Using probabilistic model data to generate area marine forecasts

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The UK Inshore Waters Forecast predicts wind speeds, sea states, weather conditions and visibilities for marine areas within 12 nautical miles of the UK coast. In addition to the now-common web-based outlets of most public forecast products, this very high profile forecast product is also broadcast by the BBC on national radio and television. It is the enviable task of Operational Meteorologists, based at UK Met Office sites in Exeter and Aberdeen, to issue these forecasts every six hours for the vitally important purpose of protecting lives in the coastal waters surrounding the UK. Currently, the production process involves a marine forecaster comprehensively inspecting deterministic model fields, prior to manual text generation. However, direct utilisation of an ensemble model-based product has the potential to make this task considerably more efficient and possibly make the forecast more accurate.

Raw output from the Met Office Global and Regional Ensemble Prediction System (MOGREPS) is used routinely throughout the Met Office to assist forecasters. Furthermore, a recent project to develop and improve the techniques used to statistically post-process this data (IMPROVER) is now employed to further reduce identified errors within MOGREPS data.

This session describes the latest work to exploit both raw MOGREPS and post-processed data for the generation of the wind component to the Inshore Waters Forecast. This component is verified against post-processed nowcast analysis fields to determine its accuracy and the results are compared against the equivalent performance currently achieved by Operational Maritime Meteorologists. The outcome of this assessment will help to determine whether either of these data-sources are suitable as a guide for the production of this high-profile forecast product.