

Interactive comment on “Atmospheric dust modeling from meso to global scales with the online NMMB/BSC-Dust model – Part 1: Model description, annual simulations and evaluation” by C. Pérez et al.

Anonymous Referee #1

Received and published: 29 June 2011

This work presents the incorporation of an online dust model to the NMMB meteorological model. The manuscript describes each component of the model and evaluates the model performance against measurements. The paper is well written and makes a valuable contribution to the understanding of global dust transport.

General Comments: - One of the most important strengths of this approach is its online capability. However, throughout the paper there is no application of this approach. Namely, all the calculations are made in the off-line mode. I would encourage the authors to include such modeling exercises to improve the quality of the paper.

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- Is the year 2000 representative of the climatology of what the measurements are representing? An normalization of the concentrations can be done in order to avoid features of the particular year and then compare with the normalized observations.
- The deposition calculation is within a factor of 10 of the measured values? That is not very encouraging. Please include some references to put this comparison in perspective. Is this value generally obtained by this kind of models?
- The comparison with daily and monthly averages is really interesting. However, it would strengthen this work if you can produce a comparison with hourly measurements.
- In the conclusions you use the term "pre-operational". What is that exactly means?

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 17551, 2011.

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