	11,526	11,543
Uncollected payments:				
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	–63	–73	–73
3070	Change in uncollected pymts, Fed sources, unexpired	–24	.....	.....
3071	Change in uncollected pymts, Fed sources, expired	14	.....	.....
3090	Uncollected pymts, Fed sources, end of year	–73	–73	–73
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	10,172	10,787	11,453
3200	Obligated balance, end of year	10,787	11,453	11,470

Budget authority and outlays, net:

Discretionary:				
4000	Budget authority, gross	6,432	6,454	5,783
Outlays, gross:				
4010	Outlays from new discretionary authority	733	1,387	1,252
4011	Outlays from discretionary balances	5,029	4,431	4,514
4020	Outlays, gross (total)	5,762	5,818	5,766
Offsets against gross budget authority and outlays:				
Offsetting collections (collected) from:				
4030	Federal sources	–70	–120	–120
4033	Non-Federal sources	–1	.....	.....
4040	Offsets against gross budget authority and outlays (total)	–71	–120	–120
Additional offsets against gross budget authority only:				
4050	Change in uncollected pymts, Fed sources, unexpired	–24	.....	.....
4052	Offsetting collections credited to expired accounts	13	.....	.....
4053	Recoveries of prior year paid obligations, unexpired accounts	1	.....	.....
4060	Additional offsets against budget authority only (total)	–10	.....	.....
4070	Budget authority, net (discretionary)	6,351	6,334	5,663
4080	Outlays, net (discretionary)	5,691	5,698	5,646
4180	Budget authority, net (total)	6,351	6,334	5,663
4190	Outlays, net (total)	5,691	5,698	5,646

The Research and Related Activities appropriation enables the United States to provide leadership and promote progress across the expanding frontiers of scientific and engineering research and education.

The major research program activities of NSF are:

Biological Sciences.—This activity supports understanding how complex living systems function and interact with each other and with non-living systems, which has direct impacts on issues related to the economy, food, human welfare, and the environment. Research in this activity crosses scales from molecules to cells through organisms to ecosystems. This activity's investment portfolio includes projects on understanding the fundamental characteristics of biological energy systems, the changing dynamics of the biosphere, and infrastructure and research resources such as databases, research centers, and observatories, and efforts to broaden participation and develop the next generation of biological researchers.

Computer and Information Science and Engineering.—This activity promotes the progress of computer and information science and engineering research and education, and advances the development and use of cyberinfrastructure across the science and engineering research enterprise; promotes understanding of the principles and uses of computing and information technology in society; and contributes to universal, transparent, and affordable participation in a knowledge-based society.

Engineering.—Research supported by this activity aims to increase U.S. engineering capability and strength, and focus that capability and strength on areas that are relevant to national problems and long-term needs. This activity also includes small business innovation research.

Geosciences.—This activity supports research and associated infrastructure to advance knowledge of the properties and dynamics of the planet on which we live. Research includes understanding the causes and implications of earth system dynamics, as well as disruptive processes such as earthquakes and storms.

Mathematical and Physical Sciences.—Research in this activity is directed at increasing understanding of natural laws and phenomena across the astronomical sciences, chemistry, materials sciences, mathematical sciences, and physics. Research support is available in multiple modalities ranging from multi-user facilities and mid-scale instrumentation to individual investigator awards, from sites for undergraduate research experiences to early career faculty development and collaborative and international efforts.

Social, Behavioral, and Economic Sciences.—This activity supports research, education, and infrastructure in the social, behavioral, cognitive, and economic sciences and funds the collection and dissemination of statistics on the science and engineering enterprise.

RESEARCH AND RELATED ACTIVITIES—Continued

Office of International Science and Engineering.—This activity serves as the focal point of international activities at NSF. In addition to strategic funding and co-funding that targets catalytic partnerships and workforce-building international research opportunities, OISE advances NSF's global science leadership through extensive interactions with U.S. and global counterpart agencies and organizations.

