



GloFAS-Seasonal: A new global scale seasonal hydro-meteorological forecasting system

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The Global Flood Awareness System (GloFAS), developed by the European Centre for Medium-Range Weather Forecasts (ECMWF) and the European Commission Joint Research Centre (JRC), provides probabilistic flood forecasts at the global scale. In November 2016, a new seasonal hydro-meteorological forecasting system, developed in collaboration with the University of Reading, was implemented operationally as part of GloFAS, extending the forecast horizon from the 30-day flood forecasts to a 4-month river flow outlook for the global river network.

Seasonal hydro-meteorological forecasting of river flow has potential benefits for many sectors, including agriculture, water resources management and humanitarian aid. At present, such forecasts for large or global scales are few and far between. While smaller scale forecasting systems have begun to emerge over the past decade, a system providing globally consistent seasonal hydro-meteorological forecasts could be of great benefit in regions where no other such forecasting system exists, and to organisations operating at the global scale.

We present an overview of the new operational seasonal hydro-meteorological forecasting system, which makes use of forecasts from the latest version of ECMWF's seasonal forecasting system, SEAS5, and runs these through a hydrological model to produce seasonal river flow forecasts at the global scale. We also introduce and demonstrate the seasonal outlook forecast products available through the GloFAS web interface. These new layers provide summary maps of the probabilistic forecasts, indicating the likelihood of high or low river flow in the coming 4 months, and additional forecast information, such as ensemble hydrographs, at points with global coverage.