(\$ in Millions)	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Deep Space Exploration Systems	7,648.0	7,666.2	8,312.9	8,312.9	8,312.9	8,012.9	8,012.9
Moon to Mars Transportation System			4,894.6				
Orion Program			1,370.7				
Space Launch System			2,001.3				
Exploration Ground Systems			658.4				
Commercial M&M Infrastructure & Trans			864.1				
Moon To Mars Lunar Systems Development			2,815.4				
Gateway			304.2				
xEVA and Surface Mobility Program			641.6				
Human Landing System			1,746.6				
Advanced Exploration Systems			123.0				
Human Exp Requirements & Architecture			602.9				
Strategy and Architecture			179.9				
Future Systems			73.0				
Mars Technology			350.0				
Grand Total			8,312.9				

FY 2024 reflects the funding amount specified in Public Law 118-42, Consolidated Appropriations Act, 2024, as revised in NASA's FY 2024 final Operating Plan, September 2024. Amounts include a net transfer amount of \$2.0 million; \$4.5 million that was transferred from General Services Administration (GSA) and \$2.5 million that was transferred to NASA's Information Technology Modernization Working Capital Fund.

FY 2025 reflects the funding amount specified in Public Law 119-4, Full-Year Continuing Appropriations and Extensions Act, 2025.

#### Totals may not add due to rounding.

The FY 2026 President's Budget includes \$8.3 billion for the Exploration Systems account, supporting America's return to the Moon and new investments for Mars-focused programs. The budget ensures that America's human space exploration efforts remain unparalleled, innovative, and efficient. This funding directly supports the activities of the Moon to Mars (M2M) Program Office and the Strategy and Architecture Office (SAO), which are focused on returning Americans to the Moon and accelerating high priority technology development to enable American-crewed missions to Mars and beyond. The operational knowledge, technological advances, and scientific discoveries NASA gains from exploring the Moon will position the agency to take the next giant leap — sending astronauts to Mars and returning them safely back to Earth. The FY 2026 President's Budget Request supports the Artemis II mission, the first launch returning humans to the lunar vicinity in fifty years, no later than April 2026 and the Artemis III mission, which will return humans to the surface of the Moon in mid-2027. The Space Launch System (SLS), Orion, and Exploration Ground System (EGS) government programs will be retired after Artemis III. The request supports the transition to commercial transportation services for the Artemis IV mission and beyond, improving the cost effectiveness and cadence of access to the Moon and fostering innovation and supporting U.S. industry leadership in human space exploration.

In line with the Administration's objectives of putting the first human on Mars, ESDMD's budget includes \$930 million in new investments for Mars-focused programs. These investments will provide the technologies necessary for future Mars exploration and eventual crewed missions to Mars.

- Leveraging existing contracts, NASA will support a near-term entry, descent, and landing demonstration on Mars for a human-class Mars lander and begin early work on a space suit appropriate for use by astronauts on the Martian surface.
- Significant resources will be devoted to accelerating the development of high-priority technologies for crewed missions to Mars.
- ESDMD intends to initiate industry studies on transporting humans to and from Mars on future surface missions.
- ESDMD will also begin deployment of communications relay capabilities around Mars to provide more robust communication links between Mars and Earth, leveraging commercial capabilities to the maximum possible extent.
- A Commercial Mars Payload Service will begin launching precursor missions and technology demonstrators to the Martian surface. Near-term efforts will focus funding on the maturation of commercial robotic Mars lander concepts.

ESDMD will continue to collaborate with SMD to use robotic science missions to prepare for human Moon and Mars missions and to advance scientific objectives using human exploration missions. ESDMD will leverage STMD's technological investments as the basis for new capabilities and will coordinate with STMD on the new Mars technology investments. Finally, ESDMD will leverage SOMD's capabilities, such as ISS and the Space Communications and Navigation Program, as a technology and human system testbed and communication capability provider, respectively.

The Exploration Systems account consists of three themes which provide for the development of systems and capabilities needed for human exploration of deep space:

- M2M Transportation System
- M2M Systems Development; and
- Human Exploration Requirements and Architecture (HERA).

The M2M Transportation System theme consists of three programs and supports activities to enable the agency's Artemis Campaign to return Americans to the Moon and extend human presence to Mars. It will support the transition of the Artemis campaign to a more sustainable, cost-effective approach to lunar exploration by retiring the legacy SLS and Orion government programs after Artemis III and paving the way for more cost-effective, next-generation commercial systems that will support subsequent NASA lunar missions. Savings from the transition to commercial systems in FY 2028 and beyond will be reinvested in surface exploration and other capabilities that will help accelerate development of Marsforward systems.

- The Orion Program is developing the spacecraft which will carry crew to deep space, sustaining the crew during space travel, providing emergency abort capability, and providing safe re-entry from deep space return velocities for the Artemis II and III missions.
- The Space Launch System (SLS) program is developing the human-rated launch system capable of sending the crewed Orion spacecraft to the Moon, which will be used in each of the Artemis II and III missions.

• The Exploration Ground Systems (EGS) program is developing and operating the systems and facilities necessary to process, integrate, transport, and launch NASA's SLS rocket, Orion spacecraft, and any co-manifested SLS payloads for Artemis II and III missions.

In order to execute Artemis missions IV and beyond after the SLS and Orion government programs are retired, NASA will initiate a new procurement to obtain commercial transportation services. The acquisition will leverage lessons learned from commercial acquisitions and will draw on NASA personnel with experience with the successful commercial acquisitions within human spaceflight and across the Agency's missions. The new services contracts will be designed to achieve the best value for the government for the Moon-to-Mars Program. The acquisition will consider and allow a range of options that include services for different phases of the mission as well as end-to-end services in order to maximize the opportunity for competition and the benefits that have historically been realized as a result of competition.

In addition, in order to consolidate Moon and Mars transportation services within a single directorate, ESDMD will take on responsibility for the Commercial Lunar Payload Services (CLPS) program, and it will establish a new Commercial Mars Payload Services (CMPS) program to begin launching precursor missions and technology demonstrators to the Martian surface. In transferring CLPS from SMD, to ESDMD, NASA will ensure that the programs continue the practices that have led to CLPS' successes. Funding for development of lunar and Mars communications relay services are also included in this theme.

The M2M Systems Development theme consists of four programs that are evolving the systems that will ultimately be required to prepare for Mars exploration. Programs under this theme are developing and testing prototype systems and planning flight missions to the Moon to develop systems and operational practices that will enable a mission to Mars. M2M Systems Development is currently comprised of four programs: Exploration Extravehicular Activity and Human Surface Mobility Program (EHP); Human Landing System (HLS); Advanced Exploration Systems (AES); and Gateway. The work done by these programs will create the exploration infrastructure in lunar orbit and on the lunar surface that astronauts will utilize during Artemis missions and that will inform missions to Mars.

- EHP is developing the systems that NASA will use to explore the surface of the Moon providing lessons learned and expertise that will support Mars missions. These commercially provided surface systems include the Lunar Terrain Vehicle, the Pressurized Rover, and lunar and Martian surface suits.
- HLS utilizes commercial partnerships to develop and jointly deploy the integrated landing systems that will transport crew to and from the lunar surface and conduct a series of lunar missions using that capability. The budget provides funding for the HLS program to maintain competition for lunar landing services by supporting the development of multiple different lunar landing systems. In addition, existing HLS contracts will be leveraged to include one or more Mars human-class Entry, Decent and Landing demonstrations.
- AES will continue work to identify and address knowledge gaps and deliver fundamental capabilities to provide astronauts a place to live and work with integrated life support systems, radiation protection, food, fire safety, avionics and software, logistics management, and waste management systems.
- NASA will continue the orderly closeout of the Gateway program in 2026. Gateway was designed to be a platform that orbited the Moon and supported orbital activities, lunar landers, and surface activities. Gateway was to augment the Orion spacecraft's capabilities to support long-duration lunar surface missions as well as enable Mars forward deep space environmental testing and science. In

2026, funding will be used to close out the current contracts while alternative uses of the Gateway hardware are evaluated by commercial and international partners.

