

Nat. Hazards Earth Syst. Sci. Discuss., author comment AC2  
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## Reply on RC2

José A. Álvarez-Gómez et al.

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Author comment on "Seismogenic potential and tsunami threat of the strike-slip Carboneras fault in the western Mediterranean from physics-based earthquake simulations" by José A. Álvarez-Gómez et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2022-186-AC2>, 2022

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### Comments by Julián García-Mayordomo, Geological Survey of Spain

#### Comments:

- A proper cite of the earthquake catalogue used in figure 1 (apart from IGN-UPM (2013)) is missing. You should also cite the paper of Cabañas et al., 2015 in which the homogenization process to  $M_w$  is explained. Additionally, it is important to know that the catalogue you are using in fig 1, apart from being homogenized in size to  $M_w$ , was also declustered (IGN-UPM, 2013).

*The reference and observation about declustering has been included in figure 1 caption.*

- Could you extend a bit more on explaining the earthquake ruptures simulation method? I know that a proper understanding would require the reader to go to the original source, but it would be good to show an equation (for example) in which the parameters are shown (a, b,...). If it is possible.

*More details on the formulation of the simulation has been added in lines 105-123.*

- I assume you are using the rate and state parameters provided in Herrero-Barbero et al(2022) after a testing process that was done in that paper, is that right? If so, could you make it explicit in the manuscript; otherwise it seems that the testing process was performed in the frame of this paper.

*We added a clarification in the text in lines 148-149.*

- I see that references cited in the body of the manuscript are ordered alphabetically. The authors should check if that is correct according to the journal format; as references are usually ordered in increasing year of publication.

*We have used the Copernicus bibliographic style for LaTeX provided by the journal. Nevertheless we will check the consistency of the references.*

- I have made few more comments and suggestions for improving clarity in some parts of the text and figures right on the pdf attached. Please, in case you cannot read them (done

with the adobe acrobat tool) get me back and I will pass them to you in a different format.

- I found some typos in the manuscript, also marked in the attached pdf.

*We have reviewed the minor comments and suggestions from the referee and most have been included in the manuscript.*