Natural Hazards
and Earth System
Sciences
Discussions

Interactive comment on "Rapid Assessment of Damaged Homes in the Florida Keys after Hurricane Irma" *by* Siyuan Xian et al.

Anonymous Referee #2

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I have now completed the review of the brief communication entitled: "Rapid Assessment of damaged Homes in the Florida Keys after Hurricane Irma". I believe that the paper should be accepted as a brief communication provided that some changes and improvements are made. In more detail:

1. The title of the brief communication is relevant but I would prefer the word "buildings" to homes".

2. The authors claim that they use "a statistical regression approach to quantify the contribution of specific vulnerability factors to the damage". I would suggest to change the phrase "specific vulnerability factors" to "predictors of damage state" which is the term you use later on (page 4).

3. There are some inconsistencies in the paper. The authors use the damage categories form FEMA (No/very limited damage; Minor damage; major damage; and Destroyed-page 3) however, when they describe the results they refer to classes such as "slightly and moderately damaged buildings". The damage classed should match the FEMA damage classes and the percentages would be better presented in a table. A bit more detail about the FEMA damage classes would also be helpful. How do you classify a building as "minor damage"?

4. A suggestion: figure 2a and 2b show damaged houses of the area. It would be better to show a damaged house of the area for each of the damage class.

5. Figure 3 would be more interesting if you would overlay the storm surge height map with the map of the damaged buildings.

6. Page 4, lines 74-76. It is not clear if the observed and the estimated storm are consistent. Please refer to this earlier in the text to make it clear. For example in page 2 (lines 48..) and 3 (lines 52-53) you are describing the wave heights but it is not clear if they are observed or estimated. An idea would be to move some information given to the figure caption of Figure 3 to the main text. In the following chapter, you say that the case study areas "experienced high water levels and wave heights indicated by hydrodynamic modeling". What about ground truthing? Why do you need hydrodynamic modelling when you have observed values anyway?

7. In the last page there are some very general statements (e.g. "many houses there (…) were designed to withstand hurricane hazards") which need more explanation. Which percentage of the buildings were designed to withstand hurricanes? What happened to them? The discussion about social and institutional issues is very interesting and it should be strengthened.

8. Please provide the source of information regarding the median annual income for Big Pine Key (page 5, line 95).

9. As a brief communication the papers is expected to be short and not to go into depth as far as literature review of similar events is concerned, however, conclusions and discussion should be of an adequate length. The paper describes the work being done following the landfall of the hurricane however, there are no conclusions to the paper supporting why this was important and what are the possible future developments? In which other way can you use the collected data? (e.g. correlation with income/material/adaptation measures?)