

Standards Change Request

Correct Keywords in IMAGE_MAP_PROJECTION Object

SCR3-1115.v2

Provenance:

Date: 2007-05-23

Revised: P. Garcia, C. Isbell 5/23/07

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Issue and Background:

Section B.13 of the latest PDS Standards Reference, Version 3.7 (2006-02-01), and the Planetary Science Data Dictionary currently specify as required, a number of keywords for the IMAGE_MAP_PROJECTION object that are not pertinent to all map projections. We propose that these keywords should be changed to optional rather than required. The keywords in question are:

FIRST_STANDARD_PARALLEL
SECOND_STANDARD_PARALLEL
REFERENCE_LATITUDE
REFERENCE_LONGITUDE

While it is true that a value of "N/A" is used to denote that a keyword is "not applicable" to the product in question, the use of these keywords in product labels where the keyword is not pertinent, can cause confusion for the data user, unnecessarily clutter the label, force the data producers to do extra work, and make the label more cumbersome to interpret.

An argument can be made that every keyword that is ever required for *any* map projection should be included in *every* IMAGE_MAP_PROJECTION object; however, we believe that this is the wrong long-term approach to take. For example, six new keywords required to define the "Oblique Cylindrical" projection used for some Cassini RADAR data products were submitted by the Cassini RADAR team and ingested into the Data Dictionary. These do not currently appear on the list of required keywords for the IMAGE_MAP_PROJECTION object, and we don't believe that they should. However, according to the "every keyword, every time" logic, we would add these to all IMAGE_MAP_PROJECTION objects. Again, we do not support this approach. There

are also other existing map projection related keywords, such as PROJECTION_LATITUDE_TYPE, already in the Data Dictionary that are not on the “required” list for the IMAGE_MAP_PROJECTION object. We do not advocate the addition of these keywords, which are specific or unique to certain map projections to the IMAGE_MAP_PROJECTION object for all products.

As more types of products from more instruments are archived, there will certainly be more map projection related keywords ingested into the Data Dictionary. We simply do not believe that a better data product is produced by adding to the label a proliferation of keywords which are not in any way pertinent to the product at hand and which contain a value of “N/A”.

Current Urgency:

Priority is high. The outcome of this SCR may affect the approach taken in the formation of MRO HiRISE RDR product labels.

Proposed Solution:

(1) Change the Required Keyword list in Section B.13 of Version 3.7 of the Standards Reference as follows:

- a) Remove: FIRST_STANDARD_PARALLEL
SECOND_STANDARD_PARALLEL
REFERENCE_LATITUDE
REFERENCE_LONGITUDE

(2) Amend the Optional Keyword list in Section B.13 of Version 3.7 of the Standards Reference.

- b) Add: FIRST_STANDARD_PARALLEL
SECOND_STANDARD_PARALLEL
REFERENCE_LATITUDE
REFERENCE_LONGITUDE

(3) Change the Required Keyword list in the PSDD for the IMAGE_MAP_PROJECTION Object.

- a) Remove: FIRST_STANDARD_PARALLEL
SECOND_STANDARD_PARALLEL
REFERENCE_LATITUDE

REFERENCE_LONGITUDE

(4) Amend the Optional Keyword list in the PSDD for the IMAGE_MAP_PROJECTION Object.

- b) Add: FIRST_STANDARD_PARALLEL
SECOND_STANDARD_PARALLEL
REFERENCE_LATITUDE
REFERENCE_LONGITUDE

Impact Assessment:

Overall impact is low.

Documentation

The above changes are to be incorporated into the "Planetary Data System Standards Reference" and into the "Planetary Science Data Dictionary" and no changes are required to the "Proposer's Archiving Guide" or the "Archive Preparation Guide".

Interface

No known affect.

Legacy Data and Software

- It is unlikely that legacy data will be affected.
- PDS Validation tools will not be affected.
- Legacy node and user software should not be affected (along as the tool validates against the pdsdd.full).

Interagency

No affect.

Additional Information:

N/A

Requested Changes:

PDS Standards Reference

(1) Change the Required Keyword list in Section B.13 of Version 3.7 of the Standards Reference.

- a) Remove: FIRST_STANDARD_PARALLEL
SECOND_STANDARD_PARALLEL
REFERENCE_LATITUDE
REFERENCE_LONGITUDE

(2) Amend the Optional Keyword list in Section B.13 of Version 3.7 of the Standards Reference.

- b) Add: FIRST_STANDARD_PARALLEL
SECOND_STANDARD_PARALLEL
REFERENCE_LATITUDE
REFERENCE_LONGITUDE

PDS Planetary Science Data Dictionary

(1) Change the Required Keyword list in the PSDD for the IMAGE_MAP_PROJECTION Object.

- a) Remove: FIRST_STANDARD_PARALLEL
SECOND_STANDARD_PARALLEL
REFERENCE_LATITUDE
REFERENCE_LONGITUDE

(2) Amend the Optional Keyword list in the PSDD for the IMAGE_MAP_PROJECTION Object.

- b) Add: FIRST_STANDARD_PARALLEL
SECOND_STANDARD_PARALLEL
REFERENCE_LATITUDE
REFERENCE_LONGITUDE