



Federal Agency for  
Cartography and Geodesy

# GGOS Portal and Meta Data

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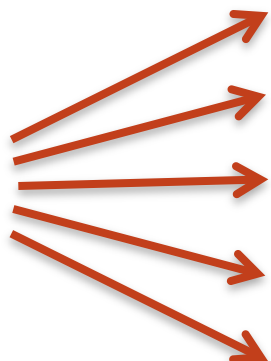
Federal Agency for Cartography and Geodesy  
NASA Goddard Space Flight Center





# GGOS Portal: Motivation

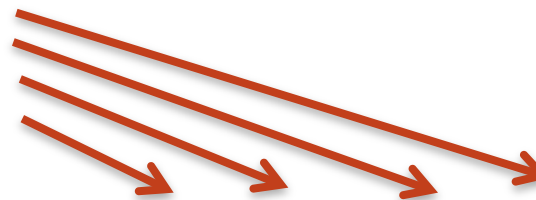
- The IAG Services already produce very important and valuable products to be promoted by GGOS
- Each Service has its own Web site for data access
- Fragmentation at national, regional and international level
- Users get lost in mountains of information





# GGOS Portal: Motivation

- Promotion of all IAG products for Earth sciences and applications through the GGOS portal, as a department store for all IAG products



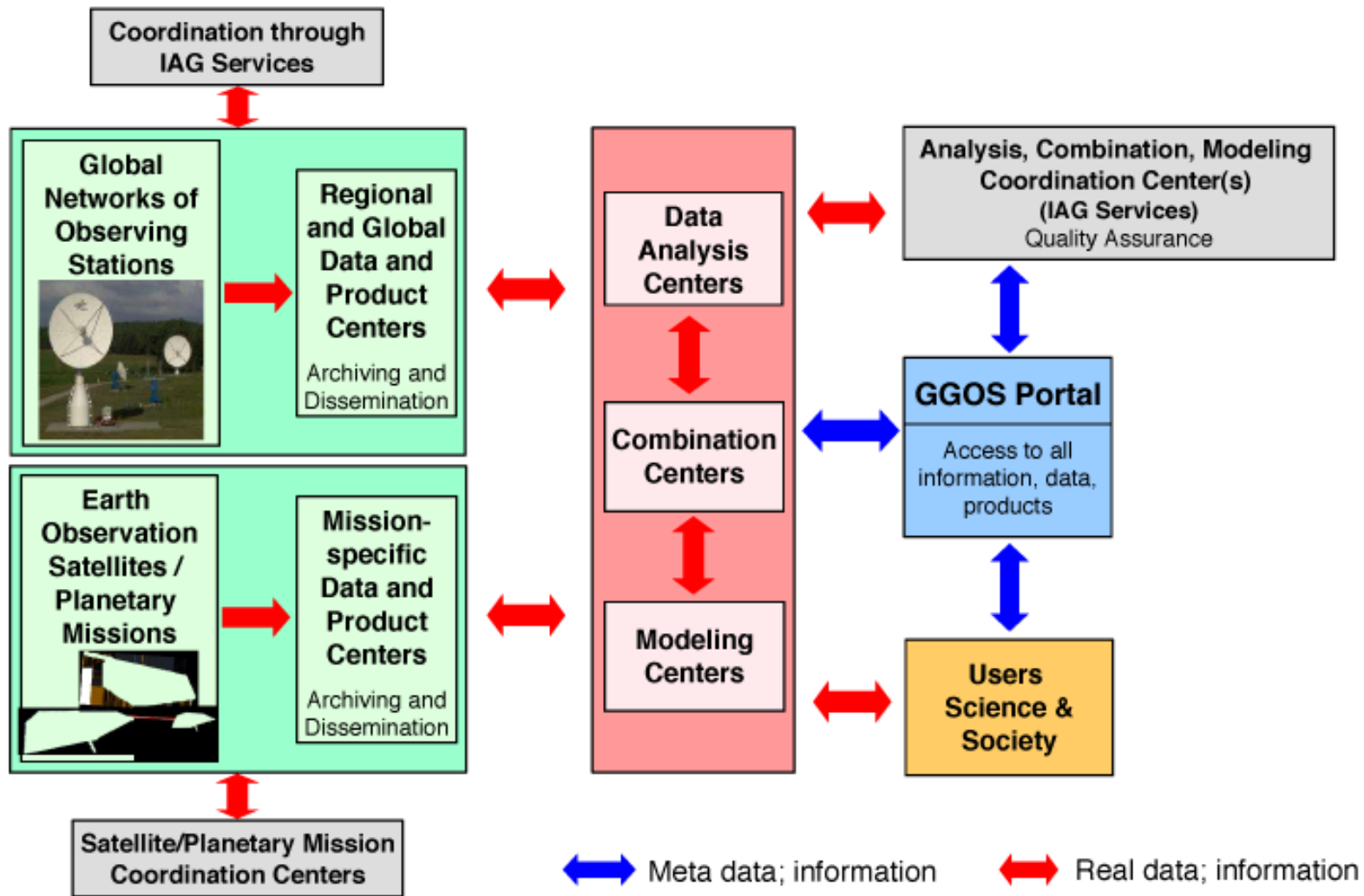


Provide a unique access point for all products and information relevant in the framework of GGOS!

- Maintenance of a GGOS Web site:
  - general information (structure, components, news, announcements, publications, links, ...);
  - facilitate GGOS communication (calendars, bibliography, working group activities, meeting summaries, ...);
  
- Maintenance of a GGOS Portal & Clearinghouse):
  - Discovery: search data and service catalogues (local&external);
  - Metadata Editor: collect & manage metadata;
  - Viewer: display data;
  - Applications for data mining of GGOS products and data files, i.e. parse, merge, visualize and analyse data;

