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CGMS-WMO Task Force on Metadata Implementation

Guidance Documentation on WMO Core Profile Metadata Creation For Satellite Products

# Introduction

The CGMS Task Force on Metadata Implementation (CGMS TFMI) has been task to define a guidance documentation for creating WMO Core Profile 1.3 metadata records regarding Satellite Data Products and help Meteorological Satellite Data Organisation defining and maintaining those metadata.

The CGMS TFMI has defined the following guidance documentation around an associated template that can be used to create individual records or automate the creation of several records. The documentation regroup and define a set of recommendation to be followed in order to adequatly define WMO Core Profile metadata for satellite products. The information included in the metadata record and their respective XML mapping is based on a study and reflexion involving Satellite data specialists for the member organisations of the CGMS and the WMO IPET-SUP.

# References

Information Model

Mapping

Template

WMO Core Profile documentation

# WMO Core Profile Overview

The WMO Core Profile 1.3 is a profile of ISO 19115 metadata standard and requires to a set of mandatory ISO elements. In addition the CGMS TFMI has defined based on their defined Information a set of recommended information to be added in the WMO Core Profile for creating a relevant set of metadata records for satellite data products.

CGMS TFMI guidance documentation recommendation.

Mandatory elements for the WIS, Element relevant for WIS catalogues

Mandatory elements, elements relevants for the WIS catalogue

## WMO Core Profile CGMS TFMI recommandations

The following paragraph is describing the list of information and where to add it in the ISO metadata records. The information set below is following the order defined in the template. For each element it will be indicated if it is mandatory to add them to be compliant with the WMO Core Profile 1.3

|  |  |
| --- | --- |
| **WCMP Unique Identifier** | |
| Information: | Unique Identifier for individual WIS Discovery Metadata Records |
| Necessity: | Mandatory for WMO Core Profile 1.3 |
| XPath: | *gmd:MD\_Metadata/gmd:fileIdentifier* |
| TEMPLATE Value: | WMCP-IDENTIFIER |

The WCMP UID should be structured as follow:

urn:x-wmo:md:DataProviderInternetDomainName:ProductUID

with

“:” a separator

**urn:x-wmo:md:** being mandatory,

**DataProviderInternetDomainName:** being the Citation authority based on the Internet domain name of the data-provider organization (eg. int.eumetsat, gov.noaa)

**ProductUID** being a unique identifier with a structure defined by the responsible satellite data organisation

When the metadata records is describing a GTS product the following rules apply:

– For metadata records describing GTS products in bulletins or named according to the WMO file-naming convention P-flag = “T” or P-flag= “A”, the unique identifier is“≪TTAAii≫≪CCCC≫”;

– For metadata records describing products named according to the WMO file-naming convention P-flag = “W”, the unique identifier should be a truncated version of the WMO product identifier field of the associated data-files, excluding the date-stamp and any other varying elements as necessary.

Examples:

UID for Roshydromet MTVZA-GY Level 1C data Meteor-M N2:

urn:x-wmo:md:planet.iitp.ru:EO:ROSH:DAT:METEOR-M:MTVZA-GY

EUMETSAT Meteosat Seviri Level 1.5:

urn:x-wmo:md:int.eumetsat:EO:EUM:DAT:MSG:HRSEVIRI

For more information please refer to the WMO Core Profile Version 1.3 Specification.

|  |  |
| --- | --- |
| **WCMP Responsible Party** | |
| Information: | Responsible party for the described product contact details |
| Necessity: | Mandatory for WMO Core Profile 1.3 |
| XPath: | /gmd:MD\_Metadata/gmd:contact |
| TEMPLATE Value: | ORGANISATION-NAME |

This element describes the responsible party contact details. For example:

