STANDARDIZED SCHEMA FOR MAPPING IMPACT CRATERS: RESULTS
A. E. Huff¹, H. C. Buban¹, and J. A. Skinner, Jr.¹, ¹U.S. Geological Survey, Astrogeology Science Center, 2255 N. Gemini Dr., Flagstaff, AZ, 86001 (ahuff@usgs.gov).

ABSTRACT

Impact craters of various size ranges and modification stages are present on nearly every solid surface body in the Solar System. As a result, impacts and their resultant morphologic structures and geologic deposits have been extensively studied and documented, and impact crater units are present on nearly every non-Earth planetary map published. However, the historic cartographic representations of impact units on planetary geologic maps is inconsistent, misleading, and (or) erroneous. For example, geologic units exposed within crater walls are exposed target rock but mapped as a crater unit – falsely implying a younger age and deposition by cratering processes. To address this and other flaws, the USGS Planetary Geologic Map Coordination Group has drafted a standardized schema for mapping impact craters. This schema is not intended to change or replace existing morphology classification schemes, e.g. [1].

The schema is centered around scale-based cartographic representation and a foundational set of morphologic units that are to be adapted for crater morphologies or modification styles unique to certain regions, scales, or planetary bodies. Depending on the map publication scale, crater diameters that are 5 mm or less will be a surface feature, 5-16 mm will be a single unit based on relative age and therefore degree of modification, and >16 mm will be morphologic units: crater ejecta, crater wall-undivided, crater floor, and crater peak-undivided. The application of this schema will be adapted as necessary by the authors to best convey the range of crater sizes, morphologies, and preservation evident in their map areas.