



Wildfire numerical simulations with the WRF-FIRE coupled atmosphere-wildland fire model in Galicia (Spain)

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Wildfires are a common natural hazard in the west of the Iberian Peninsula during the warm season, having devastating effects on the environment and also affecting the region economically. It is well known that atmospheric conditions (wind, temperature, humidity, etc.), together with topography and vegetation characteristics, strongly influence the propagation of fires. These three factors are considered in the WRF-FIRE model, which couples a mesoscale atmospheric model (WRF) with a semi-empirical fire spread model, and thus can be used as a fire-spread modelling tool.

We present here preliminary simulations with WRF-FIRE for Galician wildfires. There are some characteristics in this region that turn wildfire simulation more complicated, like generalized arson and the heterogeneous forest distribution. As a result, the accuracy in the location of the ignition points, which are often multiple, and the adequacy of the fuel characterization may play an important role. We assess the influence of these factors with simulations of past wildfires and compare results with satellite images.

A correct implementation of the model in this region can be useful to improve the mapping of high-risk fire areas or to obtain operational fire spread predictions that can help firefighting.