

## **Author Comments to Editor (Minor Revisions)**

**Minor Revisions on “Tidal flood area mapping fronts the climate change scenarios: case study in a tropical estuary of Brazilian semiarid” by Araújo et al. (nhess-2020-92).**

Dear Editor (Minor Revisions),

We do appreciate your constructive, thoughtful, careful, and helpful comments and suggestions. After careful discussions and analyses, we finished the preparation of responses to you. If there are any new comments or suggestions, please let us know.

In this document, we respond to the comments received point by point.

We hope to have finished this stage, and we are hopeful with the acceptance of this publication.

Best Regards,  
Paulo Victor N Araújo and coauthors

### **Response to Referee #2 Comments:**

=====

**Referee #2:** (1) An English native speaking revision is mandatory.

**Authors' reply:** We accepted and performed a substantial revision of the English language throughout the text of the manuscript with the support of an English-speaking professional.

**Referee #2:** (2) line 60: the introduction is well written and argued; I suggest the author consider to add a sentence to describe better the topic of the manuscript (e.g. the dataset used and what elements of this paper are innovative and should be evaluated by readers).

**Authors' reply:** We accepted and add in manuscript, in line 64: “This work has an innovative character, combining a robust data set in an integrated spatial analysis, and which must be evaluated by readers”.

**Referee #2:** (3) Line 68: in this manuscript, I found several problems related to incorrect use of the language; for this reason, I strongly recommend a revision by English native speaking. For example, I am not sure about the meaning of “rainy late to autumn”. I do not think that the reviewer's duty is the revision of the language of the manuscript, but I believe that a substantial revision is mandatory in this paper.

**Authors' reply:** We accepted and performed a substantial revision of the English language throughout the text of the manuscript with the support of an English-speaking professional. The cited expression has been corrected to (line 70): “rainy season in late autumn and early winter”.

**Referee #2:** (3) Line 110: in figure two, are mentioned several municipalities. I suggest the author add some information about the areas involved in tidal floods that are mentioned in this part of the manuscript. I suppose, for example, that the flooded areas are part of Porto de Mangué and Macau municipalities.

**Authors' reply:** We accepted and add in the text legend of figure (Figure 1): “The black dotted line represents the geopolitical boundaries of the municipalities that make up the study area”.

**Referee #2:** (4) Chapter 3.4: the description of adopted scenarios seems to be too synthetic; I suggest the authors revise the chapter and describe better the adopted dataset.

**Authors' reply:** We understand the suggestion, however we understand that the topic, despite being synthetic, is well understandable.

**Referee #2:** (5) Figure 6: it is not easy for readers to have an idea of the position of the city of Macau mentioned in the description of figure 6b and 7. Figure 6b: in the lower part of the image, there is the river (in black), but the river disappeared in the corner of the image that is red. I do not know if this is an error or some infrastructure covers the river.

**Authors' reply:** We don't agree. The vectorization of the river only extends to the meeting of the first bridge. Therefore, after the bridge, the color red is indicated.

**Referee #2:** (6) Figure caption: I suppose, as mentioned in the text, that the cemetery area cannot be flooded, according to the model; I think that this important result should be mentioned in the figure caption because this area does not belong to an extremely low flood hazard level but another (not mentioned) category.

**Authors' reply:** We don't agree. Precisely because the flood hazard area is not included, we understand that the area cannot be classified.

**Referee #2:** (6) Figure 7: I not sure that this image is important and representative.

**Authors' reply:** We understand that the image represented in Figure 7 represents a very important gain in understanding the problem.

**Referee #2:** (7) Line 295: “It is important to mention that the land on which the local cemetery is in the urban area of Macau is one of the few urban sectors in the city not to suffer from tidal flood scenarios.” This result is interesting, but I think that the description is too limited. I believe that readers want to know if the area is not affected by the presence of a local topographic effect or other elements.

**Authors' reply:** We accepted and add in manuscript, in line 299: “This result becomes extremely important for the future urban planning of the city of Macau”.

**Referee #2:** (8) Figure 9: I do not understand why this map is presented at the end of the paper. The map of land use is presented at the end of the paper, but it is mentioned for the first time in chapter 3.

**Authors' reply:** We took the logical sequence to the letter: understanding the hazard, understanding the vulnerability (result of the land use and cover map) and finally, understanding the risk.

**Referee #2:** (9) Lines 295 – 305: in ten lines, the authors mentioned three figures (9-10-11) without a real explanation of the obtained results. I do not think that figure 9 is really necessary at the end of this chapter and that, if the authors want to present it, they could do it before.

**Authors' reply:** We don't agree. We believe that figure 9 is extremely important and is placed under a logical sequence. We took the logical sequence to the letter: understanding the hazard, understanding the vulnerability (result of the land use and cover map) and finally, understanding the risk.

**Referee #2:** (10) An accurate description of the results proposed in figure 10 is missing. The sentence of line 304 cannot be considered acceptable.

**Authors' reply:** We accepted and add in manuscript, in line 304: "...ranking the of...".

**Referee #2:** (11) Chapter 4.3: this is the most important result of the paper, and the author described it in 5 lines!

**Authors' reply:** We accepted and performed a substantial add in the subtopic.

**Referee #2:** (12) As suggested in figure 10, this part of the manuscript should be explained better.

**Authors' reply:** We accepted and performed a substantial add in the subtopic.

=====