

Soil water infiltration in the Pinet forest fire. The ephemeral impact of ash.

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Abstract

Wildfires are recurrent in Mediterranean-Type Ecosystems. Post-fire infiltration behaviour is a key factor that determines the fate of the ecosystem. Infiltration determines the soil recovery after fire, and the water available for plant development. The Pinet forest fire study site was selected to determine the impact of the surface ash layer on soil infiltration immediately after fire by means of mini-disk infiltrometer tests. Sampling and measurements were carried out in September 2018 after the forest fire in August 2018. Twenty plots were selected in a slope transect (12 % slope angle) every 10 meters. In each plot, measurement was carried out on the ash bed, and then, in the vicinity, the ash was removed until the mineral soil was exposed and the measurement was also carried out. Then 20 paired plots were established along the slope 40 mini-disk infiltrometer measurements were carried out. The results show higher infiltration rates on the ash-covered soils. Moreover, the infiltration envelopes show an increase in the infiltration rates in the plots without ash.

Keywords: Soil, Water, Infiltration, mini-disk infiltrometer, Mediterranean

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Acknowledgments: Artemi Cerdà thanks the Co-operative Research programme from the OECD (Biological Resource Management for Sustainable Agricultural Systems) for its support with the 2016 CRP fellowship (OCDE TAD/CRP JA00088807), POSTFIRE Project (CGL2013-47862-C2-1 and 2-R) and POSTFIRE_CARE Project (CGL2016-75178-C2-2-R) sponsored by the Spanish Ministry of Economy and Competitiveness and AEI/FEDER, UE