Federal Agency for Cartography and Geodesy

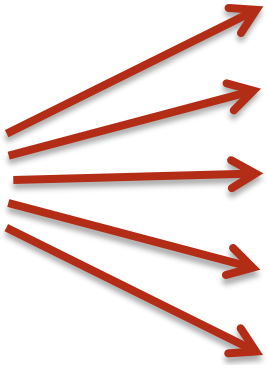
GGOS Portal and Meta Data

Bernd Richter and Carey Noll

Federal Agency for Cartography and Geodesy
NASA Goddard Space Flight Center

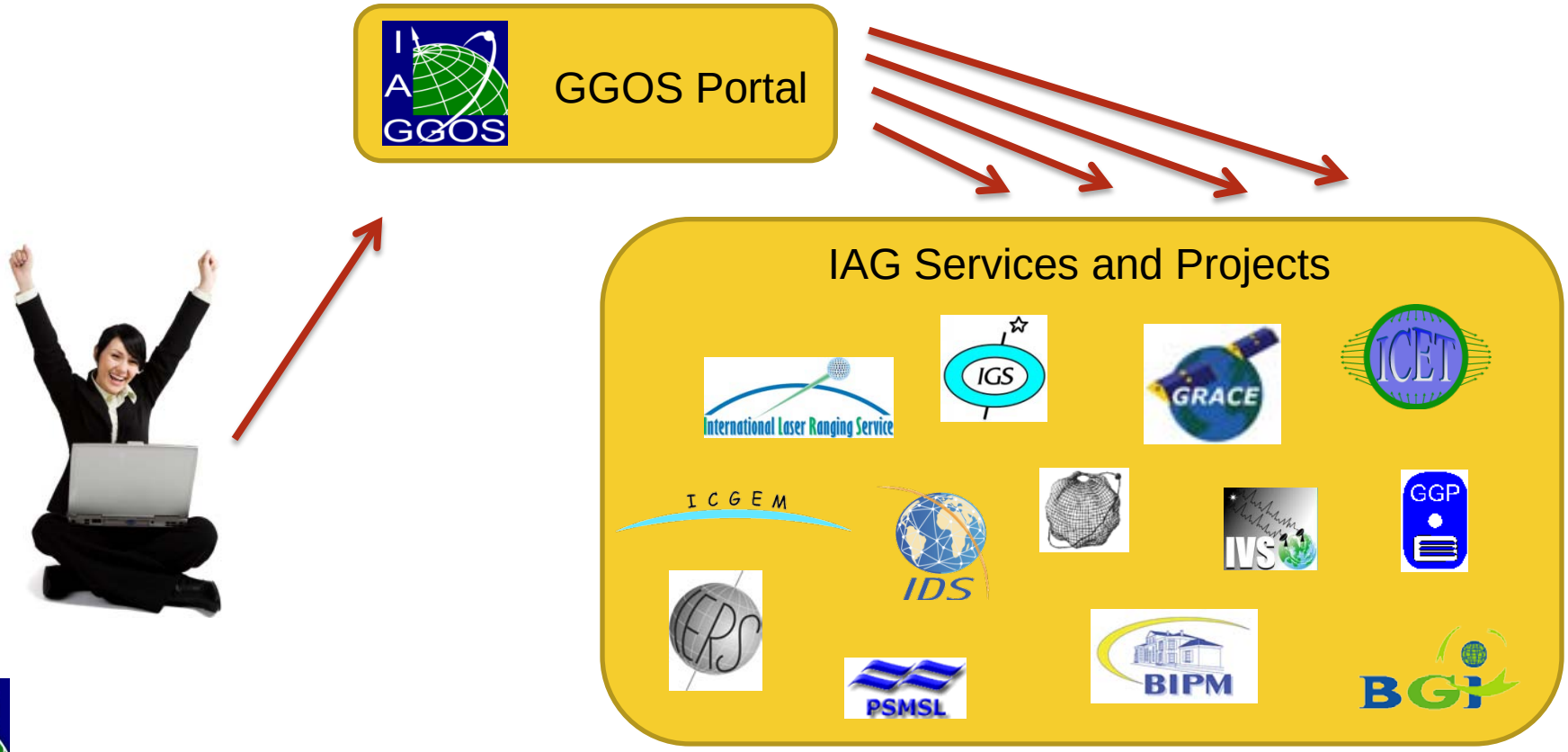
GGOS Portal: Motivation

- 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



GGOS Portal: Tasks

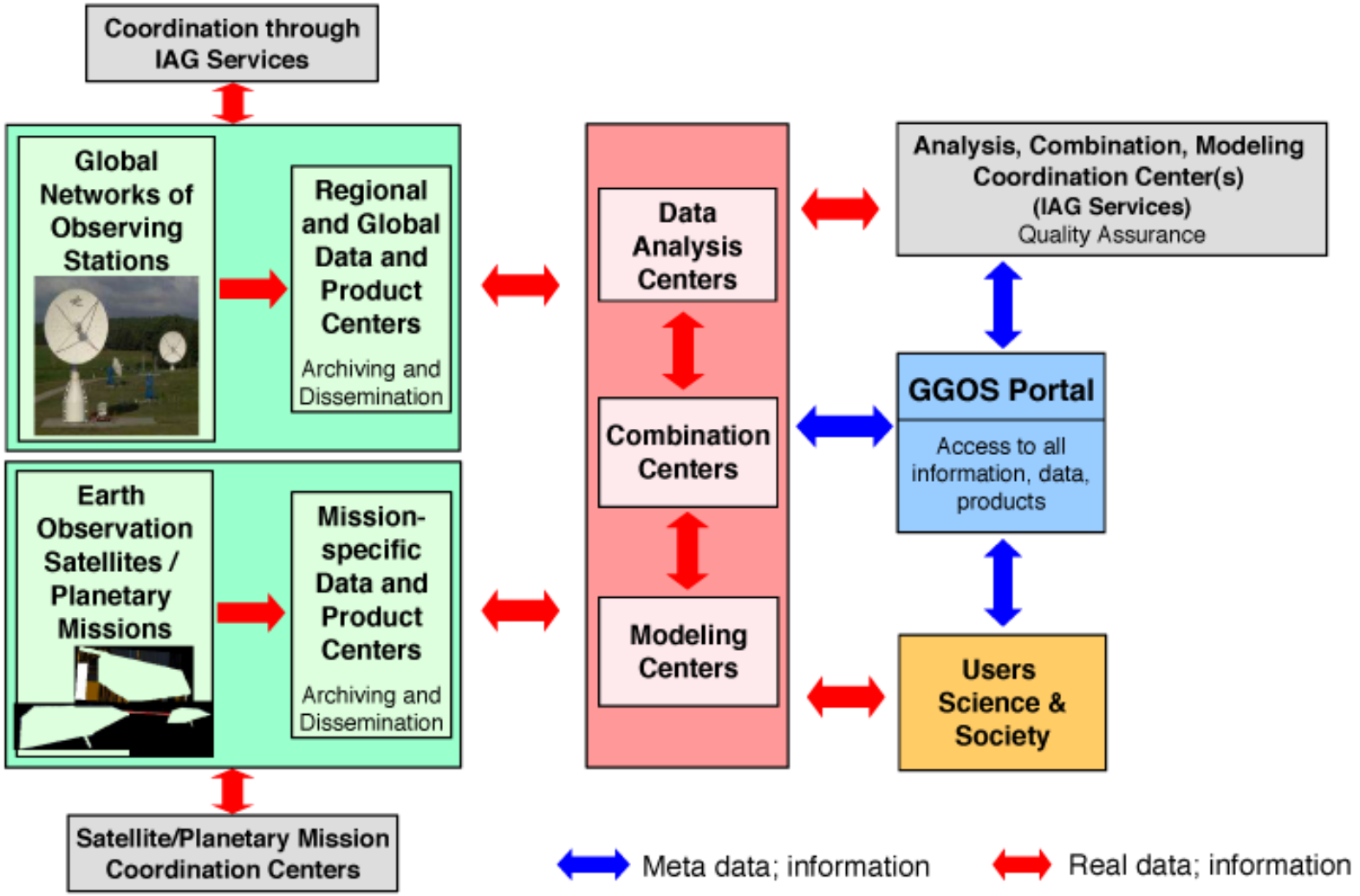
Federal Agency for Cartography and Geodesy

