

# **The UNISDR Sub-Regional Euro-Alpine Network: Network Activities 2011-2015 – Progress Report**

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## **Abstract**

In July 2008, the UNISDR Wildland Fire Advisory Group (WFAG) followed the suggestions of the countries of the European Alpine region to address the specific wildland fire problems in the high-altitude region of the Alps and to establish a Sub-Regional Wildland Fire Network. Fire has always been a driver of landscape evolution and a mirror of human activities in the Alpine region. Land abandonment of marginal areas, alongside climate anomalies, is leading to a new generation of unmanageable large fires, where lack of accessibility and fuels build-up are the main constraints. Separately, new civil protection challenges arise in localized areas and during periods of the year, from an increasing pressure brought by mountain tourism.

Between the 5<sup>th</sup> and the 6<sup>th</sup> International Wildland Fire Conferences the partners of the Euro-Alpine Region were able to stimulate research and collaboration regarding the role of forest fire as a natural hazard for the Alpine environment in a follow up of the European project ALP FFIRS that ended in 2012. Through the cooperation of the partners in Switzerland, Austria, Italy, Slovenia, France and Germany it was possible to improve forest fire prevention under a changing climate in the Alpine space. Different methodological approaches have been used to identify the most appropriate fire weather index for alpine conditions, which allowed the critical evaluation of existing systems. Several methodological advances in developing danger rating systems fitting for Alpine conditions allowed adapting existing danger rating approaches to regional alpine conditions. Also the definition of the wildland-urban interface (WUI) in the Alpine context by combining three main WUI components (human infrastructures, burnable vegetation and the interaction area between the two) was developed. The partners were able to reconstruct the fire history and related landscape evolution that occurred in the Alps during the Holocene in order to derive negative and positive impacts of current fire regimes on the value of ecosystem services in the Alps, as well as the incidence of human fire uses and fire suppression policies. Furthermore, a projection of the fire ecology of selected forest ecosystems in the Alps was made to assess the future potential of forest fires. Several studies have demonstrated that fire occurrence is related to weather, fuel and human infrastructure parameters. The main governing parameters of fire distribution in the Alpine region seem to be climate and population density. Therefore, higher fire susceptibility around densely populated valleys and in the drier areas of these valleys can be identified. The application of regional adapted early warning systems and daily fire danger bulletins can help to reduce the likelihood of human-induced fire ignitions. Here, the use of different methodological approaches is appropriate to identify the main drivers for fire ignition and fire behavior. Considering limited financial and human resources to suppress fires in the Alpine region, the concentration on very susceptible areas could counter these challenges.

**Key words:** *Sub-Regional Euro-Alpine Network, Euro-Siberia / Central Asia Wildland Fire Network Cluster, Global Wildland Fire Network*