

Review of “Modelling the compound flood hydrodynamics under mesh convergence and future storm surge events in Brisbane River Estuary, Australia” (submitted to NHESS by Usman Khalil, Shuqing Yang, Muttucumaru Sivakumar, Keith Enever, Muhammad Zain Bin Riaz, Mariam Sajid)

The authors develop a Brisbane River estuary and Moreton Bay flood model for various flows events under converging mesh size. A simulation to assess the impact of compound riverine flooding and tides on water levels and analyze the future storm surge effect on flood extent.

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.

Excellent **Good** Fair Poor

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.

The manuscript is quite short. There is enough space for the authors to expand their introduction, methodology and conclusion considerably, with more discussion....

Excellent **Good** Fair Poor

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...

Excellent **Good** Fair Poor

The manuscript is accepted with minor corrections.