

A Joint European GIS Under Construction:

The 1 : 5 Million International Geological Map of Europe and Adjacent Areas (IGME 5000)



Preparation of an overall geological GIS for Europe, allowing the flexible retrieval of geological attributes via the internet and the production of a printed geological map

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Aims

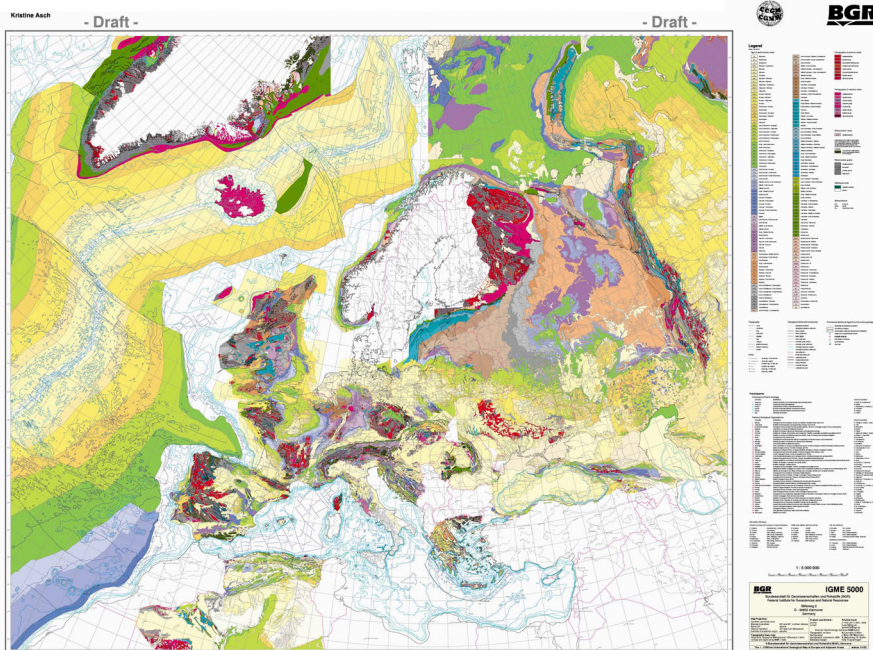
- Display the geology of the land and (for the first time) of the sea areas of Europe.
- Develop a GIS underpinned by a geological database.
- Print a geological map providing up-to-date and consistent geological information.
- Provide practical usable guidelines and procedures for comparable projects.
- Establish a simple European geological standard.
- Incorporate the knowledge of the geological institutions of Europe.
- Provide internet access to the GIS.
- Produce thematic maps on demand and a CD-ROM with a subset of the GIS and the related database.
- Provide a coherent foundation for geoscientific thematic mapping across Europe.

Contents

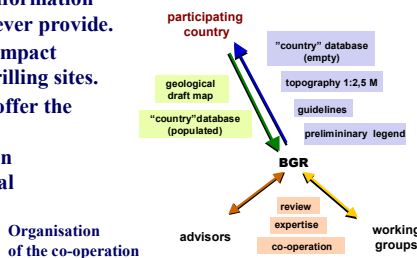
- Main theme: pre-Quaternary geology
- Planned: to include additional themes, e.g. Quaternary geology – the geological environment we live in.
- The GIS will hold significantly more information than the previous printed maps could ever provide.
- It will include additional features like impact structures, magnetic anomalies, and drilling sites.
- The IGME 5000 will, via the internet, offer the facility, to retrieve and present, for the whole of Europe, geological information on e.g. age, petrography, and structural and metamorphic features.

Participants

- National and international scientific advisors
- 48 geological surveys and institutions from Europe and adjacent countries.



Under construction: The IGME 5000 geological GIS of Europe, including marine regions. (Reduced scale: ca 1 : 20 000 000)



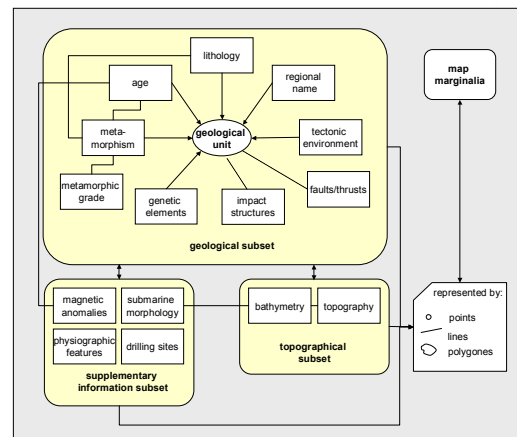
Data combination and synthesis

Each country submits to BGR a draft map and a 'country' database based on the above requirements. The maps are then cartographically and geologically harmonised and generalised. In parallel the single national "country" databases are also harmonised and synchronised by specially created algorithms. Finally all data sets (geometry, topology, attributes) will be linked and synthesized to the overall "IGME 5000 Geo Database".

Co-operation and Standardisation

The project is heavily dependent on the contributions of the numerous countries. This requires meticulous preparation and establishment of standards and protocols in order to provide the essential structure and guidelines for the data compilation:

- common geological map legend,
- instructions for the preparation of draft maps,
- common (digital) topographic base map,
- term dictionaries for the database,
- template for the data input,
- colour scheme and abbreviation code.



The IGME 5000 conceptual data model



Bundesanstalt für Geowissenschaften und Rohstoffe

Federal Institute for Geosciences and Natural Resources