HERA is identifying the exploration infrastructure required for Artemis missions that will inform missions to Mars. It also works to ensure that lunar exploration systems are extensible to Mars exploration where technically feasible and cost-effective. HERA is comprised of the Strategy & Architecture Office (SAO), Future Systems, and Mars Technology.

- SAO manages the architecture strategy activity that supports mission manifest planning and overall architecture requirements and capability identification, including industry studies on transporting humans to and from the surface of Mars.
- Future Systems is conducting trade studies to reduce risk and identify required technologies to be utilized as part of the Artemis Campaign and act as precursor systems for missions to Mars. As savings are realized as a result of the transition to commercial transportation systems, additional resources will be channeled to further surface exploration and other essential capabilities.
- Mars Technology will accelerate the development of high-priority technologies for crewed missions to Mars.

#### EXPLANATION OF MAJOR CHANGES IN FY 2026

To fully implement the FY 2026 President's Budget Request, the following changes are being proposed:

- Orderly phase-out of SLS, Orion, and EGS procurements associated with flights after Artemis III.
- Procurement of commercial transportation services for Artemis IV and beyond through a competitive contract, incentivizing performance and promoting innovation and efficiency.
- Orderly shutdown of the Gateway program
- Transfer of management and funding for the CLPS program from SMD to ESDMD.
- New Mars-related initiatives, including:
  - o Establishment of the CMPS program;
  - o Leveraging existing HLS contracts to conduct a near-term entry, descent, and landing demonstration for a human-class Mars lander;
  - o Investment in Mars Communications Relay services;
  - o Initiation of activities to lay the groundwork for a Commercial Martian surface suit; and
  - o Initiation of industry studies and acceleration of high priority technology development for crewed missions to Mars.

For more information, go to: <u>https://www.nasa.gov/directorates/exploration-systems-development</u>

## **SPACE OPERATIONS**

\$ in Millions)	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
pace Operations	4,220.2	4,220.0	3,131.9	3,131.9	3,131.9	3,431.9	3,431.9
International Space Station			920.1				
Space Transportation			1,293.8				
Crew and Cargo Program			1,212.7				
Commercial Crew Program			81.0				
Space and Flight Support (SFS)			645.8				
Space Communications and Navigation			394.9				
Communications Services Program			59.4				
Human Space Flight Operations			80.0				
Human Research Program			40.3				
Launch Services			71.2				
Rocket Propulsion Test			0.0				
Commercial LEO Development			272.3				
Grand Total			3,131.9				

FY 2024 reflects the funding amount specified in Public Law 118-42, Consolidated Appropriations Act, 2024, as revised in NASA's FY 2024 final Operating Plan, September 2024. Amounts include a net transfer amount of \$2.0 million; \$4.5 million that was transferred from General Services Administration (GSA) and \$2.5 million that was transferred to NASA's Information Technology Modernization Working Capital Fund.

FY 2025 reflects the funding amount specified in Public Law 119-4, Full-Year Continuing Appropriations and Extensions Act, 2025.

#### Totals may not add due to rounding.

The Space Operations account is dedicated to sustained human presence in LEO, enabling future exploration and advanced operations in our solar system, and advancing scientific discoveries that benefit life on Earth.

Space Operations is comprised of four themes:

- International Space Station (ISS);
- Space Transportation;
- Space and Flight Support; and
- Commercial LEO Development.

Collectively, these themes are developing and operating American-led space infrastructure



NASA astronaut and Expedition 72 Flight Engineer Nichole Ayers is shown here cleaning the ventilation system fans and inlets inside the ISS (April 2, 2025).

enabled by a commercial market, enhancing space access and services to both government and commercial entities, and researching and developing capabilities to safeguard astronaut explorers. These

## **SPACE OPERATIONS**

activities, which support existing and future space operations for both NASA and non-NASA missions, are catalysts for economic development and lay the groundwork for a commercial future in LEO, in which NASA is one of many customers for commercial services.

ISS continues to demonstrate American leadership in global space exploration, enabling a U.S.-led multinational partnership to advance shared goals in space. As a testbed for deep space exploration, ISS is helping us learn how to keep astronauts healthy during long-duration space travel and demonstrating technologies for human and robotic exploration beyond LEO, to the Moon, and to Mars.

Space Transportation's objective is to transport U.S. Orbital Segment astronauts and cargo to and from ISS safely. This theme includes the Commercial Crew Program (CCP) and Crew and Cargo Program, which includes the ISS U.S. Deorbit Vehicle (USDV).

- The CCP partners with the U.S. commercial sector to develop and operate safe, reliable, and affordable crew transportation systems capable of carrying humans to and from ISS and other LEO destinations.
- The Crew and Cargo Program manages transportation services provided by both international partners and domestic commercial providers. The Crew and Cargo Program also includes funding for the ISS USDV that was competitively awarded to a U.S. industry partner.

The SFS theme continues to provide mission critical space communication and navigation services, launch services, and astronaut training to support its customer missions. The theme is comprised of the Space Communications and Navigation (SCaN) Program, Communications Services Program, Launch Services Program, Human Space Flight Operations Program, and Human Research Program.

- The SCaN Program provides communication to missions in LEO, including the ISS, suborbital missions, and some lunar orbital missions, utilizing the Near Space Network. The Deep Space Network communicates with missions more distant from Earth and will initially provide primary communication links to early Artemis missions.
- The Communications Services Program focuses on demonstrating the feasibility of using commercially provided satellite communications services to support NASA and other space missions near Earth.
- The Launch Services Program procures launch services and provides expertise and active launch mission management for NASA and other government missions in various stages of development.
- The Human Space Flight Operations Program provides the training and readiness to ensure crew health and safety and mission success.
- The Human Research Program improves astronauts' ability to collect data, solve problems, respond to emergencies, and remain healthy during and after extended space travel.

NASA's Commercial LEO Development effort focuses on the development of a robust commercial space economy in LEO. This effort is stimulating development of commercially owned and operated LEO destinations from which NASA can purchase services to meet enduring LEO human spaceflight and research requirements. The program:

• Enables development of new commercially owned and operated LEO destinations which can meet NASA needs in LEO.

## **SPACE OPERATIONS**

• Prepares for a sustained human presence in LEO and U.S. leadership in LEO after ISS.

For more information, visit: https://www.nasa.gov/directorates/space-operations-mission-directorate

#### **EXPLANATION OF MAJOR CHANGES IN FY 2026**

This Budget prioritizes safely operating the ISS until its retirement in 2030, developing the USDV capability to safely deorbit the ISS, and streamlining and optimizing the Commercial LEO Development Phase 2 procurement approach to prioritize deployment of commercial platforms prior to 2030. It proposes termination of NASA's Rocket Propulsion Test Program and other content reductions across the Space Operations portfolio. ISS is evaluating reducing U.S. crew and crew/cargo vehicle cadence. In FY 2025, Space Operations will begin planning for implementation.

