PHOTOCHEMICAL AIR POLLUTION IN THE CENTRE OF THE IBERIAN PENINSULA DURING THE AUGUST 2003 HEAT WAVE

M. Palacios, B. Aceña, M. García and A. De Pascua.
CIEMAT, Avda. Complutense nº 22, Madrid, 28040, Spain

The Greater Madrid Area is located in the centre of the Iberian Peninsula and it is a huge source of ozone precursors (Palacios et al., 2002). In case of high temperatures and strong solar radiation severe photochemical smog episodes occur. Such conditions are very frequent in summer time.

In the frame of the National project "MIMAN", MM5 and CHIMERE are used to study the photochemical episodes developed during the past august 2003 heat wave in this area. CHIMERE is a Eulerian chemistry transport model which takes into account both homogenous and heterogeneous chemistry.

The meteorological fields were generated using MM5 with two nested domains. The photochemical simulations were focused on the smallest domain (200x270 km and spatial resolution of 5 km). Observed meteorological and air quality data are used to select the main episodes, initialize and validate the models.

This is the first time that MM5 coupled with CHIMERE is used and validated in this area.