

IUFRO Spotlight is an initiative of the International Union of Forest Research Organizations. Its aim is to introduce, in a timely fashion, significant findings in forest research from IUFRO officeholders and member organizations to a worldwide network of decision makers, policy makers and researchers. IUFRO will encapsulate, and distribute in plain language, brief, topical and policy-relevant highlights of those findings, along with information on where/how to access the full documents.

IUFRO Spotlight also aims to present activities such as sessions at major IUFRO congresses or the work of IUFRO Task Forces with a focus on emerging key issues that are of great interest to policy makers and groups inside and outside the forest sector, and contribute to international processes and activities. The *IUFRO Spotlight* findings will be distributed in a periodic series of emails as well as blog postings.

IUFRO Spotlight #78 / June 2020

More robust strategy needed to combat forest fires in Alps

An increasing risk of forest fires in the European Alps has led to a white paper that proposes a framework for integrated fire management to address the drivers of the current and future fire regimes in mountain forests.

To develop the white paper, entitled **Forest Fires in the Alps**, a panel from all member states of the EU Strategy for the Alpine Region (EUSALP) – Austria, Germany, Italy, France, Slovenia, Switzerland and Liechtenstein – was established. These scientists, members of action forces, authorities and other forest fire experts pulled together the fire experiences and knowledge of the various countries.



Wildfires are an emerging issue in the European Alps that can lead to high damages in protection forests, increasing the risk of natural hazards and resulting in threats to people and high costs – up to millions of euros for fire suppression and restoration measures, said Dr. Harald Vacik, one of the white paper’s authors.

The paper notes that current efforts to manage forest fires in the Alpine region are unable to prevent the occurrence of extreme forest fire events. It says that implementing an integrated and forward-looking forest fire management strategy is highly needed and should include measures on fire prevention, fire suppression and post-fire management.

“The contribution of so many experts and their active support on this white paper underlines the high political and social significance of the topic in the Alpine region,” said Dr. Vacik, a professor in the Department of Forest and Soil Science at the University of Natural Resources and Life Science in Vienna, Austria.

“This is an important step to bridge the science-policy gap in our understanding of wildfire related risks as well as to facilitate international collaboration, in terms of sharing best practices to inform public policy.”

While the paper notes “evidence of climate-driven fire regime change in the Northern Hemisphere with fire risk increasing in non-traditional fire-prone countries,” it recognizes that new policies and socio-economic changes such as rural abandonment and increased forest-related recreational activities also play a part.

Dr. Vacik also noted the “excessive spreading of the wildlife-urban interface (WUI)” – municipalities sprawling outward into forested areas and more human incursions and activities in what had, until recently, been wilderness – as another factor increasing the danger for severe impacts from forest fires on humans and infrastructure.

The white paper considers the needs of people living in and visiting the Alpine region and aims to propose measures to mitigate the negative impacts of fires.

Dr. Vacik explained that “a large portion of Alpine forests consists of Norway spruce or Scots pine forests.

“The spruce-dominated forests at lower altitudes are already suffering from climate change and the related impacts (e.g. bark beetle, storm damages) and they will become even more affected if temperature and dryness rise as expected. This can lead to fuel accumulation, which will increase the fire hazard and impact the provision of ecosystem services dramatically,” he said.

The mountain forests in the Alps provide numerous ecosystem services to the population and fulfill an important protective function against natural hazards. Forest fires can lead to new avalanche-prone slopes, a higher risk of rockfall, mudslides, soil erosion and a local change of hydraulic regimes.

Firefighting there is generally difficult due to the rugged topography and low accessibility. Therefore, it is likely that costs of firefighting, civil protection measures, post-fire restoration and necessary protective measures will greatly increase, especially if robust action is not taken, Dr. Vacik said.

The fires in the Alps reduce the protection function of mountain forests, increase vulnerability to natural hazards, decrease productivity through increased soil erosion and increase danger for humans and infrastructure at the WUI.

Due to the expected increase in fire hazard, it is likely that efforts for firefighting, civil protection measures, post-fire restoration and necessary protective measures will rise sharply.

