

## **Review: Risk-informed representative earthquake scenarios for Valparaíso and Viña del Mar, Chile**

RC1: 'Review of nness-2023-186', Anonymous Referee #1, 13 Mar 2024

The authors replied to all previous comments of this reviewer and have put substantial effort to address these comments in the improved manuscript. Overall, I am satisfied with the replies and the revised manuscript. I have one minor comment (see below), which addresses a single paragraph of the manuscript. Hence, I am happy to accept the article after these corrections.

Comment: In lines 474-484 of the revised manuscript, the authors make relatively bold statements on why the occurrence-based approach is superior to the exceedance-based approach for loss disaggregation. They claim that the occurrence-based approach is easier to communicate, because it leads to a scenario which is "representative of a loss that is exceeded on average once in  $t$  years". While it may be "representative" of such a loss, it is difficult to establish a connection with the return period, because this loss is exceeded, on average, every  $t$  years. Thus, the identified scenario is not representative of the losses which may materialize given such an exceedance (this would be better addressed by the exceedance-based approach). Both approaches have their advantages and disadvantages. The presented manuscript does not contain sufficient results and case studies that support the relatively strong statements in lines 474-484. Results for the main case-studies, for example, are only presented for the occurrence-based approach. Thus, I recommend that the authors carefully revise this paragraph. I believe that it warrants further studies to compare both approaches, such that one may give practice-oriented recommendations on which one to use.

We thank you for the positive feedback. We modified the paragraph accordingly:

*(...) which seems too convoluted to communicate effectively. We also have difficulties to conceive of a risk management activity for which such a definition would be more appropriate. However, we acknowledge that this discussion could benefit from additional comparisons of the two approaches in future studies.*

## **Review: Risk-informed representative earthquake scenarios for Valparaíso and Viña del Mar, Chile**

RC2: 'Comment on nhess-2023-186', Anonymous Referee #2, 29 Mar 2024

The revised version is acceptable in my opinion and has considered mine, and other Reviewer's comments in an appropriate way.

[We thank you for the positive feedback.](#)