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Fire impacts on European Boreal soils: A review

Paulo Pereira (1), Marc Oliva (2), and Artemi Cerda (3)

(1) Mykolas Romeris University, Environmental Management Centre, Vilnius, Lithuania (paulo@mruni.eu), (2) University of Lisbon, Institute of Geography and Spatial Planning (IGOT), Centre for Geographical Studies, Lisboa , Portugal, (3) Department of Geography. University of Valencia. Blasco Ibañez, 28. 46010-Valencia, Spain.

Fire is an important natural disturbance in boreal ecosystems, fundamental to understand plant distribution (Ryan, 2002; Wallenius et al., 2004; Granstrom, 2001). Nevertheless, nowadays the intense and successful, fire suppression measures are changing their ecological role (Pereira et al., 2013a,b). This is consequence of the lack of understanding of stakeholders and decision makers about the role of the fire in the ecosystems (Mierasukas and Pereira, 2013; Pereira et al., 2016). This fire suppression measures are increasing the amount of fuel accumulation and the risk of severe wildfires, which can increase of frequency and severity in a context of climate change. Fire is a good tool for landscape management and restoration of degraded ecosystems (Toivanen and Kotiaho, 2007). Fire is considered a soil forming factor (Certini, 2014) and in boreal environments it has been observed that low fire severities, do not change importantly soil properties, mean fire severities induce positive impacts on soil, since add an important amounts of nutrients into soil profile and high severity fires had negative impacts due to the high consumption of organic matter (Vanha-Majamaa et al., 2007; Pereira et al., 2014).

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