



## **RISICO: an adaptation of FWI to the Mediterranean environment**

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The RISICO system provides the Italian Civil Protection Department (DPC) with daily wildland fire risk forecast maps relevant to the whole national territory since 2003.

The structure of RISICO is conceptually similar to the Canadian Fire Weather Index. This index is used almost everywhere in the world and it represents the reference model in EFFIS (European Forest Fire Information System).

RISICO can be considered as an evolution and simplification of the FWI index, properly adapted for the Mediterranean environment. RISICO considers vegetation cover and topography as additional input to the system, considering different contributions to the potential fire behaviour due to different vegetation cover, slope and aspect. This allows taking into account different structure of the fuel available from the ground to the crown including important aspect related with the process of fire spread beyond the weather.

The aim of this work is to describe the RISICO model and to perform a performance analysis of the overall system, also by comparing it to the Canadian FWI.

The performances of the two models are evaluated on the basis of the Burned Area (BA) observed in Italy in the period 2007-2013, provided by National Civil Protection Department. The Relative Operating Characteristic (ROC) analysis is used to evaluate and compare the performances of the two models.

The results of the analysis show that both the systems provide skilful forecast of the wildland fire risk distribution over the Italian territory. However, the performances of RISICO are always better than FWI concerning the capabilities of correctly identifying areas with higher or lower risk significantly reducing the number of false alert with respect to FWI, making it more reliable to the Mediterranean environment.