

## NUMERICAL MODELING OF AN AIR POLLUTION EPISODE OF OZONE IN THE WESTERN MEDITERRANEAN AREA

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European directives regarding air pollution mandate to inform the population when pollutant levels reach specific threshold values. Analysis of the air quality network in the Valencia Community has shown that the human health protection threshold for ozone (120 mg/m<sup>3</sup> 8-hour average) has been systematically exceeded almost every day between March and September. Moreover, the vegetation protection threshold (AOT40 18000 mg/m<sup>3</sup>) has also been surpassed. Since 1999, heuristic models, and more recently photochemical ones, have been applied to analyze such ozone exceedances. In particular, an ozone episode that took place during the period of August 13-19, 2000 in the Eastern Spanish coast, including the Catalanian and Valencia communities, has been examined. In this study, we analyze the dispersion and photochemical formation processes that cause high ozone concentrations using modeling tools. Numerical simulations have been carried out using the MM5 meteorological model and the CMAQ photochemical simulation, independently. Both models make use of the nested grid capabilities to include interactions between different scales that are involved. Taking into account that the qualities of meteorological simulations as well as the simulated emissions play a crucial role in the proper representation of ozone formation processes, a comparison between meteorological observations and predicted wind and temperature fields has been performed. This complex and comprehensive exercise including simulation of emissions, meteorology and photochemistry constitutes the first implementation of modeling nesting capabilities applied to the Western Mediterranean area.