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Abstract

Large-scale groundwater modelling within the PIRENE programme in the Walloon Region of Belgium

S. Brouyère¹, Ph. Orban¹, A.Dassargues^{1,2}

¹ Hydrogeology, Dpt Georesources, Geotechnologies and Building Materials (GeomaC),
University of Liège, Belgium

² Hydrogeology & Engineering Geology, Dpt Geology-Geography, KULeuven, Belgium

The PIRENE Project was launched by the Walloon Region in Belgium in order to meet the European Water Directive requirements in terms of characterization, management and protection of water resources. In the scope of this project, the Hydrogeology Group at the University of Liège (HG-ULg) is in charge of studying and modelling groundwater flow and transport in the whole Walloon Region.

At such a large scale (i.e. approximately 20.000 km²), several challenging problems and questions are raised. For example, how can we manage with the relatively important of needed/ available data necessary to develop modelling applications, how can we develop efficient and reliable models at such a scale, how can we take into account the strong diversity and disparity in the geological contexts or the degree of knowledge of the studied area ?

This contribution describes the general methodology and first developments performed by the HG-ULg team in order to study and model large scale hydrogeological problems.