EMS Annual Meeting Abstracts
Vol. 10, EMS2013-166, 2013
13th EMS / 11th ECAM

Ensemble forecasting for Sochi-2014 Olympics: the COSMO-S14-EPS system from COSMO

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Next Winter Olympic Games will take place in Sochi (Russia) in February and March 2014.
In the framework of the preparation for the Games, the FROST (Forecast and Research: the Olympic Sochi Testbed) research project, endorsed by WWRP/WMO, has developed a number of initiatives. Among these, we present the main contributions to FROST by the COSMO consortium in the field of limited-area ensemble forecasting, including the COSMO-S14-EPS system, aimed at assisting local forecasters in the probabilistic prediction of localised high-impact weather events.
COSMO-S14-EPS is a 10-member mesoscale ensemble system based on COSMO model, running at 7 km of horizontal resolution with 40 model levels and taking initial and boundary conditions from selected members of ECMWF EPS. The skill of COSMO-S14-EPS is assessed on a case study basis, investigating the performance of the system for some important weather events occurred between January and March 2013. Regarding the past winter, a comparison against ECMWF EPS is also undertaken so as to assess the added value of higher resolution in the prediction of precipitation and temperature.
Finally, the possibility to generate multi-model products with the use of the fields by other limited-area ensemble systems running over the Olympic area is discussed.