

The importance of reanalysis monitoring: the example of ERA5

Andras Horanyi, Paul Berrisford, Gionata Biavati, Hans Hersbach, Joaquín Muñoz-Sabater, Carole Peubey, Raluca Radu, Iryna Rozum, Dinand Schepers, Adrian Simmons and Cornel Soci

European Centre for Medium-Range Weather Forecasts, Reading, UK

The ERA5 reanalysis (implemented by the Copernicus Climate Change Service on behalf of the European Commission) is in production at the European Centre for Medium-Range Weather Forecasts (ECMWF). The scientific validation of the particular model version used is followed by the routine monitoring of the production suites of the system. The monitoring activity is focusing on the observation usage of the system as compared to ERA-Interim and ECMWF operations, the observation departures from the first guess and the analysis and on the analysis increments and differences as compared to other reanalysis systems at ECMWF.

The presentation will provide a brief overview of the monitoring tools used for ERA5 and an insight into how the monitoring activity is organised. Some examples will be shown focusing on when monitoring proved to be essential to detect problems and deficiencies of the ERA5 production suites.