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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Scenario based approach for multiple source Tsunami Hazard assessment for Sines, Portugal" *by* M. Wronna et al.

Anonymous Referee #1

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This manuscript presents their tsunami simulation results at a selected site in Portugal using scenario based approach. My major comments are on their presenting of results and discussion as detail shown below.

Major comments 1. I think another important result is the flow velocity which is not presented in your results. Flow velocity is strongly related to the force acting to buildings or moving of boats and containers in the port. Do you have any comments on this? Is it also possible to crate hazard map using flow velocity results? 2. As you selected DTHA for your study, is it possible to add some comments on how much DTHA can represent the results comparing with the PTHA? For example, if the simulated tsunami height at one port form your DTHA is 10 m, what should be the tsunami height in case of PTHA? This is to ensure that your selected scenarios are enough to create reliable

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hazard maps. 3. You have mentioned in many part of the manuscript that your study site has many critical facilities. Therefore, you better write some discussions on the risk to these facilities based on your simulation results. I think this can be one way to present your originality. Otherwise, your manuscript is not so different to other scenario based tsunami assessment papers published in recent years.

Specific comments 1. Title: You use “scenario based” in the title but in the rest of your manuscript use “deterministic”. I suggest to use the same word for the consistency. 2. Abstract: Please also add some of your major results in the abstract such as the estimated tsunami height and arrival time. 3. P4665 L8-30 Please refer these locations mentioned in these sentences using Figures. May be you may start mentioning about Figures 1-3 from here. 4. P4666 L3 There are many works done on PTHA in this area but why you selected to use DTHA? 5. P4666 L22 Start using subsection 2.1 study area and 2.2 digital elevation model from P4668 L12 6. P4670 L25 What is the maximum and minimum earthquake magnitude used in Omira et al. (2009)? 7. P4672 L11 Please draw a table summarizing general detail of the parameters and conditions used in the 18 cases. Also if possible, please draw one figure showing the fault areas. 8. Fig. 3: I suggest to modify the figure by locating the Gloria fault and the study site in the same figure. 9. Fig. 4: Just to make sure if these figures represent which results (MWH or MFD or MDB or MRU)? Because I do not think that each sub-figure such as a)CWF can represents all results

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