



## **Performance of the Met Office Global and Regional Ensemble Prediction System (MOGREPS)**

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The Met Office has developed a short-range global and regional ensemble prediction system based around the ensemble transform Kalman filter (ETKF). This ensemble has been running in the operational suite since September 2005 as part of a year-long trial. The ETKF is a version of the ensemble Kalman filter which allows computationally efficient update of the ensemble perturbations without performing an analysis. In our system the transform matrix is calculated using the whole set of observations that are available to the 4D-Var data assimilation system. Model error is accounted for by a stochastic physics scheme which perturbs key values in the parameterisation schemes. This plays an important role in the uncertainty related to forecasts of surface weather, but does not significantly feedback onto the dynamics of the model. The regional ensemble is driven with initial condition perturbations and lateral boundary conditions derived from the global ensemble.

The performance of the ensemble systems has been encouraging. For 500hPa geopotential height forecasts the spread of the ensemble matches the root-mean-square error of the ensemble mean forecast at around 3 days, and rank histograms are near-flat at these lead times. Subjective feedback on the systems performance from forecasters has been mostly positive. Further verification results will be presented.