Office of Polar Programs.—This activity supports Arctic and Antarctic research and operational science support and other related activities for United States polar research programs, including the funding to reimburse Federal agencies for logistical and other related activities supported by the United States Antarctic Program.

Integrative Activities.—This activity supports emerging cross disciplinary research efforts, as well as major research instrumentation and Mid-scale research infrastructure. This activity also provides support for the Science and Technology Policy Institute. The Established Program to Stimulate Competitive Research broadens participation of States and regions in science and engineering by helping institutions expand their research capacity and competitiveness.

The *United States Arctic Research Commission (USARC)* is an independent agency, funded through NSF's appropriations. USARC promotes Arctic research and recommends national Arctic research policies to guide Federal agencies in developing and implementing their research programs in the Arctic region.

Object Classification (in millions of dollars)

Identification code 049-0100-0-1-999	2018 actual	2019 est.	2020 est.
Direct obligations:			
11.8 Personnel compensation: Special personal services payments	37	37	37
21.0 Travel and transportation of persons	14	14	15
25.1 Advisory and assistance services	119	119	105
25.2 Other services from non-Federal sources	9	9	8
25.3 Other goods and services from Federal sources	128	128	113
25.4 Operation and maintenance of facilities	271	271	270
25.5 Research and development contracts	8	8	8
31.0 Equipment	3	3	.....
41.0 Grants, subsidies, and contributions	5,791	5,775	5,107
99.0 Direct obligations	6,380	6,364	5,663
99.0 Reimbursable obligations	77	120	120
99.9 Total new obligations, unexpired accounts	6,457	6,484	5,783

Employment Summary

Identification code 049-0100-0-1-999	2018 actual	2019 est.	2020 est.
1001 Direct civilian full-time equivalent employment	3	3	3

MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION

For necessary expenses for the acquisition, construction, commissioning, and upgrading of major research equipment, facilities, and other such capital assets pursuant to the National Science Foundation Act of 1950 (42 U.S.C. 1861 et seq.), including authorized travel, \$223,230,000, to remain available until expended.

Note.—A full-year 2019 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Continuing Appropriations Act, 2019 (Division C of P.L. 115-245, as amended). The amounts included for 2019 reflect the annualized level provided by the continuing resolution.

Program and Financing (in millions of dollars)

Identification code 049-0551-0-1-251	2018 actual	2019 est.	2020 est.
Obligations by program activity:			
0001 Major Research Equipment and Facilities Construction	186	212	223
0900 Total new obligations, unexpired accounts (object class 41.0)	186	212	223
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	31	29	.....

1021 Recoveries of prior year unpaid obligations	1	.....	.....
1050 Unobligated balance (total)	32	29	.....
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	183	183	223
1900 Budget authority (total)	183	183	223
1930 Total budgetary resources available	215	212	223
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	29	.....	.....
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	287	302	350
3010 New obligations, unexpired accounts	186	212	223
3020 Outlays (gross)	-170	-164	-170
3040 Recoveries of prior year unpaid obligations, unexpired	-1	.....	.....
3050 Unpaid obligations, end of year	302	350	403
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	287	302	350
3200 Obligated balance, end of year	302	350	403
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	183	183	223
Outlays, gross:			
4010 Outlays from new discretionary authority .....	.....	11	13
4011 Outlays from discretionary balances	170	153	157
4020 Outlays, gross (total)	170	164	170
4180 Budget authority, net (total)	183	183	223
4190 Outlays, net (total)	170	164	170

The Major Research Equipment and Facilities Construction activity supports the acquisition, construction, and commissioning of unique national research platforms and major research facilities and equipment. Performance of each construction project is measured against an established baseline at regular intervals and at major milestones.

AGENCY OPERATIONS AND AWARD MANAGEMENT

For agency operations and award management necessary in carrying out the National Science Foundation Act of 1950 (42 U.S.C. 1861 et seq.); services authorized by section 3109 of title 5, United States Code; hire of passenger motor vehicles; uniforms or allowances therefor, as authorized by sections 5901 and 5902 of title 5, United States Code; rental of conference rooms in the District of Columbia; and reimbursement of the Department of Homeland Security for security guard services; \$336,890,000: Provided, That not to exceed \$8,280 is for official reception and representation expenses: Provided further, That contracts may be entered into under this heading in fiscal year 2020 for maintenance and operation of facilities and for other services to be provided during the next fiscal year.

