

# *International Journal of Wildland Fire*

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Contents	Volume 16	Issue 3	2007
Wildland–urban interface housing growth during the 1990s in California, Oregon, and Washington <b>Roger B. Hammer, Volker C. Radeloff, Jeremy S. Fried and Susan I. Stewart</b> <i>International Journal of Wildland Fire</i> <b>16</b> , 255–265			This study, examines housing growth in California, Oregon, and Washington in the wildland-urban interface (WUI). Over a million new WUI homes were constructed during the 1990s, comprising 61% of the homes constructed in the region. Housing growth patterns in this three-state region are exacerbating wildland fire problems in the WUI.
Fire scars reveal source of New England's 1780 Dark Day <b>Erin R. McMurtry, Michael C. Stambaugh, Richard P. Guyette and Daniel C. Dey</b> <i>International Journal of Wildland Fire</i> <b>16</b> , 266–270			An infamous dark day over New England in 1780 is revisited in the context of fire scar evidence of widespread fires and dendrochronological evidence of drought in that year.
Problems, paradoxes, paradigms: triangulating fire research <b>Stephen J. Pyne</b> <i>International Journal of Wildland Fire</i> <b>16</b> , 271–276			Wildland fire needs to expand beyond its dominant physical paradigm to include biological and cultural conceptions of fire as well. The first would build on fire's biological character, and the second, on its ancient alliance with humanity. This essay sketches what the resulting fire-research triangle might look like.
Analysis of Alaskan burn severity patterns using remotely sensed data <b>Paul A. Duffy, Justin Epting, Jonathan M. Graham, T. Scott Rupp and A. David McGuire</b> <i>International Journal of Wildland Fire</i> <b>16</b> , 277–284			Wildland fire plays a critical role in the Alaskan boreal forest. This work explores relationships between burn severity, topography and three dominant forest types (open/closed coniferous and deciduous). We found significant interactions between burn severity, topography and forest type. Specifically, topography affects interactions between burn severity and forest type.
A simulation model of the growth and suppression of large forest fires in Ontario <b>Justin J. Podur and David L. Martell</b> <i>International Journal of Wildland Fire</i> <b>16</b> , 285–294			We developed a simulation model to predict annual area burned given weather and fire suppression information based on the Ministry of Natural Resources large fire management system in the province of Ontario. We used the model to predict area burned under different fire suppression resource and weather scenarios.
Efficacy of permanent firebreaks and aerial prescribed burning in western Arnhem Land, Northern Territory, Australia <b>Owen F. Price, Andrew C. Edwards and Jeremy Russell-Smith</b> <i>International Journal of Wildland Fire</i> <b>16</b> , 295–305			Permanent and temporary firebreaks in Arnhem Land, northern Australia usually allowed the passage of wildfires, their effectiveness depending upon firebreak type (rivers are best), width and fire season. In the case of Aerial Prescribed Burning, it is important to ensure that the burnt firebreak is complete.
Integrating new methods and tools in fire danger rating <b>Christos Vasilakos, Kostas Kalabokidis, John Hatzopoulos, George Kallos and Yiannis Matsinos</b> <i>International Journal of Wildland Fire</i> <b>16</b> , 306–316			This paper presents a fire ignition risk scheme, developed in the study area of Lesbos Island, Greece. Remote sensing, GIS and artificial intelligence methods are incorporated to perform a quantitative assessment of fire danger in a systematic way. Results from operational use during the summer of 2004 are presented.
Resprouting responses of <i>Acacia</i> shrubs in the Western Desert of Australia – fire severity, interval and season influence survival <b>Boyd R. Wright and Peter J. Clarke</b> <i>International Journal of Wildland Fire</i> <b>16</b> , 317–323			Many shrubs in the arid zone of Australia resprout after fire but the ability of four <i>Acacia</i> species to resprout is influenced by fire severity and season and less so by fire intervals. All species are top killed and when they survive fire they resprout from basal stems.

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Thermal infrared emission–transmission measurements in flames from a cylindrical forest fuel burner

**Jean-Luc Dupuy, Philippe Vachet, Joël Maréchal, Juan Meléndez and Antonio J. de Castro**

*International Journal of Wildland Fire* **16**, 324–340

The radiation from flames of a forest fire is an important mechanism of fire spread and fire effects. Radiation of a flame is due to both soot particles and gaseous products of combustion and is characterized among other properties by its emissivity or its transmittance. Using a thermal infrared camera, we performed measurements that allow the determination of these properties, for the soot contribution, at different levels in a flame.

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Estimation of shrub height for fuel-type mapping combining airborne LiDAR and simultaneous color infrared ortho imaging

**David Riaño, Emilio Chuvieco, Susan L. Ustin, Javier Salas, José R. Rodríguez-Pérez, Luis M. Ribeiro,**

**Domingos X. Viegas, José M. Moreno**

**and Helena Fernández**

*International Journal of Wildland Fire* **16**, 341–348

A shrub height map was generated to provide information needed to characterize fire behavior, generated for a fire research experimental site, in Gestosa (Portugal), combining airborne Light Detection and Ranging with color infrared ortho image. When compared to field observations, the estimation of the shrub height was  $R^2 = 0.65$ .

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Effects of a long-term fire retardant chemical (Fire-Trol 934) on seed viability and germination of plants growing in a burned Mediterranean area

**Belén Luna, José M. Moreno, Alberto Cruz**

**and Federico Fernández-González**

*International Journal of Wildland Fire* **16**, 349–359

Fire-Trol 934®, widely used for control of wildland fires, decreased significantly both seed viability and germination in 36 plant species from the Iberian Peninsula, which suggests its potential toxic effect. Viability and germination responses were analyzed in relation to different plant functional groups: life-form, regenerative strategy and geographic distribution range.

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