



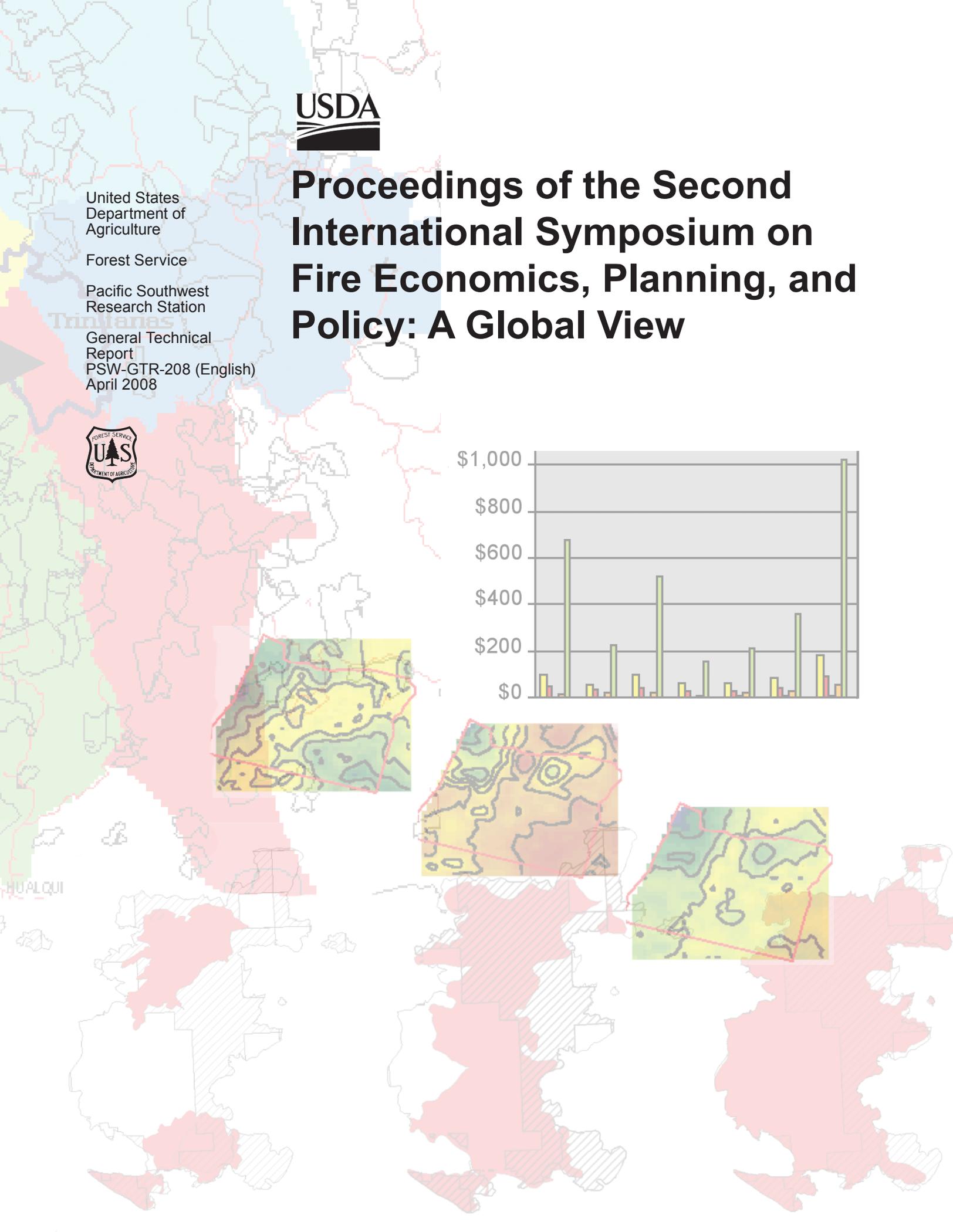
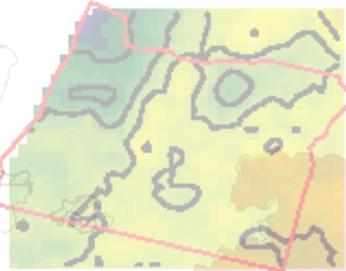
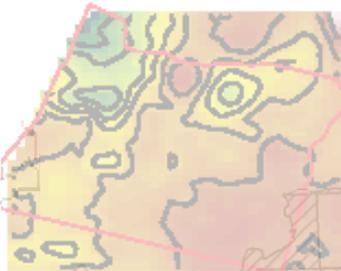
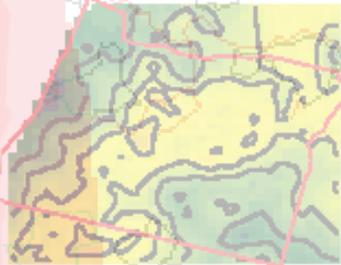
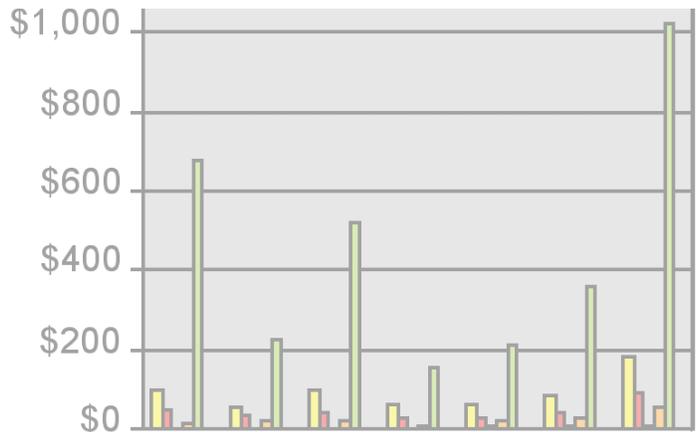
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Proceedings of the Second International Symposium on Fire Economics, Planning, and Policy: A Global View



