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The online ECMWF Forecast User Guide

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In 2017 ECMWF (the European Centre for Medium Range Weather Forecasts) embarked on a project to convert a pre-existing guide to using ECMWF forecast products, then in pdf format, into a new online version. In so doing we also incorporated substantial upgrades to previous content, to better match the different, newer model versions used at ECMWF, and any recently introduced products. In May 2018, the new guide was publicly released, with unrestricted access (see here: https://confluence.ecmwf.int/display/FUG/Forecast+User+Guide). Since then there have been regular updates, as model formulation, model products and our understanding of model issues all continue to improve. The guide now consists of over 130 separate web pages, containing text, figures, animations and links. Linked material mainly provides the keen user with a more in-depth overview of certain aspects; in the guide itself we mainly confine discussion to aspects which are of more immediate relevance to operational forecasters.

This presentation will give an overview of the guide and how it can be used to good effect operationally, with case study examples. The content is effectively divided into two halves, one focusses on the model formulations and their strengths and weaknesses, whilst the other is more directly targeted at how to successfully use the output. Whilst much of the content is specific to ECMWF models and products, some sections, such as those dealing with how to best use ensemble and deterministic runs, and those providing an overview of verification metrics, are more generic. These different aspects will be discussed.

Some of the more recent ECMWF innovations are dealt with comprehensively in the guide, and these will also be highlighted. They include how to deal with the challenging but important task of forecasting precipitation type using new ensemble-based products, how to best use clickable ensemble vertical profile diagrams, correct use of point rainfall output now found in ecCharts, and understanding new extended-range phase space diagrams for regime prediction.