




National Aeronautics and
Space Administration

EXPLORE SCIENCE

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NEWS &
UPDATES



PROGRAMS &
RESEARCH



DIVISION
HIGHLIGHTS



Landsat 9 Launched



Webb Arrival in French Guiana



Lucy Launched



Open-Source Science Accomplishments

- Initiated the common SMD data catalog project to enable cross-divisional data search and discovery
- Expanded access to free and open journals by modifying the Astrophysics Data System (ADS) journal database to include Planetary Science and Heliophysics
- Awarded 5 cross-divisional Artificial Intelligence (AI) projects and selected 8 proposals to provide support to high value open-source tools, frameworks, and libraries
- Co-lead the agency Digital Transformation Data and Knowledge Hub activity to enable easy access to data information NASA-wide
- Updated SMD's data information policy (SPD-41) to support open science by requiring missions to release scientific data, publications and software openly



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Status of SMD Programs

- The state and health of the SMD Flight Portfolio is **Good**
- Recent Launches: Go Landsat-9 (Sep 27) and Go Lucy (Oct 16)!!
- Mission Key Decision Point (KDP) milestones and replan reviews:
 - PUNCH (KDP-C), Landsat-9 (KDP-E), EscaPADE (KDP-C), SunRISE (KDP-C), Lucy KDP-E, GeoCarb (Replan)
 - One Joint Agency Satellite Division and two Heliophysics missions are scheduled for confirmation (KDP-C) in the next three months
- COVID Impacts and SMD Actions:
 - SMD missions continue to be impacted by COVID; however, impacts are trending downward
 - Supply chain issues are ongoing and may have long-term consequences
- Significance to the Community:
 - Working with NASA centers, companies, academia partners, and others to support transition to onsite and hybrid models
 - With increased vaccinations, face-to-face meetings are being held on a limited basis and travel has increased, enabling more interaction with our project teams, partners, and vendors
- Upcoming Launches (Go SCIENCE!):
 - This fall and winter: JWST, DART, IXPE, and GOES-T

Introducing the SMD Bridge Program



- The SMD Bridge Program is a new initiative designed to boost diversity, equity, inclusion and accessibility within the NASA workforce and within the US science and engineering community.
- Included as part of the FY22 President's Budget, the SMD Bridge Program will increase engagement and partnering between Minority-Serving Institutions, other PhD-granting universities, and NASA Centers with a focus on paid research and engineering studentships at participating institutions to transition science and engineering students from undergraduate studies into graduate schools and employment by NASA.
- SMD will be facilitating one or more community planning workshops to collaboratively create the Bridge Program with all stakeholders.

Embracing Commercial Suborbital Capabilities

- SMD is excited by the emergence of new commercial suborbital platforms that complement NASA's existing capabilities
- Beginning in ROSES-22, SMD will partner with STMD's Flight Opportunities Program to make commercial platforms available for all programs that fly suborbital payloads
- These capabilities will be offered alongside NASA-provided platforms
- SMD will further incentivize nimble and innovative science experiments to utilize the capabilities (e.g., mass, altitude, acceleration levels, duration) provided by commercial suborbital platforms





