Natural Hazards
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Discussions

Interactive comment on "Approach for combining faults and area sources in seismic hazard assessment: Application in southeastern Spain" *by* Alicia Rivas-Medina et al.

Alicia Rivas-Medina et al.

alicrivas@udec.cl

Thank you for the numerous remarks. The changes that you propose are accurate and improve the paper considerably. All your suggestions are included in the manuscript. Here we answer to your questions English has been corrected by a native person in this version. Previous work is cited and referenced (more than 33 new references in the paper) - Seismic Moment Equation.: A reference and the equation of Hanks and Kanamori are included to facilitate understanding the issue - Equation 4: Two equations are included to explain how eq 4 (eq 8 in the new version) is obtained,. All terms are explained - Equation 10: Eq 10 is explained with more detail - Figure

captions: Figures are explained with more detail - Figure 5: We include this 3D view instead of a map to get an idea of the depth dimension of faults. A location map is included - Fault sources: An annex listing the data of faults and faults segments used is included - Ground Motion Prediction Equation: The comparison between the results obtained with both methods must be performed in terms of relative acceleration values because the absolute acceleration values are conditioned by the specific ground motion prediction equation used. To avoid the influence of the GMPE in both results, the same GMPE is used to apply both methods. However, it remains open the possibility of integrating several GMPE in a logic tree framework to capture the epistemic uncertainty related to path effects. At the same time, it could be included the site effect in the analysis to see if the different source models affect different soil types similarly or not, This paper focuses on the impact of source models in hazard results. The impact of other factors (site effects, GMPE) can be the subject of future studies. This is indicated in the Discussion section. - Discussion and Conclusion: The Discussion and Conclusion sections have been separated. The issue regarding the use of GMPE is tackled therein. - Results. : The cited sentences are moved to the Discussion section - References list.: The reference list is reviewed - Table 2. : Table 2 includes the values of the region, not of faults. Regions without values refer to regions (28, 29, 33 and 40) with no faults identified within their limits. Thus, the distribution of potential between faults and zone is not done in these regions. This is clarified in the table. - Table 3. : Table 3 shows the values of the catalog that will be used n the distribution of seismic potential. Zones with very low MmaxC value, do not present events with higher magnitude in the catalog (as in region 30). For the rest of the regions, it is included the maximum recorded magnitude equal or lower than MmaxC. Recall that this interval is only to make the distribution of seismic potential, but the higher magnitudes recorded historically are considered in the seismic hazard calculations up t the maximum expected magnitudes. Please also note the supplement to this comment: All these comments have been taken into account

Please also note the supplement to this comment: https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2018-28/nhess-2018-28-AC3-supplement.pdf

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