(\$ in Millions)	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Space Technology	1,100.0	1,100.0	568.9	568.9	568.9	568.9	568.9
Space Technology			568.9				
SBIR and STTR			169.0				
Space Transportation (GO)			46.6				
Space to Surface Access (LAND)			26.9				
Surface Infrastructure & Explorat (LIVE)			55.7				
In-Space Infrastruct & Discover (EXPAND)			46.7				
Foundational Capabilities (ENABLE)			49.4				
Catalysts & Innovative Mechanisms			174.6				
Grand Total			568.9				

Pursuant to P.L. 115-10 Title VII Sec 702(e), this budget is formulated in such a manner to avoid duplication of projects, programs, or missions conducted by other projects, programs, or missions conducted by another office or directorate of the Administration.

FY 2024 reflects the funding amount specified in Public Law 118-42, Consolidated Appropriations Act, 2024, as revised in NASA's FY 2024 final Operating Plan, September 2024. Amounts include a net transfer amount of \$2.0 million; \$4.5 million that was transferred from General Services Administration (GSA) and \$2.5 million that was transferred to NASA's Information Technology Modernization Working Capital Fund.

FY 2025 reflects the funding amount specified in Public Law 119-4, Full-Year Continuing Appropriations and Extensions Act, 2025.



STMD's Stereo Cameras for Lunar-Plume Surface Studies (SCALPSS) 1.1 instrument captured around 3,000 images during Blue Ghost's descent and lunar landing on March 2, 2025. This image, taken approximately 12 meters (39 feet) above the surface, shows the lunar lander's engine plumes interacting with the Moon's regolith, providing key data as trips to the Moon increase in the coming years under the agency's Artemis campaign. NASA's STMD is shaping the missions of the future while delivering the cutting-edge technology that defines American leadership in space exploration. STMD advances U.S. space technology leadership and global competitiveness by rapidly developing, demonstrating, and delivering transformative capabilities. STMD fosters breakthrough ideas, embraces risk, and fuels a vibrant, aerospace economy that empowers both established leaders and emerging innovators. Through strategic partnerships across industry, government, and academia, STMD accelerates high-risk, high-reward technologies that enable future missions, lower costs, and create real world solutions—driving progress in space and improving life for all.

#### EXPLANATION OF MAJOR CHANGES IN FY 2026

As NASA embarks on a new era of space exploration with Artemis, STMD advances critical technologies and testing for innovative new capabilities for the Moon, Mars, and beyond. STMD has aligned its organization and budget structure to enhance technology development and management agility. The FY 2026 budget aligns with transitioning from legacy Technology Readiness Level (TRL)-based programs to functional domains (programs) that are capability focused. This new structure enables STMD to mature space technologies across the full readiness spectrum from concept to mission, bolstering its ability to meet both mission and agency needs while strengthening the nation's technology base and innovative economy. Due to this reorganization, the FY 2024 Operating Plan columns included in the tables throughout this Congressional Justification may not reflect the same scope of activities included in the FY 2026-2030 columns.



The restructured programs are as follows:

- The Space Transportation (GO) program advances technologies that will enable rapid, safe, and efficient space transportation.
- The Space-to-Surface Access (LAND) program advances technologies that enable expanded and precision access to diverse surface destinations from in-space transits and orbital operations.
- The Surface Infrastructure and Exploration (LIVE) program develops and demonstrates essential surface infrastructure capabilities to enable sustainable robotic, scientific, and human exploration missions in lunar and Mars environments.
- The In-Space Infrastructure and Discovery (EXPAND) program advances technologies for resilient in-space infrastructure and agile missions to improve capabilities for orbital missions and enable persistent in-space activities across the solar system.

- The Foundational Capabilities (ENABLE) program advances multiple technologies in Avionics and Sensors, Autonomous Systems and Robotics, Advanced Materials, Structures and Manufacturing, and Advanced Power and Thermal.
- The Catalysts and Innovative Mechanisms (Catalysts) program is a merger of the previous Early Stage Innovation and Partnerships and Flight Opportunities portfolios, includes Space Technology Operations, and manages other agency-wide efforts.

Each program has projects that focus on addressing technology shortfalls relevant to its functional capability area scope. This structure streamlines technology development, transition, and infusion, supporting missions while enhancing the space economy and U.S. competitiveness. The overall STMD reduction from FY 2025 levels will have workforce impacts.

Within Space Transportation, this request provides no funding for Nuclear Thermal or Nuclear Electric Propulsion projects because these technologies have not been selected for deep space missions and require significant funding and lengthy development timelines. It also reflects the FY 2024 decision to cancel the 2020 Cryogenic Fluid Management Demonstration Tipping Point contract.

In the Surface Infrastructure and Exploration program, this request reflects the transfer of Fission Surface Power to the ESDMD. This request does not fund the Lunar Infrastructure Foundational Technologies effort. STMD will prioritize ground-based high-fidelity systems testing with an emphasis on critical lunar and Mars infrastructure such as power systems. This budget also reflects STMD's new role in overseeing NASA's Independent Research and Development (IRAD) program within Catalysts.

#### KEY ACHIEVEMENTS PLANNED FOR FY 2026

SBIR and STTR intend to select approximately 360 new awards, grants, and contracts to small businesses, as well as continue to incubate and mature NASA commercial partnerships through post Phase II activities via sequential Phase II awards. The program will pilot ways to reduce barriers to entry and streamline the experience throughout the program phases, including strategies to encourage transition to NASA, government, and/or commercial use beyond SBIR/STTR awards.

Within the Space Transportation program, qualification and acceptance testing continues in the Solar Electric Propulsion project. The tests ensure that the hardware, software, and overall system meet the required performance and safety standards for spaceflight.

The Space to Surface Access program will analyze plume surface interaction (PSI) data from the Blue Origin Mark 1 lunar demonstration flight and continue to develop sensors for precision landing and PSI measurement for delivery to a Commercial Lunar Payload Services flight later in the decade. A 10-meter hypersonic inflatable decelerator will undergo testing in support of the United Launch Alliance Vulcan Engine Reuse Scale Tipping Point. Hypersonic flight data will be gathered through commercial testbed partnerships and the Scientifically Calibrated In-Flight Imagery (SCIFLI) airborne observation campaigns.

Within the Surface Infrastructure and Exploration program, the Cooperative Autonomous Distributed Robotic Exploration payload will transfer state-of-the-art autonomous software developed for enabling coordinated autonomous operations of multirobots on the surface of the Moon and/or Mars. This will enable industry to deploy a network of mobile robots to explore autonomously, collect distributed measurements, and carry micro-payload instrumentation. Three Tipping Point activities will make

progress toward demonstrations related to power and production/construction on the lunar surface, with two of them using lunar regolith to accomplish these goals.

The In-Space Infrastructure and Discovery program's Small Spacecraft Propulsion and Inspection Capability (SSPICY) demonstration work will continue and it will be prepared for launch in early FY 2027. SSPICY will enable commercial inspection of defunct, or inoperable, satellites in LEO. NASA and the Defense Advanced Research Projects Agency will complete the initial phases of the Lunar Assay via Small Satellite Orbiter (LASSO) partnership in 2026. LASSO will advance U.S. commercial capabilities in cislunar space while gathering data to inform future In-Situ Resource Utilization (ISRU) testing and infrastructure. Starling 1.5, which is a space traffic management and coordination test between autonomous spacecraft operated by different organizations, will conclude its extended mission phase in 2026.

The Foundational Capabilities program will finish tests required for flight certification and launch of the Lockheed Martin Joining Demonstration In Space Tipping Point, an in-space joining experiment on the ISS. This technology is a demonstration of in-space assembly, important for building large structures in space where it is impractical to launch fully assembled from Earth. The High Performance Spaceflight Computing team will complete evaluation of chip prototype shock and radiation testing culminating in a final Product Acceptance Review at which point the technology will be ready for infusion into other NASA and commercial space flight computing systems. This technology allows spacecraft to process large amounts of data in real-time, enabling more complex scientific analysis and autonomy algorithms on-board, facilitating faster decision-making, and enabling missions to explore further.