<gmd:contact>

<gmd:CI\_ResponsibleParty>

<gmd:organisationName>

<gco:CharacterString>EUMETSAT</gco:CharacterString>

</gmd:organisationName>

<gmd:contactInfo>

<gmd:CI\_Contact>

<gmd:address>

<gmd:CI\_Address>

<gmd:deliveryPoint>

<gco:CharacterString>EUMETSAT Allee 1</gco:CharacterString>

</gmd:deliveryPoint>

<gmd:city>

<gco:CharacterString>Darmstadt</gco:CharacterString>

</gmd:city>

<gmd:administrativeArea>

<gco:CharacterString>Hessen</gco:CharacterString>

</gmd:administrativeArea>

<gmd:postalCode>

<gco:CharacterString>64295</gco:CharacterString>

</gmd:postalCode>

<gmd:country>

<gco:CharacterString>Germany</gco:CharacterString>

</gmd:country>

<gmd:electronicMailAddress>

<gco:CharacterString>ops@eumetsat.int</gco:CharacterString>

</gmd:electronicMailAddress>

</gmd:CI\_Address>

</gmd:address>

<gmd:onlineResource>

<gmd:CI\_OnlineResource>

<gmd:linkage>

<gmd:URL>http://www.eumetsat.int</gmd:URL>

</gmd:linkage>

</gmd:CI\_OnlineResource>

</gmd:onlineResource>

</gmd:CI\_Contact>

</gmd:contactInfo>

<gmd:role>

<gmd:CI\_RoleCode codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO\_19139\_Schemas/resources/Codelist/ML\_gmxCodelists.xml#MD\_ScopeCode" codeListValue="pointOfContact">pointOfContact</gmd:CI\_RoleCode>

</gmd:role>

</gmd:CI\_ResponsibleParty>

</gmd:contact>

|  |  |
| --- | --- |
| **WCMP Product Title** | |
| Information: | Product Title |
| Necessity: | Mandatory for WMO Core Profile 1.3 |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:citation//gmd:title |
| TEMPLATE Value: | PRODUCT-TITLE |

To be done

|  |  |
| --- | --- |
| **WCMP Product Abstract** | |
| Information: | URL to additional product information |
| Necessity: | Mandatory for WMO Core Profile 1.3 |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:abstract |
| TEMPLATE Value: | PRODUCT-ABSTRACT |

To be done

Following Product details, Instrument and Platform and distribution details (distribution means, formats, frequency)

|  |  |
| --- | --- |
| **WCMP Temporal Extent** | |
| Information: | Temporal information regarding the datasets |
| Necessity: | Mandatory for WMO Core Profile 1.3 |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:extent//gmd:temporalElement/  gmd:extent |
| TEMPLATE Value: | TEMPORAL-EXTENT |

To be done (BeginDate and EndDate to be documented)

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| **WCMP Geographical Extent** | |
| Information: | Geographical information regrding the datasets |
| Necessity: | Mandatory for WMO Core Profile 1.3 |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:extent//gmd:geographicElement/  gmd:EX\_GeographicBoundingBox |
| TEMPLATE Value: | GEOSPATIAL-EXTENT, GEOGRAPHICAL-IDENTIFIER |

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| **WCMP Creation Date** | |
| Information: | Creation date of the metadata record |
| Necessity: | Mandatory for WMO Core Profile 1.3 |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:citation//gmd:date//  gmd:dateType=“creation” |
| TEMPLATE Value: | WMCP-CREATION-DATE |

This is the metadata record Creation date with the following date pattern: YYYY-MM-DD.

For instance:

<gmd:date>  
 <gmd:CI\_Date>  
 <gmd:date>  
 <gco:Date>2015-03-23</gco:Date>  
 </gmd:date>  
 <gmd:dateType>  
 <gmd:CI\_DateTypeCode codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO\_19139\_Schemas/resources/Codelist/gmxCodelists.xml#CI\_DateTypeCode" codeListValue="creation"/>  
 </gmd:dateType>  
 </gmd:CI\_Date>  
<gmd:date>

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| --- | --- |
| **WCMP Modification Date** | |
| Information: | Last modification date of the metadata record |
| Necessity: | Mandatory for WMO Core Profile 1.3 |
| XPath: | /gmd:MD\_Metadata/gmd:contact |
| TEMPLATE Value: | WMCP-LAST-MODIFICATION-DATE |

This is the last metadata record modification date with the following date pattern: YYYY-MM-DD.

For instance:

<gmd:date>  
 <gmd:CI\_Date>  
 <gmd:date>  
 <gco:Date>2015-04-16</gco:Date>  
 </gmd:date>  
 <gmd:dateType>  
 <gmd:CI\_DateTypeCode codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO\_19139\_Schemas/resources/Codelist/gmxCodelists.xml#CI\_DateTypeCode" codeListValue="modification"/>  
 </gmd:dateType>  
 </gmd:CI\_Date>  
<gmd:date>

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| --- | --- |
| **WCMP Internal Product Identifier** | |
| Information: | Internal identifier used within the responsible organisation |
| Necessity: | Mandatory for WMO Core Profile 1.3 (used in the SRU interface) |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:citation//gmd:identifier |
| TEMPLATE Value: | INTERNAL-ORGANISATION-PRODUCT-IDENTIFIER |

This element contains the identifier used internally by the responsible organisation to uniquely identify the product described by the record. Note that most of the time it for satellite organisation it will be the WMO fileIdentifier without the “urn:x-wmo:DataProviderDomainName:” prefix.

