



## **The new global reanalysis ERA5**

Andr s Hor nyi, Bill Bell, Paul Berrisford, Hans Hersbach, Joaquin Munoz-Sabater, Dinand Schepers, Adrian Simmons, and Cornel Soci

European Centre for Medium-Range Weather Forecasts

The latest reanalysis at the European Centre for Medium-Range Weather Forecasts (ECMWF) is prepared under the auspices of the Copernicus Climate Change Service (C3S) supported by the European Union. This reanalysis is called ERA5 referring to the fact that this is the 5th generation of reanalysis at ECMWF although it is the first time that it is now a Service and not a product of a research project. ERA5 is going to cover the period from 1979 to Near Real Time with timely updates and it will be back-extended to 1950 in the near future. The full ERA5 dataset will be stored in the Copernicus Climate Data Store (CDS) and will be publicly available. ERA5 will be amended with the so called Observation Feedback Archive (OFA), containing the observational data used in ERA5 and the Climate Monitoring Facility (CMF) too.

ERA5 has significant improvements with respect to its predecessor ERA-Interim. These advances include increased horizontal and vertical resolution (32 km, 137 levels), one of the latest ECMWF model and assimilation versions (including around 10 years of numerical weather prediction developments), 1h output frequency, inclusion of newly reprocessed datasets into the data assimilation, high resolution land analysis and uncertainty estimation based on a 10-member ensemble.

The presentation is going to highlight and demonstrate the most interesting features of ERA5. This includes verification scores comparing the performance of the system with respect to other models, case studies demonstrating the value of the system for some extreme cases and aspects of the Ensemble of Data Assimilations (EDA) system as used for uncertainty estimation.