Calibration of MEPS ensemble forecasts in MetCoOp

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Calibration can be used to increase the reliability and usefulness of ensemble forecasts and is a further step towards reliable and accurate weather prediction. MetCoOp has developed an ensemble calibration system for T2m for MetCoOp Ensemble Prediction System (MEPS) model forecasts. MEPS is a 30-member short-range convection permitting ensemble prediction system and has a horizontal resolution of 2.5 km.

The calibration model is based on neural networks. The training of the model is done against Synoptic point observations, but it can be used to predict T2m for any location in the grid. A number of MEPS parameters in addition to topographical information is used in model training.

The verification results show that calibration can improve the reliability of MEPS forecasts. Fine tuning of the calibration model is still under progress, but the calibrated MEPS T2m forecasts will shortly be available for the forecasters and there are also plans to include other near-surface weather parameters to the operational calibration.