Within Catalysts and Innovative Mechanisms Partnerships, NASA will continue to make new awards and support existing awards to nurture the pipeline of space technology talent and create space for transformative ideas inspired by the broad community response to the STMD technology shortfalls survey. These investments enable new capabilities or fields of aerospace technology study, transform future NASA missions, and cultivate powerful U.S. workforce for civil space. Prizes, Challenges and Crowdsourcing will continue supporting public challenges and crowdsourcing projects to meet NASA mission needs. The Technology Transfer team will continue to increase licensing and commercialization successes while engaging local and regional partners to improve life here on Earth and in space. Flight Opportunities will leverage commercial capabilities and best practices alongside rapid acquisition approaches that improve the ability to work effectively with the entrepreneurial space industry, partner with commercial flight providers on development of new space test capabilities and continue to provide researchers access to emerging commercial space test offerings. All Partnerships, Early Stage Innovations, and Commercialization activities will continue to collaborate with other STMD programs to fund, transition, and advance technologies of strategic value to NASA.

(\$ in Millions)	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Science	7,325.4	7,334.2	3,907.6	3,907.6	3,907.6	3,907.6	3,907.6
Earth Science			1,035.9				
Planetary Science			1,891.3				
Astrophysics			523.0				
Heliophysics			432.5				
<b>Biological and Physical Sciences</b>			25.0				
Grand Total			3,907.6				

FY 2024 reflects the funding amount specified in Public Law 118-42, Consolidated Appropriations Act, 2024, as revised in NASA's FY 2024 final Operating Plan, September 2024. Amounts include a net transfer amount of \$2.0 million; \$4.5 million that was transferred from General Services Administration (GSA) and \$2.5 million that was transferred to NASA's Information Technology Modernization Working Capital Fund.

FY 2025 reflects the funding amount specified in Public Law 119-4, Full-Year Continuing Appropriations and Extensions Act, 2025.

#### Totals may not add due to rounding.



This picture of Mars is a colorized composite of several images captured by Europa Clipper's thermal imager during a flyby of Mars in March 2025. Warm colors represent relatively warm temperatures; red regions are about 32 degrees Fahrenheit (0 degrees Celsius), and purple regions are about minus 190 degrees Fahrenheit (minus 125 degrees Celsius). NASA's SMD conducts scientific exploration enabled by space-based observatories, which observe the Earth, perform fundamental research, visit other bodies in the solar system, and gaze out into the galaxy and beyond. NASA's scientific exploration will inform human exploration of the Moon, Mars, and the solar system, providing valuable scientific data for such human missions. NASA also strives to drive discovery by studying biological and physical phenomena in space. SMD utilizes technological advances and partnership opportunities, including public-private partnerships that leverage commercial investments, to further NASA's science objectives.

NASA's science programs also help protect and improve life on Earth through research that enables innovative and practical applications for decision-makers, including disaster response, natural resource management, and planetary defense.

In determining the content of the Science portfolio, NASA considers the recommendations of the National Academies' decadal surveys, national priorities and

policies, budgets, existing technological capabilities, partnership opportunities, and other programmatic factors.

#### EXPLANATION OF MAJOR CHANGES IN FY 2026

While NASA's science missions have greatly expanded humanity's understanding of the Earth, solar system, and universe, the current expenditure of over \$7 billion per year on over 100 missions is unsustainable. The budget provides \$3.9 billion for SMD, supporting a leaner, more focused Science program that reflects the Administration's commitment to fiscal responsibility.

Within Earth Science, NASA will focus on completing missions which ensure continuity of critical data sets, including NASA-ISRO Synthetic Aperture Radar (NISAR), Grace Continuity, and Libera, and will select future medium- to small-sized missions within Earth Explorers and Earth Venture to address new measurements recommended by the Decadal. NASA will not continue formulation of Earth System Observatory missions, including the Atmosphere Observing System (AOS) Storm and AOS-Sky, and the Surface Biology and Geology Thermal Infrared Radiometer (TIR) and Visible & Shortwave Infrared Spectrometer (VSWIR) missions; however, science objectives from those missions may be addressed through future competed missions. NASA will work with the U.S. Geological Survey to restructure the Landsat Next mission and pursue more affordable alternatives. Within a reduced budget for Earth Science Research, Earth Science Technology, Responsive Science Initiatives, and Applied Sciences, NASA will prioritize integrated science and applications relevant to users and decisionmakers, including agriculture and wildfires.

Within Planetary Science, increased funding is requested for a new Mars initiative to provide lower-cost, competitively selected missions and instruments that address both human exploration and science objectives. These payloads will take advantage of the new Commercial Mars Payload Services established within ESDMD. The Lunar Discovery and Exploration Program will continue to develop scientific instruments for Artemis II and III missions and payloads for commercial delivery to the Moon via the Commercial Lunar Payload Services project, which has been transferred to ESDMD. NASA will terminate the Mars Sample Return mission and will further reduce the portfolio by halting progress on several other missions. Activities within Planetary Science Research, Venus and Mars Technology, and Radioisotope Power Systems are reduced, and will focus on high priority science investigations and technologies relevant to planned missions.

Within Astrophysics, the budget supports continued operations of the Hubble Space Telescope and the James Webb Space Telescope, and development of the Roman Space Telescope, and. NASA will not select an Astrophysics Probes mission and will not proceed with formulation of the UltraViolet EXplorer (UVEX) mission. NASA contributions to several partner missions will be cancelled. Activities within Astrophysics Research, Supporting Research & Technology, and Science Activation are reduced, and will focus on high priority science investigations and technologies relevant to planned missions. NASA will initiate closeout of the Chandra mission.

Within Heliophysics, the budget supports continued investments in Space Weather research, technology, and missions, including a reformulation of the Heliophysics Environmental and Radiation Measurement Experiment Suite (HERMES) instrument to conduct space weather research on the journey to Mars, and NASA contributions to a partner space weather mission, Joint Effort for Data assimilation Integration (JEDI). NASA will not continue with formulation of the HelioSwarm mission and will cancel planned contributions to the partner mission Extreme Ultraviolet High-Throughput Spectroscopic Telescope.

Activities within Heliophysics Research, Heliophysics Technology, Research Range, and Sounding Rockets are reduced and will focus on high priority science investigations and technologies relevant to planned missions.

Within Biological and Physical Sciences, NASA has prioritized funding for investigations planned for Artemis II and III, and initial funding for research on Commercial LEO destinations. NASA expects to significantly reduce the amount of Biological and Physical Sciences (BPS) research conducted aboard the ISS in FY 2026 given the reduced cadence of resupply missions and crew time availability as NASA moves towards a transition in 2030 to lower-cost commercial space stations. NASA will terminate BPS support for center ground-based testing facilities and will cancel planned BPS contributions to international collaborations.

#### KEY ACHIEVEMENTS PLANNED FOR FY 2026

In FY 2026, NASA's Mars-moon Exploration with GAmma rays and NEutrons (MEGANE) instrument will launch on the JAXA Martian Moons eXploration (MMX) mission to investigate the Martian moons Phobos and Deimos. The Lunar Discovery & Exploration Program anticipates the launch and delivery of multiple new lunar science payloads to the surface of the Moon through the Commercial Lunar Payload Services project. NASA will release the New Frontiers 5 Announcement of Opportunity.

NASA will continue development of the Gravity Recovery and Climate Experiment-Continuity (GRACE-C), Multi-slit Solar Explorer (MUSE), Dragonfly and Near-Earth Object (NEO) Surveyor missions. Biological and Physical Sciences will fly the first organ-chip experiment into deep space aboard Artemis II, scheduled for launch in FY 2026.