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, …);

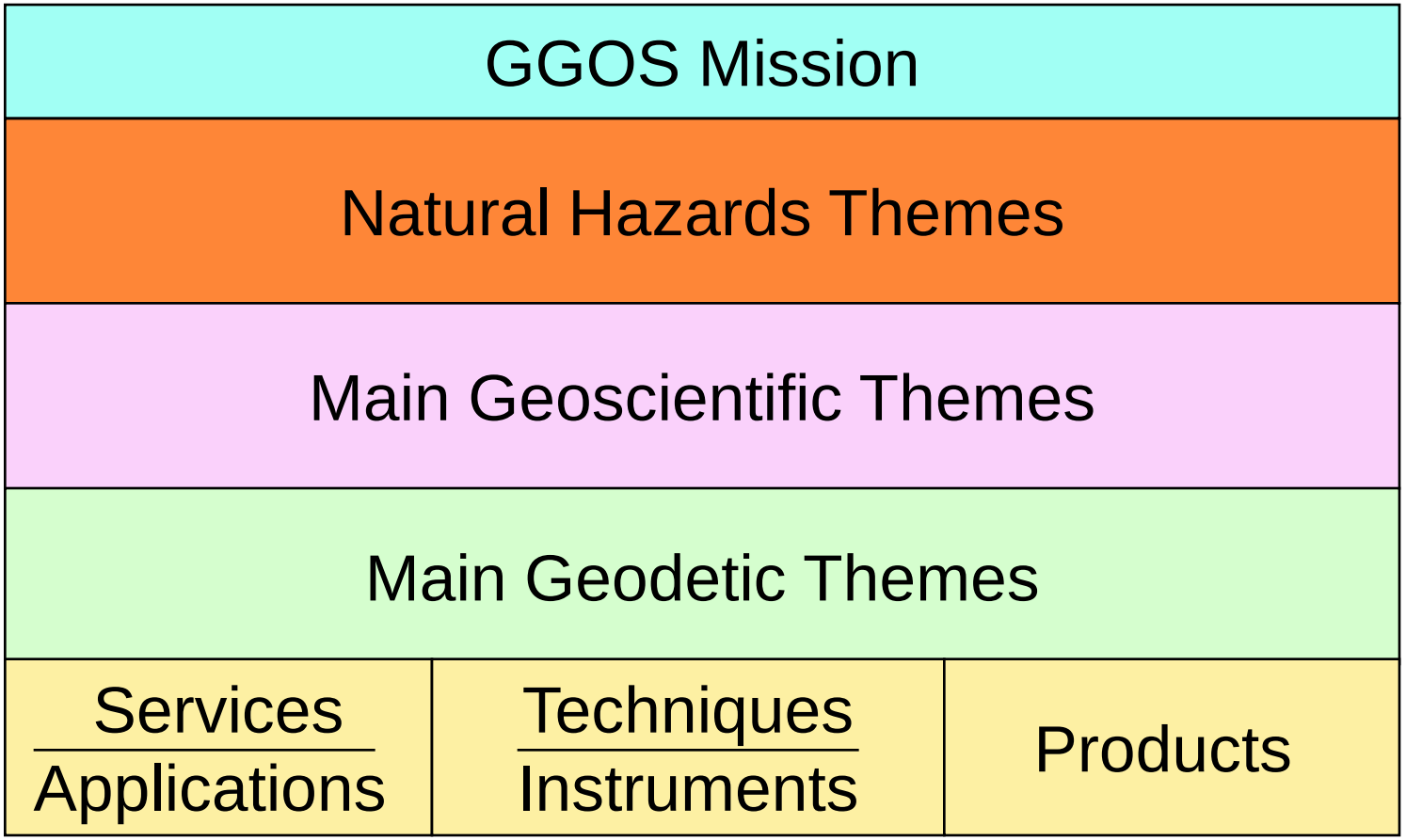
- Maintenance of a GGOS Portal & Clearinghouse):
  - Discovery: search data and service catalogues (local&external);
  - Metadata Editor: collect & manage metadata;
  - Viewer: display data;
  - Applications for data mining of GGOS products and data files, i.e. parse, merge, visualize and analyse data;

