

## ***Interactive comment on* “Choice of a wildfire risk system for eucalyptus plantation: a case study for FWI, FMA<sup>+</sup> and horus systems in Brazil” by Fernando Coelho Eugenio et al.**

### **Anonymous Referee #2**

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A review of: Choice of a wildfire risk system for eucalyptus plantation: a case study for FWI, FMA and horus systems in Brazil

Authors are using an extensive dataset of forest fire occurrence in Eucalyptus plantations from Brazil with the aim to compute a forest-fire risk index adapted to their study area. The paper presents some interest to local forest administration and private forest owners since the study area supports one of the most productive eucalyptus plantations worldwide and the necessity to prepare a well-adapted to local conditions forest fire risk prevention system is more than obvious here. Authors suggest that the best risk index for their study area should be chosen among the following 1. FWI 2. FMA+

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3. The RIF-database index. Then, they present an assessment of the potential of the above-mentioned indexes in predicting fire occurrence. Their assessment is based on the skill score index and the Percentage of Success (in predicting fire occurrence). In their results, authors state that the first index is the best for one subzone and the third index is proven the best for the rest (two) subzones.

Major concerns: 1. What are the reasons for not choosing other, well developed elsewhere, fire prediction indexes to be tested. 2. The third index (RIF) is not described in this paper, thus it can not be evaluated by this reviewer. According to authors, however, it was expected to be the index with the highest performance since it has been developed from local daily meteorological data. Notwithstanding, in their results, authors show that their index performs well in only two of the three subzones considered. This rather unexpected result is not explained or discussed. It generates the most important concern for this reviewer. Thus, it is not possible to conclude, what the best index is for this area nor is it possible to understand why a locally prepared index is worse than FWI. Thus the most important aim of this study is not addressed. Results are considered inconclusive.

Presentation quality: This is the weakest point of this submission. Indeed, as reviewer 1 suggests, authors fail to communicate effectively their aims, methods, and results. Some of the flaws observed are the following: 1. The introduction, seems a collection of seemingly unrelated information. 2. As reviewer 1 suggest, subzones are not presented 3. Variates N3 and N4 in line 202 are absent from the equations. 4. The skill score index based on a simple contingency table is not well presented. 5. A Table is missing: please note that Table 6, reported in line 350 is missing. In addition, it seems that this table is presenting some average values of an unknown to this reviewer assessment index.

However, points 1 to 5 are in fact only a sample of the flaws observed in the manuscript. This paper needs to be revised for clarity of presentation.

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2019-350>, 2019.

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