

Interactive comment on “Development and evaluation of an operational SDS forecasting system for East Asia: CUACE/DUST” by C. H. Zhou et al.

Anonymous Referee #2

Received and published: 27 July 2007

This paper describes a forecast system for Asian dust storms, and its performance for some test period. A positive aspect is the comparison of the forecast not only with surface station observations, but also with lidar observations. However, the scientific content of the paper is rather limited.

Describing just one test case in greater detail does not prove that the forecast model performs well. Rather than going into this great detail with one case and briefly summarizing the ‘hits and misses’ of other cases during the test period, the model performance should have been described in greater detail for several SDS cases, including analysis of reasons for misrepresentation of dust in the forecast. Here it would be of partic-

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ular interest to analyze to which extent shortcomings of the dust forecast are related to shortcomings of the weather forecast, or to the dust parameterization itself. Such analysis should be added in the paper. Also, how does this model compare in both its results and in its performance to other dust forecast models?

The language needs thorough revision.

Some specific comments:

Page 7988, line 19: Please note that the forcing numbers are global averages, they can be much larger regionally.

Page 7990, Description section: The 'Chemistry module' is rather a 'Microphysics module' from the description

Page 7991: The dust emission scheme should be described in greater detail, as it is of central importance for the results. Especially, what are the differences (improvements?) in the model setup compared to other dust forecast models?

Page 7994: What are the definitions of 'Severe SDS', SDS, and blowing dust?

Figure 5: Please use the same layout - i.e. same axis ranges - for model results and observations, such that the patterns can be easily compared.

Figure 6: The font size of the numbers in the figure and labels is too small.

Figure 7: The figure panels are presumably prepared by Excel, they are not good quality.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 7987, 2007.

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