

Interactive comment on “Identification of storm surge vulnerable areas in the Philippines through the simulation of Typhoon Haiyan-induced storm surge levels over historical storm tracks” by J. P. Lapidez et al.

Anonymous Referee #1

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This manuscript is suitable for the aims of this special issue. It clearly presents a modelling study that has produced flood maps to guide coastal management in relation to emergency planning. In addition to the flood map results it should be concluded that a method is presented to assess national vulnerability, which may be used in other regions susceptible to typhoon impact. The paper is well structured and concise. I have a few suggestions for improvement below:

Can you comment on the severity of previous typhoons within the data set compared

C21

with Haiyan? How likely is a typhoon of Haiyan severity? Can you comment on the likelihood of the maximum storm surge occurring at tidal high water for this region?

P920, L7: “and” is required in the list

P921, ~L15: An initial figure is required to show the region and all the places mentioned in the text. Figure 3 could be used to show the locations.

P921, L1: “surging” is unnecessary before “flood”.

P921, L10: “enhancement of storm surge impacts”

P921, L15: PAR is defined later on L18. Define it here.

P921, L15: “make landfall”

P922, L12: “keeps an archive of the best data of the typhoon track.”

P923, L3-4: “This includes. . .” repetition.

P924, L7: “An explicit finite. . .” Merge this single sentence with the previous paragraph.

P924, L11: Is it onshore or alongshore winds due to the Ekman spiral?

P924, L13: “The model”

P925, L8: “with the worst-case storm tide levels”.

P925, L15: “priority sites, for the worst-case storm track.”

Validation section – again an initial figure (full size map) is required to show the location of the place you mention.

P926, L15: “A land cover. . . should also be. . .”

P927, L6: “potential to be impacted by high storm. . .”

P927, L13, Refer to the areas in a consistent order through and combine this single sentence with the previous paragraph.

C22

P927, L18: “the majority of”

P928, L6: “to a longer retention”

P928, L9: “to the greater inland extent of”

P928, L13: “volume to the flood extent when”

P928, L20: It would be interesting to see the transect profiles perpendicular to A-A' and C-C'. The abrupt step change in elevation of A-A' suggests the coastal flooding occurs from the other coastline forming this peninsula.

Conclusions - start with the fact a method is presented to assess coastal vulnerability across the Philippines.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 919, 2015.