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Interactive
Comment

Interactive comment on "The importance of meteorological scales to forecast air pollution scenarios on a complex-terrain coastal site of the Iberian Peninsula" *by* J. L. Palau et al.

J. L. Palau et al.

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We thank referee #1 for his/her comments. This referee made a general comment without suggesting any changes in the original manuscript.

General comment:

We agree with him/her on the interest of illustrating the potential errors when modelling air quality if one does not take into account that topographical-scale forcing has an important effect on the mesoscale atmospheric flow and therefore on the dispersion and fate of air pollutants.

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Nevertheless, we would like to add that topographical forcing is not the only feature playing a role in the tropospheric dynamics during typical summer conditions in this area. Furthermore, the development of the Thermal Low Systems on the Iberian Peninsula, the resulting generalised convergence at ground level along all the coastal areas (linked to the mountain barriers), and the complementary compensatory subsidence over the Mediterranean sea and the Atlantic seaboard, form a mosaic of processes interacting at different scales synergistically, with a self-organization of the local flows at the regional level. It is because of all these processes that we are forced to consider the mesoscale circulations as a whole when we characterise the advection of pollutants on the Spanish Mediterranean Coasts under summer conditions.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 4701, 2005.

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