NATIONAL SCIENCE FOUNDATION

FY 2027 Budget Request to Congress

April 3, 2026

NOTES

Table and Figure Notes

Numbers in the tables and figures may not sum to totals due to rounding.

Common Acronyms Used in NSF's Budget Submission

Appropriation Accounts

- AOAM - Agency Operations and Award Management
- MREFC - Major Research Equipment and Facilities Construction
- NSB - National Science Board
- OIG - Office of Inspector General
- R&RA - Research and Related Activities

Directorates and Offices

- BFA - Office of Budget, Finance, and Award Management
- BIO - Directorate for Biological Sciences
- CISE - Directorate for Computer and Information Science and Engineering
- EDU - Directorate for STEM Education
- ENG - Directorate for Engineering
- GEO - Directorate for Geosciences
- MPS - Directorate for Mathematical and Physical Sciences
- SBE - Directorate for Social, Behavioral, and Economic Sciences
- TIP - Directorate for Technology, Innovation, and Partnerships
- CRSP - Office of the Chief of Research Security Strategy and Policy
- OIRM - Office of Information and Resource Management
- OISE - Office of International Science and Engineering
- OPP - Office of Polar Programs
- OIA - Office of Integrative Activities [organizational unit]
- IA - Integrative Activities [budget activity]
- EPSCoR - Established Program to Stimulate Competitive Research

NSF-Wide Investments

- AI - Artificial Intelligence
- GRFP - Graduate Research Fellowship Program
- IUSE - Improving Undergraduate STEM Education
- I-Corps™ - NSF Innovation Corps
- NRT - NSF Research Traineeship
- QIS - Quantum Information Science
- SaTC - Secure and Trustworthy Cyberspace

Other Frequently Used Acronyms

- STEM - science, technology, engineering, and mathematics
- R&D - research and development
- O&M - operations and maintenance
- Mid-scale RI - Mid-scale Research Infrastructure

Notes

NSF FY 2027 BUDGET REQUEST TO CONGRESS
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NSF FY 2027 Budget Request to Congress

The National Science Foundation Act of 1950 (Public Law 81-507) sets forth our mission: ***"To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense…"***

The National Science Foundation's FY 2027 Budget Request reflects a strategic alignment of resources in a constrained fiscal environment. NSF is prioritizing investments that have the greatest potential to address the most critical, high-priority challenges and opportunities identified by the Administration, Congress, and the science and technology community.

NSF's FY 2027 Budget Request totals $4,863.15 million. Of this total, $3,963.15 million is in discretionary budget authority and $900.0 million is in new mandatory authority to be used for construction of an Antarctic Icebreaking Vessel. This Budget reflects a carefully chosen portfolio that supports the fundamental research that is NSF's hallmark and creates and sustains key partnerships with industry, public agencies, and strategic international partners. Through sustained support for all areas of science, engineering, and education, but with a focus on research and workforce development in critical technologies vital to the Nation's future, this submission ensures a robust return on the public's investment.

In the face of rapid changes to the American research and innovation enterprise, the growing prevalence of technology in our everyday lives, and unprecedented competition from other nations, the time is right for NSF to reimagine its strategic approach. To that end, the Agency has undertaken a holistic evaluation of its portfolio to ensure that "public investments translate into strategic advantage."[1] As a result, NSF investments have been realigned into three priority themes: ***Innovation, Discovery Science and Engineering (S&E),*** *and* ***Research Infrastructure (RI)***. *Innovation* aims to transform knowledge into tangible value for the American people and the Nation. *Discovery S&E* creates the new knowledge that serves as the building blocks of innovation for the decades ahead. Both rely on the American science and technology workforce, equipped with the skills, infrastructure, and opportunity to pursue curiosity-driven research and transform scientific breakthroughs into practical applications. *Research Infrastructure* is an essential enabler for all forms of fundamental research – from curiosity-driven, exploratory research to use-inspired, solutions-oriented research and technology development that meet national, societal, and geostrategic needs and challenges. The skills required to design, operate, and maintain RI are also critical for the long-term future and success of the Nation's STEM enterprise.

[1] www.whitehouse.gov/wp-content/uploads/2025/09/FY27-OMB-OSTP-RD-Priorites-Memo-FINALSIGNED.pdf

INNOVATION THEME

Consistent with the vision of a new Golden Age of American Science and Innovation, NSF's FY 2027 Budget will build on its FY 2026 investments to support the development of specific critical technologies—artificial intelligence (AI); quantum information science (QIS); biotechnology (biotech), including neuroscience; and advanced materials and manufacturing (AMM).

Within the Innovation theme, NSF is designating AI and QIS as ***Frontier Initiatives*** and Advanced Manufacturing & Materials and Biotechnology as additional Innovation focal points. NSF established Frontier Initiatives in FY 2026 to identify the areas of S&E that represent the highest strategic importance to the Nation. As such, these initiatives span the expertise of multiple fields of inquiry, encompassing all types of NSF investments, including fundamental research, translational research, education and workforce development, and research infrastructure using a variety of funding mechanisms. Each frontier initiative will leverage existing investments, experiment with novel funding mechanisms to better support American researchers and create new opportunities – including entirely new fields of inquiry – to rapidly advance clearly articulated national objectives.

Frontier Initiatives

Future of Intelligence – Artificial Intelligence (AI), including machine learning, autonomy, and related foci, ($655.23 million) has advanced rapidly and is increasingly demonstrating its potential to positively transform our lives. NSF has a long and rich history of supporting foundational and use-inspired AI research, setting the stage for today's AI revolution. These investments have enabled the widespread adoption of AI technologies in a range of sectors, including manufacturing, healthcare, transportation, and security. NSF's ability to bring together numerous fields of scientific inquiry uniquely positions the agency to play a pivotal role in expanding the frontiers of AI and further cementing the Nation's leadership in this area as envisioned in the White House Executive Order on *Removing Barriers to American Leadership in Artificial Intelligence*[2] and *Winning the Race: America's AI Action Plan.*[3] NSF supports fundamental and translational research, education, and research infrastructure including cyberinfrastructure, AI-ready data and AI-ready test beds that collectively advance next-generation AI systems and strengthen our ability to harness AI to power scientific discovery, innovation, and economic growth.

Quantum Information Science (QIS), including quantum computing, sensing, and simulation, ($231.15 million) research will advance fundamental understanding and exploitation of uniquely quantum phenomena that can be harnessed for information processing, transmission, and measurement in ways that classical approaches do less efficiently, or not at all. The development of new applications for QIS will lay the groundwork for one of the major technological revolutions of the 21st century. Building upon more than three decades of exploration and discovery-oriented research, NSF investments in QIS will continue to propel the Nation forward as a leading developer of quantum technology and seize opportunities to create strategic advantages for America's future. NSF investments are a key component of the Administration's focus on critical and emerging industries.

[2] www.whitehouse.gov/presidential-actions/2025/01/removing-barriers-to-american-leadership-in-artificial-intelligence/

[3] www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf

Other Innovation Focal Points

Biotechnology, including neuroscience, ($248.59 million) investments support fundamental research that advances understanding of biological systems and enables the responsible use of living organisms and their components to develop new technologies, products, and processes. These contribute to innovation across a range of sectors, including medicine, advanced manufacturing, agriculture, and national security, while strengthening domestic capabilities in biotechnology and biomanufacturing. By supporting discovery-driven research and workforce development in the life sciences and associated fields, NSF enables advances that can translate into applications such as new therapeutics, bio-based materials, and domestically produced chemical and biological products. Sustained investment in biotechnology research and a highly skilled U.S. workforce will be critical to enabling emerging capabilities, including AI-enabled biological discovery, and supporting the continued growth and competitiveness of the U.S. biotechnology sector.

Advanced Materials and Manufacturing ($175.85 million). Innovation in materials and manufacturing is essential to almost every sector of the U.S. economy, spurring growth by increasing productivity, making new products available, and opening new industries. Advanced materials allow the development of new products and often require new manufacturing methods. Advanced manufacturing uses innovative technologies to create safe and secure products and processes with higher performance, fewer resources, and/or new capabilities. NSF investments will lead to useful materials, methods, systems, and products for a prosperous Nation and will grow the national workforce necessary to keep pace with industrial and research needs. These advances increase U.S. prosperity, competitiveness, security, and quality of life, while strengthening the Nation's future communications, computing, energy, agriculture and healthcare.

Other Targeted Investments to Spur Innovation

Novel Funding Mechanisms. As part of this effort, the Directorate for Technology, Innovation and Partnerships (TIP) will continue to pursue new funding mechanisms to accelerate and enhance the impacts of federal dollars. For example, through *NSF Tech Labs*, TIP will initiate a bold, flexible, and outcomes-driven effort designed to build and accelerate sector-defining technologies that can serve as the foundation for future innovation and economic growth. NSF Tech Labs will support full-time research and development teams focused on overcoming persistent barriers to the development of emerging high-impact technologies and tackling engineering-heavy, foundational research problems across scientific fields. NSF Tech Lab teams will benefit from operational autonomy, milestone-based funding and the ability to engage across academia, industry, federal laboratories, and nonprofit sectors. A companion to NSF Tech Labs, *NSF Tech Accelerators* will transform earlier-stage, use-inspired research into scalable, market-ready technologies that strengthen the U.S. economy, competitiveness and security. By engaging stakeholders from the research communities and private industry (including venture capital), government and beyond, each NSF Tech Accelerator will in turn invest in teams conducting use-inspired and translational research in a specific emerging technology area, advancing breakthrough technologies to the market faster.

AI-Ready America is one way that NSF invests in upskilling to expand the American workforce, supported by co-investments and inputs from private sector and philanthropic entities. This program is intended to accelerate AI-readiness at all levels of American society – individuals, local communities,

and businesses. Investments seek to provide Americans in every corner of the country with access to practical experiences, enabling them to progress to AI literacy, fluency, and eventually, proficiency.

Cross-sector Partnerships. TIP's *NSF Regional Innovation Engines (NSF Engines)* program will put more regions of the country on the map as national and world leaders in key technologies, all the while stimulating their growth through the creation of new economies and jobs. This initiative has seen an initial two-year, $135 million investment in nine NSF Engines produce over $1.50 billion in matching commitments from private industry, nonprofits, and state and local governments within the past two years. Investments will also support the development of *AI Test Beds* for secure, real-world environments that will accelerate the design, evaluation, and deployment of AI technologies to allow researchers to prototype and translate them to market.

Industry-University Cooperative Research Centers (IUCRC) accelerate the impact of basic research by facilitating close relationships between industry, academic teams, and government. Three primary objectives are to 1) conduct high-impact research to meet shared industrial needs; 2) enhance U.S. global leadership in driving innovative technology development; and 3) identify, mentor, and develop a high-tech, exceptionally skilled workforce. Every year, more than 2,000 students engage in industry-relevant research at these centers nationwide, giving them on-the-job training for a private sector career. About 30 percent of IUCRC students are hired by participating member companies at the end of their training.

Genesis Mission. NSF investments will support the Administration's Genesis Mission by advancing the use of AI for basic scientific discovery, including through the development of autonomous experimentation systems, AI-enabled experimental methodologies and scientific workflows, high-impact data infrastructure, and collection and curation efforts. These investments will support activities to accelerate discovery across scientific fields and explore entirely new fields of inquiry now enabled by novel AI capabilities. As part of this funding, NSF will support awards that include the creation of extremely large AI-ready data sets across scientific fields, designed for advanced and next-generation AI systems, which will then become available for use in other lines of inquiry across the S&E spectrum.

DISCOVERY SCIENCE AND ENGINEERING THEME

NSF's *Discovery S&E* investments strengthen the R&D ecosystem by combining key investments in research and related activities with concrete actions that break down scientific silos, facilitate cutting-edge rather than incremental science, improve research security, and unleash America's pioneering spirit everywhere in the country. For FY 2027, NSF will prioritize investments that catalyze collaboration, strengthen the Nation's research ecosystem, and unleash the next generation of America's scientific talent through education, training, and early-career opportunities. This includes:

Energy and Water Security Initiative. ($100.0 million) will address the challenges at the water-energy nexus that require convergent, transdisciplinary research to deliver practical, economically viable, and sustainable near-term and future deployable solutions. NSF will partner with the Department of Energy (DOE) on an energy-water initiative that will accelerate understanding of water-related risks and deployable technologies to reduce vulnerabilities where water-related issues threaten reliable energy production.

Metascience Unit. Funding will support a dedicated office to champion agency-wide efforts to explore non-traditional R&D funding mechanisms and drive evidence-based optimizations to the R&D portfolio. The focus is on improving the effectiveness of the U.S. R&D enterprise and collaborative research teams as well as novel methods for research proposal review, administration, and performance that enable researchers to drive disruptive science. For instance, Metascience Unit will explore flexible fast grants alongside longer-duration grants to encourage intellectual risk taking and trial the use of Golden Tickets to make bolder bets on novel ideas.

Established Program to Stimulate Competitive Research (EPSCoR) Office. ($107.70 million) provides strategic programs and opportunities that stimulate sustainable improvements to EPSCoR jurisdictions' R&D capacity and capability. EPSCoR aims to stimulate research that enhances jurisdictional competitiveness in NSF disciplinary and multidisciplinary research programs, especially those that drive economic growth and geographic diversity.

Broad-based discovery research. NSF will continue to invest in discovery-based research that touches all fields of basic science and engineering that seek to understand the unknown and accelerate breakthroughs. One example includes NSF-funded research into methods that can more precisely control plasma – the electrically charged state of matter that makes semiconductor etching machines work. Years of research yielded a fuller understanding of the fundamental nature of plasma and provided the rigorous scientific basis needed to scale-up a pulsed plasma etching process to an industrial level for mass production of complex circuits required for future electronic applications.

Directorate for Social, Behavioral, and Economic Sciences. In FY 2027, NSF will close-out this directorate. Continuing grants that align with Administration priorities, such as in behavioral and cognitive science, and all impacted employees will be transferred to other parts of the agency. The National Center for Science and Engineering Statistics will operate independently of the directorates and continue to be supported through the R&RA appropriation.

STEM Education and Workforce Development. Beyond investments in fundamental and solutions-oriented research, *Discovery S&E* will focus on ensuring that more Americans across the entire U.S have access to cutting-edge research tools as well as meaningful opportunities to gain critical knowledge and skills to adapt and thrive in a technology-driven economy. Aligned with Administration and Congressional priorities, NSF invests substantial resources to support development of the future U.S. workforce, including in these programs:

The *Graduate Research Fellowship Program (GRFP)* ($246.54 million) supports outstanding graduate students as they prepare to serve as the Nation's future STEM leaders. Administration and Congressional priorities are communicated to potential applicants each year via the GRFP solicitation. In FY 2027, NSF intends to continue funding new fellows and will engage industry stakeholders to seek co-funding from those who may benefit from having students perform sponsored research apprenticeships.

The *CyberCorps®: Scholarships for Service (SFS*) ($21.71 million) program recruits and trains the next generation of cybersecurity professionals to develop a superior cybersecurity workforce for the Nation. Key goals for NSF are to increase the number of qualified cybersecurity candidates for cybersecurity positions and improve the national capacity for the education of cybersecurity professionals and research and development workforce.

Faculty Early Career Development (CAREER) ($150.0 million), one of NSF's most prestigious awards, supports early-career faculty by providing stable funding at a sufficient level and duration to enable awardees to develop as outstanding researchers and educators.

Research Experiences for Undergraduates (REU) ($15.0 million), reflects the importance of undergraduate research experiences in building student interest in STEM disciplines. REU Supplements allow students to join research projects supported by NSF grants. REU Sites support cohorts of students to conduct research within or across STEM disciplines. The REU program encourages partnerships between community colleges and baccalaureate degree-granting institutions to provide research opportunities for community college students and faculty.

Historically Black Colleges and Universities-Undergraduate Program (HBCU-UP) and -Excellence in Research Program (HBCU-EiR) ($56.50 million) enhance the quality of undergraduate STEM education and research and support projects that enable STEM faculty to develop at HBCUs.

The *Tribal Colleges and Universities Program (TCUP)* ($7.11 million) provides awards to Tribal Colleges and Universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions to promote high quality STEM education, research, and outreach.

NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) ($112.85 million), established in accordance with the American Competitiveness and Workforce Improvement Act (ACWIA) of 1998 (P.L. 105-277), as modified by the American Competitiveness in the Twenty-first Century Act of 2000 (P.L. 106-313), the Consolidated Appropriations Act, 2005 (P.L. 108-447), and the CHIPS and Science Act of 2022 (P.L. 117-167) and funded through H-1B Nonimmigrant Petitioner Account receipts, supports meritorious proposals to operate programs that provide scholarships to academically talented U.S. students with demonstrable financial need. These scholarships, together with support such as mentoring and internships, help these students earn STEM-related degrees.

NSF Centers. NSF supports a variety of centers programs that leverage opportunities in science, engineering, and technology in which the complexity of the research program or the resources needed to solve the problem require the advantages of scope, scale, duration, equipment, facilities, and students. Centers are one means by which NSF fosters interdisciplinary research. In FY 2027, the Foundation expects to provide almost $200 million for NSF Centers programs, including the National AI Research Institutes, Quantum Leap Challenge Institutes, and Materials S&E Centers.

Research Security Strategy and Policy. The NSF Office of the Chief of Research Security, Strategy, and Policy (OCRSP) leads NSF's efforts to safeguard the research enterprise by developing policies and practices to ensure the security of federally funded research and maintain a research environment that maximizes innovation and discovery. In addition to leading internal strategy for the agency, OCRSP collaborates with federal partners and the White House to coordinate efforts aimed at improving research security and integrity at the federal level. OCRSP also engages with international partners to ensure current and future international collaborations continue to uphold core values such as transparency and accountability. Activities funded include: the S*afeguarding the Entire Community of the U.S. Research Ecosystem (SECURE)* program to empower the research community to identify and mitigate foreign interference that poses risks to the U.S.-funded research enterprise, and the *Research on Research Security (RoRS)* program to advance the understanding of the full scope, potential, challenges, and nature of the research on research security field through scholarly evidence.

RESEARCH INFRASTRUCTURE (RI) THEME

From individual instruments to major research facilities, RI is foundational to the scientific endeavor and enables cutting-edge discoveries and innovations that drive progress across disciplines. RI is an essential enabler for all forms of fundamental research – from curiosity-driven, exploratory research to use-inspired, solutions-oriented research and technology development that meet national, societal, and geostrategic needs and challenges. Cutting-edge RI is also integral to attracting, developing, and training the next generation of STEM talent and inspiring those who will lead the next generation of advances in infrastructure. The skills required to design, operate, and maintain RI are critical for the long-term future and success of the Nation's STEM enterprise. Key components of RI are:

Design of Potential New Major Facility Construction Projects ($18.20 million). The FY 2027 Request supports the design of two potential construction projects, the Summit Modernization and Recapitalization project (SuMR, $11.20 million), and the Next Generation Very Large Array (ngVLA, $7.0 million). SuMR is envisioned as rebuilding the existing Summit Station into a safer, more efficient, and more flexible research facility at the only high altitude, high latitude, and year-round operating location in the Arctic. The ngVLA is the replacement for the current world-leading radio telescope array, the Very Large Array (VLA) and the Very Long Baseline Array (VLBA) with locations across the U.S. The ngVLA will provide a 10-fold improvement in sensitivity and a 10-fold resolution improvement over VLA, and a 50-fold improvement over VLBA's capabilities. Within the U.S. Extremely Large Telescope (ELT) program, NSF selected one project -- the Giant Magellan Telescope (GMT) –- to advance to the Major Facility Final Design Stage. The GMT Organization has assured the Foundation that it can complete this phase with no additional investments from NSF. Thus, the FY 2027 Request provides no design funds for this or any other ELT project.

Major Research Equipment and Facilities Construction (MREFC) ($1,073.0 million, comprising $173.0 million in discretionary funding and $900.0 million in mandatory funding). Construction projects that require an investment of more than $100.0 million are supported through NSF's MREFC Account. In FY 2027, funding continues construction of the Leadership-Class Computing Facility and the Antarctic Infrastructure Recapitalization project, supports completion of current Mid-scale Research Infrastructure - Track-2 projects, and the initiation of a new major facility project: the Antarctic Research Vessel (ARV).

MREFC Account Funding, by Project[1]

(Dollars in Millions)

	FY 2027 Request
Antarctic Infrastructure Recapitalization (AIR)	$60.00
Antarctic Research Vessel (ARV)	900.00
Leadership-Class Computing Facility (LCCF)	81.45
Mid-scale Research Infrastructure, Track 2	30.00
Dedicated Construction Oversight	1.50
Total	**$1,072.95**

[1] Total displayed includes both discretionary and mandatory funding

- The **Leadership-Class Computing Facility** ($81.45 million) is envisioned as a distributed facility that will provide unique computational and data analytics capabilities, as well as critical software and services, for the Nation's science and engineering research community to enable discoveries that would not be possible otherwise. The project will deploy a range of education and outreach activities to nurture our Nation's future STEM workforce in data and computational science.

- NSF manages all U.S. Antarctic activities as a single, integrated program, making Antarctic research possible for scientists supported by NSF and other U.S. agencies. The **Antarctic Infrastructure Recapitalization** ($60.0 million) program is a portfolio of infrastructure investments across the U.S. Antarctic stations.

- The **Antarctic Research Vessel (ARV)** ($900.0 million) is being developed as a modern, U.S.-built, ice-capable Polar Class 3 (PC3) research vessel that will ensure continued access to strategic polar regions and strengthen U.S science and technology leadership. The ARV will provide a safe and reliable platform to support year-round oceanography, geology and geophysics, biology, and atmospheric research in ice-affected waters for the next 30-40 years.

- **Mid-scale Research Infrastructure - Track 2**. See discussion below.

Major Facilities Operations and Maintenance (O&M) ($735.0 million) carefully allocates resources between research grants and O&M costs for research infrastructure that supports the scientific discovery for which those grants are made. In addition to regular O&M needs to keep a facility functional, support for upgrades, significant periodic maintenance, and infrastructure renewal must also be addressed within Facilities O&M. NSF continues to explore ways to invest in research infrastructure, at all scales, to keep pace with changing technologies, increased demand by users, and expanding research opportunities.

At the FY 2027 Budget level, NSF will emphasize O&M support for its highest priority infrastructure, including the U.S. Antarctic Program, world-leading optical (Vera C. Rubin Observatory) and radio (Atacama Large Millimeter/submillimeter Array) astronomy facilities, the National Geophysical Facility, the National Ecological Observatory Network, and some ships of the Academic Research Fleet. A second tier of infrastructure will be supported at a substantially reduced level, which will enable continued delivery of significant scientific outcomes, albeit at a diminished rate. A final group of facilities will be funded at a level that enables only limited FY 2027 activity with the intent to continue toward disposition (closure or divestment) of the infrastructure.

Mid-scale Research Infrastructure (Mid-scale RI) ($48.06 million total, comprising $30.0 million in the agency-wide Track 2 program plus $18.06 million in directorate-level programs), supports research infrastructure with a total project cost falling between the upper limit for the Major Research Instrumentation program at $4.0 million and the Major Facility construction threshold at $100.0 million. This dedicated funding line implements an agency-wide mechanism that includes upgrades to major facilities as well as stand-alone projects.

The **Major Research Instrumentation (MRI)** ($20.0 million) program catalyzes new knowledge by helping STEM professionals acquire or develop the instrumentation needed for innovative research. MRI grants of up to $4.0 million are provided across all NSF-supported research disciplines.

ORGANIZATIONAL EXCELLENCE - AGENCY OPERATIONS AND AWARD MANAGEMENT (AOAM)

Of the $3.963 billion in total discretionary funding in FY 2027, NSF applies $359.70 million for AOAM. This reduction is commensurate to the needs of NSF at the total FY 2027 Request level.

The AOAM account funds the employees and support services at NSF that enable research and operations to steward the taxpayer investment. Investments in the AOAM account provide the fundamental framework through which the Foundation's science and engineering research and education programs are administered, and by which NSF directly supports and responds to Congressional priorities and the Administration's management and performance priorities, including a research science and security framework necessary to the well-being of the NSF-funded scientific enterprise. Over the last several fiscal year budget requests, NSF reduced or held flat support services costs to accommodate the year-over-year increases in the fixed costs for staffing and rent while minimizing growth to the AOAM account in the Request.

Emphasizing the essential nature of the AOAM account in supporting the scientific enterprise at NSF, in FY 2027 NSF proposes two changes:

- Shifting the AOAM account from one-year to two-year budget authority to align its period of availability with the program funds in the R&RA account.

- Increasing the transfer authority into the AOAM account from 10 percent to 20 percent, to align with the House proposal for FY 2026.

In FY 2027, NSF will be operating at its new Headquarters on Dulany Street in Alexandria, VA. The Randolph building is a part of the Carlyle Innovation Campus and is just over 396,700 sq. feet. The relocation enabled NSF to reduce its physical footprint and accelerated the move of IT systems to cloud-based services.

HIGHLIGHTS

Presidential AI Challenge

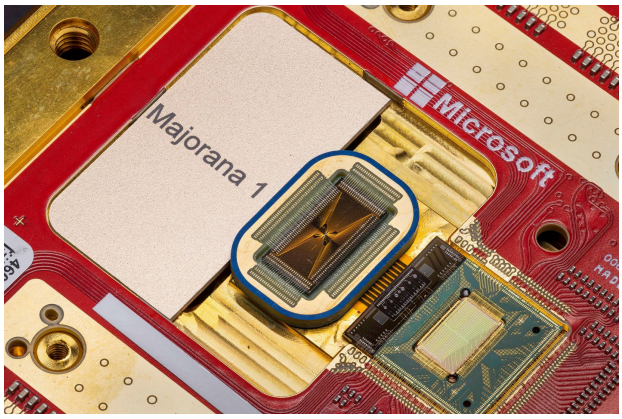
President Donald Trump signs an Executive Order Thursday, March 20, 2025, in the East Room of the White House. Credit: *Official White House Photo by Daniel Torok*

America's economic strength and technological leadership depend on building a broad and skilled AI workforce. The Presidential AI Challenge serves as an entry point to that workforce by engaging K–12 students and educators in hands-on, project-based learning that fosters curiosity, innovation and community engagement. In response to the Challenge, NSF is expanding early access to high-quality AI education and strengthening pathways into the future STEM workforce.

To implement the Challenge, NSF is providing supplemental funding of up to $25,000 to current awardees to serve as Team Catalysts. Approximately 100 teams are expected to participate, supported through mentorship, equipment, community partnerships, stipends and travel. These investments will connect students and educators to a national pipeline of research, training and opportunity.

Microsoft Majorana 1 — Experimental Quantum Chip

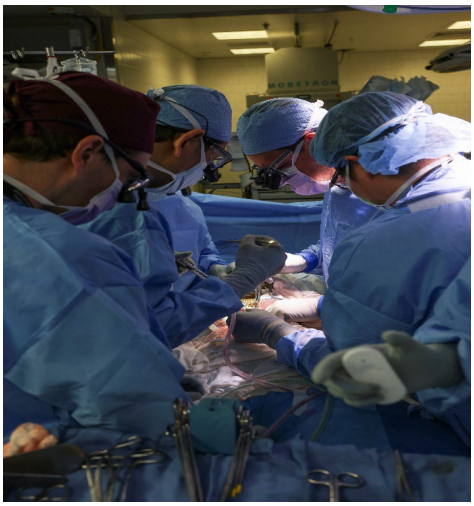
Based on theoretical research funded by NSF, a new chip created by Microsoft is advancing quantum science's ability to take on computationally hefty tasks, such as simulating trillions of molecular interactions to accelerate the path toward new, life-saving medicines.



Majorana 1, the first quantum chip powered by a Topological Core based on a revolutionary new class of materials developed by Microsoft. Credit: *John Brecher for Microsoft*

The powerful capabilities of Microsoft's prototype, dubbed the Majorana 1, continue the lasting impact of decades of bold NSF investments in quantum research which have transformed modern life. Quantum information science powers imaging technologies that deliver better medical care through higher resolution in MRI scans, semiconductor chips that enable virtually all modern technology, and fiber optics that drive the internet. Since 1964, NSF has supported the research of 44 Nobel Laureates who have been recognized for their pioneering contributions to quantum science.

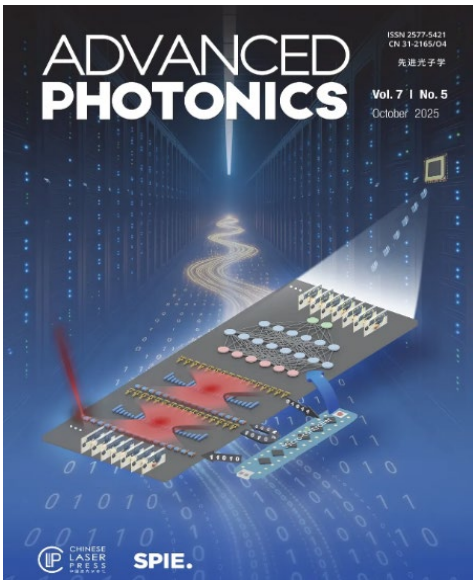
Kidney Frozen for 10 Days and Transplanted Successfully — ATP-Bio Engineering Research Center



Surgeons perform the world's first genetically modified pig kidney transplant into a living human at Massachusetts General Hospital, March 16, 2024. Credit: *Massachusetts General Hospital*

In a landmark moment for transplant medicine, NSF-supported researchers completed the first successful transplant of a cryopreserved kidney from a large mammal. Conducted by the NSF Center for Advanced Technologies for the Preservation of Biological Systems and Massachusetts General Hospital (NSF ATP-Bio), this milestone in medical science saw a pig kidney removed, preserved, and later transplanted back into a large animal with functional results. This has the potential to revolutionize how organs may be stored, transported, and used for future human transplantation. With organs currently only viable for transplant within 24 to 36 hours, this breakthrough opens new possibilities in addressing global organ shortages and improving patient outcomes.

NSF Florida Semiconductor Innovation Engine



The cover of Advanced Photonics Volume 7, Issue 5, featuring a schematic of a system that performs convolution operations using optical components integrated directly onto a silicon chip. Source: *Advanced Photonics 7(5), 059901 (31 October 2025)*

The NSF Regional Innovation Engines program is spurring economic growth in regions that have not fully participated in the technology boom of the past few decades.

Supported by nearly $15 million in NSF investment, the NSF Florida Semiconductor Innovation Engine is helping establish Central Florida as a hub for advanced semiconductor manufacturing and packaging. The Engine, anchored at NeoCity in Osceola County, has launched five use-inspired research projects advancing semiconductor packaging and microelectronics systems. These efforts have attracted $2.5 million in additional financial and in-kind investment. The Engine has also supported the creation of Florida's first associate degree in semiconductor engineering technology at Valencia College. Industry investment has followed, including a $470 million semiconductor manufacturing facility. These developments are generating high-wage jobs and developing the region into technology-driven innovation hub.

Using AI to Spark Curiosity in the Future Semiconductor Workforce

Study participants at Pasadena City College using VR headsets to virtually interact with UCI's cleanroom. Credit: *Ishan Jha*

The U.S. semiconductor industry is projected to face 60,000–100,000 unfilled jobs by 2030, creating urgent demand for scalable training. With NSF support, a team of researchers, working with high school and community college students, used AI-powered virtual reality to create simulations as a cost-effective alternative for people to learn about the process of semiconductor fabrication. The project integrates generative AI for real-time guidance and has drawn interest from other community colleges and universities. By removing physical and financial barriers to hands-on learning opportunities like video game-like experiences, the project is opening the semiconductor field to the next generation and helping strengthen the nation's future talent pipeline.

Ever-Changing Universe Revealed in First Imagery from NSF-DOE Vera C. Rubin Observatory

The NSF-DOE Vera C. Rubin Observatory is the most advanced astronomical survey facility ever created and will anchor an upcoming 10-year research program, the Legacy Survey of Space and Time (LSST). The LSST will revolutionize our understanding of dark matter, dark energy, and planetary defense.

The Observatory is home to the world's largest digital camera, one powerful enough to spot a golf ball from 15 miles away. It will gather more data than all other observatories combined. Earlier this year the Observatory began documenting the astronomical events it was spotting, issuing 800,000 alerts in a single night to call scientists' attention to new asteroids, exploding stars and other changes. This milestone marks the launch of a system expected to eventually produce up to 7 million alerts per night.

Staff watch in awe from the Rubin Auxiliary Telescope (AuxTel) platform as Rubin opens its dome for the start of the night's test run. More than two decades of work by thousands of people from more than 30 countries precipitated this evening. Credit: *NSF-DOE Vera C. Rubin Observatory/NOIRLab/SLAC/NSF/DOE/AURA/P. Horálek (Institute of Physics in Opava)*

The Observatory is a joint effort with the U.S. Department of Energy and reflects a major long-term federal investment in astronomy infrastructure.

Demonstrating the sensor's capability in Harris County, Texas. Credit: *Photo by Regan Williams; featuring Ethan Jackson (Microsoft), Janos Sztipanovits (Vanderbilt University), James Pipas (University of Pittsburgh), David Smith (University of Washington), Daniel Rothenberg (Tomorrow.io), Chris Fredregill (Harris County Public Health)*

Computing the Biome

A nearly $5 million investment from NSF's Directorate for Technology, Innovation and Partnerships (TIP) supported the development of a new platform designed to detect and predict biological threats. Led by Vanderbilt University, the "Computing the Biome" project built a system that combines robotic biosensing, genomic analysis and data to better monitor disease-carrying organisms and emerging risks. The platform was tested in Harris County, Texas, where the team used large-scale mosquito monitoring, genomic sequencing and data to strengthen public health surveillance and improve early detection of mosquito-borne diseases.

The project created a data and AI platform to monitor and predict biothreats in a major U.S. city. Later, the technology transitioned to Microsoft, where it became part of the Premonition Platform, an advanced early warning system that uses robotics, predictive analytics, and cloud-scale genomics to detect pathogens in the environment. This investment demonstrates how NSF-supported research can move from academic discovery to real-world deployment.

Grand Canyon Wildfire RAPID Award

When lightning sparked the 2025 Dragon Bravo Fire at the Grand Canyon's North Rim, it threatened the safety of the park's sole water source, Roaring Springs. The spring supplies water to 4 million annual visitors and 3,000 employees and residents. NSF stepped in with rapid response funding to help researchers at Northern Arizona University launch an emergency effort to better monitor the impacts of the fire on the spring and surrounding areas. Scientists are using gauges and other systems to detect increases in unsafe particles in the water before it reaches Roaring Springs. This project will both protect the Grand Canyon's water supply and improve our understanding of how wildfires impact drinking-water systems across the entire western United States.

Abe Springer crosses a spring-fed stream in Grand Canyon National Park. Credit: *Josh Biggs/Northern Arizona University*

NSF SUMMARY TABLES

For definitions of common acronyms used throughout NSF's FY 2027 Budget Request, see the NOTES found at the beginning of the entire document on pages iii-iv.

NATIONAL SCIENCE FOUNDATION SUMMARY TABLE

FY 2027 BUDGET REQUEST TO CONGRESS

(Dollars in Millions)

	FY 2025 Current Plan[1]	FY 2026 Enacted[1]	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
BIO	$794.61		$224.89	-$569.72	-71.7%
CISE	932.72		346.27	-586.45	-62.9%
EDU	1,197.00		427.68	-769.32	-64.3%
ENG	738.13		185.20	-552.93	-74.9%
GEO	1,020.61		426.32	-594.29	-58.2%
MPS	1,548.25		515.28	-1,032.97	-66.7%
SBE *(excl. NCSES)*	150.00		-	-150.00	-100.0%
TIP	617.90		350.00	-267.90	-43.4%
SBIR/STTR, including Operations	*251.78*		*108.47*	*-143.31*	*-56.9%*
NCSES	74.07		44.00	-30.07	-40.6%
OCRSP	13.50		10.00	-3.50	-25.9%
OISE	48.41		2.74	-45.67	-94.3%
OPP	572.80		497.22	-75.58	-13.2%
U.S. Antarctic Logistics Activities	*109.31*		*109.31*	-	-
IA	481.32		181.78	-299.54	-62.2%
Mission Support Services	134.03		196.89	62.86	46.9%
U.S. Arctic Research Commission	1.75		1.18	-0.57	-32.6%
Research & Related Activities	**$8,325.10**	**$8,114.75**	**$3,409.45**	**-$4,915.65**	**-59.0%**
Major Res. Equip. & Fac. Construction	**$23.40**	**$251.00**	**$172.95**	**$149.55**	**639.1%**
Agency Operations & Award Mgmt.	**$448.00**	**$355.00**	**$359.70**	**-$88.30**	**-19.7%**
Office of Inspector General	**$24.41**	**$24.16**	**$18.00**	**-$6.41**	**-26.3%**
National Science Board	**$5.09**	**$5.09**	**$3.05**	**-$2.04**	**-40.1%**
Total, NSF Discretionary Funding	**$8,826.00**	**$8,750.00**	**$3,963.15**	**-$4,862.85**	**-55.1%**
Antarctic Research Vessel (ARV)	-	-	900.00	900.00	N/A
CHIPS for America Workforce and Education Fund[2]	50.00	50.00	50.00	-	-
STEM Education - H-1B Visa	138.93	150.46	150.46	11.53	8.3%
Donations	40.00	40.00	40.00	-	-
Total, NSF Mandatory Funding	**$228.93**	**$240.46**	**$1,140.46**	**$911.53**	**398.2%**
Total, NSF Budgetary Resources	**$9,054.93**	**$8,990.46**	**$5,103.61**	**-$3,951.32**	**-43.6%**

Totals exclude reimbursable amounts.

[1] Reflects restatements for comparability with the FY 2027 Request the consolidation of the Directorate for STEM Education (EDU) within the R&RA account, and where applicable, the shift of HBCU-EiR program from IA to EDU and the Global Centers program from OISE to IA. This display also presents the National Center for Science and Engineering Statistics (NCSES) and Office of Polar Programs (OPP) as standalone Program Activities apart from the Directorate for Social, Behavioral, and Economic Sciences (SBE), and Directorate for Geosciences (GEO), respectively.

[2] As made available under Sec. 102(d)(2)(C) of Division A of the CHIPS and Science Act (P.L. 117-167).

NSF BUDGET REQUESTS AND APPROPRIATIONS BY ACCOUNT: FY 2008 - FY 2027

(Dollars in Millions)

	Research & Related Activities (R&RA)		STEM Education (EDU)[1]		Major Research Equipment & Facilities Construction (MREFC)[2]		Agency Operations & Award Management (AOAM)[3]		Office of Inspector General (OIG)		Office of the National Science Board (NSB)		NSF, TOTAL	
Fiscal Year	**Request**	**Appropriation**	**Request**	**Appropriation**	**Request**	**Appropriation**	**Request**	**Appropriation**	**Request**	**Appropriation**	**Request**	**Appropriation**	**Request**	**Appropriation**
2008	5,131.69	4,841.73	750.60	765.60	244.74	220.74	285.59	281.79	12.35	11.43	4.03	3.97	6,429.00	6,125.26
2009	*5,593.99*	*5,186.17*	*790.41*	*845.26*	*147.51*	*152.01*	*305.06*	*294.15*	*13.10*	*12.00*	*4.03*	*4.03*	*6,854.10*	*6,493.61*
2009 ARRA	-	*2,500.00*	-	*100.00*	-	*400.00*		-	-	*2.00*		-	-	*3,002.00*
2009 Total	5,593.99	7,686.17	790.41	945.26	147.51	552.01	305.06	294.15	13.10	14.00	4.03	4.03	6,854.10	9,495.61
2010	5,733.24	5,563.92	857.76	872.76	117.29	117.29	318.37	300.00	14.00	14.00	4.34	4.54	7,045.00	6,872.51
2011	6,018.83	5,509.98	892.00	861.03	165.19	117.06	329.19	299.40	14.35	13.97	4.84	4.53	7,424.40	6,805.98
2012	6,253.54	5,689.00	911.20	829.00	224.68	197.06	357.74	299.40	15.00	14.20	4.84	4.44	7,767.00	7,033.10
2013	5,983.28	5,543.72	875.61	833.31	196.17	196.17	299.40	293.60	14.20	13.19	4.44	4.12	7,373.10	6,884.11
2014	6,212.29	5,808.92	880.29	846.50	210.12	200.00	304.29	298.00	14.32	14.20	4.47	4.30	7,625.78	7,171.92
2015	5,807.46	5,933.65	889.75	866.00	200.76	200.76	338.23	325.00	14.43	14.43	4.37	4.37	7,255.00	7,344.21
2016	6,186.30	5,989.68	962.57	878.97	200.31	218.31	354.84	357.00	15.16	15.16	4.37	4.37	7,723.55	7,463.49
2017	6,425.44	6,005.65	952.86	873.05	193.12	214.86	373.02	359.09	15.20	15.20	4.38	4.37	7,964.02	7,472.22
2018[4]	5,361.65	6,334.48	760.55	902.00	182.80	182.80	328.51	328.51	15.01	15.20	4.37	4.37	6,652.89	7,767.36
2019	6,150.68	6,504.51	873.37	922.00	94.65	295.74	333.63	333.03	15.35	15.35	4.32	4.37	7,472.00	8,075.00
2020[5]	5,662.96	6,789.80	823.47	942.55	223.23	243.23	336.89	357.75	15.35	16.50	4.10	4.50	7,066.00	8,354.33
2021[6]	6,213.02	7,347.48	930.93	1,029.00	229.75	301.00	345.64	386.93	17.85	17.85	4.21	4.50	7,741.40	9,086.76
2022[7]	8,139.71	6,999.52	1,287.27	1,149.46	249.00	265.52	468.30	424.90	20.42	19.00	4.60	4.60	10,169.30	8,863.00
2023[8]	*8,425.99*	*7,006.14*	*1,377.18*	*1,154.00*	*187.23*	*187.23*	*473.20*	*463.00*	*23.39*	*23.39*	*5.09*	*5.09*	*10,492.08*	*8,838.85*
2023 DRS[8]	-	*820.66*	-	*217.00*	-	-	-	-	-	-	-	-	-	*1,037.66*
2023 Total[8]	8,425.99	7,826.80	1,377.18	1,371.00	187.23	187.23	473.20	463.00	23.39	23.39	5.09	5.09	10,492.08	9,876.51
2024[9]	9,017.90	7,176.50	1,496.18	1,172.00	304.67	234.00	503.87	448.00	26.81	24.41	5.25	5.09	11,354.68	9,060.00
2025[10, 11]	8,045.32	7,176.50	1,300.00	1,172.00	300.00	[234.00]	504.00	448.00	28.46	24.41	5.22	5.09	10,183.00	8,826.00
2026[12]	3,276.15	7,176.50	-	938.25	251.00	251.00	355.00	355.00	18.00	24.16	3.00	5.09	3,903.15	8,750.00
2027 Discretionary[12]	*3,409.45*	*TBD*	-	*TBD*	*172.95*	*TBD*	*359.70*	*TBD*	*18.00*	*TBD*	*3.05*	*TBD*	*3,963.15*	*TBD*
2027 Mandatory[13]	-	*TBD*	-	*TBD*	*900.00*	-	-	-	-	-	-	-	*900.00*	*TBD*
2027 Request Total[12, 13]	3,409.45	TBD	-	TBD	1,072.95	TBD	359.70	TBD	18.00	TBD	3.05	TBD	4,863.15	TBD

Totals may not add due to rounding. Appropriations as shown are after supplemental appropriations, transfers, and reprogrammings.

[1] The STEM Education (EDU) account was known as Education and Human Resources (EHR) until FY 2023.

[2] The Major Research Equipment and Facilities Construction (MREFC) account was known as Major Research Equipment (MRE) until FY 2002.

[3] The Agency Operations and Award Management (AOAM) account was known as Salaries & Expenses (S&E) until FY 2008.

[4] FY 2018 appropriations include Additional Supplemental Appropriations for Disaster Relief Requirements Act of 2018 supplemental appropriations (P.L. 115-123), which provided NSF $16.30 million in no-year funding to repair radio observatory facilities damaged by hurricanes that occurred during 2017.

[5] FY 2020 appropriations include Coronavirus Aid, Relief, and Economic Security Act (CARES Act) supplemental appropriations (P.L. 116-136), which provided NSF $76.0 million in two-year funding ($75.0 million to the R&RA account and $1.0 million to the AOAM account) to prevent, prepare for, and respond to coronavirus, domestically or internationally, including to fund research grants and other necessary expenses. NSF subsequently transferred $5.0 million from the R&RA account to the EHR account for these purposes.

[6] FY 2021 Appropriations include the $600.0 million in American Rescue Plan Act of 2021 (ARP) (P.L. 117-2) supplemental two-year appropriations to fund or extend new and existing research grants, cooperative agreements, scholarships, fellowships, and apprenticeships, and related administrative expenses to prepare for and respond to coronavirus.

[7] MREFC account level includes $25.0 million in one-time funding for necessary expenses related to RCRV construction impacted by Hurricane Ida as provides in P.L. 117-43, the "Extending Government Funding and Delivering Emergency Assistance Act."

[8] Reflects the transfer of $15.0 million of carryover within the R&RA account to the AOAM account completed in FY 2024. This does not affect funding provided by the Disaster Relief Supplemental Appropriations Act, 2023 (DRS).

[9] Includes $448.0 million of FY 2024 appropriated dollars and a transfer of $15.0 million of FY 2023 carryover of appropriated dollars for total available funding in the FY 2024 Current Plan of $463.0 million.

