



First approach on estimating the meteorological contribution to the wildfire risk level enhancement. Application to the Wildfire Risk Map confection in Catalonia

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Meteorological and climatological factors are some of the most involved features in the wildfire risk increase over forest areas. They have played crucial roles in the propagation and enhancement of historical catastrophic wildfires in Catalonia. Since middle 80's, the Catalan Service for Wildfire Prevention has taken into account meteorological information in the confection of the fire risk map in Catalonia. Taken in mind the LOGIT indexes concept, a new procedure to estimate the meteorological contribution to the fire risk level is proposed. Firstly, some meteorological thermodynamic variables like temperature and humidity are downscaled thanks to a statistic method, and grid maps of probabilistic occurrence are calculated. Then, the previous climatic features and the soil humidity content are integrated into a drought index that has a large temporal inertia. This index is calculated for each point of a grid covering the entire Catalan region. Both gridded maps are joined in order to obtain a final meteorological probabilistic contribution to the determination of fire risk level. Such procedure is generally applied in cases of no wind weather patterns. A first validation at clustered areas, with historical fire data is performed to check the proposed methodology.