

Dear Editor of ESD,

Thanks for your comments on our manuscript. We have made the required revisions to the manuscript according to your suggestions (see below). We hope that with these additions to the manuscript we have answer the comments of Referee #1 and the Editor and that the manuscript can be send out to the reviewers.

Yours sincerely,

Niko Wanders on behalf of all authors

1) You use "observation" and "station" synonymously. I think this is confusing

We agree with the Editor and adjusted this in the revised manuscript. *Stations* is now used for validation purposes and observations only when referring to satellites observations or historical observations in other studies.

2) Uncertainties inherent to the model are not yet described as recommended by Referee #1 and myself. Your argumentation that the model is comparable with other models and that a single model approach will not have a significant impact on the obtained results does not comply with the request. And further, I do not agree with your statement that "a single model approach will not have a significant impact on the obtained results".

As suggested by the Editor we have clarified our explanation in the discussion, Section Uncertainty. We have used to work of Prudhomme et al. (2014) to compare PCR-GLOBWB with the performance of other models and showed that the model is not an outlier among the ensemble of GHMs. We extended the discussion section of the manuscript (see revised manuscript, Page 21-22, section uncertainty) with a detailed discussion on uncertainties in the PCR-GLOBWB model and the impact of GCM biases.

Furthermore, we have emphasized that the objective of this study is not to have the most accurate simulations of future hydrological drought, but rather to study the impact of the threshold on the detection of future hydrological droughts.