Creation and implementation of a decision-making tool focused on the automation, scaling, updating and dissemination of information related to variables that affect the risk and behaviour of fire.

Sandra Sánchez García

Fundación CETEMAS

Abstract

Since 2017, the CETEMAS Foundation has collaborated with the Regional Department of the Environment and Land Management of Asturias (Forestry Service) and the Regional Department of the Presidency (SEPA; Emergency Service of the Principality of Asturias), in the development of tools based on the use of remote sensors to semi-automatically generate and update cartography related to variables that describe existing forest fuels in Asturias. Within the framework of the European Interreg-Sudoe Project called PLURIFOR (2016-2019), a municipality-scale methodology was developed in order to obtain an "information window" (25-metre grid) related to variables which have a strong influence on the risk and behaviour of forest fires (Sánchez García et al., 2019): information from the National Forest Map of Spain (MFE) (DGDRPF, 2012), LiDAR data from the National Aerial Photogrammetry Plan (LiDAR-PNOA, 2015) and the Galician Fuel Model Photoguide (Arellano et al., 2017).

Continuing from this, with the aim of generating products and offering geospatial services that facilitate decision-making policies/strategies in forest fire prevention and extinction tasks, work is being carried out to configure a tool to generate cartography on a regional scale, focusing on its automation and scaling, as well as improving the reliability, access and management of data for practical use. With respect to reliability, among the aspects to be addressed is the need to minimize the existing dependence on the update periods of the data sources.

This work will present the latest developments addressed:

- Automation, scaling, updating, and dissemination of the results through a process execution model and the construction of an open data medium that can be consulted and/or exploited through an entity's own Spatial Data Infrastructure (SDI), therefore providing a channel to facilitate the management of spatial data,

metadata and visualization services.

- Creation of an update tool which works by detecting changes in vegetation cover through satellite images, and its validation for different scales of analysis (regional and local) and data sources (Sentinel2 and SPOT7).