



Evaluation of scale dependent Precipitation Fields simulated with the Eta and MM5 Models for use in Flood Forecasting

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Accurate flood forecasting requires fast and accurate precipitation forecasting, operating at high spatial resolution. This is addressed in the EU-funded FLOODRELIEF project, integrating development and application of numerical weather forecasting systems, flood forecasting systems, radar, data assimilation, uncertainty estimation, flood warning and decision support tools. The main objective of FLOODRELIEF is to develop and demonstrate a new generation of flood forecasting methodologies. In particular, accurate precipitation forecasts using high resolution numerical weather forecasting models (NWP) can provide significant advances in flood forecasts and thereby give greater opportunity to instigate flood warning and protection measures.

As a part of the project, the NWP models, Eta and MM5 (applied at NERI and GKSS), have been further developed towards operational and high-resolution weather forecast systems. The two systems have been setup in a similar mode, consisting of a mother domain covering Europe with a resolution of approximately 39 km x 39 km, a first nest with a resolution of ~13 km x ~13 km and a second nest with a resolution of ~4 km x ~4 km. Furthermore, the physics, parameterisations, and vertical discretization are similar.

A sub-goal of the FLOODRELIEF project is to investigate precipitation results from the two different NWP models Eta and MM5 for the Odra catchment area in Poland. The results obtained from the different model domains in Eta and MM5 have been tested for the period May to September 2002. A conclusion concerning the use of increased model resolution and the comparison of the two models will be presented.