[10] Reflects the consolidation of Mission Support Services for EDU and R&RA into R&RA.

[11] MREFC appropriated funds were not included in the emergency designation transmitted to the Committee on Appropriations on March 24, 2025, and thus were not available for expenditure.

[12] Reflects the proposed consolidation of the Directorate for STEM Education from the EDU Account to the Research and Related Activities (R&RA) Account.

[13] Reflects the construction cost of the Antarctic Research Vessel using Mandatory resources. See the NSF-Wide chapters for more details on this project.

NSF FUNDING PROFILE

The Funding Profile presents a high level, agency-wide estimate of proposal pressure, funding rates (or proposal "success"), and award statistics. These indicators are useful in gauging the relative impact of different funding levels.

Statistics for Competitive Awards: Competitive awards encompass the universe of NSF new activity each year. Examples include research grants, cooperative agreements, equipment grants, fellowships, and conferences.

Statistics for Research Grant Awards: Research Grant Awards are a sub-set of competitive awards. They are limited to research projects and exclude other categories of awards such as those for cooperative agreements, equipment grants, fellowships, and conferences.

- Number of Proposals is based on several factors, including past actual activity, planned competitions, and research trends within the various disciplinary communities. External factors, such as the state of the national economy and other sources of funding, also play a part.
- Number of Awards is also based on several factors, including estimated funding, and expected proposal pool.
- Funding Rate is the number of awards made during a year as a percentage of total proposals competitively reviewed. This indicates the probability of receiving an award when submitting proposals to NSF.
- Annualized Award Size shows the annual level of research grant awards provided to awardees by dividing the total dollars of each award by the number of years over which it extends.
- Average Duration is the length of awards in years.

NSF Funding Profile[1]

	FY 2025 Current Plan Estimate	FY 2026 (TBD)	FY 2027 Request Estimate
Statistics for Competitive Awards			
Number of Proposals	38,700		37,800
Number of Awards	7,400		2,900
Funding Rate	19%		8%
Statistics for Research Grant Awards			
Number of Research Grant Proposals	32,200		31,100
Number of Research Grant Awards	5,800		2,100
Funding Rate	18%		7%
Median Annualized Award Size	$154,200		$175,100
Average Annualized Award Size	$192,400		$218,800
Average Duration (years)	3.0		3.2

[1] Display excludes NSB, OIG, and staff offices.

NUMBER OF PEOPLE INVOLVED IN NSF ACTIVITIES

NSF estimates that in FY 2027, about 94,000 people will be directly involved in NSF programs and activities, receiving salaries, stipends, participant support, and other types of direct involvement. Beyond these figures, NSF programs indirectly impact millions of people, reaching PreK-12 students and teachers, the general public, and researchers through activities including workshops; informal science activities such as museums, television, videos, and journals; outreach efforts; and dissemination of improved curriculum and teaching methods.

Number of People Involved in NSF Activities

	FY 2025 Plan Estimate	FY 2026 (TBD)	FY 2027 Request Estimate
Senior Researchers	50,900		17,700
Other Professionals	10,200		4,300
Postdoctoral Associates	4,500		1,000
Graduate Students	40,200		13,000
Undergraduate Students	30,700		8,300
PreK-12 Teachers	37,000		8,600
PreK-12 Students	131,900		41,200
Total Number of People	**305,400**		**94,100**

Senior Researchers include scientists, mathematicians, engineers, and educators receiving funding through NSF awards. These include both researchers who are principal or co-principal investigators on research and education projects, and researchers working at NSF-supported centers and facilities.

Other Professionals are individuals who may or may not hold a doctoral degree or its equivalent, are considered professionals but are not reported as senior researchers, postdoctoral associates, or students. Examples are technicians, systems experts, etc.

Postdoctoral Associates are individuals who have received Ph.D., M.D., D.Sc., or equivalent and are not faculty members of the performing institution. These individuals are supported through funds included in research projects, centers, or facilities awards, as well as by postdoctoral fellowships.

Graduate Students include those compensated from NSF grant funds. NSF supports graduate students through NSF's fellowship and traineeship programs as well as research assistantships and funds to assist senior researchers or postdoctoral associates in performing research through awards for research projects, centers, or facilities. NSF provides support for approximately 25 percent of the U.S. science and engineering graduate students receiving federal funds and about four percent of the science and engineering graduate students in the U.S. overall.[1]

[1] NCSES Survey of Graduate Students and Postdoctorates in Science and Engineering (GSS) 2024 — Table 1-12: Detailed primary source of federal support for full-time graduate students in science, engineering, and health: 1975–2024 (https://ncses.nsf.gov/pubs/nsf26307/table/1-12))

Undergraduate Students include students compensated from NSF grant funds who are enrolled in technical colleges or baccalaureate programs. They may be assisting senior researchers or postdoctoral associates in performing research, or participating in NSF programs aimed at undergraduate students, such as Research Experiences for Undergraduates.

PreK-12 Teachers include teachers at elementary, middle, and secondary schools. These individuals actively participate in intensive professional development experiences in the sciences and mathematics.

PreK-12 Students are those attending elementary, middle, and secondary schools. They are supported through program components that directly engage students in science and mathematics experiences.

NSF ADMINISTRATION PRIORITIES AND CROSSCUTTING RESEARCH TOPICS SUMMARY

FY 2027 BUDGET REQUEST TO CONGRESS

(Dollars in Millions)

	Frontier Initiative: Artificial Intelligence				
	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total, NSF	$965.18		$655.23	-$309.95	-32.1%

	Frontier Initiative: Quantum Information Science				
	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total, NSF	$365.46		$231.15	-$134.31	-36.8%

	Advanced Materials and Manufacturing[1]				
	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total, NSF	$578.88		$175.85	-$403.03	-69.6%

	Biotechnology				
	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total, NSF	$412.95		$248.59	-$164.36	-39.8%

	NSTC Crosscut National Nanotechnology Initiative (NNI)				
	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total, NSF	$403.91		$131.13	-$272.78	-67.5%

	NSTC Crosscut Networking & Information Technology R&D (NITRD)				
	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total, NSF	$1,961.80		$821.34	-$1,140.46	-58.1%

[1] Advanced Materials and Manufacturing is comprised of totals formally reported separately as *Advanced Manufacturing* and *Microelectronics & Semiconductors.*

NATIONAL SCIENCE FOUNDATION
FELLOWSHIPS, SCHOLARSHIPS, AND POSTDOCTORAL PROGRAMS
FY 2027 BUDGET REQUEST TO CONGRESS
(Dollars in Millions)

	FY 2025 Current Plan[1]	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Fellowships and Scholarships	**$584.07**		**$307.09**	**-$276.98**	**-47.4%**
CyberCorps®: Scholarship for Service (SFS)	72.05		21.71	-50.34	-69.9%
EPSCoR Graduate Fellowship Program (EGFP)[2]	20.62		20.62	-	-
Graduate Research Fellowship Program (GRFP)	433.00		246.54	-186.46	-43.1%
NSF Scholarships in STEM (S-STEM) (H-1B)[3]	[104.20]		[112.85]	[8.65]	[8.3%]
Robert Noyce Scholarship (Noyce) Program	58.40		18.22	-40.18	-68.8%
Postdoctoral Programs	**$4.64**		**$4.12**	**-$0.52**	**-11.2%**
Entreprenurial Fellowships	4.64		4.12	-0.52	-11.2%
Total	**$588.71**		**$311.21**	**-$277.50**	**-47.1%**

[1] FY 2025 column restated for comparability with list of FY 2027 Request fellowships, scholarships, and postdoctoral programs.

[2] EGFP funding excludes $5.0 million contributed via OIA's EPSCoR Research Infrastructure Improvement (RII).

[3] Totals exclude H-1B Visa funded programs (S-STEM).

NATIONAL SCIENCE FOUNDATION
RESEARCH INFRASTRUCTURE (RI) FUNDING, BY ACCOUNT AND ACTIVITY
FY 2027 BUDGET REQUEST TO CONGRESS
(Dollars in Millions)

	FY 2025 Current Plan[1]	**FY 2025 Current Plan RI**	FY 2026 Enacted[1]	**FY 2026 (TBD) RI Funding**	FY 2027 Request	**FY 2027 Request RI Funding**	**Change over FY 2025 Current Plan RI Amount**	**Percent**
BIO	$794.61	**$155.99**			$224.89	**$54.85**	-$101.14	-64.8%
CISE	932.72	**136.03**			346.27	**96.19**	-39.84	-29.3%
EDU	1,197.00	**-**			427.68	**-**	-	N/A
ENG	738.13	**10.05**			185.20	**2.05**	-8.00	-79.6%
GEO	1,020.61	**492.62**			426.32	**247.57**	-245.05	-49.7%
MPS	1,548.25	**405.92**			515.28	**241.90**	-164.02	-40.4%
SBE	150.00	**15.45**			-	**-**	-15.45	-100.0%
TIP	617.90	**-**			350.00	**-**	-	N/A
NCSES	74.07	**74.07**			44.00	**44.00**		
OCRSP	13.50	**-**			10.00	**-**	-	N/A
OISE	48.41	**-**			2.74	**0.03**	0.03	N/A
OPP	572.80	**483.31**			497.22	**471.97**	-11.34	-2.3%
IA	481.32	**121.79**			181.78	**22.30**	-99.49	-81.7%
Mission Support Services	134.03	**-**			196.89	**-**	-	N/A
USARC	1.75	**-**			1.18	**-**	-	N/A
R&RA	$8,325.10	**$1,895.23**	$8,114.75		$3,409.45	**$1,180.86**	-$714.37	-37.7%
MREFC	$23.40	**$23.40**	$251.00		$172.95	**$171.45**	$148.05	632.7%
AOAM	$448.00	**-**	$355.00		$359.70	**-**	-	N/A
OIG	$24.41	**-**	$24.16		$18.00	**-**	-	N/A
NSB	$5.09	**-**	$5.09		$3.05	**-**	-	N/A
Total, NSF Discretionary	$8,826.00	**$1,918.63**	$8,750.00		$3,963.15	**$1,352.31**	-$566.32	-29.5%
Antarctic Research Vessel (ARV)[2]	-	**-**	-		900.00	**900.00**	$900.00	N/A
CHIPS for America Wrkfrce and Edc. Fund[3]	50.00	**-**	50.00		50.00	**-**	-	N/A
STEM Education - H-1B Visa	138.93	**-**	150.46		150.46	**-**	-	N/A
Donations	40.00	**-**	40.00		40.00	**-**	-	N/A
Total, NSF Mandatory Funding	$228.93	**-**	$240.46		$1,140.46	**$900.00**	$900.00	N/A
Total, NSF Budgetary Resources	$9,054.93	**$1,918.63**	$8,990.46		$5,103.61	**$2,252.31**	$333.68	17.4%

[1] Reflects restatements for comparability the consolidation of the Directorate for STEM Education (EDU) within the R&RA account, the shift of HBCU-EiR program from IA to EDU and the Global Centers program from OISE to IA. This display also presents the National Center for Science and Engineering Statistics (NCSES) and Office of Polar Programs (OPP) presented as standalone Program Activities apart from the Directorate for Social, Behavorial, and Economic Sciences (SBE), and Directorate for Geosciences (GEO), respectively.

[2] NSF requests the Antarctic Research Vessel, a Polar Class 3 Antarctic research vessel, as mandatory spending.

[3] As made available under Sec. 102(d)(2)(C) of Division A of the CHIPS and Science Act (P.L. 117-167).

NATIONAL SCIENCE FOUNDATION
RESEARCH INFRASTRUCTURE SUMMARY
FY 2027 BUDGET REQUEST TO CONGRESS
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Operations and Maintenance of Major Facilities[1]	**$1,046.49**		**$735.00**	**-$311.49**	**-29.8%**
Major Research Facilities Construction Investments	**$23.60**		**$159.65**	**$136.05**	**576.5%**
Construction, Acquisition, and Commissioning (MREFC)[2]	5.60		141.45	135.85	2425.9%
Design Stage Activities[3]	18.00		18.20	0.20	1.1%
Mid-scale Research Infrastructure[4]	**$110.18**		**$48.06**	**-$62.12**	**-56.4%**
MREFC Mid-scale Research Infrastructure	17.80		30.00	12.20	68.5%
NSF-wide Mid-scale Research Infrastructure (R&RA)	40.05		-	-40.05	-100.0%
Directorate Midscale Research Infrastructure Programs	52.33		18.06	-34.27	-65.5%
Major Research Instrumentation (MRI)	**$46.65**		**$20.00**	**-$26.65**	**-57.1%**
Polar Logistical and Infrastructure Support[5]	**$174.17**		**$181.91**	**$7.74**	**4.4%**
CISE Netwrking and Computatnl Resrces Infrastrctre and Srvces (NCRIS)	**$136.85**		**$83.29**	**-$53.56**	**-39.1%**
Research Resources[6]	**$271.09**		**$66.02**	**-$205.07**	**-75.6%**
Other Research Infrastructure	**$109.86**		**$58.38**	**-$51.48**	**-46.9%**
Subtotal, Research Infrastructure Support	**$1,918.89**		**$1,352.31**	**-$566.58**	**-29.5%**
Research Infrastructure Stewardship Offset	-0.26		-	0.26	-100.0%
RESEARCH INFRASTRUCTURE TOTAL	**$1,918.63**		**$1,352.31**	**-$566.32**	**-29.5%**

[1] FY 2025 column removes Subseafloor Sampling Program (S3P) for comparability with the FY 2027 Request. The scope of S3P no longer qualifies as a major facility and does not appear within line. Activities associated with S3P are now part of the infrastructure portfolio within the Directorate for Geosciences.

[2] Construction, Acquisition, and Commissioning are for implementation support provided through the MREFC account. FY 2027 MREFC discretionary funding is included for the Antarctic Infrastructure Recapitalization program , the Leadership Class Computing Facility, and Mid-scale Research Infrastructure (shown on the MREFC Mid-scale RI line below). The Antarctic Research Vessel (ARV) is requested for Mandatory spending ($900 million), and is not included in these totals.

[3] Design Stage Activities include support for potential next generation major facilities. This line reflects FY 2025 funding amounts of $11.0 million for Summit Station, and $7.0 million for the Next Generation Very Large Array (ngVLA), and FY 2027 funding amounts of $11.2 million for Summit Station, and $7.0 million for ngVLA.

[4] NSF-wide Mid-scale Research Infrastructure is provided through both the R&RA account (total project cost is less than $20.0 million) and the MREFC account (total project cost is greater than $20.0 million).

[5] Polar Logistical and Infrastructure Support includes funding for Arctic Logistics; U.S. Antarctic Logistical Support Activities (USALS); and Polar Environment, Health, and Safety (PEHS).

[6] Funding for Research Resources includes support for the operation and maintenance of minor facilities, infrastructure and instrumentation, field stations, museum collections, etc.

NSF AUTHORIZATIONS AND OTHER REPORTS

For definitions of common acronyms used throughout NSF's FY 2027 Budget Request, see the NOTES found at the beginning of the entire document on pages iii-iv.

Total NSF Funding

U.S. NATIONAL SCIENCE FOUNDATION (NSF)
COMPUTER SCIENCE EDUCATION RESEARCH CONGRESSIONAL REPORT
IN COMPLIANCE WITH PUBLIC LAW 114-329:
AMERICAN INNOVATION AND COMPETITIVENESS ACT, SEC. 310 (E)

Summary

The American Innovation and Competitiveness Act (AICA), 2017, Public Law 114-329, requires the U.S. National Science Foundation (NSF) to undertake specific activities regarding computer science education research. Specifically, in Sec. (310)(b), NSF is directed to award grants to "…eligible entities to research computer science [CS] education and computational thinking [CT]."

NSF's Computer Science for All (CSforAll) activities respond to this provision of PL 114-329. In 2018, NSF issued the first CSforAll solicitation, NSF 18-537, and in 2024, NSF issued an updated solicitation, NSF 24-555,[1] with revised descriptions of four strands for proposals, three Research Practitioner Partnership (RPP) strands, and one Research strand. The Computer Science for All (CSforAll: Research and RPPs) program solicitation "…aims to provide (1) **high school teachers** with the preparation, professional development (PD) and ongoing support they need to teach rigorous computer science courses; (2) **preK-8 teachers** with the instructional materials and preparation they need to integrate CS and CT into their teaching; and (3) **schools and districts** with the resources needed to define and evaluate multi-grade pathways in CS and CT."

Metrics

The development of metrics to evaluate the success of the program is required by Public Law 114-329. This report focuses on short-term, mid-term and longer-term metrics.

Report on the Success of the Program as Measured by the Short-Term Metrics

Short-term metrics focus on ensuring that the program is making awards in the four areas outlined in the law and that the awards address the goal of reaching the communities identified in the law while ensuring compliance with applicable Non-Discrimination Statutes and Regulations as detailed in the NSF Terms and Conditions. NSF considers 'short-term' metrics to be those that are observable on an annual basis.

During FY 2025, the program funded 26 new projects composed of 30 awards in 16 states to proposals submitted pursuant to NSF 24-555. These awards have goals that cover the first three research topics listed in Sec. 310 of the Act as outlined below.

- 2 projects have research goals that address subsection (b)(2)A; (b)(2)B; (b)(2)C and (b)(2)D
- 21 projects have research goals that address subsection (b)(2)B; (b)(2)C and (b)(2)D;
- 2 projects have research goals that address subsection (b)(2)C and (b)(2)D;
- 1 project has research goals that address subsection (b)(2)B and (b)(2)D;

[1] www.nsf.gov/funding/opportunities/csforall-research-rpps-computer-science-all/505359/nsf24-555/solicitation

Taken as a group, these awards consider a range of opportunities to expand CS education and computational thinking. Examples of CSforAll supported efforts to address preservice preparations for teachers who will teach computer science and computational thinking and/or professional development and ongoing support for teachers, can be found on the NSF website.[2] These include methods for sustainable scaling using school and district networks, and regionally focused K-12 efforts.

CSforAll: Research and RPPs projects support the full spectrum of computing talent. With respect to subsection (b)(2) D, all 26 newly awarded projects address the goal of reaching all students. The geographic spread of these 26 CSforAll: Research and RPPs awarded projects is shown in the table below.

Geographic Regions Served by FY25 CSforAll: Research and RPPs Projects

US State/Region	Number of projects serving
Alabama	1
Arizona	3
California	2
District of Columbia	2
Florida	1
Illinois	1
Louisiana	2
Maine	1
Massachusetts	1
Michigan	1
New York	5
North Carolina	1
Ohio	1
Oregon	1
Texas	1
Virginia	2

Report on the Success of the Program as Measured by the Mid-Term Metrics

Mid-term metrics assess progress that individual projects can reasonably be expected to achieve within three years of award. Measurement of mid-term metrics is based on information contained in the projects' annual reports for the three years following initial funding. Since we are reporting on FY 2025, mid-term metrics are given for the 21 awards representing 17 projects that were issued in FY 2022.

[2] www.nsf.gov/funding/opportunities/csforall-research-rpps-computer-science-all/505359/nsf24-555/solicitation

Based on the responses of the awardees, 94 percent (16 of 17) of projects awarded in FY 2022 that are currently active have been making satisfactory progress for each year of the project duration. One project was missing an annual report at the time of this data analysis so was not counted as making satisfactory progress. "Satisfactory progress" refers to criteria such as whether the stated goals of the project are being met; whether the major activities are in line with those planned in the original grant proposal; whether the opportunities for training and professional development are in line with those promised; and whether dissemination is occurring as planned.

Of the 17 projects awarded in 2022, two projects were funded through the research strand and focused on developing and testing programmatic supports for increasing student exposure to CS and CT concepts. An example research objective of one of the projects included conducting a long-term field study to assess a CT integration framework and self-assessment tool to impact (1) the CT integration planning process, (2) teachers, administrators, and classroom practices, and (3) student outcomes.

Seven projects funded as part of the FY 2022 cohort focused on the implementation of CS courses at the high school level. All of these high school projects included significant teacher professional learning components as well as the construction and evaluation of CS courses and course materials. The high school projects involved over 400 teachers either through a co-construction process, piloting of materials and/or participating in professional learning communities. An example project from this track includes a collaboration involving the Chicago public school district (CPS) to increase enrollment as well as implementing supports so that all CPS high schools can provide a CS Principles Advance Placement (AP) course offering.

The FY 2022 preK-8 strand included five funded projects that involved more than 500 students and teachers. These research projects produced 25 refereed publications (conference proposals and journal articles), one book chapter, and supported two doctoral dissertations. All the preK-8 awards included the construction and evaluation of course materials. An example research focus associated with this track can be represented by the following:

- Research included analyzing surveys on teacher self-efficacy, collaboration, and student interest and case studies on collaboration and communication, classroom outcomes, and barriers.

The remaining three projects funded as part of the FY 2022 CSforAll cohort were associated with the PreK-12 Pathways strand**.** This track focuses on designing pathways that support school districts in constructing policies and support for integrating CS and/or CT across multiple grades including the transition into post-secondary education and/or the STEM workforce. An example project associated with this strand is the "Districts Helping Districts (DhD): Scaling Inclusive CT Pathways."

- The DhD award focuses on advancing knowledge on how school districts across the nation design, implement, and sustain cumulative and competency-based K-12 computational thinking (CT) pathways.

The three projects representing this track reported nearly 20 publications in their FY 2022 annual reports, involving approximately 130 teacher participants as well as data collected from 800 surveys.

In conclusion, the voluntarily included mid-term metrics information about number of educators reached for the 17 CSforAll awarded projects from FY 2022 reported a total of approximately 1,000 teachers reached. This aggregated information from individual projects contributes to the conclusion that CSforAll: Research and RPPs is successful in the mid-term.

Report on the Success of the Program as Measured by the Longer-Term Metrics

In FY 2023, NSF contracted RTI International to carry out an evaluation of the Longer-term outcomes (5 years or more) associated with the CSforAll program. Included in this evaluation were outputs and outcomes associated with the 73 projects funded under NSF's CSforAll program in FY 2017, FY 2018, and FY 2019. As part of this work in FY 2024, RTI International collected longer-term outcomes from project outcomes reports, academic publications, project websites, publicly available databases, and interviews from grantees. Collected data were submitted in a final report to NSF during the summer of 2025. A conservative assessment of longer-term outcomes associated with these 73 projects indicates that collectively these investments served a minimum of 838 schools and 550 districts across 40 states, and a minimum of 11,015 educators and 224,697 students. It was further noted that this sample of projects produced 443 total publications (*e.g.* journal articles, conference presentations) which were cited in over 3,000 future studies. Of the 73 projects reviewed in this sample, 65 produced at least one publication.

Furthermore, 42 projects indicated that activities initiated under their CSforAll funding continued after the completion of their grant period. Within this subset of 42 awards, 28 reported that curricular materials and developed courses were still being utilized. Finally, 22 of these 42 projects reported that the RPPs initiated as part of their funding were still collaborating on CS/CT related reforms. For example, Digital Promise received a follow-up RPP grant from NSF to develop district-wide K–8 CS pathways in rural Kentucky (Appalachia), as well as a Robinhood Foundation grant from the New York Department of Education to advise on the use of the pathways toolkit in their school districts.

NATIONAL SCIENCE FOUNDATION (NSF)
ESTABLISHED PROGRAM TO STIMULATE COMPETITIVE RESEARCH (EPSCOR)
REPORT TO CONGRESS FOR FISCAL YEAR 2025

This report summarizes fiscal year (FY) 2025 NSF funding to institutions and entities in EPSCoR jurisdictions, as required by the following enacted legislation:

- Public Law 111-358 – America COMPETES Reauthorization Act of 2010 Sec. 517 (42 U.S.C. 1862p-9), as amended by:
  - Public Law 114-329 - American Innovation and Competitiveness Act (AICA) Sec. 103(d)(1)(D) and
  - Public Law 117-167 - Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act Title III Sec. 10325 (a)(3)(F) (42 U.S.C. 19014)

Specifically, report details responsive to the AICA include:

(1) a description of the program strategy and objectives;
(2) a description of the awards made in the previous fiscal year including:
  (A) the total amount made available, by jurisdiction, under EPSCoR;
  (B) the total amount of agency funding made available to all institutions and entities within each EPSCoR jurisdiction;
  (C) the efforts and accomplishments to more fully integrate the EPSCoR jurisdictions in major agency activities and initiatives;
  (D) the percentage of EPSCoR reviewers from EPSCoR jurisdictions;
  (E) the number of programs or large collaborator awards involving a partnership of organizations and institutions from EPSCoR and non-EPSCoR jurisdictions; and
(3) an analysis of the gains in academic research quality and competitiveness, and in science and technology human resource development, achieved by the program over the last 5 years.

Report details responsive to the CHIPS and Science Act include:

(1) the Foundation's implementation of Sec. 10325(a)(3);
(2) progress in building research capacity, including both infrastructure and personnel, in EPSCoR jurisdictions, including at Historically Black Colleges and Universities, Tribal Colleges or Universities, minority-serving institutions, and emerging research institutions; and
(3) if the Foundation does not meet the requirement described in subparagraph (A), an explanation relating thereto and a plan for compliance in the following fiscal year and remediation.

American Innovation and Competitiveness Act (P.L. 114-329)

1. EPSCoR Strategies and Objectives (42 USC 1862p-9(d)(1)

EPSCoR's strategies and objectives in FY 2025 were aligned with its mission and programmatic goals, as described in the FY 2024 report. Specifically, the mission of EPSCoR is "to enhance research competitiveness of targeted jurisdictions (states, territories, commonwealths) by strengthening Science, Technology, Engineering and Mathematics (STEM) capacity and capability."

In FY 2025, EPSCoR used three investment strategies in pursuit of its goal to strengthen research capacity and competitiveness in eligible jurisdictions. These investment strategies were: (i) Research Infrastructure Improvement (RII) awards that support physical, human, and cyberinfrastructure development; (ii) Co-Funding in partnership with NSF directorates and offices that support individual

investigators and groups within EPSCoR jurisdictions; and (iii) Outreach activities and workshops that bring EPSCoR jurisdiction investigators together with program staff from across the Foundation to explore opportunities in emerging areas of science and engineering aligned with NSF strategic priorities and with jurisdictional science and technology goals.

Research Infrastructure Improvement (RII)
In FY 2025, EPSCoR RII programs were instrumental in helping to build jurisdictional capability and capacity. In FY 2025, EPSCoR RII programs spanned four active funding opportunities.

- EPSCoR RII Program: EPSCoR Collaborations for Optimizing Research Ecosystems (E-CORE): E-CORE responds directly to input from recent national studies and legislation with a focus on the transformation of a jurisdiction's research ecosystem.[1,2,3] In FY 2025, E-CORE supported the strengthening of jurisdiction-wide research ecosystems by fostering interconnected networks and building research infrastructure to promote research capacity and competitiveness aligned with jurisdictional priorities. These awards provided up to $8 million for up to four years, with a renewal opportunity for up to an additional $8 million over up to four years.
- EPSCoR RII Program: EPSCoR Research Incubators for STEM Excellence (E-RISE): E-RISE supported the incubation of research teams and products in a scientific topical area that links to research priorities identified in a jurisdiction's approved Science and Technology (S&T) Plan. In FY 2025, E-RISE encouraged collaborative, hypothesis-driven research and workforce development to improve competitiveness in a selected STEM field. These awards provided up to $7 million for up to four years, with a renewal opportunity for up to an additional $4.5 million over up to three years.

  Together, E-CORE and E-RISE replaced the RII Track-1 program, archived in FY 2024, and provided expanded opportunities for STEM capacity-building activities in EPSCoR jurisdictions.

- EPSCoR RII Focused EPSCoR Collaborations (FEC) Program: FEC (formerly known as EPSCoR RII Track-2) built interjurisdictional collaborative teams of EPSCoR investigators in scientific focus areas consistent with NSF and national research priorities. FY 2025 awards provided up to $1 million per year for up to four years as collaborative awards between two EPSCoR jurisdictions or up to $1.5 million per year for up to four years to a consortium of three or more EPSCoR jurisdictions.
- EPSCoR RII: EPSCoR Research Fellows (ERF): ERF (formerly known as EPSCoR RII Track-4) provided opportunities for early career, non-tenured, and tenured assistant/associate professor faculty to further develop their individual research potential through extended collaborative visits to the nation's premier private, governmental, or academic research centers. Through these visits in FY 2025, Fellows learned new techniques, benefited from access to unique equipment and facilities, and shifted their research toward transformative new directions. The experience gained through the fellowship is intended to provide a foundation for research collaborations that span the recipient's entire career. These benefits to the Fellows are also expected to, in turn, enhance the research capacity of their institutions and jurisdictions.

[1] Envisioning the Future of NSF EPSCoR report, https://new.nsf.gov/funding/initiatives/epscor/future-nsf-epscor
[2] Government Accountability Report, https://www.gao.gov/assets/gao-22-105043.pdf
[3] Exploratory analysis and conceptual framework for examining research competitiveness, https://nsf-gov-resources.nsf.gov/2022-06/EPSCoR%20Base%20Period%20Final%20Report%20-%20%28508%20Compliant%29.pdf

Co-funding

The EPSCoR co-funding mechanism seeks to supplement support for researchers and institutions in EPSCoR jurisdictions through partially funding some meritorious proposals submitted to NSF programs. Proposals selected for co-funding have been merit reviewed and recommended for award but could not be funded without the combined support of the funding directorate(s) and EPSCoR co-funding. FY 2025 co-funding leveraged EPSCoR investment and facilitated participation of EPSCoR scientists and engineers in NSF-wide programs and initiatives.

Workshops and Outreach

In FY 2025, EPSCoR also funded workshops, conferences, and other community-based activities to explore opportunities in emerging areas of science and engineering, and to share best practices in strategic planning, communication, cyberinfrastructure, evaluation, and other areas of importance to EPSCoR jurisdictions. In addition, EPSCoR supported outreach travel that enabled NSF staff from all directorates and offices to work with the EPSCoR research community on NSF opportunities, priorities, programs, and policies. This travel better acquainted NSF staff with the science and engineering accomplishments, ongoing activities and new directions, and opportunities in research and education in EPSCoR jurisdictions.

EPSCoR Strategic Data

In FY 2025, EPSCoR continued utilizing the EPSCoR Data Outcomes Collection System (EDOCS), which helps track project and programmatic progress in relation to EPSCoR's goals and objectives. EDOCS also helps the program to standardize the depth and breadth of information collected from funded EPSCoR RII projects and will be used to measure capacity-building efforts within the research competitiveness evaluation framework for the program. EDOCS data enables jurisdictions to streamline data collection to more effectively develop strategies for sharing project outcomes to stakeholders beyond NSF EPSCoR. EDOCS data collection expanded to all RII programs in FY 2025.

2. Awards Made in Previous Fiscal Year (42 U.S.C. 1862p-9(d)(2))

NSF Funding Made Available, by Jurisdiction, under EPSCoR (42 U.S.C. 1862p-9(d)(2)(A)).

In FY 2025, NSF EPSCoR invested a total of $251.18 million in support of its programmatic activities. Within total FY 2025 funding, $217.26 million (86.5 percent) was directed to 125 new RII awards, $33.38 million (13.3 percent) to 120 co-funded awards, and $530,000 (0.2 percent) to outreach activities and three workshop awards. The table below details the investments from NSF EPSCoR resources and NSF EPSCoR investments in co-funding actions.

FY 2025 EPSCoR Funding by Jurisdiction

(Dollars in Millions)

EPSCoR Jurisdiction	RII Program	Outreach & Workshops	EPSCoR Co-funding	EPSCoR Total
AK	$5.40	-	$0.26	$5.66
AL	9.56	0.39	2.47	12.42
AR	11.48	-	0.32	11.80
DE	11.25	-	1.37	12.62
GU	7.73	-	-	7.73
HI	4.88	-	0.20	5.08
IA	5.37	-	2.51	7.88
ID	13.17	-	1.02	14.19
KS	13.55	-	0.86	14.41
KY	13.33	-	1.23	14.56
LA	12.25	-	1.94	14.19
ME	3.10	-	0.90	4.00
MS	6.36	-	2.06	8.42
MT	2.04	-	3.83	5.87
ND	6.72	-	0.60	7.32
NE	9.51	0.10	2.79	12.40
NH	5.20	-	1.19	6.39
NM	6.50	-	0.94	7.44
NV	5.96	-	1.36	7.32
OK	7.40	-	3.60	11.00
PR	0.21	-	-	0.21
RI	11.76	-	0.27	12.03
SC	7.43	-	1.06	8.49
SD	8.72	-	0.66	9.38
VI	3.17	-	-	3.17
VT	9.44	-	0.29	9.73
WV	4.38	-	0.96	5.34
WY	6.33	-	0.69	7.02
Admin	5.06	0.04	-	5.11
Total	**$217.26**	**$0.53**	**$33.38**	**$251.18**

Total NSF Funding Made Available in all EPSCoR Jurisdictions (42 U.S.C. 1862p-9(d)(2)(B)).
In FY 2025, NSF (all directorates and programs) invested a total of $1,373.14 million in support of EPSCoR jurisdictions. The table below details NSF investments in EPSCoR jurisdictions including research support, STEM Education, and major research equipment funding.

FY 2025 NSF Funding Made Available to All EPSCoR Jurisdictions

(Dollars in Millions)

EPSCoR Jurisdiction	NSF Funding
AK	$55.83
AL	98.76
AR	36.92
DE	59.67
GU	8.90
HI	50.57
IA	63.54
ID	57.56
KS	56.85
KY	60.26
LA	85.24
ME	29.88
MS	50.28
MT	32.21
ND	38.07
NE	65.73
NH	40.28
NM	53.30
NV	46.65
OK	75.83
PR	22.96
RI	81.68
SC	85.52
SD	35.03
VI	6.12
VT	26.63
WV	26.53
WY	22.36
Total	**$1,373.14**

Integration of EPSCoR Jurisdictions in Major Activities and Initiatives of the Foundation (42 U.S.C. 1862p-9(d)(2)(C)).

In FY 2025, all EPSCoR programmatic activities targeted integration and assimilation of EPSCoR jurisdictions into the research and education programs of the Foundation. RII awards promoted the coordination and integration of recipient jurisdictions into major NSF programmatic activities. Additionally, EPSCoR consulted and engaged NSF disciplinary program officers (POs) in merit review processes and post-award evaluations, such as site visits and reverse site visits (RSVs). Site visits and

RSVs are intended to provide additional project assistance and oversight by allowing jurisdictions to report on the progress of their RII projects in relation to their stated goals and the programmatic terms and conditions. Disciplinary POs assisted in identifying reviewers for RII merit review panels, served as site visit observers, and provided knowledge about the ongoing activities within the directorate that could be leveraged to sustain RII efforts after the performance period of the EPSCoR award.

In FY 2025, National, regional, and jurisdictional meetings of the EPSCoR community facilitated grantee interactions with NSF leadership to learn about the Foundation's strategic priorities and funding opportunities. Participation by EPSCoR researchers and educators in the merit review process across all disciplinary domains of the Foundation and in disciplinary workshops that shape new activities were also vital to this integration.

Outreach to EPSCoR jurisdictions by NSF staff promoted integration of the EPSCoR community into mainstream NSF programs, as did co-funding of awards with the disciplinary programs of the Foundation. Through the EPSCoR outreach investment strategy, EPSCoR facilitated opportunities for researchers and educators from EPSCoR jurisdictions to meet with NSF staff. In these meetings, the EPSCoR participants were provided with information on NSF strategic priorities, funding opportunities, and major Foundation activities and initiatives.

In FY 2025, EPSCoR promoted engagement of the EPSCoR community in NSF and other national activities. Examples of FY 2025 NSF EPSCoR program funding are:

- Hosted eight EPSCoR Live! sessions. EPSCoR Live! is a virtual forum to enable conversations about NSF programs and topics of particular relevance to the EPSCoR community.
- Encouraged researchers, faculty, and other stakeholders in EPSCoR jurisdictions to participate in NSF committee and review panels across NSF (e.g., site visits, merit review panels).
- Supported the inaugural EPSCoR Graduate Fellowship Program (EGFP) cohort to enhance the capacity and competitiveness of EPSCoR jurisdictions by providing funding to support graduate students in EPSCoR jurisdictions. EGFP leveraged the NSF Graduate Research Fellowship Program (GRFP) by providing funding for applicants who received the distinction of GRFP Honorable Mention to obtain financial support to pursue their graduate education at an institution in an EPSCoR jurisdiction.
- Invested approximately $1.23 million in support of Campus Cyberinfrastructure (CC*) awards to EPSCoR jurisdictions. The CC* program invested in coordinated campus-level networking and cyberinfrastructure improvements, innovation, integration, and engineering for science applications and distributed research projects.
- Provided $1.48 million to fund awards related to acquisition of major research instrumentation and equipment in EPSCoR jurisdictions. Additionally, $960,000 went to support a Mid-scale Research Infrastructure-1 project in Oklahoma. These fundamental infrastructure-building awards will help to build STEM capacity in EPSCoR jurisdictions.
- Provided $16.22 million for 52 CAREER awards for early-career faculty in EPSCoR jurisdictions. The NSF CAREER program supports early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization.
- Funded three workshops in EPSCoR jurisdictions on topics ranging from fluid mechanics, through microplastics, to data science. These workshops brought together researchers, educators, and experts to share important advancements within their respective fields and help to build

knowledge within their jurisdictional research ecosystems.

EPSCoR Reviewers (42 U.S.C. 1862p-9(d)(2)(D)).
EPSCoR collects demographics of all reviewers who evaluate proposals submitted to EPSCoR RII programs. In FY 2025, there were 419 reviewers. Of these, 143, or 34 percent, were from EPSCoR jurisdictions.

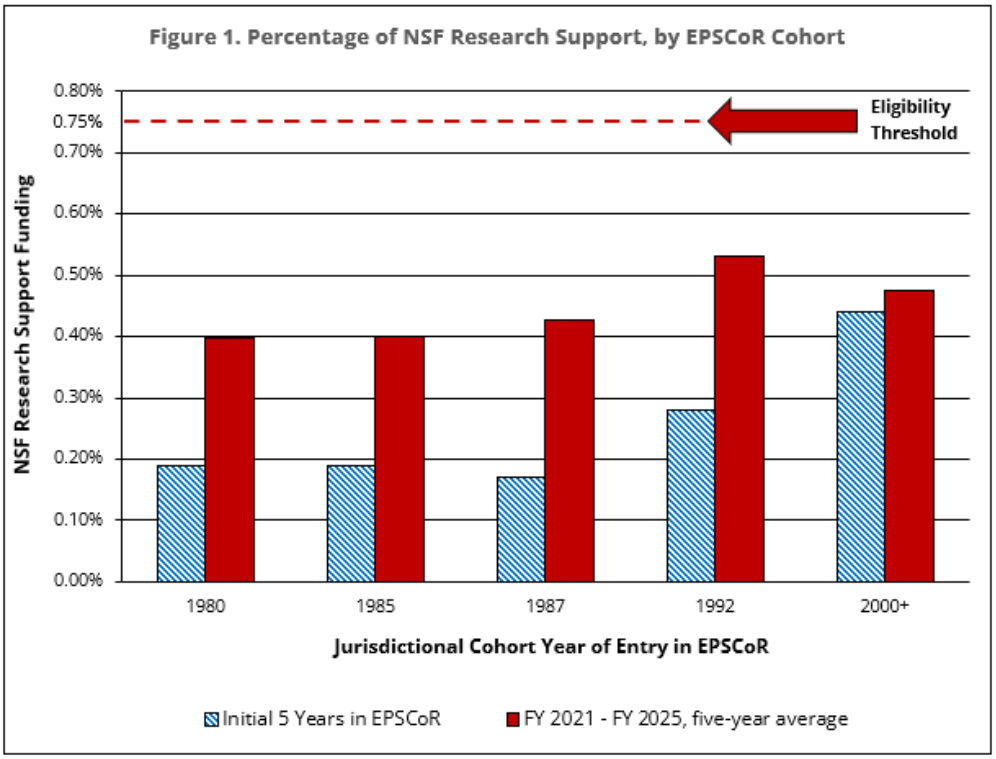
EPSCoR Collaborations and Partnerships (42 U.S.C. 1862p-9(d)(2)(E)).
All RII awards involved collaborations among scientists and engineers in EPSCoR jurisdictions. EPSCoR collected data on all RII awardees' partnerships and collaborations via EDOCS in FY 2025. RII participants developed 1,215 institutional collaborations within EPSCoR jurisdictions; 795 institutional collaborations between EPSCoR jurisdictions and non-EPSCoR jurisdictions; and 213 collaborations between institutions in EPSCoR jurisdictions and in foreign countries. These collaborative efforts highlight the vast network of institutional involvement among EPSCoR jurisdictions and their partners in RII projects. Of these 2,223 catalyzed partnerships, 63 (2.8 percent) were with federal laboratories and 105 (4.7 percent) were with industry partners.

Among the 120 awards co-funded by EPSCoR in FY 2025, 78 involved collaborative research between multiple institutions. Of those 78 collaborative awards, 66 (84.6 percent) were collaborations between investigators from institutions in EPSCoR and non-EPSCoR jurisdictions.

3. Analysis of Gains Over Last 5 Years

An analysis of the gains in academic research quality and competitiveness, and in science and technology human resource development, achieved by the program over the last 5 fiscal years (42 U.S.C. 1862p-9(d)(3)).
The CHIPS and Science Act of 2022 (P.L. 117-167, Sec.10325(a)(3)(H)(i)) suspended inclusion of new or graduation of existing EPSCoR jurisdictions through FY 2027. However, EPSCoR continued to collect data related to eligibility as a measure of a jurisdiction's ability to obtain NSF funding. Historically, a jurisdiction was eligible to participate in EPSCoR programs if its level of NSF funding was equal to or less than 0.75 percent of the total NSF budget over the most recent five-year period, excluding NSF funding to other federal agencies and EPSCoR RII and workshop/conference funding. Jurisdictions above 0.75 percent but less than 0.80 percent were allowed to remain EPSCoR-eligible for up to five years. Given EPSCoR's aim to stimulate research that is fully competitive in NSF's disciplinary and multidisciplinary research programs, increases in the ability to capture NSF research funds serve as a proxy for gains in research competitiveness.

Figure 1 (below) shows the average annual amount of NSF research funds given to each cohort for the initial five years (hatched bars) and the most recent five years (solid bars) of their participation in NSF EPSCoR. A cohort is defined as the group of states or jurisdictions that entered EPSCoR within a given fiscal year. For example, the 1980 cohort consists of the initial five states that qualified for EPSCoR at that time. For this summary, the 2000+ cohort consists of jurisdictions that entered EPSCoR in FY 2000 or later and are still EPSCoR-eligible for RII competitions. Former EPSCoR jurisdictions Missouri, Tennessee, and Utah are excluded because they were not EPSCoR-eligible in FY 2025.



Each cohort shows an increase in competitiveness over the periods of participation. For example, the 1980 cohort (Arkansas, Maine, Montana, South Carolina, West Virginia) shows a 110 percent increase in NSF research funding over the past 45 years of EPSCoR activity. The 1985 cohort (Alabama, Kentucky, Nevada, North Dakota, Oklahoma, Puerto Rico, Vermont, and Wyoming) demonstrates a 111 percent increase during its 40 years of EPSCoR participation. The 1987 cohort (Idaho, Louisiana, Mississippi, and South Dakota) shows a 151 percent increase over the past 38 years, whereas the 1992 cohort (Kansas and Nebraska) has a 90 percent increase in competitiveness over its 33 years of EPSCoR involvement. In general, currently eligible jurisdictions participating in EPSCoR since FY 2000 entered into the program at a higher level of NSF research funding than the previous cohorts. For the 2000+ cohort (Alaska, Delaware, Guam, Hawaii, Iowa, New Hampshire, New Mexico, Rhode Island, and the Virgin Islands), there has been a small, yet demonstrable 8 percent increase in research funding.

Percentage of NSF Funding,
by Jurisdiction and EPSCoR Cohort

	Initial 5 Years in EPSCoR*	Most Recent 5 Year Period (FY 2021-2025)**	Percent Change Over Time
1980 Cohort	0.19%	0.40%	110%
Arkansas	0.10%	0.35%	246%
Maine	0.27%	0.27%	2%
Montana	0.13%	0.43%	230%
South Carolina	0.41%	0.71%	74%
West Virginia	0.07%	0.23%	232%
1985 Cohort	0.19%	0.40%	111%
Alabama	0.33%	0.96%	191%
Kentucky	0.22%	0.43%	97%
Nevada	0.14%	0.41%	195%
North Dakota	0.06%	0.28%	363%
Oklahoma	0.30%	0.56%	86%
Puerto Rico	0.15%	0.23%	51%
Vermont	0.10%	0.16%	59%
Wyoming	0.20%	0.18%	-8%
1987 Cohort	0.17%	0.43%	151%
Idaho	0.08%	0.41%	417%
Louisiana	0.36%	0.71%	97%
Mississippi	0.16%	0.38%	138%
South Dakota	0.09%	0.20%	127%
1992 Cohort	0.28%	0.53%	90%
Kansas	0.34%	0.51%	51%
Nebraska	0.22%	0.55%	149%
2000+ Cohort	0.44%	0.47%	8%
Alaska	0.55%	0.62%	12%
Delaware	0.41%	0.57%	38%
Guam	0.02%	0.01%	-49%
Hawaii	0.56%	0.63%	13%
Iowa	0.71%	0.73%	2%
New Hampshire	0.44%	0.39%	-11%
New Mexico	0.58%	0.61%	5%
Rhode Island	0.70%	0.68%	-3%
Virgin Islands	0.00%	0.04%	400%

*Percentages based on eligibility guidelines at the time of entry into the EPSCoR program.

