



Development of the CHIMERE AQ forecasting system for the GEMS project

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The GEMS-RAQ subproject aims at evaluating and improving regional air quality forecasting systems over Europe. In this framework, the experimental forecast system based on the CHIMERE model was adapted in order to fulfill the GEMS requirements: IFS meteorological forcing instead of former NCEP/MM5, TNO surface emissions instead of EMEP emissions. Already operationally used within the PREVAIR system since four years, the CHIMERE model ran for the project over the GEMS domain during the summers of 2005, 2006 and 2007. During the summer 2007, the two configurations NCEP-MM5/EMEP and IFS/TNO performed simultaneously daily forecasts over 3 days. For several pollutants (ozone, nitrogen oxides and particulate matter), the results of the two configurations are compared to European surface measurements. Differences between the two models version and discrepancies with surface data are discussed both in terms of meteorology and emissions forcing.