

I would like to thank the authors for giving answer to all my concerns and for implementing many of the suggested corrections. In this new version, it is much clearer with which hydrological input the hydraulic models were run and there is now much less confusion about this part.

However, in his comments to the resubmission, the editor doubted the suitability of ‘risk perception’ used as replacement for ‘exceedance probability’. I share his doubts. The paper cited with context to risk perception (Paulsen et al., 2012) is maybe not the best choice, as this is about “the development of economic risk preference from childhood to adulthood” with a very economic focus and I would say that in flood risk management stakeholders or decision-makers would maybe not select a map that is described as ‘risk-seeking’ to initiate mitigation measures. From the view of a decision-maker, I should not have to define if I am risk-seeking, -neutral or –averse to select a suitable hazard map for initiating mitigation measures, instead I should receive maps that show what can potentially happen in an objective way. Of course the selected strategy then depends on the individual risk perception. There are other, to my opinion more suitable papers about risk perception with the context to flood risk management (see e.g. Botzen et al. 2009). The authors should have a closer look into the subject of risk perception in terms of flood risk management but I would also like to suggest two alternative ways for classification:

Either you go back to your first definition with high, average and low ‘exceedance probability’ which you anyway still use to explain the scenarios and name the maps in section 3.2 or you define the multi-model combination scenarios based on ‘severity’ (I = low severity, II = average severity, III = high severity). In both ways it can still be discussed that risk perception of the decision maker will then influence the choice of mitigation measures. I still find it problematic that the occurrence of the scenario with a high exceedance probability is – according to my interpretation – theoretically less probable than the occurrence of the scenario with low exceedance probability. Or in other words: just looking at the used M%-outputs in each scenario it’s more likely that the real scenario will exceed scenario I than to “fall below” scenario III. Therefore, although uncertainties of the forecast are considered, the method as presented rather provides underestimating hazard maps as rather low ensemble members (M%-hydrographs) are used. In general, the same is true if you classify by ‘severity’ but here you don’t explicitly make a statement about the probability. The table below should exemplify what to my opinion would be a “balanced” selection of M%-scenarios representing uncertainties in a more proper way. But I can imagine that changing this would maybe not be manageable and therefore I would suggest to use ‘severity’ for classification and maybe discuss the mentioned issue concerning the used probabilities.

Scenario	severity /exc. Prob	Building class			
		I	II	III	IV
I	low / high	10%	30%	50%	70%
II	average	20%	40%	60%	80%
III	high / low	30%	50%	70%	90%

I would also suggest to again proof read the paper and check the use of the correct numbers (see e.g. p. 6, line 15 -> “75%, 90%, and 95%”).

References:

Botzen, W. J. W., Aerts, J. C. J. H., & van den Bergh, J. C. J. M. (2009). Dependence of flood risk perceptions on socioeconomic and objective risk factors. *Water Resources Research*, 45(10), 113. <https://doi.org/10.1029/2009WR007743>