The FIRE project (wildFire-related-landslide scenarios for territorial planning and Risk management) was born under the impulse of a growing attention of the national and international technical-scientific community to risk mitigation strategies connected to forest fires and by the interest placed at a national level (also thanks to the National Recovery and Resilience Plan - PNRR) on the resilience of communities to the impact of fires on territories. For the FIRE project, a multidisciplinary approach was applied, integrating the skills of applied geology, fire performance engineering and landscape architecture, to identify fire forecast scenarios, combined, in a multi-hazard perspective, with surface landslide scenarios on areas affected by fires, in order to identify the best governance and land management tools for reducing the risk linked to these processes.

For the project activities, the territories of Monte Epomeo in Ischia and the Camaldoli hill in the metropolitan area of ​​Naples were selected as case studies, recognizing in them a marked vulnerability, characterized by frequent fires, mostly of malicious origin, by a high risk of landslides and by an important expansion of the urban fabric contextual to the abandonment of the agricultural one. The major fire that hit Mount Epomeo in Ischia on 27 and 28 August 2023 allowed for a timely collection of data, which led to the classification and characterization of the vegetation and cover soils present in the study area, as well as the calibration of fire propagation models on the island.

Similarly, a large fire occurred on the Camaldoli hill on 19 and 20 June 2024 following which a site survey and sampling were conducted for the laboratory physical-mechanical characterization of the soil layers affected by the fire.

The main results obtained consisted of: i) the development of technical solutions for the return of maps of susceptibility to the triggering of fires (hazard maps) functional to the simulation of their propagation (impact maps), ii) the creation of maps of pre- and post-fire vegetation associations functional to the physical-mechanical characterization of potentially unstable debris beds, and iii) the return of scenarios of triggering of superficial landslides by intense rainfall and/or earthquakes on slopes made more vulnerable by fires.

The Workshop on 10 March includes, in the morning, some invited readings on various technical aspects inherent to the project themes, while in the afternoon the main results obtained in the project by the multidisciplinary research group will be presented and the issues related to fire risk in the area and related defensive strategies will be discussed.

Salvatore Martino (DST)

Mara Lombardi (DICMA)

Anna Lei (DAP)

Immagine che contiene aria aperta, natura, montagna, cielo

Descrizione generata automaticamente Immagine che contiene aria aperta, cielo, terreno, natura

Descrizione generata automaticamente

Immagine che contiene mappa, testo

Descrizione generata automaticamente Immagine che contiene diagramma, quadrato, pixel

Descrizione generata automaticamente

Immagine che contiene mappa, atlante, testo

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