Atmos. Chem. Phys. Discuss., 6, S583–S584, 2006
www.atmos-chem-phys.org/acpd/6/S583/
European Geosciences Union

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Development and testing of a desert dust module in a regional climate model" *by* A. S. Zakey et al.

A. S. Zakey et al.

Received and published: 17 April 2006

First of all, thanks you for your constructive comments, we will try to address your points as far as possible.

The 40 km resolution was chosen initially to study the dust storms at a resolution which is now typical for regional climate study, and which can also further allows comparisons with detailed regional CTM or meso-scale model. As for the seasonal run, we wanted to keep a domain which has been and is the subject of on going aerosol regional climatic impact studies with RegCM. It is quite a large regional domain and the resolution of 60km was the best adapted. We agree that keeping the same spatial resolution from the episode to the seasonal time scale makes sense in this validation paper: consequently we redid the SHADE test case at 60 km resolution (cf figure 1) and plan to

include text modification to the paper after having received all the referees comments. Briefly, the outflow event is still captured and compare reasonably well with satellite data. Compared to the 40km case, the simulated AOD however tend to slightly decrease because of weaker emission due to landuse aggregation and slightly weaker surface winds). Plume spatial patterns change also due to dynamical changes, but overall stay consistent with observations.

ps Figures could not be attached in the on line reply but have been sent by email to the comment author.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 1749, 2006.