



## **Visions for a Pan-European digital data infrastructure for groundwater quantity and quality data relevant for implementation of the Water Framework Directive.**

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The EU Water Framework and Groundwater Directives stipulate that EU member states (MS) should ensure good groundwater chemical and quantitative by 2015. For the assessment of good chemical status the MS have to establish Natural Background Levels (NBLs) and Threshold Values (TVs) for groundwater bodies at risk and compare current concentration levels to these. In addition the MS shall ensure trend reversals in cases where contaminants or water levels show critical increasing or decreasing trends. The EU MS have to demonstrate that the quantitative and chemical status of its groundwater bodies does not put drinking water, ecosystems or other legitimate uses at risk. Easy on-line access to relevant visualizations of groundwater quality and quantity data of e.g. nitrate, chloride, arsenic and water tables in Europe's major aquifer types compiled from national databases would be of great importance for managers, authorities and scientists conducting risk and status assessments. The Water Resources Expert Group of the EuroGeoSurveys propose to develop Pan-European interactive on-line digital maps and visualizations of concentrations levels and trends, as well as calculated natural background levels and threshold values for the most important aquifer types of Europe mainly derived based on principles established in the former EU project "BRIDGE" – Background cRiteria for the IDentification of Groundwater Thresholds. Further, we propose to develop Pan-European digital and dynamic maps and cross sections in close collaboration with ecologists, which delineate dependent or associated terrestrial and aquatic ecosystems across Europe where groundwater quantity and quality plays a significant role in sustaining good ecological status of the ecosystem, and where the water resources and ecosystems are most vulnerable to climate change. Finally, integrated water resources management requires integrated consideration of both deep and shallow groundwater and surface water issues and interaction. It is therefore proposed to map regions of Europe that use coupled groundwater-surface water models in integrated water resources and river basin management. In the presentation we will show selected examples of data visualizations of importance to integrated water resources and river basin management and the implementation of the Water Framework Directive.