

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; **[\$6,909,769,000]** \$8,139,710,000, to remain available until September 30, **[2022]** 2023, of which not to exceed \$544,000,000 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. (*Science Appropriations Act, 2021.*)

Program and Financing (in millions of dollars)

Identification code 049–0100–0–1–999	2020 actual	2021 est.	2022 est.
Obligations by program activity:			
0001 Biological Sciences	829	819	948
0002 Computer and Information Science and Engineering	1,027	1,022	1,116
0003 Engineering	1,044	1,036	917
0005 Geosciences	994	1,007	1,195
0006 Mathematical and Physical Sciences	1,539	1,589	1,691
0007 Social, Behavioral and Economic Sciences	290	283	320
0008 Integrative Activities	558	601	505
0009 Office of International Science and Engineering	51	51	75
0010 Office of Polar Programs	481	487	506
0011 Technology, Innovation, and Partnerships			865
0013 Arctic Research Commission	2	2	2
0091 Direct program activities, subtotal	6,815	6,897	8,140
0401 American Rescue Plan Act (ARP)		467	
0799 Total direct obligations	6,815	7,364	8,140
0801 Research and Related Activities (Reimbursable)	89	120	120
0900 Total new obligations, unexpired accounts	6,904	7,484	8,260
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	19	16	
1021 Recoveries of prior year unpaid obligations	24		
1050 Unobligated balance (total)	43	16	
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	6,812	6,910	8,140
1120 Appropriations transferred to other acct [049–0106]	–5		
1120 Appropriations transferred to other acct [049–0180]	–17	–29	
1160 Appropriation, discretionary (total)	6,790	6,881	8,140
Appropriations, mandatory:			
1200 Appropriation		467	
Spending authority from offsetting collections, discretionary:			
1700 Collected	94	120	120
1701 Change in uncollected payments, Federal sources	–4		
1750 Spending auth from offsetting collections, disc (total)	90	120	120
1900 Budget authority (total)	6,880	7,468	8,260
1930 Total budgetary resources available	6,923	7,484	8,260
Memorandum (non-add) entries:			
1940 Unobligated balance expiring	–3		
1941 Unexpired unobligated balance, end of year	16		
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	11,533	12,441	13,372
3010 New obligations, unexpired accounts	6,904	7,484	8,260
3011 Obligations ("upward adjustments"), expired accounts	65		
3020 Outlays (gross)	–5,978	–6,553	–7,251
3040 Recoveries of prior year unpaid obligations, unexpired	–24		
3041 Recoveries of prior year unpaid obligations, expired	–59		
3050 Unpaid obligations, end of year	12,441	13,372	14,381
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	–96	–82	–82
3070 Change in uncollected pymts, Fed sources, unexpired	4		
3071 Change in uncollected pymts, Fed sources, expired	10		

3090	Uncollected pymts, Fed sources, end of year	–82	–82	–82
	Memorandum (non-add) entries:			
3100	Obligated balance, start of year	11,437	12,359	13,290
3200	Obligated balance, end of year	12,359	13,290	14,299

Budget authority and outlays, net:

	Discretionary:			
4000	Budget authority, gross	6,880	7,001	8,260
	Outlays, gross:			
4010	Outlays from new discretionary authority	650	1,496	1,748
4011	Outlays from discretionary balances	5,328	4,964	5,316
4020	Outlays, gross (total)	5,978	6,460	7,064
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4030	Federal sources	–103	–120	–120
4033	Non-Federal sources	–63		
4040	Offsets against gross budget authority and outlays (total)	–166	–120	–120
	Additional offsets against gross budget authority only:			
4050	Change in uncollected pymts, Fed sources, unexpired	4		
4052	Offsetting collections credited to expired accounts	72		
4060	Additional offsets against budget authority only (total)	76		
4070	Budget authority, net (discretionary)	6,790	6,881	8,140
4080	Outlays, net (discretionary)	5,812	6,340	6,944
	Mandatory:			
4090	Budget authority, gross		467	
	Outlays, gross:			
4100	Outlays from new mandatory authority		93	
4101	Outlays from mandatory balances			187
4110	Outlays, gross (total)		93	187
4180	Budget authority, net (total)	6,790	7,348	8,140
4190	Outlays, net (total)	5,812	6,433	7,131

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

	2020 actual	2021 est.	2022 est.
Enacted/requested:			
Budget Authority	6,790	7,348	8,140
Outlays	5,812	6,433	7,131
Legislative proposal, subject to PAYGO:			
Budget Authority			6,000
Outlays			1,200
Total:			
Budget Authority	6,790	7,348	14,140
Outlays	5,812	6,433	8,331

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; 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 advanced 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 economy.

