

Interactive comment on “Climate uncertainty in flood protection planning” by Beatrice Dittes et al.

Beatrice Dittes et al.

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Please find detailed changes and remarks pertaining to the comments of referee #1 in the supplement. In addition, we would like to make the following general statement:

We have read the comments of the referees with interest. It is apparent that the research is welcomed, yet its presentation needs more clarity. We have used this opportunity to make significant changes to the manuscript based on the reviewer's comments. This was done by incorporating the individual comments – as detailed in the replies to the referees – as well as by doing a 'bird's eye' revision for clarity and coherence.

In the following, we address the two main points/themes raised in both reviews, and which are central to the understanding of our work.

C1

1) The context and the goals of our research were not sufficiently clear. This is evident from multiple comments made by both reviewers. Re-reading the original manuscript, this has become evident to us. Already the title was not sufficiently clear, and it is understandable that the reviewers partly expected something else than what we present. For this reason, we modify the title of manuscript to “Managing uncertainty in flood protection planning with climate projections”, to avoid the impression that the main goal of the paper is the quantification of the uncertainties, which seemed to have been the understanding of the reviewers. Instead, the paper should provide a methodology for dealing in a consistent manner with uncertainties in the context of engineering decision making on flood protection. We clarify these goals in various places of a revised manuscript, starting with an explicit statement in the abstract (“Specifically, we devise methodology to account for uncertainty associated with the use of discharge projections, ultimately leading to planning implications.”).

2) There was an unfortunate oversight on our part concerning the utilized Bayesian decision framework, which we proposed previously in (Dittes et al., 2017). That paper (which is still under review), was not available during the discussion, as was criticized by both reviewers. The paper can be downloaded here: era.bgu.tum.de/fileadmin/w00bkd/www/Papers/2017_Dittes_managing_uncertainty.pdf. The reviewers also asked for a more detailed description of the decision framework within the manuscript. We comply with this request by adding an extensive paragraph on the framework in the introduction. Furthermore, we add additional explanation in the case study, and re-phrase various sentences throughout the paper.

We believe that these changes, together with the multiple modifications done in response to the reviewer's detailed comments, improve clarity and will enhance the impact of the paper.

Sincerely,

Beatrice Dittes in the name of all co-authors.

C2

Please also note the supplement to this comment:

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2017-576/hess-2017-576-AC1-supplement.pdf>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2017-576>, 2017.