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Interactive comment on “Sensitivity and evaluation of current fire risk and future projections due to climate change: the case study of Greece” by A. Karali et al.

A. Karali et al.

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We thank the reviewer for his comments. We are aware of the work by Dimitrakopoulos et al. (2011) which was not cited simply by oversight. In the amended version of our manuscript, this paper is appropriately cited. Dimitrakopoulos et al. defined fire danger classes using logistic regression based on the original thresholds applied for Canadian forests, using meteorological data for one meteorological station and for two fire seasons for the island of Crete. In our study, the goal is not to define FWI classes but critical thresholds based on real fire occurrence data for the Greek territory. For that reason, we used 13 meteorological stations throughout Greece for a 15 year period

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together with forest fire data from all available local Forest Services for the same period. Critical thresholds were then defined using correlations of FWI with real number of fires setting as critical FWI value the value that corresponds to 1 fire occurrence per day. This methodology is well documented in previous literature, hence we do not agree with the reviewer that our methodology is unsubstantiated. In particular, Good et al. (2008) used exactly the same methodology correlating the number of fire events with FWI values, in order to identify critical FWI thresholds for Greece and Italy. They also set the critical threshold for FWI to be 1 fire occurrence per day. Furthermore, it should be noted that our study is intended to provide FWI thresholds for users of climate models or meteorological station data that are generally available on a daily mean basis. Our target is not to provide exact FWI thresholds values using measurements at the fire location since such measurements are rarely available. Subsequently, such thresholds could not then be applied to climate model output, hence they would be of little usefulness.

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