



Mapping and Planetary Spatial Infrastructure Team (MAPSIT)

Report to Planetary Advisory Committee (PAC)
Dec 5–6, 2022 Meeting



Updates to MAPSIT Steering Committee

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Sander Gossens (NASA Goddard)

Justin Hagerty (USGS), *Ex Officio*

Trent Hare (USGS)

Jay Laura (USGS)

Sam Lawrence (JSC), ESDMD rep, *Ex Officio*

Myriam Lemelin (Université de Sherbrooke, Canada)

Jeannette Luna (Tennessee Tech Univ.)

Becky McCauley Rench (NASA HQ), *Ex Officio*

Moses Milazzo (Other Orb), *Ex Officio*

Pete Mougini-Mark (Univ. Hawaii)

Andrea Naß (DLR, Germany)

Jani Radebaugh (Brigham Young Univ.), *past Chair*

David Williams (Arizona State Univ.)



MAPSIT Findings (1 of 4)

Finding: There is a lack of community tools currently available for **landed image processing**. Many mission teams have to effectively start from scratch, which is particularly challenging for smaller mission teams.

- MAPSIT encourages the development of software to facilitate landed surface operations.
- As a proof-of-concept, the USGS (ISIS) just added support for MSL MastCam for working with grounded sensors via the Community Sensor Model.



MAPSIT Findings (2 of 4)

Finding: Missions with a dedicated “**lead cartographer**” role are more successful than missions without (when target relevant)

- MAPSIT encourages NASA to include language recommending or requiring this role in future calls (where appropriate)
- Examples of mission teams with a designated lead cartographer are VIPER (Volatiles Investigating Polar Exploration Rover) and Europa Clipper
- Some other missions have done this in less formal ways, e.g., Dr. Fred Calef (JPL) is the “keeper of the map” for Mars Science Laboratory



MAPSIT Findings (3 of 4)

MAPSIT has made the **Geologic Mapping Subcommittee (GEMS)** a standing MAPSIT subcommittee under the leadership of Prof. Jeanette Luna (it existed previously in various forms).

- GEMS will focus on issues specific to planetary geologic mapping
- A public call was extended for community membership, and representatives were selected to include planetary surfaces across the Solar System
- Subject matter experts are invited to collaborate across groups
- Group will meet monthly to discuss issues pertinent to geologic mapping
- Initial meetings focused on status of geologic mapping on Venus (in coordination with VEXAG)
 - Desire to **convene future workshop on Venus mapping**
- Future meetings planned to focus on status of lunar geologic mapping (in coordination with LEAG)



MAPSIT Findings (4 of 4)

- As a follow up to the Final Report of the Lunar Critical Data Products Specific Action Team (LCD-SAT; doi: 10.5281/zenodo.7236426), **a Lunar SDI group has been established**
- The Lunar SDI (Spatial Data Infrastructure) group is working diligently on governance documents, and standards with a targeted outreach window in the late winter or early spring. Anyone interested in our work can see it here:
<https://psdi.astrogeology.usgs.gov/moon/governance/intro/>
- The Europa SDI continues to make progress and is linked at the same website.



Upcoming activities

- **6th Planetary Data Workshop (PDW):** June 27-30, 2023 (planned), Flagstaff, AZ, in hybrid format
 - Organizers: Trent Hare (USGS)
- **Planetary Geology Mappers' Meeting:** June 2023 adjacent to PDW, Flagstaff, AZ, also in hybrid format
 - Organizers: Jeanette Luna (TN Tech) and Jim Skinner (USGS)