



Verification of ECMWF precipitation forecasts using high-density surface observations

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This study looks at the performance of ECMWF precipitation forecasts as compared to a number of rain-gauge observation sets, with a focus on high impact events. In addition to SYNOP observations, which are distributed via the Global Telecommunication System (GTS), many countries maintain higher-density national observational networks (HDOBS) which provide data that is not generally available on the GTS. In 2014 ECMWF started an initiative to collect such observations from its Member and Co-operating States for use in model evaluation. Deterministic and ensemble forecasts from the Integrated Forecasting System (IFS) are verified against SYNOP, HDOBS, and merged SYNOP-HDOBS datasets.

The merged SYNOP-HDOBS dataset are quality controlled to remove duplicated stations, and outliers for a number of different thresholds. The effect of the different datasets on verification scores, and the sensitivity to quality control parameters is investigated. Case studies of significant high-impact precipitation events will supplement the scores.