

Pre- and Post-fire analysis using GIS and satellite data

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Surveillance of our forests has greatly been improved during the last decades with the use of satellite data. Remote Sensing techniques have demonstrated its usefulness to generate fire risk maps, as well as giving fire early alerts, even more making easier an estimation of areas affected by them. A brief description of the current methodologies for fire risk indexes and burnt area mapping using AVHRR and MODIS data is shown in this paper. These methods have been validated for previous and post fire conditions in a specific area, with the proposal of some improvements to them. For the fire risk modelling, factors like the elevation, proximity to main roads, ground data and fire events, in addition to satellite data, are considered in a Geographical Information System in order to define a map of risk over a Digital Elevation Model. As a test site the Canary Islands (SPAIN) have been considered in order to prove the suitability of these tools for a regional scale application, in an area were multiple microclimates are present mainly due to its steep orography and the trade winds. A comparison between the final products using these two types of satellite data is also made.