

Natural Hazards and Earth System Sciences.

Review Report

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“Global assessment and mapping of ecological vulnerability to wildfires.”

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The manuscript addresses a proposal for assessing global vulnerability to wildfires using ecological value and post-fire regeneration delay indices.

It is an interesting work that is undoubtedly timely, that addresses the disturbance that fires can cause in ecosystems through pre-existing variables, which could eventually support resource management and conservation policies. The work is well supported, well structured, and well presented.

HOWEVER, I FIND A FEW MINIMUM AREAS OF OPPORTUNITY.

#### GLOBAL COMMENTS

The variables and indices used are the results of studies independent of this work. Thus, they are not normalized in terms of spatial resolution, which could eventually mean a problem in the integrity and uniformity of the information representation.

By combining different variables of different nature and origin, it may be possible to apply a multicriteria analysis instead of a cross-tabulation.

#### DETAILED COMMENTS

1. In lines 17-18, the authors mention *“The results showed that global ecological value could be reduced by as much as 50%, due to fire perturbation of ecosystems that are poorly adapted to it.”* Consider rephrasing *“The results showed that global ecological value could be reduced by as much as 50% due to fire perturbation of poorly adapted ecosystems.”*
2. In table 1 (line 116), "Conservation State Index," would be better to use "Status" since Status is the precision of describing the situation while State is a general description... except for your best opinion.
3. Recommendation: Specify the resolution in meters (as is done for other spatial variables) for Burnable Area (Line 134).
4. The meaning of the phrase "Monotonous linear way..." is not understood (line 195)
5. (Lines 257-259) "These variables were multiplied by their weight (Table 3) and then added together to obtain the Conservation Status Index". It is not specified how the weight values are obtained.
6. (Line 281) "two cartographies" looks like it should be "two maps." or "ecoregions cartography"

7. In the integration of the adaptation of the vegetation to fire regimes, several variables were considered (lines 282-289). The integration of the categories (fire regime and natural condition fire) explained in these same lines seems not to be objective, but subjective, which could be different if a multicriteria analysis is applied.
8. The Biome area assessment developed (lines 393-424) analyzes land cover data with the vulnerability zones in different ranges resulting from this study. It is undoubtedly important for prospecting purposes; however, it would be necessary as a context and as a contrast of the results; have carried out an analysis of the historical information on fires in a recent period with the affected land covers; which would also lead to a discussion