EXPLORE SCIENCE

SMD Quarterly Community Townhall

October 6, 2022

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Associate Administrator
NASA Science Mission Directorate

@Dr_ThomasZ
~31.9% TOTAL BUDGET INCREASE
FY17: 5.76B
FY22: 7.6B

33 MISSIONS LAUNCHED

108 HIRES

47 MISSIONS SELECTED

7 CLPS SELECTED
NASA Science Accomplishments

1. Built SMD Leadership team to perform at highest standard
2. Prioritized and committed to creating the best teams we can, which requires a diverse and inclusive workforce
3. Committed to innovation as a guiding value to achieve leadership
4. Established partnership with human exploration and space tech towards an integrated Artemis program
5. Integrated Biological and Physical Sciences division into SMD
6. Established novel partnerships with commercial entities, enabling new science and better science value (CLPS, Commercial data buys, service models, small launch, etc.)
7. Strengthened partnerships with established and emerging space agencies by implementing a strategic vision for international collaboration that advances science
1. Increased emphasis on High-Risk / High-Impact Science within the R&A Program and technology demonstrations
2. Infused SmallSat capabilities into science missions
3. Launched 18+ novel Earth Science missions, focused on ice, sea level, CO2, etc.
4. Established the Earth Systems Observatory as the next generation and integrated capability
5. Parker Solar Probe, Heliophysics Observatory
6. Perseverance and Ingenuity, Successful start of Mars Sample Return
7. James Webb Space Telescope in operation, Roman on track
8. Planetary defense, including DART and NEO-Surveyor
9. Return to Venus
10. …
Division Highlights

• Astrophysics – Mark Clampin
• Biological and Physical Sciences (BPS) – Craig Kundrot
• Heliophysics – Nicky Fox
• Planetary Science – Lori Glaze
• Earth Science Division – Julie Robinson
Astrophysics Division Highlights

- Selected four Explorer Program missions for Step 1 studies:
  - MIDEx: Ultraviolet Explorer (UVEX)
  - Survey and Time-domain Astrophysical Research Explorer (STAR-X)
  - MOs: Moon Burst Energetics All-sky Monitor (MoonBEAM)
  - Large Area Burst Polarimeter (LEAP)
- Trans-Iron Galactic Element Recorder for the International Space Station (TIGERISS) has been chosen as the latest NASA Astrophysics Pioneers mission
- SOFIA completed its science mission on September 30 after more than 12 years in operation (first light May 26, 2010)
- The 2022 Fort Sumner fall Balloon Campaign successfully conducted:
  - 2 engineering test flights (Salter, Mullenax)
  - Student experiment platform flight (HASP)
  - Heliophysics flight (BALBOA)
  - 2 astrophysics flights (PICTURE-C, TINMAN)
- Next Astrophysics Advisory Committee (APAC) meeting is October 17-18, 2022
BPS Division Highlights

Launches:

• Artemis I (TBD): yeast, fungi, algae, and seeds (BioExpt-01)
• NG-18 (NET Nov. 6): multi-generational plant experiment (Plant Habitat-03)
• SpX-26 (NET Nov. 15): materials science (FAMIS), bacteria (BRIC-26), plants (Veg-05)

Events:

• NASEM Committee on Biological and Physical Sciences in Space (CBPSS) Oct. 19-21
• American Society for Gravitational and Space Research (ASGSR) conference Houston, TX, Nov. 9-12
• Inaugural Biological and Physical Sciences Advisory Committee (BPAC) meeting Nov. 15-16

Solicitations and selections:

• BPS has three upcoming selections and solicitations, find out more HERE
Heliophysics Division Highlights

• NASA Sounding Rocket Symposium August 15-19 and HPD leadership visit to Wallops Flight Facility

• New image taken by Solar Orbiter Extreme Ultraviolet Imager (EUI)

• Two 2022 Explorers Final Announcements of Opportunity Released September 7

• GDC Internal Review Board Findings and Response

• Heliophysics Community Town Hall October 24
Planetary Science Division Highlights

DART:
• Successful Dimorphos impact on September 26!

InSight
• Available power continues to drop – science operations expected to cease sometime this fall
• For latest updates: https://blogs.nasa.gov/insight/

Psyche (Janus)
• Continuation/termination review will take place early November 2022

ESSIO
• Payloads and Research Investigations on the Surface of the Moon 3 (PRISM-3) call is open: Step-1/Step-2 proposals due Oct 24/Dec 20, 2022

Mars Sample Return
• Working to certify ‘Three Forks’ in Jezero Crater as location for initial Perseverance sample cache depot, i.e., potential landing site for the Sample Retrieval Lander (SRL)