



GGOS Metadata

Bernd Richter

Data and Information Systems Working Group

Session 6: GGOS Portal and Metadata Flow
GGOS Unified Analysis Workshop
December 05-07, 2007
Monterey, CA

- Metadata
 - Need of Metadata
 - Use of Metadata
 - Granularity
 - Generation of Metadata
- Example for Metadata
 - Editor Information
 - SINEX
- Actions
 - Extended List of categories
 - List of Keywords
 - List of Formats
 - Extension of SINEX File

- **Metadata describes what, where, when and by whom a particular set of data was collected, and how the data is formatted.**
- Metadata is used to facilitate the understanding, use and management of data. The metadata required for effective data management varies with the type of data and context of use.
- Metadata is essential for understanding information stored in data warehouses and has become increasingly important in XML-based Web applications.

Metadata does not contain data nor replace a data base

- **The ISO 19115 standard for geographic metadata is widely used in the GIS world and recommended e.g. by FGDC, OGC and GEOSS. Here it is proposed to follow the same strategy for the GGOS.**
- Cross mapping allows the use of different metadata standards as long as the necessary information covers the requested formalities and are based on XML technology. E.g. the NASA proposed Directory Interchange Format (DIF) and ISO 19115 a crosswalk is provided .
- Products / applications achieve interoperability with other products / applications using either or both of two approaches:
 - by adhering to published interface standards
 - by making use of a "broker" of services that can convert one product's interface into another product's interface "on the fly".

- The ISO 19115 standard profile defines an extensive set of metadata elements. This applied standard is widely used by metadata catalogues allowing for interdisciplinary searches by so called catalogue service web interfaces (CSW).
- GGOS Core light metadata is a subset of the standard profile.
- GGOS Core metadata is an extended metadata set to suit geodetic purposes. Full use of this profile only within GGOS because profile is known only by GGOS applications.

- GGOS provides core metadata information for almost all geodetic data sets. This solution should be realised fast to comply (e.g., GEOSS). If it is operational this service attracts users from other communities and fields of interest and link them to the specific IAG services or components.
- The individual IAG services expand the ISO metadata standard to their requirements. Based on this specific metadata profile a more detailed response can be made available.
- An alternative might be that the GGOS metadata profile will include all service specific specifications. As a consequence the GGOS master profile might be not clearly arranged and will confuse the user by e.g., much extended code lists.

ISO19115 metadata entity set information	ISO No	Metadata elements	IERS GGOS
MD_Metadata	2	Metadata file identifier	o
	10	Metadata standard name	o
	11	Metadata standard version	o
	3	Metadata language	c
	4	Metadata character set	c
	8	Metadata point of contact	m
	9	Metadata date stamp	m
	6	Scope to which the metadata applies	c

ISO19115 metadata entity set information	ISO No	Metadata elements	IERS GGOS
MD_Identification	360	Dataset title	m
	361	Dataset short title	o
	362	Dataset reference date	m
	29	Dataset responsible party	m
	25	Abstract describing the dataset	m
	33	Descriptive keywords	m
	28	Status	o
MD_DataIdentification	37	Spatial representation type	o
	38	Spatial resolution of the dataset	m
	39	Dataset language	m
	40	Dataset character set	c
	41	Dataset topic category	m
	42	Geographic location	m
	43	bounding box or geographic identifier	
	45	Vertical and temporal extent of dataset	m

- Metadata files are XML files and usually feeded into data bases.
- Two concepts:
 - Metadata file is produced as a seperate file according the rules
 - Metadata file information is included in the dataset and can be extracted by parsers (has no be done by the file generator)
- Use of Metadata Editor
- Simple example for a SINEX File

FILE/METADATA Block (Optional)

Contents:

Description:

This block can be used to provide metadata about the SINEX data file compliant with ISO 19115 "Geographic information - Metadata". Additional fields not compliant with ISO 19915 can be defined for special geodetic use cases.

Field	Description	Format
Metadata field	Name of the metadata field. May be empty in case of a continuation line, i.e. if the Content comprises more than one line for the same Metadata field. List of allowed Metadata fields, grouped by mandatory, conditional, and optional fields. Mandatory keywords: LANGUAGE metadata language CHARACTERSET metadata character set ORGANIZATION name of organization responsible for the (meta)data INDIVIDUAL name of individual responsible for the (meta)data etc.	A15,1X ISO 639-2 ISO 19115 B5.10
Content	Content for the metadata field.	A64

Example :

**O FILEID (2)
M LANGUAGE
M CHARACTERSET
M ORGANISATION
M INDIVIDUAL
O POSITION
O PHONE
O FAX
O DELPOINT
O CITY
O ADMINAREA
O POSTALCODE
O COUNTRY
O EMAIL
M LINKAGE
M ROLE
M DATE
M DATETYPE
M STANDARD
M VERSION
O REFSYS
M TITLE
O ALTTITLE**

**ISO19115 mapping: informationen for metadaten and daten
(e.g. contact) are identical, and can be duplicated.**

- Extended list of categories

Name	Domain code	Definition
MD_TopicCategory Code	TopicCatCd	high-level geographic data thematic classification to assist in the grouping and search of available geographic data sets. Can be used to group keywords as well. Listed examples are not exhaustive. NOTE It is understood there are overlaps between general categories and the user is encouraged to select the one most appropriate.
farming	001	rearing of animals and/or cultivation of plants Examples: agriculture, irrigation, aquaculture, plantations, herding, pests and diseases affecting crops and livestock
biota	002	flora and/or fauna in natural environment Examples: wildlife, vegetation, biological sciences, ecology, wilderness, sealife, wetlands, habitat
boundaries	003	legal land descriptions Examples: political and administrative boundaries
climatologyMeteorologyAtmosphere	004	processes and phenomena of the atmosphere Examples: cloud cover, weather, climate, atmospheric conditions, climate change, precipitation
economy	005	economic activities, conditions and employment Examples: production, labour, revenue, commerce, industry, tourism and ecotourism, forestry, fisheries, commercial or subsistence hunting, exploration and exploitation of resources such as minerals, oil and gas
elevation	006	height above or below sea level Examples: altitude, bathymetry, digital elevation models, slope, derived products
environment	007	environmental resources, protection and conservation Examples: environmental pollution, waste storage and treatment, environmental impact assessment, monitoring environmental risk, nature reserves, landscape
geoscientificInformation	008	information pertaining to earth sciences Examples: geophysical features and processes, geology, minerals, sciences dealing with the composition, structure and origin of the earth's rocks, risks of earthquakes, volcanic activity, landslides, gravity information, soils, permafrost, hydrogeology, erosion

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additional entries

	ITRF	020	
	ICRF	021	
	EOP	022	
	hydrology	023	
	climatology	024	
	Mapping function	025	
	Gravity models	026	
1.			
2.			
3.			
4.			

- Extended list of keywords

Keywords should be taken from a standard thesaurus or other defined list but free form keywords are permitted as well.

Proposal as a first step:

NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

http://gcmd.gsfc.nasa.gov/Resources/valids/gcmd_parameters.html.

Olsen, L.M., G. Major, K. Shein, J. Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C. Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .

- List of formats

Formats can be referred to the list presented in the previous talk. As a result each described dataset will have a geodetic standardised format.

- Extension of SINEX
 - GGOS Core light (minimum ISO 19115)
 - ISO 19115 full
 - GGOS Core