**Percentages based on current eligibility guidelines.

Additional EPSCoR Impacts – FY 2025

This section provides FY 2025 EPSCoR RII science and technology outputs of academic research capacity, human resource development, and the demographics of participants.

The following table demonstrates quantifiable outputs of NSF EPSCoR's RII programs in FY 2025. This information clarifies the gains in academic research capacity and competitiveness, as defined by publications, leveraged grants, and patents, all strong indicators of economic development. The number and valuation of grants awarded encompass all federal, private industry, and private foundation awards across the U.S. for all active projects. These leveraged grants help to build on EPSCoR-funded research and drive academic capacity and capability across EPSCoR jurisdictions.

FY 2025 RII Aggregate of EPSCoR Outputs[1]

	Track-1	E-CORE	E-RISE	FEC	ERF	**Total**
Number of Active Awards	26	22	21	90	152	**311**
Publications	790	21	50	694	143	**1,698**
Grants Awarded	258	23	26	283	64	**654**
Value of Grants Awarded in Millions	$229.98	$24.65	$20.89	$276.81	$35.77	**$588.10**
Patents Awarded	-	-	2	-	-	**2**
Patents Pending	21	-	3	17	-	**41**

[1] Data is self-reported by each project through annual reports and aggregated for the program, by year.

* Some jurisdictions have an RII Track-1 award and E-CORE/E-RISE awards, since there is an allowable 6-month overlap for expiring and new awards. Of the 68 active RII FEC awards, one had not yet submitted data for the reporting period.

The table below indicates EPSCoR's ongoing support of human resources in STEM in the RII programs. The number of faculty and students involved in these projects signifies strong commitment by NSF and the jurisdictions in strengthening jurisdictional human capital in science and engineering research and education.

FY 2025 RII Human Resource Development

	Track-1	E-CORE	E-RISE	FEC	ERF	**Total**
Faculty Supported	938	156	134	864	152	**2,244**
Post-Docs Supported	127	4	9	143	21	**304**
Graduate Students Supported	810	24	63	783	145	**1,825**
Undergraduates Supported	699	61	53	375	43	**1,231**
New Faculty Hired	21	5	5	14	-	**45**
Graduate Degrees Conferred	112	1	3	148	54	**318**
Undergraduate Degrees Conferred	67	12	6	81	10	**176**

[1] Data is self-reported by each project through annual reports and aggregated for the program, by year.

Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act (P.L. 117-167)

The CHIPS and Science Act reiterated the ongoing importance of investments in EPSCoR jurisdictions and encouraged the development of new programs throughout NSF responsive to EPSCoR jurisdictions' and the Nation's discovery, innovation, and training goals. NSF activities in response to the CHIPS and Science Act will have sustainable positive impact, which will be reflected in each future EPSCoR annual report.

1. Foundation's implementation of Sec. 10325(a)(3)

In FY 2025, NSF's implementation strategy of the provisions in Section 10325(a)(3) of the CHIPS and Science Act was multi-faceted and organized around two strategies aligned with the intent of the legislation of "prioritizing funding and activities that enable sustainable growth in the competitiveness of EPSCoR jurisdictions". The strategies were as follows:

1. Develop or grow NSF funding opportunities that support new or enhanced research capacity building approaches to promote sustainable research infrastructure advancements at institutions in EPSCoR jurisdictions.
2. Enhance and track EPSCoR-relevant knowledge sharing within NSF and expand external outreach to institutions and organizations in EPSCoR jurisdictions.

To implement the provisions in Sec 10325(a)(3), a cross-cutting leadership and management structure was used. At the agency level, NSF's executive leadership team provided strategic direction in activities and efforts to support implementation of the two aforementioned strategies. Early in FY 2025, the NSF EPSCoR Strategy, Engagement, and Consultation (ESEC) Working Group, comprised of representatives from NSF's directorates and offices, coordinated the agencywide implementation plan process for directorates and offices. NSF has created internal resources available to all NSF staff to monitor the agency's progress toward achieving annual spending targets.

2. Building Research Capacity in EPSCoR jurisdictions at Minority-serving Institutions and Emerging Research Institutions

For FY 2025, NSF's progress in building research capacity at minority-serving institutions (MSIs), including Historically Black colleges and universities (HBCUs) and tribal colleges and universities, as well as emerging research institutions (ERIs) in EPSCoR jurisdictions is provided in the table below.

NSF's FY 2025 Support of Emerging Research Institutions and Minority-Serving Institutions in EPSCoR Jurisdictions[1,2]

(Dollars in Millions)

	FY 2025 Award Funding	Proposals Evaluated	Awards Funded	Funding Rate
All IHEs[3]	$6,716.43	38,047	7,506	20%
All EPSCoR IHEs[3]	1,227.14	5,920	1,401	24%
All ERIs	1,138.08	9,267	1,611	17%
All MSIs	1,375.38	7,655	1,342	18%
All HBCUs	121.73	639	104	16%
All Tribal Colleges	24.43	47	19	40%
ERIs in EPSCoR Jurisdictions	295.63	1,250	299	24%
MSIs in EPSCoR Jurisdictions	207.01	742	158	21%
HBCUs in EPSCoR Jurisdictions	41.58	163	35	21%
Tribal Colleges in EPSCoR Jurisdictions	21.20	39	15	38%

[1] Figures sourced from *NSF by the Numbers* - https://new.nsf.gov/about/about-nsf-by-the-numbers

[2] Data retrieved on March 4, 2026

[3] IHEs filter excludes: federal, individuals, industry, other, and small business.

3. Foundation's Compliance with EPSCoR Funding Targets from CHIPS and Science Act For FY 2025, NSF had two CHIPS and Science Act directed funding targets:
    - 16.5 percent "of the amounts appropriated to the Foundation for research and related activities, and science, mathematics, and engineering education and human resources programs, excluding those amounts made available for polar research and operations support (and operations and maintenance of research facilities), shall be awarded to EPSCoR institutions."
    - 20 percent "of the amounts appropriated to the Foundation for scholarships (including at community colleges), graduate fellowships and traineeships, and postdoctoral awards shall be used to support EPSCoR institutions."

NSF's EPSCoR funding targets for total award funding and scholarships, fellowships, traineeships, and postdoctoral awards are calculated using a consistent and replicable methodology that will enhance NSF's ability to monitor and provide oversight of the agency's progress to meeting the funding targets in a given fiscal year.

As previously noted in the report, NSF's total FY 2025 funding to EPSCoR jurisdictions was $1,373.14 million representing an EPSCoR jurisdiction investment rate of 20.5 percent. This exceeds NSF's FY 2025 CHIPS and Science Act funding target of 16.5 percent.

With regard to the funding target of 20 percent for scholarships, fellowships, traineeships and postdoctoral awards, NSF exceeded this target and achieved an investment rate of 36.8 percent in FY 2025. This target is based on NSF's programs where NSF controls funding for scholarships, graduate fellowships and traineeships, and postdoctoral awards.

National Science Foundation
Creating Helpful Incentives to Produce Semiconductors and Science Act (CHIPS) FY 2027 Spend Plan

NSF CHIPS Funding in FY 2027

(Dollars in millions)

Research and Related Activities (R&RA) Account	$50.00
Total CHIPS and Science Act Funding	**$50.00**

Overview

As part of Creating Helpful Incentives to Produce Semiconductors and Science Act (CHIPS) (P.L. 117-167), Congress provided the U.S. National Science Foundation (NSF) with $200 million over five years to establish a fund "for microelectronics workforce development activities." NSF previously transmitted plans that described initial investments in workforce development, including scalable partnerships with the private sector, that would enhance the skilled semiconductor design and manufacturing workforce.

In FY 2027, NSF will continue to leverage the CHIPS for America Workforce and Education Fund to train new semiconductors/microelectronics researchers, practitioners, technicians, engineers, and educators, fulfilling a key need of the semiconductor industry through FY 2027 and beyond. Notably, NSF will continue support for the National Network for Microelectronics Education, including a national hub and regional nodes.

Legislative Language

Creating Helpful Incentives to Produce Semiconductors and Science Act (CHIPS), Public Law 117-167

SEC. 102. CREATING HELPFUL INCENTIVES TO PRODUCE SEMICONDUCTORS (CHIPS) FOR AMERICA FUND.

(d) CREATING HELPFUL INCENTIVES TO PRODUCE SEMICONDUCTORS (CHIPS) FOR AMERICA'S WORKFORCE AND EDUCATION FUND. —

(1) ESTABLISHMENT.—There is established in the Treasury of the United States a fund to be known as the "Creating Helpful Incentives to Produce Semiconductors (CHIPS) for America Workforce and Education Fund" (referred to in this subsection as the "Fund") for the National Science Foundation for microelectronics workforce development activities to meet the requirements under section 9906 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (15 U.S.C. 4656).

(2) APPROPRIATION. —In addition to amounts otherwise available for such purposes, there is appropriated to the Fund established in subsection (d)(1), out of amounts in the Treasury not otherwise appropriated—

(A) For fiscal year 2023, $25,000,000, to remain available until expended;
(B) for fiscal year 2024, $25,000,000, to remain available until expended;
(C) for fiscal year 2025, $50,000,000, to remain available until expended;
(D) for fiscal year 2026, $50,000,000, to remain available until expended; and
(E) for fiscal year 2027, $50,000,000, to remain available until expended.

NATIONAL SCIENCE FOUNDATION CURRENT AUTHORIZATIONS

(Dollars in Millions)

LEGISLATION	FY 2025 Plan	FY 2026 Request	FY 2027 Request	FY 2025	FY 2026	FY 2027
National Science Foundation Act of 1950, P.L. 81-507[1]				*within limits of funds made available for this purpose within the limits of available appropriations to make such expenditures as may be necessary within the limit of appropriated funds utilize appropriations available*		
CHIPS and Science Act, P.L. 117-167 - see table below				*see table below*		
SBIR and STTR reauthorized through 2025 at current levels under the SBIR and STTR Extension act of 2022, P.L. 117-183						
Small Business Innovation Research (SBIR) Program[2]	**$215.72**	**$93.38**	**$93.38**	3.20% of research funds in 2023, 2024 and 2025		
Small Business Technology Transfer (STTR) Program[2]	**$30.56**	**$12.94**	**$12.94**	0.45% of research funds in 2023, 2024, and 2025		
National Earthquake Hazards Reduction Program Reauthorization Act of 2018, P.L. 115-307	**$47.00**	**$19.50**	**$19.50**	*$0.00*	*$0.00*	*$0.00*
Amends the Earthquake Hazards Reduction Act of 1977 to expand activities under the National Earthquake Hazards Reduction Program to include: (1) gathering information on community resilience (i.e., the ability of a community to prepare for, recover from, and adapt to earthquakes); (2) publishing a systematic set of maps of active faults and folds, liquefaction susceptibility, susceptibility for earthquake-induced landslides, and other seismically induced hazards; and (3) continuing the development of the Advanced National Seismic System, including earthquake early warning capabilities. *With respect to earthquake hazard reduction activities, the bill revises or expands the duties of: (1) the Interagency Coordinating Committee on Earthquake Hazards Reduction, (2) the National Institute of Standards and Technology (NIST), (3) the Federal Emergency Management Agency (FEMA), (4) the U.S. Geological Survey (USGS), and (5) the National Science Foundation.*[3]						
National Quantum Initiative Act, P.L. 115-368				*(Does not authorize appropriations)*		
Authorizes the National Science Foundation to carry out a basic research and education program on quantum information science and engineering, and award grants for the establishment of at least 2 but not more than 5 Multidisciplinary Centers for Quantum Research and Education up to $10 million each for each of fiscal years 2019 through 2023.	*	*	*			
National Defense Authorization Act for Fiscal Year 2021, P.L. 116-283						
Sec 5401(f) Establishes the National Science Foundation Pilot Program of Grants for Research in Rapidly Evolving, High Priority Topics to assess the feasibility and advisability of awarding grants for the conduct of research in rapidly evolving, high priority topics using funding mechanisms that require brief project descriptions and internal merit review, and that may include accelerated external review.[4]	*	*	*	*$1,055.06*	*$0.00*	*$0.00*
H.R. 8810 - National Landslide Preparedness Act, P.L. 116-323				*$0.00*	*$0.00*	*$0.00*
Provide grants, on a competitive basis, to State, territorial, local, and Tribal governments to research, map, assess, and collect data on landslide hazards within the jurisdictions of those governments For each of fiscal years 2021 through 2024 there is authorized to be appropriated to the National Science Foundation, $11,000,000 to carry out this section.	*	*	*			

NATIONAL SCIENCE FOUNDATION CURRENT AUTHORIZATIONS

(Dollars in Millions)

LEGISLATION	FY 2025 Plan	FY 2026 Request	FY 2027 Request	FY 2025	FY 2026	FY 2027
H.R. 8810 - National Landslide Preparedness Act, P.L. 116-323				*$0.00*	*$0.00*	*$0.00*
Provide grants, on a competitive basis, to State, territorial, local, and Tribal governments to research, map, assess, and collect data on landslide hazards within the jurisdictions of those governments For each of fiscal years 2021 through 2024 there is authorized to be appropriated to the National Science Foundation, $11,000,000 to carry out this section.	*	*	*			
H.R. 4704 - Advancing Research to Prevent Suicide Act, P.L. 116-339				*(Does not authorize appropriations)*		
Directs NSF to award competitive, merit-reviewed grants to institutions of higher education (or their consortia) to support multidisciplinary, fundamental research with potential relevance to suicide, including potential relevance to prevention and treatment. *In awarding such grants, the NSF shall encourage applications submitted by early career researchers, including doctoral students and postdoctoral researchers, to promote the researchers' development.*	*	*	*			
S. 2904 Identifying Outputs of Generative Adversarial Networks (IOGAN) Act, P.L. 116-258				*(Does not authorize appropriations)*		
Sec. 3 Directs National Science Foundation, in consultation with other relevant Federal agencies, shall support merit reviewed and competitively awarded research on manipulated or synthesized content and information authenticity,	*	*	*			
H.R. 3153 - Expanding Findings for Federal Opioid Research and Treatment Act, P.L. 116-335				*(Does not authorize appropriations)*		
Sec. 2 Directs National Science Foundation, in collaboration with National Institutes of Health shall support merit-reviewed and competitively awarded research on the science of opioid addiction.	*	*	*			
S. 153 - Supporting Veterans in STEM Careers Act, P.L. 116-115				*(Does not authorize appropriations)*		
Sec. 3 Directs National Science Foundation through the research and education activities of the Foundation, encourage veterans to study and pursue careers in STEM and computer science, in coordination with other Federal agencies that serve veterans.	*	*	*			
H.R. 7776 - James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, PL 117-347				*(Does not authorize appropriations)*		
Sec. 5913 (c) Distributed Ledger Technology Research, which directs NSF to make awards to support distributed ledger technology research, subject to the availability of appropriations.	*	*	*			
S. 3949 - Trafficking Victims Prevention and Protection Reauthorization Act of 2022, PL 117-348				*(Does not authorize appropriations)*		
Sec. 124 directs the National Science Foundation to support merit-reviewed and competitively awarded research on the impact of online social media platforms on the maintenance or expansion of human trafficking.	*	*	*			

* - NSF only reports actual amounts in the Authorizations Table.

[1] Organic legislation establishing NSF.

[2] SBIR and STTR authorization has lapsed on September 30, 2025. There is Legislation, S.3971 – Small Business Innovation and Economic Security Act, pending passage in the House to reauthorize SBIR and STTR through September 30, 2031.

[3] Authorizes $54.0 million for the National Earthquake Hazards Reduction Program at NSF for each of fiscal years FY 2019 through FY 2023.

[4] Authorizes appropriation of funds for the Pilot Program of Grants for Research in Rapidly Evolving, High Priority Topics. Outyear funding $1,055,060,000 for fiscal year 2025.

CHIPS and Science Act of 2022 Authorized Levels

Sec. 10303 Authorization of Appropriations

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Mid-scale RI-1	$55.00	$60.00	$70.00	$75.00	$80.00
TIP Directorate	1,500.00	3,350.00	3,550.00	3,800.00	4,100.00
Unspecified Funding	7,495.00	8,640.00	9,230.00	9,925.00	10,520.00
Research & Related Activities	**$9,050.00**	**$12,050.00**	**$12,850.00**	**$13,800.00**	**$14,700.00**
NOYCE	73.70	80.40	87.10	93.80	100.50
NSF Research Traineeship (NRT)	59.50	64.91	70.32	75.73	81.14
GRFP	416.30	454.14	491.99	529.83	567.68
Cybercorps SFS	70.00	72.00	78.00	84.00	90.00
Fellowships, traineeships, per section 10393	350.00	800.00	900.00	950.00	1,000.00
STEM Teacher Corps Pilot (pg. 393)	60.00	60.00	60.00	60.00	60.00
Sec. 5 Auth. of Approps. (pg. 410)	150.00	150.00	150.00	150.00	150.00
Unspecified Funding	770.50	818.55	862.59	906.64	950.68
STEM Education	**$1,950.00**	**$2,500.00**	**$2,700.00**	**$2,850.00**	**$3,000.00**
Mid-scale RI-2	76.25	80.00	85.00	90.00	100.00
MREFC	**$249.00**	**$355.00**	**$370.00**	**$372.00**	**$375.00**
AOAM	**$620.00**	**$710.00**	**$750.00**	**$770.00**	**$800.00**
OIG	**$23.39**	**$26.61**	**$31.11**	**$34.61**	**$38.11**
NSB	**$5.09**	**$5.32**	**$5.56**	**$5.81**	**$6.07**
Total, NSF	**$11,897.48**	**$15,646.93**	**$16,706.67**	**$17,832.42**	**$18,919.18**

NSF-WIDE INVESTMENTS

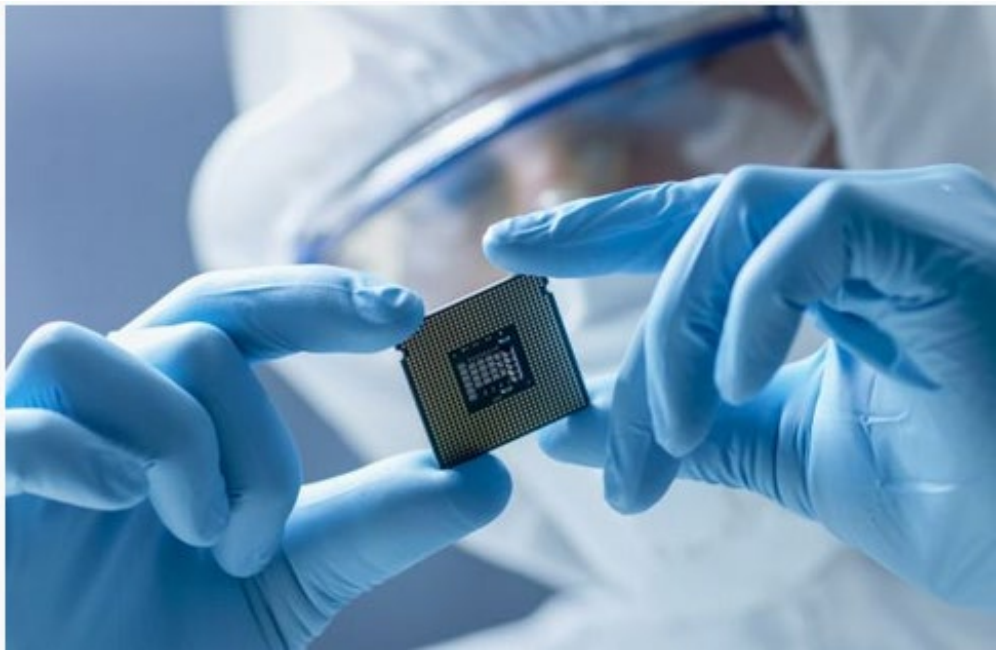
For definitions of common acronyms used throughout NSF's FY 2027 Budget Request, see the NOTES found at the beginning of the entire document on pages iii-iv.

NSF-WIDE INVESTMENTS FRAMEWORK

For 75 years, NSF funded breakthroughs in science and technology (S&T) combined with key investments in research infrastructure, STEM, and education and workforce development have helped give rise to the critical and emerging technologies that power America's economic prosperity and national security today. Amid unpreceded global competition and breakneck pace of technological development, securing America's scientific leadership for future generations necessitates targeted, forward-thinking investments in these and other critical fields.

To meet the demands of the moment, NSF must continuously evolve to ensure it is investing in the ideas, people, and tools at the frontiers of S&T. To that end, since the start of the Trump Administration, the Agency has undertaken a holistic evaluation of its portfolio to ensure that "public investments translate into strategic advantage."[1] As a result, the NSF-wide investments described in this section have been realigned into two broad priority themes: ***Innovation*** and ***Discovery Science and Engineering***.

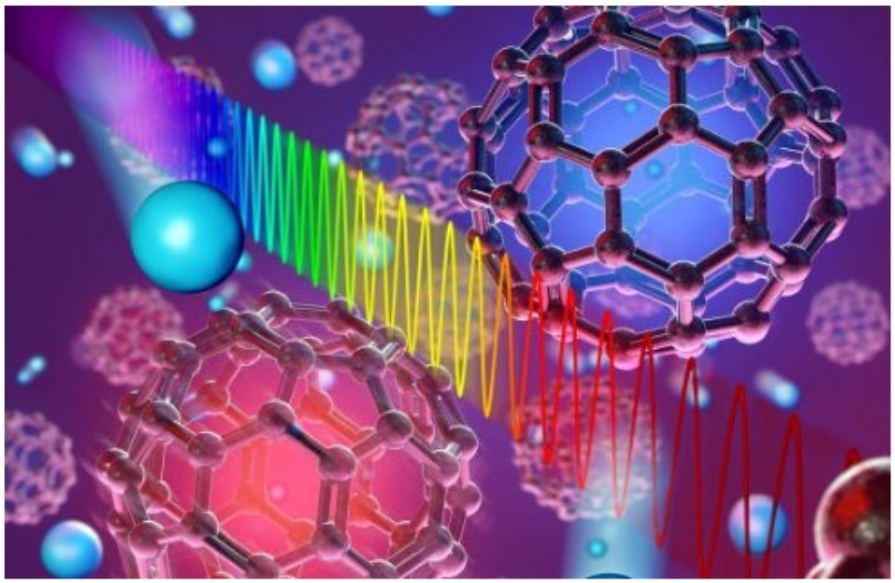
Innovation aims to transform knowledge into tangible value for the American people and the Nation. *Discovery S&E* creates the new knowledge that serves as the building blocks of innovation for the decades ahead. Both rely on the talent, hard work, and ingenuity of Americans in every city and town equipped with the skills, infrastructure, and opportunity to pursue fundamental truth and transform it into practical application.



[1] www.whitehouse.gov/wp-content/uploads/2025/09/FY27-OMB-OSTP-RD-Priorites-Memo-FINALSIGNED.pdf

INNOVATION THEME

Consistent with the vision of a new Golden Age of American Science and Innovation, NSF's FY 2027 Budget will build on its FY 2026 investments to support the development of specific critical technologies—artificial intelligence (AI); quantum information science (QIS); biotechnology (Biotech), including neuroscience; and advanced materials and manufacturing (AMM).



Within the Innovation theme, NSF is designating AI and QIS as ***Frontier Initiatives*** and Advanced Manufacturing & Materials and Biotechnology as additional Innovation focal points. NSF established Frontier Initiatives in FY 2026 to identify the areas of S&E that represent the highest strategic importance to the Nation. As such, these initiatives span the expertise of multiple fields of inquiry, encompassing all types of NSF investments, including fundamental research, translational research, education and workforce development, and research infrastructure using a variety of funding mechanisms. Each frontier initiative will leverage existing investments, experiment with novel funding mechanisms to better support American researchers and create new opportunities -- including entirely new fields of inquiry -- to rapidly advance clearly articulated national objectives. During FY 2027, NSF also will double down on cross-cutting actions to accelerate the translation of discovery into solutions at speed and scale.

FRONTIER INITIATIVE
AI AND THE FUTURE OF INTELLIGENCE

Artificial Intelligence Funding[1]
(Dollars in Millions)

FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request
$965.18		**$655.23**

[1] Funding displayed may have overlap with other topics and programs.

AI has advanced rapidly and is increasingly demonstrating its potential to significantly transform our lives. NSF has a long and rich history of supporting foundational and use-inspired AI research, setting the stage for today's AI revolution. These investments have enabled the widespread adoption of AI technologies in a range of sectors, including manufacturing, healthcare, and transportation. NSF's ability to bring together numerous fields of scientific inquiry uniquely positions the agency to play a pivotal role in expanding the frontiers of AI and further cementing the Nation's leadership in this area as envisioned in the White House Executive Order on *Removing Barriers to American Leadership in Artificial Intelligence*[1] and *Winning the Race: America's AI Action Plan.*[2]

NSF supports fundamental and translational research, education, and research infrastructure including cyberinfrastructure, AI-ready data and AI-ready test beds that collectively advance next-generation AI systems and strengthen our ability to harness AI to power scientific discovery, innovation, and economic growth.

In FY 2027 NSF's AI investments will focus on three intertwined components:

Fundamental and Translational AI Research. Sustain long-term investments in fundamental and translational AI research that will give rise to transformational technologies and, in turn, breakthroughs across all areas of science and engineering and across all sectors of society.

The AI Action Plan and Request for Information (RFI) on the *Development of a 2025 National Artificial Intelligence (AI) Research and Development Strategic Plan*[3] emphasize the role of fundamental research in maintaining America's technological leadership and ensuring that AI development serves broad public interests rather than being driven solely by near-term market forces. In alignment with these priorities, NSF will support foundational research in AI, machine learning and deep neural networks, natural language technologies, computer vision, human-AI teaming, AI algorithms and theoretical foundations, interpretability, control and robustness of AI-based decision-making, the interplay of AI and cybersecurity, next-generation hardware and architectures beyond deep learning, AI-native networking and systems, and physical AI and robotics, and autonomous systems. NSF will also support use-inspired and translational research that links AI innovation with science and the economy,

[1] www.whitehouse.gov/presidential-actions/2025/01/removing-barriers-to-american-leadership-in-artificial-intelligence/
[2]www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf
[3]www.federalregister.gov/documents/2025/04/29/2025-07332/request-for-information-on-the-development-of-a-2025-national-artificial-intelligence-ai-research

including in the fields of agriculture, manufacturing, biotechnology, transportation, and health.

Central to NSF's investments in fundamental research will be continued support for the National AI Research Institutes program that was initiated in FY 2019 to create national hubs for universities, federal and local agencies, industry, and nonprofits to advance use-inspired AI research in key areas addressing national priorities. New investments will target AI for Science and the intersection of AI and Quantum, supporting the *Launching the Genesis Mission* Executive Order.[4] Additionally, NSF will continue advances in use-inspired and translational research through initiatives like the NSF Regional Innovation Engines (NSF Engines), NSF Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR), and NSF Innovation Corps (NSF I-Corps™).

Education and Workforce Development. Develop AI systems that enhance learning for all and grow the next generation of talent to advance the U.S. AI R&D workforce, including those applying AI solutions and those working on human teaming with AI systems. Equally important, as highlighted in the White House Executive Order on *Advancing Artificial Intelligence Education for American Youth,*[5] is NSF's investment in education research, which grows the human capital and institutional capacity needed to nurture the next generation of AI researchers and practitioners as well as the AI technology that can be used to support learning more broadly.

Access to Data and Advanced Computing Research Infrastructure and Testing Platforms. The RFI on the *Development of a 2025 National AI R&D Strategic Plan* calls out "infrastructure support for the AI research and development community" as a priority area. NSF will therefore support transitioning the National Artificial Intelligence Research Resource (NAIRR) beyond the pilot stage to drive US AI innovation and discovery across the spectrum of AI-enabled science and engineering domains, supporting fundamental and translational research and training the next generation of AI-ready workforce to use these critical resources. Additionally, as called for in the AI Action Plan, NSF will support Programmable Cloud Labs, national artificial intelligence-enabled laboratories to integrate, test, evaluate and validate the capabilities of new cutting-edge AI-based technologies.

[4] www.whitehouse.gov/presidential-actions/2025/11/launching-the-genesis-mission/

[5] www.whitehouse.gov/presidential-actions/2025/04/advancing-artificial-intelligence-education-for-american-youth/

FRONTIER INITIATIVE
QUANTUM INFORMATION SCIENCE

Quantum Information Science Funding[1]
(Dollars in Millions)

FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request
$365.46		**$231.15**

[1] Funding displayed may have overlap with other topics and programs.

QIS research will advance fundamental understanding and exploitation of uniquely quantum phenomena that can be harnessed for information processing, transmission, and measurement in ways that classical approaches do less efficiently, or not at all. The development of new applications for QIS will lay the groundwork for one of the major technological revolutions of the 21st century. Building upon more than three decades of exploration and discovery-oriented research, NSF investments in QIS will continue to propel the Nation forward as a leading developer of quantum technology and seize opportunities to create strategic advantages for America's future. NSF investments are a key component of the Administration's focus on critical and emerging industries.

NSF's QIS investments build upon the agency's long-standing and continuing foundational, use-inspired, and translational activities in QIS, including more recent opportunities for interdisciplinary teams, centers, and targeted workforce development efforts. NSF Investments will continue to enable key work in all the major areas of quantum computing, networking, sensing, communications, and simulation. Special attention as to how these areas connect with each other will accelerate development in all of them and lead to advances in quantum computers, quantum networks, and quantum-based metrology. Also of interest are novel approaches for building the quantum computing stack as well as hybrid approaches that combine quantum and classical computing, and post-quantum cryptographic algorithms designed to be secure against attacks from both classical and quantum computers. Collaboration with fields beyond the core of QIS will identify end users of new quantum technologies and help establish the market for new tools and applications, from custom materials for fusion energy production to designing new types of medicines that can cure disease and extend human life. Ultimately, this work will allow quantum technology to become established on a sound footing and play a recognizable role in advancing the U.S. economy.

Consistent with and crucial to its mission, NSF will form new or expand existing partnerships with other federal agencies, private industry, foundations, national laboratories, and existing centers to leverage NSF's investments in QIS research and education. In addition, international cooperation with like-minded countries is critical to ensure that discoveries, and their resulting technologies, provide for economic growth and national security. NSF will continue to provide funding opportunities for QIS researchers, enabling access to industry-built quantum computing platforms and to support international collaboration efforts.

In FY 2027, NSF will continue to support the design and implementation phases of the *National Quantum Virtual Laboratory (NQVL),* which was initiated with a pilot phase in FY 2023. The NQVL is a community-wide test bed designed to facilitate the translation of research results emerging from

fundamental science and engineering into breakthrough technologies, while at the same time emphasizing and advancing the scientific and technical value of this work. The NQVL aims to develop and utilize use-inspired and application-oriented quantum technologies through multi-sectoral collaborations spanning academia and industry. NSF will also sustain its investment in the Quantum Leap Challenge Institutes (QLCIs) awards that were made in FY 2026. The QLCIs are large-scale interdisciplinary research projects motivated by major challenges at the frontiers of QIS. QLCIs are expected to catalyze breakthroughs on important problems underpinning QIS, for example, in the focus areas of quantum computation, quantum communication, quantum simulation, and/or quantum sensing. At the same time, QLCIs will nurture a culture of discovery, provide workforce development opportunities in the context of cutting-edge research, and demonstrate value-added research translation. As an indispensable part of the overall effort in QIS, NSF will continue foundational investments in individual investigator programs and disciplinary-specific centers.

INNOVATION FOCAL POINT
ADVANCED MATERIALS AND MANUFACTURING

Advanced Materials and Manufacturing[1]
(Dollars in Millions)

FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request
$578.88		**$175.85**

[1] Funding displayed may have overlap with other topics and programs.

Innovation in materials and manufacturing is essential to almost every sector of the U.S. economy, spurring growth by increasing productivity, making new products available, and opening new industries. Advanced materials allow the development of new products and often require new manufacturing methods. Advanced manufacturing uses innovative technologies to create safe and secure products and processes with higher performance, fewer resources, and/or new capabilities. Advanced materials and manufacturing processes allow the development and production of microelectronics and semiconductors—the critical components of cell phones, computers, cars, appliances, and many other technologies we rely upon every day.

NSF investments in Advanced Materials and Manufacturing research and education lead to useful materials, methods, systems, and products and grow the national workforce necessary to keep pace with industrial and research needs. These advances increase U.S. prosperity, competitiveness, security, and quality of life, while strengthening the Nation's future communications, computing, energy, agriculture and healthcare. NSF investments are also essential to U.S. leadership in artificial intelligence, quantum computing and sensing, and biotechnology.

In FY 2027, NSF's Advanced Materials and Manufacturing investment will support:

- *Advanced manufacturing research:* NSF investments will speed the discovery of new methods, processes, analyses, tools, or equipment for new or existing manufacturing products, supply-chain components, or chemicals and materials, including replacements for harmful materials. NSF will also support research on the manufacturing of novel materials; AI-enabled manufacturing, digital twins, and robotics; secure, resilient and distributed manufacturing and supply chains; and cyber, quantum and biomanufacturing.
- *Advanced manufacturing translation to practice*: NSF investments will translate fundamental discoveries in advanced manufacturing into products and processes in collaboration with the private sector. In addition, NSF will coordinate with other agencies and connect them to universities and community colleges.
- *Microelectronics and semiconductors research:* NSF will invest in multidisciplinary research using novel materials with specially designed physical properties to create new classes of high-performance semiconductors for microelectronic devices. NSF will also support research and research infrastructure to investigate and implement new methods for device integration and novel architectures, including the integration of classical computing with quantum computing and other paradigms.
- *Microelectronics ecosystem:* NSF will invest in semiconductor manufacturing and lifecycle optimization research, lab-to-fab opportunities, and research infrastructure to translate benchtop

microelectronics and semiconductors research into fabrication and manufacturing.

- *Workforce development*: To prepare a competitive Advanced Materials and Manufacturing workforce across the U.S., NSF will invest in STEM education at all levels and across settings. These investments include curriculum development and faculty training, internships and hands-on student research experiences, expanding pathways to careers, access to fabrication and manufacturing facilities, recruitment and retention efforts, and coordination and facilitation of partnerships.

INNOVATION FOCAL POINT
BIOTECHNOLOGY

Biotechnology Funding[1]
(Dollars in Millions)

FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request
$412.95		**$248.59**

[1] Funding displayed may have overlap with other topics and programs.

NSF investments in biotechnology support fundamental research that advances understanding of biological systems and enables the responsible use of living organisms and their components to develop new technologies, products, and processes. These investments contribute to innovation across a range of sectors, including medicine, advanced manufacturing, agriculture, and national security, while strengthening domestic capabilities in biotechnology and biomanufacturing. By supporting discovery-driven research and workforce development in the life sciences and associated fields, NSF enables advances that can translate into applications such as new therapeutics, bio-based materials, and domestically produced chemical and biological products. Sustained investment in biotechnology research and a highly skilled U.S. workforce will be critical to enabling emerging capabilities, including AI-enabled biological discovery, and supporting the continued growth and competitiveness of the U.S. biotechnology sector.

In FY 2027, NSF biotechnology funding will support these priorities:

Economic Prosperity: U.S. economic prosperity is dependent upon innovations that lead to new technologies and industries. Often, those innovations are the result of NSF's discovery-driven research. Targeted programs in biotechnology are paving the way for new medicines, enhanced food production, novel material development, and new, unorthodox technologies such as information storage and electricity storage. NSF programs that explore nature's biodiversity are uncovering a treasure trove of innovations that could lead to novel biotechnology-based solutions in all sectors of the U.S. economy. NSF's continued investments in physical infrastructure such as biofoundries, discovery life sciences research, and workforce development are essential elements in a bioeconomy ecosystem that increasingly promotes collaboration between federal investments and the private sector, as facilitated by NSF technology transfer programs.

Reshoring Supply Chains: Between 75 and 90 percent of U.S. drug manufacturing relies on active pharmaceutical ingredients (APIs) manufactured outside the U.S., causing significant supply chain vulnerabilities. NSF investments in biotechnology and biomanufacturing of critical supply chain biochemical and biologic APIs will address National priorities for increased domestic production of critical medicines.[1] NSF investments will also explore the untapped potential in developing biotechnological routes to critical mineral recovery, either from waste or from dilute deposits, such as

[1]www.whitehouse.gov/presidential-actions/2025/05/regulatory-relief-to-promote-domestic-production-of-critical-medicines/

the offshore deposits prioritized by the Administration.[2] This supply chain reshoring from NSF supported biotechnology advances will contribute to job creation, economic growth, and security.

American Health and Biotechnology Innovations: NSF investments in foundational life sciences research contribute to discoveries and innovations that support improvements in American health and biotechnology capabilities. NSF will contribute to strengthening pathways to translation within the Foundation and through partnerships with agencies such as the National Institute of health (NIH) to enhance the impact of these investments. In areas such as neuroscience, continued basic research provides critical insights that can inform future approaches to neurodegenerative diseases while also contributing to advances in signal processing and computing technologies that complement conventional technological systems.

AI Ready Biological Data to Fuel Innovation: The earliest products of AI and biotechnology to reach the market have been designed proteins, a feat enabled by decades of investment of carefully standardized and curated protein structure data archived in the Protein Data Bank.[3] To achieve the promise of AI enabled design in life sciences, there needs to be robust investment in AI-ready biological data. NSF investments in AI-ready biological data include synthesis centers, biofoundries and programmable cloud labs, NEON, and core life sciences programs that enable the collection of data on proteins, cells, and organisms that span the diversity of life. These investments will also enable innovators to find biological solutions that leverage innovations from evolution. NSF's partnership with NIST on bioeconomy standards also supports the development of AI ready biological data.

Workforce: Growth in U.S. biotechnology industries will require expansion of a skilled biotechnology workforce. NSF will invest in workforce training at all levels including community colleges, experiential learning, research experiences for undergraduates and teachers, and support for graduate and postdoctoral student training. A skilled domestically trained workforce is essential for the U.S. to reshore the biotechnology and biomanufacturing sector and create thriving industries that will enhance American prosperity.

National Security: Thanks to advances in biological sciences and AI, biotechnology is poised to be an engine of innovation for decades. However, foreign competitors like China have continued to make significant investments in biotechnology innovation that threaten the U.S.' ability to compete in the global bioeconomy.[4] To safeguard the U.S. economy and biosecurity, NSF will invest in biotechnology R&D to ensure that the U.S. outcompetes and out-innovates China and other adversarial nations. NSF will do this through investments in core programs in life sciences, biotechnology, bioengineering, and biomanufacturing that span all Directorates at NSF and all manufacturing readiness levels from discovery to translation. NSF will also partner with like-minded nations in priority areas such as biodiversity, biofoundries, synthetic biology, and quantum sensing in biology. NSF biotechnology investments will also support space exploration and commercial applications via innovations in adaptive and self-healing materials; advances in distributed, on-demand, and remote biomanufacturing; and sentinel organisms that sense and respond to threats in the environment.

[2]www.whitehouse.gov/presidential-actions/2025/04/unleashing-americas-offshore-critical-minerals-and-resources/

[3] www.wwpdb.org/

[4]www.biotech.senate.gov/final-report/chapters/executive-summary/

OTHER TARGETED INVESTMENTS TO SPUR INNOVATION

Novel Funding Mechanisms. As part of this effort, the Directorate for Technology, Innovation and Partnerships (TIP) will continue to pursue new funding mechanisms to accelerate and enhance the impacts of federal dollars. For example, through *NSF Tech Labs*, TIP will initiate a bold, flexible, and outcomes-driven effort designed to build and accelerate sector-defining technologies that can serve as the foundation for future innovation and economic growth. NSF Tech Labs will support full-time research and development teams focused on overcoming persistent barriers to the development of emerging high-impact technologies and tackling engineering-heavy, foundational research problems across scientific fields. NSF Tech Lab teams will benefit from operational autonomy, milestone-based funding and the ability to engage across academia, industry, federal laboratories, and nonprofit sectors. A companion to NSF Tech Labs, *NSF Tech Accelerators* will transform earlier-stage, use-inspired research into scalable, market-ready technologies that strengthen the U.S. economy, competitiveness and security. By engaging stakeholders from the research communities and private industry (including venture capital), government and beyond, each NSF Tech Accelerator will in turn invest in teams conducting use-inspired and translational research in a specific emerging technology area, advancing breakthrough technologies to the market faster.

AI-Ready America is one way that NSF invests in upskilling to expand the American workforce, supported by co-investments and inputs from private sector and philanthropic entities. This program is intended to accelerate AI-readiness at all levels of American society – individuals, local communities, and businesses. Investments seek to provide Americans in every corner of the country with access to practical experiences, enabling them to progress to AI literacy, fluency, and eventually, proficiency.

Cross-sector Partnerships. TIP's *NSF Regional Innovation Engines (NSF Engines)* program will put more regions of the country on the map as national and world leaders in key technologies, all the while stimulating their growth through the creation of new economies and jobs. This initiative has seen an initial two-year, $135.0 million investment in nine NSF Engines produce over $1.50 billion in matching commitments from private industry, nonprofits, and state and local governments within the past two years. Investments will also support the development of *AI Test Beds* for secure, real-world environments that will accelerate the design, evaluation, and deployment of AI technologies to allow researchers to prototype and translate them to market.

Industry-University Cooperative Research Centers (IUCRC) accelerate the impact of basic research by facilitating close relationships between industry, academic teams, and government. Three primary objectives are to 1) conduct high-impact research to meet shared industrial needs; 2) enhance U.S. global leadership in driving innovative technology development; and 3) identify, mentor, and develop a high-tech, exceptionally skilled workforce. Every year, more than 2,000 students engage in industry-relevant research at these centers nationwide, giving them on-the-job training for a private sector career. About 30 percent of IUCRC students are hired by participating member companies at the end of their training.

Genesis Mission. Investments will support the Administration's Genesis Mission by advancing the use of AI for basic scientific discovery, including through the development of autonomous experimentation systems, AI-enabled experimental methodologies and scientific workflows, high-impact data infrastructure, and collection and curation efforts. These investments will support activities to accelerate discovery across scientific fields and explore entirely new fields of inquiry now

enabled by novel AI capabilities. As part of this funding, NSF will support awards that include the creation of extremely large AI-ready data sets across scientific fields, designed for advanced and next-generation AI systems, which will then become available for use in other lines of inquiry across the S&E spectrum.

DISCOVERY S&E THEME

The foundation of NSF's mission is to promote the progress of science across all fields to pursue fundamental truths about our universe and accelerate scientific breakthroughs. These forward-thinking investments made over decades gave rise to the Frontier Initiatives that power our economy and national security today. Likewise, the investments NSF makes in FY 2027 will serve as the scientific capital of the yet unnamed technologies of the future.

Discovery S&E rejects the status quo and instead represents a reimagining of this enduring and unique aspect of NSF's mission. Its primary objective is to strengthen the R&D ecosystem by combining key investments in research and related activities with actions that break down scientific silos, facilitate cutting-edge rather than incremental science, improve research security, and unleash America's pioneering spirit everywhere in the country.

For FY 2027, NSF will double down on investments that catalyze collaboration, strengthen the Nation's research ecosystem, and unleash the next generation of America's scientific talent through education, training, and early-career opportunities. Investments include:

ENERGY & WATER SECURITY INITIATIVE

Energy & Water Security Initiative

(Dollars in Millions)

FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request
-		**$100.00**

The increasing challenge of meeting both energy and water demand across sectors, particularly in regions where demand is expanding rapidly, highlights the interdependency of these systems and resources. A coordinated and integrated approach across these sectors is essential if the U.S. is to sustain current use, support future needs, and ensure the long-term security of energy and water resources. Adding to this challenge, the Nation's aging energy and water infrastructure was developed separately. These systems, however, are deeply interconnected. Energy extraction and production relies heavily on water for mining and cooling, while water treatment and distribution requires significant energy demand. Although some technological solutions to these challenges exist, their adoption in practice has been limited.

Addressing the challenges at the water-energy nexus requires convergent, transdisciplinary research to deliver practical, economically viable, and sustainable near-term and deployable solutions. System dimensions must be considered holistically, including the underlying Earth system processes and observations that shape energy and water resources as well as community partnerships that improve adoption of new technologies and other solutions.

In FY 2027 NSF, led by the Directorate for Geosciences, will partner with the Department of Energy (DOE) on an energy-water initiative that will accelerate water-related deployable technologies to reduce vulnerabilities, improve system resilience, and strengthen federal infrastructure through a capital-light / high-impact model. Target areas include AI predictive modeling for hydropower stability, low/no-water cooling technologies for thermal generation, coupled water-energy system forecasting, energy-efficient desalination and water treatment, and engineered underground water storage systems. NSF, in coordination with DOE, will leverage regional partnerships to ensure solutions are tailored to drought-prone areas and energy intensive regions to provide project-specific technical results and industrial integration to enhance operational resilience and enabling near-term public utility scaling. These investments will advance the Administration's goals of deploying rapid public-domain solution that secure water resources, modernize infrastructure, and ensure resilient energy systems that underpin national prosperity and strengthen America's energy dominance.

METASCIENCE UNIT

Funding will support a dedicated office to champion agency-wide efforts to explore non-traditional R&D funding mechanisms and drive evidence-based optimizations to the R&D portfolio. The focus is on improving the effectiveness of the U.S. R&D enterprise and collaborative research teams as well as novel methods for research proposal review, administration, and performance that enable researchers to drive disruptive science. For instance, Metascience Unit will explore flexible fast grants alongside longer-duration to encourage intellectual risk taking and trial the use of Golden Tickets to make bolder bets on novel ideas.

