

Educational Opportunities at NASA Goddard



Janie Nall
Lead, Minority and Underrepresented Education
NASA Goddard Space Flight Center

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The Goddard Space Flight Center

Established in 1959 as NASA's first Space Flight Center

- End-to-End Science and Technology Missions capabilities
- Nearly 300 Missions – from the world's first weather satellite (1960) to Hubble Space Telescope servicing and beyond

Mission: Address fundamental questions in Earth and Space Science

- Conception, development, deployment, operation of science and technology missions in Earth system, planetary, heliophysics, and astrophysics disciplines
- Space/Near Earth Communications, Navigation and Network systems for NASA and National needs
- Suborbital Platforms and Launch Range Services
- Deliver data and information to the public in ways they can use it





We transform human understanding
of Earth and Space

through innovation, exploration and
discovery.

*Putting ideas into space...
Bringing knowledge home*



Our Village is more than Greenbelt

Goddard Space Flight Center, Maryland

- Wallops Flight Facility, Virginia
- IV&V Facility, West Virginia
- Goddard Institute for Space Studies, New York
- White Sands Ground Station, New Mexico



Greenbelt

WSTF



WFF



GISS

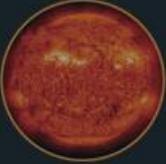


IV&V

NASA Internships, Fellowships and Scholarships (NIFS)



STEM Engagement (SE)



Educator Professional Development (EPD)



Institutional Engagement (IE)

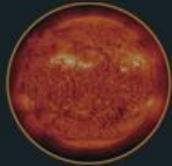


Opportunities for:

- Student internships (NIFS)
- Senior Capstone projects (SE)
- Experiential Learning Opportunities (SE)
 - Faculty – student teams
 - Academic year or semester
- Professional Development for faculty and teachers (EPD)
- Materials using NASA science / engineering content (i.e. NASA



- Mission Systems Engineering & Implementation
- Instrument Systems Engineering & Management
- Access to Space Carrier Systems
- Materials
- Mechanical/Structures
- Electromechanical Systems
- Thermal Systems
- Machining/Fabrication Technologies
- Contamination Control
- Environmental Testing
- Optics
- Lasers & Electro Optics
- Cryogenics & Fluids Systems
- Detector Systems
- Microwave Instruments Technologies
- Avionics Architecture & Implementation
- RF & Optical Communication Systems
- Flight Systems Integration, Test & Verification
- Autonomy
- Computing Environments & Technologies
- Data Management & Analysis
- Command and Data Handling Systems
- Power Systems
- Microelectronics
- Signal Processing
- Electrical Systems
- Ground Support Equipment Design & Implementation
- Guidance, Navigation & Control
- Components & Systems
- Flight Dynamics Analysis
- Spacecraft Propulsion
- Flight & Ground Software Systems
- Radiation
- Electronics parts
- Satellite Servicing Capabilities



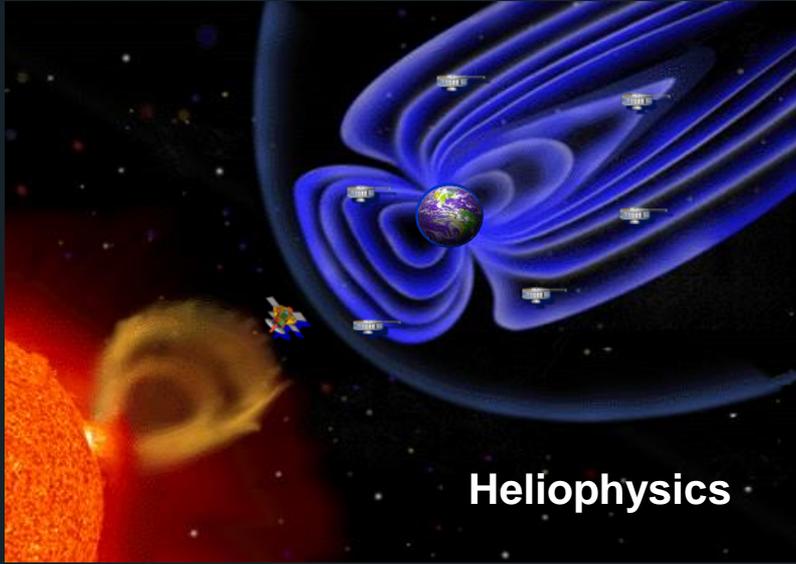
Satellite Servicing Capabilities Office established in 2009 to:

- Advance the state of robotic servicing technology to enable the routine servicing of satellites that were not designed with servicing in mind.
- Position the U.S. to be the global leader for in-space repair, maintenance and satellite disposal.
- Help to enable a future U.S. industry for the servicing of satellites.



NASA Goddard science: Spanning the Universe

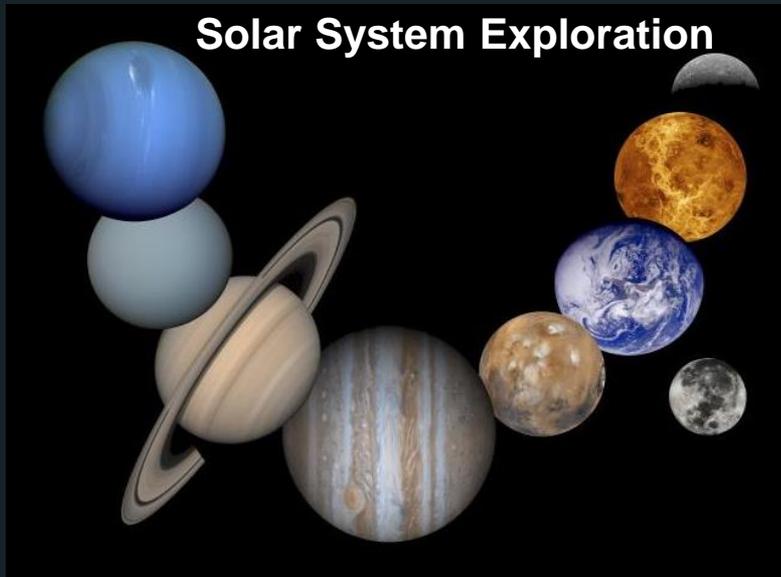




