

Socioeconomic factors at the base of wildfire risk in peri-urban contexts: the Mediterranean experience, comparing Italy, Spain and Greece

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Abstract

Understanding the role of wildfire drivers is essential to implement more effective prevention strategies at the regional scale and to promote specific mitigation actions at the local scale. By considering the population distribution as the elementary analysis domain, the present study investigates the spatial distribution of wildfires in the Mediterranean biome.

A Mediterranean fire-prone area with variable climate regimes, heterogeneous landscapes and increasing human pressure. Assuming that a denser road network increases the probability of wildfire occurrence, results of a quantitative analysis exploring the relationship between spatial location of ignition points and roads were presented. The empirical findings of this study contribute to ascertaining the role of roads, urban areas, urbanization and citizen's behaviour as a direct (or indirect) cause of wildfires in the Mediterranean region. Forest fires are a worldwide issue today due to land use changes and climate change. We review the Socioeconomic factors that affect the evolution of forest fires in the Mediterranean. The critical issue for forest fire evolution is the urban and periurban areas such as the impact of roads at the base of wildfire risk in peri-urban contexts: the Mediterranean experience, comparing Italy, Spain and Greece

Keywords: Indicators; Human activity; Land-use; Spatial analysis; Mediterranean basin

References

Cerdà, A. Changes in overland flow and infiltration after a rangeland fire in a Mediterranean scrubland. *Hydrol. Process.* 1998, 12, 1031-1042. Doerr, S.; Shakesby, R.; Walsh, R.; Doerr, S. Soil water repellency: Its causes, characteristics and hydro-geomorphological significance. *Earth-Sci.*

Rev. 2000, 51, 33-65. Keesstra, S.; Wittenberg, L.; Maroulis, J.; Sambalino, F.; Malkinson, D.; Cerdà, A.; Pereira, P. The influence of fire history, plant species and post-fire management on soil water repellency in a Mediterranean catchment: The Mount Carmel range, Israel. *Catena* 2017, 149, 857-866. Salvati, L. Agro-forest landscape and the 'fringe' city: A multivariate assessment of land-use changes in a sprawling region and implications for planning. *Sci. Total Environ.* 2014, 490, 715-723. Salvati, L.; Zitti, M.; Perini, L. Fifty years on: Long-term patterns of land sensitivity to desertification in Italy. *Land. Degrad. Dev.* 2016, 27, 97-107

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