

Fire Risk Information Harmonization for Transboundary Fire Events between Portugal and Spain

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Abstract : Forest fires along the more than 1200km of the Spanish-Portuguese border are more and more frequent, currently achieving around 2000 fire events per year. Some of these events develop to large international wildfire requiring concerted operations based on shared information between the two countries. The fire event of Valencia de Alcantara (2003) causing several fatalities and more than 13000ha burnt, is a reference example of these international events. Currently, Portugal and Spain have a specific cross-border cooperation protocol on wildfires response for a strip of about 30km (15 km for each side). It is recognized by public authorities the successfulness of this collaboration however it is also assumed that this cooperation should include more functionalities such as the development of a common risk information system for transboundary fire events. Since Portuguese and Spanish authorities use different approaches to determine the fire risk indexes inputs and different methodologies to assess the fire risk, sometimes the conjoint firefighting operations are jeopardized since the information is not harmonized and the understanding of the situation by the civil protection agents from both countries is not unique. Thus, a methodology aiming the harmonization of the fire risk calculation and perception by Portuguese and Spanish Civil protection authorities is hereby presented. The final results are presented as well. The fire risk index used in this work is the Canadian Fire Weather Index (FWI), which is based on meteorological data. The FWI is limited on its application as it does not take into account other important factors with great effect on the fire appearance and development. The combination of these factors is very complex since, besides the meteorology, it addresses several parameters of different topics, namely: sociology, topography, vegetation and soil cover. Therefore, the meaning of FWI values is different from region to region, according the specific characteristics of each region. In this work, a methodology for FWI calibration based on the number of fire occurrences and on the burnt area in the transboundary regions of Portugal and Spain, in order to assess the fire risk based on calibrated FWI values, is proposed. As previously mentioned, the cooperative firefighting operations require a common perception of the information shared. Therefore, a common classification of the fire risk for the fire events occurred in the transboundary strip is proposed with the objective of harmonizing this type of information. This work is integrated in the ECHO project SpitFire - Spanish-Portuguese Meteorological Information System for Transboundary Operations in Forest Fires, which aims the development of a web platform for the sharing of information and supporting decision tools to be used in international fire events involving Portugal and Spain.

Keywords : data harmonization, FWI, international collaboration, transboundary wildfires

Conference Title : ICFSSST 2016 : International Conference on Fire Safety Science and Technology

Conference Location : London, United Kingdom

Conference Dates : September 29-30, 2016