

***Interactive comment on* “Brief communication: simple-INSYDE, development of a new tool for flood damage evaluation from an existing synthetic model” by Marta Galliani et al.**

Anonymous Referee #1

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The manuscript describes a method for reducing complexity of a flood vulnerability model (INSYDE) by means of a sensitivity analysis. The result is a surrogate model that aims at enhancing the applicability of the model. The manuscript provides interesting results, also beyond the ones discussed. I would suggest to add a few sentences in the discussion section on the general added value of the paper (beyond the exclusive applicability in Italy), namely that complexity reduction or the development of surrogate models can be recommended without losing too much accuracy. This is especially the case, if not all of the independent variables are available as model input. Another suggestion is to add a reference to the dataset you mentioned in lines 87-88, the “real estate data of Northern Italy”.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2020-76>, 2020.

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