

Interactive comment on “Global temperature estimates in the troposphere and stratosphere: a validation study of COSMIC/FORMOSAT-3 measurements” by P. Kishore et al.

P. Kishore et al.

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Thank you very much for your interactive comments on our paper “Global temperature estimates in the troposphere and stratosphere: a validation study of COSMIC/FORMOSAT-3 measurements”. We have a strong feeling that your comments are valuable and useful to improve the status of the paper. We are pleased to address the issues that you have raised and the manuscript is modified to its best level that we can. We hope you will be satisfied with the modifications that we made. In the following we would like give our responses to your comments.

General comments:

Thanks for your sentences indicating an overall positive assessment of the paper. Re-

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Regarding the expected errors of the comparison, it is true that we haven't given much details of it. But as you know when we deal with a comparison involving a number of data sets it is difficult to point out all the merits/de-merits of each data set and arrive at a very conclusive picture on contribution of those errors. Different data sets use different assumptions and procedures during their extraction. In such a situation we should be very careful when we make statements on likely suspects that cause errors. However, we have expanded the text with some additional statements on this aspect. Further we have tried to collect information on accuracy of reanalyses data sets, but we could not get useful information on that.

The term, "model"; Thanks for this suggestion. In fact we also had a thought like that. However, for convenience purpose only we thought to call them "models"; (as mentioned on page 8330, line number 8; hereafter models). Anyway to avoid confusion we have decided to follow your suggestion.

Along these lines, the phrase "In principle we agree with your suggestion. However, at some places we kept that commonly used phrase. Some modifications were implemented. Since we are not sure about the accuracy of the reanalyses temperatures we cannot make much point on discrepancy or similarities. We will be forced to follow a general approach!

There is some sloppiness in the discussion "We made some revision to it. Your observation is correct. Areas where we made wrong interpretation are corrected.

Specific comments:

The focus of the paper "We have tried to collect information on accuracy of reanalysis data sets. But we couldn't get specific numbers that indicate the accuracy of those temperature estimates. We have no different opinion to your views. In situations like this let the readers make the as-

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assessments.

8331: The authors state "From the COSMIC data source we can get the data sets with the resolution as we mentioned. But they are interpolated ones. We have added a sentence mentioning the resolution of original data sets."

8332: It would be worth stating "Sorry for the mistakes in those lines. We have corrected it. All necessary information on time resolution, horizontal resolution, etc is given in the revised version."

8335: It would be useful "We have modified the text with that information."

Note that the extent "We have added these lines in the text."

Technical corrections

8334 thus temperature retrieval "We have changed the word to 'erroneous'; and it is correct."

The authors should "Removed."

How large is large "We have removed that sentence. In fact we added that sentence in response to another reviewer's comments."

A sentence says "warm-ing; means 'increase';. We modified that sentence."

8335 The tropical minimum temperature "Yes, we agree that during winter the lower temperatures (in the tropics) are observed in the western Pacific and it is more or less similar in COSMIC and the reanalyses."

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8337 In Figure 7, ... We have corrected this.

8338 The authors show a single ... This figure and related text are removed.

8349 In figure 3 ... We agree with your observations. In fact we had mentioned that we are interested in comparing the temperatures of altitudes 8 km and above. Also we had noted the reasons for that selection. It is true that although we showed the profiles from 5 km we haven't discussed the 5-8 km height region. To avoid confusion we have redone the figure by showing the altitudes 8 km and above.

8352 Fig. 6 ... Caption is modified.

8354 In Figure 8, ... This figure is redone to make it more effective on watching. The concerned text is also slightly modified.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 8327, 2008.

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