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As Wildfires Increase, Integrated Strategies for Forests, Climate and Sustainability Are Ever More Urgent

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In June 2023, as thousands of wildfires raged in Canada, the skies in New York turned orange with haze and smoke. For the first time, New York topped the list of cities with the worst air quality, and health advisories were issued advising residents to stay indoors. It was a dramatic reminder that environmental crises have no boundaries and should be a concern for us all.

Every year, from Canada and the United States to the Amazon and the Arctic, across Africa, Asia and Europe, wildfires take a heavy toll on the environment and wildlife, as well as human lives and infrastructure. The recognized costs of wildfires are usually based on direct economic consequences in the public sector, including costs associated with fire suppression, insurance, the loss of assets and, above all, the loss of lives. However, wildfires also have broad and long-lasting impacts on social, economic and environmental sustainability.

It is estimated that globally, wildfire-induced air pollution is associated with [340,000 premature deaths](#) from respiratory and cardiovascular issues. The negative economic effects of wildfires are mounting. The 2018 California Camp Fire is estimated to have caused [around 19 billion dollars](#) in direct costs, while the 2019-20 wildfires in Australia resulted in [23 billion dollars](#) in direct costs. It is also estimated that [6 million homes in the United States](#) are now considered uninsurable due to wildfire risk.

Globally, [more than two thirds of the wildfires that took place from 2001 to 2018 occurred in Africa](#); the largest areas burned (exceeding 500 million hectares) were located in Eastern and Southern Africa, Western and Central Africa, Oceania (mainly Australia), Northern Africa and South America. As the increasing effects of climate change and land-use change make wildfires more frequent and intense, it is estimated that we could witness a global increase in the occurrence of extreme fires of [up to 14 per cent by 2030, 30 per cent by 2050 and 50 per cent by the end of this century](#).

Wildfires affect all biomes, from forests and savannahs to grasslands and tundra. Globally, over 370 million hectares of land burn every year, releasing over 1.8 billion tons of greenhouse gases. Wildfires in forests account for [5 per cent of land burned but contribute to more than 80 per cent of the greenhouse gas emissions](#).

Climate change, unsustainable land use and deforestation are among the key drivers of wildfires. Climate change exacerbates wildfire risk through increased drought, high air temperatures, low relative humidity, dry lightning and strong winds. In the last 30 years, climate change is estimated to have [doubled the total forest area burned in the western United States](#). Unsustainable land use and environmental degradation reduce the resilience of natural ecosystems to wildfires, while deforestation and drainage of peatlands worsen drought conditions and increase flammability.

Although eliminating the risk of future wildfires is not feasible, we can do more to manage and reduce risks. Failure to act now would jeopardize achievement of the [Global Forest Goals](#), Sustainable Development Goals (SDGs), the Paris Agreement on climate change and other development goals. Restoring the health of our biomes, reverting them from tinderboxes to resilient ecosystems, requires urgent action to develop integrated approaches to wildfire management and climate mitigation, applying scientific knowledge, working in partnership with stakeholders and strengthening international cooperation.

Comprehensive strategies and integrated approaches for wildfire management should include elements related to risk mitigation and prevention, fire suppression, and post-disaster recovery plans. Historically, the focus of wildfire management has been more on suppression rather than on prevention and mitigation; this approach needs to change. Integrated fire management and its five key elements – review and analysis, risk reduction, readiness, response and recovery (the 5Rs) – offer a good methodology in this context.



View of the Queensboro Bridge near United Nations Headquarters in New York, showing dense haze from wildfires in Canada, 7 June 2023. © John Sebesta

Mitigating climate change and adapting to extreme wildfires must be tackled simultaneously. It is important to include sustainable land use, sustainable forest management and fire management in national sustainable development plans, as well as in strategies on climate change adaptation and mitigation, and biodiversity conservation. Furthermore, Nationally Determined Contributions under the [Paris Agreement](#) and Voluntary National Contributions to achieve the [Global Forest Goals of the United Nations Strategic Plan for Forests](#) provide an opportunity to simultaneously advance a synergetic forest-climate agenda to reduce the [risks of wildfires](#).

Applying scientific knowledge can help to improve early warning systems through advanced technologies and science-based landscape and forest management strategies. Greater use of modern technologies in monitoring, detecting and controlling fires, such as through remote sensing and real-time alarm systems, can help in this regard.

Active participation by stakeholders is critical for the effective implementation of wildfire management strategies. The engagement of Indigenous peoples and local communities, scientific experts and the private sector is particularly important. Incorporating traditional knowledge, experiences and wildfire practices of local communities and Indigenous peoples in wildfire management strategies is also beneficial.

Finally, **international cooperation is vital** for concerted global action to curb wildfires. Wildfires pose a serious risk to sustainable development due to their impacts on human health, climate, pollution and economies. Delegates at the United Nations Forum on Forests (UNFF) have repeatedly highlighted how uncontrolled wildfires pose a growing threat to the health of the world's forests and the need for greater investment in fire control and management. **Global and regional collaborative initiatives include the Global Wildland Fire Network and its regional networks; Regional Fire Management Resource Centres; Regional Fire Monitoring Centres; and the new Global Fire Management Hub, launched in May 2023 by the Food and Agriculture Organization of the United Nations.** In October 2023, the Government of India will convene a country-led initiative in support of UNFF to enable Forum members to share best practices in the long-term management of forests, growing challenges related to forest fire prevention and management, and issues related to forest certification. Such initiatives help to promote technological collaboration and exchange of scientific data, capacity development, and training in fire management and research.

For millennia, our ancestors used fire as a land management tool to improve hunting conditions, clear vegetation for agriculture and grazing, and control pests. While the landscapes we live in today are markedly different, we still have the knowledge and tools we need to mitigate the risk of uncontrolled wildfires. Restoring our balance with nature is possible if we choose to invest significant political and financial capital in wildfire prevention, preparedness and recovery. It might then be also possible to restore hope for a climate-resilient future, one that includes green forests and blue skies for all.

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About the author Juliette Biao Koudenoukpo

Juliette Biao Koudenoukpo is Director, United Nations Forum on Forests Secretariat, United Nations Department of Economic and Social Affairs.

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