Preparing groundwater decision tools at pan-european scale supporting the Water Framework Directive and the UN Sustainable Development Goals -GEOERA Project outputs

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We introduce digital groundwater data and information products of the four recently completed GeoERA groundwater projects in support of integrated and sustainable management of European water resources under climate and global change. The four projects HOVER, TACTIC, RESOURCE and VOGERA were respectively mainly related to groundwater quality, climate change impact and recharge, groundwater availability and vulnerability of shallow groundwater resources to deep sub-surface energy related activities. The strength of these projects was to combine the expertise on geology and hydrogeology and data on groundwater quality and quantity including a high variability of hydrogeological context. The main impacts and services of the four GeoERA groundwater projects can be summarized as follows:

- Improved access to downloadable groundwater quantity and quality data at local to Pan European scale
- State-of-the-art tools to support sustainable decision making in relation to the water-food-energy-ecosystem nexus
- Tools for assessment of climate change impacts, mitigation and adaptation strategies, drought and flood risks etc.
- Opportunities for private companies and research institutions to collaborate and develop new groundwater add on services to EGDI

The data and tools are freely accessible and downloadable from the European subsurface information platform (the European Geological Data Infrastructure, EGDI). The information products are important contributions to support implementation of UN and EU policies including the UN Sustainable Development Goals (SDG) and the European Water Framework and Groundwater directives.
We will present a few examples of the maps and information build during the project as a direct contribution to the evaluation of the current and future status of European groundwater quantity and quality at regional to Pan-European scale.