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Increasing late winter-early spring fire activity in Northern Spain: climate change or human footprint?

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Most of the fire activity across Spain concentrates during the summer months, but a secondary peak appears also during late winter and early spring (February and March). This peak represents a tiny fraction of the burned surface but in northern Spain becomes the main fire season, representing up to 60 % of the total burned surface. Moreover, the impact of this “unseasonal” fire regime is becoming more relevant; an analysis of the temporal evolution of the burned surface since 2005 shows that the suppression efforts of summer forest fires have apparently succeeded, while the opposite has occurred with late winter-early spring forest fires. For example, during March 2012 more than 22,000 ha were burned in the Spanish provinces of Asturias and Cantabria, while about 14,000 suffers the effects of fires in Northern Portugal. Anthropogenic factor (mostly linked to an extensive cattle farming in the mountains) are the main cause of such fire activity, but atmospheric factors also play a relevant role in the spread of this fires. Consequently, the main aim of this poster is to explore if the recent evolution of forest fires in the study area are consequence of an aggravation of the atmospheric conditions driving to more fire risk conditions, or other factor could also explain the increase in fire activity.

Burned surface data obtained from official statistics since 1971 were compared with atmospheric data at two temporal scales: daily fire risk values calculated from synoptic records and long term drought indices (SPI and SPEI).

The results show a long term increase in both daily fire risk and drought conditions, but this trend can be related to the background warming of the area, rather to an increase in the frequency and magnitude of the extreme fire weather events. Thus, we consider that the regional atmospheric evolution cannot explain by itself the recent increase in late winter-early spring fire activity. Additional anthropogenic factors, such as recent changes in various socioeconomic circumstances of mountain communities or the possible effects of the CAP are discussed.