

General comments:

Overall: The authors have made an effort to address my comments, but I still think the paper is not suitable for ACP. In particular, the paper is poorly organized; the presentation could be improved; and results and/or methodology are possibly questionable. Examples follow:

Organization: For example, the information presented in the Introduction. Among other things, it is not clear to me from the Introduction why this work is important and what it will bring to the scientific discussion. In general, it is not straightforward to follow the paper.

Presentation: The tables are overly complicated and difficult to follow.

Questionability of results and/or methodology: (i) The title suggests a discussion of mid latitude phenomena, but this is based on the range 49N – 56N. (ii) I understand most of the trends results in Table 1 are not significant at the 99% level. Why show them? (iii) The response from the authors indicates that the cal-val of the reanalyses is done at 3 stations; the text just mentions one station. I do not find this a satisfactory way of evaluating the quality of reanalyses. But maybe I have misunderstood what the authors are doing regarding evaluation of the reanalyses.

Before the paper is suitable for ACP, the authors should address the above issues, as well as the specific issues below. The English should also be looked at.

Specific comments (not exhaustive, but illustrative):

P. 1

L. 12: Use reanalysis data to do what?

L. 13: Why do the reanalyses data provide a more consistent dataset than observations?

L. 17: Why is this result the most important one?

L. 20-21: Use of “appears” here (and elsewhere) is vague.

P. 2

L. 38: What is the importance of the UTLS, e.g., regarding the atmospheric circulation?

L. 51: Make sure you introduce acronyms when first used – both in the abstract and in the main text, e.g., GHG.

P. 3

L. 61-62: This should be mentioned toward the beginning of the Introduction.

L. 69: Avoid “chatty” language in the text.

P. 5

L. 115-121: This is confusing to me. What is important in this paper? How are you addressing key questions? The Introduction needs rewriting.

L. 128: You use the reanalysis to do what?

P. 6

L. 138: Evaluation of the reanalyses is against one site mentioned here (and a total of 3 according to the response of the authors). I do not find this satisfactory.

L. 153: The latitude band is 49N – 56N, a range of 7 degrees. Is this representative of mid latitudes?

P. 7

L. 170: Significance calculated at 99% only for some cases? Why? According to the author response, most of the trends in Table 1 are not significant at 99% (but are at 95%). Why show the Table 1 data?

P. 9

L. 216: What do you mean by “some”? A small percentage?

P. 10

L. 243: Only 4 trends (out of 192, I understand) are significant at the 99% level. And as mentioned by the authors, this is likely due to the limited length of the datasets. Which begs the question, why calculate trends with a dataset limited in length?

P. 13

L. 325: Your results only concern a small range in mid latitudes (unless I have misunderstood something).

L. 330: What is the significance level of the trends discussed?

P. 22

Table 1: Why show this table if significance at 99% only occurs for 4 cases?

Tables 1, 2: By total wind speed you mean the absolute magnitude of the horizontal wind component?

P. 23-24

The Tables shown look complicated and difficult to follow. Is it possible to simplify their design?

P. 25

Fig. 2: Where is the dashed line?

P. 26+

Figs. 3-6: I suggest that the authors indicate what the end points of the colour scale mean, e.g., red positive values, blue negative values.