Seasonal forecast of water resources over the Euro-Mediterranean region

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In the framework of the MEDSCOPE project, a forecasting chain is developed at Météo-France for hydrological long term predictions over the Euro-Mediterranean region, from one month up to seven months. This new prototype is based on the Météo-France System 6 global seasonal forecast system. Atmospheric forecasts are interpolated to 5.5 km and corrected by the statistical method ADAMONT using the UERRA regional atmospheric reanalysis as reference. These high resolution forecasts drive the physically-based model SURFEX coupled to CTRIP providing seasonal forecasts of surface variables: river discharges, soil wetness indices, snow water equivalent.

A forecast using the climatology (ESP approach) has been produced on the period 1993-2016. It is used to explore the sources of predictability in the different watersheds (Ebro, Po, Rhône). Predictability is mostly coming from the snow pack built during the winter and the soil moisture evolution in spring and summer. A hindcast on the period 1993-2016 is produced to assess the added value of the seasonal forecast compared to the climatology for the end-users in agriculture and energy.