Atmos. Chem. Phys. Discuss., 6, S874–S876, 2006
www.atmos-chem-phys-discuss.net/6/S874/2006/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Mesoscale circulations over complex terrain in the Valencia coastal region, Spain, Part 1: simulation of diurnal circulation regimes" *by* G. Pérez-Landa et al.

Anonymous Referee #2

Received and published: 17 May 2006

Review of the manuscript 'Mesoscale circulations over complex terrain in the Valencia coastal region, Spain. Part 1. Simulation of diurnal circulation regimes' (Perez-Landa et al.)

General remarks

The paper shows numerical simulations using a high-resolution atmospheric model for the complex topography of the Valencia area and comparisons with experimental data. Although sea-breeze simulations (especially with RAMS) are not new, the study yields new knowledge with respect to the interaction with the mountain areas. The results of the study are worth publishing, but the paper is too lengthy and reading is somehow

Full Screen / Esc
Printer-friendly Version
Interactive Discussion
Discussion Paper

EGU

exhaustive. The paper should be shortened considerably (presently 43 pages), and should concentrate on the simulation results (drop e.g. climatological discussions). The paper might be acceptable after a major revision.

Specific remarks

Section 1:

(1) The introduction is too long. The CO2 discussion is not relevant for the paper (maybe for part 2).

(2) last para (page 2813), 'modeling simulations': only 'simulations'

Section 2:

(3) drop section 2.2, this is not relevant for the case study

(4) drop or shorten section 2.3

Section 3:

(5) page 2817, para 2: aircraft legs (not routes), there is only one flight leg, but at different heights

(6) page 2817, para 3 (and at other places): you cannot simulate meteorology (or biology), since this is a scientific discipline (better: meteorological fields)

Section 4:

(7) page 2817, para 3: Soil moisture and soil type is very important for the simulations. It is not clear, where the soil type comes from (only clay loam?). The authors should be aware that there are other methods for the generation of soil moisture fields in current NWP models. The spin-up method used here is not clear. Which input data are used? If you don't use precipitation and radiation, what is the use of your exercise? You could just prescribe a soil moisture profile.

Section 5:

ACPD

6, S874–S876, 2006

(8) page 2821, para 1: use the same symbols in text and figures (HR in Fig.3, RH in text)

(9) page 2824, para 1: I don't believe that what you see above 1200m is the return flow. It is too strong. Check synoptic fields.

Section 6:

(10) This section is much too long, and it is partly repeated in section 7. Shorten it!

Section 8:

(11) page 2833, para 3: your soil moisture initialization is not 'proper'!

Appendix A

Can be dropped. It is well known that sea-breezes are a climatological feature in that area.

Tables and figures

- Fig.2: drop

- Fig.3: gray curves can are hardly be seen

- Fig.A1: mark lows and highs

- Fig.A2: drop

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 2809, 2006.