

Interactive comment on “Observations of mesoscale and boundary-layer circulations affecting dust uplift and transport in the Saharan boundary layer” by J. H. Marsham et al.

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The processing of this ACPD manuscript has been significantly delayed by problems in finding a second referee. I am now acting as editor and stand-in referee but, having read the manuscript thoroughly again, and reviewed the open discussion, I find that it is necessary only for me to concur with the one review received, particularly with respect to the need for clarification of the main thrust of the arguments. That is, the authors should make sure that they are not over-interpreting the data and model results, and should be sure that they make clear the similarities and differences between the case studies. In doing this, I think the authors will also make clearer the implications of the

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case studies for understanding (and parameterising) dust uplift.

1 Specific Comments

Page 2, last paragraph. Add "(see section 2.2, below)"; at first mention of COSMO.

Page 3, end of section 2.1, perhaps clarify thus: "(aircraft profiles on this day were affected by either the monsoon or the cold pool outflows elsewhere, and so cannot be used to deduce boundary layer depths)."

Section 2.2. Provide some details of the land-use categorisation from DWD used in COSMO, particularly those aspects which are important for forcing convection.

Page 4, column 1, last paragraph. Please re-write "The maximum low-level winds upstream of the flight track lie to the east of the maximum at the latitude of the flight track (Figure 3(b))."

Figure 5. Is "coherency" the same as "coherence"? Caption should use LST if that is the term use in the text discussing the figure.

Page 5, top of column 2. Are we to understand from the discussion here that mesoscale variations in windspeed are transported in the mean wind, like the dust, and are not forced locally by LST changes? How does this relate to the discussion of coherence between LST and other parameters in the previous paragraphs?

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 8817, 2008.

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