GGOS System Design

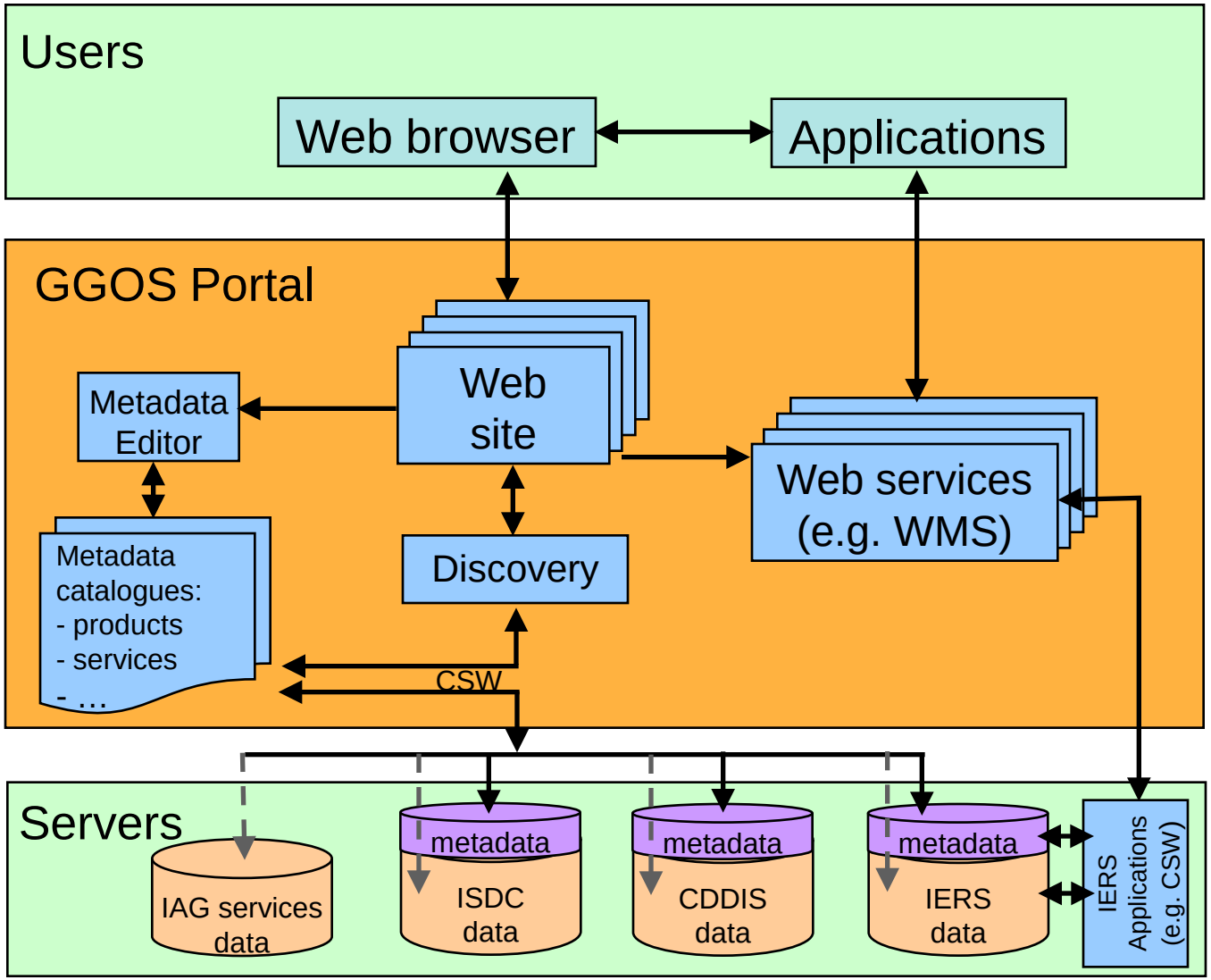


GGOS-Portal

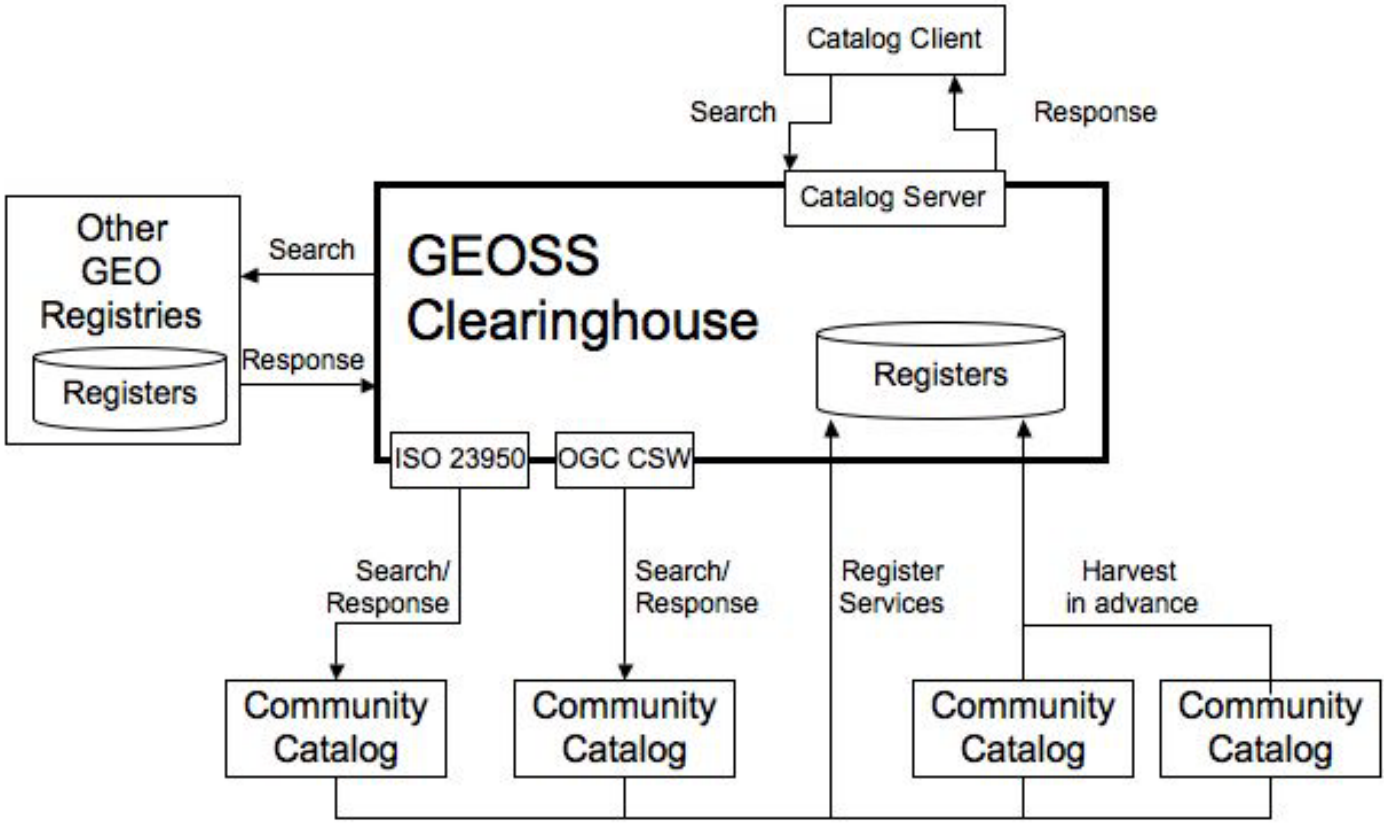
http://www.ggos.org => structure of home page,
multiple entries to serve all interests



GGOS Portal: Architecture



GGOS Clearinghouse architecture engineering viewpoint



GGOS Website (draft)

Federal Agency for Cartography and Geodesy

Global Geodetic Observing System - Home - Windows Internet Explorer

http://preview.ggos.org/sid_CCFB8104359D7BDA4047DA843AFDCE36/GGOS/EN/Home/homepage.html?__nnn=true

Datei Bearbeiten Ansicht Favoriten Extras ?

Global Geodetic Observing System - Home

International Association of Geodesy

Global Geodetic Observing System

GGOS Portal | About GGOS | Projects & Activities | News / Meetings | Workshops

Home
- GGOS Portal
- About GGOS
- Projects & Activities
- News / Meetings
- Workshops

Search

search item

Service
- Library
- Acronyms
- Sitemap
- Imprint
- Contact

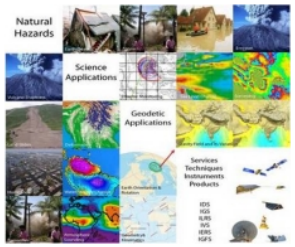
› Home

The Global Geodetic Observing System (GGOS)

GGOS is the Observing System of the International Association of Geodesy (IAG). GGOS works with the IAG components to provide the geodetic infrastructure necessary for monitoring the Earth system and for global change research.

