

National Aeronautics and Space Administration

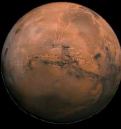


# FY 2024 Budget Request

[www.nasa.gov](http://www.nasa.gov)

# FY 2024 Request Invests in U.S. Leadership and Innovation

- Strengthens the Nation's position as a global leader in exploration, science, and technology innovation in aviation and space
- Builds on the successful launch of Artemis I and paves the way for a long-term presence at the Moon and on to Mars for the U.S. and our partners
- Advances robotic exploration of Mars in cooperation with our international partners
- Enables the safe and seamless transition from the International Space Station to Commercial Low-Earth Orbit Destinations
- Advances new scientific discovery about the Earth, the Sun and Solar System, and beyond
- Provides access to Earth system observations and actionable information to scientists, decision-makers, and the public



# FY 2024 Request Invests in U.S. Leadership and Innovation

- Continues U.S. leadership in aeronautics with cutting-edge technologies that reduce emissions and safely expand the capacity and speed of air travel
- Invests in revolutionary technologies, such as Nuclear Power and Propulsion, that grow U.S. space capabilities to ensure American leadership in the global space economy



- Engages diverse STEM learners in NASA's mission to create our Nation's next generation of scientists, engineers, and explorers – the Artemis Generation
- Advances diversity, equity, inclusion, and accessibility for our workforce and our partners
- Invests in NASA's workforce and infrastructure



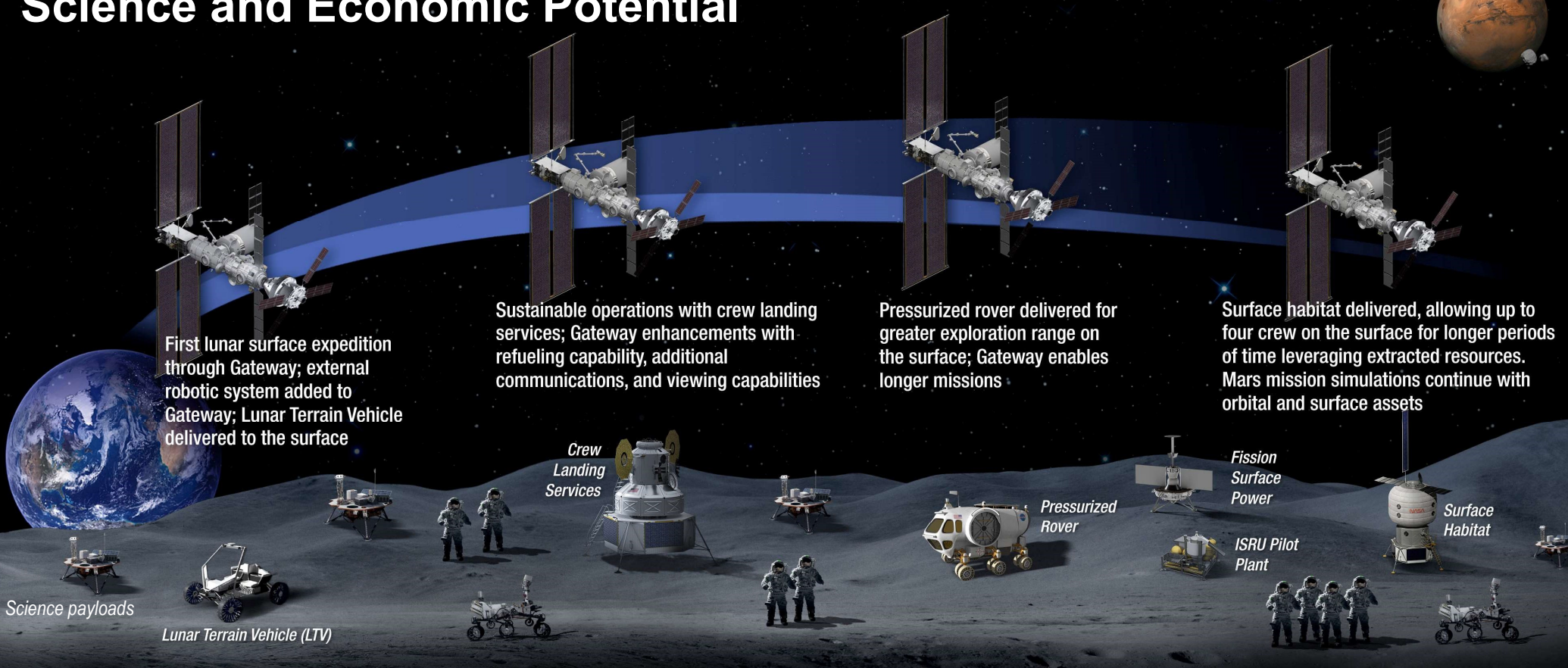
# Building a Robust Presence in Low-Earth Orbit



- The FY 2024 budget request includes \$3.5B for all elements needed to implement NASA's strategy for low-Earth Orbit (LEO), ensuring no gap in U.S. presence in LEO
- ISS operations, extended to 2030, continue important science research and development to benefit life on Earth – while also opening new economic opportunities for commercial products and services in LEO
- Commercial destinations in LEO are under development – for which NASA will be one of many customers – and meet ongoing research requirements



# Establishing a Sustainable Lunar Presence to Maximize Science and Economic Potential



First lunar surface expedition through Gateway; external robotic system added to Gateway; Lunar Terrain Vehicle delivered to the surface

Sustainable operations with crew landing services; Gateway enhancements with refueling capability, additional communications, and viewing capabilities

Pressurized rover delivered for greater exploration range on the surface; Gateway enables longer missions

Surface habitat delivered, allowing up to four crew on the surface for longer periods of time leveraging extracted resources. Mars mission simulations continue with orbital and surface assets

Science payloads

Lunar Terrain Vehicle (LTV)

Crew Landing Services

Pressurized Rover

Fission Surface Power

ISRU Pilot Plant

Surface Habitat

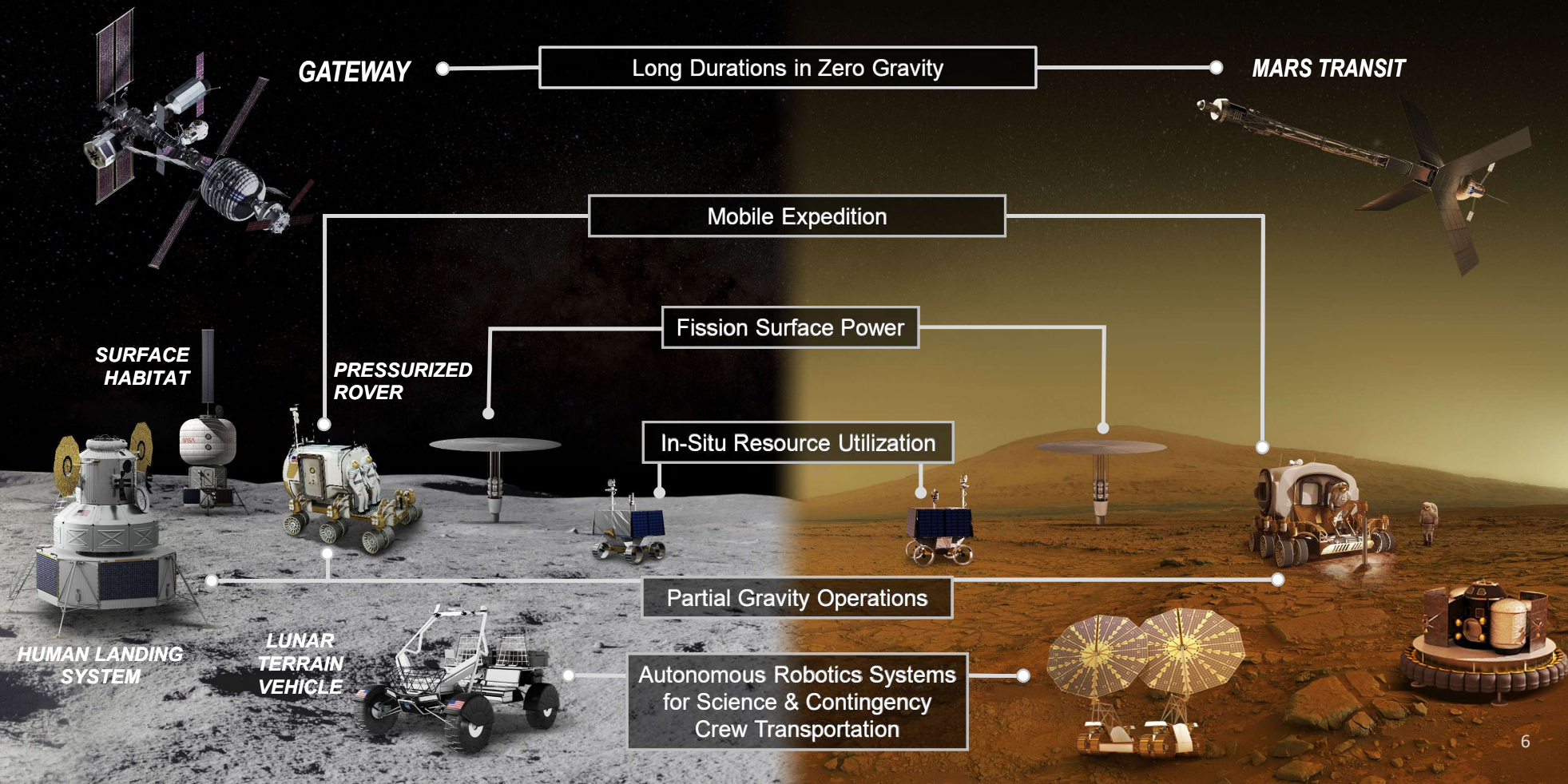
## **SUSTAINABLE LUNAR ORBIT STAGING CAPABILITY AND SURFACE EXPLORATION**

MULTIPLE SCIENCE AND CARGO PAYLOADS | U.S. GOVERNMENT, INDUSTRY, AND INTERNATIONAL PARTNERSHIP OPPORTUNITIES | TECHNOLOGY AND OPERATIONS DEMONSTRATIONS FOR MARS



# Moon to Mars Exploration Architecture

Operations and Science on and around the Moon will help prepare for the first human mission to Mars