Engineering.—Research supported by this activity aims to increase and strengthen U.S. engineering capability and focus that capability on areas that are relevant to national problems and long-term needs.

RESEARCH AND RELATED ACTIVITIES—Continued

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.

Office of International Science and Engineering (OISE).—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 innovative, transdisciplinary team science, advanced research infrastructure, use-inspired research, and emerging national research priorities. Integrative Activities supports jurisdictional and institutional capacity-building programs helping universities expand their research capacity and improve competitiveness in science and engineering research. Additionally, Integrative Activities funding supports activities that expand NSF's capacity to use evidence for decision making. This activity provides support for a federally funded Research and Development Center, the Science and Technology Policy Institute.

Technology, Innovation, and Partnerships.—This new activity catalyzes strategic partnerships linking academia, industry, government, nonprofits, civil society, and investors to cultivate twenty-first-century innovation ecosystems, advancing U.S. leadership in critical technologies as well as in addressing national and societal challenges. Working in close collaboration with all of the above activities, this activity advances science and engineering innovation addressing societal challenges, accelerates the translation of fundamental discoveries into breakthrough technologies, and creates education pathways and jobs for a diverse workforce of researchers, practitioners, and entrepreneurs. This activity also includes Small Business Innovation Research, Small Business Technology Transfer, Innovation Corps, Partnerships for Innovation, and Convergence Accelerators.

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	2020 actual	2021 est.	2022 est.
Direct obligations:			
11.8 Personnel compensation: Special personal services payments	40	40	45
21.0 Travel and transportation of persons	6	8	14
25.1 Advisory and assistance services	131	134	135

25.2 Other services from non-Federal sources	18	15	15
25.3 Other goods and services from Federal sources	236	230	230
25.4 Operation and maintenance of facilities	134	140	150
25.5 Research and development contracts	6	6	6
31.0 Equipment	6
41.0 Grants, subsidies, and contributions	6,238	6,791	7,545
99.0 Direct obligations	6,815	7,364	8,140
99.0 Reimbursable obligations	89	120	120
99.9 Total new obligations, unexpired accounts	6,904	7,484	8,260

Employment Summary

Identification code 049-0100-0-1-999	2020 actual	2021 est.	2022 est.
1001 Direct civilian full-time equivalent employment	3	3	3

RESEARCH AND RELATED ACTIVITIES
(Legislative proposal, subject to PAYGO)

Program and Financing (in millions of dollars)

Identification code 049-0100-4-1-999	2020 actual	2021 est.	2022 est.
Obligations by program activity:			
0014 NSF Proposal from American Jobs Plan	1,200
0799 Total direct obligations	1,200
0900 Total new obligations, unexpired accounts (object class 92.0)	1,200
Budgetary resources:			
Budget authority:			
Appropriations, mandatory:			
1200 Appropriation	6,000
1930 Total budgetary resources available	6,000
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	4,800
Change in obligated balance:			
Unpaid obligations:			
3010 New obligations, unexpired accounts	1,200
3020 Outlays (gross)	-1,200
Budget authority and outlays, net:			
Mandatory:			
4090 Budget authority, gross	6,000
Outlays, gross:			
4100 Outlays from new mandatory authority	1,200
4180 Budget authority, net (total)	6,000
4190 Outlays, net (total)	1,200

This activity from the American Jobs Plan includes \$50 billion for the National Science Foundation (NSF), including funding to create a technology directorate that will collaborate with and build on existing programs across the government. The new directorate will focus on fields like semiconductors and advanced computing, advanced communications technology, advanced energy technologies, and biotechnology.

