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Title: **Are OpenStreetMap building data useful for flood vulnerability modelling?**
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The objective of the paper is to evaluate whether numerical spatial measures derived from OSM building footprints provide useful information for the estimation of flood losses to residential buildings, and to understand whether the use of such data can improve the spatial transferability of flood damage models. Specifically, three research objectives are identified by the authors: i) to understand which building geometry related variables are useful to describe building vulnerability, ii) to learn predictive flood vulnerability models, and iii) to test and evaluate model transfer across regions.
To do this, they created a new data-set by combining empirical data from historical flood events in Germany and data derived from OSM. Random forest regression models (RFM) were then
learnt on OSM data, and compared with similar models learnt on a more comprehensive set of damage explicative variables, rather than by considering the water depth as the only explicative variable. The comparison was done for the whole set of data, and by using regional sub-sets for predicting flood losses in other regions.

The manuscript is overall well written and presented. Figures and tables are clear, and conclusions are drawn from results. I do not have specific comments. But, some general considerations that could improve the quality of the paper.

1) According to my understanding, authors reach a very important conclusion. In data-scarce regions, where no "local" information is available on building vulnerability, the use of OSM derived spatial measures to learn multi-variable models gives comparable performance to alternative multi-variables models (which use comprehensive and detailed information about preparedness, socio-economic status and other aspects of building vulnerability), and better performance than models based only on water depth. Second, although the use of OSM does not resolve at all the problem of transferability (i.e. models remain strongly context specific and can be transferred only to regions with similar building geometric features than the calibration one), it supports transferability, by guarantee consistency in input variables between the implementation and the derivation context. Such considerations are explicitly written in the abstract, but they are implicit/hidden in the text; on the contrary, they should be highlighted to improve the usability of paper results.
2) Given the high correlation among OSM derived spatial measures and the impossibility to rank the weight of such variables in shaping damage, the fact that OSM derived models perform similar than other MV models could be due, on the one hand, on the fact that spatial measures serve as proxy variables for other vulnerability parameters not considered by the model (as suggested by authors), but also on the fact that damage mostly depends on extensive variables, like area and perimeter, while the role of other variables (both geometric or socio-economic/technical) is negligible. From this perspective, it could be useful to evaluate also the performance of a model based only on three/two variables: water depth, area (and perimeter).

Minor comments:
- Could model uncertainty also be linked to differences in building geometries derived from present OSM data and building geometries at the time of the event?
- Table 2 and Table A1 do not help in understanding the meaning of the different spatial mesures. Meaning of extreme values should be included in Table 2, at least.