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[Abstract proposal]

Fire regime as a driver of resilience, functional diversity and ecosystem services in Mediterranean mountains

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Mountain areas in Portugal are usually defined as territories with rough morphology, low demographic densities, and peculiar agrarian systems based on cattle raising and husbandry. The use of fire has been a common management practice in traditional land use, mainly to control vegetation encroachment and to promote pasturelands. Therefore, historically fire has been a strong driver of vegetation patterns, soil properties and ecosystem services throughout Iberian mountains. Recently, however, a generalized tendency for abandonment of agriculture and pastoralism is promoting vegetation recovery and changes in fire regimes, driving a shift from small fires in recurrently burnt areas to energetic and largely unpredictable wildfires.

We present results from studies of ecosystem resilience and vegetation dynamics driven by fire regimes, discussing their connection to the provision of ecosystem services. We report strong effects of fire recurrence, distance to the latest wildfire, and geology on scrubland resilience, with potential implications for regulating services. We also evaluated the resistance and resilience of young deciduous forests to fire disturbance and its implications for supporting services. Overall, our results support the idea that fire regime is a major driver of functional diversity in Mediterranean mountains and suggest that land abandonment and related shifts in fire regimes promote unpredictability in the spatiotemporal patterns of several ecosystem services. Finally, we discuss response options for managing changing mountain landscapes.