

Mapping and Planetary Spatial Infrastructure Team (MAPSIT)

**Findings for the Planetary Advisory Committee
(PAC), July 9–10, 2024 Meeting**

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David Williams (Arizona State Univ.)

MAPSIT Roadmap

- <https://www.lpi.usra.edu/mapsit/roadmap/MAPSIT-Roadmap-2019-06-19.pdf>
- Spatial data contribute to the success of endeavors at NASA if they are correctly acquired and accessible to all interested groups. MAPSIT encourages the creation of initiatives to ensure that planetary spatial data are correctly obtained and processed and are discoverable and usable for a wide range of research and exploration purposes.
- Sample finding: Existing and new planetary spatial data should be easily discoverable and accessible, and data access tools must evolve with the technology.

MAPSIT Findings (1) – Geologic Mapping

Finding 1: MAPSIT encourages continued support for geologic mapping endeavors as a component of planetary exploration, including the Lunar Mapping Program element in ROSES 2024 (NNH24ZDA001N-LMAP).

- This element enables participation in a “geologic mapping team in the planning and execution of campaign-style mapping of selected regions of the Moon.” A central objective would be to produce “targeted, innovative, and content-diverse geologic maps that will aid in lunar exploration as context for scientific investigations, guidance for region and site down selection, and/or surface operations.”
- This follows the recommendations of the Lunar Surface Science Workshop, *"Geological Mapping to Support Artemis Strategic Decisions"* Aug 16–17, 2023 (Virtual). Organizers: J. Skinner (USGS), A. Huff (ASU), J. Luna (TNTech), R. Watkins (NASA HQ)
- The MAPSIT Geologic Mapping (GEMS) subcommittee is regularly meeting to engage with the planetary mapping communities (researchers, MAPSIT, NASA, USGS) and helping to prioritize cross-body mapping goals. Contact GEMS chair Jeannette Luna for more information.

MAPSIT Findings (2) – Software for Planetary Data

Finding 2: MAPSIT sees a community-wide need to discuss and identify critical software gaps for planetary data analysis. MAPSIT urges a Specific Action Team (SAT) be formulated and requests direct involvement in this effort

- Some efforts (e.g., through STMD) seek to identify and fill technology gaps; however, MAPSIT sees a particular need for continued development of software relevant to planetary science and data analysis.
- MAPSIT views this assessment as essential for the long-term planning of infrastructure investments and analyses of planetary data, as well as for upcoming missions (one example, software to visualize data collected on the Moon's surface).
- This assessment need fits with the recommendations of the Lunar Critical Data Products SAT Report (2021) <https://doi.org/10.5281/zenodo.7236426>

Additional MAPSIT Findings

Finding 3: MAPSIT endorses NASA's ongoing efforts to support researchers and promote training and accessibility in the planetary data ecosystem.

- MAPSIT endorses the PSD support of planetary data training workshops and similar endeavors aimed at broadening participation (e.g., <https://rgcps.asu.edu/gis-pdtw/>)

Finding 4: MAPSIT encourages the continued NASA support of efforts producing analysis-ready data products in a platform-agnostic format.

- These products maximize accessibility and findability of PSD data in the planetary data ecosystem

Finding 5: MAPSIT encourages continued support for planetary spatial data infrastructures.

- SDIs engage the community and help formulate standards and maximize accessibility and findability of PSD data

Upcoming community activities

- **Planetary Geology Mappers' Meeting**

August 14-16, 2024, adjacent to the Workshop on Terrestrial Analogs for Planetary Exploration, Flagstaff AZ. Hybrid format.

- Organizers: Jim Skinner (USGS), Jeanette Luna (TN Tech) and Amber Gullikson (USGS)
- <https://www.hou.usra.edu/meetings/pgm2024/>

- **Planetary Data Training Workshops**

Organizers: David Williams et al.

- Funded via TWSC grant ending in 2024, will support 2 additional events in 2024 (see <https://rgcps.asu.edu/gis-pdtw/>)