

Title: WLA-compatibility – Clarification to Discovery Metadata**S-100 Maintenance - Change Proposal Form**

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|---------------------|--|--------------|-------------------------------|
| Organisation | Portolan Sciences LLC, for TWCWG chair team & S-104 PT | Date | 19-October-2023 |
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Change Proposal Type (*Select only one option*)

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|------------------|---------------|--------------|
| 1. Clarification | 2. Correction | 3. Extension |
| X | | |

Location (*Identify all change proposal locations*)

| No. | S-100 Version No. | Part No. | Section No. | Proposal Summary |
|-----|---|----------|-------------|--|
| 1 | 5.1.0 | 17 | 4.5 | Use the <i>specificUsage</i> attribute of dataset discovery metadata in the exchange catalogue to indicate datasets compatible with water level adjustment as described in S-98. |
| 2 | Alternate: S-98 1.1.0 (draft) | Annex C | C-23 (new) | Alternatively to (1) above , this proposal could be implemented as an ECDIS-specific requirement in S-98 instead of an S-100 clarification. Add in Annex C, new clause C-23: C-23 Facilitating detection of WLA-compatible datasets Exchange catalogue metadata for datasets compatible with the water level adjustment algorithm(s) described elsewhere in Annex C must conform to the following requirements for the S100_DatasetDiscoveryMetadata attribute <i>specificUsage</i> : <i>(insert paragraphs 1 and 2 from the proposal in the Change Proposal section below, adjusting the language above depending on whether the requirement is applied only to S-104 or also to S-101 and S-102).</i> |

Change Proposal

Specify content for the *specificUsage* attribute of **S100_DatasetDiscoveryMetadata** which can be used by ECDIS applications to detect datasets compatible with water level adjustment as described in S-98 Annex C, by adding the text below in the Remark column for *specificUsage*:

Datasets compatible with S-98 Ed. 1.1.0 water level adjustment algorithms must encode "WLA" (without quotes) as the (entire) content of this attribute, without preceding or following whitespace.

Datasets not compatible with S-98 water level adjustment algorithms must either omit the *specificUsage* attribute altogether or ensure that its value is different from

the string “WLA” (with or without quotes, and with or without preceding or following whitespace, to preclude potential human error).

At present we envisage this as applying only to S-104 (Water Level Information). If there is any question about whether other WLA-candidate data products (S-101, S-102?) might have WLA-incompatible datasets, it can be applied to those products too. A pattern match on the string content of this XML element (if the attribute is present, and matched on the whole string to prevent potential spurious matches on substrings) would distinguish WLA compatible and incompatible datasets.

Figure 1 below depicts the relevant section in S100_DatasetDiscoveryMetadata using the existing Edition 5.1.0 model and exchange catalogue schema.

```
<XC:specificUsage>
  <mri:MD_Usage>
    <mri:specificUsage>
      <gco:CharacterString>WLA</gco:CharacterString>
    </mri:specificUsage>
  </mri:MD_Usage>
</XC:specificUsage>
```

Figure 1. WLA specificUsage in S100_DatasetDiscoveryMetadata

If it is considered desirable to have additional content in *specificUsage*, separators or bracketing characters can be mandated, e.g., requiring each distinct usage to be enclosed in box brackets (“[WLA],[blah blah]”) or separated by semicolons, with or without spaces (“WLA; blah blah”). Implementations can use regular expressions to extract distinct usages as individual strings.

Change Proposal Justification

While it is possible for ECDIS applications to detect WLA-compatible datasets by opening the HDF5 datasets and examining their embedded metadata (vertical and horizontal datum, geographic extent, type of grid (*dataCodingFormat*), and type of data (forecast, prediction, observation, etc.), it is simpler and independent of the S-104 product specification to allow ECDIS applications to detect this by examining discovery metadata.

This proposal is designed as an interim change which does not entail a revision of the S-100 Edition 5.1.0 model or schemas and which qualifies as a “clarification” for S-100. A companion proposal describes an alternative which does entail changes to the S-100 Edition 5.1.0 model and schemas.

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
- S-100 GitHub Schemas

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