# FY 2024 President's Budget Request Moon to Mars Manifest



CY	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
<b>ESDMD</b>	<p><b>MISSION COMPLETE</b> <b>Artemis I</b> (Nov. - Dec. 2022) Uncrewed Test Flight: SLS Block 1 / Orion / ML1 10 CubeSats Deployed</p>		<p><b>Artemis II</b> (Nov. 2024) Crewed Test Flight SLS Block 1 / Orion / ML1</p> <p>HLS Uncrewed Lunar Demo</p>	<p><b>Artemis III</b> (Dec. 2025) Crewed Flight SLS Block 1 / Orion / ML1</p> <p>HLS Crewed Lunar Demo xEVA Surface Suits</p> <p>Gateway PPE/HALO Launch</p>				<p><b>Artemis IV</b> (Sept. 2028) Crewed Flight SLS Block 1B / Orion / ML2</p> <p>I-Hab to Gateway DSL to Gateway Sustaining HLS Crewed Lunar Demo xEVA Surface Suits TBD Sustaining HLS Uncrewed Lunar Demo</p>	<p><b>Artemis V</b> (Sept. 2029) Crewed Flight SLS Block 1B / Orion / ML2</p> <p>ESPRIT to Gateway DSL to Gateway Gateway External Robotics System TBD Sustaining HLS Crewed Lunar Demo xEVA Surface Suits LTV</p>	<p><b>Artemis VI</b> (Sept. 2030) Crewed Flight SLS Block 1B / Orion / ML2</p> <p>Airlock to Gateway DSL to Gateway TBD Sustaining HLS Services xEVA Surface Suits</p>	<p><b>Artemis VII</b> (Sept. 2031) Crewed Flight SLS Block 1B / Orion / ML2</p> <p>Gateway operations DSL to Gateway TBD Sustaining HLS Services xEVA Surface Suits Pressurized Rover</p>
<b>SOMD</b>	<p>DSN Upgrades (DLEU) Completed DSS-26 [Goldstone]</p>	<p>Completed DSS-36 [Canberra]</p>	<p>DSS-24 [Goldstone] DSS-56 [Madrid]</p>	<p>DSS-34 [Canberra]</p> <p>Lunar Communications Relay and Navigation Increment Alpha</p>	<p>DLEU Overall Completion DSS-54 [Madrid]</p>	<p>Lunar Exploration Ground Sites 1-3 Services (LCRNS) Increment Beta</p>	<p>Increment Charlie</p>	<p>Ongoing Science, Human Research Program, and Technology Development in LEO (ISS transition to CLD)</p>			
<b>SMD</b>	<p>LRO CLPS Flights Outlined</p>		<p>ESCAPADE TO 20A: VIPER</p>	<p>HERMES ready for integration ESA Lunar Pathfinder delivered for launch</p>	<p>LRO continued ops TO CP-21 TO CP-22</p>	<p>Mars Sample Return (MSR): Earth-Return Orbiter (ESA)</p>	<p>Artemis IV Surface Science Instruments MSR Lander: Sample Retrieval Lander; Mars Ascent Vehicle TO CP-42 TO CP-51</p>	<p>Artemis V Surface Science Instruments Artemis LTV Science Instruments TO CP-52</p>	<p>Artemis VI Surface Science Instruments MSR: Mars Ascent Vehicle launch TO CP-61 TO CP-62</p>	<p>Artemis VII Surface Science Instruments Mars 2020 Sample Delivery</p>	
<b>STMD</b>	<p>MOXIE; MEDA LAUNCHED CAPSTONE LAUNCHED LOFTID</p>	<p>TO PRIME-1: Lunar Trailblazer; PRIME-1 Drill; Nokia LTE/4G Comm; IM Deployable Hopper CFM SpaceX TP Flight Demo</p>	<p>Surface Robotic Scouts (CADRE) Preliminary DRACO NTP Engine Design NEP Concept Vehicle Design PPE SEP qual. environ. complete CFM Eta Space TP Flight Demo</p>	<p>CFM Lockheed Martin TP Flight Demo CFM ULA TP Flight Demo</p>	<p>PSI Mini-Suite</p>	<p>TO CT-1: Lunar Surface Power Demo (i.e. RFC, VSAT, Wireless Charging); Lunar Surface Scaled Construction Demo 1; ISRU Pilot Excavator; ISRU Subscale Demo</p>		<p>SEP qual. complete</p>	<p>TO CT-2: Lunar Surface Scaled Construction Demo 2; Autonomous Robotics Demo; Deployable Hopper 2; ISRU Subscale Demo 2 Fission Surface Power demo delivered for launch</p>		

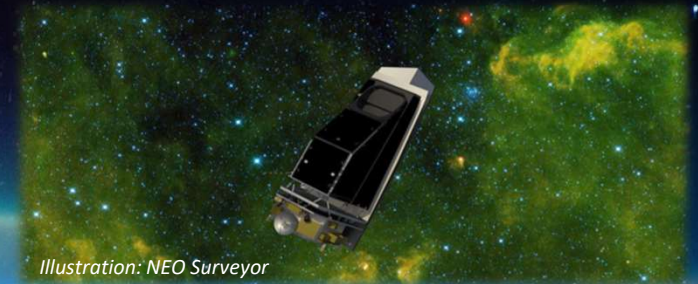
Icons are representative only, and may not reflect final configurations, not to scale | Icons represent the calendar year in which an event occurs | Based on FY 2024 President's budget request





# Protecting Our Home Planet

- NASA uses the vantage point of space and its expertise in aerospace technology innovation to play a vital role in monitoring and protecting the most important planet: Earth.
- This request includes over \$3.3 billion in investments to observe, understand, and protect our home planet:
  - **\$2.5 billion** in Earth Science, investing in the next generation of Landsat satellites, four new Earth System Observatory missions, and making Earth science data available and actionable;
  - **\$570 million** to reduce aviation's climate impact, including a Sustainable Flight National Partnership that will reduce fuel burn by as much as 30 percent; and
  - Nearly **\$300 million** for Planetary defense including the NEO Surveyor mission as well as addressing the growing problem of orbital debris.



*Illustration: NEO Surveyor*



*NASA-Boeing Sustainable Fuel Test / Credits: Boeing*

# NASA's Workforce and Infrastructure Equal Mission Success



Headquarters &  
9 NASA Centers

1 Federally  
Funded R&D  
Center  
(FFRDC)

7 Component Facilities

53,000  
Total Workforce

5,300+  
Assets



- NASA's success is made possible by our world-class workforce and enabled by our physical and core business infrastructure. This request:
  - Provides \$3.4 billion to fund Agency-wide business capabilities, technical oversight, and infrastructure maintenance; and
  - Provides \$454 million to ensure NASA's infrastructure, laboratories, and critical facilities are safe, secure, and mission ready.



# NASA's FY 2024 Budget Request

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024	FY 2024 Request			
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>		FY 2025	FY 2026	FY 2027	FY 2028
<b>Deep Space Exploration Systems</b>	6,855.1	7,468.9	7,971.1	8,130.5	8,293.1	8,459.0	8,628.2
Common Exploration Systems Development	4,590.7	4,737.9	4,525.4	4,241.7	4,009.3	3,557.3	3,529.7
Artemis Campaign Development	2,007.6	2,600.3	3,234.8	3,674.4	4,068.9	4,686.2	4,879.6
Human Exp Requirements & Architecture	0.0		49.1	50.0	50.5	51.0	51.1
Mars Campaign Development	187.4		161.8	164.4	164.4	164.5	167.8
<b>Space Operations</b>	3,974.9	4,250.0	4,534.6	4,625.3	4,717.8	4,812.2	4,908.4
International Space Station	1,261.8		1,302.6	1,302.1	1,302.5	1,302.9	1,321.7
Space Transportation	1,716.9		1,956.7	1,990.6	2,036.2	2,068.7	2,153.4
Space and Flight Support	889.1		1,047.0	1,103.0	1,076.8	1,005.4	995.4
Commercial LEO Development	102.1		228.4	229.6	302.3	435.2	437.8
<b>Space Technology</b>	1,100.0	1,200.0	1,391.6	1,419.4	1,447.8	1,476.8	1,506.3
<b>Science</b>	7,610.9	7,795.0	8,260.8	8,426.0	8,594.5	8,766.4	8,941.7
Earth Science	2,061.2	2,195.0	2,472.8	2,597.5	2,730.0	2,791.2	2,849.0
Planetary Science	3,120.4	3,200.0	3,383.2	3,265.8	3,246.1	3,350.8	3,389.7
Astrophysics	1,568.9	1,510.0	1,557.4	1,622.1	1,665.9	1,689.6	1,749.4
Heliophysics	777.9	805.0	750.9	837.4	847.3	827.4	844.0
Biological and Physical Sciences	82.5	85.0	96.5	103.2	105.3	107.4	109.6
<b>Aeronautics</b>	880.7	935.0	995.8	1,015.7	1,036.0	1,056.7	1,077.8
<b>STEM Engagement</b>	137.0	143.5	157.8	161.0	164.2	167.5	170.9
<b>Safety, Security, and Mission Services</b>	3,020.6	3,129.5	3,369.4	3,436.8	3,505.5	3,575.6	3,647.1
Mission Services & Capabilities	1,987.2		2,259.3	2,304.1	2,350.0	2,397.1	2,445.0
Engineering, Safety, & Operations	1,033.4		1,110.1	1,132.7	1,155.5	1,178.5	1,202.1
<b>Construction and Environmental Compliance &amp; Restoration</b>	416.8	414.3	453.7	462.8	472.1	481.5	491.1
Construction of Facilities	342.1		375.9	383.4	391.1	398.7	406.6
Environmental Compliance and Restoration	74.7		77.8	79.4	81.0	82.8	84.5
<b>Inspector General</b>	45.3	47.6	50.2	51.2	52.2	53.2	54.3
<b>NASA Total</b>	<b>24,041.3</b>	<b>25,383.7</b>	<b>27,185.0</b>	<b>27,728.7</b>	<b>28,283.2</b>	<b>28,848.9</b>	<b>29,425.8</b>

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

3/ - FY 2022 funding includes \$69.4M for Exploration Research & Development in ESDMD and \$5M in Exploration Operations in SOMD.



A composite image of space featuring the Earth on the left, the Moon in the center, and Mars on the right, all set against a starry background. The text "Account Summaries" is overlaid in the center.

# Account Summaries

The NASA logo, consisting of the word "NASA" in a bold, white, sans-serif font, positioned in the bottom right corner of the slide.

