



Influence of boundary conditions to multi-model simulations of ozone and PM_{2.5} levels over Europe and North America in frame of AQMEII3

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AQMEII (Air Quality Model Evaluation International Initiative) promotes research on regional air quality model evaluation across the European and North American atmospheric modelling communities, providing the ideal platform for advancing the evaluation of air quality models at the regional scale. In frame of the AQMEII3 model evaluation exercise, thirteen regional chemistry and transport models have simulated the air pollutant levels over Europe and/or North America for the year 2010, along with various sensitivity simulations of reductions in anthropogenic emissions and boundary conditions. All participating groups have performed sensitivity simulation with 20% reductions in global (GLO) anthropogenic emissions. In addition, various groups simulated sensitivity scenarios of 20% reductions in anthropogenic emissions in different HTAP-defined regions such as North America (NAM), Europe (EUR) and East Asia (EAS). The boundary conditions for the base case and the perturbation scenarios were derived from the MOZART-IFS global chemical model. The present study will evaluate the impact of these emission perturbations on regional surface ozone and PM_{2.5} levels as well as over individual surface measurement stations over both continents and vertical profiles over the radiosonde stations from the World Ozone and Ultraviolet Radiation Data Centre (WOUDC) and the Aerosol Robotic Network (AERONET) stations for ozone and for PM_{2.5}, respectively.