

Interactive comment on “Evaluating quality of data collected by volunteers for first level inspection of hydraulic structures in mountain catchments” by V. J. Cortes Arevalo et al.

Anonymous Referee #2

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Review of the paper “Evaluating quality of data collected by volunteers for first level inspection of hydraulic structures in mountain catchments”, by Cortes Arevalo et al. submitted to NHESSD

The paper deals with the application of the philosophy of citizen science to improve the surveillance of hydraulic infrastructures in a specific mountain catchment of Friuli Venezia Giulia, Italy, thanks to the collaboration of some volunteers. This kind of approach has been developed recently with the idea of taking mutual benefit: the information recorded by citizens that collaborate in the project is useful to carry out the maintenance works by the management catchment authority, and the citizens increase

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their knowledge on the different elements and parameters that play an important role in flood prevention and flood consequences. In its turn, this last aspect also increases the flood risk awareness of the population. In this sense, the paper offers an interesting methodology that could help to develop the role of citizen scientist, and merits to be published.

The paper is supported in an updated and complete state of the art in the matter, that are also useful for those readers interested in the research and use of citizen-based approaches. The proposal methodology could be useful to be applied in other catchments or to be taken as departure point to propose similar pathways.

The main criticism is that the paper is too much long and, sometimes, it is not easy to follow its argument. The paper could be reduced if we would consider that not so detailed explanations about the different scores for different parameters are necessary (see mainly section 3), or authors could try to avoid some repetitions. I would recommend the authors a second lecture now, some weeks after submitting their paper: time is a good tool to improve the synthesis of the methodology and results, and distinguish those that is essential for the paper from those that could be useful in a technical report or PhD. work. In this sense I am going to propose some ideas and commenting the weaker points in the text.

Introduction, p. 3580, lines 10-21. This paragraph could be shortened because it is already explained in section 2. For instance, the sentence “Therefore...dams” (lines 16-17) could be deleted.

Section 2, p. 3581, lines 6-15. There is some confusion between the different groups of actors described. Please, clarify the profile or requisites imposed to be “selected” as citizen-volunteer. Degree of studies? Are all of them from Civil Protection, geosciences and social sciences students? Previous knowledge on the matter? Please, add more information about their age, sex and provenance distribution. Write here the total number of volunteers and technicians that participate in the exercise. How were distributed

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in the Control and Learning Groups (number and criteria)? What is the relationship between this distribution and this explained in page 3584, lines 17-26? I would recommend join this information and starting section 2 with the presentation of the “sample” of volunteers and technicians, criteria, statistics, distribution in different groups,.. Perhaps a table could be useful to synthesize all this kind of information. Table 2 should be moved here and the title of the table should be changed (it refers more to participants than data collection)

Section 2.1, p. 3582. Lines 26-27. It would be more interesting having an example of these four questions than the present example of A1, A2, A3 and A4.

Section 2.1, p. 3583. Lines 5-9. You speak about rating scales in different parts of the text and sections. You speak about 3-5, 2 or 5 classes, but it is not clear. To aid the reader it would be more useful to introduce here all the different classes in a table, and refer to them along the text.

Section 2.2, p.3584. Lines 5-26. Please, reduce and move these paragraphs referred to participants to the first subsection of section 2, as I have pointed before. Please, clarify the numerical distribution.

Section 3, p. 3585. Please, move paragraphs 1, 2 and 3 (until line 18) to section 2.1 where you introduce the rating scales. Before explaining the evaluation on the quality, you should introduce a short explanation about the methodology followed by the different groups to complete the experiment. As far as I understand pre-test means that volunteers fill the inspection forms looking at a poster. When you explain in the text that there are an inside and an outside experiment, you could clarify these aspects. How many field works have made any volunteer? One for structure? All the groups have analyzed all the selected structures? Some of this information is in table 2, but some questions should be clarified in the text (i.e. three optional dates? Is the Test outside and pre-test inside?

Section 3, p.3586. What is “mode-off”? Lines 15-24 are difficult to understand and

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you speak again about rating scales but they seem to be different from these explained previously. I insist in joining the criteria for rating scales and scores. Why there is not score 3?

Section 3.1 and 3.2, p. 3587-3588-3589. It is not necessary to do this detailed description. You could reduce considerably this part.

Section 4, p. 3590, l. 25-28. This information should be moved to the first part of section 2

Section 5, p. 3591-3594. It is too long and the most important aspects disappear between other non-relevant comments. There are some paragraphs (i.e. p. 3592, lines 5-12) that only provide a resume of the work explained in the previous sections and they are not necessary. The last paragraph of section 4 that refers to Table 5, should be moved to the discussion.

Minor changes P. 3578, line 10: “rating scales”

p. 3580, line 28: “we evaluate”

p. 3589, line 16. If the Learning Group is composed by technicians and volunteers, why you say that LG were more precise than volunteer groups? If you are comparing T with V, please, use the same kind of nomenclature, and the same for the following sentence.

Section 5, p. 3593, l. 27. The synthesis of the inspection is not a parameter.

Table 1, first column: in some occasions you end the sentence with a dot, in other ones with without anything, etc. Please, use the same criteria in all the column.

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