NASA



# FY 2024 Budget Request: Exploration

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024 Request				
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Deep Space Exploration Systems</b>	6,855.1	7,468.9	7,971.1	8,130.5	8,293.1	8,459.0	8,628.2
Common Exploration Systems Development	4,590.7	4,737.9	4,525.4	4,241.7	4,009.3	3,557.3	3,529.7
Artemis Campaign Development	2,007.6	2,600.3	3,234.8	3,674.4	4,068.9	4,686.2	4,879.6
Human Exploration Requirements & Architecture	0.0		49.1	50.0	50.5	51.0	51.1
Mars Campaign Development	187.4		161.8	164.4	164.4	164.5	167.8
<b>Space Operations</b>	3,974.9	4,250.0	4,534.6	4,625.3	4,717.8	4,812.2	4,908.4
International Space Station	1,261.8		1,302.6	1,302.1	1,302.5	1,302.9	1,321.7
Space Transportation	1,716.9		1,956.7	1,990.6	2,036.2	2,068.7	2,153.4
Space and Flight Support	889.1		1,047.0	1,103.0	1,076.8	1,005.4	995.4
Commercial LEO Development	102.1		228.4	229.6	302.3	435.2	437.8
<b>Space Technology</b>	1,100.0	1,200.0	1,391.6	1,419.4	1,447.8	1,476.8	1,506.3
<b>Science</b>	7,610.9	7,795.0	8,260.8	8,426.0	8,594.5	8,766.4	8,941.7
Earth Science	2,061.2	2,195.0	2,472.8	2,597.5	2,730.0	2,791.2	2,849.0
Planetary Science	3,120.4	3,200.0	3,383.2	3,265.8	3,246.1	3,350.8	3,389.7
Astrophysics	1,568.9	1,510.0	1,557.4	1,622.1	1,665.9	1,689.6	1,749.4
Heliophysics	777.9	805.0	750.9	837.4	847.3	827.4	844.0
Biological and Physical Sciences	82.5	85.0	96.5	103.2	105.3	107.4	109.6
<b>Aeronautics</b>	880.7	935.0	995.8	1,015.7	1,036.0	1,056.7	1,077.8
<b>STEM Engagement</b>	137.0	143.5	157.8	161.0	164.2	167.5	170.9
<b>Safety, Security, and Mission Services</b>	3,020.6	3,129.5	3,369.4	3,436.8	3,505.5	3,575.6	3,647.1
Mission Services & Capabilities	1,987.2		2,259.3	2,304.1	2,350.0	2,397.1	2,445.0
Engineering, Safety, & Operations	1,033.4		1,110.1	1,132.7	1,155.5	1,178.5	1,202.1
<b>Construction and Environmental Compliance &amp; Restoration</b>	416.8	414.3	453.7	462.8	472.1	481.5	491.1
Construction of Facilities	342.1		375.9	383.4	391.1	398.7	406.6
Environmental Compliance and Restoration	74.7		77.8	79.4	81.0	82.8	84.5
<b>Inspector General</b>	45.3	47.6	50.2	51.2	52.2	53.2	54.3
<b>NASA Total</b>	<b>24,041.3</b>	<b>25,383.7</b>	<b>27,185.0</b>	<b>27,728.7</b>	<b>28,283.2</b>	<b>28,848.9</b>	<b>29,425.8</b>

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

3/ - FY 2022 funding includes \$69.4M for Exploration Research & Development in ESDMD and \$5M in Exploration Operations in SOMD.



# Deep Space Exploration Systems: Common Exploration Systems Development

Budget Authority (\$M)	FY 2022 Enacted <sup>1/</sup>	FY 2023 Enacted <sup>2/</sup>	FY 2024	FY 2024 Request			
				FY 2025	FY 2026	FY 2027	FY 2028
Common Exploration Systems Development	4,590.7	4,737.9	<b>4,525.4</b>	4,241.7	4,009.3	3,557.3	3,529.7

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- Enables the Artemis goal of landing the first woman and first person of color on the Moon's south pole
- \$2,506M for Space Launch System to focus on successful completion of Artemis II and preparation required for Artemis III and IV, which includes the Block 1B configuration and other upgrades
- \$1,225M for the Orion program to finalize assembling and testing the Artemis II crew vehicle and to deliver the system to Exploration Ground Systems at Kennedy Space Center
- \$794M for Exploration Ground Systems to complete preparations for Artemis II and develop the necessary ground systems including the Mobile Launcher 2, required for assembly, test, and launch of SLS Block 1B on Artemis IV

**Strategic Objective(s) Supported: Explore**

- 2.1 Explore the surface of the moon and deep space
- 2.3 Develop capabilities and perform research to safeguard explorers
- 2.4 Enhance space access and services





# Deep Space Exploration Systems: Artemis Campaign Development



Budget Authority (\$M)	FY 2022 Enacted <sup>1/</sup>	FY 2023 Enacted <sup>2/</sup>	FY 2024	FY 2024 Request			
				FY 2025	FY 2026	FY 2027	FY 2028
Artemis Campaign Development	2,007.6	2,600.3	<b>3,234.8</b>	3,674.4	4,068.9	4,686.2	4,879.6

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.



- \$1,881M for the Human Landing System program to develop and deploy multiple landing systems that will transport the first woman and first person of color to the Moon to conduct lunar science, technology demonstrations, and logistics to enable an enduring presence.
- \$914M for Gateway development to support human lunar landings and surface activities
- \$380M for xEVA and Human Surface Mobility Program to develop the surface suits, rovers, and other systems for lunar exploration
- \$60M for Advanced Cislunar and Surface Capabilities to expand scientific understanding and identify technologies for lunar sustainability and future human missions to the Moon and Mars

### Strategic Objective(s) Supported: Explore

- 2.1 Explore the surface of the moon and deep space
- 2.2 Develop a space economy enabled by a commercial market
- 2.3 Develop capabilities and perform research to safeguard explorers
- 2.4 Enhance space access and services

# Deep Space Exploration Systems: Human Exploration Requirements & Architecture



Budget Authority (\$M)	FY 2022	FY 2023	FY 2024	FY 2024 Request			
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>		FY 2025	FY 2026	FY 2027	FY 2028
Human Exp Requirements & Architecture	0.0		<b>49.1</b>	50.0	50.5	51.0	51.1

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.



- \$33M to support strategy and architecture development for Moon and Mars exploration
- \$16M to support systems engineering and integration efforts in support of Moon and Mars architecture development

**Strategic Objective(s) Supported: Explore**

2.3 Develop capabilities and perform research to safeguard explorers



# Deep Space Exploration Systems: Mars Campaign Development

Budget Authority (\$M)	FY 2022 Enacted <sup>1/</sup>	FY 2023 Enacted <sup>2/</sup>	FY 2024	FY 2024 Request			FY 2027	FY 2028
Mars Campaign Development	187.4		161.8	FY 2025	FY 2026	FY 2027	FY 2028	
				164.4	164.4	164.5	167.8	

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.



### Strategic Objective(s) Supported: Explore

2.3 Develop capabilities and perform research to safeguard explorers

- \$132M for Habitation Systems to continue developing key technologies to enable the crews to live and work safely in space, with an initial focus on lunar missions. Activities include life support systems, logistics reduction, food and crew health systems, and radiation measurements and protection.
- \$18M for Crew Health and Performance to continue developing countermeasures such as exercise equipment to maintain crew fitness on long missions; diagnostic sensors for remote medical care; and models of human physiology to predict crew fatigue and injuries when performing extravehicular activities
- \$6M for Exploration Capabilities Core Technology to continue building upon and advancing technologies that will foster a sustainable presence on the Moon and Mars and enable a lasting presence utilizing reusable systems
- \$4M for Robotic Precursors to continue developing small robotic spacecraft and remote sensing instruments to search for lunar resources





# FY 2024 Budget Request: Space Operations

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024 Request				
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Deep Space Exploration Systems</b>	6,855.1	7,468.9	7,971.1	8,130.5	8,293.1	8,459.0	8,628.2
Common Exploration Systems Development	4,590.7	4,737.9	4,525.4	4,241.7	4,009.3	3,557.3	3,529.7
Artemis Campaign Development	2,007.6	2,600.3	3,234.8	3,674.4	4,068.9	4,686.2	4,879.6
Human Exp Requirements & Architecture	0.0		49.1	50.0	50.5	51.0	51.1
Mars Campaign Development	187.4		161.8	164.4	164.4	164.5	167.8
<b>Space Operations</b>	3,974.9	4,250.0	4,534.6	4,625.3	4,717.8	4,812.2	4,908.4
International Space Station	1,261.8		1,302.6	1,302.1	1,302.5	1,302.9	1,321.7
Space Transportation	1,716.9		1,956.7	1,990.6	2,036.2	2,068.7	2,153.4
Space and Flight Support	889.1		1,047.0	1,103.0	1,076.8	1,005.4	995.4
Commercial LEO Development	102.1		228.4	229.6	302.3	435.2	437.8
<b>Space Technology</b>	1,100.0	1,200.0	1,391.6	1,419.4	1,447.8	1,476.8	1,506.3
<b>Science</b>	7,610.9	7,795.0	8,260.8	8,426.0	8,594.5	8,766.4	8,941.7
Earth Science	2,061.2	2,195.0	2,472.8	2,597.5	2,730.0	2,791.2	2,849.0
Planetary Science	3,120.4	3,200.0	3,383.2	3,265.8	3,246.1	3,350.8	3,389.7
Astrophysics	1,568.9	1,510.0	1,557.4	1,622.1	1,665.9	1,689.6	1,749.4
Heliophysics	777.9	805.0	750.9	837.4	847.3	827.4	844.0
Biological and Physical Sciences	82.5	85.0	96.5	103.2	105.3	107.4	109.6
<b>Aeronautics</b>	880.7	935.0	995.8	1,015.7	1,036.0	1,056.7	1,077.8
<b>STEM Engagement</b>	137.0	143.5	157.8	161.0	164.2	167.5	170.9
<b>Safety, Security, and Mission Services</b>	3,020.6	3,129.5	3,369.4	3,436.8	3,505.5	3,575.6	3,647.1
Mission Services & Capabilities	1,987.2		2,259.3	2,304.1	2,350.0	2,397.1	2,445.0
Engineering, Safety, & Operations	1,033.4		1,110.1	1,132.7	1,155.5	1,178.5	1,202.1
<b>Construction and Environmental Compliance &amp; Restoration</b>	416.8	414.3	453.7	462.8	472.1	481.5	491.1
Construction of Facilities	342.1		375.9	383.4	391.1	398.7	406.6
Environmental Compliance and Restoration	74.7		77.8	79.4	81.0	82.8	84.5
<b>Inspector General</b>	45.3	47.6	50.2	51.2	52.2	53.2	54.3
<b>NASA Total</b>	<b>24,041.3</b>	<b>25,383.7</b>	<b>27,185.0</b>	<b>27,728.7</b>	<b>28,283.2</b>	<b>28,848.9</b>	<b>29,425.8</b>

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

3/ - FY 2022 funding includes \$69.4M for Exploration Research & Development in ESDMD and \$5M in Exploration Operations in SOMD.

