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Bringing soil science to society after catastrophic events such as big forest fires. Some examples of field approaches in Spanish Mediterranean areas

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Forest fires must be considered a natural factor in Mediterranean ecosystems, but the changes in land use in the last six decades have altered its natural regime making them an ongoing environmental problem. Some big forest fires (> 500 has) also have a great socio-economical impact on human population. Our research team has experience of 20 years studying the effects of forest fires on soil properties, their recovery after fire and the impact of some post-fire management treatments. In this work we want to show our experience of how to transfer part of our knowledge to society after two catastrophic events of forest fires in the Alicante Province (E Spain).

Two big forest fires: one in "Sierra de Mariola (Alcoi)" and other in "Montgó Natural Park (Javea-Denia)" occurred in in July 2012 and September 2014 respectivelly, and as consequence a great impact was produced on the populations of nearby affected villages. Immediatelly, some groups were formed through social networks with the aim of trying to help recover the affected areas as soon as possible. Usually, society calls for early reforestation and this preassure on forest managers and politicians can produce a response with a greater impact on fire-affected area than the actual fire. The soil is a fragile ecosystem after forest fire, and the situation after fire can vary greatly depending on many factors such as fire severity, previous history of fire in the area, soil type, topography, etc. An evaluation of the site to make the best decision for recovery of the area, protecting the soil and avoiding degradation of the ecosystem is necessary. In these 2 cases we organized some field activities and conferences to give society knowledge of how soil is affected by forest fires, and what would be the best post-fire management depending on how healthy the soil is and the vegetation resilience after fire and our expectations for a natural recovery. The application of different types of mulch in vulnerable areas, the participation of people on the days when we started field research with installation of plots and soil samplings, field trips with volunteers of some NGO's, etc., are some of examples of what we will show in this presentation of how to bring soil science to society.

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