

NASA FY 2022 BUDGET REQUEST

| <u>Actuals</u> <u>FY 2020¹</u> | <u>Enacted</u> <u>FY 2021²</u> | <u>FY 2022</u> | <u>FY 2023</u> | <u>FY 2024</u> | <u>FY 2025</u> | <u>FY 2026</u> |
|----------------------------------------------|----------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| \$22.6B | \$23.3B | \$24.8B | \$25.3B | \$25.9B | \$26.4B | \$27.0B |

With the resources provided in the FY 2022 budget request, NASA will: increase investments in climate research and Decadal Survey recommended science programs; partner with commercial industry to build a Human Landing System to land the first woman and the first person of color on the Moon and support a regular cadence of sustainable lunar missions; enhance U. S. competitiveness in the global aviation industry including the first flights of the X-59 LBF and X-57 Maxwell all-electric aircraft; invest in new technologies and space infrastructure reaffirming the U.S. as the world's premier partner in space collaboration for decades to come; launch the James Webb Space Telescope; and leverage the Agency's unique mission to inspire students in STEM.

Human Exploration and Operations - \$10,898 million (3.7% increase over FY 2021 appropriations)

- \$6,880 million for Deep Space Exploration Systems and \$4,017 million for Spaceflight Operations
- Funds Human Landing System efforts to utilize multiple commercial partnerships to support the return to the Moon and provide billions of dollars over the five year period to maintain competition to lower the cost and reduce the risk for future
- Develops the Gateway, providing lunar infrastructure and a platform for vital international partnerships that will sustain lunar exploration
- Builds the Orion, SLS (including development of the upgraded Block 1B), and EGS to support a regular cadence of lunar missions
- Leverages the ISS – the world's only permanently crewed, multi-national space platform – to identify risks to human health, test exploration technologies, and support the growth of a commercial ecosystem in low-Earth orbit
- Continues 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, the Moon, and future commercial space stations in low-Earth orbit

Space Technology - \$1,425 million (29.5% increase over FY 2021 appropriations)

- Supports a broad scope of technologies addressing multiple stakeholder needs while promoting economic equity and supporting underserved communities
- \$502 million for Technology Development for ground and flight testing, including launch of DSOC and LOFTID in 2022, qualification of Solar Electric Power thrusters, development of Cryogenic Fluid Management and OSAM-1 and OSAM-2
- \$491 million to advance disruptive exploration technologies, including delivery of Lunar Surface Innovative Initiative payloads to the lunar surface (PRIME, Nokia 4G, Hopper), and 'Industry & Commerce Innovation Opportunity' to pursue technologies needed by commercial space stakeholders
- \$145 million for Early Stage Innovation and Partnerships to capitalize on innovation by sourcing ideas from a broad, diverse base of innovators and transferring space technology into the space economy
- \$287 million for Small Business Innovation Research and Technology Transfer to drive investments in small businesses to support NASA and entrepreneurial engagement to spur economic growth

Science - \$7,931 million (8.9% increase over FY 2021 appropriations)

- \$2,250 million for Earth Science, to support formulation of the Earth System Observatory, the first four Designated Observable missions and start of the Earth System Explorers program consistent with Decadal Survey recommendations, as well as development of PACE, CLARREO-Pathfinder, NISAR, SWOT, Sentinel-6, and Landsat 9
- \$3,200 million for Planetary Science including a Mars Sample Return mission with international partnerships launching as early as FY 2026, Europa Clipper, New Frontiers and Discovery missions (Lucy, Psyche, Dragonfly), and Planetary Defense (DART and NEO Surveyor)
- \$1,400 million for Astrophysics to build the Nancy Grace Roman Space Telescope, as well as recent Explorers program selections such as the IXPE and SPHEREx missions, and the start of a probe-class mission pending new Decadal Survey recommendations. The Budget ends funding for SOFIA due to its low scientific productivity.
- \$175 million to support operation of the James Webb Space Telescope
- \$797 million for Heliophysics to study the Sun and its influence throughout the solar system, including the IMAP mission, new Explorer selections such as Solar Cruiser, GLIDE, and EUVST, as well as the DRIVE initiative and interagency efforts to improve space weather forecasting
- \$109 million for Biological and Physical Science to better understand how biological and physical systems work from the unique vantage point of space
- Supports 105 space missions – including 45 currently preparing for launch and 60 in operation – producing leading-edge science, and approximately 10,000 U.S. scientists in universities, industry, and government labs with more than 3,000 openly-competed research awards

Aeronautics Research - \$915 million (10.4% increase over FY 2021 appropriations)

- Advances aeronautics to enhance U. S. competitiveness in global aviation and make aviation safer, more efficient, and environmentally friendly
- \$302 million for Integrated Aviation Systems to develop a Sustainable Flight Demonstrator that will pave the way to reducing aviation emissions; also supports first flights of the X-59 LBF and X-57 Maxwell all-electric aircraft
- \$244 million for Advanced Air Vehicles to support advanced engine technology development, composite structures for high-rate manufacturing, advanced transonic truss-braced wing testing, advanced air mobility vehicle designs, and supersonic boom data validation
- \$148 million for Transformative Aero Concepts to support revolutionary aviation concepts development with opportunities focused on zero-emissions aviation, new computational tools and experimental capability advancement
- \$117 million for Aerosciences Evaluation and Test Capabilities, supporting NASA's wind tunnel test infrastructure
- \$105 million for Airspace Operations and Safety to work with the Federal Aviation Administration to safely increase operational efficiency at the vehicle, fleet, and system-wide levels to reduce environmental impacts

Safety, Security & Mission Services (SSMS) and Construction & Environmental Restoration (CECR) - \$3,439 million (2.2% increase over FY 2021 appropriations)

- \$3,049 million for SSMS to fund Agency-wide capabilities, workforce, and facilities across the country that are essential to enable NASA's ambitious portfolio of missions and maintain U.S. scientific and technological competitiveness
- \$390 million for CECR to ensure the Agency's infrastructure is safe, secure, environmentally sound, appropriately sized, and efficiently operated

STEM Engagement - \$147 million (15.7% increase over FY 2021 appropriations)

- Focuses on broadening student participation, bolstering internships and other direct student opportunities, enhancing K-12 student learning opportunities, and expanding partnerships and networks to magnify reach and impact. Projects include: Space Grant, EPSCoR, MUREP, and Next Gen STEM

¹ FY 2020 reflects funding amounts specified in Public Law 116-93, Consolidated Appropriations Act, 2020, as adjusted in NASA's FY 2021 Initial Operating Plan, except Exploration Ground System Development and Exploration CoF. Table does not reflect emergency supplemental funding provided for NASA and included in the Safety, Security, and Mission Services account, as specified in Public Law 116-136, the Coronavirus Aid, Relief, and Economic Security Act, totaling \$60.0 million.

² FY 2021 reflect funding amounts specified in Public Law 116-260, Consolidated Appropriations Act, 2021, as adjusted by NASA's FY 2021 Initial Operating Plan.