



## ***Global and Convective-Scale NWP at the Met Office: Status and Plans***

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The Met Office global and regional NWP applications are centered around the use of the Unified Model (UM) to provide short-range forecasts out to 5-7 days of global and local significant weather. This talk will describe some of the major upgrades implemented or planned during the timeframe of the new Cray XC40 supercomputer (2015 - 2020) beginning with a brief description of the basic NWP configurations and a summary of recent major upgrades e.g. variational bias correction, additional satellite data, etc.

In July 2017, the resolution of the global NWP system at the Met Office was increased to ~10km, with an associated increase to 20km for the global (MOGREPS-G) ensemble. A more significant change is the introduction of hourly-cycling four dimensional variational (4DVar) data assimilation for the km-scale UK model. The relative contributions to forecast skill improvements of hourly-cycling, the use of the 4DVar technique, and improved driving global model will be assessed in this talk.

Looking forward, additional major upgrades are planned in the next 1-2 years including weakly coupled ocean-atmosphere data assimilation, extension of the km-scale MOGREPS-UK ensemble to T+5 days (plus resolution increase from 2.2km to 1.5km), replacement of the current ETKF ensemble system with an 'Ensemble of 4D Ensemble Vars'. Details of these promising scientific developments will be provided. Finally, a brief summary of plans for the post-UM 'Exascale Era' beginning in ~2023 will be outlined.

*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>*

### **SPECIAL DATE & TIME**

**Tuesday, 8 August 2017, 11:00 AM**

Refreshments 10:45 AM

NCAR-Foothills Laboratory

3450 Mitchell Lane

Bldg. 2, Main Auditorium, Room 1022