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Proceedings of the Second International Symposium on Fire Economics, Planning, and Policy: A Global View

Armando González-Cabán
Technical Coordinator

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Abstract

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These proceedings summarize the results of a symposium designed to address current issues of agencies with wildland fire protection responsibility at the federal and state levels in the United States as well as agencies in the international community. The topics discussed at the symposium included fire economics, theoretical and methodological approaches to strategic fire planning, wildland fires and sustainable forest management, incorporation of market and nonmarket economic evaluation techniques into fire management planning, public policies and wildland fires, tradeoffs between fuel treatment and suppression activities, and global and regional vision of the wildland fire problem. Representatives from international organizations with fire protection responsibilities in 14 countries presented and discussed their experiences on the same issues. Fifty-five invited and contributed papers and 20 posters were presented at the symposium that described the issues and presented state-of-the-art techniques to address technical issues on fire economics, planning, and policy currently faced by land and fire managers.

Keywords: Fire economics, fuel treatment tradeoffs, nonmarket valuation, public policy and wildland fires, strategic fire planning, sustainable forest management.

Preface

A World on Fire!

The economic relevance of wildland fire management and protection programs is ever growing, particularly considering mounting wildfire costs and losses globally, and the justifications required for budget allocations to management and protection of forest ecosystems. However, at the same time, the first symposium highlighted major difficulties in grappling with the problem of rapidly increasing wildland fire management costs. For example, in the United States from 2000 to 2002, more than \$3 billion has been expended on fire suppression alone, affecting more than 8 million hectares of land. In 2003, in California alone, 300,000 hectares were burned, more than 3,500 homes destroyed, 22 people killed, and more than \$3.5 billion in property losses!

Canada spends an average of between \$400 to \$800 million annually on fire suppression, prevention, and prescribed burning. This does not account for timber, recreation, health, and personal property losses. The mean annual area burned associated with these expenditures is 2.5 million hectares.

Mexico and the Central America region are also suffering tremendous losses to forest fires. For example, one of the worst forest fire years in record in the area was 1998 when more than 2.3 million hectares of forest land was affected, Mexico bearing the brunt of it with 850,000 hectares burned. Adding the area burned to agricultural uses in the region (5.3 million hectares) bring the total for 1998 to 7.7 million hectares. That is the equivalent of the entire country of Panama! Unfortunately, fire suppression expenditure information is not readily available in many Central America region countries. However, just three of the region countries (Guatemala, Honduras, and Mexico) spend over \$21 million a year in personnel and equipment.

In the South American continent during the 1990s, Brazil, Argentina, and Bolivia burned annually an average of 1.03, 1.5 and 0.92 million hectares of forest lands. These three countries alone account for about 88 percent of the total annual area burned in the decade. As you will see later on this morning, some estimates of the financial losses of forest fires in South America go as high as \$1.6 billion annually. This is a significant figure, particularly when the social and ecological consequences of the fires are not even considered!

