

## ***Interactive comment on “A Tri-Approach for Diagnosing Gridded Precipitation Datasets for Watershed Glacio-Hydrological Simulation in Mountain Regions” by Muhammad Shafeeque and Luo Yi***

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Dear Dr. Muhammad Ashraf,

Thank you very much for the positive assessment of the paper and suggestive comments. Your suggestions are very useful to improve the presentation of the paper.

Thank you for highlighting the effect of topography on precipitation distribution in the region. The correction factors for the adjusted observed precipitation are based on the elevational distribution and hydrological balance of the region (Dahri et al. 2018). The

C1

effect of elevation on the precipitation has been well demonstrated in previous studies (Immerzeel et al. 2015, Shafeeque et al. 2019). We will incorporate the important discussions to highlight further the effect of topography on precipitation and its role in classifying the hydrological behavior of the basin.

In the revised version of the paper, we will enhance the discussion section and better explain the corrections of each dataset. We will further explore the directions for future research in this regard.

Moreover, we will deepen the discussion to explore the suitability of different gridded precipitation datasets for the sub-catchments of UIB (Hunza, Shigar, Shyok, Astore, Gilgit, Shingo, Zaskar, and Upper Indus) in the Karakorum, Hindukush, and Himalaya for the selection of suitable one based on primary influential precipitation system (west-lies and monsoon).

References:

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Shafeeque, M., Luo, Y., Wang, X.L. and Sun, L. (2019) Revealing Vertical Distribution of Precipitation in the Glacierized Upper Indus Basin Based on Multiple Datasets. *Journal of Hydrometeorology* 20(12), 2291-2314.

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C2