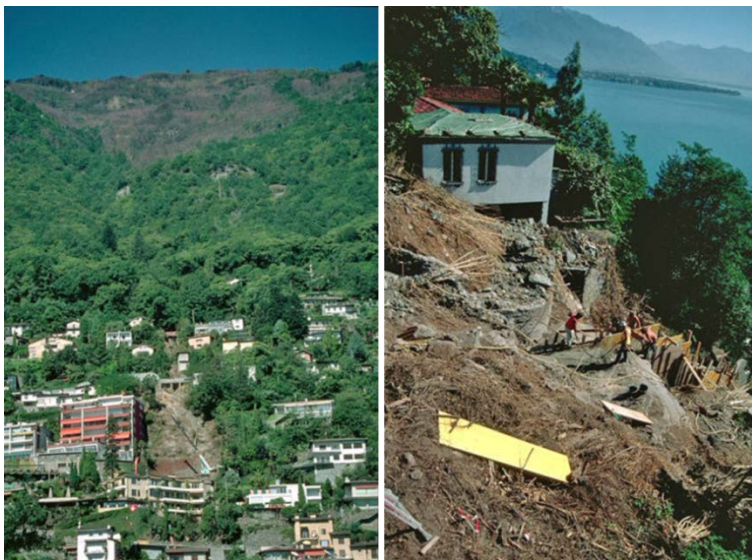
The additional costs for adapting the measures recommended in the white paper could bring the total to roughly 100 million Euros per year for the European Alpine region. (Current costs are about 75 million Euros per year.) However, it is likely that these new costs would be offset by the increased protections that would help combat the anticipated rise in fires and their severity.

Because of that, it is important to critically reflect on existing practices, discuss new and innovative ideas and establish a process where the different parties involved in integrated fire management in the Alpine region participate on a regular basis to promote, develop and implement local and regional pilot projects and initiatives, he said.

The white paper contains four major recommendations to address the issue. Each of the recommendations outlines several actions to be taken to put the recommendations into effect. The recommendations are:

- Design and implement short- and long-term prevention measures;
- Adapt suppression measures to the specific conditions of the Alpine region;
- Improve the understanding and measures of post-fire management;
- Support knowledge transfer and exchange of experiences.

Among examples of the actions suggested are: to adapt forest management, including the use of prescribed burning and establishing protection measures at the WUI (recommendation 1); and to ensure quick and efficient air support by helicopters (recommendation 2).



Severe debris flow in Ascona, Switzerland, in summer 1997, five months after a forest fire. Photo: Lorenza Re, Forest Service Canton Ticino (Fig. 8 in White Paper)

“Mountain forests play a significant role in storing water, preventing erosion and landslides, influencing regional climates and are ‘hot spots’ for biodiversity. Containing and controlling these fires is hugely important,” Dr. Vacik said.

“Our initiative will not only be of value to European Alps countries. It should assist others who have to face mountain fires. Mountain forests make up one-third of all natural forest cover worldwide.

“And, because we are speaking of integrated fire management, the general approach could also be useful for any region prone to forest fire – not just mountain forests,” he added.

The white paper can be found at:

<https://www.alpine-region.eu/results/forest-fires-alps-state-knowledge-and-further-challenges>

Dr. Harald Vacik is the Coordinator of IUFRO Working Party 4.03.03 – Information management and information technologies, <https://www.iufro.org/fr/science/divisions/division-4/40000/40300/40303/>

The findings reported in IUFRO Spotlight are submitted by IUFRO officeholders and member organizations. IUFRO is pleased to highlight and circulate these findings to a broad audience but, in doing so, acts only as a conduit. The quality and accuracy of the reports are the responsibility of the member organization and the authors.

Suggestions for reports and findings that could be promoted through IUFRO Spotlight are encouraged. To be considered, reports should be fresh, have policy implications and be applicable to more than one country. If you would like to have a publication highlighted by Spotlight, contact: Gerda Wolfrum, [wolfrum\(at\)iufro.org](mailto:wolfrum(at)iufro.org)

The International Union of Forest Research Organizations (IUFRO) is the only worldwide organization devoted to forest research and related sciences. Its members are research institutions, universities, and individual scientists as well as decision-making authorities and other stakeholders with a focus on forests and trees. Visit: <https://www.iufro.org/>

IUFRO Spotlight #78, published in June 2020, by IUFRO Headquarters, Vienna, Austria. Available for download at:

<https://www.iufro.org/media/iufro-spotlights/>

If you wish to unsubscribe from IUFRO Spotlight, please email us at: [office\(at\)iufro.org](mailto:office(at)iufro.org)

Imprint: <https://www.iufro.org/legal/#c18944>

