
Ash and soils. A close relationship in fire affected areas

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Ash cover the soil with black, grey and white colours in the immediate period after the fire. Their properties are a good indicator of fire severity and therefore of the fire impacts on the landscape. After the first rainfalls, ash is mixed with soil and is impossible to dissociate the impacts of soil and ash. In this context, soil and ash dynamics is indivisible. The impacts of fire on soils are direct or indirect. Direct is produced by the impact of heating that can range from seconds to days and months (in the case of smouldering fires). In mineral soils, this impact is short and punctual, with the exception when some wood log is burning on the soil surface. Indirect impacts are a consequence of the impacts produced by ash and they depend on ash properties. Ash protects the soil in the immediate period after the fire and are an important reservoir of nutrients, essential for vegetation recuperation. Ash can modify soil structure, hydrology, chemical composition, microbiology and the capacity of plant germination. The objective of this presentation is to review the post-fire relation between soils and ash and how they differ according to fire severity.

Keywords: Ash, soils, fire severity, direct and indirect impacts

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