



The quality of gridded precipitation data with respect to station density

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One of the challenges in gridding of observations is the availability of observations. This problem has increased due to growing demands from the users in terms of higher spatial and temporal resolution, frequent updates and near real time access to gridded data.

MET Norway is producing daily gridded precipitation data with a spatial resolution of 1 x 1 km. The dataset is updated on a daily basis. One of the most important applications of this data set is flood monitoring and warning. This service is now demanding more frequently updated precipitation information. Since the observation availability is less on a sub-daily scale such interpolation has to be based on a sparser observation net than the optimal dataset applied on a daily scale. In this analysis the dependence between station density and the quality of gridded precipitation data is assessed.

The uncertainty of gridded precipitation with respect to station density is assessed by a gradually thinning of the observation input. Standard prediction skill scores are applied both for precipitation occurrence and precipitation amounts.