The GGOS Portal will provide a unique access point to all geodetic products. Thus, the Portal will emphasize Geodesy´s contribution to Earth Observation for assessing geohazards and reducing disaster. The Portal consists of the GGOS Web site and the portal itself, comprising geoportal components like a clearinghouse, a map viewer, and a metadata editor.

The GGOS Portal is currently under development. The GGOS Web site will be launched in Dezember 2009 and a first basic version of the portal will be available in the beginning of 2010.



Source: A. Helm (GFZ)


Source: BKG

News
- Community White Paper for OceanObs09
- Second IGCP 565 Workshop took place
- GGOS 2020 Book published
- More

Meetings
- Unified Analysis Workshop 2009
- Unified Analysis Workshop 2009
- The Future of IAG Services
- More

Print | Recommend page

Modification date:25.11.2009

GGOS Website (draft)

GGOS Website (draft)

Federal Agency for Cartography and Geodesy

International Association of Geodesy
Global Geodetic Observing System

GGOS Portal | About GGOS | Projects & Activities | News / Meetings | Workshops

About GGOS

- Organization and System
- Applications
- **Components**
  - Steering Committee
  - Executive Committee
  - **Bureau of Networks and Communications**
    - Goals
    - **Personnel**
    - Workplan
    - Activities
  - Bureau for Standards and Conventions
  - Science Panel
  - Working Groups

Search

search item

Service

- Library
- Acronyms
- Sitemap

› Home › About GGOS › Components › Bureau of Networks and Communications › Personnel

Key Personnel

- Director: Dr. Michael Pearlman/CfA, USA
- Associate Director: Carey Noll/NASA GSFC, USA
- Science Coordinator: Erricos Pavlis/JCET UMBC, USA
- Co-location Coordinator: Zuheir Altamimi/IGN, France
- IAG Service Representatives:
  - IGS: Steve Fisher/JPL
  - ILRS: Michael Pearlman/CfA, USA
  - IVS: Dirk Behrend/NVI/NASA GSFC, USA
  - IDS: Frank Lemoine/NASA GSFC, USA
  - IERS: Bernd Richter/BKG, Germany
  - IGFS: Steve Kenyon/NGA, USA

News

- Community White Paper for OceanObs09
- Second IGCP 565 Workshop took place
- GGOS 2020 Book published
- More

Meetings

- Unified Analysis Workshop 2009
- Unified Analysis Workshop 2009
- The Future of IAG Services
- More

GGOS Website (draft)

Federal Agency for Cartography and Geodesy

International Association of Geodesy
Global Geodetic Observing System

GGOS Portal | About GGOS | Projects & Activities | News / Meetings | Workshops

Workshops
- Graz 2009 Workshops
- GGOS DynaQlim Espos 2009
- IGCP 565 San Francisco 2009
- Montery 2007 Workshop
- Frascati 2007 Workshop
- Munich 2006 Workshop

Search

search item

Service
- Library
- Acronyms
- Sitemap
- Imprint
- Contact

› Home › Workshops

GGOS Workshops

Currently planned/scheduled Workshops and sessions organized or sponsored by GGOS include and past GGOS Workshops, which are documented through specific pages.

Forthcoming Workshops

Date	Title	Location	Workshop page
10.12.2009 - 11.12.2009	Unified Analysis Workshop 2009	San Francisco Area	› more...

Past Workshops

Date	Title	Location	Workshop page
30.09.2009 - 02.10.2009	Towards a Roadmap for Gravity Satellite Missions	Graz, Austria	› more...
30.08.2009	16-th Meeting of the GGOS Steering Committee	Buenos Aires, Argentina	› more...
23.06.2009 - 26.06.2009	GGOS Science Workshop 2009: A Joint DynaQlim/GGOS Workshop	Espoo, Finland	› more...
April 2009	GGOS session at EGU	Vienna, Austria	

Federal Agency for Cartography and Geodesy

GGOS Portal (draft)

GGOS Portal (draft)

Federal Agency for Cartography and Geodesy

International Association of Geodesy
Global Geodetic Observing System

Topics | Discovery | Viewer | Metadata Editor | GGOS Products | News / Meetings

NATURAL HAZARDS | SCIENCE APPLICATIONS | GEODETIC APPLICATIONS | SATELLITE MISSIONS | TECHNIQUES | SERVICES

Satellite Mission
› Moree

Home
- Topics
- Discovery
- Viewer
- Metadata Editor
- GGOS Products
- News / Meetings

Search
search item

Service
- Library
- Acronyms
- Sitemap
- Imprint
- Contact

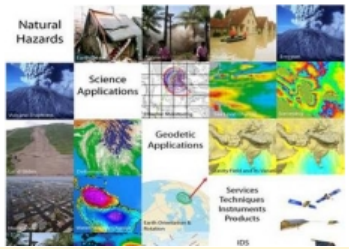
› Home

The Global Geodetic Observing System Portal (GGOS Portal)

GGOS is the Observing System of the International Association of Geodesy (IAG). GGOS works with the IAG components to provide the geodetic infrastructure necessary for monitoring the Earth system and for global change research.

The GGOS Portal will provide a unique access point to all geodetic products. Thus, the Portal will emphasize Geodesy´s contribution to Earth Observation for assessing geohazards and reducing disaster. The Portal consists of the GGOS Web site and the portal itself, comprising geoportal components like a clearinghouse, a map viewer, and a metadata editor.

The GGOS Portal is currently under development. The GGOS Web site will be launched in Dezember 2009 and a first basic version of the portal will be available in the beginning of 2010.



