Application and verification of ECMWF products 2013

MeteoLux-Administration de la navigation aérienne

1. Summary of major highlights

ECMWF model data is regularly used for all kinds of short and medium range weather forecasts. Especially the EPS products as well as the EFI products have become more important during the last years.

2. Use and application of products

2.1 Post-processing of model output

No post processing is performed

2.1.1 Statistical adaptation

2.1.2 Physical adaptation

2.1.3 Derived fields

2.2 Use of products

ECMWF products are mainly used for short and medium range forecasts, especially for temperature and precipitation. These data, deterministic and EPS, are either obtained via the MeteoFrance Synergie working station or the internet site of ECMWF and very often serve as a base to the public weather bulletin. The ECMWF high-resolution model is used in conjunction with other models, as for example ARPEGE, ALADIN and AROME, for public as well as aeronautical purposes. The EPS is mainly used for medium range forecasting. It also helps in severe weather detection where early warnings are required, for the European MeteoAlarm website as well as for the national public bulletin.

The demand for monthly and seasonal forecasts is not very high.

3. Verification of products

Include medium-range deterministic and ensemble forecasts, monthly forecast, seasonal forecast. ECMWF does extensive verification of its products in the free atmosphere. However, verification of surface parameters is in general limited to using synoptic observations.

More detailed verification of weather parameters by national Services is particularly valuable.

3.1 Objective verification

No objective verification is performed

3.1.1 Direct ECMWF model output (both deterministic and EPS)

3.1.2 ECMWF model output compared to other NWP models

3.1.3 Post-processed products

3.1.4 End products delivered to users

3.2 Subjective verification

3.2.1 Subjective scores (including evaluation of confidence indices when available)

In general, it can be said that maximum temperatures given are about 2-3°C too low, especially in situations with low cloud coverage. Cloud coverage, precipitation and windspeed are fairly adequate.

3.2.2 Synoptic studies

4. References to relevant publications

No publications are available