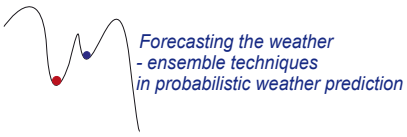
EMS Annual Meeting Abstracts
Vol. 8, EMS2011-425, 2011
11th EMS / 10th ECAM



Verification of precipitation from Hirlam ensemble forecasts using Hirlam singular vectors

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Cape singular vectors with an optimisation time of 12 hours are computed with the Hirlam model. These singular vectors are normalised by comparison to analysis errors from the ECMWF model; subsequently analysis perturbations are computed by applying symmetric gaussian sampling and by making linear combinations of the singular vectors.

Thereafter the perturbations are blended with those from the Ensemble Prediction System (EPS) of the ECMWF model. Hirlam EPS forecasts are then made applying these blended perturbations in the analyses. The total number of ensemble members is 51 (including the unperturbed reference run) and they are computed on the newly defined GLAMEPS domain, which has a resolution of 11 km. The experiments are performed with both the Straco and the Kain-Fritsch versions of the model.

The verification period comprises the two months of July and August in the summer of 2010. Precipitation forecasts are verified using observations over Europe. We will show statistical properties like precipitation variance in the ensemble and verification scores such as ROC for different thresholds of precipitation amounts.
The quality of the forecasts will be compared to that of the forecasts from the EPS of the ECMWF model.

Apart from Hirlam EPS runs using blended perturbations, also Hirlam EPS runs applying perturbations only derived from Hirlam singular vectors will be performed and verified.