

Monitoring the evolution of fire affected forest and agricultural land after the Los Guajares wildfire September 2022

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Abstract

In September 2022, a wildfire devastated the region of Los Guajares (Granada, Spain) and surrounding mountainous areas. It burnt in total around 50 km² of shrubland, pastures and agricultural land. The area is located in the transition between sub-humid to semi-arid western Mediterranean region, the development and recovery of fire affected areas depends largely on the climatic conditions in the upcoming months and years, as well as on the human actions.

Between the villages of Guajar Alto and Guajar Faragüit we have chosen an area where on steep slopes we can find: severely affected dense forest, severely affected matorral, severely affected olive groves, heat affected olives and non-affected olives. Especially the olive orchard shows ideal conditions, as it is mainly located on the same slope, overall terraced and managed by the same farmer.

Here, we will present the first results, as we started monitoring the area with aerial photographs with different qualities in October 2022. These will allow the monitoring of vegetation recovery, but also to identify areas of runoff generation (and consequent soil erosion) as well as the extent of soil management on the different surfaces. In March 2023 we started measurements of soil physical properties, which is still going on. These include saturated and unsaturated infiltration capacity as well as aggregate stability. The monitoring programme will be continued in the upcoming years.

Keywords: Los Guajares Wildfire, monitoring, aerial photography,

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