Spatial variability of wildfire causes in French Eastern Mediterranean regions
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INTRODUCTION

The study of wildfire’s causes and ignition patterns is essential for designing effective wildfire risk reduction measures and mitigating related impacts on the ecosystem and livelihoods. In the Mediterranean area, wildfire causes are mainly directly or indirectly linked to human activities with causes underlying the ignition pattern varying across socioeconomic and environmental factors.

METHODS

In this work, within the framework of the Italy-France Maritime MED-Star project, we used data from the Promethee database to investigated the spatial variability and the incidence rate of different wildfires causes in the French Eastern Mediterranean regions PACA (Provence-Alpes-Cote d’Azur) and Corse. For each administrative unit of the European NUTS3 level, the incidence rate of the different wildfires causes was identified.

French wildfire causes scheme adopts three hierarchical levels of causes. The first level defines the generic causes of the fire, i.e. natural - accidental - deliberate - negligence. Fundamental to understanding the motivation underlying the forest fire ignition, the second and third levels identify the cause more precisely.

RESULTS & CONCLUSION

Within the same territorial context wildfire causes are not spatially uniform but are often aggregated in spatial and temporal clusters, increasing the variability of wildfire ignition patterns even within the same administrative unit. This work allowed to demonstrate and describe the strong spatial variability of the wildfires causes, providing a basis for further follow-up studies on wildfires ignition patterns and supporting territory-specific policies for better contrasting wildfires ignitions.

![Picture 1](annual comparison of the PACA and Corsica Region’s database. Three hierarchic levels of causes)

![Picture 2](annual trend of the PACA and Corsica Region’s database. Compared to the total of ignitions, the number of records with at least a cause of any level is highlighted with the blue line)

![Picture 4](negligence fires causes in Promethee database. Percentage incidence of negligence ignitions identified at least with second and third level cause on the total of ignitions with second level identified causes, for each district in PACA and Corsica regions)

![Picture 5](monthly variability of the number of ignitions (all known and unknown causes) for each district in the PACA and Corsica regions)