EGDI Metadata Catalogue - the European Geological Data Hub

Dana Čárová
Barcelona 29 September 2016
Presentation outline

- WHY?
- WHAT?
  - EGDI Metadata Catalogue, functional prototype
  - Scope
- HOW?
  - Guidelines
  - Harvesting
- Current state
- Vision
WHY?

- EGDI - European Geological Data Infrastructure
- EGDI-Bridge = a pilot EGDI use case, not the final system
- EGDI metadata catalogue MiKA - functional example:
  - To demonstrate the harvesting technology
  - To demonstrate the editing capabilities of the catalogue
  - To demonstrate the connection to the Portal (use of metadata for test and presentation of the EGDI infrastructure)
- Future plans
  - central European geological data hub
  - information source for other domains and global activities (EPOS, GEOSS, ...)

EGDI
EGDI Metadata Catalogue MlCKA, functional prototype

Welcome to the EGDI Metadata Catalogue

The EGDI Metadata Catalogue is the central access point to metadata concerning structured geological data. It provides tools for compilation of those metadata in a standardized format that will allow users to effectively search through the database. In order to make the data discoverable in the most efficient way, the catalogue is fully compliant with International standards and supports the distributed system of metadata administration. Only digital and structured information (spatial datasets or dataset series and spatial data services - WMS, WFS) should be described by metadata in this catalogue. In order to display a metadata record for which an on-line map service is available, the Metadata Catalogue will be integrated into the EGDI Portal. The catalogue enables systematic discovery, viewing and use of geological data across Europe.

http://egdi.geology.cz/
EGDI Metadata Catalogue MlCKA - search interface

Search metadata records

Fulltext:

Keywords (INSPIRE Themes, GeMet, 1G-E):

Type:

Metadata Organisation:

Country:

Harvested from:

Order by:

Search

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EGDI Metadata Catalogue MiKKA - search results

EGDI 1:1 Million OneGeology pan-european Surface Geology, harvested from INSPIRE conformant National WFS services on GeologicUnit

EGDI WMS built from harvested INSPIRE European WFS for 1:1 Million Surface geology geologic units. Based on onegeology-europe data served as OneGeology and INSPIRE conformant services using INSPIRE Lithology and Geochronologic Era URI codelists.

Metadata Contact: BRGM, France. Date Stamp: 2016-09-28

Southern Permian Basin Atlas

The Southern Permian Basin Atlas (SPBA) presents a comprehensive and systematic overview of the results of over 150 years of petroleum exploration and research in the Southern Permian Basin area. The Atlas aims to stimulate the petroleum E&P industry to continue their activities in this mature basin. The subsurface characterization provided in the Atlas will also be of great value to governments, researchers and other individuals interested in the deep subsurface.

Metadata Contact: TNO Geological Survey of the Netherlands, the Netherlands. Date Stamp: 2016-09-21

Depth and Structure of Top of Paleozoic

GeoMol Pilot Area Upper Austria - Upper Bavaria: Contour map of the top of Paleozoic (m AMSL) and position of major faults and fault zones at the top of Paleozoic. Map derived from the 3D geological model as prepared in the GeoMol Project. Details in the Project Report http://www_geomol_eu_report/

Metadata Contact: Bavarian Environment Agency (LEU). Date Stamp: 2016-09-21

Calabria_Reggio_Calabria PSI data from Terrafirma project

This is PSI data for Calabria_Reggio_Calabria, Italy. It has been provided by TRE as part of the ESA funded Terrafirma project.

Metadata Contact: Date Stamp: 2016-06-30

Calabria_Fabrizia PSI data from Terrafirma project

This is PSI data for Calabria_Fabrizia, Italy. It has been provided by TRE as part of the ESA funded Terrafirma project.

Metadata Contact: Date Stamp: 2016-06-30

Bristol_Bath PSI data from Terrafirma project

This is PSI data for Bristol_Bath, United Kingdom. It has been provided by CGG NPA Satellite Mapping as part of the ESA funded Terrafirma project.

