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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "A new approach to flood loss estimation and vulnerability assessment for historic buildings in England" *by* V. Stephenson and D. D'Ayala

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We as the authors gratefully acknowledge the comments posted by this referee, and for the references supplied. In response to the specific comments made we respond as follows:

With regards the title we have included the term "loss estimation" in reference to the wider aims of the paper in the field of flood risk assessment. However we agree that as there is no direct calculation of losses in this manuscript that this term could be removed, and the title further shortened.

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Interactive Discussion

Discussion Paper

Weighting of the parameters, and the difficulties associated with assigning weightings has been discussed in the paper, and the authors feel that at this time there is no new information to add to this discussion, based upon the continuing lack of anecdotal evidence of flood induced damage that could feed back into a vulnerability assessment. It is hoped that this will change in the future, but at this time an unbiased approach to vulnerability index design is felt best.

We are happy to agree that the discussion with regards number of storeys and the direction of increasing vulnerability remains subjective and open to change dependent on the design of the building being considered, flood parameters contributing to the vulnerability assessment and the region being studied. We will expand the discussion on this point in any revised manuscript if advised by the editors.

With regards the query over the use of log-normal distribution, we feel that having reviewed a number of possible functions used for vulnerability analysis that this best suits our data set. Having reviewed standard cumulative distributions, along with a number of power based distributions we found that the log-normal distribution provided the clearest fragility measure from the data. We would be happy to include this rationale in any revised manuscript if requested.

The authors acknowledge that the referee is correct with regards the f(x)=1 issue in Figure 3, this will be reviewed in the calculations and the figure amended accordingly.

We are happy to include additional images if requested highlighting the location of the case study sites, and will be reviewing our discussion of the listed status of the buildings, to provide more detailed information for international readers. In the original manuscript submitted Tables 2-4 and their respective photographs were indeed placed together, this was altered for the formatting of the online discussion paper, but we hope that in the final version they will be placed together again.

Best regard's

NHESSD

1, C2516–C2518, 2014

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 6025, 2013.

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1, C2516–C2518, 2014