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Editorial Board
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Re. Point by point reply to reviewers comments

Dear Editorial Board & Reviewers

Thank you once again for your suggestions for amendment of the revised version of the paper. We have made some quite substantial improvements in response to the call for a re-frame of the paper, and a revised version has been uploaded. A full description and justification of the major changes can be found under Reviewer Comment C2963, below.

Regarding some of the minor points, we have gone through and acted on all of these with only a few exceptions.

Reviewer Comment C2949

Regarding the call for more quantitative data to support certain conclusions, we emphasise our previous reply at the first review round: *The scenario planning exercise was a qualitative research tool. It was never designed to be evaluated quantitatively. Rather, the authors believe that the responses to the workshop and the changes in protocol/behaviour during and following the workshop provide an excellent evaluation of its effectiveness, and providing a quantitative output (if that was even possible) is unlikely to have been as valuable.* Further, questionnaires or formal interviews were not appropriate to evaluate effectiveness of communication strategies (and thus provide quantitative data). The level of public involvement, interest, and actions taken as a result provided this evidence. With regards to the assertion "It is unlikely that the islanders would have been as inclined to participate if the field seasons had been considerably shorter and personal interaction less", the researcher was told this in the field on several occasions. It is also well known that trust with scientists/researchers is built and fostered through longer-term interaction; particularly in small, tightly-knit communities when interaction with outsiders is uncommon. For the same reasons mentioned previously, it was not possible to gather quantitative data to support this statement. The assertion, however, has been amended to "It is possible.."

p.7781, line 8: an example of single study that integrate interdisciplinary approach to volcanic reduction could be cited (This has been altered – there are no known interdisciplinary studies to integrate volcanology, probabilistic techniques and social science methods in volcanic risk reduction)

p.7784, line 6: "up to 7.5 on the Richter scale". This assertion should be specified (magnitude scale, seismic design levels, ...) (An explanation of the Richter scale has been provided)

p.7784, lines 18-19: magnitude scale must be specified (This has been added)

p.7785, line 16: date of the "phases" must be précised (cf. note 5) (Dates of the phases have been added)

P. 7789, line 2: " a submarine vent in 2004" => "a submarine event in 2004" (Submarine vent is the correct volcanological terminology – the text does not refer to an event)

P.7789, line 15: it should be indicated that it is not the objective of the present study (This has been added)

[Type text]

P.7789, line 20: “kyr” => “ka” (This has been changed)

P.7790, note 4: specify “CM” = ? (CM has been expanded to Classical Model)

P.7793, line 19: specify “(n=264)” = ? (While this is a common way to express the number in a group, the text has been changed to “264 islanders”)

P.7802, line 8: “scenario planning exercise in February 2011” (The date of the exercise has been added)

P.7817, table 5: “Effects of volcanic activity [: :] on flora and fauna” (This is a typesetting issue that will be addressed in the NHESS paper)

Reviewer Comment C2963

Despite revisions made following the first round of reviews, it was still felt that the paper had too much content for one publication, and could either be split into four papers, or re-framed around the interdisciplinary approach rather than either the case study context, or the results of the component parts. We decided to work on re-framing the paper, and have worked very hard to condense certain sections and expand on the interdisciplinary approach taken. A summary of the main revisions (in reading order) are as follows:

- We have re-written parts of the abstract to reflect the re-framing and included more conclusions of the paper
- There have been small amendments to the introduction text
- The research design and methodologies section has been divided into two sections in order to highlight the research design in more depth. The first two paragraphs of this section have been largely re-written
- Small edits have been made to the research methods section with more significant edits to the fourth paragraph of that section. This paragraph now includes engagement and intervention methods which cropped up in Section 5 (now Section 6). It has been made clear here that the scenario planning exercise, which is used as a vehicle to integrate the diverse datasets, is the core of the paper. Therefore, Section 6 remains solely about the exercise, including a full description of the methods, results and analysis. The flow between sections 5 and 6 (was 4 and 5) is now much clearer.
- Section 4.3 has been edited heavily. As the reviewer commented, the section is very interesting, but the descriptive component far outweighed the analytical component. This subsection has therefore been condensed and only the information relating to the research and the argument has been retained. A subsequent paper will be prepared which presents this component of the research in more depth.
- The titles have been changed to section 6 and 6.1 for clarity
- In section 6.2 (was 5.2), the quotes have now been removed. It was suggested at first review to add these, but the authors felt that a summary of the discussions at the workshop, and the changes/actions decided upon provided enough detail for this particular paper. The paper is not about what was discussed at the scenario exercise per se, but rather about the success of the integration of the datasets using the exercise as a tool. As another paper is in preparation about scenario planning workshops/exercises in volcanic risk reduction more generally, this more detailed information will be retained for future publication.
- Section 7 (was 6) and the Conclusions section have been swapped around and edited to make the conclusions clearer and to offer more detailed reflections on the study and the wider implications for interdisciplinary research in this field.

The more specific points have almost all been addressed:

P7780 line 16: do you mean ‘uncertainty’ rather than ‘information’ (Yes, this has been amended)

P7781 line 7-8 – can you provide any specific references and what has been learnt from these examples that support this research? (This was quite a challenge! It seems there has yet to be any other research published that integrates such diverse datasets for the purpose of volcanic risk reduction. There are undoubtedly examples from other fields, but we did not wish to move away from VRR in this paper. Interdisciplinary research into VRR is currently underway and we should be awash with references in the not-to-distant-future)

P7781 line 26 – could delete ‘for choosing’ (amended)

P7784 line 14 – do you mean at risk from fire from lava flows? (This section has since been condensed therefore not in the final edit)

P7785 - text in the first paragraph could be condensed (This has been condensed)

[Type text]

P7789 line 15 – it may be useful to present the research findings before stating where more further details can be found. (This has been amended)

P7789-90 – hazards are not addressed specifically, but may be useful to address the types of hazards expected, for example pyroclastic flows from basaltic volcanic materials is probably not very common given its mineral structure and this could help identify some of the key most probable risks in terms of hazards faced by volcanic activity. (While this is a very valid point, section 4 has been edited significantly to reduce the amount of text. We felt that this additional detail was not necessary with the re-frame of the paper)

P7790 line 15 - may be useful to state what the 'Classical Model' is and who devised it. (This has been amended)

P7795 line 27 – may make more sense to start the new paragraph with 'Good communication'. (This section has been deleted from the text)

P7795 line 2 – what are the positive and negative impacts, could be more explicit here. (This section has been deleted from the text)

P7797 line 1 – what is meant by stocks of social capital? (An explanation of stocks of social capital has been provided earlier in the text)

P7797-p7798 lines 20-14 relates to methodological approaches (This section has been re-written. More of the scenario planning methods and other communication/intervention strategies have been moved to the research methods section (where they belong), but it has been emphasised earlier in the text that a full explanation of the methods and results from the scenario exercise will be discussed separately from the single disciplinary components.)

P7798 line 8 – use of 'implemented' instead of 'included'. (amended)

P7799 line 29 – would like to see further evidence here to support this statement. (Text amended)

I trust you will find that we have acknowledged all of the reviewers' comments in sufficient detail. We look forward to the progression of this submission to NHESS.

Yours sincerely,

A handwritten signature in black ink that reads "Anna Hicks". The signature is written in a cursive, flowing style.

Anna Hicks