

International Issues: Report of Futuring Group 9¹

The wildland fire scenario outside North American is characterized by increasing amount and severity of wildfires worldwide. In Europe, most of the Mediterranean countries suffer devastating forest fires, despite fire management efforts. Examples of the wildland fire theater within the developing countries and the tropical world have been given at this Symposium on Wildland Fire 2000. Most of the wildfires in Latin America, Africa and Asia, however, are not monitored and remain unreported. Only a few spectacular wildfires are noticed by the world media and public. The 1982-83 rain forest wildfires in Borneo (East Kalimantan, Indonesia) were reported because of growing international concern in the decrease of the tropical forest land base. The same refers to the 1985 fires on the Galapagos islands, which threatened one of the world's most unique ecosystem reserves. The 1987 forest fires in China were observed because they caused more than 200 deaths and wiped out whole towns and villages.

On the other hand, there is a growing interest in the global impact of forest fires and biomass burning and its potential contribution to atmospheric changes.

The futuring session on "International Issues" therefore focused its visions on global aspects of wildfire impact and international cooperation. Special attention was given to developing countries and the tropics/subtropics.

KEY TRENDS

The 13 key trends elaborated can be categorized into three groups highlighting the background scenario, the ecological impact of wildfires, and the relevant international

approaches towards solving this problem. A brief background explanation is added to each key trend.

Socioeconomic Trends Affecting Forest Resources

1. Growth of the world's population to 6.2 billion by the year 2000. Countries facing the most serious growth are developing countries and mainly those within the tropics.

2. Energy crisis limiting economic growth and standard of living in most developing countries.

3. The aforementioned development leading to political destabilization and affecting sensible decisions in fire management.

4. Decreasing world forest land base. Tropical forest resources increasingly used and wasted. Large-scale conversion of forest land to other land-use, leading to degradation in some cases.

5. Lack of coordination between government agencies. Policies don't match implementation.

Environmental Impact of Wildfires

6. Changing fire regimes. The combination of social, economic and physical impacts making most forest and wildlands more fire prone.

7. Increase in wildland fires. Throughout the world wildland fires having greater impacts on forest resources, people and property.

8. Changing species composition. Vegetation types regularly affected by wildfires being dominated/invaded by fire-tolerant/resistant species.

9. Increasing climate variability from human-caused pollution, due to interconnectedness of ecosystem responses.

¹Prepared at the Symposium on Wildland Fire 2000, April 27-30, 1987, South Lake Tahoe, California.

Implications on International Concepts

10. Increasing need for fire education in resource management programs.

11. Exchanging wildland-fire related data from other countries will be gathered, results will be applied to each other.

12. Greater communication and cooperation fostering international solutions to world problems.

13. Growing nongovernment interest groups exerting more influence on decisionmaking processes.

VISIONS AND STRATEGIES

The three visions elaborated describe an image of a preferred future that is attainable. It serves as a guide to interim strategies, which are briefly described.

Ecosystem-Use and Response

Relationships between use of the ecosystem and ecosystem response, particularly tropical ecosystems, would be understood. These ecosystems would be managed to harmonize the forest and needs of rural populations.

Strategies

- Monitor and evaluated trends.
- Develop scientific and technical base between ecosystem-use and response.
- Develop a strategy to integrate land-use and population.
- Develop public awareness.
- Provide local incentives and adequate funding for local people to develop sound conservation practices and to start-up and sustain multiple-use forestry, agroforestry or social forestry systems.
- Monitor and evaluate effectiveness strategies.

Fire Regimes and Fire Management

Fire regimes would be managed in priority zones to ensure conservation of species with minimum impacts on resources.

Strategies

- Identify, define and actualize world-wide fire regimes.
- Identify sensitive areas that need fire protection.
- Compile and publish state of existing knowledge on fire problems in tropical forests.
- Develop fire management strategies.
- Include mitigation measures in forest planning to reduce fire losses.
- Set resource management objectives and priority zones.
- Develop public involvement awareness programs compatible with regional cultures.
- Identify undesirable exotic species that should not be introduced into the ecosystem.
- Organized international symposia on fire regimes, mainly on tropical biota, also on temperate zones and other less understood ecosystems.

Forest-Atmosphere Interactions

The extent and processes of forest-atmosphere interactions would be clearly understood. This knowledge would be used in land management strategies.

Strategies

- Monitor worldwide effects of pollution on ecosystems (specifically carbon cycle).
- Increase international cooperation and coordination.
- Identify sources of pollution. Prioritize control and restrict pollution sources.

- Promote reforestation in tropical areas.
- Integrate fire management and land management planning.
- Increase research funding to create a scientific base for implementing strategies.

CONCLUDING REMARKS

The world is facing growing and complex environmental problems, such as forest damage in Europe, deterioration of lakes in Scandinavia

and North America, climatic impact of deforestation in the tropics, desertification, and a growing level of tropospheric oxidants. There are increasing demands for reliable information and for action. The role of wildfires and biomass burning as well as other burning processes in global ecological interactions are currently not yet understood completely. This is the challenge to the international community of wildland fire scientists and managers. It is also a challenge to an International Geosphere-Biosphere Program whenever launched in the near future.



The Forest Service, U. S. Department of Agriculture, is responsible for Federal leadership in forestry.

It carries out this role through four main activities:

- Protection and management of resources on 191 million acres of National Forest System lands
- Cooperation with State and local governments, forest industries, and private landowners to help protect and manage non-Federal forest and associated range and watershed lands
- Participation with other agencies in human resource and community assistance programs to improve living conditions in rural areas
- Research on all aspects of forestry, rangeland management, and forest resources utilization.

The Pacific Southwest Forest and Range Experiment Station

- Represents the research branch of the Forest Service in California, Hawaii, and the western Pacific.
-

Davis, James B.; Martin, Robert E., technical coordinators.

Proceedings of the Symposium on Wildland Fire 2000, April 27-30, 1987, South Lake Tahoe. California. Gen. Tech. Rep. PSW-101. Berkeley, CA: Pacific Southwest Forest and Range Experiment Station, Forest Service, U.S. Department of Agriculture; 1987. 258 p.

This "futuring" symposium addressed the possible, preferred, and probable status of wildland fire management and research in the year 2000 and beyond. Papers cover the fire protection needs of the public, management response to these perceived needs, and the research and education required to meet these needs. Also covered in a separate section are the interactions between forest user, manager, and researcher, as well as international issues. Nine papers, developed by the futuring process and presented at the symposium examine key trends, define preferred "visions" of fire management in the year 2000, and describe strategies to achieve these visions. One paper describes how the Incident Command System (ICS), which is popular among fire service agencies, was used to organize and conduct the symposium.

Retrieval Terms: artificial intelligence, expert systems, fire effects, fire management, futuring, prescribed burning