

Weather and Climate Extremes and their Predictability CAFE Final Conference

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Forest fires prevention in Catalonia: from daily to seasonal forecasting

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The objective of this contribution is to show how forecasts based on statistical methods developed by the GAMA team of the University of Barcelona have been a very important aid for decision-making by the Forest Fire Prevention Service of Catalonia (SPIF). Since the beginning of this collaboration in 2004, the GAMA team is collaborating with SPIF to improve these forecasts also in view of future challenges in the context of global changes. Throughout this collaboration a better understanding of the fire trends and their drivers has been achieved, with the outcome that climate-fire prediction models have been considerably improved.

The presentation will show the main milestones achieved and the methodologies followed. To this aim, it is divided into four main parts. The first one deals with the use of the method of analogs for the daily prediction of the danger of forest fires. The second focuses on the treatment of the database containing the number of forest fires and the burned area, with the aim of distinguishing and modeling the climatic and non-climatic mechanisms that are behind the temporal evolution of forest fires (regarding its number and burned area). The third describes the logistic regression model for seasonal prediction. Finally, the fourth explore possible teleconnections and climatic patterns on a planetary scale that could explain the differences between rich-fire periods and poor-fire periods.