Note.—A full-year 2019 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Continuing Appropriations Act, 2019 (Division C of P.L. 115-245, as amended). The amounts included for 2019 reflect the annualized level provided by the continuing resolution.

Program and Financing (in millions of dollars)

Identification code 049-0180-0-1-251	2018 actual	2019 est.	2020 est.
Obligations by program activity:			
0001 Agency Operations and Award Management	329	329	337
0801 Agency Operations and Award Management (Reimbursable)	6	10	10
0900 Total new obligations, unexpired accounts	335	339	347
Budgetary resources:			
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	329	329	337
Spending authority from offsetting collections, discretionary:			
1700 Collected	5	10	10
1701 Change in uncollected payments, Federal sources	1	.....	.....
1750 Spending auth from offsetting collections, disc (total)	6	10	10
1900 Budget authority (total)	335	339	347
1930 Total budgetary resources available	335	339	347

Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	113	73	70
3010	New obligations, unexpired accounts	335	339	347
3011	Obligations ("upward adjustments"), expired accounts	1		
3020	Outlays (gross)	-372	-342	-352
3041	Recoveries of prior year unpaid obligations, expired	-4		
3050	Unpaid obligations, end of year	73	70	65
Uncollected payments:				
3060	Uncollected pymts, Fed sources, brought forward, Oct 1	-1	-2	-2
3070	Change in uncollected pymts, Fed sources, unexpired	-1		
3090	Uncollected pymts, Fed sources, end of year	-2	-2	-2
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	112	71	68
3200	Obligated balance, end of year	71	68	63
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	335	339	347
Outlays, gross:				
4010	Outlays from new discretionary authority	271	280	286
4011	Outlays from discretionary balances	101	62	66
4020	Outlays, gross (total)	372	342	352
Offsets against gross budget authority and outlays:				
Offsetting collections (collected) from:				
4030	Federal sources	-5	-10	-10
4040	Offsets against gross budget authority and outlays (total)	-5	-10	-10
Additional offsets against gross budget authority only:				
4050	Change in uncollected pymts, Fed sources, unexpired	-1		
4060	Additional offsets against budget authority only (total)	-1		
4070	Budget authority, net (discretionary)	329	329	337
4080	Outlays, net (discretionary)	367	332	342
4180	Budget authority, net (total)	329	329	337
4190	Outlays, net (total)	367	332	342

This account funds NSF's scientific, professional, and administrative workforce; the physical and technological infrastructure necessary for a productive, safe, and secure work environment; and the essential business operations critical to NSF's administrative processes.

Object Classification (in millions of dollars)

Identification code 049-0180-0-1-251		2018 actual	2019 est.	2020 est.
Direct obligations:				
Personnel compensation:				
11.1	Full-time permanent	158	161	161
11.3	Other than full-time permanent	13	14	14
11.5	Other personnel compensation	3	4	3
11.9	Total personnel compensation	174	179	178
12.1	Civilian personnel benefits	53	56	55
21.0	Travel and transportation of persons	6	6	6
23.1	Rental payments	27	22	31
23.2	Rental payments to others	2		
23.3	Communications, utilities, and miscellaneous charges		2	3
24.0	Printing and reproduction			1
25.1	Advisory and assistance services	44	43	42
25.2	Other services from non-Federal sources	12	7	10
25.3	Other goods and services from Federal sources	7	7	7
26.0	Supplies and materials	1	1	1
31.0	Equipment	3	6	3
99.0	Direct obligations	329	329	337
99.0	Reimbursable obligations	6	10	10
99.9	Total new obligations, unexpired accounts	335	339	347

Employment Summary

Identification code 049-0180-0-1-251	2018 actual	2019 est.	2020 est.
1001 Direct civilian full-time equivalent employment	1,308	1,310	1,315

OFFICE OF THE NATIONAL SCIENCE BOARD

For necessary expenses (including payment of salaries, authorized travel, hire of passenger motor vehicles, the rental of conference rooms in the District of Columbia,

and the employment of experts and consultants under section 3109 of title 5, United States Code) involved in carrying out section 4 of the National Science Foundation Act of 1950 (42 U.S.C. 1863) and Public Law 86-209 (42 U.S.C. 1880 et seq.), \$4,100,000: Provided, That not to exceed \$2,500 shall be available for official reception and representation expenses.