For instance for the EUMETSAT Seviri Level 1.5, the fileIdentifier is as follow

fileIdentifier: urn:x-wmo:md:int.eumetsat:EO:EUM:DAT:MSG:HRSEVIRI

and the Internal Product Identifier is:

InternalProductIdentifier: EO:EUM:DAT:MSG:HRSEVIRI

And the element containing the identifier is:

<gmd:identifier>  
 <gmd:MD\_Identifier>  
 <gmd:code>  
 <gco:CharacterString>

INTERNAL-ORGANISATION-PRODUCT-IDENTIFIER (EO:EUM:DAT:MSG:HRSEVIRI)

</gco:CharacterString>  
 </gmd:code>  
 </gmd:MD\_Identifier>  
</gmd:identifier>

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| --- | --- |
| **WCMP Calibration Information** | |
| Information: | URL to additional calibration information |
| Necessity: | Optional, recommended when available by the TFMI CGMS Information model |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:citation//gmd:citedResponsibleParty |
| TEMPLATE Value: | URL-TO-CALIBRATION-INFO |

The CGMS TFMI Information model recommends in order to qualify the product to provide additional information pointers regarding the product calibration information and the product qualities itself. Those information can be provided within the identificationInfo element.

For instance for the EUMETSAT Seviri Level 1.5 product the calibration information is inserted as follow in the below element:

<gmd:citedResponsibleParty>  
 <gmd:CI\_ResponsibleParty>  
 <gmd:contactInfo>  
 <gmd:CI\_Contact>  
 <gmd:onlineResource>  
 <gmd:CI\_OnlineResource>  
 <gmd:linkage> <gmd:URL>[http://www.eumetsat.int/website/home/Data/Products/Calibration/MSGCalibration/index.html</gmd:URL](http://www.eumetsat.int/website/home/Data/Products/Calibration/MSGCalibration/index.html%3c/gmd:URL)> </gmd:linkage>

<gmd:name>  
 <gco:CharacterString>Seviri Instrument Calibration information</gco:CharacterString>

</gmd:name>  
 <gmd:function>  
 <gmd:CI\_OnLineFunctionCode codeList="http://www.ngdc.noaa.gov/metadata/published/xsd/schema/resources/Codelist/gmxCodelists.xml#CI\_OnLineFunctionCode" codeListValue="calibrationInformation"/>  
 </gmd:function>  
 </gmd:CI\_OnlineResource>  
 </gmd:onlineResource>  
 </gmd:CI\_Contact>  
 </gmd:contactInfo>  
 <gmd:role/>  
 </gmd:CI\_ResponsibleParty>  
</gmd:citedResponsibleParty>

If you do not want to add calibration information, please remove from the metadata record the element gmd:citedResponsibleParty as described in the above example.

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| **WCMP Product Information Url** | |
| Information: | URL to additional product information |
| Necessity: | Optional, recommended when available by the TFMI CGMS Information model |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:citation//gmd:citedResponsibleParty |
| TEMPLATE Value: | URL-TO-PRODUCT-INFO |

To-Be-Done

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| **WCMP Prodct Level** | |
| Information: | Product Level |
| Necessity: | Recommend when available by the TFMI CGMS Information model |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:citation//gmd:citedResponsibleParty |
| TEMPLATE Value: | PRODUCT-LEVEL |

To-Be-Done

For instance for the EUMETSAT Seviri Level 1.5 product the product information is inserted as follow in the below element:

<gmd:citedResponsibleParty>  
 <gmd:CI\_ResponsibleParty>  
 <gmd:contactInfo>  
 <gmd:CI\_Contact>  
 <gmd:onlineResource>  
 <gmd:CI\_OnlineResource>  
 <gmd:linkage> <gmd:URL>http://www.eumetsat.int/website/home/Data/Products/Calibration/MSGCalibration/index.html</gmd:url> </gmd:linkage>

<gmd:name>  
 <gco:CharacterString> Meteosat Second Generation product documentation</gco:CharacterString>

</gmd:name>  
 <gmd:function>  
 <gmd:CI\_OnLineFunctionCode codeList="http://www.ngdc.noaa.gov/metadata/published/xsd/schema/resources/Codelist/gmxCodelists.xml#CI\_OnLineFunctionCode" codeListValue="productInformation"/>  
 </gmd:function>  
 </gmd:CI\_OnlineResource>  
 </gmd:onlineResource>  
 </gmd:CI\_Contact>  
 </gmd:contactInfo>  
 <gmd:role/>  
 </gmd:CI\_ResponsibleParty>  
</gmd:citedResponsibleParty>

If you do not want to add product information URL, please remove from the metadata record the element gmd:citedResponsibleParty as described in the above example.

