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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "The 22 December 2018 Mount Anak Krakatau Volcanogenic Tsunami on Sunda Strait Coasts, Indonesia: tsunami and damage characteristics" *by* Syamsidik et al.

Syamsidik et al.

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Dear Referee #1

We are delighted to receive your comments and suggestions to our paper. We take them seriously in our revised manuscript. We thank to your time to read and point out some necessary revisions in our paper. Now allow us to also respond to your comments as follows.

Comment No. 1: The paper describes the effects by the 22 December 2018 generated from the Mount Anak Krakatau. The research presents collected data and interview

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Discussion paper

carried out in the following days to the tsunami. The data are clearly reported but the readability of the paper could be improved in some point adding tables, figures and some clarification in the text. A revision of English is needed. Reply No. 1:

Thank you for your input and clarification. We have considered your comments and input and will include them in our revised manuscript.

Comment No. 2: At Page 2, Para 2: The surname of the author is Gravina, so the citation is Gravina et al., 2019

Reply No. 2: Thank you for your correction. We will revise it in the paragraph as well as in Reference section, as suggested.

Comment No. 3: Page 3 Line 20: This made it difficult to investigate the most southern part of Pandeglang. Along Banten, we investigated about 112 km of its coastlines. Not clear, please rephrase

Reply No. 3: The damaged caused by the tsunami on transportation lines made us difficult to reach the most southern part of tsunami affected area in Banten. In total, we managed to investigate about 112 km of the coastlines along the Banten Province. The same statement will be added in our revised manuscript.

Comment No. 4: Page 3 line 29: The description of the studied are is not very clear and should be improved. I suggest to resume the data about the two studied are in a table where the data from the two are could be reported

Reply No. 4: Thank you for your suggestions. All measured data from this investigation will be stored at separate data base containing all flow depths, damage houses, with coordinates and pictures. We aim to store them in the database to make this paper more concise and at the same time the data still can be accessible for everyone. We will improve them in our revised manuscript.

Comment No. 5: Page 4 Line 11: A similar method was used to measure impacts of the 29 September 2009 American Samoa tsunami and the 1946 Aleutian tsunami, the

2004 Indian Ocean tsunami in Banda Aceh (Borrero et al., 2006), and the 2018 Palu tsunami (Syamsidik et al., 2019a). Please rephrase this.

Reply No. 5: We will rephrase them as follows: Some previous tsunami impacts investigations also applied the same method to collect the flow depths, tsunami inundations, and building damages (see Borrero et al., 2006 and Syamsidik et al., 2019a).

Comment No. 6: Page 5 Line 16, please rephrase this statement: . . .... This allowed for comparison between cases in the 2004 Indian Ocean and 2018 Mount Anak Krakatau tsunamis.

Reply No. 6: Thank you for your suggestion. We will modify the statement as follows: This study compares the tsunami fragility curve produced based on the 2004 Indian Ocean tsunami study in Banda Aceh to the fragility curve composed based on the 2018 Sunda Strait tsunami as the type of the houses in both areas is similar.

Comment No. 7: Page 6 Caption of Fig. 2: It would be useful to have also a map with the position of the four tidal gauge station

Reply No. 7: The location of the tide gauge stations have been indicated in Fig. 1 (represented by green triangle symbols).

Comment No. 8: Page 7 Line 5: It would be useful to have more details about how the collected data were integrated with interview

Reply No. 8: In some case we did interview to local people about the condition before tsunami event to identify tsunami flow depths and boulder position before moved away by tsunami flow. As describe earlier that in Banten area there are many hotels and villas around the coast. During in field we interacted with the hotel owners or their employee where they were cleaning up debris around the affected hotel. We asked about the chronology of that evening tsunami such as time of the event, tsunami height, how many waves detected, if there any boulders we asked their original source. For the flow depth, after the witnesses' explanation we verified its depth by tsunami footprint

such as water mark on wall or scratch of bark of a tree around.

Comment No. 9: Page 19 Line 21: check this reference Teresita, G., Nicola, M., Luca, F., and Pierfrancesco, C., 2019. Tsunami risk perception along the Thyrrhenian coasts of Souther Italy: the case of Marsili volcano. Natural Hazards. https://doi.org/10.1007/s11069-019-03652-x.

Reply No. 9: Thank you for your suggestion. We will revise it as same as in the comment No. 2: Gravina, T., Nicola, M., Luca, F., and Pierfrancesco, C., 2019. Tsunami risk perception along the Thyrrhenian coasts of Souther Italy: the case of Marsili volcano. Natural Hazards. https://doi.org/10.1007/s11069-019-03652-x.

Comment No. 10: Page 23 Fig. 1: I suggest to add the square represented the studied area with different colors and add a legend with the name of the place included in each area

Reply No. 10: Thank you for suggestion, we will revise Fig. 1 as your advice

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