ESTABLISHED PROGRAM TO STIMULATE COMPETITIVE RESEARCH (EPSCOR)

The EPSCoR Office ($107.70 million) provides strategic programs and opportunities that stimulate sustainable improvements to EPSCoR jurisdictions' R&D capacity and capability. EPSCoR aims to stimulate research that enhances jurisdictional competitiveness in NSF disciplinary and multidisciplinary research programs, especially those that drive economic growth and geographic diversity. EPSCoR uses strategic investment tools to contribute to NSF in its statutory function "to strengthen research and education in the sciences and engineering, including independent research by individuals, throughout the United States, and to avoid undue concentration of such research and education." This includes Research Infrastructure Improvement (RII) grants and co-funding awards with disciplinary units across the agency.

STEM WORKFORCE AND TALENT DEVELOPMENT

Beyond investments in fundamental and solutions-oriented research, in FY 2027 *Discovery S&E* will focus on ensuring that more Americans across the entire U.S have access to cutting-edge research tools as well as meaningful opportunities to gain critical knowledge and skills to adapt and thrive in a technology-driven economy. Aligned with Administration and Congressional priorities, NSF invests substantial resources to support development of the future U.S. workforce, which will contribute to nearly every sector of the U.S. economy. NSF will build on its FY 2026 investments prioritizing long time-horizon grants and direct support to students and researchers to enable more Americans to enter the research enterprise and pursue ambitious ideas. To open its doors to researchers at less well-resourced and non-traditional institutions, NSF will increase its direct funding of students, post-docs, and researchers. Investments include:

The *Graduate Research Fellowship Program (GRFP)* ($246.54 million) supports outstanding graduate students as they prepare to serve as the Nation's future STEM leaders. Administration and Congressional priorities are communicated to potential applicants each year via the GRFP solicitation. In FY 2027, NSF intends to fund 1,500 new fellows and will engage industry stakeholders to seek co-funding from those who may benefit from having students perform sponsored research apprenticeships.

The *CyberCorps®: Scholarships for Service (SFS*) ($21.71 million) program recruits and trains the next generation of cybersecurity professionals to develop a superior cybersecurity workforce for the nation. Key goals for NSF are to increase the number of qualified cybersecurity candidates for cybersecurity positions and improve the national capacity for the education of cybersecurity professionals and research and development workforce.

Faculty Early Career Development (CAREER) ($150.0 million), one of NSF's most prestigious awards, supports early-career faculty by providing stable funding at a sufficient level and duration to enable awardees to develop as outstanding researchers and educators.

Research Experiences for Undergraduates (REU) ($15.0 million), reflects the importance of undergraduate research experiences in building student interest in STEM disciplines. REU Supplements allow students to join research projects supported by NSF grants. REU Sites support cohorts of students to conduct research within or across STEM disciplines. The REU program encourages partnerships between community colleges and baccalaureate degree-granting institutions to provide research opportunities for community college students and faculty.

Historically Black Colleges and Universities-Undergraduate Program (HBCU-UP) and -Excellence in Research Program (HBCU-EiR) ($56.50 million) enhance the quality of undergraduate STEM education and research and support projects that enable STEM faculty to develop at HBCUs.

The *Tribal Colleges and Universities Program (TCUP)* ($7.11 million) provides awards to Tribal Colleges and Universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions to promote high quality STEM education, research, and outreach.

NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) ($112.85 million), established in accordance with the American Competitiveness and Workforce Improvement Act

(ACWIA) of 1998 (P.L. 105-277), as modified by the American Competitiveness in the Twenty-first Century Act of 2000 (P.L. 106-313), the Consolidated Appropriations Act, 2005 (P.L. 108-447), and the CHIPS and Science Act of 2022 (P.L. 117-167) and funded through H-1B Nonimmigrant Petitioner Account receipts, supports meritorious proposals to operate programs that provide scholarships to academically talented U.S. students with demonstrable financial need. These scholarships, together with support such as mentoring and internships, help these students earn STEM-related degrees.

NATIONAL SCIENCE FOUNDATION CENTERS

NSF supports a variety of centers programs that contribute to the Foundation's mission and vision. Centers exploit opportunities in science, engineering, and technology in which the complexity of the research program or the resources needed to solve the problem require the advantages of scope, scale, duration, equipment, facilities, and students. Centers are a principal means by which NSF fosters interdisciplinary research. In FY 2027, the Foundation expects to fund over $200.0 million for NSF Centers programs.

About NSF Centers Programs

Artificial Intelligence Research Institutes – multi-directorate

The National AI Research Institutes program, a multisector collaboration among government, industry, and academia, supports multidisciplinary advances on challenges in both foundational and use-inspired AI research. Each funded institute has three missions: (1) to advance fundamental knowledge of AI; (2) to advance use-inspired work on using AI to solve real-world problems of importance to the U.S. economy; and (3) to grow the U.S. AI workforce and build pathways for students. They serve as nexus points for academic, government, and industry interaction, and integrate research with the development of the next-generation AI workforce. A key motivation for the program is to maintain and grow U.S. leadership and competitiveness in AI at a time when other nations are making significant investments in the field. The National AI Research Institutes program is funded by almost all NSF directorates along with external partners, including federal agencies and industry.

Biology Integration Institutes – BIO

The Biology Integration Institutes (BII) support collaborative teams of researchers investigating frontier questions about life that span multiple disciplines within and beyond the biological sciences. The goal is to foster creative integration of fields using innovative experimental, theoretical, and modeling approaches, including those that make use of artificial intelligence, to discover underlying principles operating across multiple levels of living systems. Each institute focuses on a central, compelling biological question and addresses that question through unique research themes that include fundamental and use-inspired work. This research advances discovery and understanding in the life sciences and expands capabilities in biotechnology to modify and utilize living systems. Outcomes from BII awards will foster innovation and applications that benefit U.S. national security and health and inspire new biotechnologies and applications to drive economic growth.

Centers for Analysis and Synthesis – BIO

The Centers for Analysis and Synthesis program is expected to provide continuing support for centers in environmental data science and (ESIIL), awarded in FY 2022, and for a center in molecular and cell biology (NCEMS), awarded in FY 2024. ESIIL develops teams, concepts, resources, and expertise to enable effective and coordinated efforts to answer broad scientific questions that emerge at interfaces between biological and environmental sciences, including natural hazards, invasive species, land use change, biodiversity loss, and ecosystem services. The center leverages data provided by the National Ecological Observatory Network (NEON), Long-Term Ecological Research (LTER), and other observatories and databases. NCEMS plays a catalytic role in advancing integrated knowledge on the workings of cells, metabolism, information processing, growth, senescence, proliferation, and differentiation by analyzing and synthesizing diverse molecular and cellular data. The center

investigates questions including those about disordered and misfolding proteins, neurodegenerative processes, and genomic adaptation. Both centers involve the application of artificial intelligence/machine learning (AI/ML) and other computational tools and provide training in AI/ML to enable the future workforce to use these tools.

Centers for Chemical Innovation – MPS

The Centers for Chemical Innovation (CCI) are multi-institutional research centers designed to respond rapidly to emerging research opportunities and national priorities. They produce transformative research and new innovations and tackle major long-term chemical research challenges in the process. The CCIs also serve as a nexus for industry, higher education, and national laboratories, and effectuate knowledge transfer to industry and the commercialization of their discoveries and new technologies. The themes of the CCIs are varied and include Administration priorities such as AI, QIS, biotechnology, and advanced manufacturing.

Engineering Research Centers – ENG

The Engineering Research Centers (ERC) program establishes collaborative, ground-breaking research partnerships between universities and industry to push the frontiers of engineering research, accelerate technological development, and cultivate a globally competitive engineering workforce. The centers advance AI, biotechnology, quantum technology, manufacturing, microelectronics and semiconductors, and other national priorities.

ERC technologies spearhead new products, fields and industries that benefit U.S. security, prosperity, and quality of life. For example, past ERCs pioneered disk drives, cloud computing, robotic surgery, synthetic biology, and chip fabrication, and current ERCs are building the quantum internet, turning waste into fertilizer, and developing smart, localized manufacturing. Since 1985, ERCs have produced more than 2,800 invention disclosures, 47,500 publications, 950 patents, 1,400 licenses, and 250 spinoffs. Providing hands-on, real-world experience, they have educated nearly 15,000 students for the technology workforce.

Materials Centers – MPS

The Materials Research Science and Engineering Centers (MRSEC) function as hubs for solving complex grand-challenge materials problems requiring broad multidisciplinary expertise within the physical sciences and engineering to understand materials phenomena, to exploit materials properties, and to create and discover new materials. Research in materials science is inherently interdisciplinary and the MRSEC program is a prime example of convergent research encompassing physics, chemistry, mathematics, biology, materials science, and engineering. Through collaborative efforts involving academics, industry, national laboratories experts, and international and educational partners, MRSECs advance materials research and education in the United States, and in many cases are international leaders.

NSF Regional Innovation Engines – TIP

The NSF Regional Innovation Engines (NSF Engines) program constitutes a bold new initiative that is catalyzing regional innovation ecosystems throughout the United States, spurring economic growth and job creation by bringing together the science and technology research enterprise with regional-level resources, experts, and populations to accelerate key technologies. NSF is investing in use-inspired research, translational research, entrepreneurship, and workforce development to nurture and grow new regional industries, positioning regions as national and global leaders in specific areas.

This initiative, the single largest *broad* investment in place-based research, innovation, and workforce development in generations, will ensure America's competitiveness and security for decades to come. Each NSF Engine is anticipated to be funded at up to $160.0 million over up to ten years, subject to progress relative to performance milestones and availability of funds; the funds requested here are to provide essential services to maintain the program as a whole, not to invest in the NSF Engines themselves.

NSF Engines are actively advancing key technologies such as advanced manufacturing, advanced wireless, AI, biotechnology, QIS, and semiconductors, including the intersection of food and agriculture, critical infrastructure, and water management. They are bringing together multiple disciplines, institutions, and sectors, including organizations and industries that have not previously engaged with NSF. They are balancing technical and geographic (i.e., local and regional challenges, capabilities) innovation; incentivizing partnerships between NSF, other federal agencies, academia, industry, nonprofits, state, local, and tribal governments, civil society, and communities of practice; and serving as hubs for NSF's broader portfolios of investment in their respective areas of focus. In just the first year of the inaugural cohort of NSF Engines spanning more than 450 distinct organizations, an NSF investment of $150.0 million has been matched by more than $1 billion in commitments by state governments, the private sector, and other investors.

Quantum Leap Challenge Institutes – MPS

The Quantum Leap Challenge Institutes (QLCI) are large-scale interdisciplinary research projects motivated by major challenges at the frontier of quantum information science, engineering and technology (QISET). Each Institute is expected to catalyze breakthroughs on important problems underpinning QISET, including quantum computation, quantum communication, quantum simulation and/or quantum sensing. These rapidly developing fields have seen several discoveries and breakthroughs. However, many foundational and technological challenges must be overcome before the full potential of QISET can be realized. The QLCI's goal is to support timely and bold research agendas aimed at making breakthroughs on one of these clearly identified and compelling challenges within a five-year period. QLCIs are expected to: engage an intellectually diverse community in the pursuit of identified challenges; develop cohesive, collaborative, and national-scale approaches to research in quantum information science, engineering and technology; and enable the development of a well-trained workforce with strong cross-disciplinary skill sets needed for American Leadership in Quantum.

Science and Technology Centers: Integrative Partnerships – multi-directorate

The Science and Technology Center (STC) awards, currently comprising the FY 2016, FY 2021, and FY 2023 cohorts, are typically for five years, with potential renewal for five additional years, or ten years total. The STC program advances interdisciplinary discovery by integrating cutting-edge research, education and workforce development, and targeted knowledge transfer. STCs help place the U.S. at the vanguard of S&E discovery by pursuing exceptionally innovative, complex projects that require large-scale, long-term awards. STCs create new scientific paradigms, establish new scientific disciplines, and develop transformative technologies with the potential for broad scientific and societal impact.

Administration priorities are supported through existing STC awards including quantum acoustics (NewFoS), optoelectronics (IMOD), the design and manufacturability of complex, nanostructured materials (COMPASS), the application of AI to Earth system modeling (LEAP), developing more efficient

management of phosphorous in agriculture (STEPS), and combining synthetic biology, advanced imaging, and computational modeling to develop a predictive model of a whole cell (QCB).

The **Spectrum Innovation Initiative** center has sunset.

Estimates for Centers Participation in 2025

	Program Initiation	Number of Centers in 2025	Number of Participating Institutions[1]	Number of Partners[2]	Leveraged Support ($ in millions)[3]	Number of Participants[4]
Artificial Intelligence Research Institutes[5]	2020	22	334	521	$41	N/A
Biology Integration Institutes	2020	18	228	52	-	4,600
Centers for Analysis & Synthesis	1995	2	421	64	-	1,200
Centers for Chemical Innovation	1998	7	61	80	4	450
Engineering Research Centers	1985	18	710	337	99	3,600
Materials Centers	1994	20	156	116	20	2,700
NSF Regional Innovation Engines	2023	9	89	79	-	950
Quantum Leap Challenge Institutes	2020	5	373	2128	1,420	16,600
Science & Technology Centers	1987	18	297	544	48	2,100
Spectrum Innovation Initiative Centers	2021	1	23	63	1	1,400

[1] Academic institutions participating in activities at the centers.

[2] Number of non-academic participants, including industry, states, and other federal agencies at the centers.

[3] Estimated of funding for centers from sources other than NSF.

[4] Estimated number of people who use center resources, not just persons directly support by NSF.

[5] The participant data was omitted due to the lack of metrics to accurately capture the data with partners due to the size and complexity of the institutes.

Centers Supported by NSF in FY 2025

Center	Institution	State
Artificial Intelligence Research Institutes		
Artificial Intelligence for Environmental Sciences (AI2ES)	U of Oklahoma	OK
Institute for Foundations of Machine Learning	U of Texas, Austin	TX
Institute for Student-AI Teaming	U of Colorado, Boulder	CO
Molecule Maker Lab Institute (MMLI): An AI Institute for Molecular Discovery, Synthetic Strategy, & Mfg.	U of Illinois, Urbana-Champaign	IL
AI Research Institute for Fundamental Interactions	MIT	MA
AI Institute for Collaborative Assistance and Responsive Interaction for Networked Groups (AI-CARING)	Georgia Tech	GA
AI Institute for Learning-enabled Optimization at Scale	U of California-San Diego	CA
AI Institute for Advances in Optimization	Georgia Tech	GA
AI Institute for Intelligent CyberInfrastructure with Computational Learning in the Environment (ICICLE)	Ohio State	OH
AI Institute for Future Edge Networks and Distributed Intelligence (AI-EDGE)	Ohio State	OH
AI Institute for Edge Computing Leveraging Next Generation Networks (Athena)	Duke	NC
AI Institute in Dynamic Systems	U of Washington	WA
AI Institute for Engaged Learning	North Carolina State	NC
AI Institute for Adult Learning and Online Education	Georgia Tech	GA
AI Institute for Inclusive Intelligent Technologies for Education (INVITE)	U of Illinois, Urbana-Champaign	IL
AI Institute for Transforming Education for Children with Speech and Language Processing Challenges	SUNY at Buffalo	NY
AI Institute for Agent-based Cyber Threat Intelligence and Operation	U of California, Santa Barbara	CA
AI Institute for Societal Decision Making (AI-SDM)	Carnegia-Mellon	PA
Institute for Trustworthy AI in Law and Society (TRAILS)	U of Maryland, College Park	MD
AI Institute for Artificial and Natural Intelligence	Columbia U	NY
NSF-Simons AI Institute for Cosmic Origins	U of Texas, Austin	TX
NSF-Simons AI Institute for the Sky (SkAI Institute)	Northwestern	IL
Biology Integration Institutes		
Behavioral Plasticity Research Institute (BPRI)	Baylor College of Medicine	TX
Emergent Ecosystem Responses through Genes-to-Systems Institute (EMERGE)	Ohio State	OH
Advancing Spectral biology in Changing Environments to understand Diversity (ASCEND)	U of Minnesota, Twin Cities	MN
Genomics and Eco-evolution of Multi-scale Symbioses Institute (GEMS)	U of Illinois, Urbana-Champaign	IL
Host-Virus Evolutionary Dynamics Institute (HVEDI)	U of Arkansas	AR
Mechanisms of Cellular Evolution	Arizona State	AZ
New Roots for Restoration	Donald Danforth Plant Sci. Ctr.	MO

Uncovering mechanisms of amphibian resilience to global change from molecules to landscapes	U of Pittsburgh	PA
Emergent Mechanisms in Biology of Robustness, Integrations & Organization (EMBRIO)	Purdue	IN
Regional OneHealth Aerobiome Discovery Network	Colorado State	CO
Institute for Symbiotic Interactions, Teaching, and Education in the Face of a Changing Climate (INSITE)	U of California, Merced	CA
Life without water: protecting macromolecules, cells, and organisms during desiccation and rehydration across kingdoms of life	Carnegie Institution of Washington	DC
Discovering the mechanisms and evolution of aging differences between females and males (IISAGE)	U of Alabama, Birmingham	AL
Predicting the global host-virus network from molecular foundations	Georgetown	DC
Integrative Movement Sciences Institute	U of California, Irvine	CA
Integration Across Scales and Biological Systems	U of Florida	FL
Embedding Molecular Biology in Ecosystem Research in an era of increasing wildfire and drought (EMBER)	U of Idaho	ID
Evolving Meta-Ecosystems in the Arctic	Woodwell Climate Res. Ctr. Inc.	WA
Centers for Analysis and Synthesis		
Enviro. Data Science Innovation and Inclusion Lab (ESIIL)	U of Colorado, Boulder	CO
National Synthesis Center for Emergence in the Molecular and Cellular Sciences (MCB SC)	Pennsylvania State U	PA
Centers for Chemical Innovation (Phase II awards only)[1]		
NSF Center for Sustainable Nanotechnology (CSN)	U of Wisconsin	WI
NSF Center for Genomically Encoded Materials (CGEM)	U of California, Berkeley	CA
NSF Center for Synthetic Organic Electrochemistry (CSOE)	U of Utah	UT
NSF Center for the Chemistry of Molecularly Optimized Networks (MONET)	Duke	NC
The Center for Computer Aided Synthesis (C-CAS)	U of Notre Dame	IN
The NSF Center for the Mechanical Control of Chemistry (CMCC)	Texas A&M	TX
Center for Single-Entity Nanochemistry and Nanocrystal Design (CSENND)	Indiana University	IN
Engineering Research Centers		
Bio-mediated and Bio-inspired Geotechnics (CBBG)	Arizona State	AZ
Optimization for Electro-thermal Systems (POETS)	U of Illinois	IL
Engineering Research Center for Innovative and Strategic Transformation of Alkane Resources (CISTAR)	Purdue	IN
Nanosystems Engineering Research Center for Directed Multiscale Assembly of Cellular Metamaterials with Nanoscale Precision (CELL-MET)	Boston College	MA

[1] Smaller, developmental Phase I awards do not meet the criteria as formal NSF Centers and so are not captured here.

ERC for Cell Manufacturing Technologies (CMaT)	Georgia Institute of Tech	GA
ERC for Precise Advanced Technologies and Health Systems for Underserved Populations (PATHS-UP)	Texas A&M	TX
ERC for Advancing Sustainability Through Powered Infrastructure for Roadway Electrification (ASPIRE)	Utah State U	UT
ERC for the Internet of Things for Precision Agr.(IoT4Ag)	U of Pennsylvania	PA
ERC for Adv Tech for Preservation of Bio Systems (ATP-Bio)	U of Minnesota	MN
ERC for Quantum Networks (CQN)	U of Arizona	AZ
ERC for Precision Microbiome Engineering (PreMiEr)	Duke	NC
ERC for Smart Streetscapes (CS3)	Columbia	NY
ERC for Advancing Sustainable and Distributed Fertilizer Production (CASFER)	Texas Tech	TX
ERC for Environmentally Applied Refrigerant Technology Hub (EARTH)	U of Kansas	KS
ERC for Hybrid Autonomous Manufacturing Moving from Evolution to Revolution (ERC-HAMMER)	Ohio State	OH
ERC for Human Augmentation Via Dexterity (HAND)	Northwestern	IL
ERC for Transformation of American Rubber through Domestic Innovations for Supply Security (TARDISS)	Ohio State	OH
ERC for Carbon Utilization Redesign through Biomanufacturing-Empowered Decarbonization (CURB)	Washington University	MO
Materials Centers		
Brandeis Bioinspired Soft Materials Center	Brandeis	MA
Center for Advanced Materials and Manufacturing	U of Tennessee	TN
Center for Complex and Active Materials	U of California, Irvine	CA
Center for Dynamics and Control of Materials	U of Texas, Austin	TX
Center for Emergent Materials	Ohio State	OH
Center for Hybrid, Active and Responsive Materials	U of Delaware	DE
Center for Materials Innovations at Michigan	U of Michigan	MI
Center for Nanoscale Science	Pennsylvania State	PA
Center for Precision Assembled Quantum Materials	Columbia	NY
Chicago Materials Research Center	U of Chicago	IL
Harvard Materials Research Center	Harvard	MA
Illinois Materials Research S&E Engineering Center	U of Illinois, Urbana-Champaign	IL
Materials Research Science and Engineering Ctr at UCSB	U of California, Santa Barbara	CA
Materials Research Science and Engineering Center	U of California, San Diego	CA
Materials Research S&E Center UPENN	U of Pennsylvania	PA
Materials Research Science and Engineering Center	U of Minnesota	MN
Northwestern U Materials Research S&E Center	Northwestern	IL
Princeton Center for Complex Materials	Princeton	NJ
UW Molecular Engineering Materials Center	U of Washington	WA
Wisconsin Materials Research Center	U of Wisconsin	WI
NSF Engines		
Central Florida Semiconductor Innovation Engine	ICAMR, Inc.	FL

NSF ASCEND Engine in Colorado and-Wyoming	Rocky Mtn Innovation Init. Inc.	CO
Great Lakes Water Innovation Engine	Current	IL
Louisiana Energy Transition Engine	Louisiana State	LA
North Carolina Textile Innovation and Sustainability Engine	Industrial Commons	NC
North Dakota Advanced Agriculture Technology Engine	North Dakota State	ND
Piedmont Triad Regenerative Medicine Engine	Wake Forest U	NC
Southwest Sustainability Innovation Engine	Arizona State	AZ
Upstate New York Energy Storage Engine	SUNY, Binghamton U	NY
Quantum Leap Challenge Institutes		
Quantum Systems through Entangled S&E	U of Colorado, Boulder	CO
Hybrid Quantum Architectures and Networks	U of Illinois, Urbana-Champaign	IL
Challenge Institute for Quantum Computation	U of California, Berkeley	CA
Quantum Sensing for Biophysics and Bioengineering	U of Chicago	IL
Robust Quantum Simulation	U of Maryland, College Park	MD
Science and Technology Centers		
Biology with X-Ray Free Electron Lasers	SUNY, Buffalo	NY
Center for Braiding Indigenous Knowledges and Science	U of Massachusetts, Amherst	MA
Center for Brains, Minds, and Machines: The Science and the Technology of Intelligence	MIT	MA
Center for Bright Beams	Cornell	NY
Center for Cellular Construction	U of California, San Francisco	CA
Center for Chemical Currencies of a Microbial Planet	Woods Hole Ocean. Inst	MA
Center for Complex Particle Systems	U Michigan	MI
Center for Engineering MechanoBiology	U of Pennsylvania	PA
Center for Integrated Quantum Materials	Harvard	MA
Center for Integration of Modern Optoelectronic Materials on Demand	U of Washington	WA
Center for Learning the Earth with AI and Physics	Columbia	NY
Center for New Frontiers of Sound (NewFoS)	U of Arizona	AZ
Center for OLDest Ice EXploration	Oregon State U	OR
Center for Quantitative Cell Biology	U of Illinois, Urbana-Champaign	IL
Center for Research on Programmable Plant Systems	Cornell	NY
Center for Science of Information	Purdue	IN
S&T Center on Real-Time Functional Imaging	U of Colorado	CO
S&Ts for Phosphorus Sustainability Center	North Carolina State	NC
Spectrum Innovation Initiative		
Spectrum X – An NSF Spectrum Innovation Center	U of Notre Dame	IN

RESEARCH SECURITY

The NSF Chief of Research Security, Strategy, and Policy (CRSP) leads NSF's efforts to safeguard the research enterprise by developing policies and practices that balance the security of federally funded research with initiatives that maintain an open and collaborative international research environment. In addition to leading internal strategy for the agency, CRSP collaborates with federal partners and the White House to coordinate efforts aimed at improving research security and integrity at the federal level. CRSP also engages with international partners to ensure current and future international collaborations continue to uphold core values such as transparency and accountability.

RESEARCH INFRASTRUCTURE THEME OVERVIEW

Research infrastructure (RI), from individual instruments to major research facilities, enables cutting-edge discoveries and innovations that drive progress across disciplines. RI is needed for all forms of fundamental research – from curiosity-driven, exploratory research to use-inspired, solutions-oriented research and technology development that meets national, societal, and geostrategic needs and challenges. Investments in RI enable advances in areas as varied as the epidemiology of infectious diseases, investigation of the fundamental structure of particles that make up everything in the universe, studies of biological, chemical, and physical processes at femtosecond and attosecond timescales, and characterization of the contents of our solar system, including potentially hazardous asteroids and human-made objects. RI also plays an important role in development of advanced wireless communications, research on new nanomaterials and design of new biomaterials, refinement of meteorological and space weather models and forecasts, creation of AI algorithms for a variety of societal uses, and the development of quantum computing and communication capabilities.

Importantly, RI includes novel types of research tools, such as instrumented and living laboratories and testbeds that enable advances in Emerging Industries, as well as collection of multi-sensor, human observation, and behavioral data. Modern RI for fundamental research and innovation gathers and processes vast amounts of data, makes sense of those data using analytical tools, computational modeling and simulation and AI, and supplies both raw and processed data to researchers across the U.S. and around the world. Accordingly, advanced cyberinfrastructure is increasingly a vital aspect of all successful RI.

Cutting-edge RI is also integral to attracting, developing, and training the next generation of STEM talent and inspiring those who will lead the next generation of advances in infrastructure. The skills required to design, build, operate, and maintain RI are critical for the future and success of the Nation's STEM enterprise, including individuals ranging from skilled technical workers to PhDs.

NSF's investments in RI help to maintain U.S. leadership in scientific research and innovation and address important needs in national security through partnerships across the federal government. These include support for Antarctic and Arctic infrastructure and logistics that maintain U.S. presence in and access to remote areas of the Antarctic continent and Greenland, outfitting of undersea cables to monitor volcanic hazards that may lead to tsunamis impacting the West Coast, and acquisition of Earth Orientation Parameters that are critical to maintaining the accuracy of GPS, among others.

In FY 2027, highlights of NSF investments in RI include completion of the construction of the Leadership Class Computing Facility, to provide state-of-the-art cyberinfrastructure that addresses the increasing demand for large-scale computing and data analytics capabilities; logistics support for the U.S. Antarctic Program and a program of infrastructure recapitalization at McMurdo and Amundsen-Scott South Pole Stations that will enable the U.S. to maintain an active and influential presence in the Antarctic interior and along the Antarctic Peninsula; construction of a new Antarctic Research Vessel that will further advance U.S. presence in the Southern Ocean; and continued investment in the MRI and Mid-scale RI programs that expand access to cutting-edge RI across the U.S. and seed the development of innovative infrastructure that drives U.S. economic prosperity.

MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION ACCOUNT (MREFC) $1,072,950,000

Major Research Equipment and Facilities Construction Funding
(Dollars in Millions)

				Change over FY 2025 Enacted	
	FY 2025[1]	FY 2026 Enacted	FY 2027 Request	Amount	Percent
Discretionary	$23.40	$251.00	$172.95	$149.55	639.1%
Mandatory	-	-	900.00	900.00	N/A
Total Funding	**$23.40**	**$251.00**	**$1,072.95**	**$1,049.55**	**4485.3%**

[1] Displays funding amount transferred to MREFC account from the R&RA account in the FY 2025 Current Plan. All other FY 2025 funding needs were supported using existing MREFC appropriation balances.

Overview

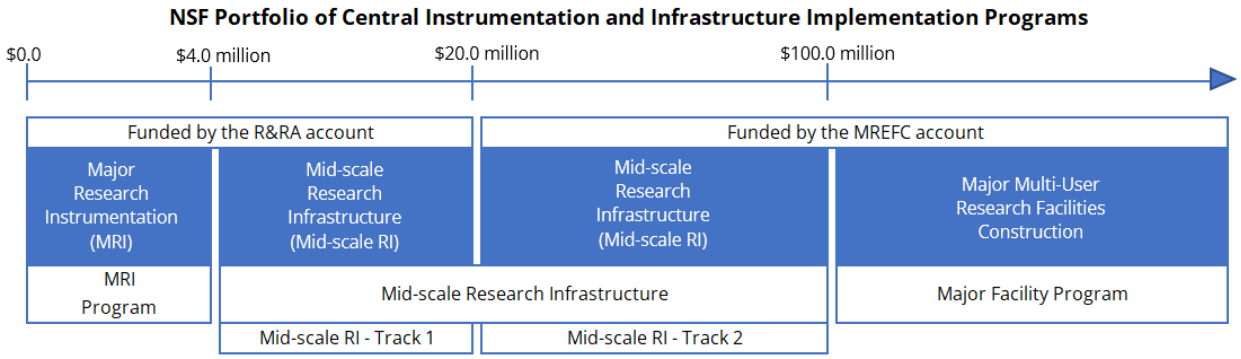
The MREFC account supports the acquisition, construction, and commissioning of major facilities and larger mid-scale research infrastructure that provide unique capabilities at the frontiers of science and engineering. Initial development and design of potential future major facilities as well as post-construction operations and maintenance are funded through the R&RA account.

MREFC Account Funding, by Project[1]
(Dollars in Millions)

	FY 2027 Request
Antarctic Infrastructure Recapitalization (AIR)	$60.00
Antarctic Research Vessel (ARV)	900.00
Leadership-Class Computing Facility (LCCF)	81.45
Mid-scale Research Infrastructure, Track 2	30.00
Dedicated Construction Oversight	1.50
Total	**$1,072.95**

[1] Total displayed includes both discretionary and mandatory funding requests.

Modern, cutting-edge research infrastructure is critical to maintaining U.S. international leadership in science and engineering. The future success of entire fields of inquiry and innovation depends upon access to new generations of powerful research tools. To be considered for MREFC funding, NSF requires that a major multi-user research facility (major facility) project represent an exceptional opportunity to enable research and education, and that it maintain or expand U.S. leadership in some aspect of science, engineering or technology development. The project should be transformative in nature, with the potential to shift the paradigm in scientific understanding. The major facility projects included in this budget request meet these criteria as affirmed by NSF and National Science Board review. The mid-scale research infrastructure projects funded through this budget line are evaluated separately from major facilities as described in a distinct section below.



The graphic above summarizes NSF's centralized instrumentation and infrastructure programs. Information presented in this chapter focuses on the projects funded at levels above $20.0 million, through the MREFC account. All Mid-scale Research Infrastructure (RI) – Track 2 (Mid-scale RI-2) investments are managed as a single portfolio, with projects selected from submissions to a dedicated program solicitation that are evaluated using NSF's merit review process. The NSF-established funding envelopes for Mid-scale RI-2 projects and major facilities construction projects are consistent with definitions in the 2017 American Innovation and Competitiveness Act (AICA), as amended by the National Defense Authorization Act (NDAA) for FY 2021.

In FY 2027, NSF requests a total of $1,072.95 million to support completion of current mid-scale research infrastructure projects, continued construction on two ongoing major facility projects -- Antarctic Infrastructure Recapitalization (AIR) and the Leadership-Class Computing Facility (LCCF) -- and initiation of a new major facility project: the Antarctic Research Vessel (ARV)[1]. For more information on each major facility project, see the individual narratives later in this chapter.

Major Facilities

Since FY 2009, major facility projects funded through the MREFC account have been subject to NSF's "no cost overrun" policy. To implement this policy, NSF processes and procedures assure the development of realistic and well-supported total project cost estimates so that approved budgets for the award recipient are sufficient to accomplish the project's scientific objectives. The current policy, as published in NSF's Research Infrastructure Guide (RIG)[2], requires that: (1) the total project cost estimate when exiting the preliminary design phase include adequate contingency to cover foreseeable risks manageable by the recipient; (2) any cost increases not covered by contingency be accommodated first by reductions in scope, with any significant scope reductions reviewed by NSF prior to implementation; and (3) if the project is approved to continue and further scope reductions become too detrimental to science, then the first 10 percent of any cost increase must be covered by the sponsoring directorate through R&RA funding. NSF holds the risk to impacts on total project cost from unforeseen events that are beyond the recipient's control. The COVID-19 pandemic, for example, constituted such an unforeseen event for all major facility construction projects. NSF policy allows for both authorization of management reserve and re-baselining, with a subsequent increase in total project cost, to address the consequences of such unforeseen events.

[1] The $900 million ARV project is being requested as Mandatory spending.

[2] nsf-gov-resources.nsf.gov/files/nsf25200.pdf

Mid-scale Research Infrastructure

AICA required the agency to develop a strategy for supporting research infrastructure with a total project cost above the upper limit for the MRI program ($4.0 million) and below the lower threshold for a major facility project, which was then $70.0 million. NSF assessed community demand via a Request for Information[3] that resulted in the submission of approximately $10.0 billion in ideas for projects in the cost range of $20.0–$100.0 million. After evaluating that community input, existing funding (or award) mechanisms, and implementation options, NSF included a dedicated funding line within the MREFC account beginning in FY 2020 for research infrastructure projects in the $20.0–$70.0 million range. Projects between $4.0 and $20.0 million in total project cost are addressed by individual directorates and through an NSF-wide program (Mid-scale RI-1) that draws its heritage from the NSF-wide MRI program. The CHIPS and Science Act of 2022 waives the required cost-sharing for the MRI program for a period of five years, effectively lowering the maximum award amount to $4.0 million. Thus, NSF has lowered the threshold for Mid-scale RI-Track 1 proposals to $4.0 million in response, starting with solicitation NSF 22-637. The upper limit for Mid-scale RI-2 was increased to $100.0 million in FY 2021 to align with the lower threshold for a major facility project, as specified in the FY 2021 NDAA that amended the original AICA definition. This funding line supports upgrades to major facilities as well as stand-alone projects. A more detailed description of Mid-scale RI-2 can be found in the dedicated narrative.

Dedicated Construction Oversight

All major facility projects funded through the MREFC account undergo periodic cost, schedule, and risk reviews as required by the RIG and the terms and conditions of the cooperative agreements or contracts governing the projects. NSF policies and routine reporting are designed to ensure timely and reliable tracking of progress, including monitoring of project schedule and cost (*via* Earned Value Management metrics) and use of contingency, ensuring that program directors and recipients have information to provide sufficient oversight and management authority, respectively, to meet project objectives.

Enhanced oversight of the construction stage includes mandatory incurred cost audits, Earned Value Management System surveillance, and independent cost estimates of re-baseline proposals, as well as other audits and reviews based on NSF's annual major facility portfolio risk assessment. These efforts are conducted by NSF and are generally not attributable to a specific project at the time of budget formulation, nor are they part of the total project cost developed and managed by the recipient. To properly support and transparently account for these efforts, funds for Dedicated Construction Oversight are shown separately from the costs of individual projects.

Oversight of the mid-scale research infrastructure portfolio is more flexible and is tailored to the technical nature and complexity of each project. All mid-scale research infrastructure projects funded through the MREFC account are required to provide a detailed Project Execution Plan for review. The RIG discusses the detailed oversight requirements, and available range of oversight practices, which depend on characteristics such as the technical scope, type and mix of work performed, and assessment of the technical and programmatic risks.

[3] NSF 18-013: Dear Colleague Letter: Request for Information on Mid-scale Research Infrastructure. Available at nsf.gov/pubs/2018/nsf18013/nsf18013.jsp

ANTARCTIC INFRASTRUCTURE RECAPITALIZATION (AIR) **$60,000,000**

Requested MREFC Funds

(Dollars in Millions)

	FY 2027 Request
Antarctic Infrastructure Recapitalization	$60.00

Brief Description

The AIR program is a portfolio of investments in facilities and infrastructure across U.S. Antarctic Program (USAP) stations and gateways that will assure safety, enhance efficiency, increase resilience, and support USAP's continued scientific leadership on the continent.

Baseline History

In 2011, the Office of Science and Technology Policy and NSF convened a Blue Ribbon Panel (BRP) to conduct a review of NSF facilities and operations supporting science in Antarctica to ensure that those facilities could enable scientific opportunities articulated by an earlier National Research Council (NRC) report, *Future Science Opportunities in Antarctica and the Southern Ocean.*[1] The BRP report, *More and Better Science in Antarctica Through Increased Logistical Effectiveness,*[2] made numerous recommendations to maintain and enhance USAP's ability to support world-class science in Antarctica.

NSF responded to the BRP report by immediately addressing issues of safety, implementing operational efficiencies that resulted in a rapid return on investment, and developing long-term infrastructure plans for each of the three year-round U.S. stations: Palmer, Amundsen-Scott South Pole, and McMurdo. The AIR program executes a portfolio of projects to carry forward those long-term plans for all three USAP stations.

The AIR program will meet critical science needs while engaging the research community and other stakeholders broadly in an ongoing infrastructure renewal program that will keep the U.S. at the forefront of Antarctic research. AIR will assure safety, enhance efficiency and sustainability, increase resilience, and fulfill NSF's mandate to facilitate continued U.S. leadership on the continent.

The AIR program comprises a portfolio of investments that improve general-purpose USAP infrastructure including facilities, utilities, equipment, and vehicle fleet equipment. This critical infrastructure supports all fields of science. Investments are prioritized across all USAP locations, and acquisition strategies are tailored to individual activities.

Project Status

Construction of the Lodging facility (under the prior Antarctic Infrastructure Modernization for Science project) has progressed steadily, with enclosure of the building achieved in January 2025. Interior work

[1] www.nap.edu/catalog/13169/future-science-opportunities-in-antarctica-and-the-southern-ocean
[2] https://nsf-gov-resources.nsf.gov/files/antarctica-07232012.pdf?VersionId=Z7HgxxdLrSKHMgCImTg4nb.zNvMoHAMh

was conducted during the austral winter of 2025, with beneficial occupancy of the building anticipated in March 2026.

The AIR program is being managed as a portfolio of investments guided by station master plans developed with robust engagement from across the science community and with inter-agency partners. Activities are prioritized by a Capital Investment Review Board (CIRB) as conditions and requirements change, which allows the program to be responsive to the research community, proactive in mitigating risks, and well-positioned to take advantage of opportunities as they arise. Details for individual AIR projects, including status, are outlined in the *Cost and Schedule* section below.

Meeting Intellectual Community Needs

- The 2011 NRC report and the 2012 BRP report informed the need for upgrades in many components of Antarctic infrastructure. Additionally, a 2015 NRC report, *A Strategic Vision for NSF Investments in Antarctic and Southern Ocean Research* and the 2022 follow-on mid-term assessment[3,4] further affirmed the critical need to flexibly support a broad range of Antarctic research.
- Community engagement was intrinsic to the development of the McMurdo and Palmer Station master plans—critical documents that describe the future desired state of the respective stations and inform the AIR Program—and will again be sought in routine updates to the plans for each station. Similarly, community input was integrated into the development of the South Pole master plan, which was completed in 2026.
- The research community, through the proposal submission and merit review process, informs focus areas for logistics support. For example, through this process, the case was made to defer closing the West Antarctic Ice Sheet Divide field camp until after the completion of the Thwaites Glacier project, from which it was based.

Governance Structure and Partnerships

NSF Governance Structure

The AIR program is managed by NSF Office of the Director (OD) and implemented by the OPP Antarctic Infrastructure and Logistics (AIL) section. NSF tailors oversight of AIR to the scope and complexity of the individual project based on the best practices outlined in NSF's Research Infrastructure Guide, which includes the use of independent cost estimates where appropriate, routine status reports at the program and activity level, and periodic reviews of the portfolio by internal and external experts. The AIR program is overseen by NSF's Chief Officer for Research Facilities and by a CIRB that includes representatives from OPP's AIL, Antarctic Sciences section, Polar Safety and Occupational Health group, and NSF's MPS directorate, as well as representatives from the National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), and military partners.

Partnerships and Other Funding Sources

[3] www.nap.edu/catalog/21741/a-strategic-vision-for-nsf-investments-in-antarctic-and-southern-ocean-research
[4] https://nap.nationalacademies.org/read/26338/chapter/1

NOAA is partnering with NSF to support upgrading satellite weather/communications data down/uplink facilities. That project is separate from, but will complement, AIR in modernizing McMurdo Station and facilitating future communication improvements.

Cost and Schedule

The table below shows active and near-term planned investments in the AIR program portfolio, not in any implied order of importance. These investments are multi-year projects that are in different stages of implementation. The projects and their respective stages of implementation will be updated in future budget narratives as appropriate. Scheduling these investments will be dynamic, depending on a combination of CIRB prioritization and complex logistical considerations.

McMurdo Pier Project	Status: Execution
Mission Need: McMurdo, South Pole Station, and field camps are all reliant on resupply vessels that bring food, fuel, equipment, and materials each January. Vessels have historically offloaded at McMurdo via an ice pier in Winter Quarters Bay where materials are then trucked, traversed, or flown to their destination. The ice pier has failed five times in the past 10 years, requiring the last-minute deployment of temporary offload solutions that are costly and inefficient.	
Project Scope: This project will construct and deploy a barge-type structure that will be moored off McMurdo and can be used reliably and efficiently year after year, significantly reducing program risk.	
Project Status: In FY 2024, a rebaseline review of the McMurdo Pier Project was held after the U.S. Army Corps of Engineers presented higher-than-anticipated bids for the project. During the FY 2025 season, in collaboration with Antarctica New Zealand and the U.S. Navy, pile templates were anchored, and all 12 pile holes were drilled and secured. Piles, pile caps, and pre-cast concrete for bridge ramps were delivered to McMurdo. Delivery of the barge is expected by February 2026.	
South Pole Critical Infrastructure Remediation- Phase 1	Status: Execution
Mission Need: Ice shelf movement and snow accumulation are crushing utilities supporting the vehicle maintenance facility and the safety escape hatches in the long underground utility tunnel at the South Pole Station. In addition, the fresh water well is coming to the end of its useful life.	
Project Scope: Phase 1 remediates garage arches being crushed by the weight of snow. This project will extend the useful lifespan of the garage by an estimated six years.	
Project Status: Work began in FY 2023 and is planned for completion in FY 2026.	

McMurdo Power Plant Switchgear Controls Upgrade	Status: Execution
Mission Need: Control systems manage eight generators and three wind turbines that provide power for McMurdo Station as well as New Zealand's Scott Base. The system has no redundancy, is unreliable, and has frequent outages.	
Project Scope: New software will eliminate outages related to control errors and support future generator replacements. The upgrade will enable an increase in monitoring and remote diagnostics and will resolve information technology security vulnerabilities.	
Project Status: Work began in FY 2023 and is planned for completion in FY 2027.	
South Pole Blue Building Lifting System and the Atmospheric Research Observatory (ARO) Raise	Status: Execution
Mission Need: South Pole Station's Blue Buildings (the IceCube Lab, the Dark Sector Lab that houses the South Pole telescope, Martin A. Pomerantz Observatory (MAPO) with its attached Background Imaging of Cosmic Extragalactic Polarization (BICEP) array, and the ARO are being buried in snow and, without action, will become unusable.	
Project Scope: This project will lift ARO and provide a "proof of principle" for lifting the remaining structures. Lifting the buildings will extend their useful lifespan by 20 years and drastically reduce annual snow management workload.	
Project Status: Work began in FY 2024 and is planned for completion in FY 2028.	
Traverse Improvements and Expansion – Phase 1	Status: Complete
Mission Need: The South Pole Traverse (SPoT) delivers approximately 100,000 gallons of fuel to the South Pole Station each year at a fraction of the cost of airlifting the fuel. SPoT-2 modules, such as the mobile kitchen and crew quarters, were acquired in 2003, have traveled over 60,000 miles, and are failing structurally and electrically.	
Project Scope: Phase 1 refreshes the SPoT operational traverse modules to ensure continued fuel and cargo delivery to South Pole Station.	
Project Status: Work began in FY 2024 and was completed in FY 2026.	

