



Towards a radar-based operational flood forecast system for river catchments in Germany

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In this study a simple fully automatic decision support system (DSS) for flood forecast was developed for mesoscale river catchments in a first step. The DSS is based on different radar based rainfall estimates with empirical consideration of hydrological particularities in the different river sub-catchments. Since runoff is strongly dependent on the actual state of the land surface, the DSS is only meant for consulting further information to get a detailed picture of the current situation. In a second step the soil vegetation atmosphere transfer (SVAT) model TERRA from the German weather service (DWD) was coupled to a routing scheme to obtain deeper knowledge about rainfall-runoff relationships in the catchment under consideration. The coupled model is operated in 1 x 1 km resolution and mainly fed by the radar derived precipitation and local meteorological observations. First results of the DSS and the model runs for an entire year show a reasonable performance also in comparison to available runoff measurements.