

Interactive comment on “Rainfall estimation over the Wadi Dhuliel arid catchment, Jordan from GSMaP_MVK+” by E. Abushandi and B. Merkel

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comment on “Rainfall Estimation over the Wadi Dhuliel Arid Catchment, Jordan from GSMaP” by E. Abushandi and B. Merkel

Dear Authors, dear Editor,

I have reviewed the aforementioned work. My conclusions and comments are as follows:

Summary and general evaluation: The paper addresses an interesting and important topic with adequate data. The title is clearly reflecting the contents of the paper and the abstract provide a concise summary. The Global Satellite Mapping of Precipitation (GSMaP) dataset is used in this paper to overcome the scarcity of the ground rain

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gauges. A multiple linear regression (MLR) model was used to derive the relationship between rainfall and GSMaP MVK+ in conjunction with weather variables (Temperature, RH, etc.). The MLR equations were defined based on daily and monthly time steps. The data and the data analyses are in the good range. Bibliography, tables, diagrams, and over all organization are adequate. The authors outline clearly the methods that they employ and what assumptions they make. However, there are some points that deserve further consideration:

1. It would be very useful to see a land use map, since the authors mentioned (page 8, line 8) the effect of land cover characteristics of dividing the catchment into two sub-catchments.
2. Bias analysis of the difference between observed rainfall and re-adjusted GSMaP MVK+ should be included.
3. The authors also need to note the connection between the output of this study and further hydrological studies in conjunction with climate change aspects. This should be made clear at least in the conclusions.
4. However, the authors must address the problem of the figures low resolution. The font sizes for the diagrams needs to be increased substantially before publication.
5. It would be better if Figure 3 includes a scale bar indicates altitude.
6. completely agree with the authors that the over and underestimations of GSMaP_MVK+ may be influenced by different factors. Could the authors determine the factors in their special case study?

Yours sincerely, Dr. Suhail Sharadqah

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