

## ***Interactive comment on “The surface temperatures of the earth: steps towards integrated understanding of variability and change” by C. J. Merchant et al.***

### **Anonymous Referee #1**

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Review of: The Surface Temperatures of the Earth: Steps towards Integrated Understanding of Variability and Change by C.J. Merchant et al. (doi:10.5194/gid-3-305-2013)

General comments.

This is a very good paper and I have only a few remarks, which I hope can be taken account of without lengthening the paper by more than a few sentences

Specific comments

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Recommendation 2.4: The “edge-lands” considerations may also apply to other transition zones, for example the Sahel (= Arabic for “coast”) where vegetation transitions rapidly between desert and savannah.

Recommendation 3.4: Figure 2 has LSAT as a guide on adjustments to LST whereas the text on page 314-315, and Table 1, has LST as a guide on adjustments to LSAT. I expected the latter, but could it work both ways using LSAT reference sites (9.3, 9.4)?

Recommendation 8.1: Urge nations to fulfil their responsibilities for data release under WMO Resolution 40 ([https://www.wmo.int/pages/about/Resolution40\\_en.html](https://www.wmo.int/pages/about/Resolution40_en.html)).

Conclusions: Your Recommendations are a good application of many of the Global Climate Observing System Climate Monitoring Principles (<http://www.wmo.int/pages/prog/gcos/index.php?name=ClimateMonitoringPrinciples>) which apply to both in situ and satellite data.

Technical/minor:

Page 311 line 21: change “insufficiently specified” to “unrepresentative local” to capture the thrust of Hall et al. (2008).

Page 312 line 24: remove duplicate “and”.

Page 314 line 11: Schneider and Hook (2010) don’t mention MODIS.

Page 317 line 5: remove duplicate “temperature”, also in Table 1. Rec. 4.3.

Page 319 line 2: “temperatures” should be “temperature”, also in Table 1 Rec. 5.1.

Page 319 line 28: what is meant by “similar measures”?

Page 322 line 27: I tried to check the Kerr (2004) citation but the closest I found was Kerr, Y.H., Lagouarde, J. P., Nerry, F. and Ottlé, C., Land surface temperature retrieval: Techniques and applications: Case of the AVHRR, in Thermal remote sensing in land surface processes, D. A. Quattrochi and J. C. Luwall, Editors. 2004, CRC Press: Boca

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Raton FI. p. 33-109. I only gained access to limited parts of this book: the index mentions MODIS but not SEVIRI, VIIRS or GOES-ABI, so is Kerr (2004) a different article?

Page 326 line 24: "research" should be "reference".

Page 327, line 26: The text beginning "Relationships..." is more connected to R10.2 than to R10.1.

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