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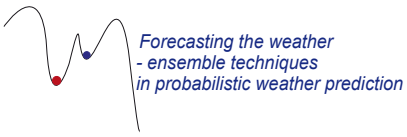

ECMWF ensemble-based products for early warning of high-impact weather events

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Substantial progress has been made in NWP models in the last decade, improving the capability for early detection of high impact weather. Nowadays, forecasters typically have access to probabilistic forecasts generated by an Ensemble Prediction System (EPS) as well as a single forecast generated by a higher resolution model. Forecast products based on the ECMWF EPS have been specifically designed to provide early warnings of high impact severe weather in the medium range; these are widely used by forecasters. The products include the Extreme Forecast Index (EFI), the probability of weather parameter events and tropical cyclone (TC) strike probability among others. Recently the EFI has been extended to a wider range of weather parameters and computed for longer forecast lead times. A new index, complementary to EFI, has been designed to highlight situations when a fraction of the EPS distribution predicts climatologically unprecedented values. A new product layout, including EFI, the new index and model-climate quantiles, will be presented and use of these products will be illustrated in a selection of cases. The tropical cyclone forecast products have also been revised, including an extension of the forecast lead time and information on the TC intensity of each ensemble member at each forecast. This will also be shown.