Mission: The acquisition, organization, and analysis of planetary spatial data, including images, cartographic products, and geologic mapping are critical for linking science investigation and exploration planning for all solid bodies in the Solar System. The Mapping and Planetary Spatial Infrastructure Team (MAPSIT) is a community-based interdisciplinary forum for the discussion, analysis, and representation of matters concerning the creation and development of planetary geographic information and cartographic products, a program of sustained planetary geologic mapping, and the tools necessary for these capabilities, particularly as they pertain to the future direction of the Cartography Program executed by the United States Geological Survey. The MAPSIT mission is to advance American objectives in space achievement by ensuring that planetary data is usable for any conceivable purpose, now and in the future, by the scientific and engineering communities. MAPSIT will:

[1] Provide findings concerning the scientific rationale, objectives, technology, and long-range strategic priorities for integration of image datasets, geologic mapping, geospatial software development, and cartographic programs;
[2] Help ensure that the highest geospatial data analysis, cartographic, planetary nomenclature, and geologic mapping standards are developed for and maintained in present and future NASA flight missions and research activities;
[3] Assess the accuracy and precision required for cartographic and geographic information systems technologies and products;
[4] Help to coordinate and enable the co-registration of datasets from international missions with those from US missions; and

Together, these actions will help ensure that the planetary science community can widely leverage planetary geospatial data and products to make ongoing research discoveries that advance Solar System research goals.

MAPSIT will provide findings to the USGS Astrogeology Science Center, the NASA Science Mission Directorate (SMD), and the NASA Human Exploration and Operations Mission Directorate (HEOMD).

Responsibilities: To execute its mission, MAPSIT performs two functions:

1) Program Analysis: MAPSIT is responsible for providing findings relating to long-range strategic NASA cartographic planning. MAPSIT is also responsible for reviewing and prioritizing the cartographic and planetary mapping objectives represented in past, present, and future NASA flight mission operations, research and analysis programs, cartographic research, geospatial software development, and geologic mapping programs. MAPSIT provides findings in response to requests from the USGS, NASA HEOMD, NASA SMD, the NASA Space Technology Mission Directorate (STMD), and the NASA Advisory Council (NAC). Findings and associated analyses are forwarded to the originator of the request and relevant NAC Committees are briefed on the results as required. In its role as a program analysis group, MAPSIT may organize ad hoc or standing subcommittees to address specific issues, with membership open to community-based experts upon invitation from the Steering Committee. Standing subcommittees must be chaired by a member of the steering committee. Ad hoc
subcommittees may be chaired by experts from outside of MAPSIT upon invitation from the Steering Committee.

2) **Community Liaison:** MAPSIT will maintain a close liaison with SMD, HEOMD, STMD, other NAC Analysis Groups, Federal mapping agencies, allied space agencies, and relevant international coordination entities (e.g., the International Astronomical Union). MAPSIT will facilitate international collaboration, proactively facilitate the generation of geospatial data products and programmatic capabilities required for the planning of American robotic precursor and human exploration of the Solar System, and enable a broad continuum of Exploration activities, which include (but are not limited to) science analysis of planetary surfaces, the identification of safe landing sites, sampling locations, hazard assessment, and the geospatial characterization of in-situ resources.

**Organization:** The MAPSIT Steering Committee consists of the Chair, the Vice-Chair, the Past Chair, the Executive Secretary, the Planetary Science Subcommittee Representative, the SMD and HEOMD Points of Contact (one of which acts as the Executive Secretary), and at-large representatives from the planetary science and exploration communities. This ensures corporate memory within the Steering Committee.

The PSS representative should be a member of the Planetary Science Subcommittee (PSS) of the NASA Advisory Council (NAC), and as such will be nominated to a three-year term to the PSS. In the event that the MAPSIT Chair does not yet hold an appointment on the PSS, the PSS Representative will report to the MAPSIT Chair and communicate community findings to the PSS.

Community-based Members of the Steering are appointed by the MAPSIT Chair after consultation with the Steering Committee. Membership of the Steering Committee will be drawn from the science and Exploration communities, including the following groups [a] Planetary scientists (i.e., users and producers of cartographic and geospatial Solar System data products), such as representatives from universities, the United States Geological Survey, the Solar System Exploration Virtual Institute, and the Lunar and Planetary Institute [b] Federal mapping agencies [c] Planetary geologic mappers, cartographers, geodesists, and photogrammetrists [d] members of planetary flight mission teams producing cartographic data products [e] software experts with geospatial application development expertise. Appointments will normally be for a 3-year term and may be renewed at the discretion of the Chair. Appointments may be terminated at any time by mutual agreement.

MAPSIT will meet at least biannually or as otherwise directed. The MAPSIT Chair and Vice-Chair will set the regular annual meeting schedule in consultation with the Steering Committee. Logistical and organizational support for MAPSIT activities will be provided through the USGS and/or NASA SMD.