

Comments Anonymous Referee #2	Adaptions
<b>Major comments</b>	
<p>Three damage types are considered in the paper: building, road and crop damage, whereof building damage accounts for 90% of the overall losses (see p.7, line 2). First, the choice of these three damage types should be better justified in the paper, ideally on the basis of empirical loss data from Jamaica or other SIDS-countries so that the importance of these three damage types becomes clear and can be discussed later.</p> <p>Second, the sensitivity analysis should not only look at effects on the overall damage estimations, but also at effects on each of the three damage models, separately, in order to have a better understanding on the models' reaction and sensitivity. For this, the damage models used should be explained in more detail and model choices should be better justified.</p> <p>Finally, results should be presented and discussed per damage type and with regard to the initial research question and motivation, particularly the relevance for the analyses for Small Island Developing States (SIDS). For example, the transferability of your assumptions (e.g. 3 persons per household) and the models used (e.g. building damage based on Dutta et al 2003) should be discussed more critically. Actually, the sensitivity of the model to such assumptions should be investigated in the paper. For example, what would be the outcome if you assumed 2 or 4 people per household? A sensitivity analysis should answer such a question.</p>	<p>Thank you for expressing this concern. It is indeed true that the choice of the three types of damages is not justified in the paper. For this research, I've consulted a Multi-Hazard Risk Assessment performed for Annotto Bay by ODPEM, that also discusses the 2001-flood. In this report, the elements at risk were discussed and the three types that suffered most damage were buildings, agriculture and roads. (population also suffered, but is not taken into account in this study, since this is a pure economical damage study). I will clarify this in the paper and also add a few references of other studies that use the same types of damage models.</p> <p>The numbers for the effects on the separate damage models are available as intermediate result of the research, so I can add them to the text. Not all of them are interesting, but it is true that it will help in a better understanding of the sensitivity. In the methods section, I will explain each model more precisely and in the results section, I will clarify the effects on the result per damage type. Furthermore, I will clarify in the text that '3 persons per household' is not an assumption, but an average for the town of Annotto Bay, gathered from WRA. The damage functions of Dutta et al are chosen since there are many similarities between Jamaica and Japan when it comes to geography and building procedures. I will adapt the text to explain the choice of these functions. I will also add the results in the text of 2 or 4 people per household to show the effects on the overall result and to help explain that some numbers have to be known and cannot be estimated without knowledge of the region.</p>
<p>The benchmark scenario that is based on the inundation of the 2001-event and the best available data to estimate damage should be better justified and described. Ideally, it should be accompanied by an event description and official information on its impacts (physical damage and ideally financial losses per damage type as overall figure). In addition, the use of the best available data as benchmark is somehow contradictory to the findings of Apel et al. (2009), which are mentioned twice as a motivation for this study (p. 2, line 12/13 as well as line 26/27).</p>	<p>I will adapt the paper and add the numbers that we have on the actual event to help justify the choice of benchmark. However, not all information is available for the real event, so a complete justification cannot be added.</p> <p>I understand that you see it as contradictory to use the best available data with the findings of Apel et al, mentioned in the introduction. This research, however, is not a search to lower uncertainty of the output model, but a test to see which data has the highest influence on the result of the model, to test its sensitivity. Therefore, we chose to work with the best available data, as done before in many other studies, to then check if all input data is necessary to generate the same result. I agree that the research goal should be stated more clearly and I will adapt the text to clarify this. Of course, this does not mean that uncertainty is not important and in further research, this will be investigated.</p>



<p>The crop section (3.4) is not understandable. Provide more basic information on the agriculture in the investigated area and the damage models used.</p>	<p>I will add information on banana plants and on other crops, frequently grown in Jamaica. I will explain how the plants cope with water and how the damage functions are generated. This will help in clarifying the overall crop damage model.</p>
<p>Present the scenarios and the underlying data and assumption in a matrix table to provide a better overview of the different scenarios.</p>	<p>Thank you for this idea, it will help in clarifying the differences in scenarios. I will add this matrix to the general methodology.</p>
<p>The meaning of the metric “spatial difference” is unclear, in particular with regard to the comparison of different scenarios.</p>	<p>I understand the confusion since the spatial difference is calculated as a percentage. In the comparison with other scenarios, another percentage (the difference with S1) is then calculated. To avoid this confusion, the spatial difference will be calculated as an absolute number, and a formula with the exact calculation will be added to the text. Furthermore the percentage of difference with S1 will be added to the tables with the results of other scenarios, so the reader can immediately get an idea of the similarities between scenarios. This will not only be done for the spatial difference, but also for the total damaged area and the total damage cost.</p>
<p>Change model parameters/input data gradually so that the sensitivity of damage models becomes clearer (see above).</p>	<p>The parameters are not chosen randomly, but are seen as a form of input. Since this research aims to test the sensitivity of the model towards different types of input data, there was opted not to change the parameters gradually, but to use different types of input data and to change the level of detail of the available data. This is, however, a very interesting point of view in regards to further research and validating results of different study areas.</p>