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Review and rebuttal of the paper

Field Survey of 2021 Typhoon Rai –Odette- in the Philippines

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Editor handling the paper: Jeremy Bricker

The reviewers remain anonymous.

Reviewer A:

Recommendation: Revisions Required

Revision of the manuscript entitled: Field Survey of 2021 Typhoon Rai –Odette- in the Philippines.

This paper gathers and reports information collected after the impact of a strong Typhoon on local communities on several islands in the Philippines. I acknowledge the tremendous effort conducted by the authors to carry out this survey and the importance of these observations in remote and less-developed areas.

The authors would like to thank the reviewer for their time to review this manuscript and for the constructive comments provided. These are addressed below point-by-point.

Then, the authors tried to provide some explanations to better understand the course of the storm and how it impacted the locations throughout the survey area. In my opinion, it was not sufficient but I understand that this was not the first goal of this paper.

Indeed, as the reviewer indicates, this is not the main aim of the paper. Nevertheless, this was slightly expanded on in the introduction (a new paragraph and sentence were added, see below).

Affected communities in the Visayas endured about a month of power outage, which also disrupted potable water supply because of non-working pumping and water refilling stations. Yet, other areas suffered longer power outages. For example, more than half of the 500 typhoon-hit villages in Southern Leyte were still without power by February 2022 - nearly two months since the typhoon (Meniano 2022). Two towns in Bohol remain without power four months after the typhoon (Saavedra 2022).

Transportation services were also severely affected. Eight (8) airports and 139 seaports were reported to have suspended operations.

As this study focuses more on collecting data rather than actual scientific work, I suggest that all the collected information is stored and organized in an open repository. The sentence stated in the paper “All data collected is either included as attachments on this paper or will be freely distributed upon request.” does not seem sufficient. Therefore, I propose the authors make an attempt to have all the data freely accessible.

The authors understand why the reviewer makes such a comment. The problem is that much of the data collected was aerial photographs (as shown in some places in the manuscript). However, such data occupies many GB of data (which the authors are happy to distribute to anybody wanting them, but which by their size would be difficult to store freely on the internet without paying substantial monthly fees).

I also recommend that the manuscript is reviewed by native English because the writing is very weak and must be improved. After these two main issues the paper can be accepted for publication.

Apologies for the poor grammar in places. The manuscript was re-checked by one of the authors, a native speaker of English (who was indeed disappointed by his own lack of care in ensuring the first version of the manuscript was not written better).

Minor comments:

L10: Remove “of the country“. **Removed and rephrased.**

L8-11. Split the sentence and re-write the second half. **Done and rephrased.**

L8 16th of December. Check the rest of the manuscript. **Checked. Note that later dates talk about the generation of the typhoon and when it entered the area of responsibility of the Philippines.**

L29: Remove as. **Rephrased sentence.**

L31. Remove it. **Rephrased sentence.**

L40. Storm surge or storm tide. **Changed.**

L45. Replace aftermath. **Changed to “The damage by Typhoon Rai”**

L54 replace went on to cause by caused. **Changed.**

L56 a quarter of them. **Changed.**

L58. Select one name and be consistent along the entire text. Do not switch names. **Not too clear what the reviewer is trying to say here. Note that there is a difference between Cebu island (an island), Cebu province (including islands next to the main island) and Cebu City (the capital city of Cebu province).**

L61. brought about by must be replaced by due to the impact of strong waves. **Changed.**

L63 in losses. **Changed.**

L65, remove sucking in the sea water. **Deleted.**

L65-L75. This information is not relevant. **This paragraph was vastly summarized to delete unnecessary information and moved earlier in the introduction, to a place in which it makes more sense.**

L77. The goal of the study is not clearly defined. **L89-90 were moved to the introduction, as suggested below.**

L89. Remove the north. **Removed.**

L89.-90 It should be moved to the introduction. The goal must be expressed before explaining the methodology. **Moved to introduction.**

L97. In a survey, you report the maximum total water levels, which is a combination of tide + surge. Check all the manuscript and update accordingly. **See next comment.**

L100. Mean sea level? What is the datum? **This is a somewhat complicated question. A footnote was added to more clearly explain what was the datum, and why the authors chose to report on water levels in the way in which they did.**

The Cebu tidal station was established in the year 1935 (the second oldest in the Philippines, after the one in Manila, which was established in 1901). The tidal station undergoes annual releveling, and the level given is with respect to zero tide staff (the staff from which the levels are read has its bottom placed at a certain level, according to measurements of the tide). For the Cebu tidal station the MLWL = 1.044 m, MLW = 1.234 m, MSL = 1.768, MTL = 1.752, MHW = 2.286 m MHHW = 2.545. Overall, through time the readings at this tidal station have been consistent, and are only affected by local sea level rise (no significant ground subsidence or tectonic activity have affected them). Private communication with the Physical Oceanography Division of the National Mapping and Resource Information Authority (NAMRIA) of the Philippines.

L114. Figure 2? **Corrected, thanks.**

Table 1. How do you know if the type is runup, inundation, or splash? **This is based on observations of the local geography and interviews with local people. Generally speaking, runup is the height that the wave reaches on the side of a hill, which will (sometimes) be higher than the inundation at nearby buildings. Typically, run-up is measured at hills or other such features, inundation levels at buildings. Splash will sometimes happen when waves transport water past the edge of the run-up area (this often this can be seen as withering of the vegetation past debris lines which mark the end of the run-up, etc).**

L17. The total water level instead of storm surge. **Rephrased.**

brought about by Typhoon Rai in December 2021 brought. Rewrite **Rephrased.**

L5 indicate **Changed.**

Are minimized. **Changed.**

Reviewer B:

This manuscript describes an interested field survey study on storm surge heights due to Typhoon Rai in December 2021 along the islands of Cebu, Bohol and President Carlos P. Garcia Islands. The manuscript is properly structured and contains a useful introduction, a comprehensive description of the field survey, results and discussions, conclusions. I would recommend that the paper is accepted for publishing in JCRFR.

Recommendation: Accept Submission

The authors would like to thank the reviewer for their time to review this manuscript.