Note.—A full-year 2019 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Continuing Appropriations Act, 2019 (Division C of P.L. 115-245, as amended). The amounts included for 2019 reflect the annualized level provided by the continuing resolution.

Program and Financing (in millions of dollars)

Identification code 049-0350-0-1-251		2018 actual	2019 est.	2020 est.
Obligations by program activity:				
0001	Office of the National Science Board	4	4	4
Budgetary resources:				
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	4	4	4
1930	Total budgetary resources available	4	4	4
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	1	1	1
3010	New obligations, unexpired accounts	4	4	4
3020	Outlays (gross)	-4	-4	-4
3050	Unpaid obligations, end of year	1	1	1
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	1	1	1
3200	Obligated balance, end of year	1	1	1
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	4	4	4
Outlays, gross:				
4010	Outlays from new discretionary authority	3	3	3
4011	Outlays from discretionary balances	1	1	1
4020	Outlays, gross (total)	4	4	4
4180	Budget authority, net (total)	4	4	4
4190	Outlays, net (total)	4	4	4

This appropriation provides policy-making and related responsibilities for NSF and provides guidance on significant national policy issues in science and engineering research and education, as required by law.

Object Classification (in millions of dollars)

Identification code 049-0350-0-1-251		2018 actual	2019 est.	2020 est.
Direct obligations:				
11.1	Personnel compensation: Full-time permanent	2	2	2
12.1	Civilian personnel benefits	1	1	1
25.1	Advisory and assistance services	1	1	1
99.9	Total new obligations, unexpired accounts	4	4	4

Employment Summary

Identification code 049-0350-0-1-251	2018 actual	2019 est.	2020 est.
1001 Direct civilian full-time equivalent employment	17	18	18

OFFICE OF INSPECTOR GENERAL

For necessary expenses of the Office of Inspector General as authorized by the Inspector General Act of 1978, \$15,350,000, of which \$400,000 shall remain available until September 30, 2021.

Note.—A full-year 2019 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Continuing Appropriations Act, 2019 (Division C of P.L. 115-245, as amended). The amounts included for 2019 reflect the annualized level provided by the continuing resolution.

OFFICE OF INSPECTOR GENERAL—Continued

Program and Financing (in millions of dollars)

Identification code 049–0300–0–1–251	2018 actual	2019 est.	2020 est.
Obligations by program activity:			
0001 Office of Inspector General	15	15	15
Budgetary resources:			
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	15	15	15
1930 Total budgetary resources available	15	15	15
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	3	2	2
3010 New obligations, unexpired accounts	15	15	15
3020 Outlays (gross)	–16	–15	–15
3050 Unpaid obligations, end of year	2	2	2
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	3	2	2
3200 Obligated balance, end of year	2	2	2
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	15	15	15
Outlays, gross:			
4010 Outlays from new discretionary authority	14	12	12
4011 Outlays from discretionary balances	2	3	3
4020 Outlays, gross (total)	16	15	15
4180 Budget authority, net (total)	15	15	15
4190 Outlays, net (total)	16	15	15

This appropriation provides agency-wide audit and investigative functions to identify and correct management and administrative deficiencies which create conditions for existing or potential instances of fraud, waste, and mismanagement consistent with the Inspector General Act of 1978, as amended (5 U.S.C. App. 3).

