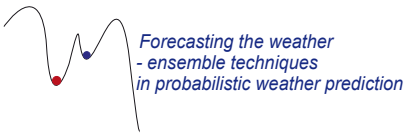
EMS Annual Meeting Abstracts
Vol. 8, EMS2011-544-1, 2011
11th EMS / 10th ECAM



Advances in probabilistic (very) short range wind forecasting

A. Kann and S. Radanovics
ZAMG, Vienna, Austria (alexander.kann@zamg.ac.at)

The analysis and nowcasting system INCA, developed at the Austrian national weather service (ZAMG), provides, among others, short range deterministic analyses and forecasts of the 10-m wind components on very high resolution in time (60 min) and space (1 km x 1 km) with special emphasis on the nowcasting range (usually 0-6 hours ahead). In the analysis mode, it combines NWP forecast fields from the operational limited area model ALADIN-AUSTRIA with high-resolution topographic data and integrates about 250 stations within the operational domain. In the nowcasting range, the temporal change of the NWP model is superimposed on the current analysis fields and merges into the (topographically downscaled) NWP model output through a fixed weighting function. However, although the system shows high skill in the nowcasting range, it is affected by uncertainties mainly due to errors in the initial condition and model formulations and physical parameterizations, respectively. The presentation outlines proper methods to quantify these uncertainties and to provide sharp and reliable probabilistic short range 10-m wind speed forecasts.