



## **The role of crown consumption, ecosystem functional unit and soil burn severity in wildfire ash loads of eucalypt and Maritime Pine stands in north-central Portugal**

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In the framework of the ASHMOB project (“Wildfire ASH MOBilization by wind and water erosion: a combined measurement-modeling approach for prediction of post-fire ash mobilization risk”; CENTRO-01-0145-FEDER-029351), the ash layer was sampled in a young as well as a mature Maritime Pine plantation burnt by an august-2018 wildfire, and in a 3rd-rotation cycle eucalypt plantation burnt by an October2018 wildfire. The first of these wildfires took place near Loriga in the interior Guarda District and the second near Nespereira in the coastal Aveiro District, being, in fact, two of the very few wildfires that occurred in north-central Portugal during the 2018-summer fire seasons. Within all three plantations, sampling was done separately for a zone with low crown consumption and a zone with high crown consumption. In turn, within each zone, sampling was carried out separately for three functional units, i.e. pine/eucalypt, shrub and inter-patches. The sampling within each zone was done at five equidistant points laid out along a transect, more specifically at the pine/eucalypt tree nearest to each point, at the shrub nearest to this pine/eucalypt tree and the inter-patch between this pine and shrub. At each patch, soil burn severity was furthermore assessed before ash sampling, according to the classification of Vega et al. (2013).

While data and laboratory analysis of the collected ash samples is still ongoing, the poster will present the preliminary results on ash loads and their fractions as well as on ash characteristics such as density and particle size distribution that are of crucial importance for designing the follow-up mobilization experiments in wind tunnel and soil flume. At a first glance, the most conspicuous findings at the pine sites were that: (1) ash loads varied strongly between sampling points, from 19 to 1653 g m<sup>-2</sup>; (2) the mature pine patches stood out from the remaining sampling units for comparatively small ash loads, especially in case of complete crown consumption.