News
- Community White Paper for OceanObs09
- Second IGCP 565 Workshop took place
- GGOS 2020 Book published
- More

Meetings
- Unified Analysis Workshop 2009
- Unified Analysis Workshop 2009
- The Future of IAG Services
- More

GGOS Portal (draft)

GGOS Portal (draft)

Federal Agency for Cartography and Geodesy

International Association of Geodesy
Global Geodetic Observing System

Topics | Discovery | Viewer | Metadata Editor | GGOS Products | News / Meetings

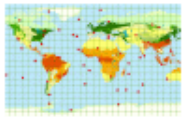
Viewer
- Time Series Viewer

Search
search item

Service
- Library
- Acronyms
- Sitemap
- Imprint
- Contact

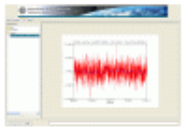
› Home › Viewer

Viewer & Applications



GGOS map viewer
Web map viewer for GGOS related resources.

Time series viewer
Display time series of geodetic-geophysical time series.



Applications
Web based applications for time series data.

News
- Community White Paper for OceanObs09
- Second IGCP 565 Workshop took place
- GGOS 2020 Book published
- More

Meetings
- Unified Analysis Workshop 2009
- Unified Analysis Workshop 2009
- The Future of IAG Services
- More

Print | Recommend page

Modification date:02.12.2009

GGOS Portal (draft)

Federal Agency for Cartography and Geodesy

International Association of Geodesy
Global Geodetic Observing System

Topics | Discovery | Viewer | Metadata Editor | GGOS Products | News / Meetings

GGOS Products

Search

search item

Service

- Library
- Acronyms
- Sitemap
- Imprint
- Contact

› Home › GGOS Products

Overview of GGOS Products and Infrastructure

GGOS products are provided through the IAG Services. The Services maintain their own web sites with information on sites and products.

Infrastructure inventories:

- List of ILRS/SLR sites: http://ilrs.gsfc.nasa.gov/stations/sitelist/index.html
- List of IGS/GNSS sites: http://igscb.jpl.nasa.gov/network/list.html
- List of IVS/VLBI sites: http://ivscc.gsfc.nasa.gov/about/org/components/ns-list.html
- List of IDS/DORIS sites: http://ids.cls.fr/html/doris/sitelog.php3
- Lists of correlated sites of all these services (IGS/ILRS/IVS/IDS): http://indigo.nasa.gov/sgp_locations_full_db_site.html

Product inventories:

- Inventory ILRS: http://ilrs.gsfc.nasa.gov/products_formats_procedures/index.html
- Inventory IGS: http://igscb.jpl.nasa.gov/components/compindex.html
- Inventory IVS: http://ivscc.gsfc.nasa.gov/products-data/index.html
- Inventory IDS: http://ids.cls.fr/html/data-products/info.html
- Inventory IAS: http://ias.dgfi.badw.de/index.php?id=31

Links to global reference systems and frames:

- International Terrestrial Reference Frame
- International Celestial Reference Frame

Links to regional reference systems and frames:

- African Geodetic Reference Frame (AFREF)
- Asia and Pacific Regional Geodetic Project (APRGP)
- Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP)
- European Position Determination System (EUPOS)

News

- Community White Paper for OceanObs09
- Second IGCP 565 Workshop took place
- GGOS 2020 Book published
- More

Meetings

- Unified Analysis Workshop 2009
- Unified Analysis Workshop 2009
- The Future of IAG Services
- More

