

From Planetary Mapping to Map Production: Planetary Cartography as integral discipline in Planetary Sciences

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Cartography is one of the most important communication channels between users of spatial information and laymen as well as the open public alike. This applies to all known real-world objects located either here on Earth or on any other object in our Solar System. In planetary sciences, however, the main use of cartography resides in a concept called *planetary mapping* with all its various attached meanings: it can be (1) systematic spacecraft observation from orbit, i.e. the retrieval of physical *information*, (2) the *interpretation* of discrete planetary surface units and their abstraction, or it can be (3) planetary cartography *sensu strictu*, i.e., the technical and artistic creation of map products. As the concept of planetary mapping covers a wide range of different information and knowledge levels, aims associated with the concept of mapping consequently range from a technical and engineering focus to a scientific distillation process.

Among others, scientific centers focusing on planetary cartography are the *United State Geological Survey* (USGS, Flagstaff), the *Moscow State University of Geodesy and Cartography* (MIIGAiK, Moscow), *Eötvös Loránd University* (ELTE, Hungary), and the *German Aerospace Center* (DLR, Berlin). The *International Astronomical Union* (IAU), the *Commission Planetary Cartography* within *International Cartographic Association* (ICA), the *Open Geospatial Consortium* (OGC), the *WG IV/8 Planetary Mapping and Spatial Databases* within *International Society for Photogrammetry and Remote Sensing* (ISPRS) and a range of other institutions contribute on definition frameworks in planetary cartography.

Classical cartography is nowadays often (mis-)understood as a tool mainly rather than a scientific discipline and an art of communication. Consequently, concepts of information systems, mapping tools and cartographic frameworks are used interchangeably, and cartographic workflows and visualization of spatial information in thematic maps have often been neglected or were left to software systems to decide by some arbitrary default values.

The diversity of cartography as a research discipline and its different contributions in geospatial sciences and communication of information and knowledge will be highlighted in this contribution. We invite colleagues from this and other discipline to discuss concepts and topics for joint future collaboration and research.