

## ***Interactive comment on “A consistent set of trans-basin floods in Germany between 1952–2002” by S. Uhlemann et al.***

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First of all we want to thank the reviewer for his/her valuable and thoughtful comments. Following, we will reply to each of the comments made.

Comment 1: This comprehensive and very interesting paper of high quality is rather long with about 25 pages. Maybe the authors could think about shortening the level of details in certain sections in favour of more understandability.

Reply: The paper is a methodology paper. It is intended to provide the community with the opportunity to adopt the method to other regions, other data or other preferences in flood identification. Therefore we consider the detail in the method chapter as well

C1189

as in the sensitivity analysis as necessary.

Comment 2: The structure of the paper is not always consistent. E.g. one could imagine shifting the chapter 5 "sensitivity analysis" close to the chapter on "Methods".

Reply: In this study, we have a clear preference in the choice of the parameters for identifying trans-basin floods. As it is argued in the methods (Chapter 3), these parameters are derived based on an analysis and understanding of the physical processes in flood genesis as well as on standard thresholds used in flood risk assessment. Therefore, we present our results (Chapter 4) solely for this parameter set. Chapter 5 is intended to provide guidelines to potential users of the event set who may have different preferences for the parameter setting or different data at hand. We highlight the robustness of the resulting event set towards changes in the threshold choices or the data. For these users it may be interesting to see which effects are to be expected by changing one or the other parameter or what combination of parameters provides reasonable results when using the method with different data. The chapter is therefore separated from the methodology chapter.

Comment 3: Similarly, in chapter 6 page 1516 lines 6 ff down to page 1517 line 24 could be shifted over there (or write some subheadings in chapter 6).

Reply: Chapter 6 is a discussion chapter. Our intention is to collect all discussion points and major conclusions of the previous chapters in this chapter. In this way we provide a concise overview to the reader.

Comment 4: page 1511, line 10: it really seems not to make much sense to calculate 50 years flood in a not stationary time series of 51 years.

Reply: Certainly, the uncertainties associated with the estimation of a 50year flood (and its associated discharge threshold) from a 51year time series are high. This is mentioned in this line. We hope this is sufficient to raise awareness to any potential user of the results of this paper or any user who is planning to adopt the methodology,

C1190

that there are limitations in the choice of parameters, e.g. in the choice of the POT-threshold.

Comment 5: please make the link from Tab 2 to Fig 4 and vice versa in the respective captions. Reply: We will do so.

Comment 6: Fig 4: for me it is not really clear the fragmentation into classes: it seems to be done depending on the fraction of L. But in Fig 4 the events are ranked depending on s. How this fits together?

Reply: The fragmentation into the severity classes is based on the spatial extent L. In Fig 4 we only give the approximate location of the class divisions. We will cross reference to Table 2 and then it should be clearer.

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