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Operational evaluation of a high resolution air quality forecast over Southern Poland

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An operational chemical weather forecasting system. EcoForecast, started in July 2009. The forecasting system is based on the GEM-AQ model (Kaminski et al. 2008). The model is run on global variable resolution grid with horizontal spacing of 25 km over Europe. In the vertical there are 28 hybrid levels, with the top at 10 hPa. A high resolution forecast at 5 km for Southern Poland was implemented in November 2010. The forecast is published once a day at www.EcoForecast.EU.

GEM-AQ is a comprehensive chemical weather model where air quality processes (chemistry and aerosols), troposphere and stratospheric chemistry are implemented on-line in the operational weather prediction model, the Global Environmental Multiscale (GEM) model, developed at Environment Canada.

The air quality forecast is presented for ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, PM10 and PM2.5 as maps of daily maximum and daily averages.

We will present the performance of the forecasting system for the year 2011. Modelling results will be evaluated and compared with available observation of ozone and primary pollutants from air quality monitoring stations and from meteorological synoptic stations. Model performance for 2011 will be compared with the skill scores from 2010 and 2009.