Object Classification (in millions of dollars)

Identification code 049–0300–0–1–251	2018 actual	2019 est.	2020 est.
Direct obligations:			
11.1 Personnel compensation: Full-time permanent	9	9	9
12.1 Civilian personnel benefits	3	3	3
25.2 Other services from non-Federal sources	3	3	3
99.9 Total new obligations, unexpired accounts	15	15	15

Employment Summary

Identification code 049–0300–0–1–251	2018 actual	2019 est.	2020 est.
1001 Direct civilian full-time equivalent employment	68	72	72

EDUCATION AND HUMAN RESOURCES

For necessary expenses in carrying out science, mathematics and engineering education and human resources programs and activities pursuant to the National Science Foundation Act of 1950 (42 U.S.C. 1861 et seq.), including services as authorized by section 3109 of title 5, United States Code, authorized travel, and rental of conference rooms in the District of Columbia, \$823,470,000, to remain available until September 30, 2021.

Note.—A full-year 2019 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Continuing Appropriations Act, 2019 (Division C of P.L. 115–245, as amended). The amounts included for 2019 reflect the annualized level provided by the continuing resolution.

Program and Financing (in millions of dollars)

Identification code 049–0106–0–1–251	2018 actual	2019 est.	2020 est.
Obligations by program activity:			
0001 Education and Human Resources	904	916	823
0100 Total Disc obligations	904	916	823

0302 Low income scholarship program	156	140	98
0303 ITEST grants for Mathematics, Science, or Engineering enrichment courses	36	45	32
0391 Total Mandatory Obligations (H-1B)	192	185	130
0799 Total direct obligations	1,096	1,101	953
0801 Education and Human Resources (Reimbursable)	5	10	10
0900 Total new obligations, unexpired accounts	1,101	1,111	963

Budgetary resources:

Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	105	79	.....
1001 Discretionary unobligated balance brought fwd, Oct 1	8	14	.....
1021 Recoveries of prior year unpaid obligations	13	.....	.....
1050 Unobligated balance (total)	118	79	.....
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	902	902	823
Appropriations, mandatory:			
1201 Appropriation (special or trust fund)	156	120	120
1203 Appropriation (previously unavailable)	10	10	10
1232 Appropriations and/or unobligated balance of appropriations temporarily reduced	–10	–10	.....
1260 Appropriations, mandatory (total)	156	120	130
Spending authority from offsetting collections, discretionary:			
1700 Collected	1	10	10
1701 Change in uncollected payments, Federal sources	4	.....	.....
1750 Spending auth from offsetting collections, disc (total)	5	10	10
1900 Budget authority (total)	1,063	1,032	963
1930 Total budgetary resources available	1,181	1,111	963
Memorandum (non-add) entries:			
1940 Unobligated balance expiring	–1	.....	.....
1941 Unexpired unobligated balance, end of year	79	.....	.....

Change in obligated balance:

Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	2,339	2,501	2,564
3010 New obligations, unexpired accounts	1,101	1,111	963
3011 Obligations ("upward adjustments"), expired accounts	1	.....	.....
3020 Outlays (gross)	–911	–1,048	–1,082
3040 Recoveries of prior year unpaid obligations, unexpired	–13	.....	.....
3041 Recoveries of prior year unpaid obligations, expired	–16	.....	.....
3050 Unpaid obligations, end of year	2,501	2,564	2,445
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	–11	–12	–12
3070 Change in uncollected pymts, Fed sources, unexpired	–4	.....	.....
3071 Change in uncollected pymts, Fed sources, expired	3	.....	.....
3090 Uncollected pymts, Fed sources, end of year	–12	–12	–12
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	2,328	2,489	2,552
3200 Obligated balance, end of year	2,489	2,552	2,433

Budget authority and outlays, net:

