

Nat. Hazards Earth Syst. Sci. Discuss., author comment AC2
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Reply on RC1

Usman Khalil et al.

Author comment on "Investigating compound flooding by using hydrodynamic modelling under mesh resolution and future storm surge events in Brisbane River Estuary, Australia" by Usman Khalil et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-284-AC2>, 2022

Reviewer 1 Comments Reply

Criteria:

1) Scientific Significance Does the manuscript represent a substantial contribution to the understanding of natural hazards and their consequences (new concepts, ideas, methods, or data)?

The idea of the manuscript is interesting, and the datasets and methods used are appropriate.

Yes, the study has enough scientific merit for publication. It is not particularly original but is a useful case study.

Response: Thanks for your valuable comment.

2) Scientific Quality: Are the scientific and/or technical approaches and the applied methods valid? Are the results discussed in an appropriate and balanced way (clarity of concepts and discussion, consideration of related work, including appropriate references)?

The abstract is good, although a little editing would make it even better. The logic followed in the abstract and introduction is clear.

However, the methodology is poorly described. It is necessary to establish in Mike 21 model calibration how the different adjustment parameters influence the modeling conditions for each case in order to be able to perform traceability of results (you could add a table for each case). It is also necessary to incorporate the errors of the parameters as they influence the scales of the intervening processes.

The manuscript's results are presented in a way that allows the reader to draw their own conclusions.

Response: Thanks for your valuable comment. The abstract is reviewed and edited as per the reviewer's advice. We have gone through the whole manuscript again and have added several changes that will help in the clarification and in the understanding of the paper. The track change paper would be helpful to identify changes.

The Figure has illustrated that the refining mesh and changing Manning's n are two main parameters for refining the results. The following were added in lines 155 and 156 "The manning's n and mesh convergence were used for the calibration of the model and to study various model scenarios"

3) Presentation Quality: Are the scientific data, results and conclusions presented in a clear, concise, and well-structured way (number and quality of figures/tables, appropriate use of technical and English language, simplicity of the language)?

Possibly – the figures could be clarified and quality too, please standardize font sizes in graphics. The English language is clear...

Response: Thanks for your valuable comment. The figure's font sizes have been standardized and graphics are enhanced.