Review of: "Spatio-Temporal Analysis of Precipitation Patterns in Xinjiang Using TRMM Data and Spatial Interpolation Methods: A Comparative Study"

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Potential competing interests: No potential competing interests to declare.

Comments and feedbacks

The manuscript evaluates the applicability of TRMM precipitation data in Xinjiang and examines the spatial and temporal distribution characteristics of precipitation. The authors used TRMM satellite precipitation data along with ground-based observation for Validation of TRMM data accuracy; assessment of interpolation method accuracy; analysis of spatial and temporal precipitation distribution and examination of spatial variation in annual precipitation. The study is important because it helps to show the spatio-temporal precipitation pattern and distributions and water resource dynamics that will provide significant guidance for water management and agricultural planning in Xinjiang, china.

My comments about the manuscripts are stated below:

The article requires major revision

I recommend the keywords to be: TRMM, Precipitation, Water resource, spatial interpolation and Xinjiang.

1. Time period recommended to study climate change is thirty years and above; but you used 1998-2019 (21 years) only. I propose to present about the climate variability or consider 30 years data.
2. The authors choose TRMM satellite precipitation data. The work does not say why the authors chose this particular data source.
3. The article is poorly formatted, figures and tables there are many errors (figures 2, 3, 4…..demonstrated in Chinese language) – all this makes reading difficult (Caption problem)
4. Authors should show the location of all the 42 meteorological stations used as reference stations in Xinjiang region.
5. To evaluate the spatial and temporal trend analysis (precipitation change) you need to use 30 years data time period.
6. 3.3 Characteristics of Spatial and Temporal Distribution, if you need to characterize precipitation of your study area, you have to present onset, cessation set and length of the rainfall season. otherwise take as option for sub-titles as Analysis of Spatial and Temporal Distribution of precipitation and do the same in the proceeding sub-sub titles of you analysis.
7. 3.3.1 Spatial Distribution *haracteristics*: I think you want to mean:- Spatial Distribution characteristics.
8. Caption problem "Figure 4. 1998-2019 precipitation changes in Xinjiang region" but the figures shows precipitation variability (distribution) not change.

9. 3.4 Results of the characterization of the spatial variability of annual precipitation: revise the sub-title please. Again I remind you if you make trend/change analysis you should consider 30 years precipitation data.

10. Caption problem "Figure 7. Maps of sudden change analysis of annual precipitation" To make analysis about precipitation change you should consider 30 years time period data.

11. The other comment: From the Mann-Kendall test I did not see the statistically significance test of precipitation. If so, it is doubtful to draw any conclusions about the precipitation sptio-temporal change of Xinjiang.