| (\$ in Billions) | FY 2023 | FY 2024 | FY 2025 | FY 2026 | FY 2027 | FY 2028 | FY 2029 |
|------------------|---------|---------|---------|---------|---------|---------|---------|
| NASA Budget      | 25.4    | 25.4    | 25.4    | 25.9    | 26.4    | 26.9    | 27.5    |

FY 2023 reflects the funding amount specified in Public Law 117-328, Consolidated Appropriations Act, 2023, as revised in NASA's FY 2023 final Operating Plan, September 2023. Amounts include \$8 million that was transferred to NASA's Information Technology Modernization Working Capital Fund.

A full-year 2024 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Consolidated Appropriations Act, 2023 (Division B of P.L. 117-328, as amended). The amounts included for 2024 reflect the annualized level provided by the continuing resolution.

Totals may not add due to rounding.

The President's Fiscal Year 2025 Budget Request for NASA is \$25.4 billion. With this proposed budget, NASA will fund the following efforts:

## **Agency Highlights**

- Invests \$7.8 billion to build on the success of Artemis I and return American astronauts to the Moon, including the first woman and first person of color, as part of the overall Artemis campaign; establish a sustainable lunar presence; and lay the groundwork for humanity's first crewed mission to Mars. This request supports activities related to Artemis missions II through XII, including the launches of Artemis II in 2025, Artemis III in 2026, and Artemis IV in 2028.
- Invests \$4.4 billion to sustain human presence in low-Earth orbit (LEO) with operations of the International Space Station (ISS) until 2030 and then a transition to the use of commercial space stations thereafter. This includes \$109 million for a U.S. deorbit vehicle that will enable the safe and responsible deorbit of the ISS at the end of this decade; and \$170 million for U.S. industry to develop commercial LEO destinations that enable a continuous presence in LEO.
- Advances space technology research and development with \$1.2 billion. With this investment in technology and innovation, the budget request will advance mission capabilities and technologies needed to grow the commercial space economy and support NASA's missions, including integrated Moon to Mars efforts, through strategic partnerships, and leveraging early- stage innovators.
- Includes \$7.6 billion to conduct 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.
- Continues investments in Earth science and green aviation that will protect our home planet. Specifically, this request proposes \$2.4 billion to fund Earth science and observations that enhance our understanding of the Earth system and continues efforts to make data more accessible and useful to a wide range of stakeholders, including scientists and policymakers. This request also includes over \$500 million in Aeronautics to improve aircraft efficiency and reduce the climate impact of aviation.
- Broadens and diversifies student participation in Science, Technology, Engineering, and Mathematics (STEM) with \$143.5 million for the Office of STEM Engagement to inspire and

develop the next generation of scientists, engineers, and explorers.

- Invests \$3.5 billion in NASA's workforce and infrastructure including the vital functions that underpin the success of our missions, including NASA's facilities, information technology, core business, and technical services.
- Demonstrates NASA's commitment to advancing Diversity, Equity, Inclusion, and Accessibility (DEIA) throughout the workforce with a request of \$22.4 million.
- Invests \$41.2 million for space sustainability to better understand and mitigate the hazard of orbital debris.

## Deep Space Exploration Systems - \$7.6 billion

- \$4.2 billion for Moon to Mars Transportation Systems (formerly Common Exploration Systems Development) to support lunar missions, with \$1.0 billion to build Orion capsules for Artemis, \$2.4 billion for the Space Launch System, and \$758.8 million for Exploration Ground Systems, including Mobile Launcher-2.
- \$3.2 billion for Moon to Mars Lunar System Development (formerly Artemis Campaign Development) to advance lunar exploration capabilities, with \$1.8 billion for the Human Landing System program to develop and deploy multiple landing systems, \$817.7 million for the Gateway, \$434.2 million for space suits and lunar rovers, and \$140.2 million for Advanced Exploration Systems for future lunar surface habitats.
- \$117.1 million for Human Exploration Requirements and Architecture to support Moon and Mars strategy and architecture development, with \$45.9 million for Future Systems to identify technologies as a precursor to Mars and \$71.2 million for Strategy and Architecture to support requirements and manifest planning.

