

## **Implementation of Cartographic Symbology Standards: For a better understanding of GIS-based Planetary Geological and Geomorphological Mapping**

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The variety of data in different wavelength and de-ri-ved data such as digital terrain models, allows to explore the evolution of planetary bodies by analyzing and geoscientifically interpreting the surface structure. By using modern GIS techniques and in a comparative mapping process the results are represented in thematic, mostly geological and geomorphological maps and allows derivation of additional information, by means of morphometric measurements. To allow for an efficient collaboration among different scientists and groups, all mapping results have to be uniformly prepared, described, managed and archived. In order to simplify the mapping process, GIS-based approaches are currently underway [1, 2].

To achieve this, we are currently working on the GIS-based implementation of cartographic standardized symbols. For the technical implementation of the symbols we used [3] as a basis, and in particular appendix chapter 25 - Planetary Geology Features. This set of symbolizations will grow by community feedback within the research group Geological Context of Life of the Helmholtz Alliance Planetary Evolution and Life in the course of ongoing mapping work and specific foci to visualize spatial objects.

Subsequently, we generated different scenarios for the implementation of the symbology into an underlying database model [1].

The usage of the predefined symbology, which can be used either in stand-alone GIS projects and which can also be integrated into a more sophisticated database model, improves the mapping process significantly because the mapper does not have to deal with detailed technical and cartographic issues. Furthermore, with the help of this symbol catalogue, geological and geomorphological maps in the field of Planetary Research follow cartographic guidelines as close as possible and therefore allow a better understanding across study groups.

### Acknowledgement

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### References

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