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.

Revision

The article deals with the spatial and temporal aspects of precipitation in China's Xinjiang region, using the TRMM 3B43 V7 satellite precipitation data from 1998 to 2019. Alongside ground-based observations, the authors examine the efficacy of four spatial interpolation methods: inverse distance-weighted, kriging, radial basis function, and thin-plate spline.

1. Major comments:

2.1 About bibliographic references: the authors are advised to increase the number of bibliographic entries because 9 is insufficient.

2.2 The manuscript was written in English, but the maps and other figures have some names in the Chinese language. The authors must change this to aid understanding.

2.3 The topic 2.1.2 refers to “The TRMM data downloaded from NASA were stored in NetCDF format and were first converted to TIF files in raster format”. Which tools did the authors use to convert the NetCDF to TIF? The answer to this question should be placed in the paper.

2.4 In the topic 2.2.1 Spatial interpolation and assessment methods, table 1 has the same name for different variables; for all of them, the authors have used the letter Y. Also, the equations need to be modified as they have not been written correctly. Table 2 needs the same correction because the equations have not been written correctly.

2.5 In the same table 1, in the column "parameter introduction," the variables must be preceded by the “where” term, not start the sentence with the variable. In tables 3 and 4, the authors must define the terms: RBF, IDW, OK, ANUSPLIN for the assessment of spatial interpolation accuracy. Also, figure 3 needs better interpretation and discussion of the values obtained in tables 3 and 4,

2.6 The authors should carry out further interpretation of the data in figures 4, 5, 6, and 7. In the case of numbers 3 and 4, they must add more information in the figure captions.

This paper, as written and with the arrangements that the author must make, can contribute as new material to the

advances of science.

The reviewer cannot recommend the publication of this manuscript. The authors should review the document, addressing the main difficulties encountered, and resolve them.