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An analysis on Wildland Urban Interface in North Sardinia

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Climate variability and drought, typical of the Mediterranean climate, together with different anthropogenic disturbances (modifications of land use, deforestation, grazing, forest fires, etc.) makes the Mediterranean basin ecosystems extremely sensitive and vulnerable.
In the last three decades, an increasing number of fires threatening the wildland urban interface (WUI) was observed. In Sardinia, this phenomenon is particularly evident in tourist and coastal areas where a large number of resorts is built within and surrounded by Mediterranean vegetation that is highly prone to events of wildfire. In these situations, the related risk of damage for villages, tourist resorts, other human activities and people is elevated especially in summer when the presence of human people is highest and meteorological conditions are extreme. In addition, fire can have significant effect on the hydrological response of the WUI causing the intensification of the erosive processes.
Therefore, the development of planning policies is required in order to implement strategies to prevent and reduce wildfire and soil erosion risk in wildland urban interface areas.
The main aims of this work are i) to assess presence and characteristics of wildland urban interface in a touristic areas of North Sardinia and ii) to evaluate fire danger and soil erosion risk in the studied area.
The study was carried out in a coastal area located in North Sardinia, characterized by strong touristic development in the last thirty years. In that area, the characterization and mapping of the WUI were performed. In addition several simulation were carried out by the Farsite fire area simulator with the aim to study the spatial pattern of the fire danger factors in the vegetated areas closer to the WUI. Finally, maps of soil erosion were produced for the identification of the areas at high erosion risk in the WUI.
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