Discretionary:			
4000 Budget authority, gross	907	912	833
Outlays, gross:			
4010 Outlays from new discretionary authority	30	136	125
4011 Outlays from discretionary balances	757	765	787
4020 Outlays, gross (total)	787	901	912
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	–4	–10	–10
4040 Offsets against gross budget authority and outlays (total)	–4	–10	–10
Additional offsets against gross budget authority only:			
4050 Change in uncollected pymts, Fed sources, unexpired	–4	.....	.....
4052 Offsetting collections credited to expired accounts	3	.....	.....
4060 Additional offsets against budget authority only (total)	–1	.....	.....
4070 Budget authority, net (discretionary)	902	902	823
4080 Outlays, net (discretionary)	783	891	902
Mandatory:			
4090 Budget authority, gross	156	120	130
Outlays, gross:			
4100 Outlays from new mandatory authority .....	.....	13	14
4101 Outlays from mandatory balances	124	134	156
4110 Outlays, gross (total)	124	147	170
4180 Budget authority, net (total)	1,058	1,022	953
4190 Outlays, net (total)	907	1,038	1,072

Summary of Budget Authority and Outlays (in millions of dollars)

	2018 actual	2019 est.	2020 est.
Enacted/requested:			
Budget Authority	1,058	1,022	953
Outlays	907	1,038	1,072
Legislative proposal, subject to PAYGO:			
Budget Authority			38
Outlays			17
Total:			
Budget Authority	1,058	1,022	991
Outlays	907	1,038	1,089

The Education and Human Resources (EHR) appropriation funds and manages a comprehensive set of programs that further NSF's goals of ensuring a diverse, globally competitive U.S. science, technology, engineering, and mathematics (STEM) workforce, as well as a scientifically literate population. To advance those goals, EHR collaborates with other NSF research units and Federal agencies, and promotes public-private partnerships. EHR supports research on STEM teaching and learning to provide the evidence base for improvements in education at all levels in the STEM disciplines. Supporting development and effective implementation of new learning technologies is also a priority. EHR's pre-K-12 education-research programs, for example, develop and test new instruction materials for students and teachers, which incorporate the latest advances in teaching, learning, and education technologies. STEM teacher-education opportunities occur throughout the full continuum, from pre-service and in-service, through life-long learning. Research programs at the undergraduate level improve curricula, strengthen laboratory courses, enhance faculty effectiveness, and lead education reforms in STEM disciplines. Advanced technological education programs strengthen student preparation for the high-technology workforce. Support of graduate-level STEM education primarily includes fellowships and traineeships to sustain U.S. leadership in global science and technology. All EHR programs aim to broaden participation of groups underrepresented in STEM fields by, for example, improving infrastructure and academic programs at minority-serving institutions. EHR activities also include programs supported by H-1B non-immigrant visa fees, which provide undergraduate and graduate scholarships in STEM disciplines, improve educational opportunities for students, and provide research opportunities for STEM teachers and students.

Object Classification (in millions of dollars)

Identification code 049-0106-0-1-251	2018 actual	2019 est.	2020 est.
Direct obligations:			
11.8 Personnel compensation: Special personal services payments	5	5	5
21.0 Travel and transportation of persons	2	2	2
25.1 Advisory and assistance services	25	25	22
25.3 Other goods and services from Federal sources	2	2	1
41.0 Grants, subsidies, and contributions	1,062	1,067	923
99.0 Direct obligations	1,096	1,101	953
99.0 Reimbursable obligations	5	10	10
99.9 Total new obligations, unexpired accounts	1,101	1,111	963

EDUCATION AND HUMAN RESOURCES

(Legislative proposal, subject to PAYGO)

Program and Financing (in millions of dollars)

Identification code 049-0106-4-1-251	2018 actual	2019 est.	2020 est.
Obligations by program activity:			
0302 Low income scholarship program			28
0303 ITTEST grants for Mathematics, Science, or Engineering enrichment courses			10
0900 Total new obligations, unexpired accounts (object class 41.0)			38
Budgetary resources:			
Budget authority:			
Appropriations, mandatory:			
Appropriation (special or trust fund)			38

1930 Total budgetary resources available			38
Change in obligated balance:			
Unpaid obligations:			
3010 New obligations, unexpired accounts			38
3020 Outlays (gross)			-17
3050 Unpaid obligations, end of year			21
Memorandum (non-add) entries:			
3200 Obligated balance, end of year			21
Budget authority and outlays, net:			
Mandatory:			
4090 Budget authority, gross			38
Outlays, gross:			
4100 Outlays from new mandatory authority			17
4180 Budget authority, net (total)			38
4190 Outlays, net (total)			17

