Preface

The American Meteorological Society symposia series on Fire and Forest Meteorology provides biennial forums for atmospheric and fire scientists to introduce and discuss the latest and most relevant research on weather, climate and fire. This special issue highlights significant work that was presented at the Fifth Symposium in Orlando, Florida during 16–20 November 2003, and held jointly with the Second International Wildland Fire Ecology and Fire Management Congress. This is the second special issue in the *International Journal of Wildland Fire* from these symposia—the first appeared in Volume 11, Numbers 3 & 4, 2002, based on papers presented at the Fourth Symposium.

While the symposia were born out of a historic need for accurate fire weather predictions to help suppress wildfires that threatened timber products, the context has broadened dramatically over the years. Now, in addition to wildfire suppression, the world of fire includes assessments and predictions for prescribed fire, smoke management and seasonal fire potential. Research examines land–atmosphere processes that control fire rehabilitation, coupled fire–atmosphere physics, and the relation of fire to the global carbon budget and climate change. Grass, shrublands and the wildland–urban interface now share the stage with timbered forests. Weather and climate at all spatial and temporal scales—past, current and future—are relevant to fire.

The Fifth Symposium program was developed by Timothy J. Brown and Sue A. Ferguson, co-chairpersons, and by committee members David Billingsly, Barbara Bonefeld, Larry Bradshaw, Mark Finney, Francis M. Fujioka, Scott Goodrick, Beth L. Hall, Tom McClellan, Richard Ochoa, Brian Potter and Carol Rice. Session topics included mesoscale meteorology, predictive services and operational forecasting, and atmospheric stability and fire behavior. There were also a number of joint sessions with the Second Congress meeting. These included GIS/remote sensing, fire and atmosphere interactions, combustion modeling, risk assessment and decision support, wildfire burn severity mapping, smoke management and air quality, assessing and predicting climate impacts on landscapes, Landfire (a fire, ecosystem, and fuel assessment-mapping project), fire and drought indices, and Fire Consortia for Advanced Modeling of Meteorology and Smoke. There were also opening and closing plenary sessions, and a panel discussion on Fair Weather: Effective Partnerships in Weather and Climate Services.

There were 169 Symposium participants, and 628 individuals attended the combined meetings. Including the joint sessions, 125 papers and 20 posters were presented. Many of these were submitted to the proceedings volume published November 2003 by the American Meteorological Society, 45 Beacon Street, Boston, Massachusetts 02108-3693, USA. The proceedings are dedicated to the memory of David W. Goens, who was instrumental in organizing the first three Symposia on Fire and Forest Meteorology. While all Symposium participants were invited to submit their work to this special issue of the *International Journal of Wildland Fire*, only nine manuscripts contained sufficient detail of background, methods and results to meet Journal standards. These manuscripts cover a broad spectrum of interests including smoke, modeling and dynamics. We hope they will be found beneficial as a scientific contribution, and perhaps some will find immediate utility in the world of applications. They represent fire–atmospheric science research early in the 21st Century, and a hint as to just how much more research work there is to do. In addition to this special issue, a number of papers were submitted for consideration of a special issue in the journal *Agricultural and Forest Meteorology* to appear in early 2005.

We would like to express much gratitude to the authors, reviewers and editors involved in this special issue, and of course to the participants of the Symposium for presenting their ideas and research results that ultimately lead to another special issue. We are indebted to the sponsors of the joint meeting. These include the Joint Fire Sciences Program, NOAA/National Weather Service, NOAA Office of Global Programs, U.S. Fish and Wildlife Service, National Park Service, U.S. Forest Service, Fire Program Solutions, LLC, and the U.S. Bureau of Land Management.

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