Fleet and Equipment Refresh	Status: Execution
Mission Need: More than two-thirds of the USAP fleet, which includes cargo and passenger transport vehicles, snowmobiles, loaders, light tracked utility vehicles, and light trucks, is beyond end-of-life, in some cases by decades. Air traffic control and mobile communications equipment is also aging and at increasing risk of failure.	
Project Scope: This first investment makes upgrades to operational equipment, such as cranes, forklifts, and fire apparatus, as well as replaces the fleet of science-support snowmobiles with newer, more fuel-efficient models.	
Project Status: Work began in FY 2024 and is planned to continue with annual investments.	
Doppler Weather Radar	Status: Execution
Mission Need: Successful and safe flight operations rely on accurate and timely weather information. McMurdo does not have any Doppler weather radar capabilities.	
Project Scope: This project will deploy Doppler weather radar to McMurdo, greatly enhancing weather forecasting capabilities which, in turn, improve the level of science support possible with USAP flight operations.	
Project Status: Work began in FY 2024 and is planned for completion in FY 2029.	
Tactical Air Navigation Upgrade	Status: Execution
Mission Need: Tactical Air Navigation (TACAN) systems are critical for providing bearing and distance guidance and non-precision landing approach capability at McMurdo. The current TACAN is beyond end-of-life, and parts are no longer available, so refurbishment is not possible.	
Project Scope: This project will replace the McMurdo TACAN with a new, modern system.	
Project Status: Work began in FY 2024 and is planned for completion in FY 2029.	
South Pole Critical Infrastructure Remediation – Phase 2	Status: Execution
Mission Need: Ice shelf movement and snow accumulation are crushing utilities supporting the vehicle maintenance facility and the safety escape hatches in the long underground utility tunnel at the South Pole Station. In addition, the fresh water well is coming to the end of its useful life.	
Project Scope: Phase 2 installs a new rodwell fresh water well and outfall, required for water production and waste storage, respectively.	
Project Status: Work began in FY 2024 and is planned for completion in FY 2030.	

Station and Field Communication Improvements	Status: Execution
Mission Need: USAP uses a combination of mobile radios and HF radios for on-station and station-to-field communication including emergency and flight operations.	
Project Scope: This project replaces these systems to better support science and operations.	
Project Status: Work began in FY 2025 and is planned for completion in FY 2030.	
Environmental Satellite Ground System	Status: Planning
Mission Need: Environmental satellite ground systems are crucial for weather forecasting and flight planning. They are also essential for safe aviation, station operations, and science support. The current McMurdo and Palmer Station systems, Tera Scan, are at or beyond end-of-life.	
Project Scope: This project will replace the McMurdo and Palmer systems, providing modern weather forecasting tools that ensure compatibility with new and future weather satellites.	
McMurdo Airfield Power System	Status: Planning
Mission Need: More efficient airfield equipment and facilities have lower power demand, making the existing generators oversized, inefficient, and obsolete.	
Project Scope: This project replaces generators with more efficient units that are easier to maintain, and for which spare parts are readily available.	
South Pole Satellite Communications Transformation	Status: Planning
Mission Need: The mainland link to South Pole Station satellite communication has restricted access to the currently available and future government-owned and -operated satellites.	
Project Scope: This project installs infrastructure to capitalize on commercially available proliferated low earth orbit satellite constellations serving the Antarctic continent.	
McMurdo Aquarium Infrastructure Improvements	Status: Planning
Mission Need: The McMurdo Aquarium in the Crary Lab facility supports aquatic research. The existing aquarium infrastructure has failed to provide adequate sea water to support the needs of marine scientists.	
Project Scope: This project will improve the seawater delivery system and controls.	

Raise Martin A Pomerantz Observatory (MAPO) Building and BICEP Array Replacement Tower (BART)	Status: Planning
Mission Need: South Pole Station's Blue Buildings are being buried in snow and without action, will become unusable.	
Project Scope: This project will utilize the lifting system employed by the ARO project to raise the MAPO building. A new telescope tower will be constructed prior to the raise to ensure continuity of scientific observations.	
South Pole Arch Replacements Phase 1 - 4	Status: Planning
Mission Need: Critical infrastructure supporting the South Pole Station is housed within buried steel arches. The arches will begin to crush the infrastructure underneath them within the next decade due to snow accumulation. The arches protect the station power and water plants, fuel storage, logistics warehouse, and vehicle maintenance garage.	
Project Scope: This project will replace the arches and infrastructure with new construction in a location identified by the South Pole Master Plan.	

Reviews

In addition to daily and weekly communications with the Antarctic Support Contractor's project management teams, NSF conducts formal monthly project management reviews that cover progress described in the monthly project management report produced by Leidos. In addition, annual Construction Reviews are conducted by OPP, the Research Infrastructure Office, and as appropriate external panels. NSF also monitors progress through the routine Project Management Reviews and by increasing government oversight at the project sites.

Extensive engagement with the National Science Board took place in FY 2023 and resulted in a formal recommendation from the Board to move forward with the AIR portfolio of work. The CIRB meets on a quarterly basis to prioritize activities within the AIR Program. Readiness reviews for AIR activities are conducted based on the scale and complexity of individual projects.

Risks

If the infrastructure that enables U.S. access to the Antarctic is not kept robust and efficient, USAP is at risk of losing science capabilities year over year as facilities, utilities, equipment, and the vehicle fleet degrade.

As described above, ongoing and planned near-term activities in the AIR program will mitigate critical risks facing USAP, including some that represent single points of failure to the mission. In executing the projects, NSF has implemented a rigorous risk management approach that includes the identification of risks and mitigation strategies. Robust risk management will also be required of contractors and awardees. In all cases, NSF holds the risk of cost and schedule increases that are beyond the control of the contractor or awardee, including events such as pandemics, unpredictably severe weather, icebreaker and supply vessel availability, and macroeconomic changes.

ANTARCTIC RESEARCH VESSEL (ARV) **$900,000,000**

Requested MREFC Funds[1]

(Dollars in Millions)

	FY 2027 Request
Antarctic Research Vessel	$900.00

[1] Requested as mandatory spending.

Brief Description

NSF proposes the Antarctic Research Vessel to sustain U.S. leadership in Antarctic and Southern Ocean research and to uphold longstanding U.S. responsibilities to conduct, support, and enable peaceful scientific research under the Antarctic Treaty System. The ARV will provide a safe, reliable, and modern platform to support year-round oceanography, geology and geophysics, biology, and atmospheric research in ice-affected waters for the next 30-40 years. The ship will be built by a U.S. shipyard and outfitted with state-of-the-art mapping, coring, sampling, and telepresence systems to deliver high-quality data, enable multi-disciplinary teams, and maximize days on station.

The ARV directly advances Administration priorities to rebuild the domestic maritime industrial base and skilled workforce, ensure access to strategic polar regions, and strengthen U.S. science and technology leadership. Data collected from the ARV will inform weather and ocean forecasting, coastal risk and infrastructure planning, fisheries and ecosystem stewardship, and maritime safety—public goods that support national and economic security. MREFC funding will support construction for a Polar Class 3 (PC3) vessel.

Baseline History

Since delivery of the Research Vessel/Ice Breaker *Nathaniel B. Palmer* (NBP) in 1992, the U.S. research community has recognized the need for greater icebreaking capability and longer endurance to reach scientifically critical regions of the Southern Ocean and coastal Antarctica, including access during harsher winter periods. Multiple concept cycles over the ensuing decades have explored how best to meet those requirements.

In 2018, NSF's Antarctic Support Contract (ASC) was modified to include an ARV design team. Working with NSF program officers and drawing on community science mission requirements, the team produced an initial design and prepared the project for NSF's Major Facility Design Stage, as outlined in the Research Infrastructure Guide (RIG).[1]

Under the RIG framework:

- June 2021 – The NSF Director admitted ARV to the Design Stage in the Conceptual Design Phase.
- September 2021 – An external Conceptual Design Review (CDR) confirmed the soundness of the planned design approach and recommended advancing the project.
- December 2021 – The NSF Director authorized advancement into the Preliminary Design Phase.

[1] https://nsf-gov-resources.nsf.gov/files/Research-Infrastructure-Guide-January-2025.pdf

- March 2023 – The project successfully passed Preliminary Design Review (PDR). The independent PDR panel found the cost basis, project definition, and risk analysis sufficiently mature to establish a risk-adjusted Total Project Cost and a construction duration suitable for budget development.
- September 2023 – The NSF Director approved entry into the Final Design Phase.

With the NBP contract concluding in October 2025, the ARV provides the path to a modern, U.S.-built, ice-capable research vessel that sustains year-round access to priority regions and preserves U.S. leadership in Antarctic research.

Project Status

Because the ASC itself was approaching re-competition, and to maintain continuity into and through construction, NSF initiated a separate procurement for a Vessel Integrator (VI) in October 2023. The VI will complete Final Design and, pending authorization and appropriations, oversee shipyard selection, construction, delivery, and transition to operations. Final award is aligned to the FY 2026 appropriations cycle (earliest feasible award Q4 FY 2026).

Meeting Intellectual Community Needs

The ARV is purpose-built to deliver the observing access, measurement quality, and at-sea productivity necessary to advance polar and ocean sciences. The vessel's design, driven by the science mission requirements (SMR), directly enables the priority research themes called out by numerous National Academies of Science, Engineering and Medicine (NASEM) studies.[2]

The ARV design has been shaped by input from the science community. The SMRs, developed in consultation with the research community, determined the baseline design. The baseline was then subjected to independent Conceptual and Preliminary Design Reviews conducted by panels of oceanographers, polar scientists, marine technicians, ship-operations experts, and engineers. These reviewers tested mission utility against real cruise scenarios and recommended specific refinements that are incorporated into the current design. In parallel, community members have advised both the previous integrator (under the ASC) and NSF itself through its previous advisory committee structure and *ad hoc* working groups, ensuring that design decisions reflect current and emerging research needs. The result is a PC3, long-endurance, U.S.-built platform whose capabilities were iteratively validated by the user community that will sail on the ship. The ARV will support increased time on station, multi-disciplinary throughput, and data quality for high-priority research missions, and assuring U.S. presence and leadership in the high latitudes.

Governance Structure and Partnerships

NSF Governance Structure

NSF oversight of the ARV project is provided by a Program Director in the Office of Research Infrastructure (ORI), working cooperatively with other NSF staff through an Integrated Project Team

[2] Critical Infrastructure for Ocean Research & Societal Needs in 2030 (2011), www.nationalacademies.org/read/13081/chapter/1; Future Science Opportunities in Antarctica and the Southern Ocean (2023), www.nationalacademies.org/read/13169; Future Directions for Southern Ocean and Antarctic Nearshore and Coastal Research (2024), www.nationalacademies.org/read/27160

(IPT). The ARV IPT includes members from the Office of Polar Programs (OPP), Research Infrastructure Office (RIO), Office of the General Counsel (OGC), Office of Award Management (OAM), and the Office of Legislative and Public Affairs (OLPA).

External Governance Structure

Once the VI contract is awarded, the ARV Senior Management Team will consist of an ARV Program Director (PD), Project Manager (PM), and Deputy Project Manager (DPM). This group will be responsible for the day-to-day management of the ARV project. The PD will serve as the primary interface between the project and the NSF oversight team. The Project Management Office will be headed by the PM and DPM, who will report to the PD. The PM will have a line of responsibility for operations, reporting, and process management within the project, with support from the DPM. The PD will be advised by two groups: the Change Control Board and the Technical Review Board. Each board will consist of members with marine science, engineering, construction, and budgeting expertise, along with stakeholders from the science and marine technical communities.

Partnerships and Other Funding Sources

The ARV project includes operational partnerships and collaboration with other government agencies, including the U.S. Coast Guard (USCG), U.S. Naval Sea Systems Command (NAVSEA), and the National Oceanic and Atmospheric Administration (NOAA), as well as numerous U.S. academic institutions involved in oceanographic and marine geophysical research that will contribute to design, validation, and eventual operations of the ARV.

Cost and Schedule

The VI award is anticipated to be made in Q4 FY 2026 using R&RA-funding, which will allow for completion of the final design and refinement of the total project cost.

Award of a shipyard contract is expected in Q2 FY 2028, with construction nominally taking three years. The ARV would be delivered to NSF in late FY 2031 to commence sea and ice trials. Final acceptance would occur in FY 2033, after which the ARV would be available for use by the research community.

Future Operations Costs

Contingent on the availability of funds, NSF plans to support ARV operations and maintenance for approximately 30 to 40 years, the former being the typical service life of a new ship. The current estimate is that ARV operations will cost approximately $30 million annually, beginning in FY 2032. based on the original 365-ft, 90-day endurance ARV design.

NSF operational support for ARV will be shared with partner agencies, including the Office of Naval Research (ONR), the Bureau of Ocean Energy Management (BOEM), NOAA, and others as appropriate through the establishment of an annual user day-rate covering all fixed and incremental costs. The overall ARV lifespan will be informed by future studies conducted by the National Academies of Sciences, Engineering, and Medicine, and other similar reports by community-based bodies, and will follow internal NSF procedures for possible midlife extension, disposition, and/or divestment.

Reviews

Technical Reviews

The ARV project was technically reviewed multiple times during the Design Stage by external committees of experts. These include stage gate reviews at CDR and PDR, in FYs 2021 and 2023, respectively. Final Design Review (FDR) is anticipated for FY 2027. Annual construction reviews will occur once that phase of the project is reached.

Management, Cost, and Schedule Reviews

The CDR and PDR were conducted by independent panels that included practicing scientists, marine technicians, operators, and naval architects. Those reviews validated the mission fit, established the risk register, and produced a risk-adjusted cost/schedule basis for budgeting. For the original 365-ft PC3 concept, NAVSEA also produced an Independent Government Cost Estimate (IGCE) that remains useful for evaluating methods and cost drivers.

Going forward, the Project will finalize system-level design and NSF will conduct a refreshed Independent Cost Estimate with a cost/schedule risk analysis to set P50/P80 targets before approval of a construction award. At award, the project will baseline an earned value management (EVM) schedule with long-lead procurement, conduct a Production Readiness Review (PRR) prior to cutting steel, and enforce configuration control through its Change Control Board. Quarterly independent milestone reviews will ensure proper governance.

Risks

Technical

The primary technical risks relate to meeting performance targets and achieving domestic and international regulatory approvals. U.S. shipyards face challenges related to tight capacity, ability to procure long-lead equipment and retention of skilled workforce, any of which can extend milestones. The project's risk register provides risk level and contingencies to mitigate these risks if realized.

Environmental Health and Safety

The risk register includes hazards that can affect workers and schedule. Contingencies have been factored into the construction schedule to mitigate these risks if realized.

Partnership Risk

Partnership exposure is concentrated in the post-delivery operations of the ARV. As of January 2026, NSF owns one ice-capable research vessel (R/V *Sikuliaq*) and three new Regional Class Research Vessels (RCRVs), which will begin operations between 2027 and 2029. While NSF funds a large share of the science on its vessels as well as on others in the Academic Research Fleet, ONR, NOAA, and BOEM, universities routinely purchase significant ship time. Partner withdrawal related to budget constraints is always a risk. However, because NSF's ownership footprint is small, this risk is limited and can be further mitigated through scheduling and formalized interagency agreements.

System Integration Risk

Distinct from ship "performance", these risks center on interfaces and end-to-end system behavior among ship controls. The VI will be responsible for managing these risks under the shipyard contract. The project's risk register provides risk level and contingencies to mitigate these risks if necessary.

LEADERSHIP-CLASS COMPUTING FACILITY (LCCF) **$81,450,000**

Requested MREFC Funds

(Dollars in Millions)

	FY 2027 Request
Leadership-Class Computing Facility	$81.45

Brief Description

Computer simulation, together with artificial intelligence (AI) methods and data analytics, is critical to enabling transformational science and engineering (S&E) research. From understanding the origin and evolution of our universe to exploring atomic-scale biomolecular processes, computational methods are an integral part of almost all curiosity-driven, use-inspired, and translational S&E research. LCCF, led by the Texas Advanced Computing Center (TACC) at the University of Texas at Austin, is envisioned as a distributed facility that will provide unique computational and data analytics capabilities, as well as critical software and services, for the nation's S&E research community to enable discoveries that would not be possible otherwise. Furthermore, the project will deploy a broad portfolio of education and outreach activities that will expand and nurture our nation's future S&E workforce in data and computational sciences.

LCCF's core processing capabilities will be anchored by a computing system called *Horizon,* which will represent a substantial increase over the computational and data analytics capacity of the current NSF leadership-class computing system, *Frontera*. LCCF will also include four Distributed Science Centers (DSCs), which will be located at the Atlanta University Center Consortium (AUCC), the National Center for Supercomputing Applications (NCSA) at the University of Illinois Urbana-Champaign, the Pittsburgh Supercomputing Center (PSC), and the San Diego Supercomputer Center (SDSC). These DSCs are designed to leverage expertise across the broader cyberinfrastructure ecosystem and to provide critical edge-computing services to the LCCF user community. The partnership with AUCC will leverage the consortium's Data Science Initiative to provide workforce pathways into leadership computing. The partnerships with NCSA and PSC will explore and provide new processor technologies for AI, and data intensive computing and data mirrors for published archives, respectively. Finally, the partnership with SDSC will focus on supporting Machine Learning (ML) and instrument data analytics in scientific workflows, and methods to expand merit-based access to LCCF.

In addition to supporting large-scale simulations and AI, LCCF will also facilitate new usage modes such as interactive computing required by scientific tasks that involve human-in-the-loop processing, as well as urgent computing for emergency response scenarios that will need immediate access to computing resources and real-time data. LCCF will support the full scientific data lifecycle, which is critical to modern S&E discovery processes and to unleashing the potential of rapid advancements in ML and AI. The extensive LCCF Education and Public Outreach (EPO) effort will expand the learning and workforce pipeline and aims to attract talented individuals to research computing. A key component of the LCCF EPO activities will be a Visitor Center at TACC that will include virtual and physical exhibits, along with multiple pilot activities that will be designed to engage students, teachers, and the broader public across the nation.

Baseline History

In FY 2017, NSF released solicitation NSF 17-558 (*Towards a Leadership-Class Computing Facility - Phase 1*)[1] to support the acquisition of a Phase 1 leadership-class computing system and to initiate the planning process for a future Phase 2 LCCF. After rigorous merit review of the submitted proposals, NSF made an award to TACC for the acquisition of the *Frontera* system, the first acquisition in the two-phase process, and to advance the planning for the Phase 2 LCCF. As noted in NSF 17-558, and in response to the recommendations set forth in the report *Future Directions for NSF Advanced Computing Infrastructure to Support U.S. Science and Engineering in 2017-2020,*[2] the goal of the LCCF Phase 2 planning was the design of a major facility that would support all S&E research.

The Major Facilities Design Stage, as defined in the NSF Research Infrastructure Guide,[3] consists of three phases – Conceptual Design, Preliminary Design, and Final Design. In July 2019, LCCF began the Conceptual Design Phase following formal admission to the Design Stage by the NSF Director. The Conceptual Design Review (CDR) was conducted in June 2020 by an external panel of experts to evaluate the proposed, site-independent design of LCCF. A successful CDR resulted in the NSF Director's approval for the project to enter the Preliminary Design Phase in September 2020.

Following extensive Preliminary Design Phase planning activities, the project successfully completed the Preliminary Design Review (PDR) in January 2022. At PDR, the project was judged by an external panel of experts to have made appropriate progress in clearly articulating a cost estimate and a near-final project definition, as well as completing a sufficiently mature risk analysis to allow determination of the risk-adjusted Total Project Cost (TPC) and construction duration for establishing a budget request to Congress. As a result of the successful PDR, the project was approved by the NSF Director to enter the Final Design Phase in August 2022.

A Final Design Review (FDR) of the project was conducted in April 2023. An expert external review panel evaluated the readiness of the project to enter the construction stage and recommended that LCCF be advanced. At its November 2023 meeting, the National Science Board discussed LCCF and passed a resolution in favor of advancing the project to the construction stage. In December 2023, the NSF Director authorized the advancement of the project to the construction stage. A construction award was made for the project in July 2024.

Project Status

In August 2024, the project signed a colocation agreement with Sabey Inc. to provide 32,000 square feet of customized datacenter space for high-density utility hosting of the primary LCCF computing system called *Horizon*. Since entering into the agreement, the project has been holding weekly meetings with the Sabey construction team to ensure on-time delivery of the datacenter colocation space, expected in March 2026.

[1] www.nsf.gov/funding/opportunities/advanced-computing-systems-services-adapting-rapid-evolution/503148/nsf17-558

[2] www.nationalacademies.org/our-work/future-directions-for-nsf-advanced-computing-infrastructure-to-support-us-science-in-2017-2020

[3] https://nsf-gov-resources.nsf.gov/files/nsf25200.pdf

In 2025, the project entered into final procurement agreements with its technology partners for delivery of the critical computing and storage components of the *Horizon system*. Deployment of the *Horizon* system will begin in the first quarter of CY 2026. Additionally, software development needed for the LCCF computing environment is progressing as planned, and equipment procurement for the DSCs will begin in 2026.

An annual construction review was conducted with an external panel of experts in May 2025. The consensus from the panel was that the project execution has been excellent, and the likelihood of the project completion on-time and on-budget is high. An acceptance review for the project is planned for FY 2026 Q4.

Meeting Intellectual Community Needs

The scientific requirements for LCCF are defined by the needs of the S&E community. These include the need to expand computation and data analytics capabilities, as well as the size and breadth of the workforce that will use them. LCCF requirements also include agility and the ability to adapt to rapidly changing technology, new application formulations and requirements, as well as new paradigms of computation-based research. Furthermore, LCCF will need to enhance the broader high-performance computing ecosystem by providing unique resources and expertise at our nation's Institutions of Higher Education that complement other investments made by the federal government and in industry.

The LCCF scientific requirements were determined through a broad set of engagements with the S&E community. These included: distillation from a wide variety of scientific community reports; analysis of usage patterns on leadership computing systems across government; feedback from project-organized planning meetings with the research community;[4] discussions under non-disclosure agreements with industry vendors concerning technology roadmaps; technical evaluation of advanced system prototypes; and direct conversations and interviews with scientists and engineers.[5]

During the Design Stage, LCCF augmented its gathering of science requirements by selecting twenty-one Characteristic Science Application (CSA) teams as project partners. The CSA partners represent applications across a broad range of S&E domains and were selected to enable the development of a suite of science drivers that will be used to verify and validate the facility's effectiveness. The CSA partners also provided requirements to inform design decisions and will continue to enable the project to acquire experience and expertise in coding/performance-tuning enhancements in preparation for facility operations.

Finally, LCCF will be a key enabler of large-scale AI research to ensure continued U.S. world leadership in S&E research and development. In particular, the facility will be a key element in advancing a national research infrastructure to broaden access for the entire nation to critically-needed AI resources. When operational, LCCF will advance U.S. dominance in AI, as envisioned by the President's

[4] https://lccf.tacc.utexas.edu/media/filer_public/09/d7/09d7c596-3a1c-45cc-9548-825325e2d592/lccf-tec-science-requirement_workshop.pdf

[5] https://lccf.tacc.utexas.edu/media/filer_public/4d/a5/4da57b3c-3f4e-4081-a9a7-b43b1e33dcb3/lccf-req001_sc19_bof_report.pdf

Executive Order on *Removing Barriers to American Leadership in Artificial Intelligence*[6] and the White House *AI Action Plan*.[7]

Governance Structure and Partnerships

NSF Governance Structure

NSF oversight of LCCF is provided by a Program Officer in the CISE Office of Advanced Cyberinfrastructure (OAC), working cooperatively with other NSF staff through an Integrated Project Team (IPT). The LCCF IPT includes members from OAC leadership, Office of Research Infrastructure, Office of Awards Management, Office of the CFO, and Office of the General Counsel. CISE leadership and NSF's Chief Officer for Research Facilities provide additional high-level guidance and oversight to the project.

External Governance Structure

The LCCF Senior Management Team consists of the LCCF Project Director (PD), the Project Manager (PM), and the Deputy Project Manager (DPM). This group is responsible for the day-to-day management of the LCCF project. The PD serves as the primary interface between the project and NSF's oversight team. The Project Management office is headed by the PM and DPM, who report to the PD. The PM has line responsibility for operations, reporting, and process management within the project, with support from the DPM. The PD is advised by two groups: the Technology Advisory Board and the Science Advisory Board. Each board consists of members who are leaders in their fields and represent cyberinfrastructure providers and experts (the Technology board) and stakeholders from the community of scientists who will be the ultimate customers of LCCF (the Science board).

Partnerships and Other Funding Sources

The LCCF project includes partnerships with more than twenty academic institutions that will contribute to design, validation, and eventual operations. The project also has extensive industry partnerships in various high-tech economic sectors, such as computing hardware, software, and data center colocation.

Cost and Schedule

The project began construction in July 2024. The project construction schedule has a duration of 34 months, providing for facility acceptance in FY 2027. The project has also developed schedule contingency of one year to allow for uncertainties in the construction process.

Future Operations Costs

Contingent on the availability of funds, NSF plans to support LCCF operations and maintenance for an initial five years with a possibility of renewal for another five years. The current estimate is that LCCF operations will cost approximately $40 million annually. NSF support for LCCF beyond 10 years, and possible re-competition of the operations and maintenance award, will be informed by a planned future study by the National Academies of Sciences, Engineering, and Medicine or other similar

[6] www.whitehouse.gov/presidential-actions/2025/01/removing-barriers-to-american-leadership-in-artificial-intelligence/

[7] www.ai.gov/action-plan

reports by community-based bodies, and will follow internal NSF procedures for renewal, competition, and disposition.

The current estimated cost for disposition of LCCF at the end of the ten-year operations period is $0. With the eventual discontinuation of NSF support for LCCF, the main data center will be returned to the colocation provider, and the computing system will be repurposed by the recipient. There is no expectation that site restoration, demolition, or modification would be needed when the facility is decommissioned.

Reviews

Technical Reviews

The LCCF project was technically reviewed multiple times during the Design Stage by external committees of experts. These include stage gate reviews at CDR, PDR, and FDR in FYs 2020, 2022 and 2023, respectively. The LCCF CSA program was also reviewed by a panel of external experts in FY 2021. An annual construction progress review was conducted in FY 2025.

Management, Cost, and Schedule Reviews

In accordance with NSF's No Cost Overrun Policy, the agency has developed a risk-adjusted TPC estimate post-PDR (based on known risks). Using the TACC proposal as the basis, BFA employed a series of independent cost estimate reviews to inform NSF's post-PDR cost analysis. These included an independent cost estimate in accordance with U.S. Government Accountability Office good practices, conducted by an external contractor for appropriate project components, by BFA's internal Cost Analysis and Pre-award Branch for other elements of cost, and by RIO for assessments of budget contingency and schedule. This information was reconciled against the original proposed budget from TACC in determining the recommended value for inclusion in the FY 2024 Budget Request.

At the completion of FDR, a refined final risk-adjusted TPC and schedule were proposed by the project. BFA conducted a second series of independent cost estimate reviews in accordance with NSF policies prior to the issuance of the Construction award.

Risks

Technical

The LCCF project deploys state-of-the-art technologies and services for the Nation's S&E research community. Several risks related to the readiness and reliability of the future deployed systems and services are included in the LCCF risk register. The LCCF CSA partnerships will be key in monitoring and managing these risks as the CSA teams will be the early users of the facility and will help to identify and remedy issues as they arise. Cost and schedule contingencies have also been factored into the plan to mitigate these risks. In addition, a scope management plan provides options to mitigate cost and/or schedule overruns by eliminating project scope if necessary. LCCF's scope management plan is arranged so that any decision to descope can be made as late as possible in the project and with minimal impact on the science goals.

Environmental Health and Safety

The project includes several health and safety-related risks in its risk register, including events that may have a system-wide impact on the LCCF construction schedule. Contingencies have been factored

into the construction schedule to mitigate these risks if necessary. Furthermore, an assessment for compliance with National Environmental Policy Act regulations has been completed by NSF OGC.

Partnership Risk

The project has established partnerships with several technology vendors. Risks of withdrawal by partners due to unforeseen business reasons are included in the risk register and are carefully monitored and managed by the project. Project assessment of these partnership risks is that the probability of their occurrence is very low. However, mitigation plans have been developed, including vendor penalties for late delivery.

System Integration Risk

An experienced technology integrator for the core *Horizon* system has been identified, and overall system integration risk is low. However, several other risks have been identified by the project related to delays in data center access and technology roadmap changes that could impact the system integration timeline and schedule. Cost and schedule contingencies have been factored into the plan to mitigate these risks.

MID-SCALE RESEARCH INFRASTRUCTURE TRACK 2 (MID-SCALE RI-2) **$30,000,000**

Requested MREFC Funds
(Dollars in Millions)

	FY 2027 Request
Mid-scale Research Infrastructure Track 2	$30.00

Scientific Purpose

The Mid-scale Research Infrastructure program is an NSF-wide effort to meet the research community's needs for modern research infrastructure to support priority science and engineering research. Here, we describe Track 2 (Mid-scale RI-2), covering projects with individual implementation costs between $20.0 million and $100.0 million, with funding provided from the MREFC account.

Baseline History

The scientific importance of mid-scale research infrastructure is reflected in the 2017 American Innovation and Competitiveness Act (AICA), which directed NSF to "evaluate the existing and future needs, across all disciplines supported by the Foundation, for mid-scale projects." NSF issued a Request for Information in late 2017 that resulted in nearly 200 ideas for research infrastructure with project costs in the $20.0 million to $100.0 million range, amounting to a prospective demand for approximately $10 billion in funding.

In the 2018 appropriation for NSF, report language from the House of Representatives encouraged the NSB "to consider further changes that would bridge the gap between the Major Research Instrumentation program and the MREFC account while also developing processes appropriate for mid-scale infrastructure, cyberinfrastructure, and instrument upgrades to be funded through the MREFC account." The NSB issued a report (NSB-2018-40)[1] that made several recommendations, including "[the need for] a long-term *agency-level* commitment to mid-scale research infrastructure."

NSF's response to the NSB recommendations and the AICA mandate to develop a strategy was the creation of a targeted Mid-scale RI program. As part of that program, funding for projects with implementation costs greater than $20.0 million was requested in the MREFC account as Track 2 of an NSF-wide Mid-scale RI program, and funding was appropriated in that account beginning in FY 2020. NSF issued its first solicitation for Mid-scale RI-2 in December 2018,[2] requesting proposals with total implementation costs between $20.0 million and $70.0 million. Five projects were funded from among the proposals received. A second solicitation[3] with a new upper limit of $100.0 million was issued in December 2020 and the award portfolio was approved in February 2023, resulting in three awards in FY 2023, and a fourth in FY 2024. The third solicitation[4] for Mid-scale RI-2 was released

[1] www.nsf.gov/nsb/publications/2018/NSB-2018-40-Midscale-Research-Infrastructure-Report-to-Congress-Oct2018.pdf
[2] www.nsf.gov/funding/opportunities/mid-scale-ri-2-mid-scale-research-infrastructure-2/nsf19-542/solicitation
[3] www.nsf.gov/funding/opportunities/mid-scale-ri-2-mid-scale-research-infrastructure-2/nsf21-537/solicitation
[4] www.nsf.gov/funding/opportunities/mid-scale-ri-2-mid-scale-research-infrastructure-2/nsf23-570/solicitation

in March 2023, and one award was made in FY 2025. NSF does not anticipate making new awards in FY 2026 or FY 2027.

Since Mid-scale RI-2 is a portfolio of implementation awards that span all NSF research communities, it does not have a single set of *a priori* scientific goals. Rather, the solicitations define research infrastructure as "any combination of facilities, equipment, instrumentation, or computational hardware or software, and the necessary human capital in support of the same" and, consequently, generate proposal submissions over a wide range of disciplines. As stated in the 2020 solicitation, NSF's intent is that "[t]he Mid-scale Research Infrastructure programs are aimed at transforming scientific and engineering research fields as well as science, technology, engineering, and mathematics education research by making available new capabilities, while simultaneously training early-career researchers in the development, design, and construction of cutting-edge infrastructure."

Management and Oversight

Mid-scale RI-2 proposals have been received from all scientific disciplines covered by NSF. Management and oversight processes for Mid-scale RI awards have been codified in the NSF Research Infrastructure Guide (NSF 21-107[5] and subsequent revisions). Because of the varied nature of potential Mid-scale RI-2 awards, the Research Infrastructure Guide states the following:

> "Given the wide range in implementation costs and the kinds of projects funded under Midscale RI programs, management by the Awardee and the oversight by NSF is expected to be tailored and scaled to the unique characteristics of the RI, such as an assessment of the associated technical and programmatic risks, the technical scope, and the type and mix of work being performed. However, NSF is committed to the principle that this flexibility does not preclude a requirement for appropriate rigor on the part of NSF or the Awardee."

Each Mid-scale project is overseen by a program officer from a relevant research directorate as well as an awarding official from the Office of Awards Management (OAM). Additionally, the Mission Assurance Branch within the Office of Research Infrastructure (ORI) has designated a liaison for the mid-scale award portfolio to assure a consistent and effective approach to project management oversight for these awards. To enable appropriate oversight, all Mid-scale RI-2 proposals are required to include a detailed Project Execution Plan. This plan is the basis for management requirements for the Awardee as referenced by each individual award's Terms and Conditions and helps NSF assess project risk and complexity to tailor the oversight needs prior to award issuance. Portfolio-wide oversight, ensuring that the Mid-scale RI-2 program meets its overall objectives, is conducted jointly with both the Research Infrastructure and Mission Assurance Branches of ORI.

Project Status

Authorization for the current complement of Mid-scale RI-2 awards was given in May 2020, February 2023, and July 2025. The authorized awards underwent full cost analyses and final award negotiations, including Independent Cost Estimates as required under AICA. The first three Mid-scale RI-2 awards

[5] https://nsf-gov-resources.nsf.gov/files/nsf25200.pdf

were made from the MREFC account in October 2020,[6] and followed by two additional awards, made in June 2021 and February 2022, respectively. These awards are listed below:

- "High Magnetic Field Beamline," Cornell University, $32.69 million.
- "Global Ocean Biogeochemistry Array," Monterey Bay Aquarium Research Institute, $52.94 million.
- "Grid-Connected Testing Infrastructure for Networked Control of Distributed Energy Resources," University of California at San Diego, $39.47 million.
- "Network for Advanced NMR [Nuclear Magnetic Resonance]," University of Connecticut, $39.70 million.[7]
- "Research Data Ecosystem: A National Resource for Reproducible, Robust, and Transparent Social Science Research in the 21st Century," University of Michigan, $38.36 million.[8]

All these awards will be in the operations stage in FY 2027.

Four projects resulting from the second solicitation were added to the Mid-scale RI-2 portfolio, with three awards made in FY 2023:

- "Airborne Phased Array Radar," University Corporation for Atmospheric Research, $91.80 million.[9]
- "Advanced Simons Observatory," University of Pennsylvania, $52.70 million.[10]
- "Compact X-ray Free-Electron Laser," Arizona State University, $90.80 million.[11]

An additional award from this second solicitation was made in May 2024.

- "A National Research Infrastructure for Large-Scale Learning Science and Engineering" Rice University, $89.93 million.[12]

The award to the University Corporation for Atmospheric Research - Airborne Phased Array Radar – was terminated in 2025 by NSF due to the awardee's failure to yield scientific or programmatic outcomes commensurate with the project's goals and associated expenditures.

The third solicitation resulted in one award made in August 2025.

- "Open, Multimodal Artificial Intelligence," Allen Institute for Artificial Intelligence, $75.0 million.

This award fills a key gap in U.S. S&E, enables U.S. scientists and students to participate in frontier science, and fosters the training of early-career researchers in the development, design, construction, and effective use of cutting-edge AI research infrastructure.

NSF does not anticipate making new awards in FY 2026 or FY 2027.

Future Operations Costs

The Mid-scale RI-2 solicitations specifically prohibited inclusion of operations costs in the individual

[6] www.nsf.gov/news/special_reports/announcements/102920.jsp
[7] www.nsf.gov/news/special_reports/announcements/061621.jsp
[8] www.nsf.gov/news/special_reports/announcements/020422.jsp
[9] www.new.nsf.gov/news/nsf-announces-investment-research-infrastructure
[10] www.new.nsf.gov/news/detecting-faint-traces-universes-explosive-birth
[11] new.nsf.gov/news/nsf-announces-infrastructure-investment
[12] new.nsf.gov/news/nsf-invests-90m-innovative-national-scientific

project budgets, but proposers are required to present operation and utilization plans as well as estimates of full lifecycle costs. For each proposal considered for inclusion in the award portfolio, the lead directorate is required to confirm the submission of adequate operational funding models for the projects, and to estimate and commit to any additional operations costs necessary to reap the scientific benefits of an award. At the total planned award amount of $511.60 million from the three solicitations and an estimated upper limit to the operations cost of 10 percent of the capital costs per project per year,[13,14] the total operations cost impact from the current portfolio of Mid-scale RI-2 awards could potentially ramp up to a steady state of about $51.20 million per year, spread across the sponsoring directorates, when implementation is complete. Given the variety of operational models for the funded infrastructure, this cost would only be partially borne by NSF and such costs within NSF are spread across multiple directorates and divisions. Some of the projects funded from the first solicitation have transitioned to full operations in FY 2025, so those costs will be captured within the budgets of the sponsoring directorates. Operations costs of projects funded from the second and third solicitations, released in FY 2021 and FY 2023, would not begin until after FY 2027.

Reviews

The Mid-scale RI-2 program only considers projects that have reached a high state of readiness for implementation through previous investments in development. As a result, the multi-phase Design Stage and accompanying reviews that are typical of major facility projects are not used. Instead, the program has been designed to include a two-step pre-proposal and full-proposal process to limit the burden on the research community of both preparing and reviewing full proposals and Project Execution Plans. Lead NSF directorates are identified to coordinate the review of each pre-proposal and full proposal. Pre-proposals are reviewed externally according to the standard NSF merit review criteria and solicitation-specific review criteria, with a subset of teams invited to submit full proposals based on the outcomes of the pre-proposal reviews. Full proposals are also reviewed externally, with a subset selected for a Site Visit. Based on the results of the site visit, a further subset of proposals is invited to a Reverse Site Visit at NSF (or held virtually) for detailed assessment of the Project Execution Plans.

Based on the extensive input from external merit review, the most meritorious proposals are identified by the lead directorates and submitted to the Mid-scale RI-2 Working Group. That working group identifies potential funding scenarios of those proposals at different levels of total funding and forwards them to the Office of the Director for further consideration. The Deputy Chief Officer for Research Facilities convenes an independent Portfolio Recommendation Group to evaluate the scenarios from the working group and develop one or more final recommended portfolios that consider agency strategy, technical and programmatic risk, projected funding availability, and overall portfolio balance. During the portfolio construction process, NSF also conducts a rigorous cost analysis of each candidate project to ensure compliance with Government Accountability Office good practices, as required by the solicitation and the Research Infrastructure Guide. That analysis may inform modifications to the requested budget if it reveals substantial deficiencies in the development of the proposed cost of a project.

[13] www.nsf.gov/reports/nsb/board/study-operations-maintenance-costs-nsf-facilities

[14] An annual operations cost of 10 percent of the total capital costs is a typical “high-end” estimate for a major infrastructure project. Since some of the Mid-scale RI-2 awards being made by NSF are additions to existing facilities or infrastructure, the predicted increments to the operations costs are less than that high-end estimate for several projects.

Risks

Technical risks and risk management approaches are described in each project's Project Execution Plan and are evaluated rigorously by an external panel of project management experts during a Reverse Site Visit, as described above. The assembly of the final portfolio also relies significantly on an evaluation of agency risks. These include, for example, a constraint that not all the projects should have very high or very low technical risk,[15] potential cost risks identified during the review process, assessment of any partnership risks, the risk that events outside the control of an award recipient might significantly impact an individual project, and/or the risk of overcommitting future budgets such that the next solicitation might be significantly delayed.

[15] NSF does not want all projects to have very high technical risk because of the desire for a high probability of very successful projects coming out of the Mid-scale program. On the other hand, NSF does not want all projects to be "safe" with very low technical risk because a portfolio of only such projects might have less potential for dramatic increases in scientific knowledge.

MAJOR FACILITIES OVERVIEW

Major Facilities Funding
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total Research and Related Activities	**$1,064.49**		**$753.20**	**-$311.29**	**-29.2%**
Operations and Maintenance of Existing Facilities	708.45		517.00	-191.45	-27.0%
Federally Funded Research and Development Centers	338.04		218.00	-120.04	-35.5%
R&RA Design Stage Activities	18.00		18.20	0.20	1.1%
Major Research Equipment and Facilities Construction[1]	**$23.40**		**$171.45**	**$148.05**	**632.7%**
Total, Major Research Facilities	**$1,087.89**		**$924.65**	**-$163.24**	**-15.0%**

[1] Displays discretionary resources only, and does not include the $900 million mandatory spending request for Antarctic Research Vessel.

Major Facilities Funding

NSF's investments in major multi-user research facilities (major facilities) enable access to and the operation of large, state-of-the-art tools for research and education. These tools can include instrumentation networks, observatories, accelerators, telescopes, research vessels, aircraft, and simulators. These investments support U.S. leadership in a broad swath of science, engineering and technology, and, in many cases, are the world-leading infrastructure in their discipline. NSF's investments are coordinated with those of other organizations, federal agencies, and international partners to ensure they are complementary and well-integrated. Planning for, and operations and maintenance (O&M) of, major facilities are funded through the R&RA account. Most construction is funded through the MREFC account; projects currently supported by the MREFC account are discussed in a separate section.

In FY 2027, NSF will continue to provide O&M funding to all existing major facilities, with a focus on maintaining unique and state-of-the-art capabilities that advance U.S. competitiveness and support national and economic security. NSF will also continue to develop concepts for new potential research infrastructure investments that will keep the U.S. at the forefront of global science and engineering, with a focus on those that enable progress for critical and emerging technologies. Funding for logistics and infrastructure in support of the U.S. Antarctic Program and similar activities in the Arctic will enable the U.S. to retain its influential presence through the conduct of scientific research on the Antarctic continent and in Greenland.

At the requested FY 2027 Budget level, NSF will emphasize O&M support for its highest priority infrastructure, including the U.S. Antarctic Program, world-leading optical (Vera C. Rubin Observatory) and radio (Atacama Large Millimeter/submillimeter Array) astronomy facilities, the National Geophysical Facility, the National Ecological Observatory Network, and some ships of the Academic Research Fleet. Each of these facilities is a unique infrastructure that both enables cutting-edge scientific discovery and maintains U.S. scientific and technical leadership in the global research enterprise. A second tier of infrastructure will be supported at a substantially reduced level, which will enable continued delivery of significant scientific outcomes, albeit at a diminished rate. A final group of facilities will be funded at a level that enables only limited FY 2027 activity with the intent to continue toward disposition (closure or divestment) of the infrastructure.

The **Vera C. Rubin Observatory,** operated by NSF's National Optical-Infrared Astronomy Research Laboratory (NOIRLab), comprises an 8.4-meter wide-field optical telescope, equipped with a 3.2-

gigapixel camera supplied by the Department of Energy (DOE) and is the only facility of its kind in the world. Located on Cerro Pachón in northern Chile, Rubin Observatory will commence its ten-year in-depth survey of the night sky in early FY 2026. The culmination of years of investment by NSF and DOE, Rubin Observatory's novel technology, coupled to the world's largest digital camera, will not only advance discovery in astronomical sciences but also contribute to planetary defense by cataloging millions of near-Earth objects such as asteroids.

The **Atacama Large Millimeter/submillimeter Array (ALMA)**, part of NSF's National Radio Astronomy Observatory (NRAO), is the world's most powerful radio telescope. Ongoing support for this 66-antenna array, located on the Chajnantor Plateau in the Atacama Desert of Chile, will ensure that continuous observations of the universe are obtained to enable ground-breaking studies of stars, galaxies and planetary formation, leading to a deeper understanding of the origins of the cosmos. ALMA is an international observatory, collaboratively funded and operated by NSF, the National Institutes of Natural Sciences of Japan, and the European Southern Observatory.

Also operated by NRAO is the **Very Long Baseline Array (VLBA)**, the world's preeminent facility for high-precision astrometric studies and high-resolution imaging. VLBA comprises ten 25-meter diameter telescopes distributed across the U.S., from the U.S. Virgin Islands to Hawaii. The operations of the VLBA are jointly funded by NSF and the U.S. Naval Observatory, which continues to rely on VLBA data for mission-critical measurements of Earth orientation, data necessary for the accurate functioning of GPS. Remaining components of NRAO, including the Very Large Array and Central Development Laboratory, will operate at reduced levels of service at the FY 2027 Budget level.

NSF manages the **U.S. Antarctic Program (USAP)** on behalf of the U.S. government, operating three year-round stations (McMurdo, Amundsen-Scott South Pole, and Palmer) in partnership with the U.S. military, other federal agencies, and private contractors. The USAP maintains an active and influential U.S. presence on the Antarctic continent while enabling cutting-edge scientific research in astronomy, biology and hydrogeology, among other fields. At the FY 2027 Budget level, NSF will continue to operate all three stations, to support the conduct of long-term research projects, and to carry out recapitalization work that will make the USAP more efficient and effective.

The **National Geophysical Facility (NGF)**, formed in FY 2025 from the consolidation of the former Geodetic and Seismological Facilities for Advancement of Geosciences (GAGE and SAGE), enables the study of Earth processes, such as earthquakes, volcanic eruptions, landslides, and water cycle dynamics. Through continued operation of networks of Global Positioning System (GPS) and Global Navigational Satellite Systems (GNSS) instruments and the Global Seismological Network, in FY 2027, NGF will address national security needs such as improved natural hazards models and earthquake and tsunami early warning systems, in conjunction with USGS and NOAA, respectively, and nuclear detonation monitoring, in partnership with the National Nuclear Security Administration. Moreover, a robust and growing suite of private sector partnerships supports the use of GPS/GNSS data for automotive navigation, industrial automation, precision agriculture, and wireless network infrastructure.

