

Interactive comment on “Simulation of land surface temperatures: comparison of two climate models and satellite retrievals” by J. M. Edwards

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I am grateful for the referee’s comments and suggested improvements. Specific responses to the individual points follow.

1 Specific Comments

1 A similar point was raised by the first referee. I propose clarifying this by including a table listing the characteristics of the data.

2 I agree that initial separate discussion of clear-sky and all-sky data would be

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easier for the reader to follow and propose restructuring the discussion of Figure 6 (paragraphs 3–6 of section 3) to separate the two regimes. Only after this would comparisons be made between clear-sky and all-sky quantities.

- 3 I am grateful for the suggestion propose expanding the text here to note the possibility that this may be due to the higher water vapour loading of the atmosphere at this time, with a reference the paper the referee suggests. The new text should read, "*Whilst the reason for this is not fully understood, it may be due to the impact on the retrieved land surface temperature of the higher water vapour content of the atmosphere in this month (Sun et al. 2006a.)*"
- 4 I agree and would add a formula for the overall atmospheric flux to section 4.1.

2 Minor Comments

- 1 The first reviewer also raised this point. I suggest consistently using letters to indicate subfigures and hope that this will be clearer.
- 2 Again, this point was also raised by the first reviewer and I suggest labelling the axes at 3-hourly intervals.
- 3 I will replot the figures to separate the lines and legends.

References

Sun, D., Kafatos, M., Pinker, R. T., and Easterling, D. R.: Seasonal variations in diurnal temperature range from satellite and surface observations, *IEEE Trans. Geosci. Rem. Sens.*, 44, 2779-2785, 2006a.

Interactive comment on *Geosci. Model Dev. Discuss.*, 2, 309, 2009.