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**Manuscript Title:** Possibilistic response surfaces: incorporating fuzzy thresholds into bottom-up flood vulnerability analysis

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### Letter to reviewers

Dear Madam, dear Sir,

We are pleased to re-submit the manuscript entitled “Possibilistic response surfaces: incorporating fuzzy thresholds into bottom-up flood vulnerability analysis” for possible publication in HESS.

The thorough reviews provided to the previous version led us to substantially modify the paper. Given our clarifications on the research question and the scope of the proposed changes, HESS encouraged us to re-submit the new version instead of continuing the review process.

To allow the reader to trace back the steps that have led to this paper, we attach in supplementary materials the following documents:

- hess-2020-214.pdf: the previously submitted version of the manuscript.
- hess-2020-214-RC2-supplement.pdf: short comments from one of the reviewers added to the manuscript.
- hess-2020-214-AC1.pdf & hess-2020-214-AC2.pdf: the main comments from the previous reviewers and our responses. They bring clarifications about the initial approach; and explain our choice to streamline the paper and focus on one of the proposed methods.
- manuscript\_changes.pdf: a file tracking the changes between the previous version a: the newly submitted manuscript.

The newly submitted manuscript thus incorporates all the changes that we proposed in our answers to the reviewers’ comments. With one exception: we use a new instrumental set of operation rules that lead to partially different results, with possible effects on the decision process.

We thank you in advance for this new review and look forward to this new round of discussion.

Sincerely,

Thibaut Lachaut  
Dr. Amaury Tilmant