Advancing convective-scale predictions through collaboration

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Regional km-scale and sub-km models underpin weather forecasting and climate prediction applications across the Momentum Partnership, enabling people and industry to make decisions that help them to stay safe and thrive.

The coordinated development of Regional Atmosphere & Land (RAL) science configurations across the Momentum Partnership and collaborative research, development, evaluation and application represent a key long-standing strength of Partnership activities.

Our work includes coordinated research to address identified RAL improvement priorities, aimed at both evaluation of existing and future RAL configurations across resolutions and model domains in different geographies. A current priority is on our collective once-in-a-generation evolution from Unified Model to LFRic-based modelling capabilities.

Enhancing the use of RAL-based models in key application areas, with strong dependencies on supporting technical infrastructure includes coordination of development activities relating to urban-scale information, regional coupled environmental predictions and applications from short-term probabilistic NWP, regional climate and reanalyses. The advance of Machine Learning approaches sets new questions on how our capabilities might be applied in future, and the requirements of regional modelling R&D.

This talk will highlight recent achievements of our collaboration and look ahead to ensuring we continue to address future challenges and opportunities together.