The **National Ecological Observatory Network (NEON)** is the only continental-scale biological observing system in the world, with infrastructure distributed across the U.S., including Alaska, Hawaii, and Puerto Rico. Data from NEON enable studies of the complex interactions between living organisms and natural systems, advancing our understanding of wildfires, drought, invasive species,

and the transmission of infectious diseases. In FY 2027, NEON will focus on maintaining the long-term data record generated by the automated instrumentation deployed at its terrestrial and aquatic sites and gathering samples of key plant and animal species, such as disease-transmitting species of mosquitoes. NEON will focus on ensuring data AI-readiness by standardizing data collection, improving accessibility through cloud partnerships, and adopting machine learning (ML) tools for quality control and analysis. In addition, NEON's infrastructure will continue to support testing of AI integration with robotics, edge computing, and sensor technologies for real-time environmental monitoring and early warning systems for wildfires, disease outbreaks, and other risks.

The U.S. **Academic Research Fleet (ARF)** currently consists of 17 oceanographic vessels and various submersibles/autonomous vehicles owned by NSF, the Office of Naval Research, and U.S. universities and laboratories. All ARF ships and vehicles are operated by research universities and laboratories. This fleet of technologically advanced ships and submersibles/autonomous underwater vehicles supports research in complex ocean, seafloor and sub-seafloor environments, the Great Lakes, and the polar regions. The FY 2027 Budget Request will enable partial support of some ships in the ARF, with a focus on achieving adequate coverage of both the global oceans and coastal environments and minimizing the loss of qualified crew.

NSF supports two large physics experiments – the **Laser Interferometer Gravitational Wave Observatory (LIGO)** and the ATLAS and CMS detectors at the **Large Hadron Collider (LHC)**. **LIGO** is the most sensitive detector of gravitational waves ever built and leads the worldwide effort to study the structure and evolution of the universe through gravitational radiation. LIGO makes use of exquisitely sensitive optical interferometers at two sites – Hanford, Washington and Livingston, Louisiana – to detect gravitational waves and, in collaboration with other, similar experiments in Italy and Japan, to determine the part of the sky from which the radiation originates. Past efforts by LIGO have led to the detection of hundreds of gravitational waves originating from the collisions of black holes, neutron stars, and other celestial objects. In FY 2027 NSF will operate the two sites at reduced tempo and will support a reduced level for technology development.

The Large Hadron Collider (LHC), operated by the European Organization for Nuclear Research (CERN) in Geneva, Switzerland, is the world's most powerful particle accelerator. It produces the highest energy particle beams ever created in a laboratory, making it the premier facility in the world for research in elementary particle physics. NSF supports the participation of U.S. researchers in experiments at CERN through the operation of two of LHC's detectors: A Toroidal LHC ApparatuS (ATLAS) and the Compact Muon Solenoid (CMS). At the FY 2027 Budget level, NSF will provide about 60% of the prior share of support for these detectors. Participation of U.S. researchers in LHC research will be commensurately reduced, and NSF expects similar reductions for software and computing capability for analysis.

The **National High Magnetic Field Laboratory (NHMFL)**, operated by a consortium of Florida State University, University of Florida, and Los Alamos National Laboratory, is the world's premier facility for studies requiring high magnetic field environments. NHMFL has an extensive collection of unique magnet systems that enable research across a broad range of topics, including quantum phenomena in many types of materials, structure of macromolecular components of life, and properties of materials essential to energy production, storage, and use. At the FY 2027 Budget Request level, NHMFL will support a subset of its cutting-edge facilities that includes research on the spin dynamics of quantum particles, which informs the development of room-temperature quantum computing

devices, and access to Nuclear Magnetic Resonance technology that enables study of drug development with microorganisms.

The **National Solar Observatory (NSO)**, an NSF-sponsored FFRDC, provides leadership to the solar astronomy community through operations of the Daniel K. Inouye Solar Telescope (Inouye) and the NSO Integrated Synoptic Program, which includes the Global Oscillations Network Group (GONG). Located at the summit of Haleakala on the island of Maui, Hawai'i, Inouye is the world's largest and most advanced solar telescope. Once its commissioning phase is complete, Inouye will enable detailed study of the Sun, including phenomena, such as solar flares and coronal mass ejections, that impact space weather, satellite operations, and terrestrial electrical systems. Observations from GONG, a global network of six telescopes, are essential to predictions of space weather. At the FY 2027 Budget request level, NSF will operate Inouye at reduced tempo.

In addition to Rubin Observatory, **NSF's National Optical-Infrared Astronomy Research Laboratory (NOIRLab)** operates the International Gemini Observatory (Gemini), optical and infrared telescopes at Kitt Peak National Observatory (Arizona) and Cerro Tololo Inter-American Observatory (northern Chile), and the Community Science and Data Center. Gemini comprises two 8-meter telescopes: Gemini-North on Maunakea in Hawaii and Gemini-South on Cerro Pachón in northern Chile. NOIRLab's facilities are open to all astronomers regardless of institutional affiliation, with services provided to over 1000 graduate and undergraduate students annually. At the FY 2027 Budget Request level, the Gemini telescopes will operate at approximately 50% capacity and access to the telescopes at Kitt Peak and Cerro Tololo will be phased out. NSF will begin transferring ownership and operations of these telescopes to other agencies or academic institutions.

Located beneath the ice at the U.S. Amundsen-Scott South Pole station, the **IceCube Neutrino Observatory (ICNO)** is the world's largest high-energy neutrino detector. Over 5000 detectors are distributed throughout a cubic kilometer of ice to observe neutrinos originating from a range of astrophysical processes occurring in the universe. ICNO operates continuously, with data transmitted daily to a data center at the University of Wisconsin-Madison. In FY 2027, operations will continue with a reduction in staff deploying to Antarctica and minimal maintenance activities.

In FY 2026, NSF is evaluating the structure and components of the **National Center for Atmospheric Research (NCAR),** an NSF-sponsored Federally Funded Research and Development Center (FFRDC). NSF is exploring options to transfer stewardship of the NCAR-Wyoming Supercomputer Center to an appropriate operator; to divest of or transfer the two NSF aircraft that NCAR manages and operates; and to redefine the scope of modeling and forecasting research and operations to concentrate on critical national needs such as seasonal weather prediction, severe storms, and space weather.[1] At the FY 2027 Budget level, support will be provided for these activities, although potentially to different organizations than currently.

The FY 2027 Budget Request also provides funding for the **Ocean Observatories Initiative (OOI),** and **Green Bank Observatory** major facilities. The FY 2027 request will support only basic services, such as minimal routine maintenance and continued provision of data to the research community. NSF intends to pursue decommissioning and disposition of these facilities to focus on higher priority investments as described above.

[1] www.nsf.gov/funding/information/dcl-nsf-intent-restructure-critical-weather-infrastructure

The scope of the **Sub-seafloor Sampling program (S3P)** no longer qualifies as a major facility. Activities associated with S3P are now part of the infrastructure portfolio within the Directorate for Geosciences.

Oversight

The Chief Officer for Research Facilities in the Office of the Director is the senior agency official responsible for oversight of major facilities throughout their complete lifecycle. This individual works cooperatively with staff across NSF to ensure appropriate oversight of the development, construction, operations, and disposition of major facilities, as required by Section 110 of the American Innovation and Competitiveness Act (P.L. 114-329). A Deputy Chief Officer for Research Facilities assists in these efforts and provides oversight for NSF's Mid-scale Research Infrastructure portfolio.

All NSF major facilities are managed by Integrated Project Teams (IPT) comprising one or more program officers and staff from the Office of Research Infrastructure and the Office of Awards Management Infrastructure Support Branch.

MAJOR FACILITIES FUNDING, BY PROJECT

(Dollars in Millions)

	FY 2025 Current Plan[1]	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Operations and Maintenance of Major Facilities	**$1,046.49**		**$735.00**	**-$311.49**	-29.8%
National Ecological Observatory Network (NEON)	81.60		47.00	-34.60	-42.4%
Biological Sciences	***$81.60***		***$47.00***	***-$34.60***	***-42.4%***
Academic Research Fleet	153.06		92.00	-61.06	-39.9%
National Center for Atmospheric Research (NCAR) FFRDC	127.66		77.00	-50.66	-39.7%
National Geophysical Facility	39.31		39.00	-0.31	-0.8%
Ocean Observatories Initiative (OOI)	39.34		8.00	-31.34	-79.7%
Geosciences	***$359.37***		***$216.00***	***-$143.37***	***-39.9%***
Large Hadron Collider (LHC) - ATLAS and CMS	20.50		12.00	-8.50	-41.5%
Laser Interferometer Gravitational Wave Observatory (LIGO)	48.00		29.00	-19.00	-39.6%
National High Magnetic Field Laboratory (NHMFL)	38.57		23.00	-15.57	-40.4%
National Radio Astronomy Observatory (NRAO) FFRDC	107.90		71.00	-36.90	-34.2%
NRAO O&M	*43.59*		*24.00*	*-19.59*	*-44.9%*
Atacama Large Millimeter Array (ALMA) O&M	*54.76*		*44.00*	*-10.76*	*-19.6%*
Green Bank Observatory	*9.55*		*3.00*	*-6.55*	*-68.6%*
National Solar Observatory (NSO) FFRDC	32.67		17.00	-15.67	-48.0%
NSO O&M	*6.24*		*4.00*	*-2.24*	*-35.9%*
Daniel K. Inouye Solar Telescope (DKIST)	*26.43*		*13.00*	*-13.43*	*-50.8%*
NSF's National Optical-Infrared Astronomy Research Laboratory FFRDC	69.81		53.00	-16.81	-24.1%
NOIRLab O&M (Mid-Scale Observatories & Community Science and Data Center)	*23.68*		*6.00*	*-17.68*	*-74.7%*
GEMINI Observatory O&M	*24.73*		*15.00*	*-9.73*	*-39.3%*
Vera C. Rubin Observatory O&M	*21.40*		*32.00*	*10.60*	*49.5%*
Mathematical and Physical Sciences	***$317.45***		***$205.00***	***-$112.45***	***-35.4%***
Antarctic Facilities and Operations (AFO)	280.00		263.00	-17.00	-6.1%
IceCube Neutrino Observatory (ICNO)	8.07		4.00	-4.07	-50.4%
Office of Polar Programs	***$288.07***		***$267.00***	***-$21.07***	***-7.3%***
Major Research Facilities Construction Investments	**$41.40**		**$189.65**	**$148.25**	**358.1%**
R&RA Design Stage Activities[2]	18.00		18.20	0.20	1.1%
Major Research Equipment and Facilities Construction (MREFC)[3]	23.40		171.45	148.05	632.7%
Total, Major Research Facilities	**$1,087.89**		**$924.65**	**-$163.24**	**-15.0%**

FFRDC is an acronym for Federally-Funded Research and Development Center.

[1] FY 2025 column removes Subseafloor Sampling Program (S3P) for comparability with the FY 2027 Request. The scope of S3P no longer qualifies as a major facility and does not appear within this table. Activities associated with S3P are now part of the infrastructure portfolio within the Directorate for Geosciences.

[2] Design Stage Activities include support for potential next generation major facilities. This line reflects FY 2025 funding amounts of $11.0 million for Summit Station and $7.0 million for the Next Generation Very Large Array (ngVLA), and FY 2027 funding amounts of $11.20 million for Summit Station, and $7.0 million for ngVLA.

[3] Displays discretionary resources only, and does not include the $900 million mandatory spending request for Antarctic Research Vessel.

RESEARCH AND RELATED ACTIVITIES

For definitions of common acronyms used throughout NSF's FY 2027 Budget Request, see the NOTES found at the beginning of the entire document on pages iii-iv.

RESEARCH AND RELATED ACTIVITIES (R&RA) $3,409,450,000

The FY 2027 Budget Request for the Research and Related Activities account is $3,409.45 million. Funding within the R&RA Appropriation advances U.S. economic competitiveness and national security, invests in transformative early-stage discoveries, and complements private sector R&D where public investment can deliver the greatest value to the American people. Investments through R&RA also emphasize the development of a strategically prepared science and engineering workforce capable of sustaining long-term innovation in basic science and engineering research. These efforts focus on advancing capabilities across fields critical to U.S. leadership in science and technology, ensuring that the workforce can meaningfully enhance the Nation's scientific and economic vitality.

R&RA Funding[1]
(Dollars in Millions)

R&RA Organization	FY 2025 Current Plan[1]	FY 2026 Enacted	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Biological Sciences (BIO)	$794.61		$224.89	-$569.72	-71.7%
Computer & Information Science & Engineering (CISE)	932.72		346.27	-586.45	-62.9%
STEM Education (EDU)[1]	1,197.00		427.68	-769.32	-64.3%
Engineering (ENG)	738.13		185.20	-552.93	-74.9%
Geosciences (GEO)	1,020.61		426.32	-594.29	-58.2%
Mathematical & Physical Sciences (MPS)	1,548.25		515.28	-1,032.97	-66.7%
Social, Behavioral, & Economic Sciences (SBE)[1]	150.00		-	-150.00	-100.0%
Technology, Innovation, & Partnerships (TIP)	617.90		350.00	-267.90	-43.4%
SBIR/STTR, including Operations	*251.78*		*108.47*	*-143.31*	*-56.9%*
National Center for Science & Engineering Statistics (NCSES)[1]	74.07		44.00	-30.07	-40.6%
Office of the Chief of Research Security Strategy & Policy	13.50		10.00	-3.50	-25.9%
Office of International Science & Engineering (OISE)[1]	48.41		2.74	-$45.67	-94.3%
Office of Polar Programs (OPP)[1]	572.80		497.22	-$75.58	-13.2%
U.S. Antarctic Logistics Activities	*109.31*		*109.31*	-	-
Integrative Activities, including ESPCoR (IA)[1]	481.32		181.78	-299.54	-62.2%
Mission Support Services (MSS)	134.03		196.89	62.86	46.9%
U.S. Arctic Research Commission (USARC)	1.75		1.18	-0.57	-32.6%
Total	**$8,325.10**	**$8,114.75**	**$3,409.45**	**-$4,915.65**	**-59.0%**

Totals exclude reimbursable amounts.

[1] Reflects restatements for comparability with the FY 2027 Request the consolidation of the Directorate for STEM Education (EDU) within the R&RA account, and where applicable, the shift of the HBCU-EiR program from IA to EDU and the Global Centers program from OISE to IA. This display also presents the National Center for Science and Engineering Statistics (NCSES) and Office of Polar Programs (OPP) as standalone Program Activities apart from the Directorate for Social, Behavioral, and Economic Sciences (SBE), and Directorate for Geosciences (GEO), respectively.

DIRECTORATE FOR BIOLOGICAL SCIENCES (BIO)

BIO Funding
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$794.61**		**$224.89**	**-$569.72**	**-71.7%**
Research	605.33		167.61	-437.72	-72.3%
Education	33.29		2.43	-30.86	-92.7%
Infrastructure	155.99		54.85	-101.14	-64.8%

BIO supports fundamental research, human capital, and physical and cyberinfrastructure that enhance our understanding of living systems at all scales. The knowledge gained helps to advance the U.S. bioeconomy and drives technology and innovation in agriculture, health and medicine, materials, and energy. In FY 2027, as part of this mission-driven strategy to fully support the Administration's priorities, BIO will focus on expanding existing investments in prioritized industry investments, including biotechnology, artificial intelligence, and quantum information science.

In FY 2027 focal points include:

- Advancing innovative biotechnology research to increase our ability to use, harness, modify, and/or strengthen living systems and how they have adapted to a myriad of needs, environments, and changes. Novel biotechnologies that use life to improve life will stimulate the U.S. economy and help develop innovative solutions in health care, agriculture, manufacturing, and energy. Investments will include those in the research, data, and infrastructure necessary to facilitate these advances.
- Enhancing support for research at the intersection of biology and artificial intelligence (AI). This support will include investments in tools and experiments necessary to generate and maintain the data required for use in AI approaches, applications of existing and innovative AI methods and tools to address biological questions, and the validation of outputs.
- Advancing research at the intersection of biology and quantum information science (QIS). Investments will support foundational research that leverages biological systems for quantum sensing, measurement, and materials discovery, as well as applications of quantum-enabled approaches to address complex biological questions. BIO will emphasize partnership-driven efforts that integrate biological science with broader NSF QIS activities, ensuring alignment with Administration priorities while maintaining a focused and complementary role within the overall QIS portfolio.
- Supporting development of the scientific workforce through research-based training and participation. BIO investments in fundamental research and infrastructure provide opportunities for students and early-career researchers to engage in cutting-edge biological science, including areas such as biotechnology, artificial intelligence, and quantum information science. These activities, often embedded within research awards, contribute to workforce development by providing hands-on experience, interdisciplinary training, and exposure to emerging technologies that are critical to the U.S. innovation ecosystem.

DIRECTORATE FOR COMPUTER AND INFORMATION SCIENCE AND ENGINEERING (CISE)

CISE Funding
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$932.72**		**$346.27**	**-$586.45**	**-62.9%**
Research	744.37		236.77	-507.60	-68.2%
Education	52.32		13.31	-39.01	-74.6%
Infrastructure	136.03		96.19	-39.84	-29.3%

Essentially all practical applications of today's Information Technology are based on ideas and concepts that emerged from investments in fundamental computing and information research, many of them funded by CISE[1] over the last four decades. CISE investments have three intertwined components: foundational and use-inspired research, cyberinfrastructure that supports and enables this research, and education and training for the cyber workforce of the future. CISE supports research across subfields in the AI and computing ecosystem, including novel algorithms, hardware and systems, programming and software engineering paradigms, cybersecurity, advanced wired and wireless networking, robotics, and quantum and bioinspired computing approaches. CISE investments also include advanced cyberinfrastructure within computing and across science and engineering, and novel educational approaches that stay ahead of fast-moving and disruptive technologies, like AI and quantum, to effectively train students and workers for the jobs of the future.

In FY 2027 CISE will support research on critical technologies to fuel economic growth, unleash American prosperity, and bolster national security. CISE will:

- Advance AI through support for foundational and use-inspired research, education, and infrastructure in strong alignment with the priority areas identified in the *Request for Information on the Development of a 2025 National Artificial Intelligence (AI) Research and Development (R&D) Strategic Plan*[2] and the White House Executive Order on *Advancing Artificial Intelligence Education for American Youth.*[3] Key investments will include the National AI Research Institutes and the National AI Research Resource.
- Support research and education that advance the foundations of quantum information science and technology, including through novel approaches for building the quantum computing stack as well as hybrid approaches that combine quantum and classical computing, and high-performance post-quantum cryptographic algorithms and implementations that are secure against attacks from both classical and quantum computers.
- Support other areas critical to U.S. technological leadership, such as advanced wireless communications technologies, advanced materials and manufacturing including semiconductors and microelectronics, biotechnology, and cybersecurity.

[1] www.nap.edu/catalog/25961/information-technology-innovation-resurgence-confluence-and-continuing-impact

[2] www.federalregister.gov/documents/2025/04/29/2025-07332/request-for-information-on-the-development-of-a-2025-national-artificial-intelligence-ai-research

[3] www.whitehouse.gov/presidential-actions/2025/04/advancing-artificial-intelligence-education-for-american-youth/

DIRECTORATE FOR STEM EDUCATION (EDU)

EDU Funding
(Dollars in Millions)

	FY 2025 Current Plan[1]	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Percent
Total	**$1,197.00**		**$427.68**	**-$769.32**	**-64.3%**
Research	459.63		130.32	-329.31	-71.6%
Education	737.37		297.36	-440.01	-59.7%

[1] EDU's FY 2025 Current Plan level is restated for comparability and includes $25.0 million for the HBCU-EiR program, which will shift to EDU in FY 2027.

EDU's work closely aligns with the Administration's priorities of building a workforce for the needs of industries today and in the future, in order to strengthen the economy and maintain global competitiveness in emerging technologies. Both STEM education and STEM education research play a central role in advancing excellence in U.S. STEM education at all levels and in all settings, supporting preK-12 students and teachers, reskilling/upskilling of adult learners, learning at institutions of higher education, and STEM learning for the American public. This support encourages the development of a well-prepared workforce and a well-informed citizenry.

In FY 2027, EDU will continue to support the translation of research findings into practical STEM education applications through investments in STEM education R&D, which supports critical technologies that fuel economic growth and bolster national security, including:

Artificial Intelligence (AI)
EDU supports fellowships, scholarships, research, and workforce development opportunities across all learning settings in two AI fields: 1) AI in Education, which uses AI to enhance teaching and learning, and 2) AI Education, which prepares the workforce for the AI-driven economy. EDU funds research and development of AI-enabled pedagogy and tools that support personalized learning, teacher effectiveness, and student engagement, as well as curriculum innovations and research experiences that integrate AI with domain knowledge in cybersecurity, energy, and manufacturing. EDU supports the April 2025 E.O. on Advancing Artificial Intelligence Education for American Youth.

Quantum Information Science (QIS)
EDU supports efforts to promote awareness, understanding, and development of skilled professionals in QIS. By its very nature, QIS requires innovations and collaborations across multiple STEM fields. These investments contribute to the Nation's understanding of the potential benefits of QIS research and shape the development of a cadre of preK-12 educators who will provide instruction in QIS and related topics in ways that will have a positive impact on students' STEM interests and career choices.

Biotechnology and Nuclear Sciences
EDU's investments in STEM education at all levels better prepare students to enter careers in biotechnology or nuclear fields, working to expand and grow the workforce to support the nation's leadership in the biotechnology and nuclear industries and strengthen U.S. national security and global competitiveness. For example, EDU funding helps prepare graduate students to conduct

research in convergent areas and acquire skills that allow them to succeed in school and in the workforce.

H-1B NONIMMIGRANT PETITIONER FEES

In FY 2027, H-1B Nonimmigrant Petitioner Fees are projected to be $150.46 million.

H-1B Nonimmigrant Petitioner Fees Funding

(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Percent
H-1B Nonimmigrant Petitioner Fees Funding	$138.93		$150.46	$11.53	8.3%

Beginning in FY 1999, Title IV of the American Competitiveness and Workforce Improvement Act (ACWIA) of 1998 (P.L. 105-277) established an H-1B Nonimmigrant Petitioner Account in the general fund of the U.S. Treasury for fees collected for each petition for alien nonimmigrant status. The Congressional statute requires that a prescribed percentage of funds in the account be made available to NSF for scholarships to low-income STEM students; grants for mathematics, engineering, or science enrichment courses; and systemic reform activities. In FY 2005, Public Law 108-447 reauthorized H-1B funding. NSF was provided with 40 percent of the total H-1B receipts collected. Thirty percent of H-1B receipts (75 percent of the receipts that NSF receives) are to be used for a low-income scholarship program, NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM). Ten percent of receipts (25 percent of the receipts that NSF receives) are designated for support of private-public partnerships in K-12 education through Innovative Technology Experiences for Students and Teachers (ITEST). NSF will work to ensure that these programs are aligned with Administration policies and executive actions.

H-1B Financial Activities from FY 2016 - FY 2025

(Dollars in Millions)

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Receipts	**$138.80**	**$141.07**	**$155.99**	**$156.72**	**$153.03**	**$213.50**	**$189.94**	**$134.94**	**$158.87**	**$167.63**
Annual receipts due to NSF						*$153.50*				
DOL 2020 temporary rescission to NSF						*$60.00*				
Unobligated Balance start of year	**$116.02**	**$74.63**	**$96.86**	**$64.68**	**$77.47**	**$124.67**	**$141.77**	**$51.14**	**$80.04**	**$141.56**
Appropriation Previously unavailable (Sequestered)	**$7.30**	**$6.80**	**$9.73**	**$10.30**	**$9.72**	**$9.03**	**$8.75**	**$10.83**	**$7.69**	**$9.06**
Appropriation Currently unavailable (Sequestered)	**-$6.80**	**-$9.73**	**-$10.30**	**-$9.72**	**-$9.03**	**-$8.75**	**-$10.83**	**-$7.69**	**-$9.06**	**-$9.56**
Rescission						**-$60.00**				
Obligations incurred:										
Scholarships in Science, Technology, Engineering, and Mathematics	140.54	84.38	156.40	114.76	79.91	94.70	243.69	83.99	75.67	166.68
Private-Public Partnership in K-12[1]	44.35	35.11	35.86	34.24	34.87	51.81	34.79	31.98	29.65	51.61
Total Obligations	**$184.89**	**$119.49**	**$192.26**	**$149.00**	**$114.78**	**$146.51**	**$278.47**	**$115.97**	**$105.32**	**$218.30**
Unallocated Recoveries	1.60	3.58	4.66	4.49	8.26	5.30	-0.01	6.79	9.32	24.71
Unobligated Balance end of year	**$72.03**	**$96.86**	**$64.68**	**$77.47**	**$124.67**	**$137.24**	**$51.15**	**$80.04**	**$141.56**	**$115.10**

[1] P.L. 108-447 directs that 10 percent of the H-1B Petitioner funds go toward K-12 activities involving private-public partnerships in a range of areas such as materials development, student externships, math and science teacher professional development, etc.

DIRECTORATE FOR ENGINEERING (ENG)

ENG Funding
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$738.13**		**$185.20**	**-$552.93**	**-74.9%**
Research	705.48		179.05	-526.43	-74.6%
Education	22.60		4.10	-18.50	-81.9%
Infrastructure	10.05		2.05	-8.00	-79.6%

The Directorate for Engineering (ENG) supports investments that spur breakthroughs to help ensure future U.S. prosperity, resilience, security, health, and technological leadership. ENG will invest in groundbreaking fundamental engineering research that advances key Administration and NSF research priorities. Strategic ENG support will strengthen the engineering workforce and accelerate the development of technological innovations to increase U.S. global competitiveness.

In FY 2027, ENG will invest in research and education that advance national priority areas:

- **Artificial intelligence (AI):** Fundamental engineering AI research; chip, computing, and sensor technologies that enable AI; and safe and secure AI-enabled systems for healthcare, independent aging, manufacturing, robotics, transportation, civil infrastructure, and more.
- **Quantum information science and engineering:** Design and manufacturing of devices, networks, and systems for quantum computing, encryption, sensing, and communication that empower U.S. security and global leadership.
- **Energy and other key technology areas:** Advanced manufacturing, advanced wireless, biotechnology, energy grid resilience, and microelectronics and semiconductors research to increase U.S. prosperity, security, and economic growth.
- **Student and early-career faculty development:** Hands-on research experiences for students and support for new faculty to grow a competitive future engineering workforce across the U.S.

DIRECTORATE FOR GEOSCIENCES (GEO)

GEO Funding[1]

(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$1,020.61**		**$426.32**	**-$594.29**	**-58.2%**
Research	505.46		175.07	-330.39	-65.4%
Education	22.53		3.68	-18.85	-83.7%
Infrastructure	492.62		247.57	-245.05	-49.7%

[1] Not included in this display is funding for the Office of Polar Programs (OPP), which is presented as a standalone Program Activity and described in a separate narrative within NSF's Congressional Budget Submission.

GEO invests in critical scientific research and infrastructure that drives discovery, enables technological innovation, and advances our understanding of the global environment. GEO studies the complex geologic, marine, atmospheric, and hydrologic processes that sustain life and support a thriving society. GEO supports vital research on understanding and predicting natural hazards such as earthquakes, hurricanes, volcanic eruptions, and solar storms. Such knowledge improves preparedness, decision-making, and mitigation strategies. These investments are essential to our national security as they help save lives, protect property, and support economic growth.

In FY 2027, GEO will support the following priority investments:

- **Artificial Intelligence**: GEO will prioritize AI investments to advance the development and adoption of innovative methods to increase scientific understanding of the Earth Systems.
- **Innovating the Future**: GEO will support innovative research that advances the Nation's energy strategy and propels the bioeconomy and technology sectors into the future. GEO investments will help restore American dominance in critical minerals through research, new technology, and AI methods to improve mineral exploration as well as mining and processing efficiency and productivity. GEO initiatives in energy and water security will accelerate deployable technologies and modernize infrastructure to reduce vulnerabilities where water scarcity threatens reliable energy production (discussed in more detail within the energy and water discovery narrative). GEO will also support biotechnology research to spur innovation and advances in the marine and earth sciences.
- **National Security Strategies:** GEO will help to strengthen national security through critical mineral research and continued investment in the prediction of natural hazards, which safeguards stability, supports defense operations, and enables resilient strategies for a secure future. Research in natural hazards such as wildfires, earthquakes, and windstorms will improve the Nation's ability to respond to such occurrences, build our knowledge and understanding of disasters, including their interplay with the natural environment and built infrastructure. This work will inform the development of new technologies and systems to mitigate risks and manage the impacts of such disasters.

DIRECTORATE FOR MATHEMATICAL AND PHYSICAL SCIENCES (MPS)

MPS Funding

(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$1,548.25**		**$515.28**	**-$1,032.97**	**-66.7%**
Research	1,107.66		273.38	-834.28	-75.3%
Education	34.67		-	-34.67	-100.0%
Infrastructure	405.92		241.90	-164.02	-40.4%

Through investments in individual investigator awards, centers/institutes, and mid-scale and major facilities, MPS supports fundamental research in astronomy, chemistry, materials, mathematics, and physics that advances scientific knowledge and enhances our Nation's economic growth, security, and quality of life. MPS also empowers the scientific workforce of the future through training, mentorship, and research support across U.S. institutions and communities.

In FY 2027, MPS will continue to align its funding with NSF and Administration priorities, highlighted but not limited to the following three areas:

- Strengthening investments under the theme of AI for Sciences and the Science of AI. MPS will support the National AI Institutes, the development of science-driven AI technologies, and investigate their theoretical underpinning in collaboration with other federal agencies and private foundations.
- Sustaining investments in Quantum Information Science and Technology through supporting the Quantum Leap Challenge Institutes, National Quantum Virtual Laboratory, research centers, and transdisciplinary research in quantum computing, quantum materials, quantum networking, quantum sensing, and quantum simulations. MPS will strategically invest in this research through collaborations with other federal agencies, industry, and private foundations.
- Continuing investments towards research on the chemical, mathematical, and physical foundations of biotechnology and their applications, in collaboration with other federal agencies, industry, and private foundations.

DIRECTORATE FOR SOCIAL, BEHAVIORAL, AND ECONOMIC SCIENCES (SBE)

SBE Funding[1]

(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$150.00**		**-**	**-$150.00**	**-100.0%**
Research	129.25		-	-129.25	-100.0%
Education	5.30		-	-5.30	-100.0%
Infrastructure	15.45		-	-15.45	-100.0%

[1] Amounts exclude the National Center for Science and Engineering Statistics (NCSES), which is proposed as a standalone Program Activity within the FY 2027 Request.

In FY 2027, NSF will close-out the Directorate for Social, Behavioral, and Economic Sciences. Continuing grants that align with Administration priorities, such as in behavioral and cognitive science, and all impacted employees will be transferred to other parts of the agency. The National Center for Science and Engineering Statistics will operate independently of the directorates and continue to be supported through the R&RA appropriation. See elsewhere in this chapter for more on NCSES.

DIRECTORATE FOR TECHNOLOGY, INNOVATION AND PARTNERSHIPS (TIP)

TIP Funding
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$617.90**		**$350.00**	**-$267.90**	**-43.4%**
Research	586.86		345.88	-240.98	-41.1%
Education	31.04		4.12	-26.92	-86.7%
Infrastructure	-		-	-	N/A

TIP is fostering a new era of American innovation by accelerating research and development through strategic investments in key technologies such as artificial intelligence, quantum information science and technology, and biotechnology – and using new approaches that enable new entrants to engage in the innovation enterprise. Notably, TIP serves as the bridge between foundational investments by other parts of NSF and applied research by a range of stakeholders, derisking breakthrough technologies to the point of uptake by private industry and other federal agencies. TIP is uniquely poised to enhance American technological superiority, national security, and national prosperity by investing in American innovators and entrepreneurs. TIP's investments advance key technologies and create new jobs.

TIP is implementing data-driven funding mechanisms to ensure technological investments remain competitive against foreign adversaries, encourage new participants nationwide, reduce the interval from idea generation to funding, and leverage partnerships with other NSF directorates, federal agencies, industry leaders, and philanthropic organizations. This approach aims to transform the composition, capacity, and pace of America's innovation landscape. TIP is bridging the gap between frontier research and market-ready technologies by integrating public funding with significant private investment and/or revenue streams, along with enhanced access to research infrastructure such as data sets and test beds.

In FY 2027, TIP's broad strategies are:
Strategy 1: Build a durable U.S. competitive advantage in critical and emerging technologies
This strategy aims to ensure that the United States maintains its leadership in sectors of significant economic and national security importance.

Strategy 2: Establish a new frontier of American innovation
NSF Engines awardees are dedicated to enhancing domestic capacity not only to generate ideas but also to rapidly bring them to the market. Ultimately, NSF is fostering a new wave of products and solutions conceived, manufactured, and consumed in America by American workers.

Strategy 3: Attract and train a world-class science and technology talent base and workforce ready for global competition
NSF is committed to creating accessible pathways into future jobs by investing in institutions and infrastructure responsible for training workers in current competitive technologies and emerging technologies that will define the global job market.

Selected investments are in table that follows.

Selected TIP Programming[1]

(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request
Strategy 1: Build a durable U.S. competitive advantage in critical and emerging technologies			
Emerging Technologies Investments			
Artificial Intelligence	$113.27		$72.23
Quantum Information Science	39.80		27.05
Biotechnology	70.44		36.70
Advanced Materials and Manufacturing	106.95		58.41
Technology Acceleration			
SBIR/STTR, including Operations	251.78		150.47
Pathways to enable Open-Source Ecosystems (POSE)/Safe-OSE	43.00		22.00
Translation to Practice (TTP)	30.00		15.00
Technology Labs (Tech Labs)	-		50.00
Technology Accelerators (TechXccelerators)	-		50.00
Test Beds	-		50.00
Strategy 2: Establish a new frontier of American innovation			
NSF Regional Innovation Engines (NSF Engines)	24.35		13.90
Strategy 3: Attract and train a world-class S&T talent base and workforce ready for global competition			
AI-Ready America	-		25.00
Experiential Learning for Emerging and Novel Technologies (ExLENT)	21.40		-
NSF Entrepreneurial Fellows	4.64		4.12
NSF Innovation Corps (I-Corps™)	50.00		14.10

[1] This table reflects TIP's support for selected areas of investment and should not be summed.

NATIONAL CENTER FOR SCIENCE AND ENGINEERING STATISTICS (NCSES)

NCSES Funding[1]
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Percent
Total	**$74.07**		**$44.00**	**-$30.07**	**-40.6%**
Research	-		-	-	N/A
Education	-		-	-	N/A
Infrastructure	74.07		44.00	-30.07	-40.6%

[1] Presents NCSES as a standalone Program Activity apart from the Directorate for Social, Behavioral, and Economic Sciences (SBE) starting in FY 2027.

NCSES is one of the Office of Management and Budget's 16 recognized statistical agencies and units in the Federal statistical system and has the statutory mandate to collect, acquire, analyze, report, and disseminate objective, policy-relevant information regarding the science and engineering enterprise in a global context. NCSES provides policymakers, researchers, and the public with high-quality data and analysis on research and development (R&D), innovation, the education of scientists and engineers, and the science and engineering workforce. NCSES supports research on statistical methodology and data quality improvement efforts, the education and training of researchers, and information compilation and dissemination to meet statistical and analytical needs. NCSES also plays a critical role in government-wide shared services for evidence building.

The FY 2027 Request proposes NCSES as a standalone Program Activity funded at $44.0 million, which includes support for the following activities:

- Continued leadership of government-wide evidence-building activities such as management of the Standard Application Process (SAP) portal for applying to access restricted-use data from all OMB-recognized statistical agencies and units, including expansion of this portal in features, usability, agency participation, and datasets.
- In alignment with the objectives in *Winning the Race: America's AI Action Plan*[1], the conclusion of the National Secure Data Service (NSDS) demonstration project and transition to an operational and scalable NSDS that advances statistical system-wide efforts with an emphasis on using Artificial Intelligence (AI) techniques to create efficiencies and reduce administrative barriers in data discovery, acquisition, and use; providing a comprehensive data navigator service, to include a Federal Statistics AI Chatbot, to streamline data discovery and access for evidence building; and offering a secure computing space to promote innovative research and development including AI use-cases.
- Data collection and analytic activities, which provide key evidence used widely in policy discussions and evidence-based decision making. The request will support nationally representative surveys on U.S. investment in R&D and innovation from the private and public sectors and on the education and career pathways of scientists and engineers.
- Analysis and dissemination of data on scientific progress and technological innovation, including the statutorily mandated reports: *Indicators of the State of Science and Engineering in the U.S.* and *Statistical Information on Individuals in Science and Engineering*.

[1] www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf

OFFICE OF THE CHIEF OF RESEARCH SECURITY STRATEGY AND POLICY (CRSP)

CRSP Funding
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$13.50**		**$10.00**	**-$3.50**	**-25.9%**
Research	13.50		10.00	-3.50	-25.9%
Education	-		-	-	N/A
Infrastructure	-		-	-	N/A

CRSP leads NSF's efforts to safeguard the research enterprise by developing policies and practices that balance the security of federally funded research with initiatives that maintain an open and collaborative international research environment. In addition to leading internal strategy for the agency, CRSP collaborates with federal partners and the White House to coordinate efforts aimed at improving research security and integrity at the federal level. CRSP also engages with international partners to ensure current and future international collaborations continue to uphold core values such as transparency and accountability.

In FY 2027, CRSP will:

- Continue to support the SECURE (Safeguarding the Entire Community of the U.S. Research Ecosystem) Program to address foreign threats to the security and integrity of the U.S. research enterprise, as required by Section 10338 of the CHIPS and Science Act. The SECURE Center, run by a non-government entity through a cooperative agreement, will empower the research community to meet research security requirements by providing information, tools, and other services. The SECURE-Analytics award supports the analytics needs of the broader research community and works in close coordination with the SECURE-Center.
- Support the Research on Research Security (RoRS) Program, which will advance the understanding of the full scope, potential, challenges, and nature of the research on research security field through scholarly evidence.

OFFICE OF INTERNATIONAL SCIENCE AND ENGINEERING (OISE)

OISE Funding

(Dollars in Millions)

	FY 2025 Current Plan[1]	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$48.41**		**$2.74**	**-$45.67**	**-94.3%**
Research	31.81		2.71	-29.10	-91.5%
Education	16.60		-	-16.60	-100.0%
Infrastructure	-		0.03	0.03	N/A

[1] FY 2025 is restated for comparability with the FY 2027 Request to capture the Global Centers funding shift from OISE to Integrative Activities in FY 2027.

OISE is the focal point for NSF's international science and engineering activities and promotes an integrated Foundation-wide international engagement strategy. Serving in an advisory capacity, OISE supports NSF's role in strengthening the U.S. science and engineering enterprise, advancing innovation in emerging technologies, and furthering U.S. leadership in the global research, innovation, and technology ecosystem. OISE will also continue to advocate for a technology-savvy U.S. workforce for U.S. economic prosperity and promotion of U.S. technological leadership.

OFFICE OF POLAR PROGRAMS (OPP)

OPP Funding[1]
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$572.80**		**$497.22**	**-$75.58**	**-13.2%**
Research	88.36		25.25	-63.11	-71.4%
Education	1.13		-	-1.13	-100.0%
Infrastructure	483.31		471.97	-11.34	-2.3%
U.S. Antarctic Logistical Support (USALS) *(054 Functional Classification)*	109.31		109.31	-	-

[1] OPP is presented as a standalone Program Activity, apart from the Directorate for Geosciences, due to the unique nature of the activities it supports.

OPP is the primary U.S. supporter of fundamental research in the polar regions. In the Arctic, NSF facilitates coordination of research planning as directed by the Arctic Research Policy Act of 1984, and the NSF Director chairs the Interagency Arctic Research Policy Committee (IARPC) created for this purpose. In the Antarctic, per Presidential Memorandum 6646, NSF manages all U.S. activities as a single, integrated program, making Antarctic research possible for scientists supported by NSF and other U.S. agencies. NSF's U.S. Antarctic Program (USAP) research activity also supports leadership by the U.S. Department of State in the governance of the continent and Southern Ocean under the aegis of the Antarctic Treaty System.

OPP's FY 2027 Request provides research support and logistics, including infrastructure, such as permanent stations and temporary field camps in the Antarctic and the Arctic. FY 2027 priorities include:

- **Antarctic Infrastructure**: Maintaining an active operational presence at three permanent year-round stations and field stations in Antarctica. These activities include critical infrastructure investments to ensure a continued world-leading presence on the continent through the Antarctic Infrastructure Recapitalization (AIR) program and Antarctic Research Vessel (ARV) project (discussed in more detail within the MREFC account narrative).
- **Arctic Infrastructure**: Operating research stations, vessels, and other infrastructure in Greenland, Alaska, and the Arctic Ocean. This includes continued development of modernization and recapitalization at Summit Station in Greenland as well as coordination with other government agencies and international partners to enhance U.S. presence in the Arctic.
- **Polar Research**: Targeting scientific research investments to activities that address national priorities in the polar regions.

INTEGRATIVE ACTIVITIES (IA)

IA Funding
(Dollars in Millions)

	FY 2025 Current Plan[1]	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$481.32**		**$181.78**	**-$299.54**	**-62.2%**
EPSCoR	250.00		107.70	-142.30	-56.9%
Compliance in Research	3.07		2.34	-0.73	-23.8%
Evaluation & Assessment Capability	6.40		-	-6.40	-100.0%
Facility Operations Transition (FOT)[2]	[12.00]		-	[-12.00]	[-100.0%]
Global Centers Funding	10.00		10.00	-	-
Growing Convergence Research	7.50		-	-7.50	-100.0%
GRANTED	34.50		-	-34.50	-100.0%
HBCU Excellence in Research	[25.00]		[20.00]	[-5.00]	[-20.0%]
Major Research Instrumentation	46.65		20.00	-26.65	-57.1%
Mid-scale Research Infrastructure	40.05		-	-40.05	-100.0%
Modeling and Forecasting	3.46		-	-3.46	-100.0%
Planning & Policy Support	5.00		-	-5.00	-100.0%
Publication Fee Alternative Exploration	-		10.00	10.00	N/A
Research Investment Communications	8.75		-	-8.75	-100.0%
STC Admin	0.59		-	-0.59	-100.0%
Science & Technology Policy Institute	5.35		2.30	-3.05	-57.0%
Strategic Initiatives Resources	60.00		29.44	-30.56	-50.9%

[1] FY 2025 column restated for comparability with the FY 2027 Request; display shows Global Centers funding shifted into the IA Program Activity from OISE, and the HBCU-EiR program shifted out of IA to the EDU directorate.

[2] FY 2025 FOT funding allocated to MPS in the Current Plan.

IA invests in activities that support transformative advances in science and technology by incubating new ideas and communities, supporting innovation in research and in NSF's own processes, and promoting the integration of research, training, and partnerships. They enhance the competitiveness of the Nation's research through activities that build capacity and competitiveness for science and engineering (S&E), especially along organizational and geographic axes.

IA provides funding for far-reaching programs, such as Established Program to Stimulate Competitive Research (EPSCoR) and Major Research Instrumentation (MRI), which are designed to enhance the ability of jurisdictions and institutions to conduct globally competitive research.

In FY 2027, IA investments will support Administration priorities across the following activities, including:

- Established Program to Stimulate Competitive Research (EPSCoR):
  - EPSCoR uses investment tools that contribute to NSF in its statutory function "to strengthen research and education in the sciences and engineering, including independent research by individuals, throughout the United States, and to avoid undue concentration of such research

and education."

- At the FY 2027 Request level, EPSCoR funding will support EPSCoR's Research Infrastructure Improvement (RII) awards, which will build and strengthen research capacity in Administration and jurisdictional science and technology priorities.

- Compliance in Research: In FY 2027, NSF will continue to support its ability to maximize program delivery, to include strategic planning and implementation, training, stakeholder engagement, complaint processing, partnership engagement, proactive compliance and recruitment and outreach activities. These activities respond to the need to ensure compliance and address Sexual Assault/Harassment Prevention & Response (SAHPR) related concerns and requirements. These efforts support the requirements to address sexual harassment as outlined in Section 10536 of the CHIPS and Science Act.
- Major Research Instrumentation (MRI): MRI invests in shared-use S&E research instrumentation. Such instrumentation is vital for progress in many fields; for example, cyberinfrastructure is important for AI research and research training, analysis and fabrication tools are necessary for quantum, microelectronics, and other nanotechnology-based research, and a range of types of sophisticated instruments are needed for research in to advance the bioeconomy.
- Science and Technology Policy Institute (STPI): STPI is a Federally Funded Research and Development Center sponsored by NSF on behalf of the White House Office of Science and Technology Policy (OSTP). STPI provides analysis of significant domestic and international science and technology policies and developments for OSTP and other federal agencies.
- Strategic Initiatives Resources: Through the Strategic Initiatives Resources, NSF will support activities responding to national priorities that may not align with a specific disciplinary focus or project scope.
- Publication Fee Alternative Exploration: This funding will support the development of alternative measures of researchers' academic achievement that do not rely on counting the number of academic papers published or where they are published in, as well as explore new models of scientific communication beyond the published paper that could increase the frequency and effectiveness of research dissemination. The goal of this effort is to increase the efficiency and effectiveness of research dissemination, and to highlight the importance of scientific work that does not often result in publication in high-visibility journals (e.g. data and code publication, null results).

