Comment on nhess-2021-245

Anonymous Referee #1

Referee comment on "ProbFire: a probabilistic fire early warning system for Indonesia" by
Tadas Nikonovas et al., Nat. Hazards Earth Syst. Sci. Discuss.,
https://doi.org/10.5194/nhess-2021-245-RC1, 2021

general comments

To develop a probabilistic early fire warning system by utilizing climate and non-climate
information is very useful on the fire management in Indonesia. The early fire warning
systems can evaluate the potential economic benefit, which is highlights of the study.
Generally, the methods are reasonable and conclusion is reliable.

It is suggested to supplement how to determine the cost/loss ratio in the model?

Specific suggestions:

- Line 179: "total monthly prediction for the five preceding months", is it necessary to use the value of the previous five months? Is the three preceding months enough considered the long-term impact of precipitation (similar to DC in FWI)? The results also show that the longer prediction time, the lower reliability.
- Line 286: Fig S3, it is recommended to adjust its order according to the cited order in text.
- Line 299: "fire occurrence probabilities for 2006 were predicted and evaluated", was 2006 selected randomly?
- Line 300ï¼ "This resulted in 17 different realizations of the model all having different weights and biases"ï¼it'd better show the weights of the indexes in text.
- Line 359: formula (6) is not displayed correctly, "â□□ 2"?
- Line 375-390: "if the event is a 'peatland fire', and the action is' fire preventive measures', then loss would equal the total economic loss", it's better to explain the main preventive measures could be used in the region? How to determine the cost/loss ratio in the model? Did you get the ratios from fire statistics data? Do you calculate by subregion and land cover type?
- Line 442ï¼ "Figure 5: Same as Fig. 3" should be as fig 4.
- Line 449: "for West Kalimantan (Fig. 5d)", should be Fig 5f. However, the Fig 5e shows more obvious differences, which need to be explained.
- Line 510: Fig. S1, I suggest to put this figure in text. It is the only figure to show the

predicted results in spatial.
- Line 534: "Figure 9: Same as Fig. 8. but for prediction of active fires > 10 cases", I think the figures 8 and 9 can put together and just add the corresponding legend in upper.
- In conclusion: it's better to explain the specific application of the model. For example, if active fire > 10 is predicted in the next month or the next three months in a region, what specific measures can be taken in a region?
- Some words need to be checked and modified in format, such as"km2" on line 120, "t2m" on line 193, should be "km^2" and "t$_{2m}$".