The Budget proposes authorizing legislation to double the American Competitiveness and Workforce Improvement Act (ACWIA) fee for the H-1B visa program in order to help train American workers and close the skills gap. The proposal would increase the ACWIA fee to \$3,000 per worker for large employers and \$1,500 per worker for small employers. The increased revenue would provide additional funding for DOL job training grants to support apprenticeship. Under the proposal, the allocations for DOL job training grants (50 percent); DOL foreign labor certifications (5 percent); National Science Foundation (NSF) Innovative Technology Experiences for Students and Teachers program (10 percent); and DHS processing costs (5 percent) would remain the same. The NSF allocation for STEM scholarships would decrease from 30 percent to 15 percent, which would maintain absolute funding levels under current estimates. The proposal would initiate a new 15 percent allocation for the Department of Education's Career and Technical Education formula grant.

Trust Funds**DONATIONS****Special and Trust Fund Receipts** (in millions of dollars)

Identification code 049-8960-0-7-251	2018 actual	2019 est.	2020 est.
0100 Balance, start of year			
Receipts:			
Current law:			
1130 Donations, National Science Foundation	28	40	40
2000 Total: Balances and receipts	28	40	40
Appropriations:			
Current law:			
2101 Donations	-28	-40	-40
5099 Balance, end of year			

Program and Financing (in millions of dollars)

Identification code 049-8960-0-7-251	2018 actual	2019 est.	2020 est.
Obligations by program activity:			
0002 Gemini Telescope	9	12	12
0003 B&M Gates Foundation	1	1	1
0004 International Ocean Drilling	19	59	27
0900 Total new obligations, unexpired accounts (object class 41.0)	29	72	40
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	33	32	
Budget authority:			
Appropriations, mandatory:			
1201 Appropriation (special or trust fund)	28	40	40
1930 Total budgetary resources available	61	72	40
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	32		

Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	42	28	61
3010 New obligations, unexpired accounts	29	72	40

DONATIONS—Continued
Program and Financing—Continued

Identification code 049–8960–0–7–251		2018 actual	2019 est.	2020 est.
3020	Outlays (gross)	–43	–39	–42
3050	Unpaid obligations, end of year	28	61	59
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	42	28	61
3200	Obligated balance, end of year	28	61	59
Budget authority and outlays, net:				
Mandatory:				
4090	Budget authority, gross	28	40	40
Outlays, gross:				
4100	Outlays from new mandatory authority		24	24
4101	Outlays from mandatory balances	43	15	18
4110	Outlays, gross (total)	43	39	42
4180	Budget authority, net (total)	28	40	40
4190	Outlays, net (total)	43	39	42

This account consists of contributions from foreign governments, organizations, and individuals to fund various cooperative efforts in science, research, and education. These efforts include major international projects, such as operation of the Gemini telescopes, and the NSF ocean discovery program. Other smaller activities supported include cooperative research, joint seminars, exchange of senior scientists, short-term research develop-

ment visits, international conferences, and support for certain special functions of NSF and the National Science Board. These funds are not otherwise available.

ADMINISTRATIVE PROVISION

Not to exceed 5 percent of any appropriation made available for the current fiscal year for the National Science Foundation in this Act may be transferred between such appropriations, but no such appropriation shall be increased by more than 10 percent by any such transfers. Any transfer pursuant to this section shall be treated as a reprogramming of funds under section 504 of this Act and shall not be available for obligation except in compliance with the procedures set forth in that section.

GENERAL FUND RECEIPT ACCOUNTS

(in millions of dollars)

	2018 actual	2019 est.	2020 est.
Offsetting receipts from the public:			
049–320000 Collections of Receivables from Canceled Accounts		1	1
049–322000 All Other General Fund Proprietary Receipts Including			
Budget Clearing Accounts	3	5	5
General Fund Offsetting receipts from the public	3	6	6