The Europa Clipper mission will continue its journey towards Jupiter's moon, Europa. NASA will continue to operate the Hubble Space Telescope and the James Webb Space Telescope, along with missions launched in FY 2025, including NISAR and Interstellar Mapping and Acceleration Probe (IMAP).

## <u>Themes</u>

NASA's Science budget, managed by SMD, includes five major science areas.

#### EARTH SCIENCE

NASA's unique capabilities as a space and science agency ultimately enable decision makers to address the most pressing challenges posed by our rapidly changing planet such as changing agricultural conditions, and severe weather challenges, including droughts, tropical storms, and wildfires. NASA develops innovations in instrument, flight, data, and mission technology to improve capability, resolution, and frequency of our remote sensing and in-situ Earth observations. NASA missions use the vantage point of space to observe our planet and continuously improve our scientific understanding of Earth's interconnected systems, from Earth's core to its atmosphere. Missions include continuity measurements made for decades, and advances in observations to advance understanding of the Earth system. NASA selects and funds innovative research enabling the nation's scientific community to build an ever-improving understanding of global-scale changes, connecting causes to effects.

This budget supports translating Earth science into actionable data and information via investments in the Applied Sciences and Responsive Science Initiatives (RSI) programs, which will support applications development and user engagement related to disaster response, wildfires, energy, and agriculture. RSI also ensures that NASA is acquiring commercial data and creating Earth observation data products, tools, and models that directly address user needs.

The budget restructures the Landsat Next mission and supports a more affordable architecture for continuing the Landsat data record. The budget supports continued formulation of the GRACE-Continuity mission, continued operations of high-impact missions such as NISAR, SWOT, PACE, and ICESat-2, continues the Earth System Explorers program, and continues collecting the decades-long data records of Earth's radiant energy system through the Total and Spectral Solar Irradiance Sensor–2 (TSIS-2) and Libera missions.

#### **PLANETARY SCIENCE**

To answer questions about the solar system and the origins of life, NASA sends robotic space probes to the Moon, other planets and their moons, asteroids and comets, and the icy bodies beyond Neptune. NASA's robotic explorers gather data to help scientists understand how the planets formed, what triggered different evolutionary paths among planets, what processes have occurred and are active, and how Earth, among the planets, became habitable.

NASA is currently operating spacecraft at Mars, Jupiter, and the Moon, and has spacecraft traveling to Jupiter's moon, Europa; the asteroid Psyche; and the Jupiter Trojan asteroids. NASA is preparing to deliver new instruments to the lunar surface; will develop the Dragonfly mission to explore Saturn's moon, Titan; and will develop Near Earth Objects Surveyor mission to survey the solar system for potentially hazardous asteroids. The budget funds the Lunar Discovery and Exploration Program that supports Artemis science, commercial collaborations, and innovative approaches to achieving human and science exploration goals. The budget supports future competitive mission selections within Mars Exploration Discovery, and New Frontiers, and a research program to support the scientists who use NASA mission data to make discoveries about our solar system.

#### **ASTROPHYSICS**

NASA stands on the threshold of new endeavors that will transform not only our understanding of the universe and the processes and physical paradigms that govern it, but also humanity's place in it. Progress in understanding pathways to habitable worlds, opening new windows on the dynamic universe, and unveiling the drivers of galaxy growth require the essential vantage point of space. Building on the revolutionary advances in our observations of exoplanets, NASA now seeks to identify and characterize Earth-like exoplanets orbiting Sun-like stars, with the ultimate goal of obtaining imaging and spectroscopy of potentially habitable worlds.

NASA aims to exploit the new observational tools of gravitational waves and particles, along with temporal monitoring of the sky across the electromagnetic spectrum and wide-area surveys to probe the most energetic processes in the universe and address the nature of dark matter, dark energy, and cosmological inflation. By linking observations and modeling of the stars, galaxies, and the gas and energetic processes that couple their formation, evolution, and destinies, NASA can revolutionize our

understanding of the origins and evolution of galaxies, from the nature of the tenuous cosmic webs of gas that feed them, to the nature of how this gas condenses and drives the formation of stars.

The budget supports operation of the Hubble Space Telescope and the James Webb Space Telescope, development of the Roman Space Telescope, and operations of the recently launched SHPEREx mission, as well as other smaller missions to ensure broad wavelength coverage from the X-ray through the mid-infrared.

#### **HELIOPHYSICS**

The Sun, a typical small star midway through its life, governs our solar system. The Sun wields its influence through its gravity, radiation, solar wind, and magnetic fields, all of which interact with the Earth and its space environment. These processes are crucial for our understanding of the universe, and they relate directly to our ability to live in space as they produce space weather, which can affect technological infrastructure and human activities in space. Using a fleet of sensors on various spacecraft in Earth orbit and throughout the heliosphere, NASA seeks to understand the fundamental processes of how and why the Sun varies in many ways, how Earth and our solar system respond to the Sun, how the Sun and the solar system interact with the interstellar medium, and how human activities are affected by these processes. The science of heliophysics, including space weather, enables the predictions necessary to safeguard life and society on Earth and the outward journeys of human and robotic explorers.

The budget supports development of the MUSE mission and contributions to the ESA Vigil space weather mission. The budget includes the highest funding ever proposed for the Space Weather program, which is focused on applied research and applications to enable the nation to better protect our technology and astronauts from space weather. The budget includes funding for Heliophysics research and analysis and funding for orbital debris investments to enable characterization of the populations of small debris and dust in space to protect space-based critical infrastructure and humans working in space.

#### **BIOLOGICAL AND PHYSICAL SCIENCES**

NASA conducts fundamental biological and physical sciences research that contributes to transformational discoveries, improves life on Earth and in space, and enables sustained deep-space human exploration. NASA achieves this by pioneering research to understand how spaceflight affects living and physical systems in space and to prepare for future human exploration missions far from Earth. The experiments NASA conducts on the ISS and other platforms examine how astronauts, plants, animals, and physical systems respond to the extreme conditions of space, including microgravity, ionizing radiation, and altered atmosphere.

The budget reduces funding for BPS to support higher priorities within the agency. Given reduced crew time and research capacity of the ISS program as the program transitions to less-expensive commercial facilities, BPS will reduce its ISS flight experiments to one to two per year and proceed with the Commercially Enabled Rapid Space Science (CERISS) project, focused on research capabilities for use on Commercial LEO Destination (CLD) space labs, at a slower pace. BPS will support organ-chip research on Artemis-II and -III, CLDs and other commercial opportunities such as suborbital flights, and Flammability of Materials on the Moon (FM2), and a physical sciences experiment on the SpaceX uncrewed demo.

(\$ in Millions)	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Aeronautics	935.0	935.0	588.7	588.7	588.7	588.7	588.7
Aeronautics			588.7				
Airspace Operations and Safety Program			88.1				
Advanced Air Vehicles Program			133.4				
Integrated Aviation Systems Program			167.2				
Transformative Aero Concepts Program			125.1				
Aerosciences Eval. & Test Capab. Program			74.9				
Grand Total			588.7				

FY 2024 reflects the funding amount specified in Public Law 118-42, Consolidated Appropriations Act, 2024, as revised in NASA's FY 2024 final Operating Plan, September 2024. Amounts include a net transfer amount of \$2.0 million; \$4.5 million that was transferred from General Services Administration (GSA) and \$2.5 million that was transferred to NASA's Information Technology Modernization Working Capital Fund.