# Space Operations: International Space Station

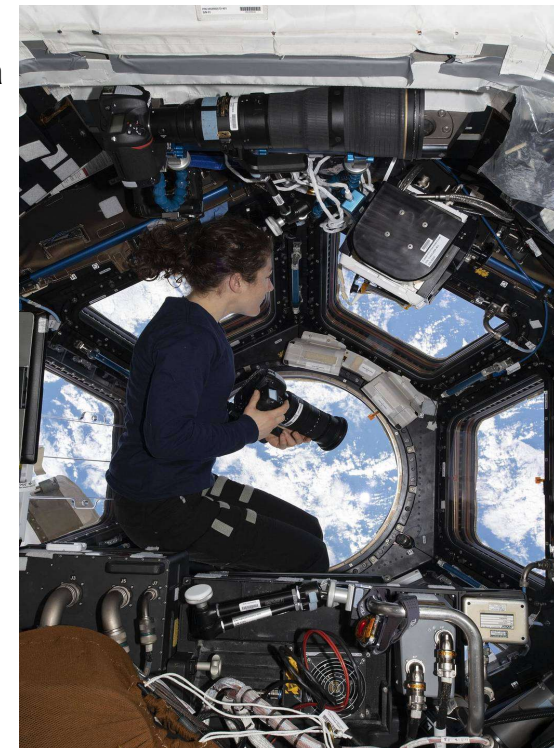


Budget Authority (\$M)	FY 2022	FY 2023	FY 2024	FY 2024 Request			
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>		FY 2025	FY 2026	FY 2027	FY 2028
International Space Station	1,261.8		<b>1,302.6</b>	1,302.1	1,302.5	1,302.9	1,321.7

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- \$1,036M to provide continuous ISS operations, support extension through 2030, and enable a transition to commercial LEO destinations once available
- \$266M to support research and technology demonstrations for long-duration human deep space exploration sponsored by NASA Space Technology and Exploration Systems Development Mission Directorates and the NASA Human Research Program, and basic and Earth science research by NASA Science Mission Directorate
- Enables development and advancement of a commercial ecosystem in low-Earth orbit, including stimulation of non-NASA demand funded by ISS and hosting Commercial LEO Development Program-sponsored activities such as PAMs and CDISS
- Supports the ISS National Laboratory by expanding the breadth of researchers and companies using ISS and enabling new public-private partnerships



## Strategic Objective(s) Supported: Explore

- 2.2 Develop a space economy enabled by a commercial market
- 2.3 Develop capabilities and perform research to safeguard explorers
- 2.4 Enhance space access and services

# Space Operations: Space Transportation



Budget Authority (\$M)	FY 2022	FY 2023	FY 2024 Request				
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Space Transportation	1,716.9		<b>1,956.7</b>	1,990.6	2,036.2	2,068.7	2,153.4

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.



- \$1,856M for the Crew and Cargo Program to provide for a regular cadence of crew rotations and cargo resupply missions to the ISS, contributing to the foundation of a more affordable and sustainable future for American human spaceflight
  - Includes \$180M to partner with industry to develop a U.S. deorbit capability for ISS
- \$101M for Commercial Crew Program to continue NASA's collaboration with the U.S. commercial space industry to certify and maintain insight into the vehicles that transport astronauts into space safely, reliably, and affordably from American soil
- The Suborbital Crew activity will develop a safety case assessment to enable NASA personnel to leverage suborbital human space transportation capabilities

**Strategic Objective(s) Supported: Explore**

- 2.2 Develop a space economy enabled by a commercial market
- 2.4 Enhance space access and services



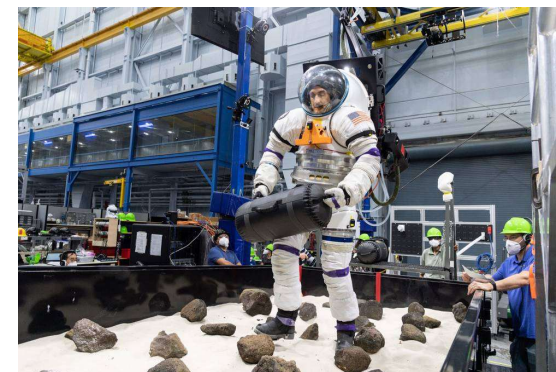
# Space Operations: Space and Flight Support

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024 Request				
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Space and Flight Support	889.1		<b>1,047.0</b>	1,103.0	1,076.8	1,005.4	995.4

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- \$580M for Space Communications and Navigation to provide services for human exploration, science, and crew and cargo missions
- \$154M for Human Research Program for continued research to mitigate risks to astronaut health during long-duration missions
- \$104M for Launch Services to provide safe, reliable, and cost-effective launch vehicle acquisition and advisory services for over 70 NASA spacecraft missions in various phases of development
- \$102M for Human Space Flight Operations to support readiness and crew health for all NASA human space flight endeavors
- \$59M for Communications Services Program to demonstrate commercial communication and data relay services to support future NASA missions
- \$49M for Rocket Propulsion Test to provide NASA's rocket testing capability to meet U.S. rocket testing requirements



**Strategic Objective(s) Supported: Explore, Advance**  
 2.3 Develop capabilities and perform research to safeguard explorers  
 4.2 Transform mission support capabilities for the next era of aerospace





# Space Operations: Commercial LEO Development

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024	FY 2024 Request			
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>		FY 2025	FY 2026	FY 2027	FY 2028
Commercial LEO Development	102.1		<b>228.4</b>	229.6	302.3	435.2	437.8

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

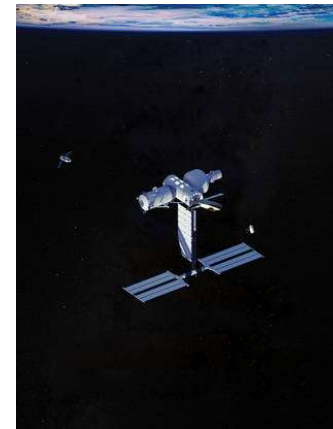
2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- Facilitates the development of safe, reliable, and cost effective privately-owned and operated commercial LEO destinations from which NASA, along with other customers, can purchase services
- Focuses on maintaining a continuous U.S. human presence in LEO after ISS retirement and on providing a microgravity platform to meet NASA research and technology needs
- Currently partnered with four U.S. space companies (Blue Origin, Nanoracks, Northrop Grumman, and Axiom Space) for design maturation and testing of Commercial LEO Destinations
- Enabling Private Astronaut Missions to the ISS and commercial and marketing activities on the ISS in order to mature other potential customers of Commercial LEO Destinations

**Strategic Objective(s) Supported: Explore, Innovate**

2.2 Develop a space economy enabled by a commercial market

3.1 Innovate and advance transformational space technologies



*\*LEO Commercialization Study free flyer concept examples*



# FY 2024 Budget Request: Space Technology

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024 Request				
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Deep Space Exploration Systems</b>	6,855.1	7,468.9	7,971.1	8,130.5	8,293.1	8,459.0	8,628.2
Common Exploration Systems Development	4,590.7	4,737.9	4,525.4	4,241.7	4,009.3	3,557.3	3,529.7
Artemis Campaign Development	2,007.6	2,600.3	3,234.8	3,674.4	4,068.9	4,686.2	4,879.6
Human Exp Requirements & Architecture	0.0		49.1	50.0	50.5	51.0	51.1
Mars Campaign Development	187.4		161.8	164.4	164.4	164.5	167.8
<b>Space Operations</b>	3,974.9	4,250.0	4,534.6	4,625.3	4,717.8	4,812.2	4,908.4
International Space Station	1,261.8		1,302.6	1,302.1	1,302.5	1,302.9	1,321.7
Space Transportation	1,716.9		1,956.7	1,990.6	2,036.2	2,068.7	2,153.4
Space and Flight Support	889.1		1,047.0	1,103.0	1,076.8	1,005.4	995.4
Commercial LEO Development	102.1		228.4	229.6	302.3	435.2	437.8
<b>Space Technology</b>	1,100.0	1,200.0	1,391.6	1,419.4	1,447.8	1,476.8	1,506.3
<b>Science</b>	7,610.9	7,795.0	8,260.8	8,426.0	8,594.5	8,766.4	8,941.7
Earth Science	2,061.2	2,195.0	2,472.8	2,597.5	2,730.0	2,791.2	2,849.0
Planetary Science	3,120.4	3,200.0	3,383.2	3,265.8	3,246.1	3,350.8	3,389.7
Astrophysics	1,568.9	1,510.0	1,557.4	1,622.1	1,665.9	1,689.6	1,749.4
Heliophysics	777.9	805.0	750.9	837.4	847.3	827.4	844.0
Biological and Physical Sciences	82.5	85.0	96.5	103.2	105.3	107.4	109.6
<b>Aeronautics</b>	880.7	935.0	995.8	1,015.7	1,036.0	1,056.7	1,077.8
<b>STEM Engagement</b>	137.0	143.5	157.8	161.0	164.2	167.5	170.9
<b>Safety, Security, and Mission Services</b>	3,020.6	3,129.5	3,369.4	3,436.8	3,505.5	3,575.6	3,647.1
Mission Services & Capabilities	1,987.2		2,259.3	2,304.1	2,350.0	2,397.1	2,445.0
Engineering, Safety, & Operations	1,033.4		1,110.1	1,132.7	1,155.5	1,178.5	1,202.1
<b>Construction and Environmental Compliance &amp; Restoration</b>	416.8	414.3	453.7	462.8	472.1	481.5	491.1
Construction of Facilities	342.1		375.9	383.4	391.1	398.7	406.6
Environmental Compliance and Restoration	74.7		77.8	79.4	81.0	82.8	84.5
<b>Inspector General</b>	45.3	47.6	50.2	51.2	52.2	53.2	54.3
<b>NASA Total</b>	<b>24,041.3</b>	<b>25,383.7</b>	<b>27,185.0</b>	<b>27,728.7</b>	<b>28,283.2</b>	<b>28,848.9</b>	<b>29,425.8</b>

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

3/ - FY 2022 funding includes \$69.4M for Exploration Research & Development in ESDMD and \$5M in Exploration Operations in SOMD.



