



## Geological Survey data as a support for EPOS

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The National Geological Surveys of Europe have through many years collaborated on making their large possessions of geological data available for researchers, the general public and decision makers at all levels. Numerous projects have been carried out with the aim of harmonizing data across national boundaries and making data interoperable by delivering them according to international standards like those defined by INSPIRE, OGC, CGI and others.

In 2012 – 2014 an EU co-funded study was carried out with the title of EGDI-Scope. The study showed how an integrated European Geological Data Infrastructure (EGDI) can be established so that all sorts of geological data from the Geological Surveys can be accessed in a common way by the relevant stakeholders. The establishment of such an EGDI is a cornerstone of the strategy of the organization of the Geological Surveys of Europe, EuroGeoSurveys, and the organization has decided to start implementing the infrastructure and establishing an organization which will ensure that this will be sustained.

One of the most obvious user groups for the geological information is EPOS, the European Plate Observing System, which will be implemented in the coming years. The EPOS implementation project therefore contains a specific workpackage to establish the connection between the Geological Survey data and the rest of EPOS. A Thematic Core Service (TCS) for geological data and modeling will be built for making the data available for the Integrated Core Services of EPOS. The TCS will deal with borehole data, digital geological maps, geophysical data like seismics and borehole logs, archived physical geological material like samples and cores, geochemical and other analyses of rocks, soil and minerals as well as with 3D and 4D geological models of the subsurface. Great emphasis will be put on making the system sustainable and with easy access and the idea is also to further develop and promote the international standards for data exchange.

This will provide future virtual research environments with means to facilitate the use of existing information for future applications. In addition, workflows will be established that allow the integration of other existing and new data and applications. Processing and the use of simulation and visualization tools will subsequently support the integrated analysis and characterization of complex subsurface structures and their inherent dynamic processes. This will in turn aid in the overall understanding of complex multi-scale geo-scientific questions. This TCS will work alongside other EPOS TCSs to create an efficient and comprehensive multidisciplinary research platform for the Earth Sciences in Europe.