



POSTER PRESENTATION

P-01. Sara Ortega: Evaluation of three tropospheric ozone simulations in Catalonia (NE of Spain)

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In order to determine the accuracy of an air quality model, three periods of summer 2003 have been simulated and evaluated for Catalonia (North-east of Spain). The air quality model used is called AQM.cat and it consists of MECA as emission model, MM5 as meteorological model and CMAQ as photochemical model (off-line).

Modelling domains consist of a coarse 27-km grid domain that covers south of Europe and a 9-km grid domain that covers north-east of Spain (Catalonia). In Catalonia, there is a large industrialized area parallel to the coastline and around Barcelona. Emissions have been computed for an area of 252x252 km² with a grid resolution of 9x9 km², in order to simulate gas-phase processes related to tropospheric ozone formation. Emissions for coarse domain are interpolated from EMEP data.

Two periods corresponding to high temperatures and local wind patterns are studied because some measurements of ozone exceeded the European population information threshold in the area. The other period corresponded to a dominant synoptic regime which in Catalonia produced north-west winds accompanied by moderate temperatures and low tropospheric ozone levels. During the three periods non-cloudy skies were present.

Simulations show a good response in low ozone episode, whereas in the other two episodes some difficulties appeared in reproducing high ozone values. Since meteorological evaluation showed good agreement between model and measurements, these low values obtained from the photochemical model have been analyzed in terms of emissions, that are the major source of inaccuracy in air quality modelling systems.