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Wildfire and shallows landslides: a first statistical description in Liguria (North-West Italy)

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Rainfall-induced shallow landslides characterize most of the geomorphological phenomena occurred in Liguria (North West Italy) in the last decades: high frequency is observed between the beginning of October and the end of April, reasonably correlated with the seasonal rainfall regime. Over the years, in national and international scientific papers, the thickness of the debris cover, the poor geotechnical characteristics of the soil, the sparse forest and shrub areas, the runoff water erosion along the slope surface were identified as landslide causal factors. However, an aspect that does not seem to be considered in Liguria Region is the causal relationship between wildfires and surface landslides. The wildfire determines a series of physical and chemical changes on the slope surface, first of all the wood and shrub cover reduction. The rapid change in land use determines an increase in the run-off and a consequent soil erosion evolving into landslides. This research aims to create a first basic statistics at regional scale among landslides and wildfire, crossing different databases and inventories, estimating a trend line both in the spatial and in the temporal domain.