Every year, on average, Europe experiences 45,000 forest fires, burning approximately a half million hectares of forest and woodlands. Between 1989 and 1993, close to 2.6 million hectares of land were burned. The year 2003 was a particularly bad forest fire year for Europe. Portugal lost more than 450,000 hectares; France saw an increase in area burned of more than 30 percent from the previous decade; and the Russian Federation lost 23.7 million hectares, an area about the size of the United Kingdom. It was not any better for the rest of the world; Australia, for example, lost more than 60 million hectares to forest fires.

Large forest fires in China, Mongolia, Indonesia, and other parts of the world demonstrate that forest fires are a world problem. No country is exempted from its impact. For example, let us remember for a moment the Indonesian fires and haze of 1997. The economic impact of that event to the economies of Indonesia,

Malaysia, and Singapore was recently estimated at about almost \$4.5 billion. And this did not include long-term health damages, loss of life, reduced crop productivity, etc.

Worldwide, it is estimated that approximately 350 million hectares of forest lands are burned annually. This is equivalent to burning the area of the Indian subcontinent every year! An individual country response approach is no longer the solution.

A myriad of reasons have been identified as responsible for the increase in forest fire activities. Among the most prominent are changes in global weather patterns, increased population near forested areas (wildland/urban interface problem), changing land use patterns, and fire exclusion practices.

As has become evident in recent years, we have public and congressional oversight that demands greater accountability for fire management actions and expenditures. A diversity of wildland uses is affected, from recreation and wildlife interests to traditional commodity outputs. To achieve a balanced distribution of budget funds according to the priorities established in strategic and economic planning processes, appropriate analytical tools and methodologies are needed.

This second Fire Economics, Planning, and Policy: A Global View symposium being held here in Córdoba, Spain, 19-22 April, 2004 builds on the foundation established with the first symposium (Fire Economics, Planning, and Policy: Bottom Lines) conducted in San Diego, California, April 5-9, 1999. However, this second edition includes a broader scope of interests and a wider community of wildland fire managers and practitioners bringing together individuals from the Mediterranean Basin, Latin America, North America, and Australia with significant wildland fire problems. Based in the southern Europe Mediterranean Basin, the forum will provide its international audience the opportunity to exchange ideas regarding the economics of fire management, and to share the latest in development and technologies available for optimizing fire management expenditures.

The symposium is organized around eight major themes. The first theme is a regional and global vision of the forest fire problem. Because the majority of fire management activities are carried out by public land management agencies, we organized a panel with representatives from some of the preeminent fire management agencies in North America, Chile, Mexico, and Spain.

A second major theme is planning for fire management. Recognizing that no single perspective works best for all situations, a variety of speakers from countries around the world from different organizations and backgrounds are assembled to exchange their experiences and approaches. The unifying thread among all is the common interest in planning fire management expenditures, policy evolution, and valuation schemes. This last topic, valuation schemes, brings us to our next major symposium theme, where nonmarket and market valuation methods for incorporation into strategic fire planning will be discussed.

Catastrophic fires represent a real threat to the sustainability of fragile and non-fire-dependent ecosystems, and impact negatively large expanses of plantation forests. Therefore, another of the symposium's major themes of discussion is the relationship of forest fires and sustainable forest management. This is also closely tied with the issues of public policies and forest management. Globally, including pronouncements at the United Nations, there have been major changes in forest fire

management and suppression policies. It is a relevant topic that needs discussion and sharing among agencies from different countries with forest fire protection responsibilities.

Does increasing the level of forest fuels treated by prescribed burning activities really decrease fire suppression expenditures? The underlying belief in the fire community is that it does; it is intuitively correct. A complete session of the symposium is dedicated to discussing this issue and reviewing the state of the knowledge at this time. The experiences from colleagues around the world will help us assess the theory.

A poster session will present examples of national and regional fire management plans, and related research results.

The symposium closes with another roundtable in which a summary of the symposium discussions will be presented and the future economic implications of the forest fires discussed.

It is our sincerest belief that by bringing together world fire management practitioners and the research community, we will be better prepared to respond in an efficient and effective manner to the challenges of forest fires.

THANK YOU!

Armando González-Cabán
Córdoba, Spain
April 20, 2004

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