

Interactive comment on “Construction of an Integrated Social Vulnerability Index in urban areas prone to flash flooding” by Estefania Aroca-Jimenez et al.

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Dear Editor,

I am submitting a revised copy (in the track-change-mode) of our manuscript "Construction of an Integrated Social Vulnerability Index in urban areas prone to flash flooding" (doi:10.5194/nhess-2016-408) by Aroca-Jimenez et al. We are very grateful to the reviewers for their helpful comments on our manuscript. We have addressed all the comments made by the reviewers. To facilitate the review, we have modified the manuscript highlighting in yellow the changes carried out. We have taken advantage of this new opportunity to improve text and figures as the reviewers and the editor have requested. In this regard, the concept of both vulnerability and all its components (i.e.

sensitivity, exposure and resilience) have been clarified. In addition, the inclusion of exposure in the Integrated Social Vulnerability Index has been clarified, adding a new reference for this purpose. As the reviewers recommended, we have simplified the Figure 2 in order to improve its understanding. We have also created a new subsection under the section 2 (i.e. "2.2.2 Database generation"). Moreover, we have explained better the concept of 'optimum number of clusters' at the results section, extending the information with regard to the BIC and the CAIC statistics. We have modified Figure 3 by adding the description of the variables in order to increase readers' friendliness as the reviewer suggested. To facilitate understanding of the results, we have added a new column to Table 2, indicating the vulnerability component to which each vulnerability factor belongs. Furthermore, we have modified the text of the section 4.3 ('Policy implications'), giving some practical examples of specific mitigation measures that can be suggested for each cluster of urban areas. Finally, conclusions have been amended to express clearer how the methodology proposed here constitutes an improvement on the state of the art and the extent to which the results may be included in flood risk management plans, as the reviewers have recommended.

We thank you for the opportunity to resubmit our manuscript to the journal Natural Hazards and Earth System Sciences and hope that it is now suitable for publication. We look forward to hearing from you at your earliest convenience.

Best regards,

Estefania.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2016-408/nhess-2016-408-AC7-supplement.pdf>

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., doi:10.5194/nhess-2016-408, 2017.