



## **Climate change and wildfire risk: the route from applied research to stakeholder services for the case study of Greece**

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One of the objectives in EU project CLIM-RUN is the analysis of the fire risk for regions in the Mediterranean where forest fires represent a major hazard at local scale and the provision of appropriate climate indices to estimate future changes especially designed for the needs of relevant stakeholders. The main case study region in the project is Greece.

In order to investigate the future changes in fire risk in relation to the meteorological conditions in the Mediterranean, the Canadian Fire Weather Index (FWI) is applied. FWI is a daily meteorologically-based index depending solely on daily noon measurements of dry-bulb temperature, air relative humidity, 10 m open wind speed and 24 h accumulated precipitation.

An evaluation of the index is performed using fire and meteorological data, in order to examine whether FWI values can adequately reflect fire risk as judged by actual fire occurrence and area burnt. FWI is confirmed to be skillful in predicting fire occurrence and thresholds of elevated (FWI>15) and extreme (FWI>45) fire risk are established. Then, the research moves into the investigation of the impacts of climate change on fire risk, for two future time periods, 2021-2050 and 2071-2100, compared to the control run period 1961-1990. Regional climate models output is used to provide input for the FWI system. The results indicate that the future projections suggest a general increase in fire risk over the domain of interest for the near-future period 2021-2050, while a very strong impact is projected for the end of the century (2071-2100).

Through an iterative and bottom-up (i.e. stakeholder led) approach we move towards the provision of services to long term forest fire planners and policy makers providing a web-based application for long term fire risk and other fire related indices (time horizon up to 2050 and up to 2100) in collaboration with the Greek WWF office (<http://www.meteo.noa.gr/oikoskopio>).

This web-based application is further refined and improved with the use of land cover data which can help identify the actual fire prone regions combining both the vegetation type and the meteorological fire risk.