Comment on nhess-2022-121
Anonymous Referee #1

Referee comment on "Multi-hazard Analysis of Flood and Tsunamis on The Western Mediterranean Coast of Turkey" by Cuneyt Yavuz et al., Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2022-121-RC1, 2022

General comment:

In the manuscript (nhess-2022-121), the potential effects of tsunami and flood hazards to the residential region of the west part of the Mediterranean Sea are examined numerically. Multi-hazard analyses of flood and tsunami events are rare in the literature. Hence, the research is notable in terms of taking proper precautions against marine-caused natural hazards and ensure population safety. The methodology proposed in the manuscript has a potential to motivate researchers to conduct similar studies. The manuscript is well-organized and clear. The manuscript is of interest to NHESS Journal's readers. I believe that the manuscript will be much better if the points raised below are revised.

- Line 1: Combination of flood and tsunami hazards may not possible in general. Considering the flow of the manuscript content, a multi-hazard analysis of flood and tsunami definition is more proper than the definition of a combination of these two hazards. Please change the "combined hazard analysis" with "multi-hazard analysis" in the text.
- Line 48: Flood hazard can be defined as epistemic uncertainty as mentioned in the abstract. Please fix the definition of stochastic analysis of flood as epistemic uncertainty instead of aleatory variability.
- Line 49: Tsunami hazard can be defined as aleatory variability by focusing on the exceedance probabilities in the tsunami hazard curves. In the abstract, it is mentioned that statistical analysis of tsunamis is conducted as aleatory variability. Please change the sentence accordingly.
- Line 91: Statistical approach should also be aleatory variability for tsunamis.
- Line 107: hypocenter à hypocenter distance!
- Line 107: One of the reasons of dip angle assignment should be the width of the fault (W). Please explain the reason of assigning dip angles as mentioned in the text clearly.
to the hypothetical earthquake sources.
- Figure 7: The quality of Figure 7 should be improved.
- Figure 8: Please improve the resolution of the Figure.