

Spatial verification of COSMO forecasts for ICE-POP2018

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The WMO FDP/RDP project ICE-POP2018 (International Collaborative Experiments for Pyeongchang 2018 Olympic & Paralympic winter games) inherits the tradition of meteorological support projects for winter Olympic / Paralympic Games such as SNOW-V10 (Vancouver, 2010) and FROST (Kiktev et al, 2017). The main goal is advancing seamless prediction from nowcasting to short-range forecast for winter weather over complex terrain based on an intensive observation campaign.

The Hydrometcentre of Russia participates in ICE-POP2018. We ran the COSMO model for a set of intense precipitation cases during the period November 2017 – March 2018 provided by the Korean colleagues. We compared the COSMO configurations with grid meshes of 550 m and 2.2 km. Another goal was to assess the model performance with the new aerosol-cloud-radiation interaction scheme taking into account cloud activation parameterization by Segal and Khain (2006).

The experience gained on the MesoVICT data was used for verification of COSMO runs for the complex Pyeongchang 2018 area. The FSS score was calculated for 1h precipitation accumulations. The components of the object-based CRA method complement the analysis. The impact of domain size and interpolation method is discussed. We make a preliminary conclusion about more positive impact of the new scheme for 550-m COSMO runs.