

## ***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 #1**

Received and published: 6 June 2006

#### REVIEW OF THE PAPER

“Mesoscale circulations over complex terrain in the Valencia coastal region, Spain, Part 1: simulation of diurnal circulation regimes” coauthored by G. Pérez-Landa, P. Ciais, M. J. Sanz, B. Gioli, F. Miglietta, J. L. Palau, G. Gangoiti, M. M. Millán.

This paper presents the results of the comparison of a two-day case study between the simulated fields (mainly wind) obtained with RAMS model and the available observations (surface stations and aircraft measurements). The paper although not original contributes to the studies on the ability of mesoscale models at very high resolution to reproduce diurnal circulations over complex terrain. However, the article is extremely

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

long compared to its aim and it should be shortened considerably, as some sections are not relevant to the aim of the paper. My conclusion is that the paper can be accepted subject to major revision.

### Major points

The paper deals with the evaluation of the simulations performed with RAMS model at very high resolution to reproduce the circulation regimes over Valencia, with the aim at a later stage (Part 2 of the paper, I guess) to perform dispersion model calculations. Based on this aim of the paper: a. the introduction should be considerably shortened. Namely reference to literature on CO<sub>2</sub> should be omitted as they belong eventually to the second part of the work (mainly lines 23-end page 2811, and 1-23 page 2812). b. Sections 2.2 and 2.3, in my opinion should be omitted. In this paper you investigate a 2 day event and eventually during these days you are performing the study on the CO<sub>2</sub> in the second part the work. The conditions during the whole experiment period (summer 2001) are not relevant. The omission of these sections (and of their figures) would contribute to the decrease of the size of the paper. c. Decrease the size of section 7 (discussion) and merge it with the conclusions d. Following the major point in general, the appendix (with the relevant figures) should be omitted.

Minor points 1. page 2820, lines 15-18: It is not clear to me what you are using as SST for your simulation. How do you combine weekly climatological with satellite dat?. SST is very important factor for the definition of the sea-breeze. Please specify. 2. page 2821, lines 1-6: there is a striking difference of the simulated RH compared to the observations at the VI station during night time. Can you comment on this? 3. Fig. 7b has a different vertical and horizontal scale than 7a and 7c. Please provide the same scale.

---

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

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper