

## ***Interactive comment on “1-km monthly temperature and precipitation dataset for China from 1901–2017” by Shouzhang Peng et al.***

### **Anonymous Referee #1**

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I appreciate the revision. The authors have addressed most of my concerns. However, I still find a few issues that were not clarified and I listed them below.

Major concern:

Please provide more details of how Q1 and Q99 were calculated? Is Q1 the 1% quantile of the monthly minimum TMP, and is Q99 the 99% quantile of the monthly maximum TMP? Why use the “extreme” value instead of mean monthly minimum/maximum TMP? For the results before Table 4 and Figure 6, are those minimum (maximum) TMPs the Q1 (Q99), or mean monthly minimum (maximum) TMPs?

Specific comments:

1. There are a few typos of “WordClim”. The authors should check the manuscript

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carefully before their resubmission.

2. P1,L23: “the downscaling procedure used data from CRU and WordClim and did not incorporate observations” - I may understand what the authors mean, but this statement is not accurate. First, CRU and WorldClim have already incorporated observations. Second, if their “observations” mean the observations from 496 weather stations, the downscaling procedure itself never uses any of those station observations even for the period 1951-2016. The quality of the new datasets throughout the period 1901-2017 depends on the quality of the CRU and WorldClim datasets.

3. P1, L25: The authors should mention the evaluation of the input data (CRU and WorldClim) at the beginning, then discuss the quality of their downscaling products.

4. P6, L10: Evaluation criteria -> Evaluation metrics

5. P6, L20: is n the number of stations, or the number of months? I assume it is about the number of stations, so  $P_i$  is the climatology of the original or downscaled values, and  $O_i$  is the climatology of observed values? Because the authors mentioned “time series” in the results, this information should be clarified to avoid confusion.

6. P7, L16: What does “averaged evaluation” mean? Do the authors mean “evaluation of climatology of the downscaled monthly TMPs and PRE averaged over independent weather stations”?

7. P9,L13: time correlation -> temporal correlation

8. Figure 9: add hatching on the trend map to show the significance instead of plotting individual significance maps

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