

## ***Interactive comment on “The impact of diurnal variability in sea surface temperature on the atlantic air-sea CO<sub>2</sub> flux” by H. Kettle et al.***

**H. Kettle et al.**

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First of all I would like to thank you for taking the time to review this paper and provide helpful comments. I have no issues with the comments made and have addressed them as follows:

2 and 3. To investigate the explanation for the insignificance of diurnal covariability effects I have changed fig2 to time series plots of the key variables. This allows the reader to see the model functioning for each of the three scenarios. I have also added a paragraph in the Discussion on covariability. Sorry I have not had time to make comparisons with buoy data but the NOAA-COARE parameterisation upon which most of the analysis depends has been well validated in the past.

4. I have replaced the original Fig. 2 with a new one which shows the dynamics of the

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model

5. This is simply because this is where you get large diurnal warming events. I have now mentioned this in the text.

6. Have made the requested change

7. I don't understand this point - Fig 7 does show there are lots of places where there are no satellite measurements for the whole month (dark blue).

8. I have made the requested change.

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Interactive comment on Atmos. Chem. Phys. Discuss., 8, 15825, 2008.

**ACPD**

8, S9104–S9105, 2008

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