Aqui-FR: a national multi-model hydrogeologic system

Aqui-FR aims at providing forecasts of the groundwater resources at medium range to seasonal scale. Initial states of the forecast will be partly based on a real time monitoring. Long term historical analysis is used to compare forecasts to past events. The Aqui-FR project will also be used to project climate change impact on the hydrology.

The Aqui-FR system is now running on the super-computer of the french weather forecast. It is presently being assessed, although new modellings will be included to cover a larger extent. Next step will be to test the additional value of such details groundwater modelling in a forecast mode. Two lead times are targeted: ensemble 10-day forecasts and seasonal forecasts. The skills of such forecasts will be assessed on the past (hindcast) and then on real time. To improve the initial state of the groundwater forecast, special focus is made on data assimilation. The results of Aqui-FR will be provided freely to water resource public managers, and a close collaboration with stakeholders is necessary to build appropriate products.