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| --- | --- |
| **WCMP Point of Contact** | |
| Information: | Data provider information |
| Necessity: | Mandatory for WMO Core Profile 1.3 |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:pointOfContact |
| TEMPLATE Value: | ORGANISATION-FULL-NAME, ORGANISATION-NAME, ... ORGANISATION-URL |

This element contains the contact details regarding the data provider responsible for the dataset. Below

<gmd:pointOfContact>

<gmd:CI\_ResponsibleParty>

<gmd:individualName>

<gco:CharacterString>ORGANISATION-FULL-NAME (e.g European Organisation for the Exploitation of Meteorological Satellites)</gco:CharacterString>

</gmd:individualName>

<gmd:organisationName>

<gco:CharacterString>ORGANISATION (e.g EUMETSAT)</gco:CharacterString>

</gmd:organisationName>

<gmd:contactInfo>

<gmd:CI\_Contact>

<gmd:phone>

<gmd:CI\_Telephone>

<gmd:voice>

<gco:CharacterString>TELEPHONE (e.g +49(0)6151-807 3660/3770)</gco:CharacterString>

</gmd:voice>

<gmd:facsimile>

<gco:CharacterString>FAX (e.g +49(0)6151-807 3790)</gco:CharacterString>

</gmd:facsimile>

<gmd:CI\_Telephone>

</gmd:phone>

<gmd:address>

<gmd:CI\_Address>

<gmd:deliveryPoint>

<gco:CharacterString>ADDRESS-STREET (e.g EUMETSAT Allee 1)</gco:CharacterString>

</gmd:deliveryPoint>

<gmd:city>

<gco:CharacterString>ADDRESS-CITY (e.g Darmstadt)</gco:CharacterString>

</gmd:city>

<gmd:administrativeArea>

<gco:CharacterString>REGION (e.g Hessen)</gco:CharacterString>

</gmd:administrativeArea>

<gmd:postalCode>

<gco:CharacterString>POSTCODE (e.g 64295)</gco:CharacterString>

</gmd:postalCode>

<gmd:country>

<gco:CharacterString>COUNTRY (e.g Germany)</gco:CharacterString>

</gmd:country>

<gmd:electronicMailAddress>

<gco:CharacterString>EMAIL (e.g ops@eumetsat.int)</gco:CharacterString>

</gmd:electronicMailAddress>

</gmd:CI\_Address>

</gmd:address>

<gmd:onlineResource>

<gmd:CI\_OnlineResource>

<gmd:linkage>

<gmd:URL>ORGANISATION-URL (e.g http://www.eumetsat.int)</gmd:URL>

</gmd:linkage>

</gmd:CI\_OnlineResource>

</gmd:onlineResource>

</gmd:CI\_Contact>

</gmd:contactInfo>

<gmd:role>  
 <gmd:CI\_RoleCode codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO\_19139\_Schemas/resources/Codelist/ML\_gmxCodelists.xml#MD\_ScopeCode" codeListValue="originator">originator</gmd:CI\_RoleCode>  
</gmd:role>  
</gmd:CI\_ResponsibleParty>

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| --- | --- |
| **WCMP Product Sample Visualization URL** | |
| Information: | URL to a sample data vizualisation |
| Necessity: | Optional for WMO Core Profile 1.3 but used by WIS Portal to display products |
| XPath: | /gmd:MD\_Metadata/gmd:identificationInfo//gmd:graphicOverview |
| TEMPLATE Value: | PRODUCT-IMAGERY-URL |

Below is an example based on EUMETSAT Seviri Level 1.5.

