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.

This paper presents a study on the spatio-temporal analysis of precipitation patterns in Xinjiang, utilizing TRMM 3B43 V7 satellite data in conjunction with ground observations. This is relevant to evaluate the impacts of climate change, and it is useful in the context of water resource management.

The manuscript does not meet the required standards for publication. The poor quality of the redaction makes it impossible to understand precisely the methodology used, so it is not possible to assess the quality of the study presented in this document. The manuscript needs major revision:

It is necessary to add the main results of the study to the abstract.

All the text in the figures should be in English.

The state of the art is insufficiently described, and the bibliographical references are very incomplete.

The introduction is not sufficient to address the problem statement of the study. It should clarify what aspects of this study are novel compared to existing research.

The use of TRMM data as a benchmark is questionable. A bibliographical study should justify this use.

The correlation coefficient R is nearly equal to R2, while the value of R2 should correspond to the square of R.

In Table 1, what is the difference between di in the 'radial basis function method' and Di used in 'inverse distance weighting'?

Regarding the "thin disk spline method," isn't the expression for yi indicated?

Equation 2: isn't there an error in the formula? What do x and y represent?

In Section 3.1, how each station was correlated with the TRMM grid is not clearly given?

In Sections 3.2 and 3.3:

I don't understand what is done exactly, how the analyses were performed. There is no mention of the spatial resolution at

which the interpolation was performed. What do the performances given in Tables 3 and 4 for the different methods correspond to? What do the 3 subplots in Figure 4 and the 3 colours correspond to?

Check the spelling of “characteristics” in the title of Section 3.3.1.