

EGU2020-11206

<https://doi.org/10.5194/egusphere-egu2020-11206>

EGU General Assembly 2020

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A Proposed Planetary Extension for FGDC Geospatial Metadata

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As part of USGS Astrogeology's ongoing efforts to support planetary spatial data infrastructures (PSDI), this extension seeks to codify common descriptions of planetary geoscience data that do not have an equivalence in the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM) core standard [1, 2]. This profile will be submitted for adoption by the FGDC so that it may be used by the community and will be revised as necessary to ensure it remains useful to the broadest base of planetary scientists.

Those active in supporting metadata efforts will point out that many users of FGDC CSDGM are transitioning to the more robust International Standards Organization (ISO) geospatial data standards, which is also officially endorsed by FGDC itself. Fortunately, the USGS is actively leading in this migration, but it is expected to take years, and support for the current FGDC CSDGM standard remains widespread.

The basis for our proposed <solarsys> metadata extension is the need to 1) represent planetary coordinate reference systems and 2) capture supplemental fields unique to planetary science. Many of these fields are used in Astrogeology's Astropedia, which has evolved over years to support the discovery of a wide variety of planetary data products, from global mosaics to rover observations [3].

It is the recommendation of these authors that a group representative of the broader planetary science community should assume stewardship of the metadata profile so that it can be of greatest accessibility and use, and be responsive to changes needed by the user base.

The first plans are to work with USGS developers of the Metadata Wizard Toolkit to integrate the extension along with controlled vocabularies for planetary bodies, space exploration missions and their instruments [4]. This will also posture the project to participate in the transition from FGDC to ISO. The authors encourage European colleagues who wish to develop a complementary profile with ISO or another standards body to collaborate with USGS. Maintaining alignment during the developmental phase will both accelerate progress and promote interoperability as they are put into use.

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