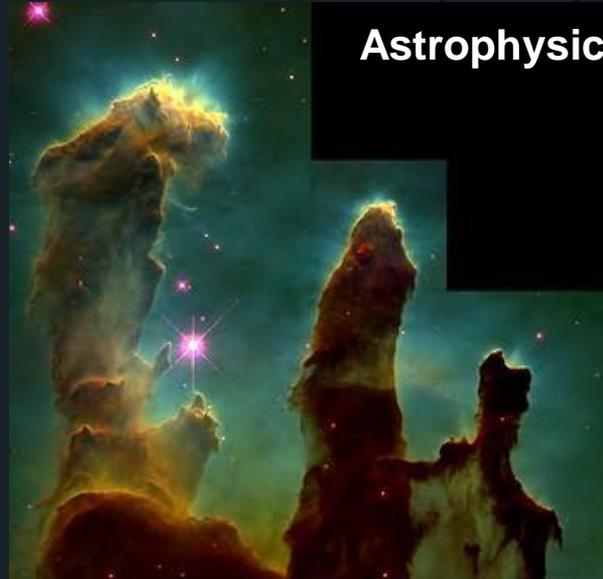
Heliophysics



Earth Science



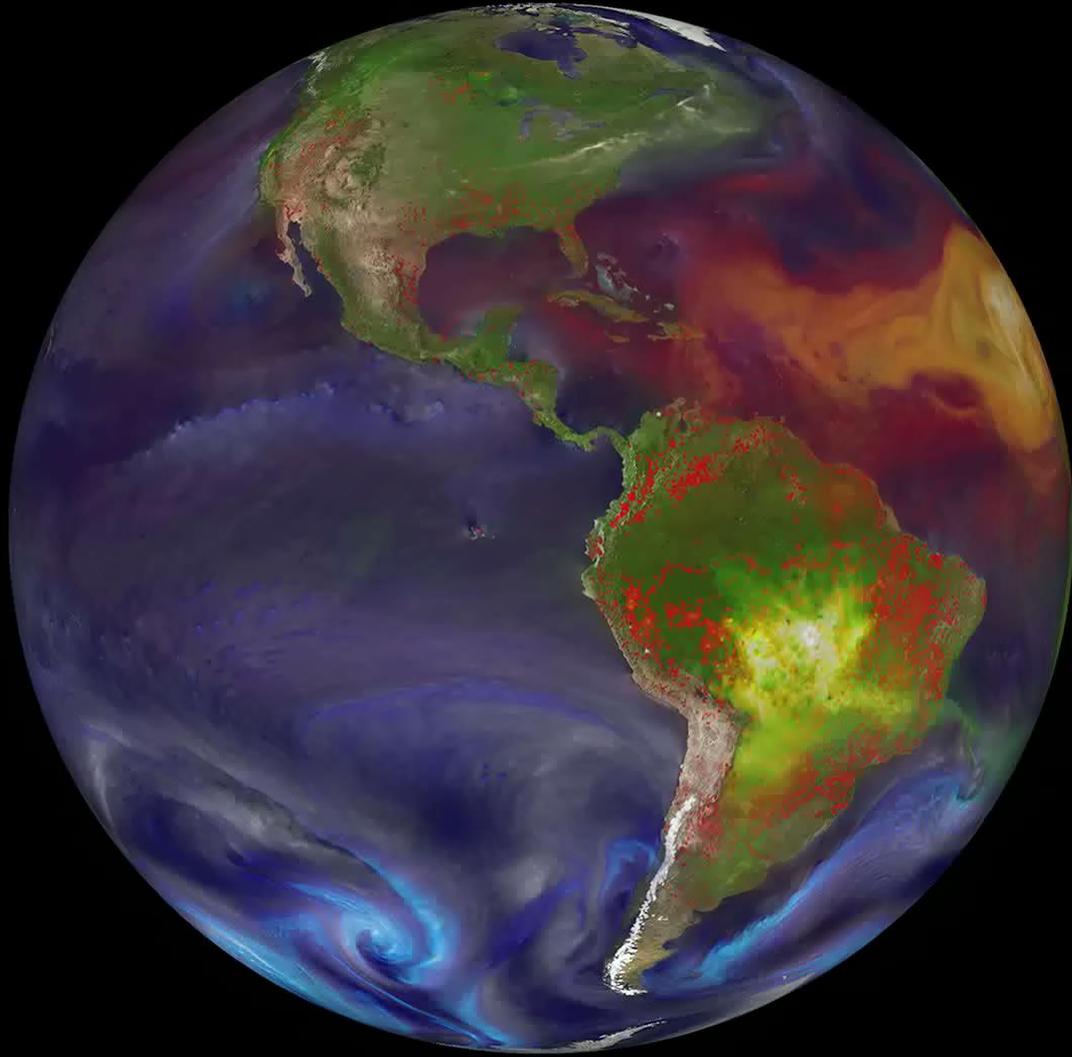
Solar System Exploration



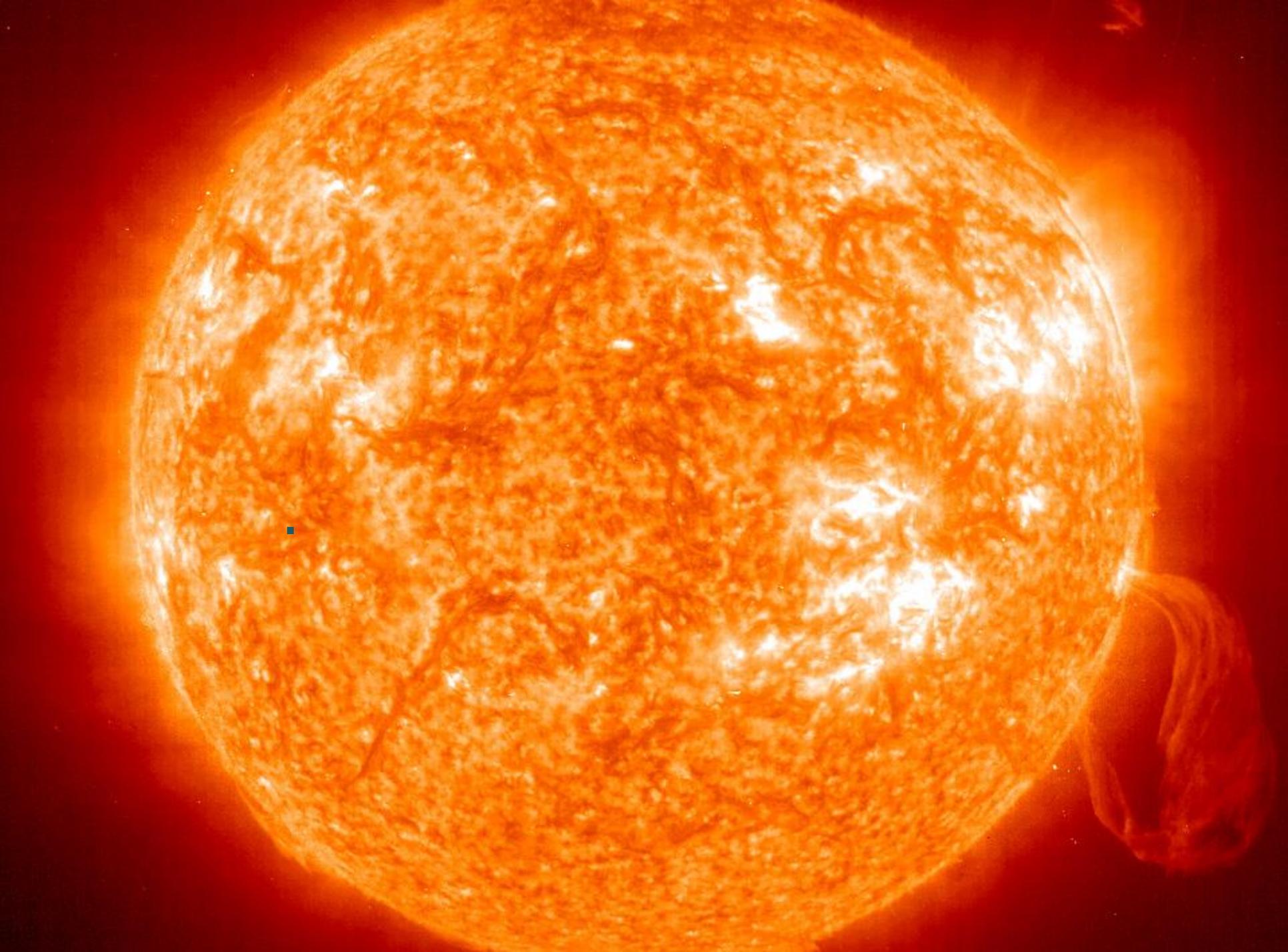
Astrophysics

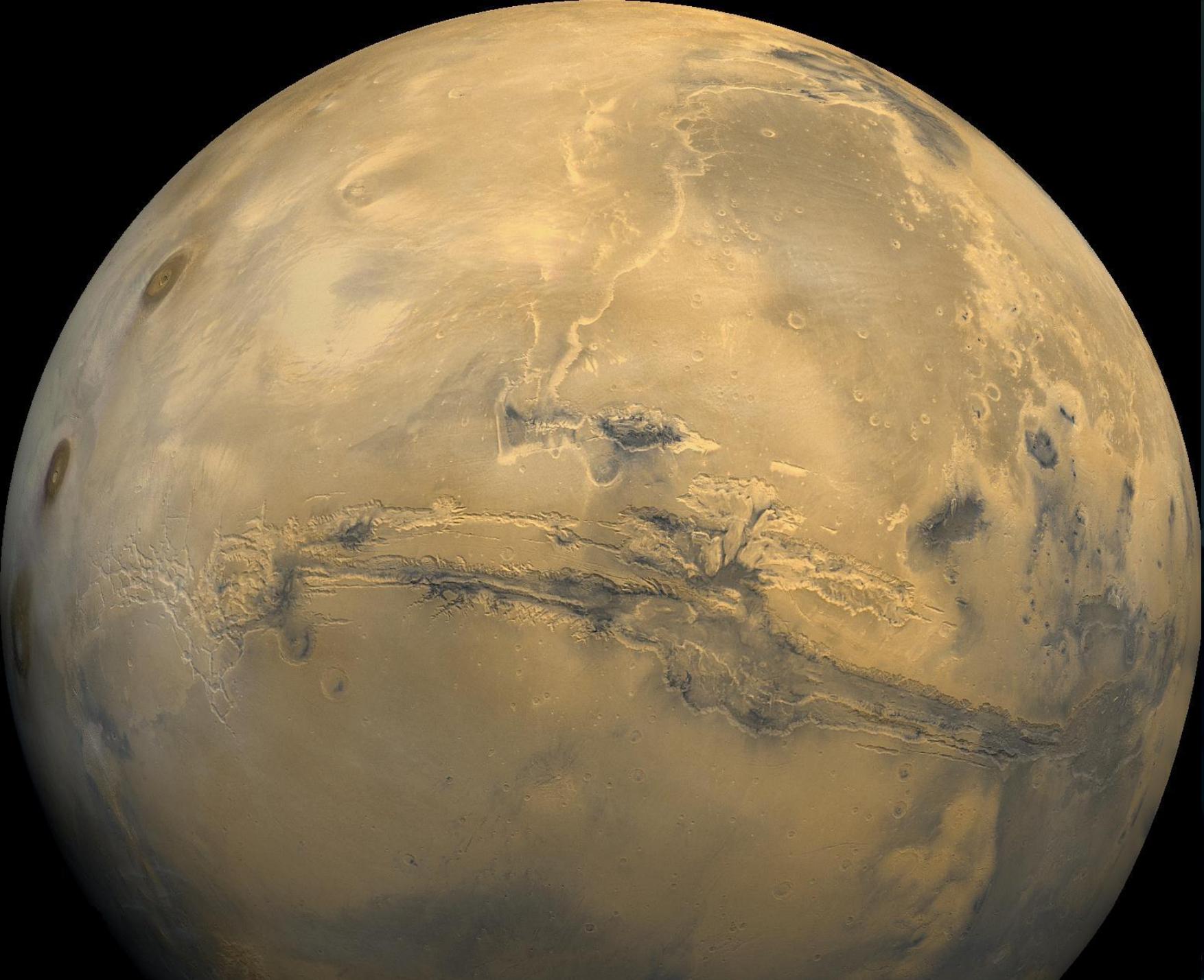


