

Reply to Reviewer 1

We thank the reviewer for his/her comments on our manuscript, which have further helped us to improve it. In the following, the original reviewer comments are given in italics and our point-by-point responses to the reviewer's comments in roman font with changes to the text put into quotation marks.

I have now read through the revised version of the manuscript. I want to thank the authors for addressing all my questions. I am satisfied with the paper as it stands and thus recommend publishing it. I have only two minor comments, which are outlined below.

1. In Table2, I would suggest the authors add some kind of relative metric to convey a sense of the magnitude of the errors relative to the 50-year return level (e.g., Bias/return_level).

We have added relative bias defined as the reviewer suggests to Table 2.

2. I am still a bit confused about how the authors calculate what they call "observed return level". Could you please clarify?

We have further clarified how the observed return level is estimated in the text as follows (lines 254–256):

“The observed 50-year return level has been estimated by first calculating the exceedance probability for the observed annual maxima based on Weibull plotting positions and then interpolating the estimated probabilities between the observed values.”

In addition, we also note that Weibull plotting position was not used in the previous manuscript version and the estimation was based on the default settings for *ppoints* function in R. This change has slightly modified the numerical values in Table 2 and Figs. 3, 4 and 7 and led to small changes in the text. However, the results and conclusion are essentially the same.