RESPONSE TO EDITOR COMMENTS

Throughout this response, the editor's text is presented in black, our response in blue, and the proposed revisions in green. Please also note that line numbers all refer to the revised version.

1.In my previous response I noted some minor grammatical errors in the responses provided. Please check these responses again as the errors (including the one explicitly mentioned) are still in the revised manuscript (see e.g. line 94/95).

Thank you for bringing the typing errors to our attention. We revised the manuscript to correct all the identified typing errors. In particular lines 94-95:

"To fit the Kosugi model and capture flow variability within the FDC, it is necessary to have daily discharge measurements over a sufficient period of time, e.g., more than 20 years."

Please let us know if you identify any outstanding typing errors and we'll be happy to correct them.

2. In response you also include in Fig 3 a climate perturbation of the FDC with a range of 19.5% - 20.5%. I understand that this is in the same range as the 20% decrease suggested by the Delta method, but why is the range so small? Would a larger range not approximate the FDC's sampled through the fitted Kosugi model?

We appreciate you bringing up the importance of providing an explanation for our choice of the range in Figure 3. Based on your suggestion we increased the range to 19 % - 21 % which is large enough to yield 12 different FDCs featuring a range of behaviours, demonstrating the added flexibility of our method.



Figure 3. Plot of the flow duration curves (FDCs) of the historical record (blue line) and sampled flow duration curves (grey lines) constructed by deriving the FDC parameters for the

Kosugi Model shown in Table 1. The figure also compares 20 % mean flow reductions, obtained either with the delta change method (uniform multiplier, dashed black line) and the 12 future scenarios we generated with mean flow reductions between 19 and 21 % (orange lines).

We also amended the accompanying text accordingly at lines 206-209

"Figure 3 showcases the versatility of our method and compares to the lack of flexibility provided by a uniform multiplier across the FDC of historical flows. For instance, a uniform 20 % reduction across the flow distribution (dotted black lines) provides a single possible future. For comparison, there are 12 scenarios from our ensemble generated with mean flow reductions ranging from 19 % to 21 % (orange lines), and they display a wide range of low and median flow behaviours, generally lower than the dotted black line, combined with higher high flows."

3. Though not a big issue, in fig 1 you show the workflow. The last step of this shows a figure to assess the robustness of the design. However, the figure you use to assess the robustness (fig. 4) follows the design of the FDC figures. That appears somewhat strange. Would it now make sense to include an inset of fig 4 in fig 1.

We appreciate your insightful input. Based on your suggestion we revised the last step of Figure 1



Please note that we also amended the Acknowledgements section.

Thank you again for your thoughtful comments on our manuscript.