

# THE GEOLOGIC MAPPING SUBCOMMITTEE (GEMS) of the Mapping and Planetary Spatial Infrastructure Team (MAPSIT)

## -Operational Charter-

### **DIRECTIVE**

The Geologic Mapping Subcommittee is a standing subcommittee that functions beneath the NASA-recognized Mapping and Planetary Spatial Infrastructure Team (MAPSIT), the advisory (or assessment) panel for planetary spatial infrastructure issues within NASA's Planetary Science Division. GEMS exists to:

1. Assist the USGS Planetary Mapping Coordinator regarding issues related to the implementation of scientific and technical standards, guidelines, and work flows for the completion of NASA-funded geological maps of planetary (non-terrestrial) bodies at all scales (global, regional, local).
2. Assist the USGS in the development of new standards and/or mapping best practices for planetary objects to which geologic mapping has not been applied, or for new data sets to which to apply geologic mapping techniques.
3. Organize the annual Planetary Geologic Mappers' (PGM) meeting and ensure that activities of the meeting are posted for community access.
4. Serve as a conduit between the planetary geologic mapping community, MAPSIT, and NASA for compiling community concerns, obstacles, and recommendations, and formally reporting these to MAPSIT for discussion and consideration on how they directly or indirectly impact the current and future health and stability of planetary spatial data infrastructure (PSDI).

### **HISTORY**

In 1996, GEMS was first established as a subcommittee of the Planetary Cartography and Geologic Mapping Working Group (PCGMWG), to develop recommendations and best practices for the production of planetary geologic maps by the USGS Astrogeology Science Center (ASC). Since then, GEMS has served to facilitate critical communication between and among planetary scientists, the USGS, and NASA HQ in support of the discipline of planetary geological mapping.

### **MEMBERSHIP**

GEMS will consist of 6 to 8 members who collectively represent the programmatic, scientific, and technical diversity of the PGM community, including:

1. A community-designated Chairperson, not affiliated with the USGS ASC
2. The current USGS Map Coordinator
3. An "ex-officio" NASA representative

GEMS as a whole will provide appropriate scientific breadth and technical expertise to advise in matters related to scale-based geological mapping of planetary bodies. GEMS members will be identified in order to achieve a reasonable balance with respect to Solar System objects and current

and future exploratory missions and may include mission personnel, international collaborators, and student representatives. GEMS membership is solicited informally from the members of the planetary geologic mapping community and is completely voluntary; members of the community interested in serving on GEMS should contact one of the existing members. The role of GEMS members is to offer guidance and information on implementation of NASA's planetary geologic mapping program, collect community concerns, and identify a potential range of solutions to any issues, problems, or concerns that arise.

GEMS members will be expected to fulfill a 4-year term, though member re-appointment during consecutive and/or subsequent terms may be permitted for up to an 8-year total term. Membership less than the normal 4-year term is not considered ideal, though can be considered by GEMS as needs arise in order to meet the number of required members, temporarily augment or replace scientific expertise due to mission-related time or data set factors, or to meet demands on map production made by NASA and/or the scientific and technical community.

### **LEADERSHIP**

GEMS will be led by a Chairperson who will be responsible for organizing and executing the directives outlined herein, including formally compiling, posting, and reporting community concerns, obstacles, and recommendations to MAPSIT and organizing the annual Planetary Geologic Mappers meeting. The GEMS committee will select a Chairperson from among its members and recommend the potential Chair to MAPSIT for their approval. The GEMS Chairperson will be an existing or prior GEMS member and will necessarily be (or become) a member of the MAPSIT steering committee.

### **MEETINGS**

GEMS will meet twice a year on a regular basis: once at the Lunar and Planetary Science Conference (March) and once at the Planetary Geologic Mappers Meeting (June). The GEMS Chairperson will be responsible for coordinating meetings, compiling and prioritizing topics, and compiling minutes for posting on the MAPSIT webpage. Additional meetings may be scheduled as necessary.

### **COMMUNICATION**

The USGS Planetary Mapping Coordinator will compile and present reports to MAPSIT, as needed or requested, including:

1. A summary of the current health of the planetary geologic mapping program;
2. The number of NASA-funded and USGS-produced scale-based geological mapping projects:
  - a. Active (funded but un-submitted)
  - b. Under review
  - c. In production
  - d. Published (since last report).
3. Cause and effect of any refinements to the existing standards and work flows.
4. Average times for maps per work flow stage (to the extent possible).

The GEMS Chairperson will compile and present reports to MAPSIT, as needed or requested, including:

1. Lists of concerns, or “Findings” from the planetary geologic mapping community, on problems or issues related to the planetary geologic mapping program that need to be addressed by NASA Planetary Science Division;
2. Position statements from the community of planetary geologic mappers on implementation of aspects of the planetary geologic mapping program.

**TRANSPARENCY**

The GEMS Chairperson will compile and post GEMS and PGM meeting agendas and discussions on the MAPSIT webpage (currently hosted by the Lunar and Planetary Institute). If necessary, information that is deemed sensitive may be stricken from publically-posted itineraries.