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Contacts: Andrzej Bytnerowicz, Ph.D., PSW Research Station, 951/680-1562
Christian Andersen, Ph.D., U.S. Environmental Protection Agency, 541/754-4791
Roland Giller, PSW Research Station public affairs, 510/559-6327

Book Explores Global Implications of Wildland Fire Smoke

RIVERSIDE, Calif. November 3, 2008—An international team of scientists offer a compendium of air pollution research in a new book that explores smoke impacts on humans and the environment, while addressing the challenges of finding socially-acceptable uses of fire as a land management tool.

The 686-page book includes 26 research papers written by 85 experts from various science disciplines who studied smoke impacts in North and South America, Europe, Asia, and Australia from prehistoric times to the present day for a deeper understanding of fire effects on local and global air quality.

“We intended to give an overview of what we know of how wildland fires affect air pollution, whether they are unintentionally or intentionally set,” said Andrzej Bytnerowicz, a U.S. Forest Service scientist at the Pacific Southwest Research Station who edited the book. “We wanted to provide managers specific options for dealing with this environmental challenge.”

“Wildland Fires and Air Pollution, Volume Eight” is divided into four sections that begins with a description of how fire as a major land-use tool was first documented in the Middle Ages and has been increasingly applied. It continues with an explanation of how current climatic conditions affect fire occurrence and global carbon stocks.

The second section offers regional perspectives by assessing the impact of what scientists call “mega-fire” events in Europe, North America, Asia and Australia. It includes a discussion of how smoke that crosses continents and oceans affects global air quality. Radioactive emissions from fires that burn through the contaminated Chernobyl Power Plant Exclusion Zone in Ukraine is also examined in one of the section’s chapters.

Much of the third section provides insight into the potential interactive effects of climate change, fires and air pollution on western North American ecosystems. Anticipating the magnitude of ecosystem change will help land managers and scientists plan for it, according to the authors.

The fourth section presents current tools for predicting fire behavior, smoke dispersal and ozone levels, along with ways to manage forests affected by air pollution, climate change and fire suppression.

The editors conclude the book with an assessment of further research needs to help managers dealing with the interaction of wildland fires, air pollution, climate change and the use of fire as a land management tool.

The U.S. Forest Service’s Pacific Southwest Research Station and Joint Fire Science Program provided funding for the book. Its abstract and table of contents can be viewed at

http://www.elsevier.com/wps/find/bookdescription.cws_home/716396/description#description

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