

BALTEX PRECIPITATION ANALYSIS: RESULTS FROM THE BRIDGE PREPARATION PHASE

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The true precipitation input into the continental scale catchment of the Baltic Sea has not been estimated accurately until now. Further there is a general need for high resolution precipitation analyses to validate precipitation fields predicted by NWP and climate models. During the BRIDGE preparation phase a statistical precipitation analysis (SPA) model has been built up and was tested using 3 years (1996-1998) of about 4,000 rain gauge observations collected by the BMDC. The SPA model consists of two parts: (1) a bias correction and (2) a geostatistical part.

The dynamic bias correction reduces the systematic undercatch of the rain gauges due to wind-induced, evaporation and wetting losses taking instrument-specific properties as well as additional information from synoptic observations into account. The mean correction factor has a maximum in February (1.25 – 1.50) and a minimum in August (1.02 – 1.05).

The geostatistical part of the SPA model consists of an ordinary block kriging algorithm to estimate area averaged precipitation values on the grid of the meso-scale model REMO (spatial resolution: $1/6^\circ$ or 18 km). Daily, monthly and annual meso-scale precipitation fields based on corrected observations will be presented at the conference.