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, **[\$241,000,000] \$249,000,000**, to remain available until expended. (*Science Appropriations Act, 2021.*)

Program and Financing (in millions of dollars)

Identification code 049-0551-0-1-251	2020 actual	2021 est.	2022 est.
Obligations by program activity:			
0001 Major Research Equipment and Facilities Construction	155	370	249
0401 American Rescue Plan Act (ARP)	60
0900 Total new obligations, unexpired accounts	155	430	249

Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	39	129	
1021	Recoveries of prior year unpaid obligations	2		
1050	Unobligated balance (total)	41	129	
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	243	241	249
Appropriations, mandatory:				
1200	Appropriation		60	
1900	Budget authority (total)	243	301	249
1930	Total budgetary resources available	284	430	249
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	129		
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	449	423	612
3010	New obligations, unexpired accounts	155	430	249
3020	Outlays (gross)	-179	-241	-362
3040	Recoveries of prior year unpaid obligations, unexpired	-2		
3050	Unpaid obligations, end of year	423	612	499
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	449	423	612
3200	Obligated balance, end of year	423	612	499
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	243	241	249
Outlays, gross:				
4010	Outlays from new discretionary authority		14	15
4011	Outlays from discretionary balances	179	223	318
4020	Outlays, gross (total)	179	237	333
Mandatory:				
4090	Budget authority, gross		60	
Outlays, gross:				
4100	Outlays from new mandatory authority		4	
4101	Outlays from mandatory balances			29
4110	Outlays, gross (total)		4	29
4180	Budget authority, net (total)	243	301	249
4190	Outlays, net (total)	179	241	362

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.

Object Classification (in millions of dollars)

Identification code 049-0551-0-1-251	2020 actual	2021 est.	2022 est.
Direct obligations:			
32.0 Land and structures	50	90	90
41.0 Grants, subsidies, and contributions	105	340	159
99.9 Total new obligations, unexpired accounts	155	430	249

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; **[\$345,640,000] \$468,300,000: 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 **[2021] 2022** for maintenance and operation of facilities and for other services to be provided during the next fiscal year. (*Science Appropriations Act, 2021.*)

Program and Financing (in millions of dollars)

Identification code 049-0180-0-1-251	2020 actual	2021 est.	2022 est.
Obligations by program activity:			
0001 Agency Operations and Award Management	349	384	468
0401 American Rescue Plan Act (ARP)		12	
0799 Total direct obligations	349	396	468
0801 Agency Operations and Award Management (Reimbursable)	6	10	10
0900 Total new obligations, unexpired accounts	355	406	478
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1		9	
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	338	346	468
1121 Appropriations transferred from other acct [049-0100]	17	29	
1121 Appropriations transferred from other acct [049-0106]	3		
1160 Appropriation, discretionary (total)	358	375	468
Appropriations, mandatory:			
1200 Appropriation		12	
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)	364	397	478
1930 Total budgetary resources available	364	406	478
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	9		
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	74	67	81
3010 New obligations, unexpired accounts	355	406	478
3020 Outlays (gross)	-359	-392	-463
3041 Recoveries of prior year unpaid obligations, expired	-3		
3050 Unpaid obligations, end of year	67	81	96
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	-1	-1	-1
3070 Change in uncollected pymts, Fed sources, unexpired	-1		
3071 Change in uncollected pymts, Fed sources, expired	1		
3090 Uncollected pymts, Fed sources, end of year	-1	-1	-1
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	73	66	80
3200 Obligated balance, end of year	66	80	95
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	364	385	478
Outlays, gross:			
4010 Outlays from new discretionary authority	295	318	394
4011 Outlays from discretionary balances	64	64	67
4020 Outlays, gross (total)	359	382	461
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-6	-10	-10
4040 Offsets against gross budget authority and outlays (total)	-6	-10	-10
Additional offsets against gross budget authority only:			
4050 Change in uncollected pymts, Fed sources, unexpired	-1		
4052 Offsetting collections credited to expired accounts	1		
4070 Budget authority, net (discretionary)	358	375	468
4080 Outlays, net (discretionary)	353	372	451
Mandatory:			
4090 Budget authority, gross		12	
Outlays, gross:			
4100 Outlays from new mandatory authority		10	
4101 Outlays from mandatory balances			2
4110 Outlays, gross (total)		10	2
4180 Budget authority, net (total)	358	387	468
4190 Outlays, net (total)	353	382	453

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.