# Space Technology

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024	FY 2024 Request			
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>		FY 2025	FY 2026	FY 2027	FY 2028
<b>Space Technology</b>	1,100.0	1,200.0	<b>1,391.6</b>	1,419.4	1,447.8	1,476.8	1,506.3

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- Develops, demonstrates, and transfers revolutionary, high payoff technologies that expand the commercial space economy and transform NASA Missions
- \$551M for Technology Demonstration to conduct ground-based testing and space flight technology demonstrations such as: Solar Electric Propulsion, OSAM-1, Cryogenic Fluid Management, Fission Surface Power, Space Nuclear Propulsion, Flight Opportunities and Small Spacecraft Technologies
- \$402M for Technology Maturation to advance revolutionary disruptive exploration technologies from proof of concept to demonstration, maturing transformational and foundational technologies such as a lunar deployable hopper, 4G/Wireless communications, Sustainable Exploration such as ISRU, autonomous operations, space transportation, and Entry Descent and Landing technologies
- \$138M for Early-Stage Innovation and Partnerships to capitalize on innovation by sourcing ideas from a broad, diverse base of innovators including our brightest minds in academia and transferring space technology into the space economy
- \$300M for Small Business Innovation Research and Technology Transfer to leverage the Nation's innovative small business community to conduct research and development in support of NASA.



Image Credit: DARPA



Image Credit: Intuitive Machines

**Strategic Objective(s) Supported: Innovate, Advance**  
 3.1 Innovate and advance transformational space technologies  
 4.1 Attract and develop a talented and diverse workforce



# FY 2023 Budget Request: Science

Budget Authority (\$M)	FY 2022 Enacted <sup>1/</sup>	FY 2023 Enacted <sup>2/</sup>	FY 2024 Request				
			FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Deep Space Exploration Systems</b>	6,855.1	7,468.9	7,971.1	8,130.5	8,293.1	8,459.0	8,628.2
Common Exploration Systems Development	4,590.7	4,737.9	4,525.4	4,241.7	4,009.3	3,557.3	3,529.7
Artemis Campaign Development	2,007.6	2,600.3	3,234.8	3,674.4	4,068.9	4,686.2	4,879.6
Human Exp Requirements & Architecture	0.0		49.1	50.0	50.5	51.0	51.1
Mars Campaign Development	187.4		161.8	164.4	164.4	164.5	167.8
<b>Space Operations</b>	3,974.9	4,250.0	4,534.6	4,625.3	4,717.8	4,812.2	4,908.4
International Space Station	1,261.8		1,302.6	1,302.1	1,302.5	1,302.9	1,321.7
Space Transportation	1,716.9		1,956.7	1,990.6	2,036.2	2,068.7	2,153.4
Space and Flight Support	889.1		1,047.0	1,103.0	1,076.8	1,005.4	995.4
Commercial LEO Development	102.1		228.4	229.6	302.3	435.2	437.8
<b>Space Technology</b>	1,100.0	1,200.0	1,391.6	1,419.4	1,447.8	1,476.8	1,506.3
<b>Science</b>	7,610.9	7,795.0	8,260.8	8,426.0	8,594.5	8,766.4	8,941.7
Earth Science	2,061.2	2,195.0	2,472.8	2,597.5	2,730.0	2,791.2	2,849.0
Planetary Science	3,120.4	3,200.0	3,383.2	3,265.8	3,246.1	3,350.8	3,389.7
Astrophysics	1,568.9	1,510.0	1,557.4	1,622.1	1,665.9	1,689.6	1,749.4
Heliophysics	777.9	805.0	750.9	837.4	847.3	827.4	844.0
Biological and Physical Sciences	82.5	85.0	96.5	103.2	105.3	107.4	109.6
<b>Aeronautics</b>	880.7	935.0	995.8	1,015.7	1,036.0	1,056.7	1,077.8
<b>STEM Engagement</b>	137.0	143.5	157.8	161.0	164.2	167.5	170.9
<b>Safety, Security, and Mission Services</b>	3,020.6	3,129.5	3,369.4	3,436.8	3,505.5	3,575.6	3,647.1
Mission Services & Capabilities	1,987.2		2,259.3	2,304.1	2,350.0	2,397.1	2,445.0
Engineering, Safety, & Operations	1,033.4		1,110.1	1,132.7	1,155.5	1,178.5	1,202.1
<b>Construction and Environmental Compliance &amp; Restoration</b>	416.8	414.3	453.7	462.8	472.1	481.5	491.1
Construction of Facilities	342.1		375.9	383.4	391.1	398.7	406.6
Environmental Compliance and Restoration	74.7		77.8	79.4	81.0	82.8	84.5
<b>Inspector General</b>	45.3	47.6	50.2	51.2	52.2	53.2	54.3
<b>NASA Total</b>	<b>24,041.3</b>	<b>25,383.7</b>	<b>27,185.0</b>	<b>27,728.7</b>	<b>28,283.2</b>	<b>28,848.9</b>	<b>29,425.8</b>

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

3/ - FY 2022 funding includes \$69.4M for Exploration Research & Development in ESDMD and \$5M in Exploration Operations in SOMD.



# Science: Earth Science

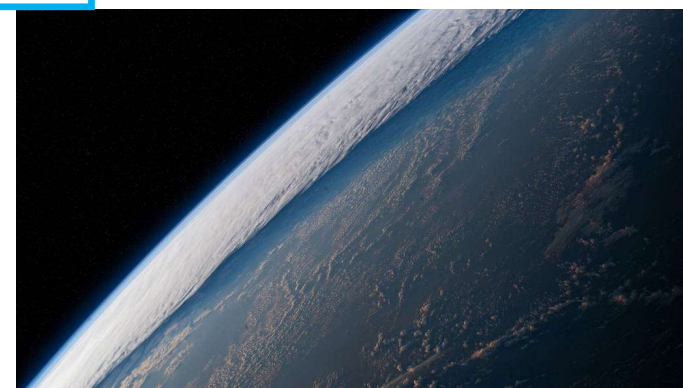


Budget Authority (\$M)	FY 2022	FY 2023	FY 2024	FY 2024 Request			FY 2027	FY 2028
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>		FY 2025	FY 2026			
Earth Science	2,061.2	2,195.0	<b>2,472.8</b>	2,597.5	2,730.0		2,791.2	2,849.0

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- \$292M supports implementation of four Earth System Observatory missions, to enhance understanding of Earth systems and observe the effects of climate change
- Over \$450M for research and applied sciences to advance our scientific understanding of Earth as a system and its response to natural and human-induced changes and to improve our ability to predict climate impacts, weather, and natural hazards
- \$203M supports near-term launch of high priority missions such as PACE, CLARREO Pathfinder, and NISAR
- \$96M to initiate the Landsat Next mission, which will ensure continuity of the longest space-based record of Earth's land surface and will provide new capabilities for the next generation of Landsat users
- Advance greenhouse gas measurement strategies through domestic and international partnerships, including data integration, tool/technology development, and competed research
- Supports implementation of open-source science principles across SMD to accelerate scientific discovery and expand access to scientific knowledge produced by NASA



## Strategic Objective(s) Supported: Discover, Advance

- 1.1 Understand the Earth system and its climate
- 1.2 Understand the sun, solar system, and universe
- 1.3 Ensure NASA's science data are accessible to all and produce practical benefits to society
- 4.3 Build the next generation of explorers



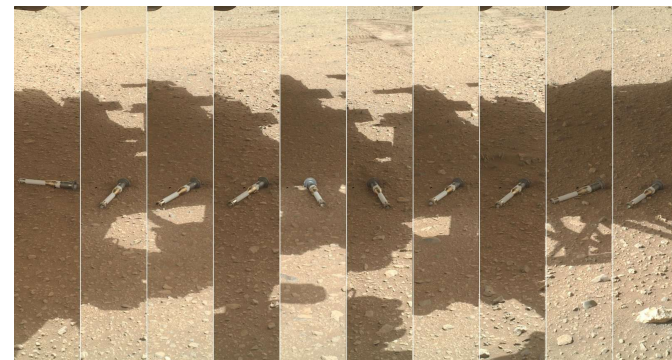
# Science: Planetary Science

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024	FY 2024 Request			
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>		FY 2025	FY 2026	FY 2027	FY 2028
Planetary Science	3,120.4	3,200.0	<b>3,383.2</b>	3,265.8	3,246.1	3,350.8	3,389.7

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- \$949M to continue progress on the Mars Sample Return (MSR) mission to bring the first samples of Mars material back to Earth for detailed study, including samples already collected and cached by the Mars Perseverance rover. MSR costs may increase beyond the current outyear profile, which would require either reduced funding for other Science activities or descoping of this mission.
- \$692M for development of high priority missions including Europa Clipper, a spacecraft to Jupiter's moon Europa; VIPER, a lunar rover to investigate volatiles on the South Pole of the Moon; and Dragonfly a rotorcraft lander mission to study Titan, the largest moon of Saturn
- \$210M to continue development of the Near-Earth Object Surveyor mission for launch in 2028, a planetary defense mission that will detect, track, and characterize impact hazards from asteroids and comets
- Support at least two CLPS deliveries of science instrument suites per year starting in FY 2023 and provide innovative investigations to enhance lunar exploration and science on Artemis missions
- \$248M for investments in a competitive Discovery program
- Continue support of key international partnerships: European Space Agency's EnVision, JUICE and ExoMars missions and the JAXA MMX mission



## Strategic Objective(s) Supported: Discover, Advance

- 1.2 Understand the sun, solar system, and universe
- 1.3 Ensure NASA's science data are accessible to all and produce practical benefits to society
- 4.3 Build the next generation of explorers

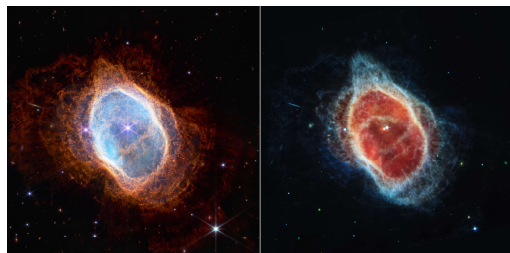
# Science: Astrophysics



Budget Authority (\$M)	FY 2022	FY 2023	FY 2024	FY 2024 Request			FY 2027	FY 2028
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>		FY 2025	FY 2026			
Astrophysics	1,568.9	1,510.0	<b>1,557.4</b>	1,622.1	1,665.9		1,689.6	1,749.4

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.