Metadata Contact: Date Stamp: 2016-06-30

© Czech Geological Survey 2016
Found: 1973

**EGDI 1:1 Million OneGeology pan-european Surface Geology, harvested from INSPIRE conformant National WFS services on GeologicUnit**

EGDI WMS built from harvested INSPIRE European WFS for 1:1 Million Surface geology: geologic units. Based on onegeology-europe data served as OneGeology and INSPIRE conformant services using INSPIRE Lithology and Geochronologic Era URI codeslist.

Metadata Contact: BRGM, France. Date Stamp: 2016-09-23

**Southern Permo-Carboniferous Basin Atlas**

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Metadata Contact: . . . Date Stamp: 2016-06-30
EGDI Metadata Catalogue MLcKA - basic metadata

### Basic metadata

**Abstract**
EGDI WMS built from harvested INSPIRE European WFS' for 1:1 Million Surface geology; geologic units. Based on onegeology-europe data served as OneGeology and INSPIRE conformant services using INSPIRE Lithology and Geochronologic Era URI codelists.

**Type**
Service - http://egdi.geus.dk

**Resource Locator**
- http://mapsrefdev.brgm.fr/wxs/1GE/EGDI_1M_INSPIRE_geolUnits?request=GetCapabilities&service=WMS
- http://egdi.brgm.fr/egdi/#extent=725690,560190,7422450,4863430&layers=onegeoeurowave_surface_lithology

**Identifier**

**Service Type** view

**Keywords**
- ISO 19113:
  - Map access service
- Free: OneGeology, OneGeology-Europe, INSPIRE, Surface Geology, Geologic Units, Lithology, Age

**Bounding box**

**Date** creation: 2016-05-04

**Contact Info**

**Data Quality**


**YES**

**Constraints**

**Use Limitation** no conditions apply

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EGDI Metadata Catalogue MlCKA - link to service on the portal

<table>
<thead>
<tr>
<th>Basic metadata</th>
</tr>
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<tbody>
<tr>
<td><strong>Abstract</strong></td>
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<tr>
<td>EGDI WMS built from harvested INSPIRE European WFS for 1:1 Million Surface geology, geologic units. Based on onegeology-europe data served as OneGeology and INSPIRE conformant services using INSPIRE Lithology and Geochronologic Era URI codesets.</td>
</tr>
<tr>
<td><strong>Resource Locator</strong></td>
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| http://mapsrefdev.brgm.fr/wxs/1GE/EGDI_1M_INSPIRE_geolUnits?request=getCapabilities&service=WMS  
http://egdi.brgm.fr/egdi/#extent=725690,560190,7422450,4863430&layers=onegeoeurop_surface_lithology |
| **Identifier** |
| Service Type: view |
| Keywords: ISO 19119: Map access service  
Free: OneGeology, OneGeology-Europe, INSPIRE, Surface Geology, Geologic Units, Lithology, Age |
| **Bounding box** |
| Date: creation: 2016-05-04 |
| **Data Quality** |
| Constraints: no conditions apply |
| Use Limitation: no conditions apply |
EGDI Metadata Catalogue MiCKA - link to service on the portal

EGDI 1:1 Million OneGeology pan-european Surface Geology, harvested from INSPIRE conformant National WFS services on GeologicUnit

- Abstract:
  EGDI WMS built from harvested INSPIRE European WFS' for 1:1 Million Surface geology; geologic units. Based on onegeology-europe data served as OneGeology and INSPIRE conformant services using INSPIRE Lithology and Geochronologic Era URI codeists.

- Resource Locator:
  - http://mapsrefdev.brgm.fr/wxs/1GE/EGDI_1M_INSPIRE_geolUnits?
    &request=getCapabilities&service=WMS
  - http://egdi.brgm.fr/egdi/#extent=-725690,560190,7422450,4863430&layers=onegeoeuro_surface_lithology

- Type: service - http://egdi.geus.dk

- Identifier:

- Service Type: view

- Keywords:
  - ISO 19119:
    - Map access service
  - Free: OneGeology, OneGeology-Europe, INSPIRE, Surface Geology, Geologic Units, Lithology, Age

- Bounding box:
  - Date: creation: 2016-05-04

- Data Quality:

- Conformity:
  - YES

- Constraints:
  - Use Limitation: no conditions apply
    - no conditions apply

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EGDI Metadata Catalogue MLcKA → display of service on the portal
OneGeology-Europe service version 2016, INSPIRE compliant!
EGDI service on the portal → display metadata from EGDI MC MLcKA
EGDI service on the portal → display metadata from EGDI MC MlCKA

