

Interactive comment on “Precipitation dominates fire occurrence in Greece (1900–2010): its dual role in fuel build-up and dryness” by F. Xystrakis et al.

Anonymous Referee #3

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General comment

The manuscript is interesting, provides an innovative analysis and useful conclusions, and is suitable for publication.

Comments

Page 698, Lines 21-22: The following sentence requires additional explanation/clarification: “Time-series severely deviating from normal distribution were log transformed and the linear model was applied to the transformed values.”

Page 699, Line 6: It seems that the term “fire occurrence” is erroneously used here
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since you did not work with the number of fires but with burned areas.

Page 704, Lines 11-15: The conclusion drawn about extreme fires is not supported by the analysis. You can talk about the overall difficulty of the fire season which is reflected in the total burned area. High burned area does not necessarily come from one or two extreme fires.

In the discussion it should be mentioned that the length of the time series is the strong point of the data set but the existence of only one meteorological station introduces obvious limitations as there can be significant differences, especially in regard to precipitation from one part of the country to the other. Thus, some unexplained variation in the data is expected. It did not however hide the trends that were revealed through the analysis.

Technical and typographical corrections

Page 694, Line 14: Change to: “. . . coincide with large burnt area.”

Page 694, Line 17: Replace “fire spread” with “fire danger”

Page 694, Line 20: Change to: “Wildfires are considered as one of the major forces. . .”

Page 694, Line 22: Change to: “. . . where extremely large burned area (430 000 ha) were associated with extreme values. . .”

Page 697, Line 9: Change to: “This analysis aims to improve our understanding. . .”

Page 698, Line 17: Change to: “. . . are presently lacking or are abstract. . .”

Page 698, Lines 3-4 : Suggested change to: “. . . are responsible for the breaks in the time-series, which, as a result, covers 86 of the 117 yr between 1894 and 2010.”

Page 698, Line 6: Change to: “. . . during that period. . .”

Page 698, Line 6: Change to: “. . . so the values of total area burned became directly comparable. . .”

Page 698, Line 15: It is not clear how data were handled when only annual totals of precipitation were available. Obviously this should create time-series breaks in regard to the seasonal values.

Page 701, Line 21: Is the word “However” appropriate here? I think the meaning calls for “Similarly” instead of “However”

Page 702, Line 28: Change to: “. . . annual area burned due to fuel build up. . .”

Page 703, Line 5: Change to: “Koutsias et al. (2013), the development of Greece in this period”

Page 704, Line 25: Change to: “. . .during heat waves. However, . . .”

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