



Česká geologická služba

Czech Geological Survey



CzechGeo/EPOS Geological and Geophysical Databases Summary 2016-2019

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Presentation outline:

- Inventory of geological and geophysical data
- Evaluation, consolidation, harmonization
- Presentation and provision of data
- Relationship to the international infrastructures
- Proposed follow-up



CzechGeo/EPOS Research Infrastructure

- Section of Seismology
- Section of GNSS and Gravimetry
- Section of Crust Geodynamics
- Section of Geomagnetism
- **Section of Geological and Geophysical Databases**





Geological and geophysical data

- **Inventory** of geological and geophysical data resources compiled in „Catalogue of geophysical data in the CR“ and described by metadata
- **Evaluation** of relevance of data resources
- **Consolidation** of relevant data
- **Harmonization** in accord with standards
- **Presentation** and **provision** of data
- **Dissemination** activities





Evaluation, consolidation

- **Evaluation of relevance to:**
 - INSPIRE
 - EGDI/EPOS
 - Support of the national geoscience research
- **Consolidation of CGS data:**
 - Analysis
 - Data management, processing schema, code lists, data validation
 - Incorporation to CGS-DRI
 - Secured storage, backup, central data administration



Harmonization

- INSPIRE data specification
 - Relevant data identification
 - Transformation analysis and processes
 - INSPIRE data publication
- EGDI data specification
 - Mineral resources, geology
 - Update of data from previous projects (Mineral4EU, OneGeology-Europe)





Metadata

- Metadata describing data resources, web services and applications of consortium CzechGeo/EPOS members (in accord with the international standards)
- Metadata Catalogue of the CGS
<https://micka.geology.cz>
- National INSPIRE Geoportal
<https://geoportal.gov.cz/web/guest/catalogue-client>
- European INSPIRE Geoportal
<https://inspire-geoportal.ec.europa.eu/>
- EGD I Portal (European Geological Data Infrastructure)
<http://www.europe-geology.eu/metadata/>

Use of metadata

thematic guidepost of CGS data, web services and apps - generated from metadata

GEOLOGIE 13
HYDROGEOLOGIE 7
PŮDY 4
NEROSTNÉ SUROVINY 7
PODDOLOVÁNÍ A DŮLNÍ DÍLA 5
TĚŽEBNÍ ODPADY 3
GEOHAZARDY 5
GEOFYZIKA 15
GEOCHEMIE 5
GEOLOGICKÁ PROZKOUMANOST ČR 6
VZDĚLÁVÁNÍ A POPULARIZACE 10
KNIHOVNY A ARCHIVY 3
SBÍRKY A HMOTNÁ DOKUMENTACE 7



GEOFYZIKA 15
Geoelektrika – Vertikální elektrické sondování (VES) MAP app WMS Arcgis
Geofyzikální archiv DB app
Geofyzikální metody - kódy
Geofyzikální prozkoumanost MAP app WMS Arcgis
Geomagnetická mapa České republiky 1 : 500 000 (GEOČR500) WMS Arcgis
Gravimetrická mapa České republiky 1 : 500 000 (GEOČR500)
Gravimetrie
Karotážní data (geofyzika) - vrty MAP app WMS Arcgis
Magnetometrie
Mapa radonového indexu 1 : 500 000 (GEOČR500) MAP app WMS Arcgis
Mapa radonového indexu České republiky 1 : 50 000 (GEOČR50) MAP app WMS Arcgis Atom
Petrofyzika



Presentation and provision of data

- **Metadata**
- **Web Services** in accord with the relevant international standards and rules:
 - Discovery services (metadata)
 - View services
 - Download services
- Specific user-friendly access via **web applications**
 - new web map application “Geophysical measurements” in the Czech and English version
https://mapy.geology.cz/geophysical_measurements
- **Documentographic database, digital archive**
 - massive increase in geophysical data in particular
- **Web pages**
 - CzechGeo/EPOS <http://www.czechgeo.cz/>
 - new part of the CGS portal:
<http://www.geology.cz/extranet/vav/zemska-kura/geofyzika>
<http://www.geology.cz/extranet-eng/science/earths-crust/geophysics>



Relationship to the international infrastructures



EPOS TCS Geological Information and Modelling

- CA for the Construction and Operation of the EPOS Research Infrastructure
- D. Čápková (CGS) elected co-chair of the Consortium board



EGDI (European Geological Data Infrastructure)

- the Service Provider for geological data from the EuroGeoSurveys members to EPOS and other research infrastructures
- CGS is one of 5 core members, operating the distributed EGDI infrastructure



Relationship to the international infrastructures

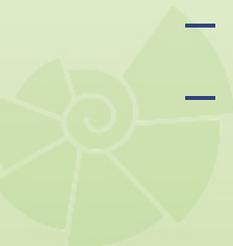
- **SIEG** (Spatial Information Expert Group of EuroGeoSurveys) – D. Čápková (CGS) was elected chair in 2019
- **GeoERA** – ERA-NET cofund action of Geological Survey Organizations (GSOs) from 32 European countries, CGS involved
- **European Partnership under Horizon Europe** – towards Geological Service for Europe (EP-GSE)





Proposed follow-up

- **Sustainable development** of the CGS-DRI as a part of the distributed CzechGeo/EPOS infrastructure
- Building of a **one-stop access** to the national **geological and geophysical data**
 - essential for the scientific research (prediction and mitigation of landslides, subsidence, earthquakes, flooding and pollution, survey of sites for radioactive waste storage etc.)
- Active participation in **international infrastructures** – EGDI, EPOS, EP-GSE
- Processing of:
 - more comprehensive data
 - unstructured data





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