

International Journal of Wildland Fire

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Contents	Volume 17	Issue 2	2008
<p>The meteorological conditions associated with extreme fire risk in Italy and Greece: relevance to climate model studies P. Good, M. Moriondo, C. Giannakopoulos and M. Bindi <i>International Journal of Wildland Fire</i> 17, 155–165</p>		<p>The meteorological conditions associated with elevated and extreme long- and short-timescale forest fire risk are investigated using the Canadian Fire Weather Index (FWI) in the context of Tuscany in Italy and Thessaloniki, Athens and Heraklion in Greece. The results will help inform studies of future change in fire risk.</p>	
<p>A pragmatic assessment of the usefulness of the MODIS (Terra and Aqua) 1-km active fire (MOD14A2 and MYD14A2) products for mapping fires in the fynbos biome Helen de Klerk <i>International Journal of Wildland Fire</i> 17, 166–178</p>		<p>Cash-strapped conservation agencies need easy-to-use, remotely sensed fire products. The production of the MODIS 1-km active fire data is an impressive feat. However it is not sufficient for fynbos fire interval analyses. Fire-affected area data are eagerly awaited as a resource that will impact conservation management on the ground. Chief limitations are sun-glint, strong shadows, light soils, partially burnt pixels, and pixel size.</p>	
<p>Review of formal methodologies for wind–slope correction of wildfire rate of spread Jason J. Sharples <i>International Journal of Wildland Fire</i> 17, 179–193</p>		<p>The effects of wind and topographic slope are important factors determining the rate and direction of spread of a wildfire. Consequently, a number of methods for incorporating the effects of wind and slope into wildfire behaviour and spread models have been developed. This article presents a formal review of a number of these methods, making comparisons where appropriate.</p>	
<p>Development of fuel models for fire behaviour prediction in maritime pine (<i>Pinus pinaster</i> Ait.) stands Miguel G. Cruz and Paulo M. Fernandes <i>International Journal of Wildland Fire</i> 17, 194–204</p>		<p>This study describes the development and evaluation of fuel models for the prediction of the behaviour of surface fires in maritime pine plantations. The results reveal the adequacy of a backtracking method as a basis to create fuel models for horizontally oriented surface fuel beds.</p>	
<p>A variable property heat transfer model for predicting soil temperature profiles during simulated wildland fire conditions Ebenezer K. Enninful and David A. Torvi <i>International Journal of Wildland Fire</i> 17, 205–213</p>		<p>This paper describes a model of heat transfer in soil, which can be used to predict temperatures and depth of lethal heat penetration (DLHP) during laboratory tests used to simulate wildland fires. The model was used to examine the effects of soil properties on temperature and DLHP.</p>	
<p>Meteorologically influenced wildfire impacts on urban particulate matter and visibility in Tucson, Arizona, USA Erika K. Wise <i>International Journal of Wildland Fire</i> 17, 214–223</p>		<p>This paper assesses how wildland fires and concurrent weather conditions affect particulate matter and visibility in a nearby metropolitan area. Fires caused few violations of the US federal PM standard, based on a 24-h average, despite shorter-term air quality degradation.</p>	
<p>Different interest group views of fuels treatments: survey results from fire and fire surrogate treatments in a Sierran mixed conifer forest, California, USA Sarah McCaffrey, Jason J. Moghaddas and Scott L. Stephens <i>International Journal of Wildland Fire</i> 17, 224–233</p>		<p>A survey was provided to participants after a field tour of four different fuels treatments. Findings suggest that participants understand the effect of different treatments in reducing fire hazard, but views can vary significantly for different groups as individuals interpret information through the screen of already conceived ideas about appropriate management.</p>	

What do we know about forest fire size distribution, and why is this knowledge useful for forest management?

Wenbin Cui and Ajith H. Perera

International Journal of Wildland Fire **17**, 234–244

Forest fire sizes tend to follow power law distributions in various forest types under different forest and fire management practices. Forest fire size distributions (FSD) change over time and space and are driven by various environmental and human factors. Although uncertainty and knowledge gaps remain, the knowledge of FSD is being used in forest and fire management.

Fine-scale variation of historical fire regimes in sagebrush-steppe and juniper woodland: an example from California, USA

Richard F. Miller and Emily K. Heyerdahl

International Journal of Wildland Fire **17**, 245–254

Analysis of tree rings and current vegetation suggests that fire frequency in mountain big sagebrush steppes and western juniper woodlands historically varied from decades to centuries within 4000 ha in the southern half of Lava Beds National Monument in north-eastern California, USA.

Evaluating the effectiveness of contour-felled log erosion barriers as a post-fire runoff and erosion mitigation treatment in the western United States

P. R. Robichaud, J. W. Wagenbrenner, R. E. Brown, P. M. Wohlgemuth and J. L. Beyers

International Journal of Wildland Fire **17**, 255–273

Using matched watersheds after wildfires, we found that contour-felled log erosion barriers effectively reduced post-wildfire runoff, peak flows, and erosion for small rain events, but had no effect during large events. Poor installation and degradation over time also reduced their effectiveness.

Influence of water and terpenes on flammability in some dominant Mediterranean species

G. A. Alessio, J. Peñuelas, J. Llusià, R. Ogaya, M. Estiarte and M. De Lillis

International Journal of Wildland Fire **17**, 274–286

The results of this study show that plant flammability is related to leaf hydration in both shrubland and forest ecosystems in the Mediterranean. As forecasted by climatic models flammability will increase under more arid conditions in coming decades.

Natural post-fire dynamics and serotiny in 10-year-old *Pinus halepensis* Mill. stands along a geographic gradient

D. Moya, J. M. Espelta, F. R. López-Serrano, M. Eugenio and J. De Las Heras

International Journal of Wildland Fire **17**, 287–292

Natural regenerated pine tree stands were studied ten years after forest fires in Eastern Spain. Several pine tree characteristics were measured and compared. Results showed a geographical gradient based upon growth and reproduction dynamics. Serotiny levels were higher in southern locations although density was influencing overall pine stand development.

Landscape-scale changes in canopy fuels and potential fire behaviour following ponderosa pine restoration treatments

John P. Roccaforte, Peter Z. Fulé and W. Wallace Covington

International Journal of Wildland Fire **17**, 293–303

We compared differences in canopy fuels and potential fire behaviour across a ponderosa pine landscape in Arizona in 1870 (presettlement), 1996–97 (pre-restoration), and 2003 (post-restoration), using three fuel estimation methods and two fire models. We concluded that the proportion of the landscape susceptible to active crown fire decreased substantially in the treated area.
