

# OneGeology Europe

## the present and the future

Richard Hughes, BGS  
Francois Robida, BRGM  
Luca DiMicheli, EGS  
Kristine Asch, BGR  
Tirza van Daalen, TNO  
Robert Tomas, JRC

# OneGeology-Europe

or....

**How 28 partners from 21 nations  
spent €3.25 million !**

Search

Map viewer

Layers

Country Outlines/Political boundaries

1GE - 1M:M Harmonized Geological Map

Surfaces

Move Up | Move Down

Modify Opacity

Lithology

Remove Layer

 View metadata

 Display legend

 Download data

 Create a custom map

Area Displayed

 Selected area informations

 Legend and Statistics

 Download data

Remove all layers



Go to... ▼



 1200 km

Scale : 1 : 25 000 000

SRS : WGS 84

X : 5.53

Y : 53.65



- Started 11 September 2008
- Finished October 2010
- Total budget 3.25M€
- EC contribution 2.6M€
- Funded by EC DG Information Society and Media Best Practice Networks: Geographic Information
- 10 Work Packages
- 28 Partners from 21 countries

## Major objectives

- Make existing digital geological spatial data more easily discoverable, accessible and useable
- Make a contribution to the progress of INSPIRE: i.e. develop systems and protocols to better enable the discovery, viewing, downloading and sharing of geological data
- Enable the Groundwater and Soils directives, GMES, GEOSS and SEIS to deliver
- Demonstrate best practice examples of the delivery and application of geological spatial data
- Improve contribution of geological surveys across Europe to INSPIRE by spreading and sharing best practice



Making geological map data for the Earth accessible

# Project team



cenia



ISPRA Istituto Superiore per la Protezione e la Ricerca Ambientale



KATHOLIEKE UNIVERSITEIT LEUVEN



Laboratório Nacional de Energia e Geologia, I.P.



ENVIRONMENTAL AGENCY OF THE REPUBLIC OF SLOVENIA



Instituto Geológico y Minero de España



Sveriges geologiska undersökning Geological Survey of Sweden



British Geological Survey

NATURAL ENVIRONMENT RESEARCH COUNCIL



Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra

Federal Office of Topography swisstopo

Swiss Geological Survey



# Work Packages

WP1. Project management

WP2. User  
needs

WP3. Data  
Specification

WP4. Metadata

WP5. Data  
Architecture

WP6. Web Map  
Portal

WP7. Data  
Licensing

WP8.  
Communications

WP9. High  
Resolution Data

WP10. External  
Liaison

## Results and outcomes

- Interoperable geology spatial dataset at 1:1 million scale available from distributed data from 20 EU nations – *and sustainable*
- State-of-the-art multilingual web map portal
- Major multinational deployment of geoscience specifications & Open Geospatial Consortium standards to view and download data
- Legal barriers to data access addressed - single harmonised licence now used by all data providers allowing free access and harmonised Code of Practice produced



## Results and outcomes

- Multilingual discovery metadata catalogue developed
- Acceleration of development and deployment of an international interchange standard for geology, GeoSciML
- Significant progress with the harmonisation of geoscientific language in Europe and globally
- Successful pilots for high resolution/applied data
- Contribution to implementation of INSPIRE (metadata, data specifications, services, data sharing, monitoring)

## Results and outcomes

- Shared best practice and raised the standards and competencies in data management and delivery in Geological Surveys
- OneGeology-Europe has created a large multinational team with a shared understanding of future challenges ....
- .....who are better able to work together in the future to deliver improved European geoscience products and services
- ***OneGeology-Europe has made spatial data held by the Geological Surveys of Europe more easily discoverable, accessible and shareable***

## Sustaining the services

- 20 national geological surveys have agreed to keep serving their data ✓
- EuroGeoSurveys has agreed to maintain the portal ✓



# What could European geological surveys do next?

Dreams of the future.....

- Infrastructure ready to be integrated in other domains
- Extend the membership to other European nations
- improving data – its resolution (1:250k? 1:50k?) and quality and harmonisation
- Develop pan-European derived datasets (radon, flooding, ground stability, etc)
- Improve services, applications and functionality
- Develop European schematic interoperability in 3D

But the reality .....

- Extending data coverage e.g. Switzerland and Austria
- Improving data – its resolution (1:250k) and quality and harmonisation
- .....

## Challenges

- Some providers have stringent limitations on the use of their data placed upon them by their government ministries, and these may not be easily overcome
- There are some technical issues to be overcome, and some re-engineering of the OneGeology portal may be required. New approaches such as serving of gridded (derived from vector) data or cached data could be explored in order to deliver a faster and more reliable access to a pan-European coverage. These approaches could pave the way for the development of a Europe-wide mobile application to serve geological map data (iGeologyEU?)
- Some technical work to make the WMS and WFS fully compliant with the final INSPIRE specifications (geological data model) will require a contribution by every OneGeology-Europe partner
- Semantic harmonisation: a huge amount of effort was required to agree the c. 200 lithological and geological terms to enable high level semantic harmonisation of data served through the OneGeology-Europe portal at the current approximate 1:1M scale. To agree a comparable level of harmonisation with higher resolution data would be a major challenge that is beyond the scope of these proposals. It is proposed that this issue should be overcome by simply serving data without further harmonisation work.



# Thank you....

to all the geoscientists, information experts, managers, communications people around the world, without whom OneGeology and OneGeology-Europe would still be an idea



# Discussion

**Over to you!**