<gmd:graphicOverview>  
 <gmd:MD\_BrowseGraphic>  
 <gmd:fileName>

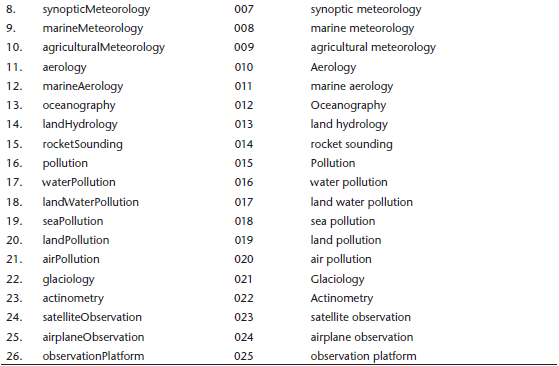
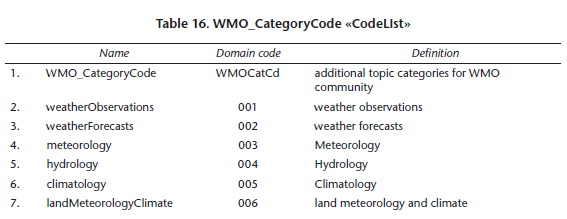
<gco:CharacterString>http://navigator.eumetsat.int:80/smartEditor/preview/msg-level-1-5.jpg</gco:CharacterString>  
 </gmd:fileName>  
 <gmd:fileDescription>  
 <gco:CharacterString>preview</gco:CharacterString>  
 </gmd:fileDescription>  
 <gmd:fileType>  
 <gco:CharacterString>jpg</gco:CharacterString>  
 </gmd:fileType>  
 </gmd:MD\_BrowseGraphic>  
</gmd:graphicOverview>

### Descriptive keywords

Descriptive keywords are use to add additional information for classifiying the products

|  |  |
| --- | --- |
| **WCMP WMO Category** | |
| Information: | One of the WMO Category |
| Necessity: | Mandatory for WMO Core Profile 1.3 |
| XPath: | gmd:MD\_Metadata/gmd:identificationInfo/gmd:MD\_Identification/gmd:descriptiveKeywords |
| TEMPLATE Value: | PRODUCT-IMAGERY-URL |

Any WIS referenced product shall have a least one WMO Category keyword. The chosen keyword shall be one of the following available value:



<gmd:descriptiveKeywords>  
 <gmd:MD\_Keywords>  
 <gmd:keyword>

<gco:CharacterString>WCMP-WMO-CATEGORY-CODE (e.g SatelliteObservation)</gco:CharacterString>  
 </gmd:keyword>  
 <gmd:type>  
 <MD\_KeywordTypeCode xmlns="http://www.isotc211.org/2005/gmd" codeListValue="theme" codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO\_19139\_Schemas/resources/Codelist/gmxCodelists.xml#MD\_KeywordTypeCode">

Theme

</MD\_KeywordTypeCode>  
 </gmd:type>  
 <gmd:thesaurusName>  
 <gmd:CI\_Citation>  
 <gmd:title>  
 <gco:CharacterString>WMO\_CategoryCode</gco:CharacterString>  
 </gmd:title>  
 <gmd:date>  
 <gmd:CI\_Date>  
 <gmd:date>  
 <gco:Date>2008-06-01</gco:Date>  
 </gmd:date>  
 <gmd:dateType>  
 <gmd:CI\_DateTypeCode codeListValue="publication" codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO\_19139\_Schemas/resources/Codelist/gmxCodelists.xml#CI\_DateTypeCode"/>  
 </gmd:dateType>  
 </gmd:CI\_Date>  
 </gmd:date>  
 </gmd:CI\_Citation>  
 </gmd:thesaurusName>  
 </gmd:MD\_Keywords>  
</gmd:descriptiveKeywords>

#### OSCAR Information

Add Text to describe the OSCAR reference part (To be done)

|  |  |
| --- | --- |
| **WCMP OSCAR Instrument information** | |
| Information: | URL to the corresponding OSCAR instrument page |
| Necessity: | Optional for WMO Core Profile 1.3 but recommended by CGMS TFMI |
| XPath: | gmd:MD\_Metadata/gmd:identificationInfo/gmd:MD\_Identification/gmd:descriptiveKeywords |
| TEMPLATE Value: | OSCAR-INSTRUMENT |

To be Done

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| --- | --- |
| **WCMP OSCAR Plateform information** | |
| Information: | URL to the corresponding OSCAR plateform page |
| Necessity: | Optional for WMO Core Profile 1.3 but recommended by CGMS TFMI |
| XPath: | gmd:MD\_Metadata/gmd:identificationInfo/gmd:MD\_Identification/gmd:descriptiveKeywords |
| TEMPLATE Value: | OSCAR-INSTRUMENT |

To be Done

### Data Policy Information

To be Done (Data Policy pls originating centre)

### Distribution Information

To be Done (Information related to the distribution)