AGENCY OPERATIONS AND AWARD MANAGEMENT—Continued

Object Classification (in millions of dollars)

Identification code 049-0180-0-1-251	2020 actual	2021 est.	2022 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	172	185	208
11.3 Other than full-time permanent	13	15	18
11.5 Other personnel compensation	4	7	7
11.9 Total personnel compensation	189	207	233
12.1 Civilian personnel benefits	60	66	79
21.0 Travel and transportation of persons	3	4	9
22.0 Transportation of things	1		
23.1 Rental payments	24	24	26
23.3 Communications, utilities, and miscellaneous charges	1	1	3
24.0 Printing and reproduction		1	
25.1 Advisory and assistance services	41	61	65
25.2 Other services from non-Federal sources	18	21	35
25.3 Other goods and services from Federal sources	8	8	12
26.0 Supplies and materials	1	1	1
31.0 Equipment	3	2	5
99.0 Direct obligations	349	396	468
99.0 Reimbursable obligations	6	10	10
99.9 Total new obligations, unexpired accounts	355	406	478

Employment Summary

Identification code 049-0180-0-1-251	2020 actual	2021 est.	2022 est.
1001 Direct civilian full-time equivalent employment	1,333	1,372	1,472

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.), **[\$4,500,000] \$4,600,000: Provided,** That not to exceed \$2,500 shall be available for official reception and representation expenses. (*Science Appropriations Act, 2021.*)

Program and Financing (in millions of dollars)

Identification code 049-0350-0-1-251	2020 actual	2021 est.	2022 est.
Obligations by program activity:			
0001 Office of the National Science Board	4	5	5
Budgetary resources:			
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	5	5	5
1930 Total budgetary resources available	5	5	5
Memorandum (non-add) entries:			
1940 Unobligated balance expiring	-1		
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	1	1	1
3010 New obligations, unexpired accounts	4	5	5
3020 Outlays (gross)	-4	-5	-5
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	5	5	5
Outlays, gross:			
4010 Outlays from new discretionary authority	3	4	4
4011 Outlays from discretionary balances	1	1	1
4020 Outlays, gross (total)	4	5	5
4180 Budget authority, net (total)	5	5	5
4190 Outlays, net (total)	4	5	5

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	2020 actual	2021 est.	2022 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	2	2
99.9 Total new obligations, unexpired accounts	4	5	5

Employment Summary

Identification code 049-0350-0-1-251	2020 actual	2021 est.	2022 est.
1001 Direct civilian full-time equivalent employment	17	17	17

OFFICE OF INSPECTOR GENERAL

For necessary expenses of the Office of Inspector General as authorized by the Inspector General Act of 1978, **[\$17,850,000] \$20,420,000**, of which \$400,000 shall remain available until September 30, **[2022] 2023.** (*Science Appropriations Act, 2021.*)

Program and Financing (in millions of dollars)

Identification code 049-0300-0-1-251	2020 actual	2021 est.	2022 est.
Obligations by program activity:			
0001 Office of Inspector General	17	18	20
Budgetary resources:			
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	17	18	20
1900 Budget authority (total)	17	18	20
1930 Total budgetary resources available	17	18	20
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	2	3	3
3010 New obligations, unexpired accounts	17	18	20
3020 Outlays (gross)	-16	-18	-19
3050 Unpaid obligations, end of year	3	3	4
Memorandum (non-add) entries:			
3100 Obligated balance, start of year	2	3	3
3200 Obligated balance, end of year	3	3	4
Budget authority and outlays, net:			
Discretionary:			
4000 Budget authority, gross	17	18	20
Outlays, gross:			
4010 Outlays from new discretionary authority	15	15	16
4011 Outlays from discretionary balances	1	3	3
4020 Outlays, gross (total)	16	18	19
4180 Budget authority, net (total)	17	18	20
4190 Outlays, net (total)	16	18	19

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	2020 actual	2021 est.	2022 est.
Direct obligations:			
11.1 Personnel compensation: Full-time permanent	10	10	12
12.1 Civilian personnel benefits	4	5	5
25.2 Other services from non-Federal sources	3	3	3
99.9 Total new obligations, unexpired accounts	17	18	20