- \$349M supports the operation of Great Observatories such as the James Webb Space Telescope, the Hubble Space Telescope, and the Chandra X-ray Observatory
- \$407M for continued development of the Nancy Grace Roman Space telescope for launch in 2027, a mission designed to unravel the secrets of dark energy and dark matter, search for and image exoplanets, and explore many topics in infrared astrophysics
- \$259M supports a competed Explorer program, with new selections about every three years
- Provides \$39M over the next two fiscal years for responsible closeout of the SOFIA mission, including dispositioning of assets and archiving of science data
- Supports initial Astrophysics Probe mission selections, consistent with Decadal Survey recommendation for competed missions intended to fill the gap between large flagship missions and smaller Explorer-class spacecraft

**Strategic Objective(s) Supported: Discover, Advance**

- 1.2 Understand the sun, solar system, and universe
- 1.3 Ensure NASA's science data are accessible to all and produce practical benefits to society
- 4.3 Build the next generation of explorers





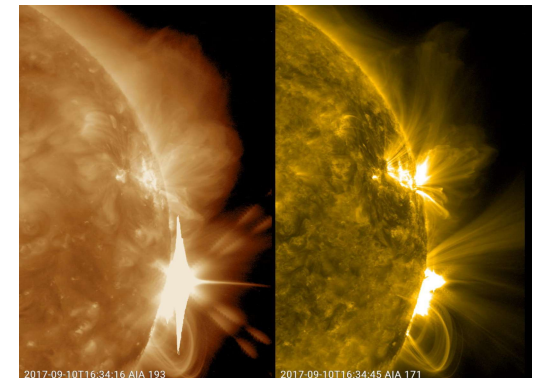
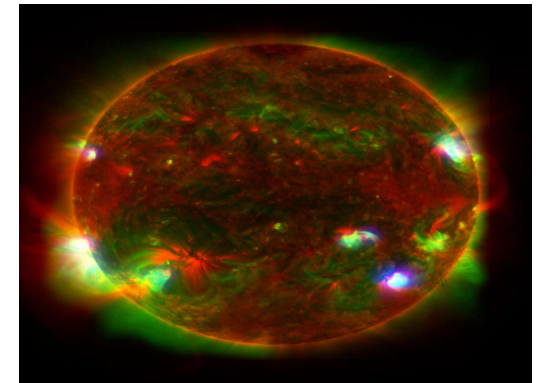
# Science: Heliophysics

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024	FY 2024 Request			
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	750.9	FY 2025	FY 2026	FY 2027	FY 2028
Heliophysics	777.9	805.0	750.9	837.4	847.3	827.4	844.0

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- \$191M to support a competitive Explorer program with a robust cadence of future mission launches, including the newly selected missions MUSE and HelioSwarm
- \$140M supports continued development of the Interstellar Mapping and Acceleration Probe (IMAP) for launch in 2025, to help researchers better understand the boundary of the heliosphere
- \$27M for Space Weather investigations and research to enable the Nation to better protect technology, national infrastructure, and astronauts from space weather, including the HERMES instrument, a space weather payload on the Gateway
- Orbital Debris and Space Situational Awareness investments to address gaps in orbital object detection and gaps in our scientific understanding of their interactions with the environment
- Support implementation of 3 DRIVE centers within R&A to make significant progress in understanding complex physical processes with broad importance, a Decadal Survey recommendation
- Pauses further development of the Geospace Dynamics Constellation pending recommendations from the 2024 Heliophysics Decadal to accommodate other priorities within the Science portfolio



### Strategic Objective(s) Supported: Discover, Advance

1.2 Understand the sun, solar system, and universe

1.3 Ensure NASA's science data are accessible to all and produce practical benefits to society

4.3 Build the next generation of explorers





# Science: Biological and Physical Sciences

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024	FY 2024 Request			FY 2027	FY 2028
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>		FY 2025	FY 2026			
Biological and Physical Sciences	82.5	85.0	<b>96.5</b>	103.2	105.3		107.4	109.6

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- Supports compelling research in space to obtain critical insights into how biological and physical systems function in ways not possible on Earth
- \$14M funds new Commercially Enabled Rapid Space Science initiative to develop transformative research capabilities with commercial space industry partners to dramatically increase the pace of research; includes the use of human-tended commercial platforms via “Private Astronaut Missions”
- Continued annual solicitations for transformative research in Space Biology (\$35M) and Physical Sciences (\$38M), including emphasis areas in Thriving in Deep Space and Quantum Science
- Planning for a broad range of research platforms including the ISS, suborbital and new Commercial LEO Destinations



**Strategic Objective(s) Supported: Discover, Explore, Advance**

- 1.3 Ensure NASA's science data are accessible to all and produce practical benefits to society
- 2.3 Develop capabilities and perform research to safeguard explorers
- 4.1 Attract and develop a talented and diverse workforce



# FY 2024 Budget Request: Aeronautics

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024 Request				
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Deep Space Exploration Systems</b>	6,855.1	7,468.9	7,971.1	8,130.5	8,293.1	8,459.0	8,628.2
Common Exploration Systems Development	4,590.7	4,737.9	4,525.4	4,241.7	4,009.3	3,557.3	3,529.7
Artemis Campaign Development	2,007.6	2,600.3	3,234.8	3,674.4	4,068.9	4,686.2	4,879.6
Human Exp Requirements & Architecture	0.0		49.1	50.0	50.5	51.0	51.1
Mars Campaign Development	187.4		161.8	164.4	164.4	164.5	167.8
<b>Space Operations</b>	3,974.9	4,250.0	4,534.6	4,625.3	4,717.8	4,812.2	4,908.4
International Space Station	1,261.8		1,302.6	1,302.1	1,302.5	1,302.9	1,321.7
Space Transportation	1,716.9		1,956.7	1,990.6	2,036.2	2,068.7	2,153.4
Space and Flight Support	889.1		1,047.0	1,103.0	1,076.8	1,005.4	995.4
Commercial LEO Development	102.1		228.4	229.6	302.3	435.2	437.8
<b>Space Technology</b>	1,100.0	1,200.0	1,391.6	1,419.4	1,447.8	1,476.8	1,506.3
<b>Science</b>	7,610.9	7,795.0	8,260.8	8,426.0	8,594.5	8,766.4	8,941.7
Earth Science	2,061.2	2,195.0	2,472.8	2,597.5	2,730.0	2,791.2	2,849.0
Planetary Science	3,120.4	3,200.0	3,383.2	3,265.8	3,246.1	3,350.8	3,389.7
Astrophysics	1,568.9	1,510.0	1,557.4	1,622.1	1,665.9	1,689.6	1,749.4
Heliophysics	777.9	805.0	750.9	837.4	847.3	827.4	844.0
Biological and Physical Sciences	82.5	85.0	96.5	103.2	105.3	107.4	109.6
<b>Aeronautics</b>	880.7	935.0	995.8	1,015.7	1,036.0	1,056.7	1,077.8
<b>STEM Engagement</b>	137.0	143.5	157.8	161.0	164.2	167.5	170.9
<b>Safety, Security, and Mission Services</b>	3,020.6	3,129.5	3,369.4	3,436.8	3,505.5	3,575.6	3,647.1
Mission Services & Capabilities	1,987.2		2,259.3	2,304.1	2,350.0	2,397.1	2,445.0
Engineering, Safety, & Operations	1,033.4		1,110.1	1,132.7	1,155.5	1,178.5	1,202.1
<b>Construction and Environmental Compliance &amp; Restoration</b>	416.8	414.3	453.7	462.8	472.1	481.5	491.1
Construction of Facilities	342.1		375.9	383.4	391.1	398.7	406.6
Environmental Compliance and Restoration	74.7		77.8	79.4	81.0	82.8	84.5
<b>Inspector General</b>	45.3	47.6	50.2	51.2	52.2	53.2	54.3
<b>NASA Total</b>	<b>24,041.3</b>	<b>25,383.7</b>	<b>27,185.0</b>	<b>27,728.7</b>	<b>28,283.2</b>	<b>28,848.9</b>	<b>29,425.8</b>

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

3/ - FY 2022 funding includes \$69.4M for Exploration Research & Development in ESDMD and \$5M in Exploration Operations in SOMD.



# Aeronautics

Budget Authority (\$M)	FY 2022	FY 2023		FY 2024 Request			
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Aeronautics</b>	880.7	935.0	<b>995.8</b>	1,015.7	1,036.0	1,056.7	1,077.8

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- \$265M for Integrated Aviation Systems to demonstrate transformational in-flight technologies for improved efficiency and reduced noise and emissions, including the X-59 Low Boom Flight Demonstrator, X-57 Maxwell all-electric aircraft, Electrified Powertrain Flight Demonstrations, and Sustainable Flight Demonstrator
- \$295M for Advanced Air Vehicles to conduct research to meet the Nation's growing long-term civil aviation needs such as more efficient aircraft and propulsion technologies to improve efficiency and reduce carbon emissions from aviation as well as to advance long-term opportunities for supersonic and hypersonic flight
- \$160M for Transformative Aero Concepts to support revolutionary aviation concepts and university research, including research on zero-emissions aviation
- \$159M for Airspace Operations and Safety to work with the Federal Aviation Administration to modernize and transform the national air traffic management system
- \$117M for Aerosciences Evaluation and Test Capabilities to support critical national ground test infrastructure



X-59 Low Boom Flight Demonstrator



Sustainable Flight Demonstrator Credit: Boeing

**Strategic Objective(s) Supported: Innovate, Advance**  
 3.2 Drive efficient and sustainable aviation  
 4.2 Transform mission support capabilities for the next era of aerospace





