Geophysical Research Abstracts
Vol. 19, EGU2017-10248, 2017
EGU General Assembly 2017

Seamless hydrological forecasts from daily to seasonal scale for Europe

Fredrik Wetterhall (1), Louise Arnal (1,2), and Blazej Krzeminski (1)

(1) European Centre for Medium Range Weather Forecasts, Reading, United Kingdom (fredrik.wetterhall@ecmwf.int), (2) Reading University, Reading, United Kingdom

Seasonal hydrological forecasts are a useful tool to asses water resources management on longer time scales. Applications are for example water power production, transport, drought forecasting and reservoir management. Seasonal forecasts are typically issued once a month which limits the possibility of more frequent updates. In this study the ECMWF extended ensemble forecast with a 46-day lead time was merged with the seasonal ensemble forecast from ECMWF to create a seamless forecasting system updated biweekly. The forecast was then used as input to the LISFLOOD model to create a probabilistic sub-seasonal to seasonal hydrological outlook on a pan-European scale. The model system was evaluated on a basin scale against a water balance run using observed meteorological input as forcing. The advantages with the merged system over using the seasonal forecast system was an improvement in skill as well as providing more frequent forecasts.