

Dear editor, dear referees,

Thanks once more for your additional helpful comments and corrections. We adjusted the final manuscript as follows.

Anonymous referee #2

237 “resulting” or “which resulted”

We corrected this typo (resulting).

314 I am glad to see “storm tide” defined now but it comes a bit late and is used several times before.

You are right. We moved the definition to the introduction (new line 47) where we use the expression for the first time.

Anonymous referee #3

It looks like there’s a definition of extreme, intense/high, and moderate events in the tracked changes version of the manuscript, but not in the clean submitted manuscript. This made it hard to interpret Table 1 (and left me wondering why line 175 was its own paragraph.) Please fix.

Thanks a lot for this important comment. This happened probably while accepting all changes in Word. We manually added the missing sentence.

I think the authors need to be clearer during the definition of extreme, moderate, and intense/high, that what falls into one of these categories magnitude-wise is not the same in the future. They address this near line 415, but I think this could be mentioned up front when defining the terminology. For example, line 491 “...as long as rainfall amounts and intensities will not exceed those represented by the climate projections, moderate rainfall alone – without any restriction in drainage capacity – is not expected to lead to large flooding... until the end of 21st century” is unclear whether the term “moderate” relates to the events in observations, near future, far future, etc., when moderate would range from <20 mm in observations and <40/50mm in the end of century model results (from what I could interpret the definition to be). I do think some definition based on magnitude would be easier to interpret than how the authors have chosen to define here but will leave it to them to decide.

Thanks for this critical comment. This is a general problem of classification approaches to non-stationary systems. A 100-runoff year event from the past will probably not be a 100-year event in the future if the climate changes. We define and apply our approach as a relative one, based on sorting the events according to their magnitude. Thus, an extreme event from the past could be only an intense event in the future. That’s correct. However, the advantage of our approach is that we can assess the contribution of events to the

magnitude of a compound event relative to the ensemble of the respective period. This would be affected by using a classification based on absolute values. Therefore we decided to keep our approach. To take your critique into account, we add a sentence on this at the end of chapter 2.3

As a reader from outside Germany, I think it would be helpful to have the definition of a water board introduced earlier – maybe when first mentioned in the introduction, rather than in Line 90.

We moved the definition of the water boards to the introduction as suggested.

Line 71: “Other analyses” a little vague. Other analyses of compound flooding?

Changed to “other climate change impact analyses”

Line 160: Any deviation? Or is it a positive deviation for water system overload.

Thanks for this specification. Yes, we talk about a positive deviation. We adjusted this expression.