Employment Summary

Identification code 049-0300-0-1-251	2020 actual	2021 est.	2022 est.
1001 Direct civilian full-time equivalent employment	68	71	79

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, **[\$968,000,000] \$1,287,270,000**, to remain available until September 30, **[2022] 2023**. (*Science Appropriations Act, 2021.*)

Program and Financing (in millions of dollars)

Identification code 049-0106-0-1-251	2020 actual	2021 est.	2022 est.
Obligations by program activity:			
0001 Education and Human Resources	947	972	1,287
0100 Total Disc obligations	947	972	1,287
0302 S-STEM Scholarships for STEM	80	210	122
0303 ITEST grants for Mathematics, Science, or Engineering enrichment courses	35	71	40
0391 Total Mandatory Obligations (H-1B)	115	281	162
0401 American Rescue Plan Act (ARP)		61	
0799 Total direct obligations	1,062	1,314	1,449
0801 Education and Human Resources (Reimbursable)	5	10	10
0900 Total new obligations, unexpired accounts	1,067	1,324	1,459

Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	83	128	
1001 Discretionary unobligated balance brought fwd, Oct 1	6	4	
1021 Recoveries of prior year unpaid obligations	12		
1050 Unobligated balance (total)	95	128	
Budget authority:			
Appropriations, discretionary:			
1100 Appropriation	940	968	1,287
1120 Appropriations transferred to other acct [049-0180]	-3		
1121 Appropriations transferred from other acct [049-0100]	5		
1160 Appropriation, discretionary (total)	942	968	1,287
Appropriations, mandatory:			
1200 Appropriation - American Rescue Plan Act		61	
1201 Appropriation (special or trust fund)	153	157	162
1203 Appropriation (previously unavailable)(special or trust)	10	9	9
1232 Appropriations and/or unobligated balance of appropriations temporarily reduced	-9	-9	-9
1260 Appropriations, mandatory (total)	154	218	162
Spending authority from offsetting collections, discretionary:			
1700 Collected	2	10	10
1701 Change in uncollected payments, Federal sources	3		
1750 Spending auth from offsetting collections, disc (total)	5	10	10
1900 Budget authority (total)	1,101	1,196	1,459
1930 Total budgetary resources available	1,196	1,324	1,459
Memorandum (non-add) entries:			
1940 Unobligated balance expiring	-1		
1941 Unexpired unobligated balance, end of year	128		

Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	2,586	2,683	2,835
3010 New obligations, unexpired accounts	1,067	1,324	1,459
3011 Obligations ("upward adjustments"), expired accounts	7		
3020 Outlays (gross)	-950	-1,172	-1,280
3040 Recoveries of prior year unpaid obligations, unexpired	-12		
3041 Recoveries of prior year unpaid obligations, expired	-15		
3050 Unpaid obligations, end of year	2,683	2,835	3,014
Uncollected payments:			
3060 Uncollected pymts, Fed sources, brought forward, Oct 1	-7	-9	-9
3070 Change in uncollected pymts, Fed sources, unexpired	-3		
3071 Change in uncollected pymts, Fed sources, expired	1		
3090 Uncollected pymts, Fed sources, end of year	-9	-9	-9

Memorandum (non-add) entries:

3100 Obligated balance, start of year	2,579	2,674	2,826
3200 Obligated balance, end of year	2,674	2,826	3,005

Budget authority and outlays, net:

Discretionary:			
4000 Budget authority, gross	947	978	1,297
Outlays, gross:			
4010 Outlays from new discretionary authority	36	146	190
4011 Outlays from discretionary balances	788	851	877
4020 Outlays, gross (total)	824	997	1,067
Offsets against gross budget authority and outlays:			
Offsetting collections (collected) from:			
4030 Federal sources	-3	-10	-10
4033 Non-Federal sources	-7		
4040 Offsets against gross budget authority and outlays (total)	-10	-10	-10
Additional offsets against gross budget authority only:			
4050 Change in uncollected pymts, Fed sources, unexpired	-3		
4052 Offsetting collections credited to expired accounts	8		
4060 Additional offsets against budget authority only (total)	5		
4070 Budget authority, net (discretionary)	942	968	1,287
4080 Outlays, net (discretionary)	814	987	1,057
Mandatory:			
4090 Budget authority, gross	154	218	162
Outlays, gross:			
4100 Outlays from new mandatory authority		18	10
4101 Outlays from mandatory balances	126	157	203
4110 Outlays, gross (total)	126	175	213
4180 Budget authority, net (total)	1,096	1,186	1,449
4190 Outlays, net (total)	940	1,162	1,270