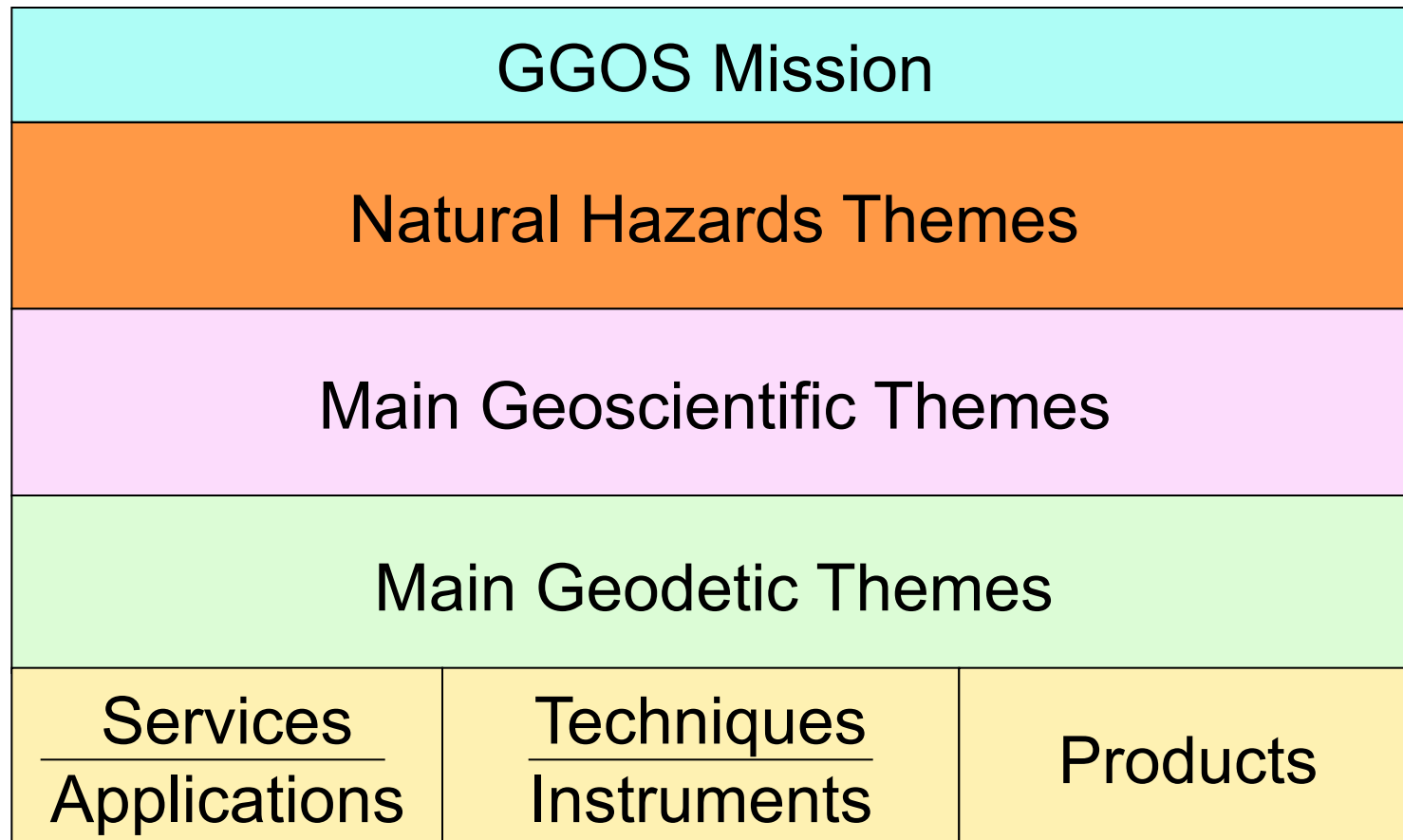


# GGOS System Design



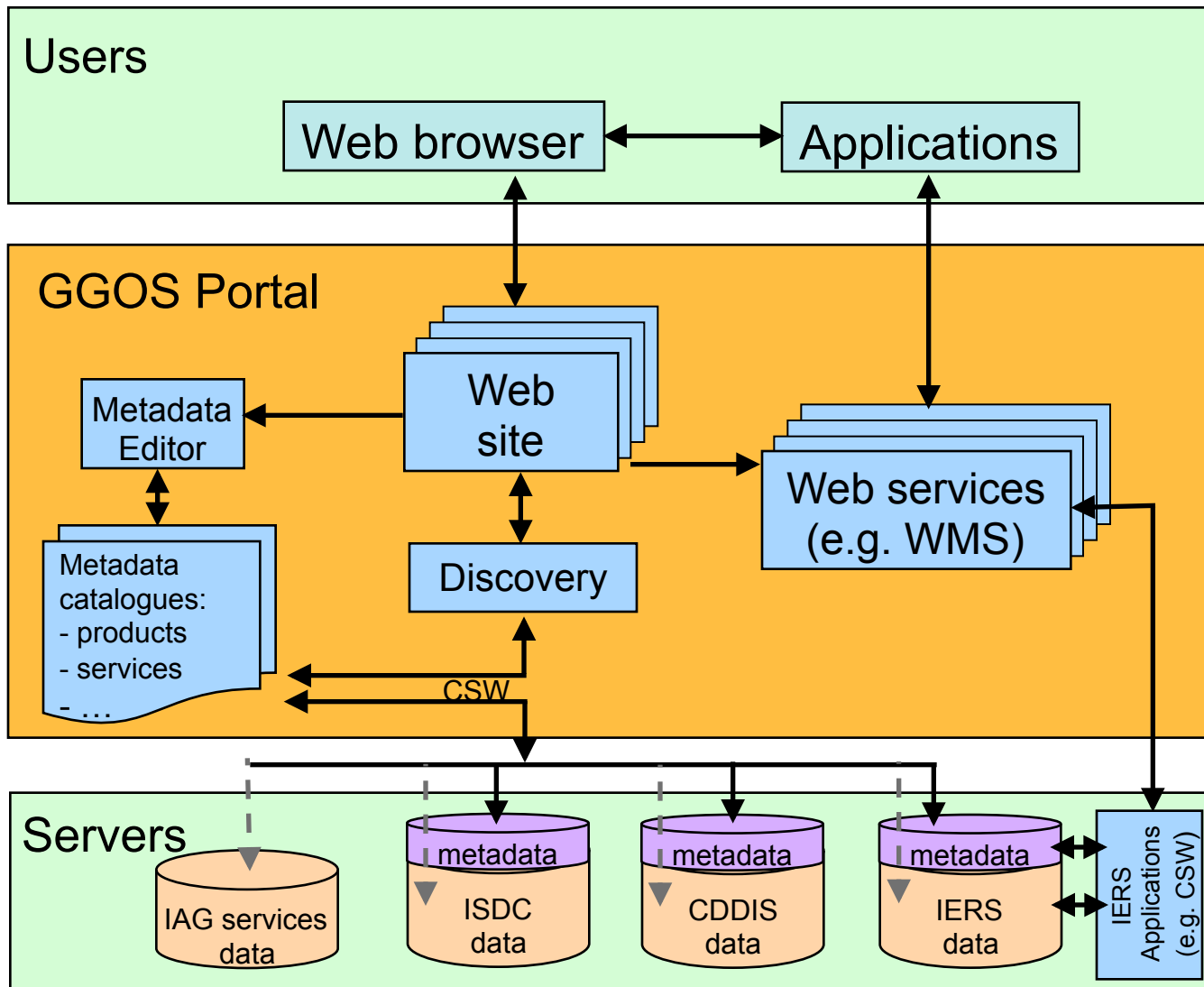


<http://www.ggos.org> => structure of home page,  
multiple entries to serve all interests