NEWS &
UPDATES



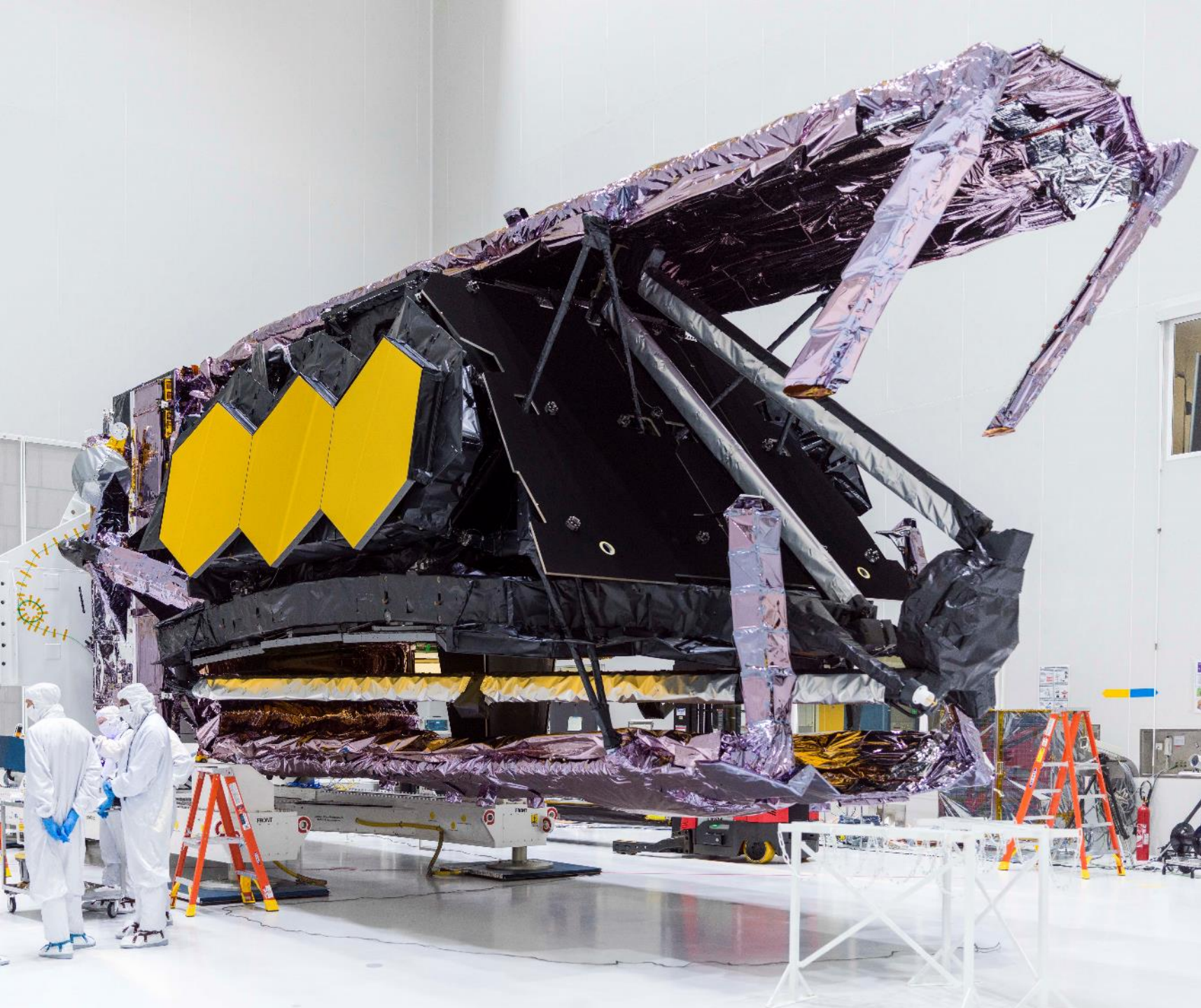
PROGRAMS &
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DIVISION
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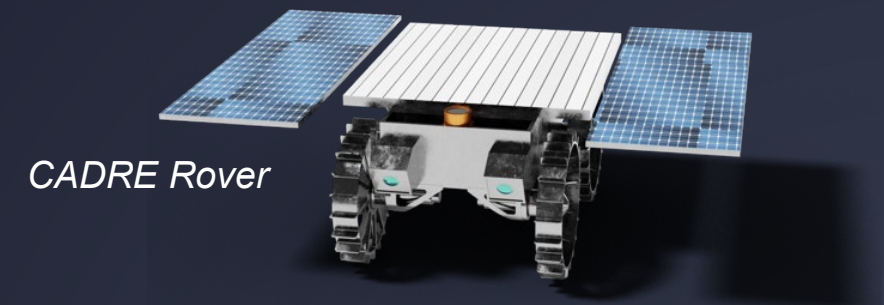
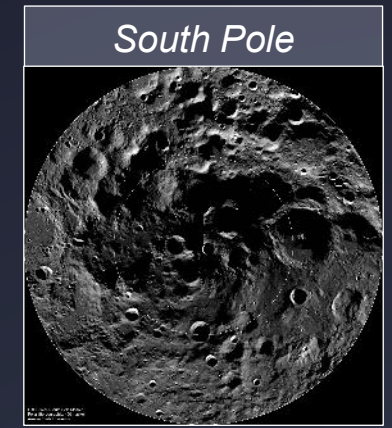
Division Highlights