Title and abstract displayed on-line from EGDI metadata catalogue
EGDI service on the portal → link to the basic metadata in EGDI MC MlCKA

Report from EGDI metadata catalogue
EGDI service on the portal → report from EGDI Metadata Catalogue McKA

<table>
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<th></th>
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<tbody>
<tr>
<td>Constraints</td>
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<table>
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<th>Metadata about metadata</th>
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<tbody>
<tr>
<td>Metadata identifier</td>
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<tr>
<td>Metadata Contact</td>
</tr>
<tr>
<td>Date Stamp</td>
</tr>
<tr>
<td>Language</td>
</tr>
</tbody>
</table>
Scope of the metadata catalogue

- Services from past projects presented on the EGDI Portal (“Top Level“):
  - OneGeology-Europe (Geology)
  - Minerals4EU (Mineral resources)
  - ProMine (Mineral resources)
  - EMODnet Geology (Marine Geology)
  - PanGeo (Geohazards)
  - Terrafirma (Geohazards)
  - GeoMol (Energy)
  - GEMAS (Geochemistry)
  - IGME5000 (Geology)
  - IHME1500 (Groundwater)
  - Geomind (Geophysics)
  - EuroGeoSource (Energy)
  - eENVplus (Geology)
  - EUSR5000 (Soil)
  - SPBA (Energy)

- Datasets related to abovementioned services
Important national datasets and services according to the GSO’s priorities

Applications enabling access to the important national data (boreholes etc. - according the GSO’s priorities)

http://www.europe-geology.eu/ - everything displayed on the Portal should also be supplemented by metadata!!!
Guidelines for creating standardized metadata for EGDI

- **International standards** - fully compliant (INSPIRE, Dublin Core, ISO 19115 and 19119 etc.)
- **Language** - bilingual records (national language + English)
- **Keywords** should be used (INSPIRE URIs), specific EGDI keywords should be used to distinguish data/services created for a specific project (Project acronyms as Minerals4EU etc.).
- **Unified name of the organization** - “English name of the organization (abbreviation)” *proposal: “Czech Geological Survey (CGS)”*
- **Unified name of the country** - Authority code from ISO 3166-1/α-3 (country abbreviation); 3-letter abbreviation is probably the closest to the INSPIRE strategy.
  
  *proposal: “CZE” or URI: [https://www.iso.org/obp/ui/#search/code/](https://www.iso.org/obp/ui/#search/code/)*
HOW?

Harvesting mechanism

Preferred workflow - metadata are harvested directly from the permanently maintained national/GSO catalogues.

Harvesting guidelines

- Denomination of the selected metadata records by the keyword "EGDI" directly in the national/GSO catalogue or setting the filter query with the following information:
  - URL of the CSW service
  - resource type
  - harvesting interval (recommended 1 day)
  - the query or the keyword ("EGDI" or another one) which you have chosen to harvest records from the national/GSO catalogue
Current state of play (as of 31 August 2016)

- 18 data providers (Geological Surveys) nominated metadata contact person:
  Austria, Belgium, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Netherlands, Norway, Poland, Slovenia, Spain, Sweden, United Kingdom

- total number of records: 1987 (of these 1973 public)

- metadata:
  - Datasets - 1838
  - Services - 147
  - Applications - 2

- harvested from 14 catalogues:
  - Geological Surveys: CGS, BGR, PGI-NRI, MFGI, BGS, IGME, GEOZS, GBA, GSI, NGU
  - Projects: Minerals4EU, 1G-E, eENVplus, Terrafirma
Vision of the EGDI

metadata point of view

- central European geological data hub as a part of the future European Geological Service
- sustainable platform for results of future European geoscientific projects
- information source for other domains and global activities (EPOS, GEOSS, ...)
- a live demonstration of implementation of INSPIRE ideas

(it’s necessary to cooperate and harmonise data and services on the geological community level across individual states to be able to use the data for producing applied results on the European level.)
Try out our prototype!

http://egdi.geology.cz/?design=micka
http://www.europe-geology.eu/metadata/

Thank you for your attention!

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Olga Moravcová, Štěpán Kafka

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