

Seasonal Forecast in France and application to hydrology

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Atmospheric seasonal forecasts show a poor quality over the western façade of Europe, especially because of the weak natural predictability at seasonal scales. The use of a Surface-Vegetation-Atmosphere-Transfert (SVAT) model and an Hydrological model (so called Isba and Modcou respectively) downstream to the atmospheric seasonal forecast allows to provide climate information, especially for the Soil Wetness Index (SWI) and the River Flows (RF), significantly better than for the atmosphere.

For the Spring period, after the identification of predictability sources related to the surface or the aquifers conditions, the additional value brought by the atmospheric seasonal forecast has been quantified. The quality of SWI and RF forecasts has been assessed also for the summer period. Moreover, the impact of the lead-time (from 1 up to 4 months) has been studied. A clear predictability barrier is observed during the spring season.

All the possibilities offered by the pre-operational forecasting suite, will be investigated for the hydrological domain in the frame of the Euporias project in collaboration with French stakeholders.