

eWater: the European distributed hydrogeological information system

G. Schubert (8), R. Allard (1), J. Arustiene (9), R. Arts (1), M. Asman (15), E. Ballofet (2), J. Belickas (10), R. Berka (8), D. Capova (5), D. Coraboeuf (2), M. Centineo (7), B. Dumont (12), J. Jellema (1), M. Gargulak (6), M. Hansen (3), C. Heylen (12), A. Heirman (12), J. Kooijman (1), M. Komac (13), N. Kukuric (1), J. Lopez (14), F. Lugard (12), H. Machard (2), J. Mizak (6), P. Nagy (4), A. Palumbo (7), J. Prestor (13), K. Raffaelli (7), J. Rodríguez (14), A. Rotar-Szalakai (4), P. Severi (7), J. Sinigoj (13), A. Tchistiakov (1), J. Theelen (12), H. van Triest (11), S. Urban (2) & V. Rapsevicius (10)

- (1) TNO The Dutch Geological Survey, Utrecht, Netherlands (alexei.tchistiakov@tno.nl)
- (2) BRGM Geological Survey of France, Orleans, France
- (3) GEUS Geological Survey of Denmark and Greenland, Copenhagen, Denmark
- (4) MAFI Geological Institute of Hungary, Budapest, Hungary
- (5) Geofond-Czech Geological Survey, Prague, Czech Republic
- (6) SGUDS State Geological Institute of Dionyz Stur, Bratislava, Slovakia
- (7) SGSS Geological, Seismic and Soil Survey of Emilia-Romagna Region, Bologna, Italy
- (8) GBA Geological Survey of Austria, Vienna (gerhard.schubert@geologie.ac.at)
- (9) LGT Lithuanian Geological Survey, Vilnius, Lithuania
- (10) IT Informacinės technologijos, Vilnius, Lithuania
- (11) Geodan Mobile Solutions, Amsterdam, Netherlands
- (12) G.I.M. Geographic Information Management NV, Heverlee, Belgium
- (13) GeoZS Geological Survey of Slovenia, Ljubljana, Slovenia
- (14) IGME The Geological Survey of Spain, Madrid, Spain
- (15) SGU Geological Survey of Sweden, Uppsala, Sweden

ABSTRACT

The new EC co-funded project “Multilingual cross-border access to ground water databases” (eWater) aims to increase the cross-border accessibility of spatial data on subsurface waters. Geo-data market research has shown that the groundwater (hydrogeological) data is of great market demand, occupying the second position in the rating list immediately after the data on rock composition (lithology). The eWater project takes advantage of the broader trend in Europe to promote the harmonization of subsurface data repositories and services.

Hydrogeological data are currently stored in national databases and available exclusively in a local language. Therefore the hydrogeological data across the national borders form separated, uncorrelated, not interoperable data sets. As the result much of the hydrogeological spatial information is difficult to exploit in both international and national water management context. In order to improve cross-border geo-data exchange, the eWater consortium comprising 12 major European geological surveys, institutes and 3 IT companies have recently initiated the eWater project. The surveys form the core of the eWater consortium since they are data holders, providers and very often users, providing the governments with hydrogeological expertise in decision making.

The objectives of the project will be achieved by developing a web GIS portal for hydrological and geological data in relation to water management issues of the participating countries. The envisaged cross-border portal is meant for EC itself, national and river basin water authorities, as well as for private engineering and water supply companies, added-value data service providers, insurance companies, planning and controlling organizations, the general public, etc. The portal will form the international dissemination point for the hydrogeological information. It will increase cross-border accessibility of the data that has been available so far exclusively at the national levels. The planned Internet system will provide cross-border multilingual access to ground water spatial data sets stored in the national databases of the participating countries. The portal will primarily concern groundwater monitoring measurements, such as water level and chemical composition, as well as digital hydrogeological and geological maps. A plan for the portal's continued maintenance and

augmentation will be developed in order to provide sustainability of the system after the end of the project.

The eWater portal would be multilingual, encompassing several major European languages of the partners. It will include i) multilingual user interfaces and ii) on-the-fly translation functions for translating coded groundwater measurement data from the national databases. In order to provide the translating we will build a central hydrogeological dictionary stored in a database. This central dictionary will produce distributed dictionaries that can be imported to the national database applications and then used for on-the-fly data translation. This concept was successfully tested in frame of eEarth project (www.eearth.nl).

Acknowledgment

We would like to acknowledge the EC eContentplus programme for funding the eWater project.