



Abstract

Quantifying Post-Fire Sediment Erosion in the Montiferru Area (Sardinia, Italy): Preliminary Results [†]

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Abstract: A number of works are highlighting the increasing size and severity of large wildfires in the Mediterranean Basin, with cascading effects on post-fire erosion. Direct measurements of post-fire soil erosion, particularly in remote and complex terrain, are time-consuming and expensive and are further challenged by the risk of sudden and intense rainstorms following wildfires at the end of the fire season. In this work, we will present the preliminary results of the post-fire erosion measurements carried out in the Montiferru area (Sardinia, Italy), which was affected by a 13,000 ha wildfire at the end of July 2021. Six sediment fence sites were established a few weeks after the wildfire and prior to rain events in the study area. The fences allowed us to monitor post-fire sediment erosion on two hillslopes, the first mainly characterized by *Quercus ilex* and *Erica arborea* (plots 1–3), the second by *Arbutus unedo* and *Quercus ilex* (plots 4–6). Each sediment fence, constructed of geotextile silt fence fabric, covered an area of 30 m² (10 m × 3 m), and was installed on uniform slopes. For both hillslopes, fences were installed adjacent to one another across the tilted terrain. The results obtained during the first months of monitoring will be discussed while considering soil and rainfall characteristics in the study area, slope, and pre- and post-fire vegetation.

Keywords: soil erosion; Mediterranean areas; burned hillslopes; monitoring



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