- James Webb Program Office (Webb) – Greg Robinson
- Exploration Science Strategy and Integration Office (ESSIO) – Joel Kearns
- Astrophysics – Paul Hertz
- Biological and Physical Sciences (BPS) – Craig Kundrot
- Heliophysics – Peg Luce
- Planetary Science and Mars Sample Return – Lori Glaze
- Earth Science Division – Karen St. Germain

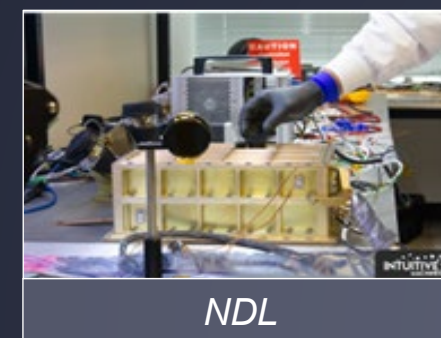


ESSIO Highlights

- Second Payloads and Research Investigations on the Surface of the Moon (PRISM 2)
 - Step 2 Proposals due December 20
 - PRISM 2a (CP-21) : Gruithuisen Domes in 2025
 - PRISM 2b (CP-22) : a South Pole location in 2025
- PRISM 1a (CP-11) request for task plan proposals received October 13
 - Initiated task order competition to deliver *Lunar Vertex* with STMD's CADRE rover and 2 international payloads
- NASA Provided Lunar Payloads (NPLP)
 - Completed fit checks and FlatSat 2 testing for CLPS delivery to Oceanus Procellarum in Q1 2022 (Task Order 2/20C, Intuitive Machines)



IM FlatSat testing

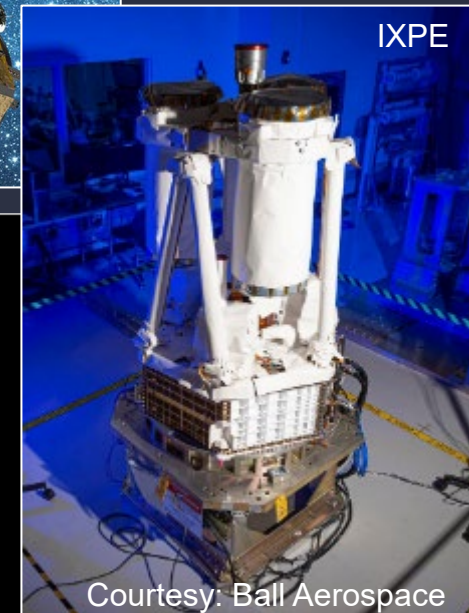


Astrophysics Division Highlights

- The Nancy Grace Roman Space Telescope has passed its Critical Design Review this Fall
- The Imaging X-ray Polarimetry Explorer (IXPE), NASA's next Astrophysics SMEX, has completed integration and testing and is on track for a Dec 9 launch from Kennedy Space Center
- The subsequent Astrophysics SMEX will be announced later this week, and the Announcement of Opportunity is open for a future Astrophysics MIDEX and Astrophysics Mission of Opportunity
- The first successful balloon campaign since March 2020 was concluded recently in Ft. Sumner, NM with 7 balloon flights
- NASA has prepared for receiving the Decadal Survey and will be holding an Astrophysics Town Hall to share its plans about 10 weeks after receipt of the Survey
- Spitzer data has revealed a previously unrecognized feature of our Milky Way galaxy: a spur of young stars and star-forming gas clouds is sticking out of one of the Milky Way's spiral arms. The newly discovered feature contains four nebulae known for their beauty: the Eagle Nebula, the Omega Nebula, the Trifid Nebula, and the Lagoon Nebula.