FY 2025 reflects the funding amount specified in Public Law 119-4, Full-Year Continuing Appropriations and Extensions Act, 2025.

Totals may not add due to rounding.



NASA's X-59 lights up the night sky with its Machdiamond-infused flames during maximum afterburner testing at Lockheed Martin Skunk Works in Palmdale, California. The early 2025 test demonstrated the engine's ability to generate the thrust required for supersonic flight in support of NASA's Quesst mission.

NASA Aeronautics leads the nation's aviation community in research to maintain and advance American leadership in global aviation markets. ARMD is working to improve commercial aircraft, safely increase the capacity of the national airspace system, and provide new innovation to aviation. The Aviation sector is critical to the U.S. economy providing a positive manufacturing trade balance of \$113.9 billion in 2023 and 2.2 million aerospace/defense jobs in 2023 (<u>https://www.aia-</u> aerospace.org/industry-impact/).

NASA's technology development and research support the nation's leadership in the commercial aviation industry. Specifically, NASA is leading industry to accelerate the development of aircraft technologies that will reduce aircraft operating costs. NASA will demonstrate that supersonic aircraft (X-59) can fly without generating loud sonic booms.

NASA is working with the Federal Aviation Administration (FAA), industry, and academia to transform air traffic management systems to safely accommodate the growing demand for new air vehicles entering the airspace, enabling them to perform a variety of missions no matter what airspace that mission may require.

NASA conducts foundational research on crosscutting ideas and technologies. This research enables a broad range of aeronautics and aerospace applications and explores opportunities for technology convergence from disparate technology areas. Flight and ground capabilities for experimentation and feasibility demonstrations are additional elements that support the entire ARMD portfolio.

In FY 2026, NASA will develop a detailed new strategy to maintain U.S. leadership in aviation, including developing new tools for the FAA to safely increase the capacity of the airspace, and providing innovative technologies and concepts that will revolutionize aviation. The strategy outlined below will guide portfolio content and help develop a new leaner and more cost-efficient Aeronautics research organization.

NASA will innovate in Aeronautics where only NASA can. First, ARMD will focus its efforts in key areas that will drive U.S. technological competitiveness in aviation to outpace rapidly advancing international capabilities. Second, NASA will further focus its deep partnership with FAA on transformative concepts, automation and other technologies that ensure the U.S. has the safest, most capable airspace system in the world. Third, NASA's partnership with DoD, a long-term highly productive relationship, will enable aviation to fly higher and faster than ever before.

ARMD is working to enable transformation of future air travel in at least four major areas:

Revolutionize Aerospace Engineering Methods – Accelerating the ability to perform rapid, high fidelity computational design and analysis of complex aerospace systems will lead to enormous innovation advantages through accelerating design cycles, reducing expensive and time-consuming ground and flight testing, and enabling true system optimization. While China and other countries focus on building new ground test facilities, NASA will utilize its existing fleet of ground and flight test capabilities, high-end computing, and world class computational expertise in a partnership with industry and universities to generate the unique experimental databases that reveal complex physics and drive the next generations of computational methods.

Pioneer High Speed Flight – There are enormous obstacles to achieving practical, scalable, commercial supersonic and hypersonic flight. NASA is uniquely positioned and capable of solving these technical challenges. For example, NASA's X-59 is taking a major step in enabling overland supersonic flight – we will be the first in the world to demonstrate the ability to fly at cruise supersonic speeds without unacceptable sonic boom noise. NASA will continue to tackle supersonic challenges while also leading the nation in advancement in key hypersonic technology areas, such as combined cycle propulsion and durable high temperature material systems for civil systems, with relevance for national security applications.

Automate Airspace and Safety Management Capabilities – NASA's proven track record in high confidence aviation operation automation systems coupled with FAA's infrastructure modernization creates the conditions for growing and diversifying U.S. aviation operations. Today, NASA is demonstrating a range of advanced capabilities for FAA, airline and third-party service deployment that implement efficient trajectory-based operations for airlines, while enabling entry of new air transportation capabilities, such as small drone delivery services and air taxi services.

Transform Aviation Propulsion – Propulsion has traditionally been at the heart of major leaps in aircraft system capabilities and performance. New energy technologies being developed across industrial sectors enable aviation to envision new ultra-high efficiency propulsion cycles and revolutionize future air vehicles. Therefore, as ARMD completes current research activities such as the advanced thin wing

design, the Hi-Rate Composite Aircraft Manufacturing project, and the hybrid thermally efficient core development for next generation airliners, we will focus long-term research on truly revolutionary propulsion capabilities that will drive future generations of airliner performance, further enhancing U.S. technological competitiveness and travel affordability.

#### **EXPLANATION OF MAJOR CHANGES IN FY 2026**

NASA will focus on addressing the highest priority challenges to the nation's global competitiveness in aviation, delivering advances through partnerships with the FAA and DoD and saving costs by reducing lower priority activities.

Within the Airspace Operations and Safety Program, NASA, in partnership with the FAA, will focus on developing technologies for reduced airline delays and operating costs, third party airspace management technologies for advanced air mobility, portable airspace management system for wildfire management, and requirements for prognostic safety management data. To achieve cost savings, NASA will reduce the number of technologies validated through flight with more validated through simulation only, reduce and consolidate oceanic and disruption management flow management technology development, eliminate Model Based System Engineering (MSBSE) architecture development for advanced air mobility, eliminate integration of wildfire airspace management with sensor data, and eliminate development of vehicle safety technologies.

Within the Advanced Air Vehicles Program, NASA will fund aircraft and propulsion research that will provide the nation with a competitive advantage in the aviation industry and support the hypersonics work with the DoD. To achieve cost savings, NASA will refocus on the priority challenge of providing the burgeoning U.S. Advanced Air Mobility market with validated computational tools to understand and address noise and performance of these new vehicles. It will do so by descoping its vertical lift portfolio by reducing research on electric vehicles including ride handling, ride quality, crashworthiness, support for extra-planetary vehicles, DoD partnerships, and university collaborations and centers of excellence. It will also delay or rescope small-core engine research.

Within the Integrated Aviation Systems Program, NASA will fund advanced thin-wing technology development, the low boom flight demonstrator, and key flight capabilities. To achieve cost savings, NASA plans to complete its work on and funding for the Electrified Powertrain Flight Demonstration project by the end of 2025.

Within the Transformative Aeronautics Concepts Program (TACP), NASA will focus funding on university innovation, advanced computational tools, and capabilities needed to maintain a strong pipeline of new ground-breaking technologies to keep America competitive. To achieve cost savings, TACP will rapidly phase out research related to emissions and climate issues. In addition, TACP will eliminate the Convergent Aeronautics Solutions (CAS) project, and pause selection of new University Leadership Initiative awards while stopping the University Student Research Challenge and Gateway to Blue Skies competition in the University Innovation (UI) Project.

Within the Aerosciences Evaluation and Test Capabilities Portfolio, NASA will focus resources on supporting seven priority large wind tunnels and seek efficiencies across the remaining portfolio as we adjust to new demand levels. With lower planned wind tunnel utilization in FY 2026, NASA has reduced funding for wind tunnel maintenance and operations. The initial estimates show that up to five of the

twelve tunnels in the portfolio will be put into "stand-by" mode where the tunnel would be provided minimal maintenance and supporting workforce.