# FY 2024 Budget Request: STEM Engagement

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024 Request				
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Deep Space Exploration Systems</b>	6,855.1	7,468.9	7,971.1	8,130.5	8,293.1	8,459.0	8,628.2
Common Exploration Systems Development	4,590.7	4,737.9	4,525.4	4,241.7	4,009.3	3,557.3	3,529.7
Artemis Campaign Development	2,007.6	2,600.3	3,234.8	3,674.4	4,068.9	4,686.2	4,879.6
Human Exp Requirements & Architecture	0.0		49.1	50.0	50.5	51.0	51.1
Mars Campaign Development	187.4		161.8	164.4	164.4	164.5	167.8
<b>Space Operations</b>	3,974.9	4,250.0	4,534.6	4,625.3	4,717.8	4,812.2	4,908.4
International Space Station	1,261.8		1,302.6	1,302.1	1,302.5	1,302.9	1,321.7
Space Transportation	1,716.9		1,956.7	1,990.6	2,036.2	2,068.7	2,153.4
Space and Flight Support	889.1		1,047.0	1,103.0	1,076.8	1,005.4	995.4
Commercial LEO Development	102.1		228.4	229.6	302.3	435.2	437.8
<b>Space Technology</b>	1,100.0	1,200.0	1,391.6	1,419.4	1,447.8	1,476.8	1,506.3
<b>Science</b>	7,610.9	7,795.0	8,260.8	8,426.0	8,594.5	8,766.4	8,941.7
Earth Science	2,061.2	2,195.0	2,472.8	2,597.5	2,730.0	2,791.2	2,849.0
Planetary Science	3,120.4	3,200.0	3,383.2	3,265.8	3,246.1	3,350.8	3,389.7
Astrophysics	1,568.9	1,510.0	1,557.4	1,622.1	1,665.9	1,689.6	1,749.4
Heliophysics	777.9	805.0	750.9	837.4	847.3	827.4	844.0
Biological and Physical Sciences	82.5	85.0	96.5	103.2	105.3	107.4	109.6
<b>Aeronautics</b>	880.7	935.0	995.8	1,015.7	1,036.0	1,056.7	1,077.8
<b>STEM Engagement</b>	137.0	143.5	157.8	161.0	164.2	167.5	170.9
<b>Safety, Security, and Mission Services</b>	3,020.6	3,129.5	3,369.4	3,436.8	3,505.5	3,575.6	3,647.1
Mission Services & Capabilities	1,987.2		2,259.3	2,304.1	2,350.0	2,397.1	2,445.0
Engineering, Safety, & Operations	1,033.4		1,110.1	1,132.7	1,155.5	1,178.5	1,202.1
<b>Construction and Environmental Compliance &amp; Restoration</b>	416.8	414.3	453.7	462.8	472.1	481.5	491.1
Construction of Facilities	342.1		375.9	383.4	391.1	398.7	406.6
Environmental Compliance and Restoration	74.7		77.8	79.4	81.0	82.8	84.5
<b>Inspector General</b>	45.3	47.6	50.2	51.2	52.2	53.2	54.3
<b>NASA Total</b>	<b>24,041.3</b>	<b>25,383.7</b>	<b>27,185.0</b>	<b>27,728.7</b>	<b>28,283.2</b>	<b>28,848.9</b>	<b>29,425.8</b>

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

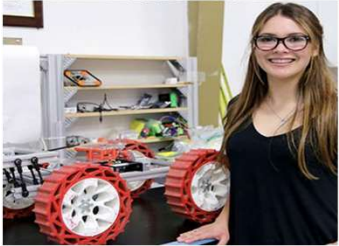
3/ - FY 2022 funding includes \$69.4M for Exploration Research & Development in ESDMD and \$5M in Exploration Operations in SOMD.



# STEM Engagement

Budget Authority (\$M)	FY2022	FY 2023	FY 2024	FY 2024 Request			
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>		FY 2025	FY 2026	FY 2027	FY 2028
<b>STEM Engagement</b>	137.0	143.5	<b>157.8</b>	161.0	164.2	167.5	170.9

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.  
2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.



- \$58 million for NASA Space Grants. This maintains Consortium base award funding at \$910,000.
- \$48.1 million for Minority University Research Education Program (MUREP) to implement multiple competitive award opportunities, including leading the formation of a HBCU-focused element designed to strengthen STEM research, faculty development, and student success.
- \$26 million for Established Program to Stimulate Competitive Research (EPSCOR) to execute its multiple competitive awards portfolio and partnership with the National Science Foundation.
- \$25.7 million for Next-Gen STEM to expand partnerships and enhance platforms that will increase the reach and effectiveness of K-12 STEM programming, with a focus on underserved and underrepresented student groups.

**Strategic Objective(s) Supported: Discover, Explore, Innovate, Advance**

- 4.1 Attract and develop a talented and diverse workforce
- 4.3 Build the next generation of explorers



# FY 2024 Budget Request: SSMS and CECR

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024 Request				
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Deep Space Exploration Systems</b>	6,855.1	7,468.9	7,971.1	8,130.5	8,293.1	8,459.0	8,628.2
Common Exploration Systems Development	4,590.7	4,737.9	4,525.4	4,241.7	4,009.3	3,557.3	3,529.7
Artemis Campaign Development	2,007.6	2,600.3	3,234.8	3,674.4	4,068.9	4,686.2	4,879.6
Human Exp Requirements & Architecture	0.0		49.1	50.0	50.5	51.0	51.1
Mars Campaign Development	187.4		161.8	164.4	164.4	164.5	167.8
<b>Space Operations</b>	3,974.9	4,250.0	4,534.6	4,625.3	4,717.8	4,812.2	4,908.4
International Space Station	1,261.8		1,302.6	1,302.1	1,302.5	1,302.9	1,321.7
Space Transportation	1,716.9		1,956.7	1,990.6	2,036.2	2,068.7	2,153.4
Space and Flight Support	889.1		1,047.0	1,103.0	1,076.8	1,005.4	995.4
Commercial LEO Development	102.1		228.4	229.6	302.3	435.2	437.8
<b>Space Technology</b>	1,100.0	1,200.0	1,391.6	1,419.4	1,447.8	1,476.8	1,506.3
<b>Science</b>	7,610.9	7,795.0	8,260.8	8,426.0	8,594.5	8,766.4	8,941.7
Earth Science	2,061.2	2,195.0	2,472.8	2,597.5	2,730.0	2,791.2	2,849.0
Planetary Science	3,120.4	3,200.0	3,383.2	3,265.8	3,246.1	3,350.8	3,389.7
Astrophysics	1,568.9	1,510.0	1,557.4	1,622.1	1,665.9	1,689.6	1,749.4
Heliophysics	777.9	805.0	750.9	837.4	847.3	827.4	844.0
Biological and Physical Sciences	82.5	85.0	96.5	103.2	105.3	107.4	109.6
<b>Aeronautics</b>	880.7	935.0	995.8	1,015.7	1,036.0	1,056.7	1,077.8
<b>STEM Engagement</b>	137.0	143.5	157.8	161.0	164.2	167.5	170.9
<b>Safety, Security, and Mission Services</b>	3,020.6	3,129.5	3,369.4	3,436.8	3,505.5	3,575.6	3,647.1
Mission Services & Capabilities	1,987.2		2,259.3	2,304.1	2,350.0	2,397.1	2,445.0
Engineering, Safety, & Operations	1,033.4		1,110.1	1,132.7	1,155.5	1,178.5	1,202.1
<b>Construction and Environmental Compliance &amp; Restoration</b>	416.8	414.3	453.7	462.8	472.1	481.5	491.1
Construction of Facilities	342.1		375.9	383.4	391.1	398.7	406.6
Environmental Compliance and Restoration	74.7		77.8	79.4	81.0	82.8	84.5
<b>Inspector General</b>	45.3	47.6	50.2	51.2	52.2	53.2	54.3
<b>NASA Total</b>	<b>24,041.3</b>	<b>25,383.7</b>	<b>27,185.0</b>	<b>27,728.7</b>	<b>28,283.2</b>	<b>28,848.9</b>	<b>29,425.8</b>

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

3/ - FY 2022 funding includes \$69.4M for Exploration Research & Development in ESDMD and \$5M in Exploration Operations in SOMD.



# Safety, Security, and Mission Services

Budget Authority (\$M)	FY 2022 Enacted <sup>1/</sup>	FY 2023 Enacted <sup>2/</sup>	FY 2024	FY 2024 Request			
				FY 2025	FY 2026	FY 2027	FY 2028
<b>Safety, Security, and Mission Services</b>	3,020.6	3,129.5	<b>3,369.4</b>	3,436.8	3,505.5	3,575.6	3,647.1
Mission Services & Capabilities	1,987.2		<b>2,259.3</b>	2,304.1	2,350.0	2,397.1	2,445.0
Engineering, Safety, & Operations	1,033.4		<b>1,110.1</b>	1,132.7	1,155.5	1,178.5	1,202.1

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.



- SSMS provides the critical business, infrastructure, and technical capabilities required to enable mission success across all NASA programs and projects
- \$910M for NASA Centers' Engineering, Safety, and Operations
- \$802M for Mission Enabling Services, which provides an enterprise approach to managing NASA's business operations and mission support activities
  - \$22M for the Office of Diversity and Equal Opportunity, which includes NASA's diversity and equal opportunity enterprise efforts to prioritize advancing equity, civil rights, racial justice, and equal opportunity in accordance with NASA's Equity and DEIA Strategic Plan
- \$775M for Infrastructure and Technical Capabilities across NASA
- \$682M for the Information Technology Program to modernize IT capabilities and provide strategic cybersecurity risk management
- \$200M for Agency Technical Authority to ensure safety and mission success

**Strategic Objective(s) Supported: Advance**

- 2.2 Develop a space economy enabled by a commercial market
- 4.1 Attract and develop a talented and diverse workforce
- 4.2 Transform mission support capabilities for the next era of aerospace





# Construction & Environmental Compliance & Restoration

Budget Authority (\$M)	FY 2022 Enacted <sup>1/</sup>	FY 2023 Enacted <sup>2/</sup>	FY 2024	FY 2024 Request			
				FY 2025	FY 2026	FY 2027	FY 2028
<b>Construction and Environmental Compliance &amp; Restoration</b>	416.8	414.3	<b>453.7</b>	462.8	472.1	481.5	491.1
Construction of Facilities	342.1		<b>375.9</b>	383.4	391.1	398.7	406.6
Environmental Compliance and Restoration	<b>74.7</b>		<b>77.8</b>	79.4	81.0	82.8	84.5

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

- \$336M to construct, repair, and revitalize institutional infrastructure that support capabilities across all centers
- \$78M to maintain NASA's strategy commitment to environmental stewardship responsibilities
- \$29M to support Space Operations mission work, including Space Communications and Navigation (SCaN), the International Space Station (ISS) program, and the Launch Services Program (LSP)
- \$11M to support Exploration mission work, including the Space Launch System (SLS), Orion, and Exploration Ground Systems (EGS) programs.
- NASA uses a risk management approach to balance maintenance, repair, and construction activities in context of a growing backlog of deferred maintenance
- CECR construction and repair activities are balanced with SSMS maintenance activities to ensure mission readiness

**Strategic Objective(s) Supported: Advance**  
 4.2 Transform mission support capabilities for the next era of aerospace