## **Space Operations - \$4.4 billion**

- \$1.3 billion for ISS operations and research to continue leveraging the multi-national space platform to conduct research, identify risks to human health, test exploration technologies, and support the growth of a commercial economy in LEO. The ISS budget decreases in the outyears to support an increase in funding for the Commercial LEO Development program and for commercial development of the United States Deorbit Vehicle (USDV) that will safely de-orbit ISS at the end of operations.
- \$1.9 billion for Space Transportation to continue NASA's partnership with the U.S. commercial space industry to operate safe, reliable, and affordable systems to transport crew and cargo to and from the ISS, including \$109 million in funding for the USDV.
- \$1.1 billion for Space and Flight Support to enable safe, reliable, and productive human space exploration, including funding to provide mission-critical space communications; provide launch and test services; and conduct astronaut training and research into the health of humans living and working in space.
- \$170 million for Commercial LEO Development to partner with the U.S. commercial space industry to develop and deploy commercial space stations in LEO.

## **Space Technology - \$1.2 billion**

• \$459 million for Technology Demonstration for ground and space flight testing, including a collaboration with the Defense Advanced Research Projects Agency (DARPA) to advance

nuclear propulsion technologies; conducting two Cryogenic Fluid Management technology flight demonstrations; maturing and developing Fission Surface Power and Solar Electric Propulsion; and increasing the pace of space exploration with small spacecraft and flight opportunities. Funding for these technology demonstration missions is in part made possible by the close-out of OSAM-1.

- \$341 million for Technology Maturation to advance revolutionary disruptive space technologies at mid-technology readiness levels in space transportation; entry, descent, and landing; in-situ resource utilization; power and energy storage; materials and structures; and robotic systems for sustainable exploration.
- \$140 million for Early-Stage Innovation and Partnerships that source ideas from a broad, diverse base of innovators, and transfer space technology into the space economy.
- \$242 million for Small Business Innovation Research and Small Business Technology Transfer to develop new technologies, drive investments in small businesses, and spur economic growth.

#### Science - \$7.6 billion

- The request for Science invests in over 125 space science missions, including 54 that are currently preparing for launch and approximately 70 in operation. This request also funds U.S. scientists in universities, industry, and government labs through more than 4,000 openly competed research awards.
- \$2.7 billion for Planetary Science to support innovative approaches to exploring new destinations in the solar system. This request continues development of numerous other missions, including the NEO Surveyor mission to detect potentially hazardous asteroids, the Dragonfly mission to explore a moon of Saturn, Europa Clipper which explores the icy moon of Jupiter, the VERITAS and DAVINCI missions to Venus, and contributions to the joint European EnVision mission to Venus, and Rosalind Franklin mission to Mars. The request also supports the Commercial Lunar Payload Services (CLPS) project to deliver scientific, exploration, and technology payloads to the Moon. The request includes \$200M for Mars Sample Return that will allow the project to advance formulation of mission components and capabilities that have a high likelihood of being used in any future sample return architecture, and to evaluate and appropriately incorporate relevant findings from funded industry and center architecture studies.
- \$2.4 billion for Earth Science to enhance understanding of the Earth system through continued investment in a broad portfolio of missions including Surface Biology and Geology, GRACE-Continuity, Landsat Next, and others; initiate the first Earth System Explorers mission; support the ongoing development of multiple innovative Venture Class missions; implement the Responsive Science Initiatives program, which consolidates and enhances current activities within Earth Science to increase the impact of NASA-funded observations and Earth system science; and continue robust support for research and applications related to wildland fire management and agriculture.
- \$1.6 billion for Astrophysics to revolutionize our understanding of the origins and evolution of galaxies by supporting operation of the James Webb Space Telescope and the Hubble Space Telescope, as well as the development of the Nancy Grace Roman Space Telescope, a mission designed to unravel the secrets of dark energy and dark matter and to search for and image exoplanets; develop the Spectro-Photometer for the History of the Universe, Epoch of Reionization, and Ices Explorer (SPHEREx); support initial selections for the first Astrophysics

Probe mission; and initiate important investments in precursor science, mission, and technology maturation efforts for a potential future Habitable Worlds Observatory, a Decadal Survey recommendation.

