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Fire regime characterization in Mediterranean ecosystems of Southern Italy

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This paper addresses the wildfire regime in Mediterranean ecosystems of Southern Italy. Fire regimes refer to average fire conditions (including fire size, fire density, fire frequency, fire seasonality, fire intensity, fire severity, fire thresholds, etc.) occurring over a long period of time. Information on spatial pattern of forest fire locations is a key point in the study of the dynamics of fire disturbance, and allows us to improve the knowledge of past and current role of fire. Historical evidence clearly shows what did happen and this can fruitfully help to understand what is happening and what could happen in the next future.
Mapping fire regimes is very challenging, because fire ocurrence features are the expression of the interactions between climate, fire, vegetation, topography, social factors.
The main objective of this work is to provide a comprehensive characterization of the fire regime in Italy based on a recently updated national wildfire database.
Fire data were obtained from the Italian National Forestry Service. This national database is comprised of information contained in individual fire reports completed for every fire that occurs on public lands in the Italian peninsula. Complete data were only available for 1996–2006 at the time we accessed the database, which determined the years we analysed. The primary fire history variables that we reported were number of fires, area burned, burning time and duration, and fire size (average size of individual fires)
The wildfire records (wildfire area, location, time, vegetation) were analysed with other environmental (fuel availability and type), topographic features, and meteorological/climatological data.
Results of our analysis could help better understand the different factors on the wildfire regime in Mediterranean ecosystems of Southern Italy.