Title: Gridded data and HDF5 Format - Miscellaneous Updates (Revised version of S100WG4_A6)

S-100 Maintenance - Change Proposal Form (Draft)

Organisation	Raphael Malyankar	Date	11-Feb-2019 Revised 25-Feb-2020
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Change Proposal Type *(Select only one option)*

1.Clarification	2.Correction	3.Extension
		X

Location (*Identify all change proposal locations*)

S-100 Version No.	Part No.	Section No.	Proposal Summary
4.0.0	10c	9.3	Explicitly state which attribute indicates the spatial representation.
	10c	9.7 Tables 10c-11, 10c-12	Clarify that product specifications may restrict which of domainExtent or boundingBox is used in a data product. Add the following sentence to the Remarks cells in corresponding rows in Tables 10c-11 and 10c-12: Product specifications may require use of one or the other of the domainExtent or boundingBox attributes, depending on whether spatial extents of feature instances are definitely known to be rectangular in the coordinate system or definitely known to be of irregular shape.
	10c	9.7.2	Update Figure 10c-9 to depict dataCodingFormat as an enumeration instead of an integer. New diagram to be developed.
	10c	10.4	New subclause defining literals for dataCodingFormat. New row for dataCodingFormat=8 (S100WG5 4.18A).

Change Proposal

The changes to Part 10c are miscellaneous clarifications addressing questions which were discussed by email since Edition 4.0.0 was prepared.
[25-Feb-2020] A literal has been added to the data coding format enumeration for the new value being proposed in S100WG5_4.18A.

[Text in red is new or has been significantly revised after S-100 WG4. Also, all revisions to Part 8 in the WG4 proposal will be rolled into the Part 8 review.]

10c-9.3 Generalized dimensions and storage of coordinates and data

[Revise the second paragraph to explicitly mention the attribute which indicates the spatial representation.]

The key idea at the core of the structure is this: the organization of the data is logically the same for each of the various types of data, but the information itself will be interpreted differently depending on the type of spatial representation, which is indicated by the metadata attribute dataCodingFormat (defined in Table 10c-10 and clause 10c-4).

[New clause formally listing the values of data coding format.]
10c-10.4 Data coding format

Item	Name	Description	Code	Remarks
Enumeration	S100_HDF_ DataCodingFormat	Data coding formats for S-100 HDF5 data		
Literal	fixedStations	Data at multiple discrete fixed point locations.	1	
Literal	regularGrid	Data at grid points forming a regular grid with constant cell spacing.	2	Regular grids are commonly composed of perpendicularly crossing lines of equal spacing on each dimension, creating square or rectangular cells.
Literal	ungeorectifiedGrid	Data that does not include any information that can be used to determine a cell's geographic coordinate values, or in which cell spacing is variable, and there is no predefined association between one cell's location and that of another.	3	For example, a digital perspective aerial photograph without georectification information included
Literal	movingPlatform	Data at sequential discrete point locations of a moving sensor platform.	4	
Literal	irregularGrid	Data distributed over a grid with uniform cell spacing but irregular overall shape.	5	The irregularity of shape may consist of non-rectangular coverage area or relatively large regions which are not populated with data.
Literal	variableCellSize	Variable-density grid containing one or more regions with cell spacing that is a whole multiple of a common minimum uniform cell spacing.	6	The shape of the overall grid may be non-rectangular.
Literal	TIN	Triangulated irregular network.	7	A TIN is a representation of a continuous surface consisting entirely of triangular facets. The vertices at the corners of each triangle are shared with the adjacent triangle. These vertices form the control points of the coverage function.
Literal	stationwiseFixed	Data at multiple discrete fixed point locations organized by station.	8	

Change Proposal Justification

This proposal addresses requests for clarifications which were brought up by project teams since Edition 4.0.0 was prepared.The 25-Feb-2020 revision adds a definition for the data coding format proposed in S100WG5_4.18A.

What parts of the S-100 Infrastructure will this proposal affect?

☐   S-100 Feature Concept Dictionary Interface or Database
☐   S-100 Portrayal Register
☐   S-100 Feature Catalogue Builder
☐   S-100 Portrayal Catalogue Builder
☐   S-100 UML Models

Please send completed forms and supporting documentation to the secretary S-100WG.