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.

The vast expanse and complex topography of Xinjiang, coupled with the sparse distribution of meteorological observation stations, makes the study of various interpolation methods for precipitation of significant value for climate change research in this region. However, prior to publication, the paper requires improvement in the following areas:

1. The article appears to have been translated from Chinese, as all content in the figures is still labeled in Chinese, and many of the vocabulary translations are incorrect. For example, in Table 2, the correct term for R2 is 'coefficient of determination', not 'coefficient of certainty'.

2. In light of the relationship between observed precipitation at the stations and TRMM precipitation, the linear regression in Fig. 2 should employ a zero-intercept fit.

3. Following Fig. 2, the author notes that R2 is 0.8511, closely matching the R value of 0.85. However, given the different calculation methods for each, the value of R2 should correspond to the square of R. This section requires a detailed explanation of the calculation, particularly the number of samples used for computing R2 and R.

4. When comparing the results of different interpolation methods in Fig. 3, the spatial distribution of the 'true values', i.e., the TRMM precipitation distribution, should also be presented.

5. As observed in Fig. 3, only the ANUSPLIN interpolation reflects the impact of topographical factors like elevation. However, the paper's evaluation deems ANUSPLIN's interpolation as the least effective. This may be related to the choice of evaluation criteria and the decision to use TRMM as the 'true value', necessitating further analysis.