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	2020 actual	2021 est.	2022 est.
Direct obligations:			
11.8 Personnel compensation: Special personal services payments	6	6	7
21.0 Travel and transportation of persons	1	1	3
25.1 Advisory and assistance services	24	24	25
25.3 Other goods and services from Federal sources	6	6	6
31.0 Equipment	1		
41.0 Grants, subsidies, and contributions	1,024	1,277	1,408
99.0 Direct obligations	1,062	1,314	1,449
99.0 Reimbursable obligations	5	10	10

EDUCATION AND HUMAN RESOURCES—Continued
Object Classification—Continued

Identification code 049–0106–0–1–251	2020 actual	2021 est.	2022 est.
99.9 Total new obligations, unexpired accounts	1,067	1,324	1,459

Trust Funds

DONATIONS

Special and Trust Fund Receipts (in millions of dollars)

Identification code 049–8960–0–7–251	2020 actual	2021 est.	2022 est.
0100 Balance, start of year			
Receipts:			
Current law:			
1130 Donations, National Science Foundation	27	40	10
2000 Total: Balances and receipts	27	40	10
Appropriations:			
Current law:			
2101 Donations	–27	–40	–10
5099 Balance, end of year			

Program and Financing (in millions of dollars)

Identification code 049–8960–0–7–251	2020 actual	2021 est.	2022 est.
Obligations by program activity:			
0001 Atacama Large Millimeter Array		9	
0002 Gemini Telescope	10	24	
0003 International Ocean Drilling	11	22	
0005 General Trust Fund		16	10
0900 Total new obligations, unexpired accounts (object class 41.0)	21	71	10
Budgetary resources:			
Unobligated balance:			
1000 Unobligated balance brought forward, Oct 1	25	31	
Budget authority:			
Appropriations, mandatory:			
1201 Appropriation (special or trust fund)	27	40	10
1930 Total budgetary resources available	52	71	10
Memorandum (non-add) entries:			
1941 Unexpired unobligated balance, end of year	31		
Change in obligated balance:			
Unpaid obligations:			
3000 Unpaid obligations, brought forward, Oct 1	42	53	68
3010 New obligations, unexpired accounts	21	71	10
3020 Outlays (gross)	–10	–56	–37
3050 Unpaid obligations, end of year	53	68	41

Memorandum (non-add) entries:

3100 Obligated balance, start of year	42	53	68
3200 Obligated balance, end of year	53	68	41

Budget authority and outlays, net:

Mandatory:			
4090 Budget authority, gross	27	40	10
Outlays, gross:			
4100 Outlays from new mandatory authority		24	6
4101 Outlays from mandatory balances	10	32	31
4110 Outlays, gross (total)	10	56	37
4180 Budget authority, net (total)	27	40	10
4190 Outlays, net (total)	10	56	37

This account consists of contributions from organizations and individuals to fund various cooperative efforts in science, research, and education. Activities supported include cooperative research, joint seminars, exchange of senior scientists, short-term research development visits, international conferences, and support for certain special functions of NSF and the National Science Board. These funds are not otherwise available.

ADMINISTRATIVE PROVISIONS

(INCLUDING TRANSFER OF FUNDS)

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 paragraph shall be treated as a reprogramming of funds under section [505] 504 of this Act and shall not be available for obligation except in compliance with the procedures set forth in that section.

The Director of the National Science Foundation (NSF) shall notify the Committees on Appropriations of the House of Representatives and the Senate at least 30 days in advance of any planned divestment through transfer, decommissioning, termination, or deconstruction of any NSF-owned facilities or any NSF capital assets (including land, structures, and equipment) valued greater than \$2,500,000. (*Science Appropriations Act, 2021.*)

GENERAL FUND RECEIPT ACCOUNTS

(in millions of dollars)

	2020 actual	2021 est.	2022 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	5	5	5
General Fund Offsetting receipts from the public	5	6	6