EGUSPHERE-2023-3039
Response to reviewer # 2

The authors' clarifications have greatly improved the manuscript.

We are happy that the reviewer found the corrections and clarifications to have greatly improved the manuscript.

One further clarification suggestion is as follows: the authors note that socioeconomic variables (GDP per capita and population density) are included in the flood occurrence model because DFO flood entries are recorded only when significant damages or fatalities are reported. However, this seems to suggest the model predicts whether a flood event was recorded in the DFO, rather than all occurrences of flood events. It would be good to further clarify the rationale for including these variables in the context of a flood prediction model, and potential implications for future users of the model.

The model does not predict whether an event was recorded in the DFO. We rather use the DFO to determine historical flood occurrences and to calibrate various flood occurrence models. As a result, the presented flood occurrence models would predict a flood occurrence only if environmental and socioeconomic conditions are both favorable to impactful flooding. An overflow of water in a random location that yields no economic loss, disruption nor displacement is unlikely to be recorded in the DFO and would have very limited socioeconomic impact. This was the intent of the model from the beginning and this is how the model should be used.

As shown by the latexdiff file provided, we added clarifications in three different locations of the manuscript, that is the Introduction, early in Section 3.2 and in the Discussion and Conclusion.