

Real-time air quality forecasting in Slovenia: experiences, challenges and first results

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Extensive efforts have been devoted in recent years to develop air quality (AQ) forecasting systems in Slovenia within several projects carried out within the meteorology group at the University of Ljubljana and Center of Excellence SPACE-SI. The weather and AQ forecast based on WRF and in-line coupled WRF/Chem, both run on a high resolution (3.5 km) over Slovenia, has been made available on-line (<http://meteo.fmf.uni-lj.si>). ALADIN/CAMx off-line coupled AQ forecasting system has also started to run experimentally at Environmental Agency of Slovenia. In addition, a statistical ozone model, based on measurements and forecasted trajectories, presents a basis for the official two-day ozone forecast made available to the public by Environmental Agency of Slovenia.

In this contribution the main issues and challenges related to these operational AQ forecasting systems in Slovenia are being discussed. In order to understand the impact of model errors on the uncertainty of simulated ozone, the 51-member ensemble was designed with the WRF/Chem model for a high ozone episode in the Northeastern Mediterranean during a heat wave event, and evaluated by the comparison with observations. Some results of the first evaluations of the AQ forecasts are also presented and discussed with the emphasis on predictability of the high ozone and PM10 episodes in Slovenia.