

Application and verification of ECMWF products 2009

Slovak Hydrometeorological Institute – J. Vivoda

1. Summary of major highlights

The usage of ECMWF products is still growing at SHMI. 10 day deterministic meteograms, produces locally at SHMI, becomes very popular among public during last year.

Products from EMCWF deterministic model and EPS system are used as a main source to produce middle range forecasts for Slovak territory. ECMWF monthly forecast is used very often as well.

The processing of forecasts longer than 3 days become simpler thanks to ECMWF membership. We are still in the stage of gaining experiences. At NWP section we still face technical difficulties to process ECMWF products and we spent quite a long time with processing of ECMWF data into appropriate form.

Our experts took part at ECMWF training courses.

2. Use and application of products

Include medium-range deterministic and ensemble forecasts, monthly forecast, seasonal forecast

2.1 Post-processing of model output

2.1.1 Statistical adaptation

No statistical adaptation is implemented so far.

2.1.2 Physical adaptation

No model is driven by ECMWF data.

2.1.3 Derived fields

Statistical quantities derived from EPS system (percentiles, median ...).

Following customer oriented application were developed using ecmwf data:

1. Forecast of temperature, wind, wind gusts, present weather up to 4 days (4th day forecasted using ECMWF data) for montain regions, product used by mountain rescue service
2. Forecasts for european cities, forecast for cities outside ALADIN domain are covered from ECMWF products, SHMI web page content
3. Transformation of EMCWF multigrib EPS data and buffer into ASCII format and production of temperature prediction for SSE (central-slovakia electricity company), EPS and montly temperature forecast is used.

2.2 Use of products

Forecasters pay special attention to probability products from EPS system in the case of severe weather danger.

3. Verification of products

No verifivation is performed. Neither surface nor upper air. The main obstacle is lack of local homogenous operational database of observations.

3.1 Objective verification

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)*

3.2.2 *Synoptic studies*

4. References to relevant publications

none