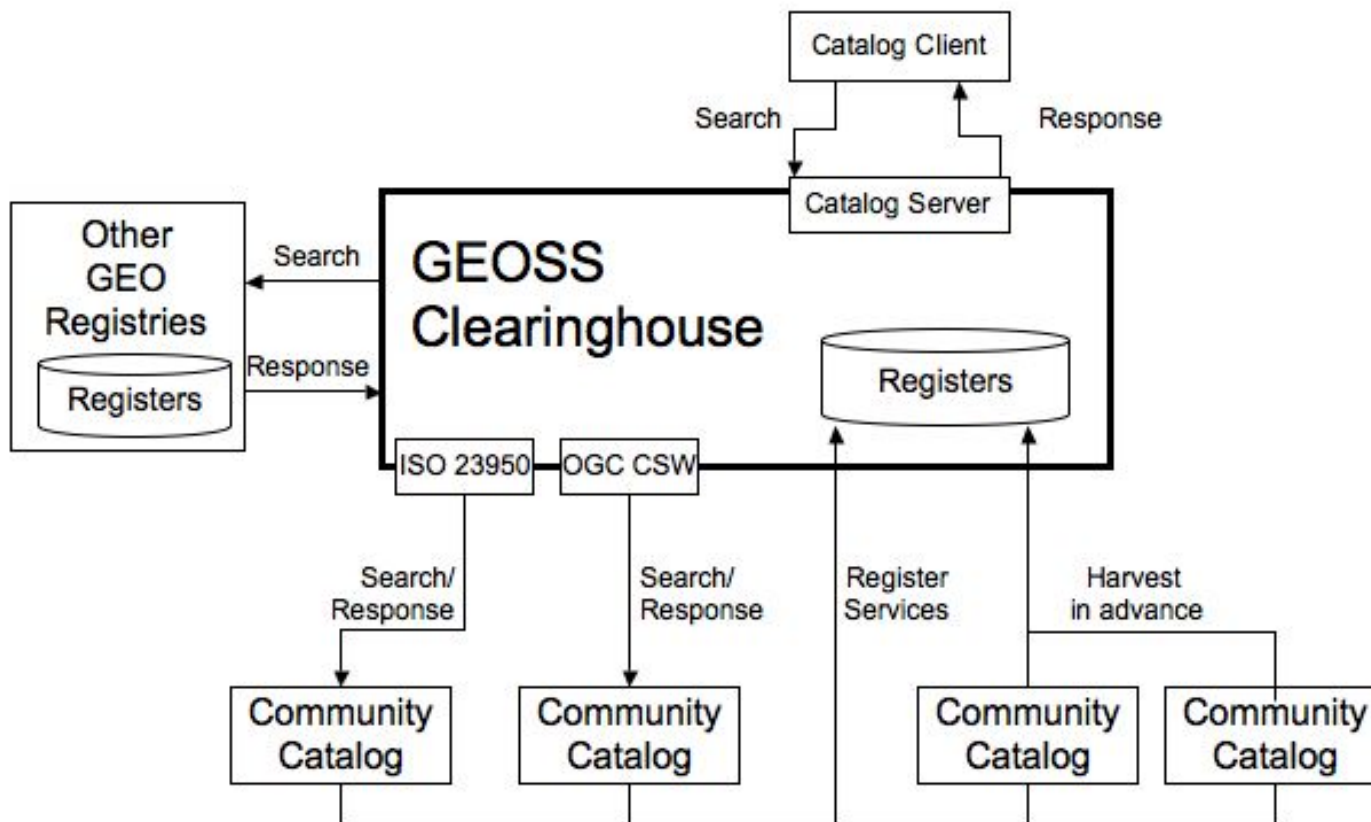


# GGOS Portal: Architecture





# GGOS Clearinghouse architecture engineering viewpoint







# Metadata - a prerequisite to re-use geodetic data sets

- Metadata provide information about the identification, the extent, the quality, the spatial and temporal schema, the spatial reference and the distribution of data.
- Metadata are capable of locating, evaluating, extracting, and employing the required datasets.



