



Ensemble forecasts for Sochi-2014 Olympics: development of COSMO-based ensemble systems and their application

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In 2014 the Olympic Games were held in Sochi, Russia. The region is characterized by mountains with steep slopes located close to the sea and therefore weather forecast in that region is a challenging task. To demonstrate the capabilities of ensemble systems in numerical weather prediction in such a region and to assess the effect of practical use of ensemble products during Sochi-2014 Olympic Games, two ensemble prediction systems based on COSMO model were developed: COSMO-S14-EPS with a 7-km resolution (a relocation of COSMO-LEPS over the Sochi region) and COSMO-Ru2-EPS with a 2.2 km resolution (nested on COSMO-S14-EPS). Both systems ran in operational mode during the Olympics; the probabilistic products were regularly delivered to Sochi forecasters. Analysis of regular runs, their application, and case studies demonstrated that ensembles gave a valuable support to forecasters and the higher-resolution ensemble gave more detailed and precise forecasts. The work has been done within the COSMO Priority Project CORSO and WWRP FDP/RDP project FROST-2014.