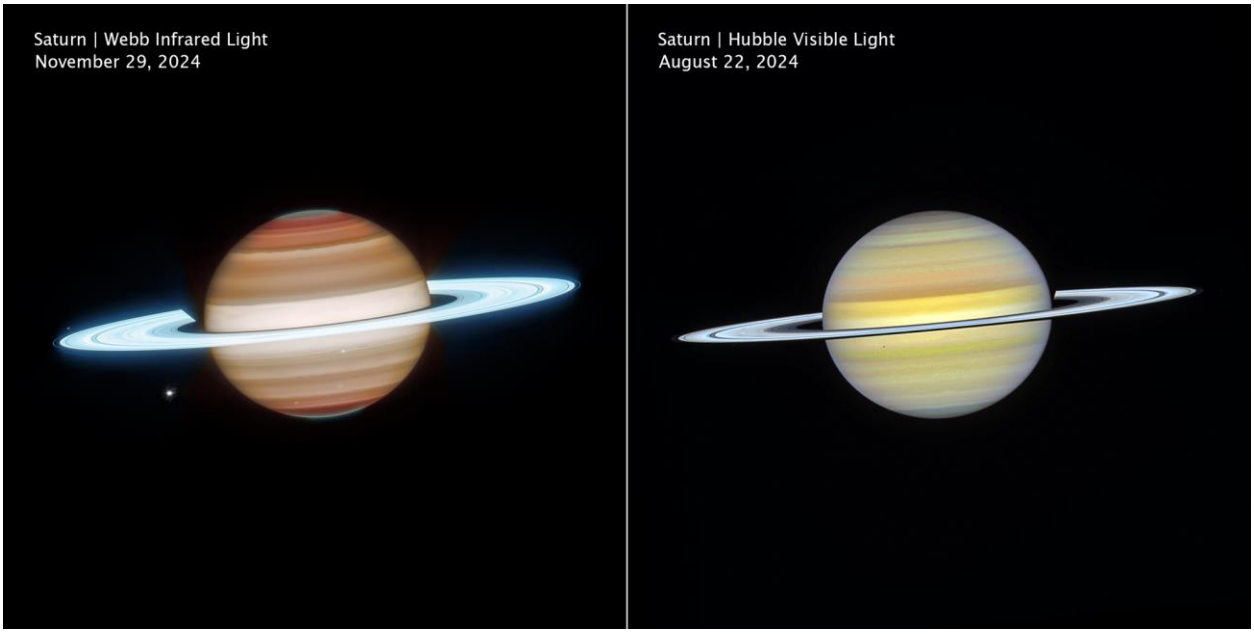
NASA Science Updates Include New Missions, Support for Moon Base

Advancing World-Changing Discovery with Current, Developing Missions

- The James Webb Space Telescope continues to deliver groundbreaking observations – from revealing increasingly distant galaxies that inform our understanding of the early universe, to fresh views of our own solar system, including this Saturn image released today.



- The Nancy Grace Roman Space Telescope is now fully assembled and has passed its final major prelaunch tests, keeping the mission ahead of schedule and on track to launch as soon as this fall. Designed to capture unprecedented deep, panoramic views of the cosmos, Roman will investigate longstanding questions about dark energy, dark matter, and planets beyond our solar system.
- NASA's first space-based detection mission specifically designed for planetary defense, NEO Surveyor, is steadily progressing toward a launch in 2027. The mission will detect and characterize asteroids and comets that are potentially hazardous to Earth.
- The agency's ESCAPADE will arrive at Mars late next year, where it will study the planet's space weather environment.
- This month, Dragonfly – NASA's nuclear-powered rotorcraft designed to explore the complex, organic-rich environment of Saturn's moon Titan – began assembly and testing with a launch planned for 2028.
- NASA also plans to launch and deliver ESA's (European Space Agency) Rosalind Franklin Rover to Mars in 2028. NASA's contributed mass spectrometer for the

Mars Organic Molecule Analyzer (MOMA) instrument will result in the most advanced detection and analysis of organic matter ever conducted on Mars.

- NASA also continues to advance formulation of its DAVINCI mission - the first in the 21st century set to explore Venus's atmosphere as it descends from the planet's clouds down to the surface.
- NASA recently selected industry proposals from eight U.S. companies to advance technologies for the Habitable Worlds Observatory mission concept. This ambitious mission will need these technologies to directly image distant Earth-like planets and study their atmospheres for signs of life.

Future Science Driving Exploration at the Moon, Mars, and Beyond

- NASA is including, among its top science priorities, instruments and experiments that will contribute to the Moon Base and future deep space missions, from landers and rovers to innovative systems like MoonFall drone hoppers.
    - NASA is investing in technologies for lunar drones and "hoppers," and in-situ lunar lidars for the Artemis missions that can be incorporated into landers and rovers for lunar exploration.
    - An instrument, LuSEE-Night, by NASA and U.S. Department of Energy, is slated to launch later this year on Firefly Aerospace's next CLPS (Commercial Lunar Payload Services) delivery. It is designed to survive the harsh environment of the lunar surface at night on the far side of the Moon. There, it will conduct first-of-a-kind measurements to help answer key questions about the early history of the universe and the formation of the first stars.
    - The agency also recently awarded Blue Origin a CLPS task order with an option to deliver NASA's VIPER (Volatiles Investigating Polar Exploration Rover) to the Moon's South Pole region, where it will search for volatile resources such as ice.
- NASA is accelerating the cadence of CLPS deliveries in support of the Moon Base, with the aim to incorporate more science and technology to the lunar surface than ever before. The agency now is targeting 30 robotic lunar landings within three years, starting in 2027.
    - To that end, NASA released a Request for Information (RFI) March 24 to identify payloads that could support NASA's science and technology goals for additional 2027 and 2028 flights. This as an opportunity for philanthropic organizations, international partners, tech companies and academic institutions to build scientific instruments that in the not-too-distant future will be on the surface of the Moon.

    - The agency also further supported its robust cadence of fights by selecting its next CLPS lander for a delivery to the lunar South Pole. The provider selection announcement will be made on March 24.
- NASA announced plans to add a science payload to the Mars Telecom Network.
- NASA also announced plans to incorporate a payload on a technology demonstration nuclear mission to Mars slated to launch in 2028.
- NASA is flying experiments aboard Artemis II which will improve our understanding of how deep space travel influences the human body.

Unlocking efficiencies to fund new flagship undertakings.

- To improve how the agency leverages partnerships across industry, NASA released two new RFIs on March 24:
    - A "Science as a Service" RFI aimed at using commercial missions — especially in Earth observation and space weather monitoring — to reduce NASA-owned infrastructure and reinvest in higher-impact science.
    - An RFI exploring commercial approaches to a microwave radiometer capability that would fly in formation with a NASA Earth observation constellation, to potentially increase efficiency and reduce time to science.
- We are also excited to hear about the role philanthropic efforts play to increase our understanding of the universe, like the Eric and Wendy Schmidt Observatory System. We are aware of many such efforts and look forward to continuing to meet with them.
- To help reduce overhead and free up resources for new exploration, the agency will look for opportunities to streamline legacy missions that continue to yield amazing science.