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Soil carbon pools in forested areas affected by fires after the application of restoration measures

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Wildfires can promote changes in soil organic carbon pools (SOCp) mainly as consequence of the input of ashes and charred materials from the scorched vegetation; and/or the removal of litter layer and organic matter from the upper soil centimetres affected by high temperatures. Moreover, post-fire management practices can also cause changes in the different forms of organic carbon in the soil (from the most labile to the most recalcitrant).

In the REMAS project, a methodology to study the different SOCp is proposed to assess the effects of the application of different management post-fire practices over the burned areas: (1) cut and remove burned trunks, (2) shrub clearing letting the masticated debris on the soil carried out 6-8 years after the fires and, (3) no intervention treatment. The SOCp analysed include hot-water extractable C, particulate organic C, associated to the mineral fraction and total organic C. The study areas include diverse forest ecosystems from France (*Pinus pinaster* Ait.), Portugal (*Quercus suber* L.) and Spain (*Pinus halepensis* Mill.and *Pinus sylvestris* L.). Results show variable effects of the management practices on the different organic C pools, mainly over the most labile ones.

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