- **Metadata standards are a prerequisite for interoperable and interdisciplinary search**
- **Choice of meta data catalogue**
  - Directory Interchange Format (DIF) developed by NASA (Global Change Master Directory), focused on science, used by Marine Environmental Data Inventory (MEDI) or at GFZ
  - ISO 19XXX standards (widely used standard in GIS, WMO, ...)
    - ISO 19115 Meta data
    - ISO 19119 Geographic information - services
    - ISO 19139 Data Exchange - XML schema implementation
- **Interoperability** by cross-mapping the different metadata standards



# Proposal for GGOS Core Metadata

ISO19115 metadata entity set information	ISO No	Metadata elements	ISO core	GGOS
<b>MD_Metadata</b>	2	Metadata file identifier	o	o
	10	Metadata standard name	o	o
	11	Metadata standard version	o	o
	3	Metadata language	c	c
	4	Metadata character set	c	c
	8	Metadata point of contact	m	m
	9	Metadata date stamp	m	m
	6	Scope to which the metadata applies	(o)	<b>c</b>
<b>MD_Identification</b>	360	Dataset title	m	m
	361	Dataset short title	(o)	<b>o</b>
	362	Dataset reference date	m	m
	29	Dataset responsible party	o	<b>m</b>
	25	Abstract describing the dataset	m	m
	33	Descriptive keywords	(o)	<b>m</b>
	28	Status	(o)	<b>o</b>
	<b>MD_DataIdentification</b>	37	Spatial representation type	o
38		Spatial resolution of the dataset	o	<b>m</b>
39		Dataset language	m	m
40		Dataset character set	c	c
41		Dataset topic category	m	m
42		Geographic location		
45		Vertical and temporal extent of dataset	o	<b>m</b>





# GGOS-D: Metadata Management – SINEX files

```

DGf06337L7_b04.snX - WordPad
Datei Bearbeiten Ansicht Einfügen Format ?
+FILE/REFERENCE
  DESCRIPTION      DEUTSCHES GEODÄTISCHES FORSCHUNGSINSTITUT (DGFI)
  OUTPUT           SSC(DGFI) gg0s-d
  CONTACT          mueller@dgfi.badw.de
  SOFTWARE         DOGS_OC 4.08 and DOGS_C
  HARDWARE         PC, Pentium 2,4 GHz 1Gb
  INPUT            LAGEOS-1/2 SLR data
-FILE/REFERENCE
+FILE/METADATA
FILENAME           DGf06337L7_b04.snX.Z
TITLE              GGOS-D DGFI SLR solution 2nd iteration version b04 (GFZ)
ALTERNATETITLE    GGOS-D DGFI SLR solution
ABSTRACT           Weekly SINEX file of DGFI SLR solution for GGOS-D
                  (single technique solution).
                  Standards, models and parameterization are choosen with
                  respect to the GGOS-D conventions for the 2nd iteration.
                  With the strict use of common standards within GGOS-D
                  a consistent reprocessing and combination of the space
                  geodetic techniques should be achieved.
IDENTIFIER         DGf06337L7_b04
STATUS             completed
LANGUAGE           en
CHARSET            UTF8
DATE              2008-06-05 09:10:56
DATATYPE          creation
FORMATNAME        SINEX
FORMATVERSION     2.00
MEDIUMNAME        onLine
LINK&GE           ftp://ftp.ggos-d.de/data/test/2004/DGF/DGF06337L7_b04.snX.gz

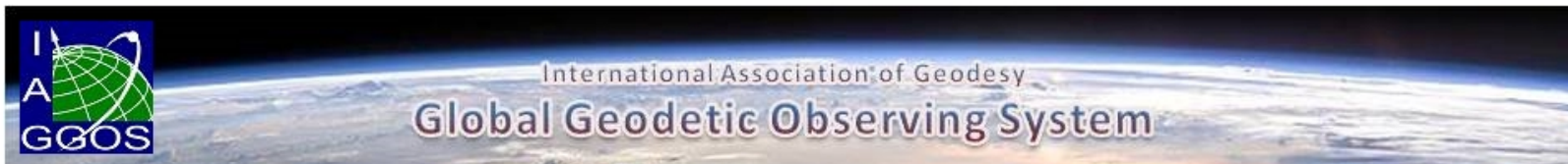
```

