

Interactive comment on “Two thresholds determine climatic control of forest-fire size in Europe” by L. Loepfe et al.

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Received and published: 20 September 2012

Specific comment 1: We agree that the small scale variability in figure 5 can be caused by sparse station data. However, there is are still clear large-scale trends that should be considered; mainly the increase of fire season length in the Mediterranean and its decrease in Eastern Europe. We also agree about the variability in the accuracy of precipitation records across the vast territory considered in the study. This heterogeneity in the reliability of environmental variables is a common shortcoming appearing in many regional studies, particularly when they are field-based and depends on ground records. Nevertheless, the great amount of data contribute to statistically minimize this problem. We also agree that precipitation is a rough estimation of available fuel, based on the well recognized relationship between this variable and biomass. However it is

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not easy to find another proxy of fuel amount at the scale of the study: vegetation models usually just describe vegetation types without reference to physical properties of vegetation, and forest inventories are not available for the whole territory – for instance, they often are restricted to forested areas, while fires also occur in other habitats- and for the considered scale. So, the associated degree of source variability will probably be even greater than for precipitation-. Shortly, we accept the problems to use precipitation as a proxy of fuel load, but at the scale of the study we consider it a reasonable compromise between available information and reliability of the proxy assumption.

Specific comment 2: Figure 2 shows that all DC values below approximately 1000 are very frequent. Sampling frequency problems occur rather at high DC values. In that sense the decay of fire size for high DC values is likely to be an statistical artefact, as noticed in the manuscript. In any case, we totally agree that the drop in fire size between DC values of 200 and 400 should not be over-emphasised. Our interpretation is rather that all days with a DC values below approximately 620 have a similarly low probability to suffer from large fires.

Interactive comment on Biogeosciences Discuss., 9, 9065, 2012.

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