EcoForecast.eu – 8 years of operational air quality forecasting for Central Europe

EcoForecast.eu - an air quality prediction system has been operational since 2009. The service was developed and maintained by the EcoForecast Foundation in cooperation with Warsaw University of Technology Faculty of Environmental Engineering.

The forecast is done using the GEM-AQ model - a comprehensive multiscale chemical weather model. Forecasts for Central Europe and Poland are done on a daily basis with a 3-day time horizon. The modelling domain is defined on a global variable grid with ~15km (0.135deg) resolution over Europe, and a uniform resolution of ~5 km (0.05deg) over Poland. The range of forecast covers calculations of meteorology, four gaseous species (O3, SO2, NO2, CO) and particulate matter (PM10 and PM2.5). Forecast results of primary pollutants are used for air quality index calculations. All results are presented as maps of pollution over specific areas and then published on a web page.

We will present a description of the modelling system, modelling results and comparison with air quality monitoring stations and selected synoptic observations for 8 years of consecutive forecasts. Modelling results are used to inform the public of air pollution levels in Poland and often to warn about thresholds exceedances.

Also, we will present model evaluation results in order to include the GEM-AQ model in the Regional Production (CAMS_50) of the Copernicus Atmospheric Monitoring Service.

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