



## **Does the new dynamical core of Met Office Unified Model deliver measurable improvements to the synoptic features associated with high impact weather?**

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The Met Office Unified Model (MetUM) is in the final stages of testing a new dynamical core. Here we present results from specific case studies and more macroscopic statistics, based on error-tracking and object-based approaches respectively, to establish whether the new dynamical core outperforms its operational counterpart in terms of the diagnosis of global synoptic features such as jets and low pressure systems, and the forecast error. The position of the upper-level jet can be important for explosive cyclogenesis/strong deepening of low pressure systems. Improving forecasts of jets and surface lows is an important component for our ability to predict potential high impact weather.