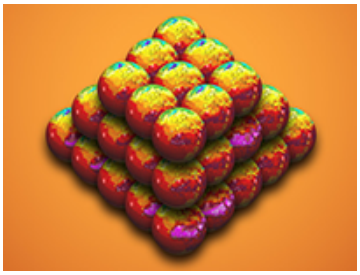

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IMPROVER - the new probabilistic post processing system at the Met Office

The effective construction and use of ensembles along with the need to provide seamless continuity across spatial scales and temporal evolution have become major challenges for weather forecasting through to climate prediction in recent years. Real tangible benefits are expected if we get this right. In terms of ensemble forecasting, the Met Office has invested hugely in the development of the convection-permitting ensemble for the UK (MOGREPS-UK) and the global ensemble MOGREPS-G, as well as in exploiting the ECMWF ENS. The challenge now is how to use all this information, along with forecasts from elsewhere, in a way that doesn' t overwhelm Operational Meteorologists, provides useful automated outputs that contain meaningful uncertainty and produces seamless continuity between different models or forecast systems. To this end a new post processing system called IMPROVER is being developed which will run in an operational framework from 2020. It ingests both deterministic and ensemble forecasts at a variety of resolutions and converts to probabilities using "neighbourhood"methods. This then allows the construction of a seamless probabilistic blend and the capability to generate a wide variety of probability-based outputs and condensed information about serious weather conditions. At present IMPROVER only incorporates Met Office forecasts, but is about to include ECMWF-EPS in the blend to extend out to 14 days. This presentation will describe the rationale behind IMPROVER, what it does currently and where it is going in the context of ensemble forecasts.

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