Federal Agency for Cartography and Geodesy

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

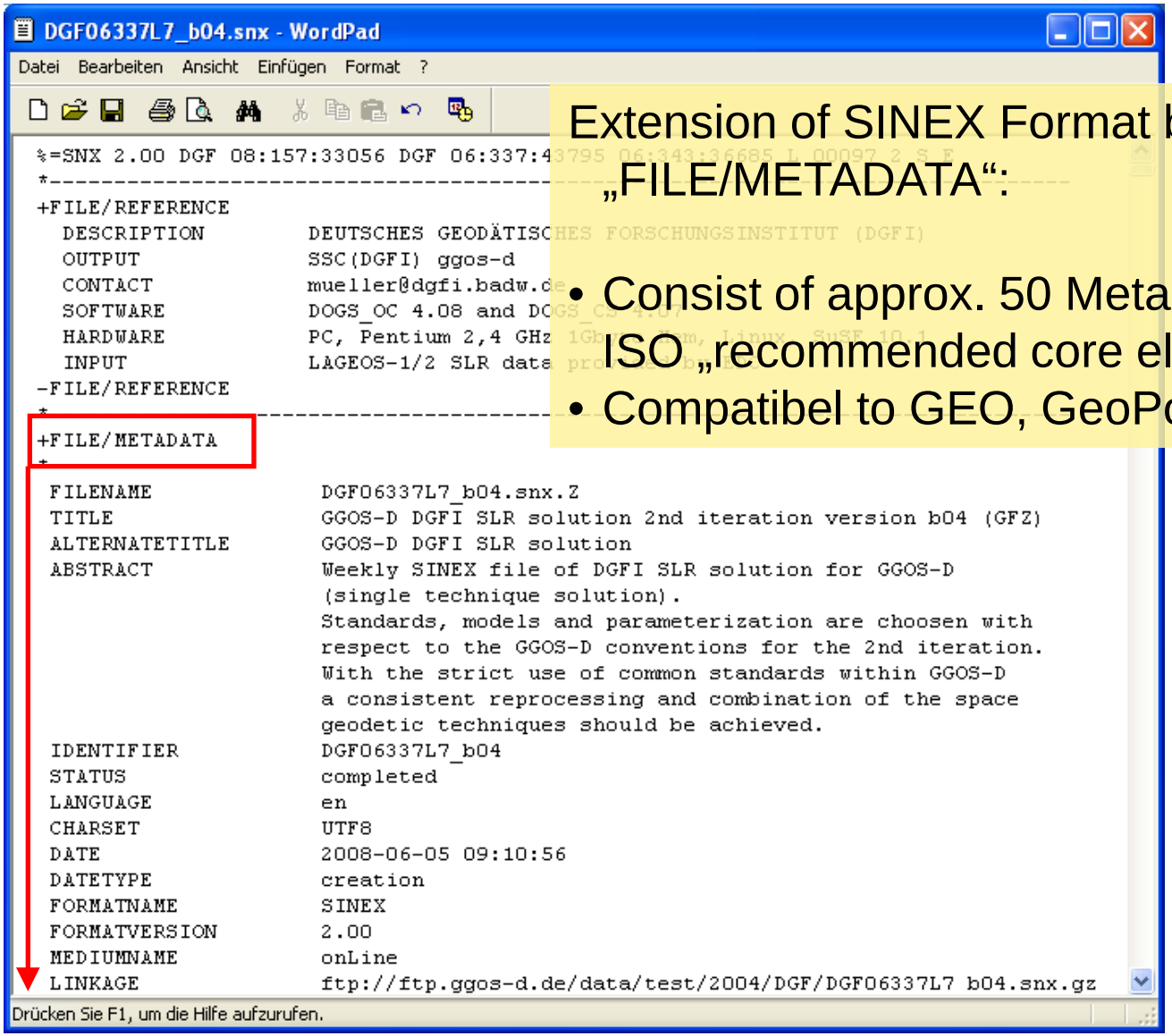
- **Metadata standards are a prerequisite for interoperable and interdisciplinary search**
- **Choice of meta data catalogue**
  - Directory Interchange Format (DIF) developed by NASA (Global Change Master Directory), focused on science, used by Marine Environmental Data Inventory (MEDI) or at GFZ
  - 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
MD_Metadata	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)	**c**
MD_Identification	360	Dataset title	m	m
	361	Dataset short title	(o)	**o**
	362	Dataset reference date	m	m
	29	Dataset responsible party	o	**m**
	25	Abstract describing the dataset	m	m
	33	Descriptive keywords	(o)	**m**
	28	Status	(o)	**o**
MD_DataIdentification	37	Spatial representation type	o	o
	38	Spatial resolution of the dataset	o	**m**
	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	**m**

GGOS-D: Metadata Management – SINEX files

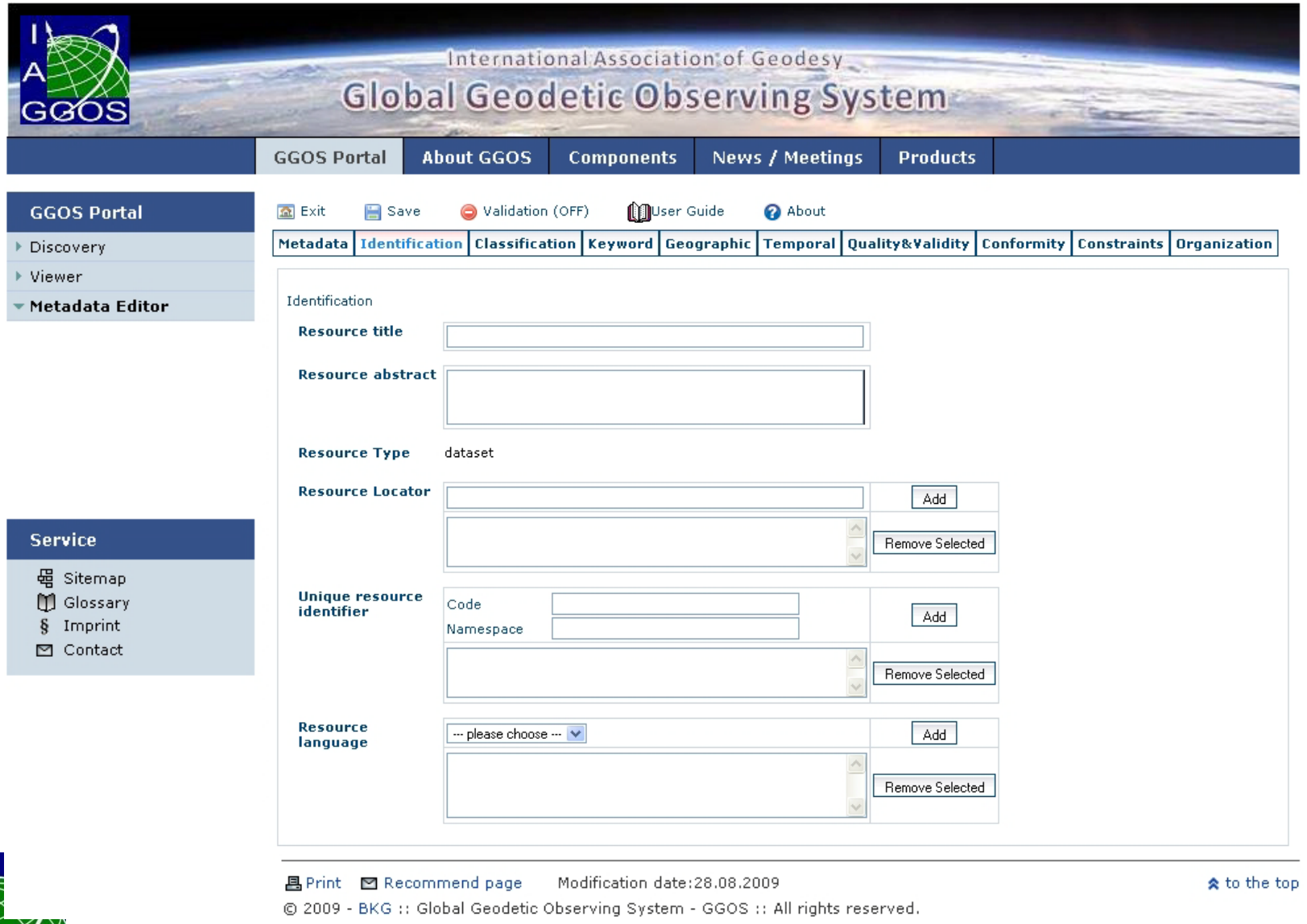
Federal Agency for Cartography and Geodesy



