



Predictability of Frontal Waves and Cyclones

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The practical limit of predictability of the occurrence extra-tropical cyclonic features (frontal waves and cyclones) is estimated using the Brier Skill of "strike probability" from the fifteen-day Met Office Global and Regional Ensemble Prediction System (MOGREPS-15). An upper limit of 14 days is found for the prediction of the occurrence of the centres of strong cyclonic features (vorticity above the 90th percentile) within a region of about 1000km radius. However when weaker cyclonic features are considered skill is lost within 8 days. The statistics of features in the model show some systematic biases relative to the analysis climatology, in particular a reduction in the number features with increasing lead time and a sensitivity of the number of cyclonic features to the presence (or not) of stochastic physics, meaning that the actual limit of predictability is quite possibly longer than our estimate.