



National Aeronautics and
Space Administration

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Presented by Witness

May 19, 2021

Subcommittee on Commerce, Justice, Science, and Related Agencies

Committee on Appropriations

U.S. House of Representatives

Statement of:
The Honorable Bill Nelson
Administrator

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Chairman Cartwright and Members of the Subcommittee, I am pleased to have this opportunity to discuss NASA's FY 2022 discretionary request of \$24.7 billion. This request represents an increase of \$1.5 billion, or 6.3 percent, above the FY 2021 enacted level.

But first, I would like to thank you for the robust FY 2021 appropriation for NASA. This funding aligns closely with Administration priorities, including continued investment in human spaceflight through the International Space Station (ISS) and Artemis Programs that enhance global engagement and diplomacy; expanded climate change research; investments in cutting-edge research and development that fuel innovation, create high-paying jobs, grow the economy, and improve life on Earth; advancement of the U.S. aviation industrial base to build a green aviation system; and strengthening of a diverse Science, Technology, Engineering, and Math (STEM) workforce that inspires future generations.

NASA is more than the world's premier space exploration organization. NASA is a uniquely powerful source of national inspiration and international leadership. Over the past year, the NASA team has demonstrated remarkable resilience, overcoming COVID-19 challenges to press forward with a series of outstanding successes, including the historic first flight on another planet. NASA's landing of Perseverance on Mars is emblematic of an Agency, and a Nation, that can overcome challenges, to achieve whatever goals we set. To quote the President on a phone call to NASA Jet Propulsion Laboratory (JPL):

“We can land a rover on Mars. We can beat a pandemic. And with science, hope, and vision, there's not a damn thing we can't do as a country.”

With the resources entrusted to us by Congress and the American people, and the dedicated efforts of our commercial partners, we have returned human spaceflight to American soil on American rockets. Adapting what we have learned from these efforts, we are moving rapidly to return Americans to the surface of the Moon as quickly as we can safely do so. We are committed to landing the first woman and the first person of color on the Moon. We will use all of this Nation's capacity for innovation to develop the experience and capability around the Moon that will send Americans on to Mars. We are building the Space Launch System (SLS) – the most powerful rocket in history – and the Orion crew vehicle, to make deep space exploration possible, and we will soon launch the first, uncrewed mission in the Artemis lunar exploration program.

On April 16, 2021, NASA announced it had selected SpaceX to continue development of the first commercial human lander that will safely carry the next two American astronauts to the lunar surface. The firm-fixed price, milestone-based contract total award value is \$2.89 billion. This Human Landing System contract award, with the goal of a human demonstration to the lunar surface by 2024, is under protest as of this time. In parallel with executing the Appendix H award for the first crewed landing, NASA is preparing to have a robust competition for the procurement for sustainable commercial crewed lunar surface transportation services. These services will provide human access to the lunar surface using the Gateway on a regularly recurring basis beyond the initial crewed demonstration mission. By taking a collaborative approach in working with industry and international partners while leveraging NASA's proven technical expertise and capabilities, we will return American astronauts to the Moon's surface once again, this time to explore new areas for longer periods of time.

We are also on Mars now and studying the planet more intensively than ever before. We are developing the mission that will return samples from Mars to Earth, and operating two rovers, a lander, and a helicopter on the surface, supported by an array of orbiting spacecraft. At the same time, we continue to operate a constellation of spacecraft exploring the solar system while developing new missions to the Moon and Europa, and a mission dedicated to detecting potentially hazardous Near-Earth Objects (NEOs). Later this year, we will launch the Lucy mission to explore the Trojan asteroids in the vicinity of Jupiter, to be followed in 2022 by the Psyche mission to a metallic asteroid. These asteroids are thought to be remnants of the primordial material that formed the outer planets.

NASA is a critical piece of the Administration's efforts to understand and address global climate change. In May 2021, we launched a mission concept for NASA's Earth System Observatory, a new architecture for deploying and integrating next generation spaceborne Earth observation systems. The Observatory will provide the world an unprecedented understanding of the critical interactions between Earth's atmosphere, land, ocean, and ice processes. These processes define how the changing climate will play out at regional and local levels, and on near- to long-term time scales. The Earth System Observatory builds on NASA's Earth Science Division's current observations of Earth on a global scale, a fleet of 16 major Earth observatories plus six Earth observation instruments on the ISS, SmallSats, CubeSats, and missions flown by piloted and unpiloted aircraft.

Later this year, NASA will launch the James Webb Space Telescope (Webb), the largest and most complex space science observatory ever built. Webb is an infrared telescope designed to observe the farthest objects, broadening and transforming our understanding of the early universe. It will see the light from the first galaxies that formed in the early universe after the big bang, and observe the birth of stellar systems, as well as explore distant worlds and study the atmospheres of planets orbiting other stars – known as exoplanets – searching for chemical fingerprints of habitability.

NASA's aeronautics research will make significant contributions to the national effort to address global climate change, through vehicle technology development and advanced airspace operations, as well as serving as a vital source of innovation for the country's leading export industry, commercial aviation. This year, we will fly the first test flight of the X-57 Maxwell, NASA's first all-electric X-plane – a major step forward in efforts to develop a more sustainable aeronautics industry.

Supporting all of these efforts, NASA is developing new technologies ranging from robotic servicing technology to extend the life of orbiting spacecraft to laser communications for space. Launching this year, the Laser Communications Relay Demonstration (LCRD) will showcase the unique capabilities of optical communications to radically increase the volume of information a signal can carry.

President Biden's FY 2022 discretionary funding request, transmitted in April, is \$24.7 billion for NASA, an increase of more than six percent over the FY 2021 enacted level. This funding supports the programs

summarized here and supports significant NASA contributions to Administration priorities. The Agency is uniquely positioned to help restore America's global standing, demonstrating the power of a diverse, unified democracy to overcome challenges and achieve great goals. As a source of innovation, and by directly promoting the growth of space and aeronautics industries, NASA plays an important supporting role in creating skilled, high-paying jobs. We are playing an important role in the Administration's efforts to expand climate research and investment in innovative sustainable technologies. In addition, NASA is accelerating efforts to further diversity, equity, and inclusion. NASA has long understood that diversity, equity, and inclusion is not simply a matter of justice or fairness, but rather a source of strength and innovation and critical thinking.

Conclusion

The FY 2022 discretionary request demonstrates the President's commitment to NASA and the people across the Agency and its partners who have worked so hard this past year under the most difficult circumstances and achieved unprecedented success. We know this increase comes at a time of constrained resources, and we owe it to the President and the American people to be good and responsible stewards of every tax dollar invested in NASA. The NASA workforce and the American people should be encouraged by what they see in this budget request. It is an investment in our future, and it shows confidence in the broad array of benefits this Agency delivers for the Nation.

Mr. Chairman, I would be pleased to respond to your questions and those of other Members of the Subcommittee.