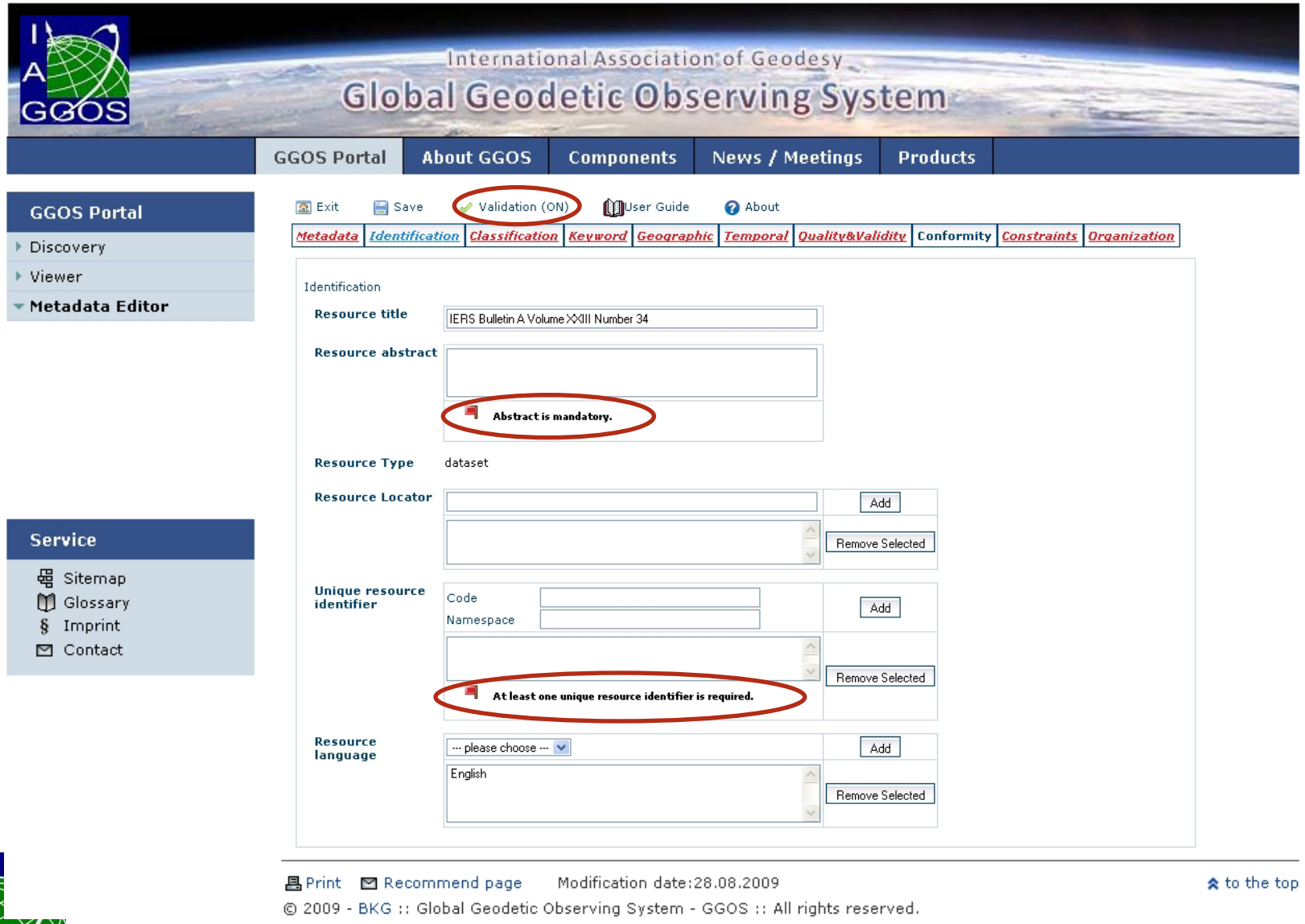
Extension of SINEX Format by one block „FILE/METADATA“:

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

GGOS portal – Metadata Editor



GGOS portal – Metadata Editor



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 (03/2010) Portal manager
- Ruth Neilan 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

Federal Agency for Cartography and Geodesy

Summary

- 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