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Discussions

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Interactive comment on "Improving accuracy and quantifying uncertainty in flood loss estimations through the use of multi-model ensembles" *by* Rui Figueiredo et al.

Anonymous Referee #1

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The paper addresses an interesting research topic, evaluating the utility of using ensembles of multiple flood damage models to improve loss estimations and quantify the related uncertainties. The work is well structured and generally well presented. The analyses carried out provide good evidence of the benefits of using multi-model ensembles compared to the application of single damage models. I believe that the manuscript is worth of publication in NHESS, provided that Authors address a few issues.

Main points

- although the paper reads well, I believe that a better structure could improve its use-

fulness for the reader. In particular, most subsections of Section 3 include first a description of the work carried out, and then the results (e.g. Section 3.1 begins with the description of the methods used to build and evaluate the ensemble of models, followed by presentation and discussion of results) . I would suggest to separate the method descriptions from the presentation and discussion of results, putting them in different sections; this would improve the readibility of the paper and make easier the consultation.

- How did the Authors select the models for their work? The paper by Gerl et al (2016) reviews a larger number of models, so the Authors need to explain the criteria applied for their selection.

- An important point that I miss regards models availability. As a matter of fact, several flood damage models are hardly usable in practice, either because not accessible (e.g. commercial models), or because the publicly available information is incomplete and does not allow application (e.g. some research models). Are the models selected by the Authors freely accessible? This would be a major point to foster the use of multi-model ensembles as recommended by the Authors.

Minor points

- title of Section 3.3 is not much informative for the reader, please change it.

- Please indicate the measure unit in Tables 3 and 5.

- Table should be numbered according to the order of citation in the text.

- Descriptions at page 11, lines 12-30 are not completely clear to me (e.g. I did not understand what measure is used to build the rank histogram), could you please add some more details?