#### KEY ACHIEVEMENTS PLANNED FOR FY 2026

The budget request supports five programs within the agency's aeronautics portfolio:

The Airspace Operations and Safety Program (AOSP) advances mobility through modernizing and transforming the national air traffic management system, in partnership with the FAA and the aviation community. The program develops and explores advanced technologies for more efficient gate-to-gate flight trajectories, leads research on increasingly autonomous aviation, and provides tools for the integration and analysis of data to support in-time system-wide safety assurance. The program has focused efforts to advance the safe integration of new advanced air mobility vehicles into the airspace. The program is also addressing the need for improved responses to wildfires by leveraging its UAS traffic management capabilities. The program will reduce and consolidate airspace management and safety technology development efforts, as well as reduce and consolidate the Advanced Air Mobility and Advanced Capabilities in Emergency Response Operations projects. AOSP will focus on integrated automation and establish the updated reduced scope Technical Challenges. In FY 2026, AOSP, in collaboration with FAA and industry, will:

- Validate prognostic safety data analytics algorithms on an integrated and fused set of different types of airline data to identify potential safety issues and share the results with airline partners;
- Evaluate digital gate-to-gate flight rerouting capability to reduced airline delays and operating costs; and
- Assess technologies for strategic deconfliction by advanced air mobility operators to integrate non-traditional vehicles into the airspace.

The Advanced Air Vehicles Program (AAVP) develops the tools, technologies, and concepts to enable safe new aircraft that are faster, quieter, and more fuel efficient. The program pioneers fundamental aeronautics research and matures the most promising concepts for transition to the community. AAVP works closely with the DoD to advance dual-use technologies for both civilian and military applications. Key focus areas include: enabling major leaps in the safety and performance of subsonic fixed and rotary wing aircraft; overcoming noise and other technology challenges to high-speed flight, including demonstration of quiet supersonic flight with the X-59 aircraft; and understanding and resolving critical challenges of hypersonic flight. In FY 2026, AAVP will:

- Evaluate and select high-rate composite aircraft manufacturing technologies for at least one major aircraft structure demonstration;
- Research dual-mode ramjet control and operability in flight and in post-flight ground test to advance hypersonic engine technologies; and
- Acquire early probing data from the X-59 aircraft flight tests to understand the acoustic characteristics of the aircraft and provide confidence in the tools that will be used during future acoustic validation.

The Integrated Aviation Systems Program (IASP) explores, assesses, and demonstrates the benefits of the most promising technologies at an integrated system level, including in flight. The program has two major

efforts: the Low Boom Flight Demonstrator and advanced thin wing development. Also, the program funds flight support capabilities and other aeronautics research related to flight tests. In FY 2026, IASP will:

- Complete X-59 aircraft envelope expansion flights and begin flights needed to validate that acoustic characteristics match design targets for quiet supersonic flight;
- Demonstrate F-15 calibrated chase capability at high altitude in support of the Quesst mission; and
- Complete project planning associated with a major ground-based testbed of a full-scale, high aspect ratio wing to demonstrate the benefits of thin-wing technologies.

The TACP demonstrates initial feasibility of concepts supporting the discovery and development of new transformative solutions. TACP creates advanced and improved computational tools, technologies, and experimental capabilities for use by other aeronautics programs, industry partners, and government collaborators. The program encourages revolutionary concepts, creates the environment for researchers to become immersed in new ideas, and drives rapid turnover of new concept development. In FY 2026, TACP will:

- Advance state-of-the-art computational and experimental tools and technologies that are vital to aviation applications; and
- Fund up to three new University Leadership Initiative awards and will evaluate the results of five ongoing awards.

Aerosciences Evaluation and Test Capabilities Portfolio (AETC) manages NASA's portfolio of 12 large wind tunnels used for ground testing of advanced technologies and configurations across all speed regimes: subsonic, transonic, supersonic, and hypersonic. These test facilities also serve the needs of other NASA mission directorates, as well as non-NASA users. In FY 2026, AETC will:

• Open the new LaRC Flight Dynamics Research Facility, replacing the 84-year-old Vertical Spin Tunnel.

Develop an Aerosciences Data Platform Portal to store wind tunnel test data. The portal data will be understandable, secure, trustworthy, and accessible to customers. In parallel, AETC will maintain viable data systems, instrumentation, and front-end hardware that are adaptable to customer needs.

## **STEM ENGAGEMENT**

(\$ in Millions)	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
STEM Engagement	143.0	143.0	0.0	0.0	0.0	0.0	0.0
STEM Engagement			0.0				
Grand Total			0.0				

FY 2024 reflects the funding amount specified in Public Law 118-42, Consolidated Appropriations Act, 2024, as revised in NASA's FY 2024 final Operating Plan, September 2024. Amounts include a net transfer amount of \$2.0 million; \$4.5 million that was transferred from General Services Administration (GSA) and \$2.5 million that was transferred to NASA's Information Technology Modernization Working Capital Fund.

FY 2025 reflects the funding amount specified in Public Law 119-4, Full-Year Continuing Appropriations and Extensions Act, 2025.

Totals may not add due to rounding.



These photos illustrate a wide variety of NASA STEM student opportunities, including the Artemis Student Challenges, Students to Launch partnership, and Minority University Research Education Program (MUREP) Innovation Tech Transfer Idea. Competition (MITTIC).

The FY 2026 Budget proposes no funding for NASA's Office of STEM Engagement (OSTEM) including its four projects: National Space Grant College and Fellowship Project (Space Grant); Established Program to Stimulate Competitive Research (EPSCoR); Minority University Research and Education Project (MUREP); and Next Generation STEM project (Next Gen STEM).

#### EXPLANATION OF MAJOR CHANGES IN FY 2026

NASA's primary role is space exploration and, similar to prior generations that were inspired by the Apollo lunar landings, NASA will inspire the next generation of explorers through exciting, ambitious space missions. No funding is requested for Space Grant, EPSCoR, MUREP, and Next Gen STEM. NASA proposes to use unobligated balances previously appropriated under this heading to support the closeout of OSTEM activities, including but not limited to, administration, oversight, monitoring, and funding of grants previously awarded by OSTEM.

## SAFETY, SECURITY, & MISSION SERVICES

(\$ in Millions)	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Safety, Security, and Mission Services	3,131.0	3,092.3	2,118.3	2,118.3	2,118.3	2,118.3	2,118.3
Mission Services & Capabilities			1,498.0				
Information Technology (IT)			481.1				
Mission Enabling Services			524.9				
Infrastructure & Technical Capabilities			492.1				
Engineering, Safety, & Operations			620.3				
Agency Technical Authority			69.6				
Center Engineering, Safety, & Operations			550.7				
Grand Total			2,118.3				

FY 2024 reflects the funding amount specified in Public Law 118-42, Consolidated Appropriations Act, 2024, as revised in NASA's FY 2024 final Operating Plan, September 2024. Amounts include a net transfer amount of \$2.0 million; \$4.5 million that was transferred from General Services Administration (GSA) and \$2.5 million that was transferred to NASA's Information Technology Modernization Working Capital Fund.

FY 2025 reflects the funding amount specified in Public Law 119-4, Full-Year Continuing Appropriations and Extensions Act, 2025.

#### Totals may not add due to rounding.

The Safety, Security, and Mission Services (SSMS) account enables NASA's mission success by providing foundational support capabilities responsive to evolving mission needs. SSMS also funds independent oversight over NASA's missions and programs to ensure the health, safety, and security of the NASA workforce, property, and the public. SSMS programs provide the services and capabilities that ensure NASA has the technical skills, physical assets, financial resources, and workforce to be successful. The SSMS FY 2026 budget is comprised of two themes: Mission Services and Capabilities (MSaC) and Engineering, Safety, and Operations (ESO).