Roman Space Telescope



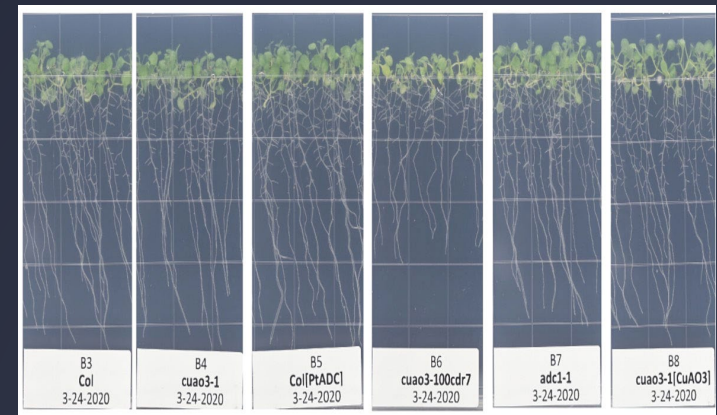
IXPE

Courtesy: Ball Aerospace



BPS Division Highlights

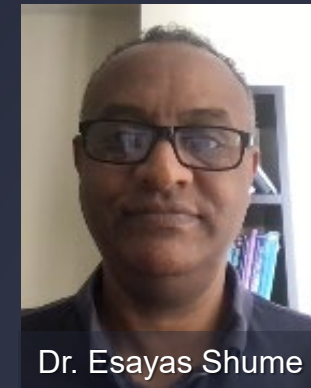
- Science Highlights
 - SpaceX-23 returned tardigrade, microbial, and plant samples from ISS on Sept. 30 to be analyzed as part of Thriving in Deep Space (TIDES) focus area
 - Physical Sciences Program participated in European Community Workshop on Cold Atoms in Space as part of Quantum Science focus area
- Programmatic Highlights
 - Dr. Manta Nagaraja, Deputy Program Scientist for Space Biology
 - Physical Sciences Informatics (ROSES E.8) Notices of Intent due Oct. 29
 - NSF-NASA-DOD "Emerging Frontiers in Research and Innovation" LOIs due Nov. 10
- 2023-2032 Decadal Survey Deadlines
 - White Papers: Topical – Oct. 31, 2021; Research Campaigns – Dec. 23, 2021
 - Nominations for Engineering and Science Interface Panel due Nov. 1, 2021
- FY 2022 Budget Request Update
 - \$109M FY22 in President's Budget Request focused on enabling transformative science
 - \$90M FY22 in the House appropriations bill; Senate bill in work



#BPSDecadalSurvey

Heliophysics Division Highlights

- Mentoring365 kicked off on September 30, supporting early career researchers and students with mentorship opportunities through the Earth and space science community to foster a robust, diverse, equitable, and inclusive workforce.
- The second round of Heliophysics Early and Mid Career Roundtables are underway after SMD leadership was briefed on key takeaways from the first roundtable sessions in the spring
- **Congratulations!**
 - **ESCAPADE** confirmed for flight (KDP C) Aug. 17
 - **SunRISE** confirmed for flight (KDP C) Sept. 8
- HPD released an RFI to the community on Oct. 15, seeking community feedback by Jan. 31, 2022, on current and future needs for NASA's Heliophysics data, and associated archives, tools, models, and resources
- NSF Geospace Program Manager/HPD Program Scientist Summit was held on Oct. 13, helping the members of both agencies collaborate and coordinate more effectively
- NASEM held a webinar on "Solar and Space Physics Decadal Strategy: Early-Career Webinar #2 - White Papers for the Solar and Space Science Decadal" on Oct. 18
- Staffing: Welcome to Dr. Esayas Shume (Program Scientist) and Shannon Fitzpatrick (Program Executive)!



