

An approach of groundwater management in Barcelona City

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Urban groundwater is a valuable resource since its quantity is larger than frequently expected due to additional recharge sources (Lerner, 2002; Vázquez-Suñé et al., 2003). Its interaction with the complex infrastructures network makes the water authorities a challenge to ensure a proper water management. Necessary datasets to ensure a suitable water management have normally different origins and formats. At the same time, the water management of a city involves different decision makers with different knowledges. In this scenario, it is a necessity to create a common environment where different actors would be able to understand and analyze problems in the same way. It should be also necessary to store, analyze and visualize all the required data in the same formats within its geographical context by using standardized specific tools. To apply these recommendations for the urban groundwater management of the Barcelona City Council, we have implemented a software platform developed in a Geographic Information System (GIS) environment. These GIS-based tools will give support to the users for storing, managing, and analyzing geological, hydrogeological and hydrochemical data in 2D and in a 3D context (Velasco et al., 2013). This implementation will improve the groundwater management in Barcelona city optimizing the analysis and decision making processes.

References

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