Category	Definition	Image
<b>Repair</b>	Fix something broken or degraded to restore function.	<p>Sewage    HVAC    Water    Electric</p>
<b>Modernization</b>	Revitalize existing and outdated infrastructure with upgrades/updates that improve outcomes and reduce risks.	<p>Lab Spaces Antiquated to Modern</p>
<b>Recapitalization</b>	Replace degraded facilities and consolidate to new facilities, leading to demolition and footprint reduction.	<p>Goddard Flight Projects Building Dilapidated to Modern</p>
<b>New Capability</b>	Construct new capabilities that enable next-generation discoveries and advances.	<p>LaRC Flight Dynamics Research Facility New <i>(artist rendering of the coming project)</i></p>



# FY 2024 Budget Request: Inspector General

Budget Authority (\$M)	FY 2022	FY 2023	FY 2024 Request				
	Enacted <sup>1/</sup>	Enacted <sup>2/</sup>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Deep Space Exploration Systems</b>	6,855.1	7,468.9	7,971.1	8,130.5	8,293.1	8,459.0	8,628.2
Common Exploration Systems Development	4,590.7	4,737.9	4,525.4	4,241.7	4,009.3	3,557.3	3,529.7
Artemis Campaign Development	2,007.6	2,600.3	3,234.8	3,674.4	4,068.9	4,686.2	4,879.6
Human Exp Requirements & Architecture	0.0		49.1	50.0	50.5	51.0	51.1
Mars Campaign Development	187.4		161.8	164.4	164.4	164.5	167.8
<b>Space Operations</b>	3,974.9	4,250.0	4,534.6	4,625.3	4,717.8	4,812.2	4,908.4
International Space Station	1,261.8		1,302.6	1,302.1	1,302.5	1,302.9	1,321.7
Space Transportation	1,716.9		1,956.7	1,990.6	2,036.2	2,068.7	2,153.4
Space and Flight Support	889.1		1,047.0	1,103.0	1,076.8	1,005.4	995.4
Commercial LEO Development	102.1		228.4	229.6	302.3	435.2	437.8
<b>Space Technology</b>	1,100.0	1,200.0	1,391.6	1,419.4	1,447.8	1,476.8	1,506.3
<b>Science</b>	7,610.9	7,795.0	8,260.8	8,426.0	8,594.5	8,766.4	8,941.7
Earth Science	2,061.2	2,195.0	2,472.8	2,597.5	2,730.0	2,791.2	2,849.0
Planetary Science	3,120.4	3,200.0	3,383.2	3,265.8	3,246.1	3,350.8	3,389.7
Astrophysics	1,568.9	1,510.0	1,557.4	1,622.1	1,665.9	1,689.6	1,749.4
Heliophysics	777.9	805.0	750.9	837.4	847.3	827.4	844.0
Biological and Physical Sciences	82.5	85.0	96.5	103.2	105.3	107.4	109.6
<b>Aeronautics</b>	880.7	935.0	995.8	1,015.7	1,036.0	1,056.7	1,077.8
<b>STEM Engagement</b>	137.0	143.5	157.8	161.0	164.2	167.5	170.9
<b>Safety, Security, and Mission Services</b>	3,020.6	3,129.5	3,369.4	3,436.8	3,505.5	3,575.6	3,647.1
Mission Services & Capabilities	1,987.2		2,259.3	2,304.1	2,350.0	2,397.1	2,445.0
Engineering, Safety, & Operations	1,033.4		1,110.1	1,132.7	1,155.5	1,178.5	1,202.1
<b>Construction and Environmental Compliance &amp; Restoration</b>	416.8	414.3	453.7	462.8	472.1	481.5	491.1
Construction of Facilities	342.1		375.9	383.4	391.1	398.7	406.6
Environmental Compliance and Restoration	74.7		77.8	79.4	81.0	82.8	84.5
<b>Inspector General</b>	45.3	47.6	50.2	51.2	52.2	53.2	54.3
<b>NASA Total</b>	<b>24,041.3</b>	<b>25,383.7</b>	<b>27,185.0</b>	<b>27,728.7</b>	<b>28,283.2</b>	<b>28,848.9</b>	<b>29,425.8</b>

1/ - FY 2022 reflects funding amounts specified in Public Law 117-103, Consolidated Appropriations Act, 2022, as adjusted by NASA's FY 2022 Operating Plan, August 2022.

2/ - FY 2023 reflects funding amounts specified in Public Law 117-328, Consolidated Appropriations Act, 2023.

3/ - FY 2022 funding includes \$69.4M for Exploration Research & Development in ESDMD and \$5M in Exploration Operations in SOMD.



# NASA Mission Planning Manifest: FY 2023 – FY 2028



- NASA Mission on US Commercial Launch Vehicle
  - Reimbursable Mission for NOAA
  - Joint NASA-Int'l Partner Mission
  - Int'l Mission with NASA contribution
  - Joint NASA/Industry Collaboration
  - Artemis Mission
  - Commercial Crew Mission to ISS
  - Commercial Resupply Services Mission to ISS
  - Aeronautics Mission
  - Protecting Our Planet
  - Moon-Mars Missions
- U/R Under Review

\* Cubesat Missions

\*\*\* Instrument only

\*\*\*\* NASA does not directly manage/control CLPS missions or the AX missions. LRDs reflected are current estimates

+ Future provider unknown, will be updated after award of mission

Δ Readiness Date

✓ Mission successfully launched

***With this budget, NASA will support 148 total missions: 20 crewed, 49 Moon-to-Mars, 66 Science, 32 Protecting Our Planet, 13 ISS Crew Rotation, 30 ISS Resupply, & 19 Technology Missions, Launches, Demonstrations, Instruments or Flights among other operations over the next 6 years***

Dates reflect Agency Baseline Commitments or updated Agency schedules and may include schedule margin beyond any manifested launch dates

# Appendix



# Acronyms (1 of 4)



- AAVP – Advanced Air Vehicles Program
- AB – Astrobotic
- ACD – Artemis Campaign Development
- ACSC – Advanced Cislunar Capabilities
- AETC – Aerosciences Evaluation and Test Capabilities Portfolio
- ARC – Ames Research Center
- CADRE – Cooperative Autonomous Distributed Robotics Exp
- CALIPSO – Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations
- CDISS – Commercial Destination on ISS
- CECR – Construction and Environmental Compliance and Restoration
- CESD – Common Exploration Systems Development
- CFM – Cryo-Fluid Management
- CLARREO PF - Climate Absolute Radiance and Refractivity Observatory Pathfinder
- CLD – Commercial Lunar Destinations
- CLPS – Commercial Lunar Payload Services
- CP – CLPS Payload Task Order
- CS – CLPS Science Task Order
- CT – CLPS Tech Demo Task Order
- DART – Double Asteroid Redirect Test
- DAVINCI – Deep Atmospheric Venus Investigation of Noble gases, Chemistry, and Imaging
- DEIA – Diversity, Equity, Inclusion, and Accessibility
- DRACO – Demo Rocket for Agile Cislunar Inflatable Decelerator
- DRIVE – Diversify, Realize, Integrate, Venture, Educate
- DLEU – DSN Lunar Exploration Upgrades
- DSL – Deep Space Logistics
- DSN – Deep Space Network
- DSOC – Deep Space Optical Communications
- DDS – Deep Space Logistics

# Acronyms (2 of 4)



- ECLSS – Environmental Control & Life Support Systems
- EGS – Exploration Ground Systems
- EOS – Earth Observation Systems
- EPSCoR – Established Program to Stimulate Competitive Research
- ESDMD – Exploration Systems Development Mission Directorate
- ESM – Earth Systematic Missions
- ESPRIT – European System Providing Refueling
- GDC – Geospace Dynamics Constellation
- GeoCarb - Geostationary Carbon Observatory
- GLOBE – Global Learning and Observations to Benefit the Environment
- GRC – Glenn Research Center
- HALO – Habitation and Logistics Outpost
- HBCU – Historically Black Colleges and Universities
- HERA – Human Exploration Requirements & Architecture
- HERMES – Helio Environmental & Radiation Measurement
- HLS – Human Landing System
- HPSC – High Performance Spaceflight Computing
- IASP – Integrated Aviation Systems Program
- IM – Intuitive Machines
- IMAP – Interstellar Mapping and Accelerator Probe
- ISRU – In-Situ Resource Utilization
- ISS – International Space Station
- IT – Information Technology
- JAXA – Japan Aerospace Exploration Agency
- JUICE – JUpiter ICy moons Explorer

# Acronyms (3 of 4)



- LaRC – Langley Research Center
- LCRNS – Lunar Comms Relay & Navigation System
- LEO – Low-Earth Orbit
- LRO – Lunar Reconnaissance Orbiter
- LOFTID – Low-Earth Orbit Flight Test of Inflatable Decelerator
- LSP – Launch Services Program
- LTV – Lunar Terrain Vehicle
- M&MA – Moon & Mars Architecture
- MCD – Mars Campaign Development
- MMX – Martian Moons eXploration
- MSD – Mission Support Directorate
- MSI – Minority-Serving Institution
- MSR – Mars Sample Return
- MUSE – Multi-slit Solar Explorer
- MUREP – Minority University Research and Education Project
- NET – No Earlier Than
- NISAR – NASA-ISRO Synthetic Aperture Radar
- NHRO – Near-Rectilinear Halo Orbit
- ODEO – Office of Diversity and Equal Opportunity
- OSAM – On-Orbit Servicing, Assembly, and Manufacturing
- PACE – Plankton, Aerosol, Cloud, ocean Ecosystem
- PAMs – Private Astronaut Missions
- PPE – Power and Propulsion Element
- PRIME – Polar Resources Ice Mining Experiment
- PSI – Plume Surface Interaction Mini Suite
- R&A – Research & Analysis

# Acronyms (4 of 4)



- SBIR – Small Business Innovation Research
- SCaN – Space Communications and Navigation
- SFS – Space and Flight Support
- SLS – Space Launch System
- SMD – Science Mission Directorate
- SOFIA – Stratospheric Observatory for Infrared Astronomy
- SPHEREx – Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer
- SSMS – Safety, Security, and Mission Services
- STEM – Science, Technology, Engineering, Mathematics
- STMD – Space Technology Mission Directorate
- STTR – Small Business Technology Transfer
- SWOT – Surface Water and Ocean Topography
- TACP – Transformative Aeronautics Concepts Program
- TO – Task Order
- VERITAS – Venus Emissivity, Radio science, InSAR, Topography, and Spectroscopy
- VIPER – Volatiles Investigating Polar Exploration Rover
- VSAT – Vertical Solar Array Technology
- xEVA – Exploration Extravehicular Activity