Dr. Esayas Shume



Shannon Fitzpatrick

Planetary Science Division Highlights

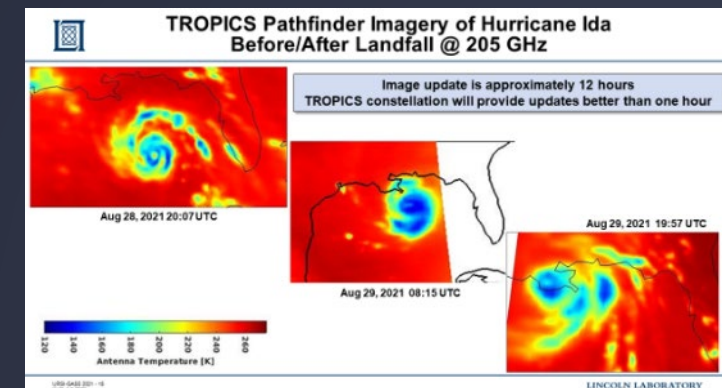
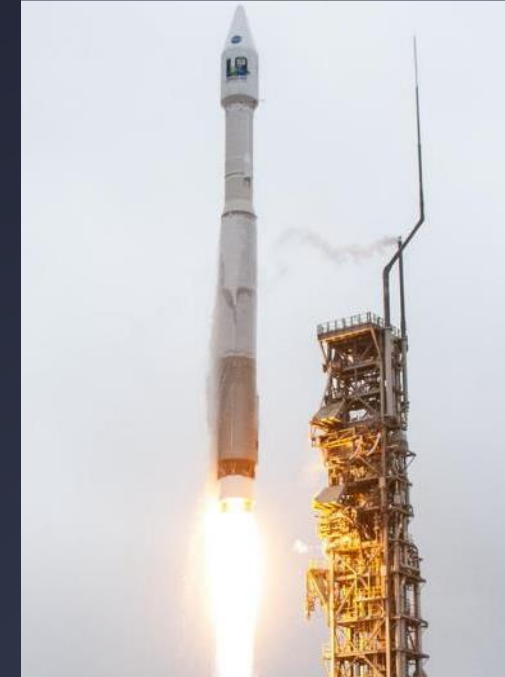
- Lucy: Successfully launched October 16!
- DART: Launch window opens November 24
 - Spacecraft arrived at Vandenberg Space Force Base on October 3
- Mars2020 / Perseverance: First two core samples obtained from “Rochette” at “Citadelle” location on September 6 and 8
 - Mars conjunction September 29 to October 17
- Europa Clipper: Continues toward 2024 launch: SpaceX Falcon Heavy selected as launch vehicle
- VIPER: Science Study Area near Nobile crater has been selected
 - Specific landing site within the area TBD
- New call for development and support of state-of-the-art facilities coming soon
 - Will include specific DEIA-focused language to encourage MSI and HBCU participation



Earth Science Division Highlights

- Landsat 9 launched successfully on Sept. 27 from Vandenberg Space Force Base
 - On-orbit checkout continues with Oct. 2 power-up of its two instruments, OLI-2 and TIRS-2
 - Continues nearly 50-year legacy of our most economically impactful mission with our USGS partners
- TROPICS Pathfinder
 - Launched June 30; global first light images Aug. 8
 - Captured images inside Hurricane Ida before and after landfall
 - Six-constellation TROPICS mission to launch in 2022
- Space Apps Challenge, Oct. 2-3
 - Largest global hackathon
 - Smashed 2020 records in all categories
 - 28,200+ participants; 323 local virtual events; 162 countries/territories; 4,534 teams; 2,814 projects; 28 challenges; 472 volunteers; 10 space agency partners worldwide

Landsat 9 continues the 50-year legacy





In Memoriam:
Dr. Gail Skofronick-Jackson

National Aeronautics and
Space Administration



with us COME

