

## **NOAA's Use of FWIS in the ISO Standard for Geographic Metadata**

USA-WP-22 provides a summary of NOAA's review of the FWIS in consideration of the ISO Standard for geographic metadata. The USA reviewed the document <http://www.wmo.ch/web/www/metadata/WMO-core-metadata.html> which is referred to as the proposal for a "WMO Core Metadata" profile within the context of the ISO Standard for Geographic Metadata (ISO 19115). USA recommends that the WMO consider taking this decision one step further by adopting the ISO standard as the standard for WMO. Almost all of the fields in the WMO Core Standard (WCS) are also in the ISO Standard, and many important fields from the ISO Standard are included in the WCS). Unfortunately, many potentially important fields from the ISO standard are left out of the WCS proposal.

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The WMO Expert Team on Integrated Data Management (ET-IDM) should be commended for examining their proposed metadata standard in the context of the newly finalized ISO Standard 19115. They might consider taking this decision one step further by adopting the ISO standard as the standard for WMO. Almost all of the fields in the WMO Core Standard (WCS) are also in the ISO Standard, and many important fields from the ISO Standard are included in the WCS). Unfortunately, many potentially important fields from the ISO standard are left out of the WCS proposal.

As an example, the ET-IDM has chosen not to include the fields `parentIdentifier`, `hierarchyLevel`, and `hierarchyLevelName` from the base metadata record (`MD_Metadata`). These fields are potentially very important for specifying relationships between different metadata records and are thought by many to address a critical shortcoming of the existing FGDC metadata content standard. While it is true that these specific fields may not be used in many cases, including them (and others) for WMO members that need them does not have any apparent downside.

Another important element of the ISO standard that is missing from the WCS is the `metadataExtensionInfo` element and the related capability to extend the core standard in a standard way. The ET-IDM clearly recognizes the need for extensions in this document, but does not include a mechanism for doing those extensions in a standard way. The U.S. experience with the FGDC standard clearly indicates that domain specific extensions can improve metadata significantly in many cases. One of these cases which is potentially very relevant to the WMO is the Remote Sensing extensions that have recently been accepted by FGDC. These extensions include many elements that are critical to documenting data collected by satellites or gridded products created from those data.

There may also be a significant downside to having the WCS be similar to, but slightly different from, the ISO standard. Creating standards-compliant metadata is always an arduous task and asking data managers to keep track of two standards that are very close together may add unnecessary complexity. Plus, there are education and training issues. If WMO adopts the ISO standard, its members can take advantage of the training materials that will certainly be produced in the near future for the ISO standard. If the WMO standard remains slightly different than the WMO standard, the WMO will need to create and maintain their own materials, or constantly be supplying caveats to the users of the ISO materials. The same problems exist with technologies developed around the standard, such as the UNIDART and CliWare systems discussed in the meeting report. Both of these systems are being developed

for the proposed WMO Standard. They may also want to support the full ISO standard. Supporting two standards in software is clearly more complex than supporting just one.

The WMO ET-IDM clearly recognizes these downsides. They suggest that metadata implementers use the full ISO document for guidance and that "far more comprehensive" metadata standards would be required to fully meet the WMO requirements. They then make the potentially very dangerous statement that those standards should be "pursued by individual programmes." Unambiguously endorsing the ISO standard at the start would lead to a much less confusing and more interoperable implementation of the Future WMO Information System.