

MMM SEMINAR SERIES



Status/Plans for Met Office Global and High-Resolution NWP

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Global NWP capabilities at the Met Office are currently based on a 10/20km deterministic/ensemble configuration based on the Unified Model (UM), providing forecasts out to 7 days. Deterministic initial conditions are provided by a 'hybrid 4DVar' technique, with ensemble initial perturbations updated via an Ensemble Transform Kalman Filter (ETKF). A major project in recent years has been to replace the ETKF with an 'ensemble of 4DVar data assimilations' (En4DVar), to be implemented together with a major upgrade to global model physics (GA7) in winter 2019/20. Latest results indicate a very significant (4-5%) improvement in ensemble (CRPS) performance. A review of this, and other recent upgrades, will be presented.

High-resolution (km-scale) UK NWP utilizes hourly-cycling 4DVar feeding 1.5/2.2km deterministic/ensemble forecasts out to 5 days. Data assimilation research is currently focussed on the extension to 'hybrid' 4DVar and the direct assimilation of radar reflectivity in 4DVar. Model physics activities are focussed on the development of a single regional atmosphere (RA) configuration suitable for both mid-latitude and tropical application. An overview of an expanding range of research applications beyond the UK (e.g. US HWT ensemble, tropical SE Asia) will be given.

Weather Science is completely overhauling its NWP post-processing capabilities, creating a new ensemble-based system that will provide consistent gridded and site-specific calibrated, blended products for the web, app, etc. In recent months, the 'IMPROVER' team have explored the use of machine learning techniques to further improve the quality of post-processed weather forecast. Promising early results will be presented.

Thursday, 18 July 2019, 3:30pm

Refreshments 3:15pm

NCAR-Foothills Laboratory, 3450 Mitchell Lane

***Please note special location
*FL2-1001, Small Auditorium**

This seminar will be webcast live at:
<http://ucarconnect.ucar.edu/live>

Recorded seminar link can be viewed here:
<https://www.mmm.ucar.edu/events/seminars>