



A contribution to European water policy: challenges for hydrogeologists

To meet human needs, environmental requirements, and sustainable social and economic developments, not only surface waters but groundwater too has to be evaluated, monitored and protected. Hydrogeologists have the skills to study and analyse the flow and quality of groundwater, which represents the “hidden” renewable component of the water cycle, integrally linked to surface waters. This responsibility requires a multidisciplinary approach to obtain valid and current answers to complex economic, social, environmental and policy questions.

Hydrogeologists have the knowledge and experience to make a comparatively precise quantitative assessment of the distribution of groundwater resources in space and time. They can also, by classifying water resources by their vulnerability, determine the impact of human activities on the natural water distribution pattern, both in terms of quality and quantity.

State authorities benefit from the involvement of experienced hydrogeologists in water resource studies by the provision of reliable information: (i) on the quantity and quality of groundwater resources; (ii) on the effects of their possible fundamental long-term, and very often irreversible, decisions and actions affecting the water cycle, either directly (water uses) or indirectly (human settlements and dams), and (iii) for operational, day-to-day – and often hour-to-hour – water management, provided by monitoring and regulation activities.

The assessment of the impact of human activities on groundwater resources must be related to their vulnerability to external influences, to ensure that regulatory and planning decisions are based on sound scientific principles and information. The challenge for hydrogeologists is to guarantee that projects located within highly vulnerable geological and hydrogeological environments are subjected to the highest degree of investigation.

To comply with social and economic requirements, frequently requiring the management of water at socially unstable locations, hydrogeologists must take into account both: (i) the sustainability aspect for future generations, and (ii) ecological flows meeting environmental standards. In addition, the hydrogeological approach can answer specific questions to solve problems at a local level, while placing them in perspective at a larger catchment-basin scale.

All this work requires, in fact, a professional hydrogeological approach that is difficult to describe and explain to the general public and governments, but whose importance is clearly highlighted in the current European Commission vision, as stated in the Blueprint documents. In this framework, EFG promotes continuous professional development among its members. In order for their input to be effectively applied in policy making to be exported outside Europe and to help achieve successful results in groundwater development and management, the role of hydrogeologists needs to be appreciated by the European Commission, by existing Working Groups and by a mandate aimed to promote the establishment of a common EU methodology in all aspects that concern groundwater resources.

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