

# ***Interactive comment on “Spatiotemporal Patterns and Trends of Precipitation and Their Correlations with Related Meteorological Factors by Two Sets of Reanalysis Data in China” by Jinhui Jeanne Huang et al.***

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Firstly, the authors express our appreciation to your review of the paper. Your careful review has resulted in a greatly improvement of our paper. Our reply and comments are as follows:

1. Reply to your question about analysis based on reanalysis data

1) We used the reanalysis data from the website below <http://hydrology.princeton.edu/data.lsm.php>. It has been renamed as “Global Land

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Surface Model Data”, and now requires registration to obtain the data set.

2) Reanalysis data is obtained based on observation data and has been used widely as a supplementary data to observation data, especially in ungagged area. A very important example is the widely used Statistic Downscaling Tool, SDSM, which use NCEP reanalysis data as the ground truth to do regression with a large set of Metrologic parameters.

3) The investigation in this study did not present a stable strong correlation with all the metrological parameters; a large variation has been shown in the study.

## 2. Reply to your question about justification in the use of data

The two-sets reanalysis data were not randomly picked up. First of all, NCEP reanalysis data as said before, has been widely accepted (e.g. being used in SDSM as the ground truth observation) and has been well studied; it is however, with coarse resolution. While GLADS dataset might be less investigated in the past, it however is with high resolution of  $0.5^{\circ} \times 0.5^{\circ}$ . The two dataset are both from US and may share a similar observational data source and the structure of calibration. It is then might be easier to compare the discrepancy induced by different resolution. Error exists everywhere. By comparing the results from two dataset, it is a way to reduce the error. In addition, the GLDAS has also been used previously to study the climate change in the world, e.g. Gomez (2018), Jon Gottschalck (2005) et al. and in China, e.g. Y Y Liu (2012); we then choose the two datasets for further investigation in our study.

## 3. Mistakes about references

The detailed mistakes about references have been fully corrected in the manuscript using redline edit. Also, some minor spelling and grammatical errors have been corrected, and we have masked out the area outside of China in each figure. All the corrections are in the supplement below.

Please also note the supplement to this comment:

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2017-756/hess-2017-756-AC1-supplement.zip>

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