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Hydrology and Earth System Sciences
Discussions

Interactive comment on "The Value of Citizen Science for Flood Risk Reduction: Cost-benefit Analysis of a Citizen Observatory in the Brenta-Bacchiglione Catchment" *by* Michele Ferri et al.

Anonymous Referee #2

Received and published: 19 August 2020

General comments:

This publication by Ferri et al. discusses a cost-benefit analysis for citizen observatories based on a specific catchment in Italy. The content is relevant and will be a valuable addition to citizen science research. One of the current limitations of this paper is the lack of a broader context and the limited discussion. Questions that would be interesting to see addressed in the discussion section are: Why is it mostly the "social dimension of vulnerability" (L 354-355) that changes the calculations and not the additional data obtained through the CO? Is this additional data not helping to further

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improve the hydraulic model? What aspect of the “social dimension of vulnerability” do the authors contribute most of the reduction in costs to? This is slightly hinted at in the methods (L 357-362), but as one of the main messages in this paper this should be addressed more extensively in the discussion. A full discussion of the results and the broader context of the study would make the value of the publication clearer to the reader.

Specific comments:

- Overall there are too many abbreviations (e.g. L 214, 258, table 6, L 369, L 379). I was not able to find the definition of the abbreviation “EWS” (table 6).

- L 55-59: Not all of the cited literature actually refers to a CO and the description of at least some of the stated studies is not accurate.

- L97-100: How often do these observations get made and how many were collected in total? It would be very informative to include a photograph of such a “staff gauge with a QR code”.

- L 104: Did the volunteers operate the physical sensors? Or was this done by someone else?

- L 197 / table 1: It is not clear to me which of these data inputs are derived from citizen scientists and which are implemented anyway. Please make this distinction clearer so that the added value is more obvious.

- L 425: It would be helpful to add a range to this value, so as to show the associated uncertainty.

- L 430-432: Why do you think there is a difference, i.e. why is R3 and R4 reduced, but R1 and R2 increased? Add this to the discussion. Also table 9 does not show any areas, just damage, so the reference here probably refers to table 8?

- L 469: You mention that this method can be transferred to different catchments. It

would be interesting to read your thoughts on what type of catchments this would be suitable for, e.g. what catchment scale.

Technical corrections:

- L 92: 7th (th in superscript)

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