GGOS Portal and Meta Data

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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
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

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

Coordination through IAG Services

Global Networks of Observing Stations
- Archiving and Dissemination

Regional and Global Data and Product Centers
- Archiving and Dissemination

Earth Observation Satellites / Planetary Missions
- Archiving and Dissemination

Mission-specific Data and Product Centers

Satellite/Planetary Mission Coordination Centers

Data Analysis Centers

Combination Centers

Modeling Centers

Analysis, Combination, Modeling Coordination Center(s)
- IAG Services
- Quality Assurance

GGOS Portal
- Access to all information, data, products

Users Science & Society

Meta data; information

Real data; information

Unified Analysis Workshop, San Francisco, December 11-12, 2009
http://www.ggos.org => structure of home page, multiple entries to serve all interests

GGOS Mission

Natural Hazards Themes

Main Geoscientific Themes

Main Geodetic Themes

Services

Applications

Techniques

Instruments

Products
GGOS Portal: Architecture

Users

Web browser ➔ Applications

GGOS Portal

Metadata Editor ➔ Web site ➔ Web services (e.g. WMS)

Metadata catalogues:
- products
- services
- ...

Discovery

CSW

Servers

IAG services data ➔ metadata
ISDC data ➔ metadata
CDDIS data ➔ metadata
IERS data ➔ metadata

IERS Applications (e.g. CSW)
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

- 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

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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 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
- Franz Barthelmes ICGEM
- Jean-Pierre Barriot ICET
- Sylvain Bonvalot BGI
- Lesley Rickards PSMSL
- Felicitas Arias BIPM
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.