SEAMLESS FLOOD FORECASTING BASED ON MONTHLY, MEDIUM-RANGE and SHORT-RANGE ENSEMBLE PREDICTION SYSTEMS

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The hydrological community is looking increasingly at the use of ensemble prediction systems instead of single forecasts to increase flood warning times. International initiatives and research projects such as THORPEX, HEPEX, PREVIEW, or MAP-DPHASE foster successfully the interdisciplinary dialogue between the meteorological and hydrological communities.

The European Flood Alert System (EFAS) is a pre-operational example of an early flood warning system based on multiple EPS and poor-man's ensembles weather inputs. EFAS research focuses on the exploration of the EPS stream flow information, their visualisation for different end user communities and their application in risk-based decision-making. EFAS further provides a platform for further research on flash floods, droughts and climate change.

Here a case study of Romanian floods in October 2007 is analysed with multiple EPS at different spatial resolutions and lead times. While monthly forecasts are explored as first indicators for potential floods, the early flood warning capacity of EFAS is drawn mainly from medium-range (15 day) EPS forecasts. In addition information from the limited area model EPS (COSMO-LEPS) with much higher spatial resolution but only 5 days lead time are explored for better quantitative forecasts. An outlook contrasting the computational demands with the apparent benefit is given together with a few thoughts on developments that should be addressed in the near future.