#### **EXPLANATION OF MAJOR CHANGES IN FY 2026**

In alignment with the Administration's priorities, the FY 2026 Safety, Security, and Mission Services budget reflects a streamlined approach to services that focus on statutory requirements in the most cost-effective way possible. The SSMS budget has therefore been adjusted and priorities shifted to fulfill these revised requirements. Major FY 2026 changes include:

- Restructuring of organizations to eliminate functions not statutorily mandated, excepting those functions the Agency deems necessary; consolidation of management layers and duplicative functions; and evaluation/implementation of technological solutions that automate routine tasks.
- Elimination of the SSMS funded Office of Science, Technology, Engineering, and Math (OSTEM) and its activities.

# SAFETY, SECURITY, & MISSION SERVICES

- Consolidation of the Agency Technical Authorities:
  - o Significantly reduce and restructure the NASA Engineering and Safety Center (NESC); and
  - Significantly reduce and restructure the Independent Verification and Validation (IV&V) program.
- Significant reduction in all Science and Engineering activities at each NASA center to fund higher priority services and activities.

NASA will explore opportunities to consolidate facilities across the Agency and significantly reduce the HQ footprint in Washington, D.C.

#### **MISSION SERVICES AND CAPABILITIES**

MSaC provides enterprise solutions under three programs: Information Technology, Mission Enabling Services, and Infrastructure and Technical Capabilities. Strategically, these programs meet workforce, infrastructure, information technology, and business operations requirements necessary to enable NASA's mission. MSaC ensures critical agency operations are effective; efficient; safe; and meet statutory, regulatory, and fiduciary responsibilities. These mission enabling services and capabilities provide efficient and effective administration across all NASA centers and HQ. More information is provided in the program element sections below.

#### **ENGINEERING SAFETY AND OPERATIONS**

ESO provides for the management and operations of NASA HQ, centers, and component facilities under two programs: Agency Technical Authority; and Center Engineering, Safety, and Operations. Both programs support scientific and engineering activities. In accordance with the Administration's priorities, beginning in FY 2026, NASA will streamline the Engineering Safety and Operations program and make adjustments commensurate with programmatic changes across the Agency. More information is provided in the program elements section below.

## CONSTRUCTION AND ENVIRONMENTAL COMPLIANCE AND RESTORATION

(\$ in Millions)	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Construction and Environmental Compliance and Restoration	326.3	300.0	140.1	140.1	140.1	140.1	140.1
Construction of Facilities			110.0				
Institutional CoF			100.0				
Exploration CoF			0.0				
Space Operations CoF			10.0				
Environmental Compliance and Restoration			30.1				
Grand Total			140.1				

FY 2024 reflects the funding amount specified in Public Law 118-42, Consolidated Appropriations Act, 2024, as revised in NASA's FY 2024 final Operating Plan, September 2024. Amounts include a net transfer amount of \$2.0 million; \$4.5 million that was transferred from General Services Administration (GSA) and \$2.5 million that was transferred to NASA's Information Technology Modernization Working Capital Fund.

FY 2025 reflects the funding amount specified in Public Law 119-4, Full-Year Continuing Appropriations and Extensions Act, 2025.

Totals may not add due to rounding.



NASA's Flight Electronics Integration Facility at JPL consolidates electronic component processing of flight hardware for NASA missions led by JPL.

Within the Construction and Environmental Compliance and Restoration (CECR) account, NASA manages two themes related to the agency's asset portfolio: capital repairs and improvements to NASA's infrastructure, and environmental compliance and restoration activities. Activities related to the design, construction, and demolition of infrastructure, including utility systems and facilities, are funded through the Construction of Facilities (CoF) Theme. Environmental compliance, cleanup, and restoration activities are funded through Environmental Compliance and Restoration (ECR) Theme.

CECR funding in the Construction of Facilities theme enables NASA to address the challenges of aging infrastructure needs. More than 83 percent of NASA's infrastructure is beyond its design life, posing significant risk of failure, inefficiency, and potential impacts to health and wellness. To address these growing challenges, CECR is focused on modernizing and rightsizing NASA's infrastructure into fewer, more efficient,

and more sustainable facilities, and on repairing and upgrading infrastructure before it has failed.

CECR funding in the ECR theme enables NASA to address its commitment to environmental stewardship by conducting critical cleanup efforts, maintaining compliance with regulatory requirements, addressing emerging regulations, and managing environmental issues. NASA's estimated current environmental

# CONSTRUCTION AND ENVIRONMENTAL COMPLIANCE AND RESTORATION

liability, excluding asbestos removal that is not funded by the ECR appropriation, is approaching \$2.3 billion and is expected to grow as plans to address 173 areas of potential concerns for emerging per- and polyfluoroalkyl substances (PFAS) contaminants are developed.

CECR funding ensures that NASA's assets are ready, available, and appropriately sized to conduct NASA's current and future missions, while remaining compliant with agency and governmental environmental regulations. CECR program priorities are aligned with the Agency Master Plan's (AMP) which focuses on reducing sustainment costs, minimizing the agency's physical footprint, and lowering its environmental impact.

## **Themes**

#### **CONSTRUCTION OF FACILITIES (COF)**

CoF funds capital repairs and improvements to NASA's infrastructure to provide NASA programs and projects with the research, development, and testing facilities required to accomplish their missions. CoF repairs the facilities that have suffered degradations, recent failures, or deterioration from inadequate maintenance over time. Due to mission priorities, projects to address immediate needs may displace renewal or new construction projects planned to replace obsolete facilities. These necessary tradeoffs preclude the construction of new, more advanced and energy efficient facilities and infrastructure that would reduce costs and increase sustainability in the long run.

The CoF Theme is comprised of two programs: Institutional CoF and Programmatic CoF. Both institutional and programmatic construction projects reduce facility-related risk to mission success, reduce sustainment costs, increase sustainability, and improve technical infrastructure capabilities in support of NASA missions. CoF projects and activities are divided across five project definitions: **discrete** projects costing over \$10 million; **minor** revitalization and construction less than \$10 million; **facility planning and design**; **demolition**; and **energy savings investments**. Institutional CoF does not fund routine maintenance and repairs projects, or projects with cost estimates of less than \$1 million.

Institutional CoF addresses infrastructure and facilities that span all mission areas and enable the effectiveness of NASA centers. Horizontal infrastructure and center-wide systems, such as roads and utilities, support all mission activities and are therefore considered "institutional." Institutional CoF also funds activities that support the overall agency goals of reducing operating costs, maintenance obligations, and utility usage through demolition and energy savings projects.

Programmatic CoF is funded by mission directorates for construction of specialized capabilities that directly support specific NASA missions, with appropriate funding transferred into CoF during the formulation of each budget year. Facilities and infrastructure supporting the execution of specific mission directorate requirements or having a unique capability required specifically for the execution of mission directorate programs and/or projects are funded through Programmatic CoF. Construction, repairs, and revitalization funded by Programmatic CoF do not have center-wide or agency-wide applications.

# CONSTRUCTION AND ENVIRONMENTAL COMPLIANCE AND RESTORATION

#### **ENVIRONMENTAL COMPLIANCE AND RESTORATION (ECR)**

ECR supports agency-wide environmental compliance and risk management initiatives. ECR mitigates environmental risks and restores impacted property to beneficial use. ECR supports remediation at current or former sites where NASA operations have contributed to environmental degradation or where the agency is legally obligated due to past releases of pollutants, including emerging contaminants (e.g., PFAS).

At every center, ECR is investigating contaminated sites; remediating contaminated soil, water, and other media; and monitoring for continued compliance with legal standards, agency objectives, and obligations. ECR ensures NASA's compliance with environmental requirements, including the Resource Conservation and Recovery Act (RCRA); Comprehensive Environmental Response, Compensation, Liability Act (CERCLA); Toxic Substance Control Act (TSCA); state regulatory requirements; consent orders; and legal obligations.