

I have reviewed the revised version of the manuscript “Evaluating the Met Office Unified Model land surface temperature in Global Atmosphere/Land 3.1 (GA/L3.1), Global Atmosphere/Land 6.1 (GA/L6.1) and Limited Area 2.2 km configurations” by Brooke et al. Overall, the authors successfully addressed my comments and I believe that the manuscript will be acceptable for publication in Geoscientific Model Development after consideration of a small number minor comments listed below.

We thank reviewer 2 for their comments and we have revised the manuscript as follows.

**Minor Comments:**

Page 3, line 3. Should there be an e.g. before the reference? I am sure that there are many studies that make a similar point

Thank you for this suggestion. We included e.g. prior to the reference.

Page 6, lines 9-10. The sentence states “Hourly downwelling...”, but the previous sentence indicates that the Havemann-Taylor Fast Radiative Transfer Code was used—perhaps this is the code that is used in the ECMWF? It would be helpful if the sentence were clarified.

Thank you for this comment, and realise the confusion in the original sentence which we have clarified as follows: “Hourly downwelling longwave radiation is calculated using HT-FRTC based on the ECMWF ERA-Interim (Dee et al., 2011) atmospheric profiles of temperature, specific humidity and ozone mass mixing ratio which are available every 6 hours (00, 06, 12 and 18).”

Page 6, line 17. Did the theoretical calculation account for aerosol loading? I don’t think it makes a difference in this application, but the text could mention if aerosol was considered or not.

Thank you for this comment, no the calculation was performed for a clear skies simulation without accounting for aerosol loading. We include the sentence “The downwelling calculation does not account for aerosol loading.”

Page 10, lines 3-11. I appreciate that the authors have tried to make it clearer that the O-B is used in the text, while B-O is plotted in the figure. Would it be difficult to replot the figure to match the usage in the body text? Alternatively, a sentence could be added to make it clear that the definition used in the figure is different.

Unfortunately, Figure 1 is not simple to replot as O-B, and as such we include an additional sentence to make it clear of the difference between Figure 1 and manuscript text.

N.B Figure 1 presents the surface temperature bias as O-B, whilst the manuscript text going forward is presented for model-background-minus-observed, B-O.

Page 15, line 23. Rather than "not shown" the text could point to the location in the manuscript where the cloud clearing is described.

Thank you for this suggestion. We have replaced ‘not shown’ with ‘as described in section 2.4’.