EPSCoR Funding

(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total, EPSCoR	**$250.00**		**$107.70**	**-$142.30**	**-56.9%**
Research Infrastructure Improvement	223.10		107.70	-115.40	-51.7%
Co-funding	26.00		-	-26.00	-100.0%
Outreach and Workshops	0.90		-	-0.90	-100.0%

UNITED STATES ARCTIC RESEARCH COMMISSION (USARC)

USARC Funding

(Dollars in Millions)

FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
$1.75		**$1.18**	**-$0.57**	**-32.6%**

USARC was created by the Arctic Research and Policy Act of 1984, (as amended, P. L. 101-609), to establish the national policy, priorities, and goals necessary to construct a federal program plan for basic and applied Arctic scientific research. USARC advises the Interagency Arctic Research Policy Committee in developing national Arctic research projects and a five-year plan to implement those projects. USARC also supports interaction with Arctic residents, international Arctic research programs and organizations, and local institutions, including regional and local governments, to obtain the broadest possible view of Arctic research needs. USARC is an independent federal agency, funded through NSF's appropriation, specifically as an activity in the R&RA account.

The FY 2027 Request for USARC is $1.18 million and will help to advance Arctic research and to recommend Arctic research policy that is consistent with the Administration's priorities.

The FY 2027 Request will fund offices in Virginia and Alaska that support eight presidentially appointed commissioners, and two full-time equivalent (FTE) staff tasked with duties defined in the Arctic Research and Policy Act (ARPA) of 1984, as amended.

Personnel Compensation and Benefits and General Operating Expenses

(Dollars in Thousands)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Personnel Compensation & Benefits	$785.00		$894.00	$109.00	13.9%
Travel & Transportation of Persons	152.00		20.00	-132.00	-86.8%
Advisory & Assistance Services	450.00		96.00	-354.00	-78.7%
Rent	152.00		150.00	-2.00	-1.3%
Information Technology	22.00		5.00	-17.00	-77.3%
Communications, Supplies, Equipment, and Other	189.00		15.00	-174.00	-92.1%
Total	**$1,750.00**		**$1,180.00**	**-$570.00**	**-32.6%**
Full-Time Equivalents (FTE)	2		2	-	-

ORGANIZATIONAL EXCELLENCE

For definitions of common acronyms used throughout NSF's FY 2027 Budget Request, see the NOTES found at the beginning of the entire document on pages iii-iv.

ORGANIZATIONAL EXCELLENCE **$667,070,000**

NSF's FY 2027 Request funding for the Organizational Excellence portfolio is $667.07 million, about 17 percent of the total NSF FY 2027 Request. The Organizational Excellence portfolio underpins the agency's programmatic activities and is critical to the accomplishment of NSF's mission, "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense…" The FY 2027 Request represents NSF's commitment to organizational excellence, illustrates the agency's needs. The following chapter begins with a section that presents the FY 2027 funding for the Organization Excellence portfolio by appropriation and is followed by a section presenting the same information but organized by Major Component.

Organizational Excellence by Appropriation

The following presentation details NSF's Organizational Excellence portfolio by appropriation, which is funded through all of NSF's appropriation accounts.

Organizational Excellence by Appropriation[1]
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Percent
Agency Operations & Award Management	$448.00		$359.70	-$88.30	-19.7%
Research and Related Activities[2]	234.79		282.80	48.02	20.5%
Office of Inspector General	24.41		18.00	-6.41	-26.3%
Office of the National Science Board	5.09		3.05	-2.04	-40.1%
Major Research Equipment and Facilities Construction	1.00		1.50	0.50	0.50
Subtotal	**$713.29**		**$665.05**	**-$48.23**	**-6.8%**
Administrative Cost Recoveries (ACRs)	2.51		2.02	-0.49	-19.4%
Total Organizational Excellence	**$715.79**		**$667.07**	**-$48.72**	**-6.8%**

[1] The above levels include estimated Administrative Cost Recoveries (ACRs) of $2.51 million for the FY 2025 Current Plan and $2.02 million for the FY 2027 Request.

[2] FY 2025 Current Plan restated for comparability with the FY 2027 Request to show the consolidation of EDU directorate

Agency Operations and Award Management (AOAM)

The AOAM account provides the fundamental framework through which the Foundation's science and engineering research and education programs are administered. This account funds the essential services NSF needs to operate, and investments in the AOAM account continue to be an NSF priority. As such, in FY 2027, NSF proposes to shift the AOAM account from one-year to two-year budget authority to bring the availability of funds into alignment with the program funds in the R&RA account.

At the FY 2027 Request level, AOAM funding is $359.70 million, representing 54 percent of the Organizational Excellence portfolio, but just nine percent of the total NSF FY 2027 Request. For information on NSF's AOAM account by object class, see the AOAM by Object Class table within this narrative.

Research and Related Activities (R&RA)
Funding from the R&RA ($282.80 million) program account covers approximately 42 percent of the total Organizational Excellence portfolio.

Mission Support Services (MSS)
This account supports MSS in two components: (1) Program Related Technology (PRT) investments and (2) Other Program Related Administration (Other PRA) investments.

- Program Related Technology: PRT investments are mission-related IT that support NSF's programmatic activities and associated services, including data management investments that support the merit review process. FY 2027 reflects the FY 2026 shifting of IT funding from AOAM to R&RA and continued centralization of all IT funding under PRT within MSS, so all IT funding resides in one budget account.

- Other Program Related Administration: Other PRA investments include funding for the following Foundation-wide activities: (1) NSF support for federal E-Government initiatives that are mission-related; (2) mission-related program administration activities that are managed by the Office of the Chief Financial Officer (OCFO) and the Office of Awards Management (OAM);[1] and (3) general planning and evaluation activities that support investments on broad programmatic and strategic matters of NSF-wide scope and benefit, and externally mandated Foundation-wide activities. FY 2027 reflects the FY 2026 shifting of activities with an agency-wide benefit from the AOAM account to the R&RA account under Other PRA within MSS, so these activities reside in one budget account.

Mission Support Services
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request
Program Related Technology (PRT)	$126.77		$176.28
Other Program Related Administration (PRA)	7.26		20.61
Total	**$134.03**		**$196.89**

Office of Inspector General
FY 2027 funding for the OIG is $18.0 million. The staffing and operations of the OIG are supported through a separate OIG appropriation. Details about the OIG FY 2027 Request can be found in the OIG narrative.

Office of the National Science Board
FY 2027 funding for the NSB is $3.05 million. The staffing and operations of the NSB office are supported through a separate NSB appropriation. Details about the NSB FY 2027 Request can be found in the NSB narrative.

[1] The Office of Budget, Finance and Award Management (BFA) was split into OCFO and OAM during NSF's organizational realignment in FY 2025. For more information, see www.nsf.gov/od/updates/nsf-announces-organizational-realignment

Major Research Equipment and Facilities Construction

The FY 2027 Request includes $1.50 million within the MREFC account for oversight of NSF's major facility projects. For more information on this activity, see the MREFC narrative within the Research Infrastructure section of the NSF-Wide Investments chapter.

AOAM by Object Class

AOAM by Object Class

(Dollars in Thousands)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Personnel Compensation	$227,790		$211,930	-$15,860	-7.0%
Personnel Benefits	115,730		72,400	-43,330	-37.4%
Travel and Transportation of Persons	2,593		7,500	4,907	189.2%
Transportation of Things	1,144		300	-844	-73.8%
Rental Payments to GSA	25,690		4,454	-21,236	-82.7%
Rental Payments to Others	875		-	-875	-100.0%
Communications, Utilities and Misc. Charges	1,100		400	-700	-63.6%
Printing and Reproduction	50		20	-30	-60.0%
Advisory and Assistance Services	37,833		33,092	-4,741	-12.5%
Other Services	27,042		23,002	-4,040	-14.9%
Purchases of Goods & Srvcs from Gov't. Accts	7,000		6,000	-1,000	-14.3%
Operations and Maintenance of Equipment	3		2	-1	-33.3%
Supplies and Materials	150		150	-	-
Equipment	1,000		450	-550	-55.0%
Total	**$448,000**		**$359,700**	**-$88,300**	**-19.7%**

Personnel Compensation and Benefits: Personnel compensation funds payroll, awards/bonuses, reimbursable details to NSF, overtime, and terminal leave. Personnel benefits include the Government's contribution towards retirement systems, health and life insurance, thrift saving plans, special overseas allowances, unemployment insurance, transit subsidies, and employee relocations.

Travel and Transportation of Persons: These resources fund travel required for planning, outreach, and the increased oversight of existing awards recommended by the agency's Inspector General. FY 2027 funding for NSF employee travel reflects activity associated with mission critical travel in line with policies to reduce federal spending and streamline government operations.

Transportation of Things: This category consists of household moves associated with employee relocations. FY 2025 expenditures are primary associated with relocating remote workers so that they can participate in full-time in-person work; planned expenditures are primarily associated with returning temporary employees to their permanent homes at the end of their tenure at NSF.

Rental Payments to GSA: This category includes the rent charged by GSA for NSF's facility in Alexandria, Virginia.

Rental Payments to Others: FY 2025 expenditures are primarily rent paid for the parking structure to the owner of the old headquarters building in Alexandria. In FY 2027, NSF will not pay for parking at the new headquarters building located on Dulany Street in Alexandria, Virginia.

Communications, Utilities, and Miscellaneous Charges: This category includes all costs for telephone and other communication lines and services, both local and long distance, and postage.

Printing and Reproduction: This category includes contract costs of composition and printing of NSF's publications, announcements, and forms, as well as printing of stationery and specialty items.

Advisory and Assistance Services: This category includes development, learning, and career enhancement opportunities offered through the NSF Academy; contracts for human capital operational activities, work life initiatives, outreach, and related services; assistance in award oversight and monitoring.

Other Services: This category includes warehousing and supply services, mail handling, equipment repair and maintenance, building-related costs, furniture repair, contract support for conference room services, security investigations, and miscellaneous administrative contracts.

Purchases of Goods and Services from Government Accounts: This category includes reimbursable services purchased from other government agencies. Examples include Department of Homeland Security/Federal Protective Service for security officer services; General Service Administration for renovation services; and Department of the Interior for payroll services.

Operation and Maintenance of Equipment: This category includes operation, maintenance, repair, and storage of equipment, when done by contract with the private sector or another federal government account.

Supplies and Materials: This category includes office supplies, library supplies, paper, and miscellaneous supplies.

Equipment: This category includes new and replacement office furniture, filing cabinets, and support equipment.

Appropriations Language and Explanation of Carryover

For more information on AOAM appropriations language see the Technical Information chapter.

Human Capital

Personnel compensation and benefits (PC&B) of NSF's federal workforce is provided from AOAM.

Personnel Compensation & Benefits

(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Percent
Base Salary[1]	$209.36		$200.96	-$8.40	-4.0%
Other Compensation[2]	9.00		2.47	-6.53	-72.6%
Awards	9.43		8.50	-0.93	-9.9%
Subtotal, FTE Compensation	**$227.79**		**$211.93**	**-$15.86**	**-7.0%**
Benefits	112.73		70.95	-41.78	-37.1%
Other Benefits[3]	3.00		1.45	-1.55	-51.7%
Subtotal, Benefits	**$115.73**		**$72.40**	**-$43.33**	**-37.4%**
Total, PC&B	**$343.52**		**$284.33**	**-$59.19**	**-17.2%**

[1] FY 2025 Current Plan and FY 2027 Request include student salaries.

[2] FY 2025 Current Plan includes reimbursable details to NSF and terminal leave.

[3] FY 2025 Current Plan and FY 2027 Request includes Federal Employee's Compensation Act (FECA) funding and transit subsidies.

The FY 2027 Request for PC&B is $284.33 million and will support 1,227 FTE, plus the associated cost of benefits, general workforce performance awards, and Senior Executive Service (SES) bonuses.

Management of Human Capital

NSF will provide budgetary resources in the FY 2027 Request and contractual support activities for human capital initiatives that support a reduced federal workforce. These budgetary resources continue to reflect reductions and contract cancellations in alignment with Executive Order 14210, *Implementing the President's "Department of Government Efficiency" Cost Efficiency Initiative,* and merit hiring practices in line with the President's Merit Hiring Plan as detailed in the Executive Order 14170, *Reforming the Federal Hiring Process and Restoring Merit to Government Service.* NSF's FY 2027 Management of Human Capital investments support Learning and Development Programs, Operations, Strategic Human Capital, Workplace and Work-Life, Human Resource Systems and Shared Services, and does not include any investments in developing new Human Resources.

Intergovernmental Personnel Act Costs

A portion of NSF's workforce consists of non-federal workers who are detailed to the federal government through the Intergovernmental Personnel Act (IPA) authority on a rotational basis. The costs of IPA rotators are provided for in the R&RA appropriation. The agency uses IPA science and engineering staff to help ensure that the Foundation's funding decisions are based on the best input from the field and reflect fresh ideas and creativity. The expertise provided by these IPAs is essential to help shape the NSF research portfolio and support transformational advances across the frontiers of all fields of science, engineering, and education. In FY 2027, NSF plans to support 150 IPAs to support the Administration's priorities in artificial Intelligence, biotechnology, nuclear energy,

quantum science, advanced manufacturing, and translational science.

NSF Workforce

In FY 2027, NSF plans to hold its regular FTE to 1,227. The OIG and NSB sections of this chapter and the U.S. Arctic Research Commission section of the R&RA chapter include a discussion of their respective workforces.

NSF Workforce

Full-Time Equivalents (FTE)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
AOAM Regular FTE[1]	1,470		1,227	-243	-16.5%
Office of Inspector General	92		66	-26	-28.3%
Office of the National Science Board	18		13	-5	-27.8%
Arctic Research Commission	3		2	-1	-33.3%
Total, Federal Employees (FTE)	**1,583**		**1,308**	**-275**	**-17.4%**
IPAs (FTE)	287		150	-137	-47.7%
Total, NSF Workforce (FTE)[2]	**1,870**		**1,458**	**-412**	**-22.0%**

[1] AOAM Regular FTE excludes Pathways interns.

[2] Total NSF Workforce excludes detailees.

Information Technology (IT)

NSF's IT is funded at $176.28 million in the FY 2027 Request. In FY 2027, NSF will continue the centralization of all IT funding under the R&RA account under Program Related Technology (PRT) within Mission Support Services (MSS), so all IT funding resides in one budget account. This is aligned with operational efficiency and will continue to streamline oversight and reporting.

IT Investments by Appropriation

(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent	Funding Source
Program Related Technology (PRT)[1,2]	$153.53		$176.28	$22.75	14.8%	R&RA

[1] FY 2025 Current Plan restated for comparability with the FY 2027 Request to show all IT funding in the R&RA account.

[2] FY 2027 Request displays the centralization of all IT funding from the AOAM account into the R&RA account under Program Related Technology (PRT), as reflected in the FY 2026 Request.

IT investments support all mission-related program and administrative activities. These investments ensure delivery of high-quality, secure, and reliable IT infrastructure and services across the agency. They enable essential functions such as administrative support, pre- and post-award processes, proposal review, award management, data dissemination, and overall mission delivery.

In FY 2027, NSF will preserve secure, reliable operations of the IT infrastructure and systems that support the business and mission operations of the agency, facilitating innovation and adoption of advanced technologies to support NSF's strategic objectives. Advances supported by this submission include IT initiatives to: (1) Support NSF-wide priorities by providing effective and timely technology solutions; (2) Enable data-driven decision making by providing data transformation, data storage, and applications that support data analysis; (3) Integrate artificial intelligence (AI) into NSF business processes, increasing the use of human-in-the-loop AI capabilities to support NSF business processes.

The budget includes $363,000 to support the transition to the U.S. Office of Personnel Management's consolidated Core Human Capital Management (Core HCM) system, which will consolidate outdated and inefficient human resources systems into a single, modern Core HCM platform. This single, modern platform will encompass personnel action processing, employee system of record, position management, and workforce analytics, among other human resource functions. This amount includes estimated licensing fees for the new system, data migration, and warehousing of legacy data.

<u>NSF IT Portfolio Investments by Category</u>

Investments in NSF's IT Portfolio can be grouped across five main categories:

- Administrative Applications Services and Support. Investments in this category support mission-related administrative applications, such as the NSF website, NSF's human resources management systems, and NSF's financial management system.
- Mission-Related Applications and Services. Investments in this category fund the applications and services that support the end-to-end merit review process and associated activities including solicitations, proposal submission, reviews and reviewer management, and award management.
- IT Operations and Infrastructure. Investments in this category support NSF's capabilities related

to network, infrastructure, computing power including data center and cloud, customer support, and database administration.

- IT Security and Privacy Service. Investments in this category support the portion of NSF's IT security program which provides security and compliance oversight for NSF's administrative applications and mission support systems.
- IT Management. Investments in this category support the functions that support NSF IT management, governance, and Privacy programs. Investments in this category support policy and compliance efforts associated with IT management.

Administrative Support

The FY 2027 Request for Administrative Support includes Space Rental, Operating Expenses, Building and Administrative Services, and Mission Support Services. Additionally, FY 2027 reflects implementation of the mandatory, centralized government-wide travel system, Go.gov, which is a change from Concur.Gov.

Space Rental

Space Rental
(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 (TBD)	FY 2027 Request[1]	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Building Rental & Taxes	$25.63		$4.45	-$21.18	-82.6%
Utilities	0.09		1.23	1.15	1349.6%
Security	3.76		4.36	0.59	15.8%
Parking Rental[2]	0.06		-	-0.06	-100.0%
Total	**$29.54**		**$10.04**	**-$19.50**	**-66.0%**
Net adjustments for forward funding[3]	*-17.57*				
Revised Rent Total	**$11.97**		**$10.04**	**-$1.93**	**-16.1%**

[1] FY 2027 Request includes known estimates for the new building at time of budget request development.

[2] Parking Rental includes parking credits.

[3] Forward funding is an appropriation of budget authority that becomes available for obligation in the last quarter of the fiscal year for the financing of ongoing contracts during the next fiscal year. The budget authority for such contracts is included in the budget totals for the year in which it is appropriated. NSF is provided this budget authority within its annual Appropriation for the AOAM account.

Space Rental includes services provided by the General Services Administration (GSA) related to rent and taxes, utilities, and security provided by the Department of Homeland Security (DHS). In addition, rent paid for the parking structure to the owner of the NSF headquarters building in FY 2025 is included. In FY 2025, NSF occupied 586,670 usable square feet of space in one leased office building located on Eisenhower Avenue in Alexandria, Virginia. In FY 2026, NSF will relocate to a new building located on Dulany Street in Alexandria, Virginia. The FY 2027 Request for Space Rental is $10.04 million and reflects an estimate of known costs of the new building, as well as the additional spaces NSF rents, including the warehouse. Security, utilities, and parking estimates are derived from historical billing and actual contract costs.

Operating Expenses

Operating Expenses support the agency's operational and administrative needs. These include funding for strategic investments in areas of science and security and strategic planning of evidence-building activities in support of the Agency's mission; support for a wide variety of activities focused on continuous organizational improvement; and federal FTE training and supplies.

In accordance with administration policy announced in the Budget, NSF will follow new government-wide grants guidance prohibiting the use of federal funds to pay for subscriptions to academic

journals, as well as for the publication of research results that are not specifically required by federal statute or approved in advance by a federal agency. This policy preserves funds to support actual research by ensuring that the American taxpayer does not pay for the research, publication, and access to that research, essentially triple-charging the public for the same product.

Building and Administrative Services

Building and Administrative Services include three broad activities:

- Information Dissemination. Investments in this category fund activities that support records management; extensive web-based and electronic information distribution tools that provide information to both NSF staff and the public; and regulatory reporting processing and production.
- Workplace Management. Workplace Management provides funding for a wide range of core business activities and infrastructure support related to space management and facility operations, property management, as well as personnel security, emergency management, and information security.
- Panel Support, Meeting Management, and Proposal Services. This category supports NSF's merit review process by providing various services for NSF staff, panelists, members of advisory committees statutorily required, and the National Science Board.

OFFICE OF INSPECTOR GENERAL (OIG) **$18,000,000**

The Appropriations Act that funds the U.S. National Science Foundation contains a separate appropriation for NSF's Office of Inspector General. Accordingly, this FY 2027 Budget Request identifies the resources needed to support OIG, including amounts for personnel compensation and benefits (PC&B), contract services, training, travel, supplies, materials, and equipment.

The FY 2027 Budget Request for the Office of Inspector General is $18.0 million, a decrease of $6.41 million below the FY 2025 Appropriation of $24.41 million.

OIG Funding

(Dollars in Millions)

				Change over FY 2025 Current Plan	
	FY 2025 Current Plan	FY 2026 Estimate	FY 2027 Request	Amount	Percent
Total	**$24.41**	**$24.16**	**$18.00**	**-$6.41**	**-26.3%**
Full-Time Equivalents (FTEs)	92	78	70	-22	-23.9%

OIG Responsibilities and Structure

OIG provides independent oversight of NSF to improve the effectiveness, efficiency, and economy of its programs and operations and to prevent and detect fraud, waste, and abuse. By statute, NSF OIG is organizationally independent from the agency, with the Inspector General (IG) reporting directly to the National Science Board and Congress. Given the geographic breadth of the projects NSF funds, OIG must be equipped to conduct audits and investigations across the continental U.S., Alaska, Hawaii, Puerto Rico, and Antarctica. To fulfill its mission, OIG employs a staff of investigators, auditors, attorneys, management analysts, data analysts, information technology (IT) specialists, and HR Specialists.

OIG's work is divided into two functional areas: the Office of Audits, Inspections, and Evaluations and the Office of Investigations. These offices are supported by the OIG's Office of Management, Office of Counsel, and Immediate Office. Highlights of the OIG's operational impact and FY 2027 strategic focus by functional area follow.

Appropriations Language

For necessary expenses of the Office of Inspector General as authorized by the Inspector General Act of 1978, $18,000,000, of which $1,300,000 shall remain available until September 30, 2028.

Office of Inspector General
FY 2027 Summary Statement
(Dollars in Millions)

	Estimate/ Request	Unobligated Balance Available Start of Year	Unobligated Balance Available End of Year	Unobligated Balance Expired	Obligations Actual/ Estimates
FY 2025 Appropriation	$24.41	$1.30	-$1.27	$0.09	$24.53
FY 2026 Estimate	24.16	1.27	-	-	25.43
FY 2027 Request	18.00			-	18.00
$ Change from FY 2025 Appropriation					-$6.41
% Change from FY 2025 Appropriation					-26.3%

Totals exclude reimbursable amounts.

Explanation of Carryover

Within the OIG two-year account, $1,274,441 was carried over into FY 2026.

- Amount: $1,274,441
- Purpose: Funds are expected to be used for (1) travel expenses to Antarctica because the austral summer crosses fiscal years, to address allegations of sexual assault, stalking, other crimes related to the Special Maritime Territorial Jurisdiction, and to conduct risk-based audits of Antarctic operations; and (2) to procure performance audit services. The selection of awards and institutions to be audited requires careful preparation and is subject to changing circumstances and new information that may require additional time to process.
- Obligation: Anticipated FY 2026 Quarters 1, 3 and 4.

Audit Impact and Strategic Focus

The OIG's Office of Audits, Inspections, and Evaluations (OAIE) conducts transparent, accountable, objective oversight of NSF's programs, operations, financial performance, business policies and practices, and NSF-funded grants, contracts, and cooperative agreements. Oversight can include audits, inspections, evaluations, and reviews. OAIE conducts audits, inspections, evaluations, and reviews to help ensure that financial, administrative, and programmatic activities are carried out efficiently, effectively, economically, and in compliance with applicable laws and regulations. OAIE also responds to congressional requests, suggestions from the National Science Board, and reviews hotline complaints to build a comprehensive oversight program.

Federally Mandated Audit Coverage in FY 2027

Much of the OAIE's work is statutorily mandated, including an annual financial statement audit required by the Chief Financial Officers Act of 1990 and an annual information security program audit required by the Federal Information Security Modernization Act (FISMA) of 2014. In FY 2027, the OAIE must also review NSF's FY 2026 Agency Financial Report for compliance with the Payment Integrity Information Act of 2019 and conduct a triennial risk assessment of the National Science Board's compliance with the Government in the Sunshine Act of 1976, as required by the CHIPS and Science Act of 2022. In addition, the Foundations for Evidence-Based Policymaking Act of 2018 requires OAIE to perform a compliance review of NSF's Recognized Statistical Agency or Unit for the first time in FY 2027. The Government Charge Card Abuse Prevention Act of 2012 requires Inspectors General to

conduct periodic risk assessments of their agency's purchase card program, which we will conduct in fiscal year 2027. The OAIE must also evaluate the reliability of Single Audits as required by the Uniform Guidance.

Areas of Risk for Potential Audit Coverage in FY 2027

OAIE fulfills its statutory mandate to promote economy, efficiency, and effectiveness through a risk-based oversight approach that identifies the highest priority areas that would benefit from OIG oversight. This approach guides the development of the remainder of OAIE's oversight portfolio. At the FY 2027 Budget Request level, OAIE will be able to conduct a few oversight projects in the high-risk areas identified below, as well as in other areas that may emerge during the year.

NSF's and Award Recipients' Compliance with Research Security Requirements

NSF and award recipients must comply with numerous requirements designed to protect federally supported research and development against foreign government exploitation. For example, the *CHIPS and Science Act of 2022* enacted research security requirements that are applicable to both NSF and its award recipients. Additionally, National Security Presidential Memorandum 33 (NSPM-33) requires research organizations with more than $50.0 million per year in total federal research funding to have a research security program in place. By July 2026, institutions should have implemented a research security program and formally certified implementation and compliance with NSF. OAIE plans to build on existing research security-related oversight efforts and assess NSF's and its award recipients' compliance with applicable requirements.

NSF's Re-competition and Management of the Antarctic Support Contract

NSF provides logistical support for the U.S. Antarctic Program through the Antarctic Support Contract (ASC) and other agreements. The ASC, NSF's largest contract, was awarded in 2011, is valued at $3.04 billion, and is set to expire in September 2026. Managing this contract is complex and requires robust cost monitoring, effective oversight of deliverables and deadlines, and careful risk management.

In May 2025, NSF issued a request for proposals for the next U.S. Antarctic Program support contract. The Antarctic Science and Engineering Support Contract (ASESC) will be a single-award, indefinite-delivery, indefinite-quantity contract with a 20-year period of performance and an $8 billion ceiling. The transition to a new support contract presents an opportunity for NSF to strengthen the U.S. Antarctic Program by identifying weaknesses in the ASC and addressing them in the ASESC. OAIE is conducting a series of audits related to the current ASC, the transition to the new contract, and NSF's management of the ASESC.

Information Technology Security and Controls

FISMA requires federal agencies to develop systems to ensure the security of electronic data. Annually, the OAIE examines a selection of NSF's electronic data controls through the FISMA audit. The FISMA audit may identify other high-risk areas within NSF's information technology systems that may warrant additional review. Also, OAIE will continue to develop audit capacity to conduct oversight of artificial intelligence and critical information technology infrastructure.

Directorate for Technology, Innovation and Partnerships (TIP)

NSF created the Technology, Innovation, and Partnerships (TIP) Directorate, authorized by the *CHIPS and Science Act of 2022*, to spur use-inspired research and development, to rapidly bring new

technologies to market, and address major economic and social challenges. OAIE conducts ongoing monitoring and oversight of the early lifecycle of TIP's project portfolio, including TIP's flagship Regional Innovation Engines Program. The goal of the Engines Program is to promote economic growth in regions that have not fully participated in past technological development. Each award recipient, known as an Engine, can receive up to $160.0 million for up to 10 years (Type-2 awards) with a possible two years' funding for planning (Type-1 awards). NSF has established nine Engines throughout the country and is in the process of reviewing proposals for the second generation of Engines. OAIE plans to review policies and procedures for the operation and implementation of the Engines program, the early-stage management of the initial Type-2 awards, and the progress of the Engines in achieving programmatic goals.

Artificial Intelligence Research Institutes
Advancing the field of artificial intelligence (AI) is a priority of the current Administration and will be an area of increased investment for NSF in the coming years. NSF's AI Research Institutes program is one of its primary means of supporting AI research and is the nation's largest AI research ecosystem. Launched in 2020, the program includes 22 AI institutes, represents a $500.0 million investment, and connects over 500 funded and collaborative institutions across the United States. OAIE plans to evaluate the progress of the program in achieving its programmatic goals and whether the AI institutes are managing federal funds in accordance with federal rules and regulations.

Audits of NSF Award Recipients
Audits of NSF award recipients are an essential part of OAIE's efforts to protect NSF funds. All statutorily mandated audits, and most in-house performance audits, focus on NSF's internal operations. Because a significant portion of NSF's funding is provided to the academic community through grants and cooperative agreements, robust oversight of that funding is imperative. Audits of NSF recipients determine whether awardees follow the financial and administrative terms and conditions of the awards. They address the highest risk areas within institutions, identifying systemic issues, recapturing misused funds, and making recommendations ensuring proper stewardship of federal funds going forward. These audits also help identify systemic issues resulting from NSF policy and/or guidance, leading to recommendations for NSF to make internal adjustments and improvements.

NSF award recipients often enter into agreements with other organizations to conduct portions of an award's objective. These agreements, known as subawards, establish a contractual relationship between the prime recipient and subrecipient. Prior NSF OIG audits have identified subawards as a high-risk area that is susceptible to misspending and noncompliance with federal regulations and NSF terms and conditions. Through these audits, OAIE has identified millions of dollars in misspent funds to be returned to the government. At the FY 2027 Budget Request level, OAIE will continue to build on prior subaward oversight and conduct limited audits of NSF award recipients' management of their subawards and costs claimed. We may write a capstone report summarizing common findings and/or identifying promising practices of past, ongoing, and future oversight.

Historically, to provide much-needed audit coverage over the recipient community, the OIG has procured audits of NSF recipients. The coverage of each of these audits ranged from $5.3 million to $216.5 million from FY 2020 through FY 2025. Beyond the findings specific to the institutions being audited, these audits may identify evidence of behavior that could violate criminal or civil laws, which OAIE would refer to the Office of Investigations. Additionally, these audits may identify inconsistent

treatment of similar charges across the academic community, which OAIE would share with NSF staff so they could address the inconsistencies. The impact of this work is not limited to the entities that are audited: NSF recipients carefully monitor the results of these audits to identify situations where they need to strengthen their own policies and procedures. OAIE will continue its risk-based modelling to ensure our limited oversight resources are directed toward the highest-risk grant recipients and NSF funding programs. OAIE will also continue to monitor the quality of single audits.

Investigative Impact and Strategic Focus

OIG's Office of Investigations (OI) investigates criminal, civil, and administrative wrongdoing related to NSF programs and operations, including allegations involving all entities and individuals that receive NSF funds. OI also evaluates and investigates allegations of whistleblower retaliation and research misconduct, including: fabrication, falsification, and plagiarism, related to NSF-funded research, and OI's vigilance ensures that those who seek or receive NSF research funds are held accountable and serves as a meaningful deterrent to grant fraud, research misconduct, and other wrongdoing.

The OIG Hotline annually receives and reviews hundreds of complaints and allegations of wrongdoing. OI opens investigations based on various considerations, including the seriousness and magnitude of the offense, the significance of programmatic vulnerability, the high-risk status of the program or institution, OIG's strategic goals, and NSF's Management Challenges. OI also strategically leverages advanced data analysis tools and techniques to design and conduct targeted proactive investigations.

Investigative Action on Research Security Threats

OI continues to be a leader in responding to threats to U.S. federally funded research and development posed by foreign states that use "talent plans" to exploit the openness of American universities and the federal research enterprise. In FY 2018, OI initiated its first criminal investigations focused on members of the foreign talent plan who misused NSF funding. Since then, these cases have become increasingly complex, and they continue to account for a significant portion of OI's workload.

OI's investigative work on research security threats has resulted in award suspensions and terminations, recoveries of NSF funds, and many referrals to the U.S. Attorney's Office for prosecution. At the FY 2027 Budget Request level, OI will continue to conduct proactive investigative activities to discover previously unidentified research security risks affecting the U.S. research enterprise. To date, these proactive initiatives have resulted in both civil and criminal investigations and prosecutions. Equally important, these activities identified noncompliance with federal requirements at several major academic research institutions and have led to both financial recoveries and major systemic changes at those institutions. In FY 2024, for example, one of OI's proactive efforts resulted in two significant civil settlements with NSF awardees.

To help combat research security threats, OI will continue to deliver robust outreach and training to its stakeholders and investigative partners. Specifically, OI:

- Founded and co-leads a Council of the Inspectors General on Integrity and Efficiency (CIGIE) Working Group, which informs and assists investigative colleagues with threat identification, case predication, and best practices in conducting research security investigations.

- Collaborates with the FBI and other investigative partners to conduct outreach to internal and external stakeholders (e.g., grantees, institutions) to explain the risks posed by foreign talent plan membership.
- Conducts outreach and provides education to NSF, which has resulted in the issuance of new or amended agency advisories and policies to address the threat, including an express prohibition of talent plan members serving as federal employees or Intergovernmental Personnel Act (IPA) rotators, the requirement that IPA rotators be U.S. citizens, and increased disclosure requirements for researchers seeking NSF funding.
- Supports the operation of a Sensitive Compartmented Information Facility at NSF to enhance the efficiency and effectiveness of research security investigations by facilitating essential communication and coordination with investigative partners across the government.

Investigative Action on SBIR/STTR Program Risks

Protecting NSF's nearly $640.0 million portfolio of active Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) awards from fraud and abuse remains a significant priority. The intent of the SBIR/STTR program is to develop novel technologies for the betterment of the U.S. economy, and it has been deemed a national security portfolio. As a result, OI focused its proactive investigative efforts on identifying SBIR/STTR companies performing NSF-funded research outside of the U.S., in violation of the rules. In FY 2025, OI's investigations in NSF-funded SBIR/STTR companies resulted in civil settlement agreements and funds returned to NSF totaling more than $3.2 million.

OI has successfully partnered with NSF program managers to greatly improve SBIR/STTR processes and procedures to reduce the opportunity for fraud to occur. OI's efforts have produced significant programmatic improvements and enhanced understanding throughout the research community. OI also contributes to SBIR/STTR-related outreach at NSF awardee workshops, which provide guidance to the small business community on how to properly handle federal funds and the consequences of not following the rules. Further, OI co-founded and has led, for over a decade, a government-wide special agent working group focused on fighting SBIR/STTR fraud. This group allows agents to identify potential investigative partners, deconflict cases, and share best practices and lessons learned.

Investigative Focus on Sexual Assault Investigations in Antarctica

In response to the *Sexual Assault and Harassment Prevention and Response* (SAHPR) *Report* that was commissioned by NSF and released in August 2022, OIG has expanded its investigative mission to provide a criminal investigative response capability for the United States Antarctic Program (USAP) in Antarctica. The SAHPR Report indicated that sexual assault and stalking are problems in the USAP community. Sexual assault and stalking are criminal offenses. When they occur in Antarctica and are committed by or against a U.S. national, these offenses can be prosecuted under the Special Maritime and Territorial Jurisdiction, which includes "any place outside the jurisdiction of any nation with respect to an offense by or against a national of the United States." Historically, NSF relied upon the USAP McMurdo Station Manager, authorized as a Special Deputy U.S. Marshal, to serve as the on-ice law enforcement official. After conferring with NSF, the U.S. Department of Justice, the FBI, and the U.S. Marshals Service, OI assumed responsibility for investigating allegations of sexual assault, stalking, and other crimes occurring in Antarctica. In July 2023, OI began receiving allegations of sexual assault and stalking from current and former USAP participants and initiated investigations into these criminal offenses.

In late FY 2023, OI hired an investigator who is an expert in sexual assault investigations. In FY 2025, OI hired an additional criminal investigator specifically trained and highly skilled in sexual assault and fraud investigations. These highly specialized criminal investigators will travel to Antarctica for extended periods of temporary duty during austral summers to provide an on-site law enforcement presence at McMurdo Station and lead remote investigations on an as-needed basis during the winter season.

To ensure the success of this new investigative mission, OI and NSF's Office of Polar Programs and Office of the Director formed a Coordination Group on Law Enforcement in Antarctica. The group's charter is to determine an appropriate and feasible law enforcement posture and develop a plan for the longer-term posture. In addition, OI established and leads a government-wide Sexual Assault Investigations Working Group through CIGIE. This working group enables criminal investigators handling sexual assault cases to leverage resources and share best practices and lessons learned.

Investigating Research Misconduct

Research misconduct, including plagiarism, fabrication, and falsification, damages the scientific enterprise, is a potential misuse of taxpayer funds, and undermines the public's trust in government-funded research. NSF-funded researchers must carry out their projects with the highest ethical standards. In 1991, NSF delegated its authority to investigate research misconduct to OIG. As a result, OI hired investigative scientists with the necessary scientific backgrounds to investigate these allegations.

Due to workforce challenges, NSF and OIG have agreed upon an interim process for addressing research misconduct. OIG will serve as the intermediary and will receive complaints and refer matters to the awardee university for investigation. Upon receipt of the university's report, OI will provide the report to NSF for adjudication. A longer-term solution will be identified once temporary workforce challenges have been addressed.

Support Offices' Actions and Impacts

Office of Management

OIG's Office of Management (OM) oversees OIG's human resources, information technology, data analytics, financial management, procurement, and other critical mission-support functions. Working in partnership with the other OIG offices, OM guides the OIG's strategic vision and ensures all operational needs are met. Critical functional areas include:

Human Capital

Having a strong human capital strategy is vital to the success of any organization. OIG's competitive advantage has long been its highly skilled staff. Human resources staff have been focused on addressing attrition and other workforce challenges and on developing plans to assist offices across OIG throughout this process. One of the priorities is, and will continue to be, the development of additional automated tools in partnership with the IT team to further optimize the human capital and technology resources in executing the OIG mission. The goal is to allow OIG personnel to spend less time on administrative tasks and more on executing OIG's mission.

Information Technology and Analytics

OM strives for continuous process improvement. Investment in IT plays a critical role in achieving that

goal. From providing recommendations to senior management on modernization to protecting OIG information systems and data to handling day-to-day hardware and software issues, OM supports all aspects of IT. For example, to safeguard the independence of OIG audits and investigations, OM established a dedicated Starlink satellite network at McMurdo Station, Antarctica. This secure network enables reliable, direct access to OIG systems in this remote environment without dependence on NSF-controlled infrastructure. The IT team is now more than ever focused on automating processes across the OIG enterprise to ensure OIG personnel are focused on mission execution.

In addition, a robust data analytics capacity is a core component of OIG's ability to provide effective oversight. OM uses data analytics to streamline internal processes, including human capital, procurement oversight, and budget execution. These applications achieve high efficiency and enable OIG management to make more informed decisions.

Budget and Financial Management
Sound budgeting and financial management are key to the OIG's success. Personnel working in these areas are responsible for developing, executing, and monitoring budgets in alignment with OIG goals, federal regulations, and fiscal policies. By analyzing financial data, forecasting expenditures, and assessing funding requirements, these professionals help guide strategic decision-making and promote fiscal accountability. Their work ensures that taxpayer dollars are spent efficiently, programs are adequately funded, and financial risks are mitigated, thereby supporting the OIG's mission and maintaining public trust in government operations.

Office of Counsel
The Office of Counsel (OC) consists of the General Counsel to the IG, two assistant counsels, the Chief of Staff, and a vacant Freedom of Information Act (FOIA) analyst position. OC provides comprehensive legal advice and critical analysis to the IG and all OIG offices, including legal review of externally issued OIG work products and correspondence. OC is responsible for the OIG Ethics and FOIA programs and handles a myriad of subject areas, including audit-related support, ethics, appropriations law, contract law, information disclosure, privacy, federal personnel law, and IG Act authorities. On average, OC handles about 350 actions per year, including reviews for legal sufficiency, information security, and information governance for reports and other externally focused documents; proposed procurements; FOIA requests; Antarctic-focused work, which presents unique and complex issues; and legal opinions on various matters. OC attorneys also participate in key meetings and decisions, conduct training, and publish legal updates. This level of involvement enables the office to identify and address potential legal issues and risk areas before they mature. OC also supports the larger IG community through active participation in CIGIE projects and committees.

The Chief of Staff also directly supports the IG and is responsible for internal and external communications, including congressional relations and media contacts. The Chief of Staff leads the agency's cross-functional efforts and execution of the Semi-annual Report to Congress and the annual Management Challenges.

Immediate Office
The Immediate Office includes the Inspector General and Deputy Inspector General. Both positions are vacant. The Assistant Inspector General for Investigations is performing the Inspector General's duties until the position can be filled.

Government-wide Impact

Though small relative to many other OIGs, NSF OIG continues to make outsized contributions to the Inspector General community and the government at large. For example:

- NSF's Acting Inspector General serves as the chair of the CIGIE Investigations Committee.
- The Assistant Inspector General for Audits serves on CIGIE's Audit Committee, Inspection and Evaluation Committee, and Professional Development Committee.
- The Assistant Inspector General for Management coordinates a CIGIE Management and Policy forum and serves on CIGIE's Professional Development Committee, Leadership Innovation Subcommittee.
- NSF OIG established five IG community working groups to:
  - Prevent fraud within the SBIR/STTR programs,
  - Increase the use of government-wide suspension and debarment to deter and reduce instances of fraud, waste, and abuse,
  - Foster the next generation of senior investigative leaders within the IG community,
  - Address threats to research security, and
  - Investigate sexual assaults occurring in federal environments.

Financial Discussion

Office of Inspector General

Personnel Compensation and Benefits and General Operating Expenses

(Dollars in Thousands)

	FY 2025 Current Plan	FY 2026 Estimate	FY 2027 Request	Change over FY 2025 Current Plan Amount	Percent
Personnel Compensation & Benefits[1]	$20,171		$16,158	-$4,013	-19.9%
Travel & Transportation of Persons	295		121	-174	-59.0%
Advisory & Assistance Services[2]	3,074		1,511	-1,563	-50.8%
Information Technology	432		45	-387	-89.6%
Communications, Supplies, Equipment, and Other	438		165	-273	-62.3%
Training	*200*		*70*	*-130*	*-65.0%*
Other	*140*		*23*	*-117*	*-83.6%*
CIGIE Assessment	*98*		*72*	*-26*	*-26.5%*
Total	**$24,410**		**$18,000**	**-$6,410**	**-26.3%**
Full-Time Equivalents	92		70	-22	-23.9%

[1] FY 2027 PC&B includes base salary costs and anticipated within grade and promotion increases.

[2] This includes the mandated annual financial statement audit and associated evaluations, and other support services.

FY 2027 Budget Request

The FY 2027 Budget Request for NSF OIG represents a 23.9 percent decrease and a reduction of 22 FTE (70 total FTE) from the FY 2025 Current Plan.

OIG's staff on board has already been reduced to 61 through the Deferred Resignation Program, regular attrition, and the hiring freeze, with three additional departures scheduled for February 2026.

Note: The NSF OIG Strategic Hiring Plan and Hiring Detail Spreadsheet were approved by OPM in January 2026.

Inspector General Reform Act Statement

Section 6(g)(1) of the IG Act, 5 U.S.C. app. 3, was amended by the Inspector General Reform Act of 2008 (Pub. L. 110-409) to require a summary statement concerning OIG's annual Budget Request.

In accordance with this, OIG submits the following summary:

- FY 2027 Budget Request for NSF OIG is $18.0 million.
- The portion for training is $70,000.
- The portion for operation of the CIGIE is $72,000.[1]

The portion of the FY 2027 Budget Request for staff training is not expected to suffice for all training in FY 2027.

[1] This is an estimate of CIGIE's annual membership assessment, which is tied to each member OIG's annual appropriation.

OFFICE OF THE NATIONAL SCIENCE BOARD (NSB) **$3,050,000**

The Appropriations Act that funds the U.S. National Science Foundation contains a separate appropriation for NSF's National Science Board (NSB, Board). This FY 2027 Budget Request identifies the resources needed to enable execution of the Board's statutory functions and ensure its independence, including amounts for personnel compensation and benefits (PC&B), contract services, training, travel, supplies, materials, and equipment.

The FY 2027 Budget Request for the Office of the National Science Board is $3.05 million, a decrease of $2.04 million below the FY 2025 Appropriation of $5.09 million. This FY 2027 Request level will allow the NSB to fulfill its essential policymaking and oversight responsibilities for NSF and its statutory responsibilities as outlined in the NSF Act, including *Science and Engineering Indicators*.

NSB Funding

(Dollars in Millions)

	FY 2025 Current Plan	FY 2026 Estimate	FY 2027 Request	Change over FY 2025 Current Plan Amount	Change over FY 2025 Current Plan Percent
Total	**$5.09**	**$5.09**	**$3.05**	**-$2.04**	**-40.1%**
Full-Time Equivalents	18	13	13	-5.00	-27.8%

Appropriations Language

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.), $3,050,000: *Provided,* That not to exceed $2,500 shall be available for official reception and representation expenses.

National Science Board

FY 2025 Summary Statement

(Dollars in Millions)

	Estimate/ Request	Expired	Obligations Actual/ Estimates
FY 2025 Appropriation	$5.09	-$0.89	$4.20
FY 2026 Estimate	5.09		5.09
FY 2027 Request	3.05		3.05
$ Change from FY 2025 Appropriation			-$2.04
% Change from FY 2025 Appropriation			-40.1%

National Science Board in Context

The NSB was established by the NSF Act of 1950 with dual responsibilities: to provide national science policy advice to the President and Congress, and to establish policies for NSF within the framework of applicable national policies and priorities set forth by the President and the Congress. The Board consists of 24 presidentially appointed members, along with the Director of NSF as an ex-officio member. Representing the broad landscape of the U.S. science and engineering (S&E) research and education community, the Board serves as an advisory body on S&E issues critical to the Nation. Board members serve six-year terms with staggered appointments. They are eminent researchers with records of distinguished service in multiple sectors who "provide representation of the views of scientific and engineering leaders in all areas of the Nation."

