Global fire challenges in a warming world: Summary Note of a Global Expert Workshop on Fire and Climate Change

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ABSTRACT – Catastrophic wildfires are increasingly common across the globe. However, fire plays also a necessary and useful tool for food security, preservation of cultural landscapes and associated ecosystems. Global fire activity is shaped by diverse social, economic, and natural drivers, which determine the likelihood of a landscape to burn. The effects of climate change associated to other planetary changes are transforming fire activity in ways that it will likely be dramatic, with potential consequences to nature and society in case of adaptation failure. Based on the limited available statistics, there is a growing trend in the costs of wildfires. The key to wildfire disaster risk reduction in a changing world now lies in learning to live with fire. Our analysis revealed the following key issues for landscape management and governance: (i) Climate change in combination with other environmental changes linked to population growth and unsustainable land-use practices, is contributing to extreme wildfire events that exceed existing fire management capacities; (ii) Fire is an inherent feature of the Earth system and many ecosystems, are dependent on it for their long-term survival; nevertheless, ongoing changes in global fire activity in terms of location, intensity, severity, and frequency will likely have immense costs to biodiversity, ecosystem services, human well-being and livelihoods, and national economies; (iii) Engagement with local communities, land-owners, businesses and public stakeholders is crucial to restore and maintain landscapes that are biodiverse and functional, respectful of local cultures and identities, economically productive, and above all, fire-resilient; (iv) People have historically achieved sustainable co-existence with flammable ecosystems and have often used fire as a land-management tool, thereby shaping many modern and long-standing landscapes around the world. Traditional fire knowledge is thus key to adapting to local changes in fire activity; (v) Building adaptive capacity to confront fires must be based on knowledge of the natural and cultural roles of fire, how they have shaped our modern landscapes, and their importance in the long-term functioning of socio-ecological systems; (vi) Catastrophic fires are part of our future. Current scientific estimates are likely conservative, meaning that changes in fire activity might likely be worse than anticipated.

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