



## **Ensemble predictions of floods in the Kamp catchment, Austria**

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As a part of developing a real time flood forecasting system for the Kamp river in northern Austria we examined, in a first step, a novel precipitation forecasting method in terms of its flood forecasting ability. The novel method combines numerical weather predictions from the limited area model ALADIN VIENNA and the global predictions of ECMWF with radar nowcasting traces. For the runoff predictions we used a spatially distributed conceptual water balance model based on a  $1 \times 1 \text{ km}^2$  grid. By comparing the predicted runoff with the observed runoff we analysed the distribution of forecast errors for the  $890 \text{ km}^2$  Upper Kamp catchment. These errors represent only the forecast errors due to uncertain rainfall input assuming the runoff model uncertainty is small. In a second step we generated ensembles of the rainfall predictions using ensemble forecasts of the ECMWF model (50 realisations). These were downscaled to the size of the Kamp catchment. We then matched the spread of the realisations in terms of flood flows with the error distribution of the flood predictions. This allowed us to realistically represent forecast uncertainties.