

## Reply to the comments of both reviewers

We thank the reviewers for their positive evaluation of the revised version of our manuscript.

## Reply to review of reviewer 1 (report 2)

We thank the reviewer for his remark. In the following, the original reviewer comments are given in italic and all line numbers are provided for the revised version that was reviewed, and for the new updated version in brackets.

*- Spatial transferability of correction factors to nearby watersheds is a key part of the posed method, and I agree with the authors that directly transferring fine-grained quantile mapping based coefficients is unlikely to be a satisfactory approach (lines 98-101 in revised manuscript). The soft language of "may likely not" and "may not be valid" is fine for discounting the fine-grained QM transferability, but the article lacks stronger language supporting three-quantile transferability. (A) The bulk of the support seems to be lines 221-227 which refers to Section 3.1 (presumably for lines 363-372), wherein it sounds like the three-quantile method is correcting for biases in the atmospheric forcing dataset, where these biases are order 200 km in spatial scale, giving rise to the 200 km transferability radius. Is it the correct intuition backing transferability? Suggest to make this connection in the text if so. (B) If not, is there any other way to strengthen the transferability case? For ex, is there an experiment where you spatially transfer correction factors to /gauged/ rivers, such that you could compare gauged river data with the bias-corrected data and the spatially-transferred bias-corrected data?*

We added the following text in line 373 (372):

We also note the large-scale patterns of positive and negative discharge biases (Figure 5). Abrupt changes in bias behaviour along the same coastline are rare. Most of the few cases can be attributed to large human water abstractions from the river, i.e. especially for the Ebro River (see also Section 3.3) and in Turkey, which are not considered by the model. This supports our assumption about the spatial transferability of the three-quantile bias correction factors. The bias patterns are related to biases in the atmospheric forcing dataset or biases introduced by the HydroPy model.

In addition, we added the following sentence in line 689 (694) in the Summary and Conclusions Section 5.

... areas. The improved inflows to the sea basins, together with the fact that the discharge bias behaviour tends not to vary abruptly along the same coastline, underpin the validity of our transferability approach. Exceptions ...

*- Repeated text in line 476*

Repeated text in line 376 (381) has been removed.