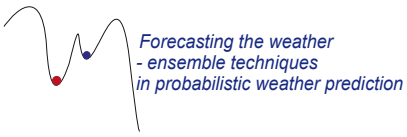
EMS Annual Meeting Abstracts
Vol. 8, EMS2011-62, 2011
11th EMS / 10th ECAM



Ensemble regional forecasting of an extreme precipitation event

K. Veljovic (1), B. Rajkovic (2), and A. Krzic (3)

(1) Institute of Meteorology, Faculty of Physics, University of Belgrade, Serbia(katarina@ff.bg.ac.rs), (2) Institute of Meteorology, Faculty of Physics, University of Belgrade, Serbia(bora@ff.bg.ac.rs), (3) Republic Hydrometeorological Service of Serbia, SEEVCCC (aleksandra.krzic@hidmet.gov.rs)

The weather in Montenegro was affected by an intensive cyclone in mid May of 2010. Heavy rain developed throughout a large part of Montenegro and Serbia with rain significantly exceeding monthly precipitation rate.
To analyse the Eta model capability of forecasting precipitation in medium to long range mode and to asses the probability of occurrence of extreme event we run an ensemble consisting of 26 members.
Our ensemble was driven by control and one half of the 32-day ECMWF ensemble members. We compared regional against global forecasts in the whole integration domain which covers Europe. Firstly, in order to carry out verification against measurement for 55 stations across Montenegro and Serbia subregion we interpolated 10 km precipitation forecasts output to the observational data grid and calculated standard bias and RMSE. Also we present results in the form of the epsgram showing daily distributions of ensemble members for the stations with extreme daily precipitation accumulation, indicating the predictability of each day starting from the beginning of integration to the end of May.
Secondly, following to Buizza et al. 1999, we implemented technique of ensemble creation by perturbating the physical tendencies thus introducing uncertainty in the forecast.