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## From sudden local Wildland Fire Disasters to transboundary Impacts of creeping Wildland Fire Mega Events

### Needs for global early Warning of Wildland Fires within a UN Multi-Hazard Global Early Warning System

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#### ABSTRACT

Over the past decade, many regions of the world have experienced a growing trend of excessive fire application in land-use systems and land-use change, and an increasing occurrence of extremely severe wildfires. Some of the effects of wildland fires are transboundary, for example smoke and water pollution and its impacts on human health and safety, loss of biodiversity or site degradation at a landscape level leading to desertification or flooding. The depletion of terrestrial carbon by fires burning under extreme conditions in some vegetation types, including organic terrain in peatland biomes, is one of the driving agents of disturbance of global biogeochemical cycles, notably the global carbon cycle. This trend is causing the international community to address the problem collectively and collaboratively. The consultations of the UNISDR Global Wildland Fire Network in 2004-2005 recommended the development of informal partnerships, joint projects and formal agreements between government and non-governmental institutions that are essential to enable nations to develop sustainable fire management capabilities.

To mitigate these fire-related problems, forest and land management agencies, as well as land owners and communities, require an early warning system to identify critical time periods of extreme fire danger in advance of their occurrence. Early warning of these conditions with high spatial and temporal resolution incorporating measures of uncertainty and the likelihood of extreme conditions allow fire managers to implement fire prevention, detection

and pre-suppression plans before fire problems begin. The majority of uncontrolled and destructive wildfires are caused by humans as a consequence of inappropriate use of fire in agriculture, pastoralism and forestry. Considering this fact, it is crucial that international wildland fire early warning systems are developed to complement relevant national fire danger warning systems where they exist, to provide early warning where national systems do not exist, and to enhance warnings applied to, or generated at the local (community) level. (People-centered early warning systems – as requested by the UN Secretary General and as laid down in the Hyogo Framework for Action 2005-2015: “Building the Resilience of Nations and Communities to Disasters”). This will ensure delivery of targeted information reflecting specific local conditions and allowing the involvement of local communities in wildland fire prevention.

A consortium of international institutions specialized in research and development of wildland fire danger and risk rating, in cooperation with and facilitated by the Global Fire Monitoring Center (GFMC) and the UNISDR Wildland Fire Advisory Group / Global Wildland Fire Network has submitted a project proposal to the Third International Conference on Early Warning in which the financial and political support for the development of a Global Wildland Fire Early Warning System is requested.