

## ***Interactive comment on “Rainfall and temperature estimation for a data sparse region” by R. L. Wilby and D. Yu***

### **Anonymous Referee #1**

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In this work the authors present an approach to estimate rainfall and temperature in data sparse regions. Remotely sensed and terrain data are combined using empirical relationships in order to maximize the quality of the rainfall and temperature estimation. The article is well structured and organized and presents the result in a very precise manner.

Generally I find the article quite complete. However, in the discussion I am missing the part where the authors discuss how transferable this approach is to other data sparse regions. The authors mention that other variables could be included to refine the methodology or more sophisticated statistical models could be used but do not discuss the minimum requirements for data sparse regions in order to apply the presented approach. For example is the approach still applicable if I have a strong correlation be-

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tween DEM and R4MEAN but a worse correlation between RTOT and TRIMM\_RTOT, etc.?

With respect to specific comments I have the following remarks:

1.) Section 2.1 (precipitation) Please mention how many stations between network A and B overlap.

2.) Section 4.1 (Mean annual precipitation): Please explain in more detail the results of Figure 13. What are the reasons for the different results in the gamma, root4 and log model? Furthermore, the authors state that the gamma model provides more precautionary extreme daily rainfall estimates. To me it looks just the other way round. The modeled values from the Gamma model are generally higher than the observations. Please explain.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 7575, 2013.

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