Mapping and Planetary Spatial Infrastructure Team (MAPSIT)

Report to Planetary Advisory Committee (PAC)
March 1–2, 2021 Meeting

Who we are: MAPSIT Steering Committee

Brad Thomson (Univ. Tennessee), *Chair as of Jan 2021*

Julie Stopar (LPI), *Vice Chair*

Brent Archinal (USGS)

Ross Beyer (SETI/NASA Ames)

Dani DellaGiustina (Univ. Arizona)

Caleb Fassett (NASA/Marshall), *retiring 2021*

Lisa Gaddis (LPI), *retiring 2021*

Sander Goossens (NASA Goddard)

Justin Hagerty (USGS)

Trent Hare (USGS)

Jay Laura (USGS)

Pete Mouginis-Mark (Univ. Hawaii)

Andrea Naß (DLR, Germany)

Alex Patthoff (PSI)

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

Sarah Sutton (Univ. Arizona)

David Williams (Arizona State Univ.)

What we do: MAPSIT Roadmap

"The MAPSIT community is comprised of all planetary scientists with interest in planetary spatial data. This roadmap represents a summary of the spatial data-related topics considered to be of highest current priority in the coming five-year period (2019 to 2023). The overarching theme is ***to ensure that planetary spatial data meet the broadest needs of the planetary science community.***"

https://www.lpi.usra.edu/mapsit/roadmap/

MAPSIT Findings (1/4)

MAPSIT endorses a recent knowledge inventory of foundational data products in planetary science (Laura and Beyer, 2021), and will interface with AGs to review the paper, consider next steps, and potentially incorporate into their own findings, especially with respect to funding prioritization.

Full citation: Laura J. R. and R. A. Beyer (2021) Knowledge Inventory of Foundational Data Products in Planetary Science, *The Planetary Science Journal, 2*(18), doi:10.3847/PSJ/abcb94.

MAPSIT Findings (2/4)

Progress on PSDI creation (Planetary Data Spatial Infrastructure)

- In line with MAPSIT's Roadmap, MAPSIT applauds the creation of a part of preliminary PSDI for Io (Williams et al., 2021 LPSC).
- MAPSIT encourages the continued development of a Europa PSDI, which is currently underway.

A reminder from Laura et al. (2018) ESS:

Spatial data infrastructure (SDI) is the enabling collection of spatial data users, data interoperability agreements, policies and standards, data access mechanisms, and the spatial data themselves (Rajabifard et al., 2002). In the context of planetary science, spatial data are any data with a spatial component including visible and infrared sensor data, radar data, spectrometer data, and even data such as the Apollo samples that include collection location information.

MAPSIT Findings (3/4)

MAPSIT encourages the creation of a PSDI for the Moon, in collaboration with LEAG, LSIC, and other appropriate parties.

- With numerous lunar efforts from NASA, the commercial sector, and other space agencies underway, now is the ideal time to establish a lunar PSDI that benefits all.
- Similar to MAPSIT finding presented Nov. 2020.
- Note the workload required to create a lunar PSDI will be non-trivial; will likely have to proceed as a funded effort rather than staffed via volunteers on a best-effort basis

MAPSIT Findings (4/4)

MAPSIT appreciates the establishment of an Independent Review Board (IRB) for the Planetary Data Ecosystem (PDE).

- The IRB's stated goals are to define the full environment, identify missing or overly redundant elements, and provide findings and prioritized, actionable recommendations for PSD's long-term planning in support of the PDE, all of which are aligned well with MAPSIT's objectives.