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

Polina Lemenkova[1]

1 Universität Salzburg

Review of a manuscript '*Spatio-Temporal Analysis of Precipitation Patterns in*

Xinjiang Using TRMM Data and Spatial Interpolation

Methods: A Comparative Study' by *Zhang et al.* submitted to *Qeios*.

General focus

The paper focused on regional climate pattern studies are essential for grasping climate variability and shaping water resource management. The authors investigated spatial and temporal aspects of precipitation in China's Xinjiang region using satellite precipitation data covering ca. 20-years period. They also used the ground-based observations. The authors described the goal of this study which is to examine the efficacy of four spatial interpolation methods - inverse distance-weighted, kriging, radial basis function, and thin-plate spline. The authors evaluated and compared the accuracy in mapping Xinjiang's annual precipitation distribution of several technical methods. They found that the inverse distance weighting method yields the most accurate results using their dataset. For instance, they reported that precipitation in Xinjiang increased in the north higher compared to the south. The paper contributed to the methods of evaluating water resource dynamics and climate change.

With kind regards,

- Polina Lemenkova.

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