- \$787 million for Heliophysics to study the Sun and its influence throughout the solar system, including the Interstellar Mapping and Acceleration Probe (IMAP) and the Carruthers Geocorona Observatory; support the competitive Explorer Program including recently selected missions Multi-slit Solar Explorer (MUSE) and HelioSwarm; expand the Space Weather Program focused on applied research and applications to enable the nation to better protect our technology and astronauts from space weather; continue the Diversify, Realize, Integrate, Venture, Educate (DRIVE) research initiative; and support orbital debris investments to enable characterization of the population of small debris in space.
- \$91 million for Biological and Physical Sciences to better understand how biological and physical systems work from the unique vantage point of space and to develop transformative research capabilities with the commercial space industry to dramatically increase the pace of space-based research.

#### Aeronautics Research - \$966 million

- \$279 million for Advanced Air Vehicles to develop technologies and concepts that enable new generations of civil aircraft that are safer, faster, more energy-efficient, and have a smaller environmental footprint; demonstrate integrated small core aircraft engine technologies; develop techniques for high-rate manufacturing of composite structures; and advance long-term opportunities for supersonic and hypersonic flight.
- \$264 million for Integrated Aviation Systems to explore, assess, and demonstrate the benefits of the most promising technologies at an integrated system level, including in flight; develop Electrified Powertrain Flight Demonstrations and a Sustainable Flight Demonstrator that will pave the way to reducing aviation emissions; and conduct test flights of the X-59 Low Boom Flight Demonstrator exploring quiet supersonic flight.
- \$151 million for Airspace Operations and Safety to modernize and transform the national air traffic management system, in partnership with the Federal Aviation Administration and the aviation community; develop and explore advanced technologies for more efficient flight trajectories; lead research to integrate new advanced air mobility vehicles safely into the national airspace; provide tools to support in-time system-wide safety assurance; and develop a concept of operations to improve aerial responses to wildfires.
- \$155 million for Transformative Aeronautics Concepts to support revolutionary aviation concepts development with opportunities focused on reducing aviation emissions, new computational tools, and experimental capability advancement.
- \$116 million for Aerosciences Evaluation and Test Capabilities, supporting NASA's 12 large wind tunnels across three centers.

## STEM Engagement - \$144 million

• NASA's STEM engagement efforts will focus on broadening student participation, continuing K-12 student engagement in STEM pathways, and building partnerships and networks to magnify reach and impact. Investments include: \$57 million for Space Grant, \$24.8 million for Established Program to Stimulate Competitive Research (EPSCoR), \$46.3 million for Minority

University Research and Education Project (MUREP), and \$15.4 million for Next Gen STEM.

#### Safety, Security and Mission Services (SSMS) - \$3.0 billion

- \$2.1 billion for Mission Services and Capabilities to advance NASA's Information Technology, Mission Enabling Services, and Infrastructure and Technical Capabilities. These programs will provide agency-wide business, technical, and infrastructure services that enable NASA's ambitious mission portfolio to help maintain U.S. leadership in space, aviation, science, and technology. This request includes critical funding for high priority areas such as managing cybersecurity risk and leveraging the innovation of Artificial Intelligence while ensuring our systems are safe and secure.
- \$1.0 billion for Engineering, Safety, and Operations for nine NASA Centers, Headquarters, and component facilities. Center Engineering, Safety, and Operations ensures NASA's unique, technical, and innovative capabilities are mission ready. Through the Agency Technical Authority program, this funding provides independent oversight over NASA's missions and programs to ensure the health, safety, and security of NASA people and property as well as the public.

#### Construction and Environmental Compliance and Restoration (CECR) - \$424 million

• \$424.1 million to ensure agency infrastructure, laboratories, and critical facilities are safe, secure, environmentally sound, appropriately sized, efficiently operated, and mission-ready.