

Dear Dr. Hermans,

Thank for you for the comments and valuable feedback. Please find the attached document addressing each of your points and highlighting any corresponding modifications. We believe these changes greatly enhance the paper.

Regards,

Joshua Green on behalf of all authors

1) The authors mention that many studies project an increase in compound flood risk or changes in drivers of compound flooding implying increased flood risk. However, studies have also shown that in some regions the probability of compound flooding may decrease (e.g., in the Mediterranean), at least when excluding SLR. I think it would be good to mention this.

Yes, we agree that the current discussion on the influence of climate on compounding does not paint a full picture of the state of knowledge. Thus, we have substantially rewritten subsection 6.4. There is now further discussion on the considerations of climate nonstationarity and observed shifts in the seasonality of compounding and relative projected influence of individual drivers. Additionally, we address regions where compounding flood joint probability and driver dependence are projected to decrease.

2) Sorry for the shameless self-promotion, but I think it would be good to add that projections of changes in compound flooding are sensitive to internal variability and robust projections require large ensembles of climate model simulations (<https://doi.org/10.1029/2023EF004188>). This raises several issues such as how to efficiently translate climate model simulations to changes in compound flooding drivers and impact. In general, I think that robust projections of compound flooding are lacking and this should be reflected more strongly in the review.

Thank you for raising this topic. We agree that this is an important issue worthy of addressing in the review. We have now discussed findings from some of the existing studies on future compound flooding under climate change, as well as the uncertainty, errors, challenges, and limitations around climate model ensembles. We would very much like to include Hermans et al. 2024, however, as detailed in the Section 4 methodology, the synthesis and analysis component of the review only considers papers for the literature database up to the year 2022. To maintain a consistent methodology we won't be able to include this compound flood study in the analysis and literature database. We greatly appreciate your input and hope you understand our reasoning.