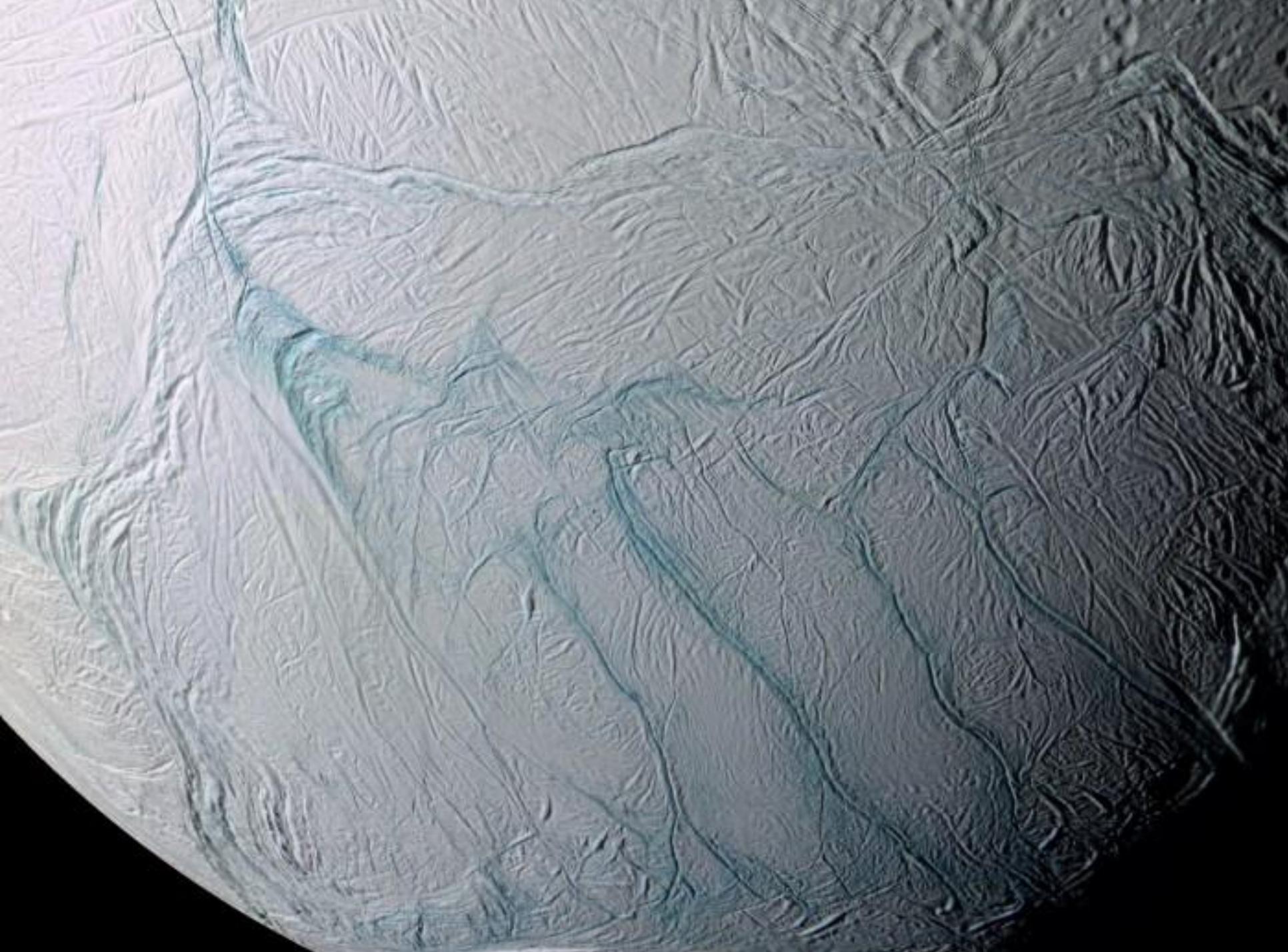




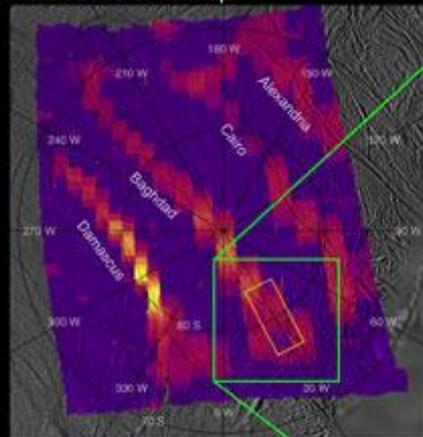




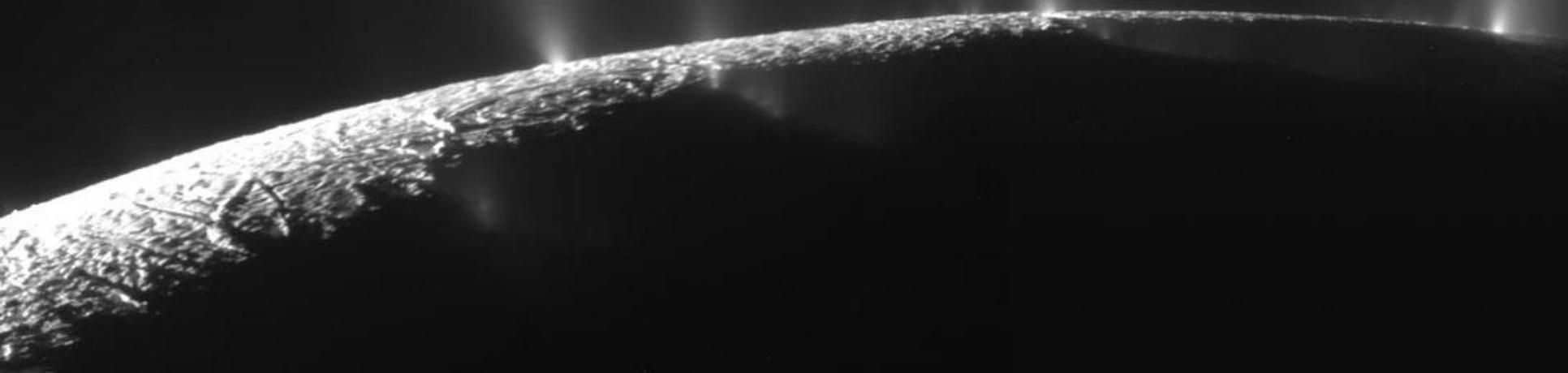
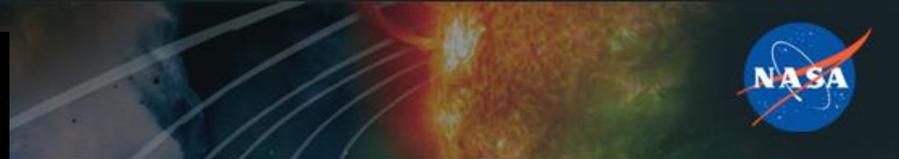
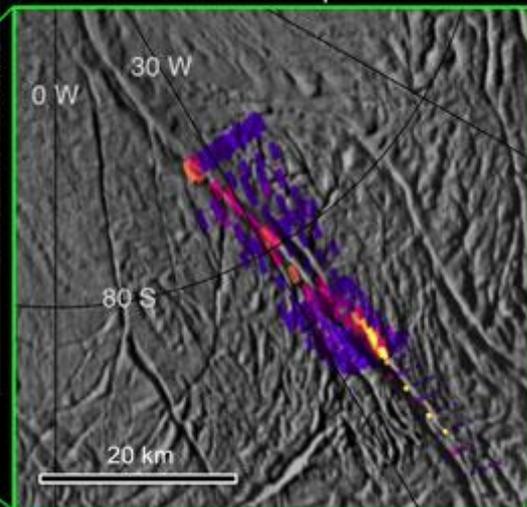




March 2008 CIRS map



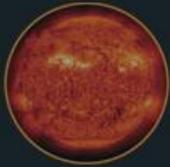
November 2009 CIRS map





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- Faculty – student teams
- Experiential Learning Opportunities (ELO)
- Professional Development for faculty and teachers (EPD)
- Materials using NASA science / engineering content



Questions



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