

Interactive comment on “Prediction of future hydrological regimes in poorly gauged high altitude basins: the case study of the upper Indus, Pakistan”
by D. Bocchiola et al.

A. Castellarin (Editor)

All Reviewers acknowledge that this is an interesting paper that is relevant to the Special Issue on Catchment Classification and PUB, and I agree with this assessment. The study focuses on the prediction and analysis of future streamflows in the Shigar watershed at Shigar (size: ~7000 square km), located in the Hindu Kush, Karakoram and Himalaya region.

I believe that the Authors have adequately responded to the comments of the three Reviewers, and are encouraged to upload a revised manuscript for further consideration of publication in HESS.

We have now prepared a revised version, that will be available in short.

Furthermore, I would like to encourage the authors to address some of the main comments of Reviewers #1 and #2 in more detail. In particular:

1) a common concern of both reviews seems to be the selected time resolution (i.e., daily). The reasons for this selection are clearly reported in the Authors' Reply and need to be clearly presented also in the revised manuscript. References to previous study supporting this choice should also be included in the text;

As explained in interactive discussion with reviewers, the daily step is best suitable for description of hydrological cycle in snow and ice fed catchments, as snow and ice melt description requires daily temperatures. We stressed this in the revised version.

2) repeatability and reproducibility of the analysis is also a main concern. Although I perfectly understand the difficulties associated with the lack of data, I still believe that a (perhaps simplified) application of the proposed framework to another catchment in a neighboring region would tremendously enrich the paper, particularly in the PUB perspective.

Based upon our agreement for development of the Paprika project, we have access to meteo data only focusing upon the considered area, so we could not test our model in other regions of Karakoram. Also, glaciological data, utmost difficult to gather given the need for complex and demanding field surveys, are not available to us outside this area. So we can suggest use of our approach, or of a similar one, for those scientists having such data at hand.

Stressed in the discussion

Please, make each caption of Figures and Table as self-explaining as possible, specifically when acronyms are used (a common theme of all reviews).

We tried to comply with this requirement.

I sincerely hope that Authors will find reviewers' comments and suggestions useful while preparing the revised manuscript.

We tried to follow reviewers' suggestions whenever possible.

With warm regards, Attilio Castellarin.

Dear regards, The authors