

The paper is well written, and the changes implemented are in the direction of the comments of the previous reviewers. In general, the paper applies two Machine Learning methods (CART and RF) to produce a multi-hazard susceptibility map in the Region of Quang Nam (Vietnam) for floods and wildfires, overlaying the results to create an exposure map for buildings. It describes a robust methodology for spatial co-occurring multi-hazard susceptibility maps, from the creation of a geospatial database of historical wildfires and floods events to the choice of susceptibility factors and the training/testing of ML algorithms for single hazard susceptibility maps. The addition of a building exposure layers to the multi-hazard susceptibility maps is one step towards a multi-risk analysis that can be used to inform used to inform local communities and regulatory authorities. However, there are some aspects that still require some clarification:

#### Specific Comment 1:

The authors added insights on the limitations of the multi-hazard susceptibility mapping, clarifying that the focus of the paper is on spatially co-occurring hazards, and that it does not delve into the analysis of the dynamical interactions between the various hazards. However, it might be important to also discuss more about the choice of exposure layers, (as also stated by Reviewer 1, Comment 1 “*an assumption of constant exposure might be worth discussing*”). In particular, one important aspect in extending a multi-hazard to an analysis of risk for a specific asset (such as buildings) is the role of vulnerability, which is never mentioned in the paper. This is critical because, for example, the characteristics of buildings might make them more resilient towards one hazard, but more at risk for the second one. The choice of a constant exposure layer for both hazards should then be discussed, and potential limitations/future developments clearly stated.

#### Specific Comment 2:

There are multiple references to landslide susceptibility mapping, but the paper focuses (and trains ML models) only on wildfires and flood susceptibility mapping. In particular, Chapter 3.2.2 should be changed, to discuss the factors that are relevant for wildfires and floods (now only in the Supplementary material). Also, in Chapter 3.4 (“Experimental process”) there are some references to landslide susceptibility, which should be removed. If landslide susceptibility is to be discussed, it should be mentioned in the discussion chapter, as a possible extension.

#### Specific Comment 3:

The formula for GINI impurity (Line 218) is wrong: the factor is the sum of pairwise products of the probabilities for each class, thus the correct formula should be:

$$\sum_{i=1}^J P_i (1 - P_i) = \sum_{i=1}^J P_i - \sum_{i=1}^J P_i^2 = 1 - \sum_{i=1}^J P_i^2$$

Moreover, it could be useful for assessing the robustness of the hyperparameter tuning to know which was the range the range of the hyperparameters tested in the Cross Validation and not only the final selection (Table 1), either in the main chapter or in the supplementary materials.