

CGMS-WMO-TOR-Task-Force-On-Metadata-Implementation

In response to CGMS action/recommendation CGMS-40 WGIV 40.42

During CGMS 40, EUM-WP-15 “Facilitation of satellite data exchange under WMO WIS” recommended an increased involvement from the satellite data providers in the WMO Information System (WIS).

As a resulting action, it was decided to create a CGMS-WMO Task Force on Metadata implementation allowing satellite providers to provide consolidated views on metadata definition. The main mission of the Task Force is to address and coordinate the development of relevant WIS metadata records authorising users to efficiently discover satellite products in the WIS catalogues.

This document presents the Terms of Reference of the CGMS-WMO Task Force as well as its relation with its WMO counter-part, the Inter-Program Expert Team on Metadata and Data Representation Development (IPET-MDRD).

Action/Recommendation proposed:

- Agree on the CGMS-WMO Task Force on Metadata Implementation Terms of Reference.
- Nominate Task Force participants and agree on the constitution.

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1 INTRODUCTION

During CGMS 40, in response to the problems presented in EUM-WP-15 “Facilitation of satellite data exchange under WMO WIS”, it was decided to start the creation of a CGMS-WMO Task Force on Metadata implementation. This document describes the Terms of Reference for that Task Force.

2 CGMS-WMO TASK FORCE ROADMAP

As detailed in EUM-WP-15 “Facilitation of satellite data exchange under WMO WIS”, the WIS infrastructure has been declared operational in 2012 and has now reached a stage where satellite data providers should increase their involvement. Currently, only a limited number of satellite products are discoverable on the WIS and satellite data providers should strengthen their participation to the WIS by making more satellite products available via the WIS infrastructure. Satellite products can be published on the WIS by creating metadata records describing these products and making them discoverable via the WIS catalogues. Satellite data providers need to define a coordinated and consistent approach to create satellite product metadata records to provide a coherent and meaningful search experience to the users.

The CGMS-WMO Task Force should be used as an open forum for work on satellite products interoperability especially within the context of the WMO WIS. One goal of this Task Force is to raise and address issues regarding the creation and management of satellite data products and to channel the resulting consolidated views and advices towards WMO WIS responsible bodies, in particular the IPET-MDRD and the Inter-Programme Expert Team responsible for maintaining the WIS metadata standard WMO Core Profile 1.3¹.

For most of the CGMS members, the interoperability effort and definition of ISO compliant metadata has been done not solely for the WIS project. This has resulted in the need to fulfil different requirements, regarding the metadata definition for different communities. Some organisations maintain different ISO profiles for their metadata definitions, which has become a heavy and unnecessary burden. Ideally, there should be no need to maintain different profiles of metadata and the standard describing the metadata should be aligned such that different communities can be addressed. The CGMS-WMO Task Force shall perform a Gap Analysis between the WMO Core Profile 1.3 and other metadata recommendations based on ISO19115/ISO19139².

¹WMO Core Profile 1.3 available here: http://wis.wmo.int/2013/metadata/index.php?dir=/version_1-3-0

²HMA *Heterogeneous Missions Accessibility(HMA) Project* or CWIC (*CEOS WGISS Integrated Catalog*)

The CGMS-WMO Task Force shall derive from this Gap Analysis, recommendations to make the profiles converge towards a common unique format. A roadmap shall be defined to organise the unification of these ISO profile and the work done by the IPET-MDRD team on future evolution for the WMO Core Profile shall be considered. The gap analysis recommendations and roadmap shall be reported to the IPET-MDRD in order to address the satellite data providers' requirements.

The WIS infrastructure should become essential for users if the search experience allows them to easily find datasets relevant to their needs. Currently the information regarding satellite data products indexed in the WIS catalogues is generally insufficient to provide pertinent search results. At the moment, a user has often to know about the existence of a dataset in order to find it on the WIS, because the products information contained in the metadata records is incomplete or incorrect. On the contrary providing a good search experience would be to let users discover new satellite datasets coming from a particular type of instrument (for instance a sounder).

To improve the search experience, the CGMS-WMO Task Force shall run an analysis and define, on a per type of satellite data records, the set of relevant categories of information that will allow a knowledgeable user to find satellite data and obtain a complete and relevant description of the product. The Task Force shall also recommend how this information should be specified within the WMO Core Profile. Results of this analysis shall be feedback to the IPET-MDRD Team.

Finally it is often not possible to relate on the WIS catalogues two similar satellite products coming from two different organisations because the information available in the metadata records is differently described semantically or structurally. For example different ISO attributes or objects can be used to express the same information or the product description is based on a different lexical field. As a consequence, users and/ or software dealing with the metadata have difficulties to relate metadata records describing identical satellite data. Best practices and templates on how to define satellite metadata should allow satellite data providers to define less ambiguous metadata. When possible, code lists and thesaurus should be defined to enforce how some of the fields have to be populated. This exercise aims in providing a coherent and harmonised search experience for all satellite data products across organisations. This shall improve the search experience by allowing users to easily find related products, perform cross-checking and/or finding similar data for their work.

The CGMS-WMO Task Force shall define best practices and templates (code list, thesauri) specifying how to describe, with the WMO-Core Profile, the key pieces of information fully qualifying a satellite data product to provide a coherent and identical search experience for all satellite data. Output of this task shall be provided to the IPET-MDRD Team.

3 TERMS OF REFERENCE

1. To facilitate satellite data providers WMO WIS integration

- a To create best practices, recommendation and metadata record templates allowing satellite data providers to provide coherent and common understandable datasets for the WMO WIS infrastructure.

2. To facilitate satellite products' metadata management

- a To perform a Gap Analysis between the WMO Core Profile 1.3 and other profiles using ISO19115/ISO19139 definitions³, identifying to IPET-MDRD where profiles in use by the satellite community may be incompatible.
- b To deliver recommendations and a roadmap for the unification of profiles into a common one.

3. To improve the user search experience regarding satellite data products on WMO WIS catalogues, based on users feedback

- a Define per type of satellite product, the set of mandatory attributes allowing a user to accurately find a satellite product and obtain from the catalogue a complete description for this product.
- b Define best practices and examples of satellite products' metadata to create a coherent search experience regarding satellite data products independently of the data provider through providing semantics, templates, code lists and registers in cooperation with IPET-MDRD's Task Team on the Application of Metadata.

4. To report all resulting outcomes to the CBS IPET-MDRD

- a Participate to the CBS Inter-Programme Expert Team on Metadata and Data Representation Development to communicate all outcomes of the Task Force and integrate them when required in future versions of the WMO Discovery Metadata standard (currently WMO Core Profile).

5. To monitor and review the evolutions of the WMO Core Profile in order to raise the awareness of satellite data providers regarding changes on the WMO Core Profile format that are relevant for satellite product metadata.

3.1 Terms of Reference Implementation Schedule

To increase the participation of satellite providers to the WIS, priority should be given to Task 1. Work on Task 2 should also start immediately to provide the outcomes of the Gap Analysis to the WMO IPET-MDRD and allow the expert team to integrate them if necessary in the future evolution of the WMO discovery metadata standard (WMO Core Profile 1.x). Task 3 and other remaining tasks can be implemented at a later stage once most of the satellite data providers have produced discovery metadata records for the WIS.

³ HMA *Heterogeneous Missions Accessibility (HMA) Project* or *CWIC (CEOS WGISS Integrated Catalog)*