Extension of SINEX Format by one block „FILE/METADATA“:

- Consist of approx. 50 Metadata elements, ISO „recommended core elements“
- Compatibel to GEO, GeoPortal.Bund (IERS).



# GGOS portal – Metadata Editor



GGOS Portal About GGOS Components News / Meetings Products

- GGOS Portal
- Discovery
- Viewer
- Metadata Editor**

- Service
- Sitemap
- Glossary
- Imprint
- Contact

Exit Save Validation (OFF) User Guide About

Metadata **Identification** Classification Keyword Geographic Temporal Quality&Validity Conformity Constraints Organization

Identification

**Resource title**

**Resource abstract**

**Resource Type** dataset

**Resource Locator**

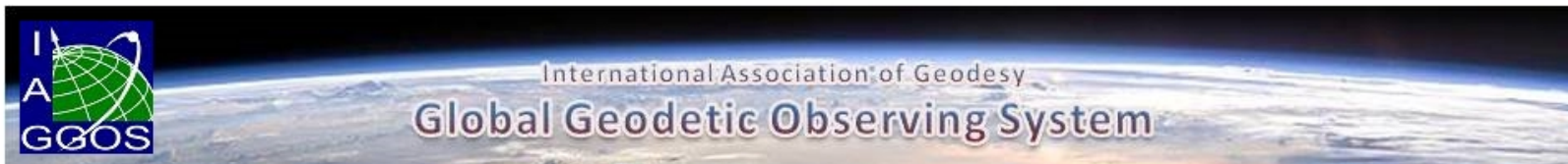
**Unique resource identifier** Code    
 Namespace

**Resource language** ... please choose ...





# GGOS portal – Metadata Editor



GGOS Portal About GGOS Components News / Meetings Products

GGOS Portal  
Discovery  
Viewer  
Metadata Editor

Service  
Sitemap  
Glossary  
Imprint  
Contact

Exit Save Validation (ON) User Guide About

Metadata Identification Classification Keyword Geographic Temporal Quality&Validity Conformity Constraints Organization

Identification

Resource title: IERS Bulletin A Volume XXIII Number 34

Resource abstract: [Empty field]

Abstract is mandatory.

Resource Type: dataset

Resource Locator: [Empty field] Add Remove Selected

Unique resource identifier: Code [Empty field] Namespace [Empty field] Add Remove Selected

At least one unique resource identifier is required.

Resource language: ... please choose ... Add English Remove Selected





## GGOS WG on DIS will

- develop and provide suggestions for an uniform access to heterogeneous space geodetic and in-situ data and information systems
- evolve GGOS portal
- promote use of web standards and conventions
- support implementation of metadata management in the services for GGOS
- work on interoperability with other data bases and services i.e., interfaces for machine-to-machine communication
- align with GEOSS (Group on Earth Observations System of Systems) approach and methodology



## Membership list:

- Bernd Richter chair / IERS
- Carey Noll chair / ILRS
- Wolfgang Schwegmann Portal manager
- Ruth Nealan IGS
- Laurent Soudarin IDS
- Dirk Behrend IVS

**GEOMETRY**

- Franz Barthelmes ICGEM
- Jean-Pierre Barriot ICET
- Sylvain Bonvalot BGI

**GRAVITY**

- Lesley Rickards PSMSL

**SEA LEVEL**

- Felicitas Arias BIPM

**TIME Service**





- Global and interdisciplinary networks of data make high demands on data management in projects like GGOS and GEOSS
- Interoperability of data and services request the consequent use of standardized
  - Meta data
  - Data formats
  - Web services
- GGOS web & portal will provide the necessary technique
- GGOS WG DIS will support the GGOS web and portal development and the services

but

**the services have to provide the data and information**