

International Journal of Wildland Fire

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Contents	Volume 19	Issue 3	2010
Forest fire occurrence and climate change in Canada B. M. Wotton, C. A. Nock and M. D. Flannigan <i>International Journal of Wildland Fire</i> 19 , 253–271		Two general circulation models are used to develop projections of future fire occurrence across Canada. Annual fire occurrence in the future is projected to increase across all forested regions studied, though this increase varies regionally. Increases in fire numbers are driven most strongly by lightning-caused fires.	
Spatial variation of trends in wildfire and summer drought in British Columbia, Canada, 1920–2000 Andrea Meyn, Sebastian Schmidlein, Stephen W. Taylor, Martin P. Girardin, Kirsten Thonicke and Wolfgang Cramer <i>International Journal of Wildland Fire</i> 19 , 272–283		A pronounced increase in fire activity over recent decades is consistent with projections of future increase driven by climate warming in Canada. For Canada's most western province, British Columbia, we observed opposing trends: a decrease in wildfire activity that is significantly related to wetter summers with the strength of the relationship considerably varying between British Columbia's landscapes.	
Convective heat transfer in fire spread through fine fuel beds W. R. Anderson, E. A. Catchpole and B. W. Butler <i>International Journal of Wildland Fire</i> 19 , 284–298		A set of experiments were conducted in a wind tunnel to measure convective heating ahead of a fire front. Measurements included gas temperature and horizontal gas velocity. Three general flow regimes were identified that can be used to characterize the convective heating between the flame and fuel bed.	
Assessing the exposure of the built environment to potential ignition sources generated from vegetative fuel J. L. Beverly, P. Bothwell, J. C. R. Conner and E. P. K. Herd <i>International Journal of Wildland Fire</i> 19 , 299–313		The extent of the wildland–urban interface is assessed based on the degree or level of exposure of the built environment to potential ignition sources generated from vegetative fuel. The approach can be used to map the extent of the wildland–urban interface as a means of informing strategic planning exercises and mitigation activities, and to compare conditions within and between communities and over time.	
Flammability descriptors of fine dead fuels resulting from two mechanical treatments in shrubland: a comparative laboratory study Eva Marino, Javier Madrigal, Mercedes Guijarro, Carmen Hernando, Carmen Díez and Cristina Fernández <i>International Journal of Wildland Fire</i> 19 , 314–324		The aim of this study was to compare the effects of two mechanical fuel treatments on flammability of resulting fine dead fuels in a shrubland community of north-western Spain in order to assess their effectiveness in reducing wildfire initiation risk.	
A model for predicting human-caused wildfire occurrence in the region of Madrid, Spain Lara Vilar, Douglas G. Woolford, David L. Martell and M. Pilar Martín <i>International Journal of Wildland Fire</i> 19 , 325–337		In European Mediterranean countries such as Spain more than 90% of wildfires are caused by humans. This paper describes the development of a spatio-temporal model for human-caused wildfire occurrence prediction in Madrid, central Spain. The presence of railways, roads and wildland–urban interface in forest areas were highly significant, as were the observed daily maximum temperature and precipitation.	
Australian grassland fire danger using inputs from the GRAZPLAN grassland simulation model A. Malcolm Gill, Karen J. King and Andrew D. Moore <i>International Journal of Wildland Fire</i> 19 , 338–345		In the absence of archived data, Grassland Fire Danger Index (GFDI) cannot be assessed. However, by using a grassland simulator and archived weather data, retrospective examination of the index is possible. Two versions of GFDI were compared using input data for three types of grass and 54 years of archived weather data. Potential fire intensities were also calculated for each afternoon of record.	

Turbulent kinetic energy during wildfires in the north central and north-eastern US

Warren E. Heilman and Xindi Bian

International Journal of Wildland Fire **19**, 346–363

This paper examines the spatial and temporal patterns of ambient atmospheric turbulence in the vicinity of recent wildfire events in the western Great Lakes and north-eastern regions of the United States. Results indicate that large wildfires and periods of rapid fire growth were often associated with episodes of significant turbulence.

Beyond wildfire: perspectives of climate, managed fire and policy in the USA

Crystal A. Kolden and Timothy J. Brown

International Journal of Wildland Fire **19**, 364–373

We present the results of a survey showing US fire managers do not widely utilise climate information in their prescribed fire programs. We suggest that this stems from a glaring gap we find in US fire policy, which does not currently acknowledge the critical role climate plays in wildfire regimes.

Critique of Sikkink and Keane's comparison of surface fuel sampling techniques

Clinton S. Wright, Roger D. Ottmar

and Robert E. Vihnanek

International Journal of Wildland Fire **19**, 374–376

In 2008, Sikkink and Keane compared five methods to estimate surface fuel loading: planar intersect, fixed-area plot, photoload, photoload macroplot and photo series. We feel that study design limitations and incorrect use may have led the authors to infer that the photo series method was the least accurate.



A pine tree sapling grows through the charred remains of a forest fire.
Photo: L. Sawyer