The Board convenes at least four formally scheduled public meetings per year, with additional meetings as needed, to review and approve major NSF awards; consult with the Director on new programs; oversee and provide policy direction and strategic guidance to NSF; oversee the lifecycle of large facilities, including conducting site visits; and address significant S&E-related national policy issues. The Board initiates and conducts studies and reports on a range of policy topics and engages NSF's stakeholders nationwide. The Board reviews NSF's priorities to ensure progress and consistency along the strategic direction set for NSF and to ensure alignment with national priorities and balance among new investments and core programs.

Policy Responsibilities

The Board examines issues of importance to the S&E research and education communities, in general, and to NSF, in particular. Topics are determined through requests from Congress or the President, and as the Board identifies in consultation with the community and NSF management. Recent NSB reports have examined the macroscale changes to the global and U.S. S&E landscape, the skilled technical workforce, and our dependence on foreign S&E talent.

Recognizing the imminent threat that the People's Republic of China's S&E investments pose to U.S. S&E leadership and the growing share of U.S. basic research funded by industry, NSB is focused on renewing NSF and American S&E to respond to this changed S&E landscape and ensure America's global scientific and technological leadership in years ahead.[1] In its NSF-facing role, NSB is focused on fostering a nimble, results-oriented, next generation NSF that responds to national priorities (including AI, Quantum, and Advanced Materials and Manufacturing), helps the nation avoid technological surprise, and complements other federal and non-government investments. NSB is focused on implementing the findings of its recent reexamination of NSF's merit review policies, especially as they relate to strengthening the agency's focus on the societal benefits of NSF-supported research. In its national S&E advisory role, NSB is exploring new models to collaborate across sectors to optimize U.S. R&D and educate domestic STEM talent with an eye toward the approaches and institutions needed to ensure a golden era of U.S. leadership.

Structure

The Board has several standing committees to assist with its responsibilities.

[1] https://nsf-gov-resources.nsf.gov/files/nsb-changed-landscape.pdf

The **Executive Committee** (EC) includes the Director of NSF, who chairs the Committee, and four elected members from the Board, two of whom are the NSB Chair and Vice-Chair. The Committee has been given the authority by the Board to approve awards in the rare instances when immediate action is required between Board meetings.

The **Committee on Oversight** (CO) conducts independent oversight of NSF's operations, processes for risk management, audit plans and results, and processes for complying with laws and regulations; reviews Office of the Inspector General (OIG) activities and NSF management responses; monitors audits and makes related recommendations to the Board; and oversees the Board's compliance with the Sunshine Act.

The **Committee on Strategy** (CS) provides a forum for developing the Board's strategic discussions of NSF's budget, programs, organization structure and agency vision; makes recommendations to the Board on annual Budget Requests and quadrennial Strategic Plans; and provides strategic guidance to the Board on NSF's programs.

The **Committee on National S&E Policy** (SEP) oversees development and production of the congressionally-mandated *Science and Engineering Indicators* (*Indicators*) report in collaboration with NSF's National Center for Science and Engineering Statistics (NCSES); helps ensure that the S&E information and policy resources developed by the NSB are high-quality, policy-relevant, and accessible in order to meet stakeholder needs; and helps fulfill the NSB's charge to provide ongoing information and policy advice to Congress and the President on S&E research, education, and workforce issues.

The **Committee on Awards and Facilities** (A&F) addresses strategic issues and recommends policies to the Board related to awards and MREFC projects; makes recommendations to the Board on awards and facilities; and provides lifecycle oversight on facilities and awards.

The **Committee on External Engagement** (EE) leads the NSB's communication and engagement efforts with government, industry, the public and the research and education communities, and helps the Board advance the pursuit of national policies for the promotion of research and education in S&E. EE also reviews nominations for two awards established by the Board: the Vannevar Bush Award and the Science and Society Award.

Ongoing activities of the Board include reviewing and making recommendations on:

- Large awards, MREFC projects, and other proposals, as needed;
- NSF's Management Response to the OIG Semi-annual Reports to Congress;
- Transmittal of the NSF, OIG, and NSB budget submissions to the Office of Management and Budget;
- Priority order of projects in the MREFC Account;
- Inclusion of new projects requiring funding under the MREFC Account;
- NSF's financial management reports; and
- NSF's strategic plan and longer-term budget plans, including NSF's research infrastructure portfolio.

Financial Discussion

This FY 2027 Budget Request will enable the NSB to fulfill its statutory governance responsibilities including oversight, and to respond to Administration priorities and Congressional requests.

Personnel Compensation and Benefits and Other Operating Expenses

(Dollars in Thousands)

	FY 2025 Current Plan	FY 2026 Estimate (TBD)	FY 2027 Request	Change over FY 2025 Current Plan Amount	Percent
Personnel Compensation & Benefits (PC&B)[1]	$3,902		$2,889	-$1,013	-26.0%
Staff Development & Training	12		-	-12	-100.0%
Advisory & Assistance Services	809		32	-777	-96.0%
Travel & Transportation of Persons	310		124	-186	-60.0%
Communications, Supplies, & Equipment	55		2	-53	-96.4%
Representation Costs	2		3	1	50.0%
Total	**$5,090**		**$3,050**	**-$2,040**	**-40.1%**
Full-Time Equivalents (FTE)	18		13	-5.00	-28%

[1] PC&B includes base salary costs and anticipated within grade and promotion increases.

Personnel Compensation and Benefits

The Board's FY 2027 Request allows the National Science Board Office (NSBO) to maintain a core of full-time policy, communications, administrative, and legal staff. In addition to providing institutional memory for the Board, the NSBO staff provides both the resources and expertise for coordinating and conducting science and education policy analyses and developing and implementing broad communication and outreach programs. Staff also advise the Board on legal aspects of its policies and activities and provide operational and administrative support that are essential for the Board to fulfill its mission.

The Request includes no increases in staffing levels from FY 2026; reflects required within grade increases in NSBO staff pay; and assumes two in-person Board meetings in FY 2027. This staffing level will enable the NSBO to continue to support the NSB.

Other Operating Expenses

The Staff Development and Training budget line is eliminated.

The Board's Advisory and Assistance Services budget line supports the Administration's priorities, including resources needed to produce policy products related to the Congressionally mandated *Indicators 2028* and transcription services necessary for compliance with the *Government in the Sunshine Act*.

The NSB's Travel and Transportation of Persons budget line primarily covers costs related to Board member travel to NSF headquarters for two in person annual meetings.

The Communications, Supplies, and Equipment budget line funds a minimal purchase of essential office supplies.

The Request sets aside funds that the NSB will use, if necessary, to cover costs associated with reception and representation activities connected to official NSF business, per GAO guidance.

TECHNICAL INFORMATION

For definitions of common acronyms used throughout NSF's FY 2027 Budget Request, see the NOTES found at the beginning of the entire document on pages iii-iv.

FY 2027 APPROPRIATIONS LANGUAGE

National Science Foundation

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; $3,409,450,000, to remain available until September 30, 2028: *Provided*, That of the amounts appropriated under this heading, 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 further*, That of the amounts in the preceding proviso, not less than $109,310,000 shall be for U.S. Antarctic Logistical Support: *Provided further*, 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.

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, $172,950,000, to remain available until expended.

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; $359,700,000, to remain available until September 30, 2028: *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 years 2027 and 2028 for maintenance and operation of facilities and for other services to be provided during the next fiscal year.

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.), $3,050,000: *Provided*, That not to exceed $2,500 shall be available for official reception and representation expenses.

OFFICE OF INSPECTOR GENERAL

For necessary expenses of the Office of Inspector General as authorized by the Inspector General Act of 1978, $18,000,000, of which $1,300,000 shall remain available until September 30, 2028.

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, except as otherwise specifically provided, shall be increased by more than 10 percent by any such transfers. Any funds transferred to "Agency Operations Award Management" or "Major Research Equipment and Facilities Construction" shall not increase such accounts by more than 20 percent. Any transfer pursuant to this paragraph 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.

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.

This title may be cited as the "Science Appropriations Act, 2027."

SUMMARY OF FY 2027 BUDGETARY RESOURCES BY ACCOUNT

(Dollars in Millions)

Discretionary Accounts	FY 2025 Actual	FY 2026 Enacted	FY 2027 Request	Change Over FY 2026 Enacted Amount	Change Over FY 2026 Enacted Percent
RESEARCH AND RELATED ACTIVITIES					
Appropriation	$7,176.50	$7,176.50	$3,409.45	-$3,767.05	-52.5%
Unobligated Balance Available Start of Year	132.90	41.19		-41.19	
Unobligated Balance Available End of Year	-41.19				
Unobligated Balance Transferred to other accounts	-23.40				
Adjustments to Prior Year Accounts[1]	44.04				
Total Budgetary Resources	**$7,288.85**	**$7,217.69**	**$3,409.45**	**-$3,808.24**	**-52.8%**
STEM EDUCATION					
Appropriation	1,172.00	938.25	-	-938.25	-100.0%
Unobligated Balance Available Start of Year	80.39	11.30		-11.30	
Unobligated Balance Available End of Year	-11.30				
Unobligated Balance Transferred to other accounts	-23.40				
Adjustments to Prior Year Accounts[1]	51.51				
Total Budgetary Resources	**$1,269.20**	**$949.55**	**-**	**-$949.55**	**-100.0%**
MAJOR RESEARCH EQUIPMENT & FACILITIES CONSTRUCTION					
Appropriation	0.00	251.00	172.95	-78.05	-31.1%
Unobligated Balance Available Start of Year	342.37	55.96		-55.96	
Unobligated Balance Available End of Year	-55.96				
Unobligated Balance Transferred from other accounts	46.80				
Adjustments to Prior Year Accounts[1]	3.53				
Total Budgetary Resources	**$336.74**	**$306.96**	**$172.95**	**-$134.01**	**-43.7%**

Totals exclude reimbursable amounts.

[1]Adjustments include upward and downward adjustments to prior year obligations in unexpired accounts.

SUMMARY OF FY 2027 BUDGETARY RESOURCES BY ACCOUNT

(Dollars in Millions)

Discretionary Accounts	FY 2025 Actual	FY 2026 Enacted	FY 2027 Request	Change Over FY 2026 Enacted Amount	Change Over FY 2026 Enacted Percent
AGENCY OPERATIONS AND AWARD MANAGEMENT					
Appropriation	$448.00	$355.00	$359.70	$4.70	1.3%
Unobligated Balance Available Start of Year	0.04	0.04			
Unobligated Balance Available End of Year	-0.04				
Adjustments to Prior Year Accounts[1]	-				
Unobligated Balance - Expired	-0.27				
Total Budgetary Resources	**$447.73**	**$355.04**	**$359.70**	**$4.66**	**1.3%**
NATIONAL SCIENCE BOARD					
Appropriation	5.09	5.09	3.05	-2.04	-40.1%
Unobligated Balance - Expired	-0.89				
Total Budgetary Resources	**$4.20**	**$5.09**	**$3.05**	**-$2.04**	**-40.1%**
OFFICE OF INSPECTOR GENERAL					
Appropriation	24.41	24.16	18.00	-6.16	-25.5%
Unobligated Balance Available Start of Year	1.30	1.27		-1.27	
Unobligated Balance Available End of Year	-1.27				
Unobligated Balance - Expired	-0.09				
Total Budgetary Resources	**$24.34**	**$25.43**	**$18.00**	**-$7.43**	**-29.2%**
TOTAL DISCRETIONARY, NATIONAL SCIENCE FOUNDATION	**$9,371.06**	**$8,859.76**	**$3,963.15**	**-$4,896.61**	**-55.3%**

Totals exclude reimbursable amounts.

[1]Adjustments include upward and downward adjustments to prior year obligations in unexpired accounts.

SUMMARY OF FY 2027 BUDGETARY RESOURCES BY ACCOUNT

(Dollars in Millions)

Mandatory Accounts	FY 2025 Actual	FY 2026 Enacted	FY 2027 Request	Change Over FY 2026 Enacted Amount	Change Over FY 2026 Enacted Percent
MAJOR RESEARCH EQUIPMENT & FACILITIES CONSTRUCTION					
Appropriation, Mandatory (MP Translational research icebreaker)	-	-	900.00	900.00	N/A
Total Budgetary Resources	**-**	**-**	**$900.00**	**$900.00**	**N/A**
STEM EDUCATION, H-1B					
Appropriation, Mandatory (H1-B Non-Immigrant Petitioner Fees)	$167.63	$150.53	$150.53	$0.00	-
Unobligated Balance Available Start of Year	141.56	115.10		-115.10	
Sequestration Previously Unavailable	9.06	9.56	8.58	-0.97	
Sequestration Pursuant OMB M-13-06	-9.56	-8.58	-8.58	0.00	
Unobligated Balance Available End of Year	-115.10				
Adjustments to Prior Year Accounts[1]	24.71				
Total Budgetary Resources	**$218.30**	**$266.61**	**$150.53**	**-$116.07**	**-43.5%**
Creating Helpful Incentives to Produce Semiconductors (CHIPS) for American Workforce and Education					
Appropriation, Mandatory (CHIPS H.R. 4346)	50.00	50.00	50.00	-	-
Unobligated Balance Available Start of Year	25.00	0.04		-0.04	
Unobligated Balance Available End of Year	-0.04				
Adjustments to Prior Year Accounts[1]	0.04				
Total Budgetary Resources	**$75.00**	**$50.04**	**$50.00**	**-$0.04**	**-0.1%**
DONATIONS					
Mandatory Programs (Special or Trust Fund)	26.27	40.00	40.00	-	-
Unobligated Balance Available Start of Year	23.45	25.79		-25.79	
Unobligated Balance Available End of Year	-25.79				
Adjustments to Prior Year Accounts[1]	0.72				
Total Budgetary Resources	**$24.66**	**$65.79**	**$40.00**	**-$25.79**	**-39.2%**
TOTAL MANDATORY ACCOUNTS, NATIONAL SCIENCE FOUNDATION	**$317.95**	**$382.43**	**$1,140.53**	**$758.10**	**198.2%**

Totals exclude reimbursable amounts.

[1]Adjustments include upward and downward adjustments to prior year obligations in unexpired accounts.

OBJECT CLASSIFICATION
NSF Consolidated Obligations
(Dollars in Millions)

Object Class Code	Standard Title	FY 2025 Actual	FY 2026 Estimate	FY 2027 Request
11.1	Full-time permanent	$240	$204	$206
11.3	Other than full-time permanent	19	12	11
11.5	Other personnel compensation	10	8	8
11.8	Special personal service payment	53	53	30
	Total personnel compensation	$322	$277	$255
12.1	Civilian personnel benefits	91	77	77
21.0	Travel and transportation of persons	9	11	12
22.0	Transportation of things	1	-	-
23.1	Rental payments	14	23	4
23.2	Rental payments to others	-	1	-
23.3	Communications, utilities, and miscellaneous charges	-	2	-
25.1	Advisory and assistance services	310	270	137
25.2	Other services	45	31	35
25.3	Purchases of goods and services from Government Accounts	281	276	125
25.4	Operation and maintenance of facilities	326	319	153
25.5	Research and development contracts	11	11	10
25.7	Operation and maintenance of equipment	1	1	-
31.0	Equipment	2	3	451
41.0	Grants, subsidies, and contributions	7,957	7,539	3,143
	Total, Direct obligations[1]	**$9,370**	**$8,841**	**$4,402**

[1] Excludes obligations for reimbursable and mandatory accounts.

REIMBURSABLE ACTIVITY

Funding in the table represents incoming funding NSF received and obligated under the reimbursable authority from other agencies. Outgoing interagency agreement funding is not represented in this table. NSF enters into agreements (including Memoranda of Understanding) with other U.S. government agencies, as authorized by the NSF Act, 42 U.S.C. 1870 (c), and 42 USC 1873(f), under which NSF assumes some responsibility for activities supported by these agencies. These activities can include jointly funded projects and programs, support of research operations and logistics, and access to NSF supported research facilities.

NSF Reimbursements by Agency

(Dollars in Millions)

DEPARTMENT/AGENCY	FY 2025 Actual
Defense	
Air Force	*$8.94*
Defense	*15.34*
Navy	*10.71*
Army	*4.15*
Subtotal, DoD	$39.14
Commerce (Including Census, NOAA, & NIST)	20.69
Interior	1.61
Energy	2.03
Health & Human Services	23.70
NASA	5.41
Transportation	1.08
Education	2.30
Other (less than $500,000)	0.67
TOTAL REIMBURSEMENTS	**$96.63**

Totals may not add due to rounding.

Consistent with applicable legislation and GAO decisions, agreements include reimbursement for costs that are incurred in the management and administration of these awards.

EXPLANATION OF FY 2025 CARRYOVER INTO FY 2026 BY ACCOUNT

NSF's total unobligated balance of $201.13 million ($96.85 million from Discretionary accounts, and $104.28 million from Mandatory accounts) is described below.

Discretionary and Mandatory Accounts:
Distribution of NSF FY 2025 Carryover into FY 2026
(Dollars in Millions)

Discretionary Accounts:	
Polar-Research and Related Activities No Year	$12.47
Research and Related Activities	18.62
STEM Education	8.56
Major Research Equipment and Facilities Construction	14.07
Major Research Equipment and Facilities Construction Emergency Funding	41.86
Office of Inspector General	1.27
Total, Discretionary	**$96.85**
Mandatory Accounts:	
H-1B Non-Immigrant Petitioner	80.00
Donations	24.28
Total, Mandatory	**$104.28**
TOTAL, NSF	**$201.13**

Discretionary (Appropriated) Accounts

Polar - Research and Related No Year Activities (OPP)
Within the R&RA account, $12.47 million was carried over into FY 2026.

OPP - Antarctic Operations Support
- Amount: $600,000
- Purpose: For 2-3 awards as part of joint project with New Zealand (NZ) funding agencies.
- Obligation: Anticipated FY 2026 Quarter 3

- Amount: $11.87 million
- Purpose: For design-stage activities for the Antarctic Research Vessel (ARV), a candidate MREFC project.
- Obligation: Anticipated FY 2026 Quarter 2 and Quarter 3

Research and Related Activities (R&RA)
Within the R&RA account, $18.62 million was carried over into FY 2026.

SBE - Office of Multidisciplinary Activities
- Amount: $490,000
- Purpose: For the Collaboratory to Advance Mathematics Education and Learning (CAMEL) for K12 partnership with the Walton Family Foundation. Solicitation was issued in Q1 FY 2026.

- Obligation: Anticipated FY 2026 Quarter 3

SBE - National Center for Science and Engineering Statistics
- Amount: $30,000
- Purpose: For additional review requirements for incoming inter-agency agreements and contract issuance.
- Obligation: Anticipated FY 2026 Quarter 3

SBE - Behavioral and Cognitive Sciences
- Amount: $3.92 million
- Purpose: For the Collaboratory to Advance Mathematics Education and Learning (CAMEL) for K12 partnership with the Walton Family Foundation.

- Obligation: Anticipated FY 2026 Quarter 3

SBE – Social and Economic Science
- Amount: $440,000
- Purpose: For research awards that contribute to the science of national security, secure borders, and public safety by providing evidence that enables decision-makers to better understand and anticipate matters of security and safety, excellence, and readiness of our military and disaster response.
- Obligation: Anticipated FY 2026 Quarter 3

TIP - Technology Frontiers
- Amount: $2.07 million
- Purpose: For Special Projects: Emerging Technology
- Obligation: Anticipated FY 2026 Quarter 3 and Quarter 4

IA – Integrative Activities
- Amount: $4.12 million
- Purpose: Activities not ready for obligation in FY 2025.
- Obligation: Anticipated FY 2026 Quarter 3 and Quarter 4

National Coordination Office for Networking & Information Technology Research & Development
- Amount: $1.39 million
- Purpose: For procurements and operational expenses.
- Obligation: Anticipated FY 2026 Quarter 1

National Nanotechnology Coordination Office
- Amount: $120,000
- Purpose: For the required Quadrennial Review of the National Nanotechnology Initiative and rent in NNCO's new location and other operational costs.
- Obligation: Anticipated FY 2026 Quarter 1 and 2

The remaining $6.04 million within discretionary R&RA consists of cumulative funds from throughout the Foundation carried over for unspecified projects. These balances are planned for obligation in FY 2026 consistent with the approved FY 2025 Current Plan.

STEM Education (STEM)
Within the STEM account, $8.56 million was carried over into FY 2026.

Divisions DUE, EES, and DRL
- Amount: $4.88 million
- Purpose: Renewal of the IPA agreement and subsequent travel funding. Additional funds will be used for the AI challenge supplements.
- Obligation: Anticipated FY 2026 Quarter 4

Robert Noyce Teacher Scholarship Program (Noyce) - no year
- Amount: $3.68 million
- Purpose: For teacher preparation and/or support.
- Obligation: Anticipated FY 2026 Quarter 4

Major Research Equipment and Facilities Construction (MREFC)
Within the MREFC account, $14.07 million was carried over into FY 2026.

Vera C. Rubin Observatory (Rubin)
- Amount: $930,000
- Purpose: For final obligations to Rubin Observatory
- Obligation: Anticipated FY 2026 Quarter 4

Antarctic Infrastructure Recapitalization (AIR)
- Amount: $6.80 million
- Purpose: For obligations, which are proceeding as anticipated
- Obligation: Anticipated obligation FY 2026 Quarter 3 and Quarter 4

Mid-scale Research Infrastructure Track 2 (Mid-scale RI-2)
- Amount: $2.36 million
- Purpose: For obligations, which are proceeding as anticipated. This portfolio has out-year mortgages on current awards.
- Obligation: Anticipated FY 2026 Quarter 4

Antarctic Infrastructure Recapitalization (AIR)
- Amount: $3.66 million
- Purpose: For the Antarctic Infrastructure Recapitalization (AIR) Program
- Obligation: Anticipated FY 2026 Quarter 4

Research Infrastructure Office (Advanced Oversight)
- Amount: $320,000
- Purpose: For Advanced Oversight
- Obligation: Obligated FY 2026 Quarter 4

Major Research Equipment and Facilities Construction (MREFC) Disaster Funding
Within the MREFC account, $41.86 million was carried over into FY 2026.

Antarctic Infrastructure Recapitalization (AIR)

- Amount: $25.77 million
- Purpose: For obligations, which are proceeding as anticipated
- Obligation: Anticipated obligation FY 2026 Quarter 1

High Lumosity – Large Hadron Collider (HL-LHC)
- Amount: $15.0 million
- Purpose: For final project obligations
- Obligation: Anticipated obligation FY 2026 Quarter 3 and Quarter 4

RIO Enhanced Oversight
- Amount: $1.09 million
- Purpose: For EVMS reviews and Independent Cost Estimates
- Obligation: Anticipated obligation FY 2026 Quarter 1 and Quarter 2

Office of Inspector General (OIG)
Within the OIG two-year account, $1.27 million was carried over into FY 2026.
- Amount: $1.27 million
- Purpose: Funds are expected to be used for (1) travel expenses to Antarctica because the austral summer crosses fiscal years, to address allegations of sexual assault, stalking, other crimes related to the Special Maritime Territorial Jurisdiction, and to conduct risk-based audits of Antarctic operations; and (2) to procure performance audit services. The selection of awards and institutions to be audited requires careful preparation and is subject to changing circumstances and new information that may require additional time to process.
- Obligation: Anticipated FY 2026 Quarters 1, 3 and 4.

Mandatory Accounts

H-1B Non-Immigrant Petitioner
Within the H-1B account, $80.0 million was carried over into FY 2026.

Innovation Technology Experiences for Students (ITEST)
- Amount: $60.0 million
- Purpose: NSF receives the largest payments of H-1B visa fees in August and September, leaving insufficient time to obligate receipts before the end of the fiscal year.
- Obligation: Anticipated FY 2026 Quarters 2 and Quarter 3

Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM)
- Amount: $20.0 million
- Purpose: NSF receives the largest payments of H-1B visa fees in August and September, leaving insufficient time to obligate receipts before the end of the fiscal year.
- Obligation: Anticipated FY 2026 Quarters 2 and Quarter 3

Donations
Within the Donations account, $24.28 million was carried over into FY 2026. Donations are received from organizations and individuals to fund various cooperative efforts in research and education.

GAO-IG Act Exhibits

Pursuant to P.L. 115-414 the Good Accounting Obligation in Government Act (GAO-IG Act), the follow three tables report unresolved NSF OIG and U.S. Government Accountability Office (GAO) recommendations open for more than one year, and their associated status as of January 1, 2026.

GAO Recommendations Open One Year or Longer as of February 1, 2026

GAO Report Number	Report Title (Date)	GAO Recommendation	Status as of 1/15/2026	Timeline to Implement
GAO-25-107165	Textile Waste: Federal Entities Should Collaborate on Reduction and Recycling Efforts (12/12/2024)	The Director of NSF, in conjunction with EPA, NIST, OSTP, and the U.S. Departments of State and Energy, should establish an interagency mechanism to coordinate federal efforts on textile circularity, reducing textile waste, and advancing textile recycling in the U.S. This interagency mechanism should identify and involve federal participants and should consider leading collaboration practices, including clearly defining common outcomes and identifying data and resource needs. (Recommendation 6)	Open	NSF plans to implement this recommendation in FY 2027.
GAO-25-107041	IT Portfolio Management: OMB and Agencies Are Not Fully Addressing Selected Statutory Requirements (11/14/2024)	The Director of the National Science Foundation should direct its agency CIO to work with OMB to ensure that annual reviews of their IT portfolio are conducted in conjunction with the Federal CIO and the Chief Operating Officer or Deputy Secretary (or equivalent), as prescribed by FITARA. (Recommendation 38)	Open	In 2025, NSF's Office of the CIO and NSF's OMB E-Gov Desk Officer re-established regular NSF/OMB engagements. In 2026, NSF and OMB will perform an annual IT Portfolio Review in conjunction with agency leadership and the Office of the Federal CIO.

GAO Report Number	Report Title (Date)	GAO Recommendation	Status as of 1/15/2026	Timeline to Implement
GAO-24-106137	Cloud Computing: Agencies Need to Address Key OMB Procurement Requirements (9/20/2024)	The Director of the NSF should ensure that the CIO of NSF updates guidance to put a cloud Service Level Agreement (SLA) in place with every vendor when a cloud solution is deployed. The guidance should include language that addresses OMB's required elements for SLAs, including clear performance metrics and remediation plans for non-compliance. (Recommendation 33)	Open	Since publication of the GAO report, NSF has further centralized and formalized agency review of cloud computing requirements contracts. This ensures that the NSF Office of the CIO reviews and provides feedback on cloud service requirements before they are procured. NSF is working to formalize guidance, which will include language related to SLAs, by the end of FY 2026.
GAO-24-106137	Cloud Computing: Agencies Need to Address Key OMB Procurement Requirements (9/20/2024)	The Director of the NSF should ensure that the CIO of NSF develops guidance regarding standardizing cloud SLAs. (Recommendation 34)	Open	Since publication of the GAO report, NSF has further centralized and formalized agency review of cloud computing requirements contracts. This ensures that the NSF Office of the CIO reviews and provides feedback on cloud service requirements before they are procured. NSF is working to formalize guidance, which will include language related to SLAs, by the end of FY 2026.
GAO-24-106137	Cloud Computing: Agencies Need to Address Key OMB Procurement Requirements (9/20/2024)	The Director of the NSF should ensure that the CIO of NSF updates its guidance to require that contracts affecting the agency's high value assets that are managed and operated in the cloud include language that provides the agency with continuous visibility of the asset. (Recommendation 35)	Open	Since publication of the GAO report, NSF has further centralized and formalized agency review of cloud computing requirements contracts. This ensures that the NSF Office of the CIO reviews and provides feedback on cloud service requirements before they are procured. NSF is working to formalize guidance, which will include language related to SLAs, by the end of FY 2026.

Technical Information

GAO Report Number	Report Title (Date)	GAO Recommendation	Status as of 1/15/2026	Timeline to Implement
GAO-24-106137	Cloud Computing: Agencies Need to Address Key OMB Procurement Requirements (9/20/2024)	The Director of the NSF should ensure that the CIO of NSF updates its existing contracts for high value assets that are managed and operated in the cloud to meet OMB's requirement once guidance from the CIO Council is available on language that provides the agency with continuous visibility of the asset. If modifying the existing contract is not practical, the agency should incorporate language into the contract that will meet OMB's requirement upon option exercise or issuance of a new award. (Recommendation 36)	Open	NSF intends to incorporate CIO Council-formulated language into contracts for high value assets one year after the release of such guidance. As of September 2025, the CIO Council has not released this guidance. NSF will continue to monitor.
GAO-22-104411	Research Reliability: Federal Actions Needed to Promote Stronger Research Practices (7/28/2022)	The Director of NSF should collect information on relevant indicators of rigor to assess the research projects the agency funds, and implement steps, as needed, to promote strong research practices in future work. (Recommendation 3)	Open	NSF continues collecting, examining, and compiling practices pertaining to indicators of rigor in science and engineering research that promote robust and reliable research. A web site linking to community resources on ways of promoting rigor is being developed aiming for public release in early 2026. NSF considers this to be the final step necessary to fully implement this recommendation. NSF is also working collaboratively across the agency to continue to promote transparency around research (Supplemental Policy Notice, December 8, 2025).

GAO Report Number	Report Title (Date)	GAO Recommendation	Status as of 1/15/2026	Timeline to Implement
GAO-22-104411	Research Reliability: Federal Actions Needed to Promote Stronger Research Practices (7/28/2022)	The Director of NSF should take steps to collect information to determine whether current policies and requirements are adequate to achieve transparency by ensuring research results and data are findable, accessible, and usable, and implement programmatic or policy changes, if needed. (Recommendation 4)	Open	NSF continues to maintain and expand its efforts around Public Access and Open Science (PAOS), including through the FAIROS program. In addition, all publications must now be deposited within the NSF Public Access Repository (PAR) with zero embargo, and all data supporting these publications is now expected to be shared and records provided to PAR as well. These, along with other, changes have ensured the NSF Public Access Repository (PAR) will contain a set of related persistent identifiers (PIDs) for the publications, datasets, and awards. Recipients will now have to maintain complete PAR records of their products (including the publications themselves) as a matter of policy and in order to complete the annual and final reporting processes. Thus, PAR is now a single source for academia, industry, and the general public to freely find and access NSF funded research outputs. The NSF also maintains a number of investments in online repositories, data standards, and large-scale datasets.
GAO-22-105016	Earthquakes: Opportunities Exist to Further Assess Risk, Build Resilience, and Communicate Research (5/4/2022)	The Director of NSF should, in collaboration with NIST, develop strategies to better communicate NEHRP's priorities to research entities. (Recommendation 4)	Open	NSF has completed appropriate measures to consider this recommendation closed as implemented. NSF has provided GAO with the evidence of implementation and is awaiting next steps from GAO.

GAO Report Number	Report Title (Date)	GAO Recommendation	Status as of 1/15/2026	Timeline to Implement
GAO-21-152	Data Governance: Agencies Made Progress in Establishing Governance, but Need to Address Key Milestones (12/16/2020)	The Director of the National Science Foundation should direct the Chief Data Officer to conduct a gap analysis between the current staff's skills and the skills the agency requires and establish a baseline performance plan to close the identified data skills and literacy gaps. (Recommendation 9)	Open	NSF completed the Evidence Act skill gap analysis and continues to work on a broader IT workforce assessment (to include a focus on data skills/literacy gaps). However, staffing and organizational changes in 2025 significantly changed the agency workforce, so additional analysis and assessment will likely be required. NSF will continue to work toward establishing a baseline plan to address skill gaps and recommend approaches for closure, but the timeline for completion is still uncertain.

Open OIG Recommendations – Internal Audits, as of February 1, 2026

Report Number	Audit Report Title (Date)	OIG Recommendation	Status as of 1/15/2026	Timeline to Implement
22-2-006	Audit of NSF's Divestment of Major Facilities (September 2, 2022)	[NSF should] improve policies, procedures, and guidance to clearly define the last major facility life cycle stage and define how NSF will carry out these transitions. These documents should identify steps for managing the transition, for designating and identifying internal resources to facilitate the process, and for obtaining required reviews and approvals.	Resolved and Open	NSF has completed actions responsive to the recommendation. NSF will engage the NSF OIG regarding whether these actions are sufficient for the NSF OIG to close the recommendation.
23-2-003	Audit of NSF's Vetting Process for Individuals Assigned under the Intergovernmental Personnel Act (January 9, 2023)	[NSF should] improve the coordination and procedures for the NSF offices involved in the Intergovernmental Personnel Act assignee vetting process to ensure issues identified during the process are elevated to an appropriate office or position for resolution.	Resolved and Open	September 30, 2026

Report Number	Audit Report Title (Date)	OIG Recommendation	Status as of 1/15/2026	Timeline to Implement
23-2-003	Audit of NSF's Vetting Process for Individuals Assigned under the Intergovernmental Personnel Act (January 9, 2023)	[NSF should] strengthen the vetting process for Intergovernmental Personnel Act assignees to address foreign influence-related issues.	Resolved and Open	June 30, 2026
24-3-002	Review of NSF's U.S. Antarctic Program Sexual Harassment Prevention and Response (September 24, 2024)	[NSF should] [c]onsider requesting a class deviation to Federal Acquisition Regulation 52.203-13, Contractor Code of Business Ethics and Conduct to expand contractors' business ethics awareness and compliance programs and internal control systems to include sexual harassment and sexual assault prevention and reporting, as well as sexual harassment investigations.	Resolved and Open	December 31, 2027
24-6-004	Internal Penetration Testing of the NSF and U.S. Antarctic Program Networks (September 27, 2024)	NSF [should] remediate the vulnerabilities identified through the penetration testing using NSF's vulnerability management procedure.	Resolved and Open	June 30, 2026
25-2-001	Audit of NSF's Mid-scale Research Infrastructure Programs (October 28, 2024)	[NSF should] [i]mplement additional policies, processes, and/or procedures to ensure that NSF assigns program element, thematic, account, budget object class, and/or other codes consistent with its Guidance for Coding of Mid-scale RI Awards for all awards NSF includes within its Mid-scale Research Infrastructure (Mid-scale RI) portfolio.	Resolved and Open	June 30, 2026

Report Number	Audit Report Title (Date)	OIG Recommendation	Status as of 1/15/2026	Timeline to Implement
25-2-001	Audit of NSF's Mid-scale Research Infrastructure Programs (October 28, 2024)	[NSF should] [u]pdate and/or develop external Mid-scale RI guidance for proposing organizations to identify and/or clarify NSF's expectations for the proposal, award, monitoring, and reporting activities required for different types of Mid-scale RI awards.	Resolved and Open	NSF has completed actions responsive to the recommendation. NSF to engage the NSF OIG regarding whether these actions are sufficient for the NSF OIG to close the recommendation.
25-2-001	Audit of NSF's Mid-scale Research Infrastructure Programs (October 28, 2024)	[NSF should] [i]mplement a formal process for documenting NSF's oversight, as well as the performance of the activities funded under Mid-scale RI awards, and for appropriately storing and archiving this documentation within NSF's eJacket system (or another appropriate system) on a timely basis.	Resolved and Open	June 30, 2026
25-2-001	Audit of NSF's Mid-scale Research Infrastructure Programs (October 28, 2024)	[NSF should] [p]roduce and provide additional training to IPTs responsible for overseeing Mid-scale RI awards.	Resolved and Open	September 30, 2026

Open OIG Recommendations – External Audits, as of February 1, 2026

OIG Report Number	Audit Report Title (Date)	OIG Recommendation	Costs Disallowed	Costs Allowed	Timeline to Implement
19-1-017	Oregon State University issued 9/13/2019	1.1) Resolve the $169,950 in questioned consulting and subaward costs and direct OSU to repay or otherwise remove the sustained questioned costs from its NSF awards.	$169,950	$0	3/31/2026

OIG Report Number	Audit Report Title (Date)	OIG Recommendation	Costs Disallowed	Costs Allowed	Timeline to Implement
19-1-017	Oregon State University issued 9/13/2019	2.1) Resolve the $78,153 in questioned costs	$40,691	$37,462	3/31/2026
19-1-017	Oregon State University issued 9/13/2019	4.1) Resolve $31,319 in questioned supplies, equipment, and travel costs	$11,717	$19,602	3/31/2026
19-1-017	Oregon State University issued 9/13/2019	5.1) Resolve $10,574 in Questioned Unallocable Costs	$10,574	$0	3/31/2026
21-1-004	University of Florida issued 1/15/2021	1.1) Resolve the $412,363 in questioned subaward costs	$20,619	$391,744	9/30/2026
21-1-004	University of Florida issued 1/15/2021	2.1) Resolve the $47,226 in questioned participant support, travel, and publication expenses for which UF has not agreed to reimburse NSF	$47,226	$0	9/30/2026
21-1-004	University of Florida issued 1/15/2021	2.2) Direct UF to provide documentation that it has repaid or otherwise credited the $66,590	$66,590	$0	9/30/2026
21-1-004	University of Florida issued 1/15/2021	3.1) Resolve the $83,227 in questioned supplies, software, severance and publication costs	$57,086	$26,141	9/30/2026
21-1-004	University of Florida issued 1/15/2021	3.2) Direct UF to provide documentation that it has repaid or otherwise credited the $29,600	$29,600	$0	9/30/2026
21-1-004	University of Florida issued 1/15/2021	4.1) Direct UF to provide documentation that it has repaid or otherwise credited the $1,717	$1,717	$0	9/30/2026
21-1-017	Tennessee State University (CADA) issued 7/20/2021	1.3) Direct TSU to strengthen the administrative and management controls and processes over obtaining and maintaining sufficient supporting documentation.	$0	$0	9/30/2026

Technical Information

OIG Report Number	Audit Report Title (Date)	OIG Recommendation	Costs Disallowed	Costs Allowed	Timeline to Implement
21-1-017	Tennessee State University (CADA) issued 7/20/2021	2.3) Direct TSU to strengthen its administrative and management controls and processes over the proper allocation of costs.	$0	$0	9/30/2026
21-1-017	Tennessee State University (CADA) issued 7/20/2021	3.3) Direct TSU to update its administrative and management processes and internal control procedures related to assigning participant support costs within its accounting system.	$0	$0	9/30/2026
21-1-017	Tennessee State University (CADA) issued 7/20/2021	4.2) Direct TSU to update its administrative and management processes and internal control procedures surrounding the ACM$ system.	$0	$0	9/30/2026
21-1-017	Tennessee State University (CADA) issued 7/20/2021	5.1) Direct TSU to strengthen the administrative and management procedures over certifying time and effort reports in a timely manner.	$0	$0	9/30/2026
21-1-017	Tennessee State University (CADA) issued 7/20/2021	5.2) Direct TSU to strengthen the administrative and management procedures to require the inclusion of pertinent information on time and effort reports such as fund codes, award numbers, and work descriptions.	$0	$0	9/30/2026
24-1-006	Montana State issued 1/31/2024	1.1) Resolve the $72,578 in questioned indirect costs for which MSU has not agreed to reimburse NSF and direct MSU to repay or otherwise remove the sustained questioned costs from its NSF awards.	$36,289	$36,289	3/31/2026
24-1-006	Montana State issued 1/31/2024	2.1) Resolve the $9,702 in questioned inadequately supported lodging expenses for which MSU has not agreed to reimburse NSF and direct MSU to repay or otherwise remove the sustained questioned costs from its NSF awards.	$4,851	$4,851	3/31/2026
24-1-006	Montana State issued 1/31/2024	2.4) Develop policies for establishing internal service provider rate agreements and for verifying rate agreements have been reviewed and approved.	$0	$0	3/31/2026

QUANTITATIVE DATA TABLE

National Science Foundation
Research and Development Special Analysis
(Dollars in Millions)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Request
Investment Activities			
Conduct of Research and Development			
Basic Research	5,562.87	5,435.25	2,218.50
Applied Research	1,047.58	963.25	417.95
Subtotal, Conduct of R&D	6,610.45	6,398.50	2,636.45
Physical Assets			
Research and Development Facilities	339.10	253.00	173.95
Research and Development Major Equipment	281.03	276.00	112.00
Subtotal, R&D Facilities & Major Equipment	620.14	529.00	285.95
Total, Research and Development	7,230.59	6,927.50	2,922.40
Conduct of Education and Training	982.42	818.25	435.00
Non-Investment Activities	1,357.48	1,054.25	655.75
TOTAL	**$9,570.49**	**$8,800.00**	**$4,013.15**

QUANTITATIVE DATA TABLE

RESEARCH AND RELATED ACTIVITIES

Research and Development Special Analysis

(Dollars in Millions)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Request
Investment Activities			
Conduct of Research and Development			
Basic Research	5,384.16	5,303.25	2,214.50
Applied Research	771.21	759.25	415.95
Subtotal, Conduct of R&D	6,155.37	6,062.50	2,630.45
Physical Assets			
Research and Development Facilities	2.36	2.00	1.00
Research and Development Major Equipment	281.03	276.00	112.00
Subtotal, R&D Facilities & Major Equipment	283.39	278.00	113.00
Total, Research and Development	6,438.76	6,340.50	2,743.45
Conduct of Education and Training	203.83	200.00	391.00
Non-Investment Activities	770.69	636.00	275.00
TOTAL	**$7,413.28**	**$7,176.50**	**$3,409.45**

QUANTITATIVE DATA TABLE

STEM EDUCATION

Research and Development Special Analysis

(Dollars in Millions)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Request
Investment Activities			
Conduct of Research and Development			
Basic Research	172.62	128.00	-
Applied Research	273.60	202.00	-
Subtotal, Conduct of R&D	446.22	330.00	-
Physical Assets			
Research and Development Facilities	-	-	-
Research and Development Major Equipment	-	-	-
Subtotal, R&D Facilities & Major Equipment	-	-	-
Total, Research and Development	446.22	330.00	-
Conduct of Education and Training	777.53	574.25	-
Non-Investment Activities	45.45	34.00	-
TOTAL	**$1,269.19**	**$938.25**	**-**

QUANTITATIVE DATA TABLE

MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION
Research and Development Special Analysis
(Dollars in Millions)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Request
Investment Activities			
Conduct of Research and Development			
Basic Research	-	-	-
Applied Research	-	-	-
Subtotal, Conduct of R&D	-	-	-
Physical Assets			
Research and Development Facilities	336.74	251.00	172.95
Research and Development Major Equipment	-	-	-
Subtotal, R&D Facilities & Major Equipment	336.74	251.00	172.95
Total, Research and Development	336.74	251.00	172.95
Conduct of Education and Training	-	-	-
Non-Investment Activities	-	-	-
TOTAL	**$336.74**	**$251.00**	**$172.95**

QUANTITATIVE DATA TABLE

AGENCY OPERATIONS AND AWARD MANAGEMENT
Research and Development Special Analysis
(Dollars in Millions)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Request
Investment Activities			
Conduct of Research and Development			
Basic Research	-	-	-
Applied Research	-	-	-
Subtotal, Conduct of R&D	-	-	-
Physical Assets			-
Research and Development Facilities	-	-	-
Research and Development Major Equipment	-	-	-
Subtotal, R&D Facilities & Major Equipment	-	-	-
Total, Research and Development	-	-	-
Conduct of Education and Training	-	-	-
Non-Investment Activities	447.73	355.00	359.70
TOTAL	**$447.73**	**$355.00**	**$359.70**

QUANTITATIVE DATA TABLE

OFFICE OF THE NATIONAL SCIENCE BOARD
Research and Development Special Analysis
(Dollars in Millions)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Request
Investment Activities			
Conduct of Research and Development			
Basic Research	-	-	-
Applied Research	-	-	-
Subtotal, Conduct of R&D	-	-	-
Physical Assets			
Research and Development Facilities	-	-	-
Research and Development Major Equipment	-	-	-
Subtotal, R&D Facilities & Major Equipment	-	-	-
Total, Research and Development	-	-	-
Conduct of Education and Training	-	-	-
Non-Investment Activities	4.20	5.09	3.05
TOTAL	**$4.20**	**$5.09**	**$3.05**

QUANTITATIVE DATA TABLE

OFFICE OF INSPECTOR GENERAL
Research and Development Special Analysis
(Dollars in Millions)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Request
Investment Activities			
Conduct of Research and Development			
Basic Research	-	-	-
Applied Research	-	-	-
Subtotal, Conduct of R&D	-	-	-
Physical Assets			-
Research and Development Facilities	-	-	-
Research and Development Major Equipment	-	-	-
Subtotal, R&D Facilities & Major Equipment	-	-	-
Total, Research and Development	-	-	-
Conduct of Education and Training	-	-	-
Non-Investment Activities	24.34	24.16	18.00
TOTAL	**$24.34**	**$24.16**	**$18.00**

QUANTITATIVE DATA TABLE

Creating Helpful Incentives to Produce Semiconductors (CHIPS) for American Workforce and Education
Research and Development Special Analysis
(Dollars in Millions)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Request
Investment Activities			
Conduct of Research and Development			
Basic Research	6.10	4.00	4.00
Applied Research	2.77	2.00	2.00
Subtotal, Conduct of R&D	8.87	6.00	6.00
Physical Assets			
Research and Development Facilities	-	-	-
Research and Development Major Equipment	-	-	-
Subtotal, R&D Facilities & Major Equipment	-	-	-
Total, Research and Development	8.87	6.00	6.00
Conduct of Education and Training	1.06	44.00	44.00
Non-Investment Activities	65.07	-	-
TOTAL	**$75.00**	**$50.00**	**$50.00**