

International Journal of Wildland Fire

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Contents	Volume 17	Issue 6	2008
Large fires and their ecological consequences: introduction to the special issue Richard J. Williams and Ross A. Bradstock <i>International Journal of Wildland Fire</i> 17 , 685–687			
Large fires, fire effects and the fire-regime concept A. Malcolm Gill and Grant Allan <i>International Journal of Wildland Fire</i> 17 , 688–695		This paper discusses the development of large fires and their ecological effects. Large fires, although rare, have a disproportionate influence on the fire regime and therefore on biodiversity. Incorporating 'fire area' into the concept of the fire-regime creates some difficulties; biodiversity in freshwater streams is used to illustrate the problem.	
Ecological effects of large fires on US landscapes: benefit or catastrophe? Robert E. Keane, James K. Agee, Peter Fulé, Jon E. Keeley, Carl Key, Stanley G. Kitchen, Richard Miller and Lisa A. Schulte <i>International Journal of Wildland Fire</i> 17 , 696–712		Large wildland fires are often perceived as an ecological disaster, but they might also restore ecosystems and reduce fuel hazard over large areas. The present paper outlines a review of the current knowledge of the effect of large fires in United States ecosystems and discusses their importance in fire management.	
Are wildfires a disaster in the Mediterranean basin? – A review Juli G. Pausas, Joan Llovet, Anselm Rodrigo and Ramon Vallejo <i>International Journal of Wildland Fire</i> 17 , 713–723		We review to what extent fires generate ecological disasters in the Mediterranean basin, in view of current fire regimes and the extended human pressure on the landscapes. The review suggests that post-fire disasters are not the rule, but they may be important under conditions of previous human disturbances.	
The historical range of variability of fires in the Andean–Patagonian <i>Nothofagus</i> forest region Thomas T. Veblen, Thomas Kitzberger, Estela Raffaele, Mónica Mermoz, Mauro E. González, Jason S. Sibold and Andrés Holz <i>International Journal of Wildland Fire</i> 17 , 724–741		Although the large areas burned in wildfires in the late 1990s and early 2000s in the <i>Nothofagus</i> forest region of southern Argentina and Chile are not without precedent, they are consistent with decade-long trends in climate and land use. Overall, a warming trend, especially since the late 1970s, in combination with annual variability in precipitation appears to be making the region more susceptible to wildfire.	
Landscape heterogeneity following large fires: insights from Yellowstone National Park, USA Tania Schoennagel, Erica A. H. Smithwick and Monica G. Turner <i>International Journal of Wildland Fire</i> 17 , 742–753		Understanding the ecological consequences of large wildfires has become more important as fire size and annual area burned continue to increase. We synthesise research on the 1988 Yellowstone fires in the northern Rocky Mountains, focussing on spatial heterogeneity and carbon and nitrogen dynamics. These natural wildfires created patterns at multiple scales, and this post-fire heterogeneity affected ecosystem function and contributed to resilience of the landscape.	
Large fires as agents of ecological diversity in the North American boreal forest Philip J. Burton, Marc-André Parisien, Jeffrey A. Hicke, Ronald J. Hall and Jason T. Freeburn <i>International Journal of Wildland Fire</i> 17 , 754–767		Large fires in the North American boreal forest are inherently variable as they traverse differences in terrain and fuels under the influence of changing weather. Analysis reveals differences in burn severity and residual organic structure across multiple scales. This complexity provides a legacy important to various ecological processes and attributes.	
Big fires and their ecological impacts in Australian savannas: size and frequency matters Cameron P. Yates, Andrew C. Edwards and Jeremy Russell-Smith <i>International Journal of Wildland Fire</i> 17 , 768–781		Savannas are the most fire-prone of the earth's major biomes. The availability of various broad-scale satellite-derived fire mapping and regional datasets provides a framework with which to examine the seasonality, extent and implications of large fires with particular reference to biodiversity values in the tropical savannas of northern Australia.	

The impacts of large-scale, low-intensity fires on the forests of continental South-east Asia

Patrick J. Baker, Sarayudh Bunyavejchewin and Andrew P. Robinson

International Journal of Wildland Fire **17**, 782–792

Despite the presence of fire for millennia in continental South-east Asia, remarkably little is known of its impacts on the native flora and fauna. We describe the effects of El Niño–Southern Oscillation induced landscape-scale fires in 1998 on several common forest types and discuss the implications for understanding fire ecology across the region.

Large fires in Australian alpine landscapes: their part in the historical fire regime and their impacts on alpine biodiversity

Richard J. Williams, Carl-Henrik Wahren, Arn D. Tolsma, Glenn M. Sanecki, Warwick A. Papst, Bronwyn A. Myers, Keith L. McDougall, Dean A. Heinze and Ken Green

International Journal of Wildland Fire **17**, 793–808

Landscape fires in alpine environments in Australia occur once or twice per century. Monitoring of flora and fauna after large fires in 2003 showed that most alpine plant species regenerated rapidly, and that even rare fauna persisted in the landscape. The biota of alpine Australia is resilient to infrequent large fires.

Effects of large fires on biodiversity in south-eastern Australia: disaster or template for diversity?

Ross A. Bradstock

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Large fires in south-eastern Australia are perceived as: (i) homogeneous; (ii) causing large-scale extinction; (iii) causing degradation via erosion; (iv) being unnatural. These hypotheses are examined and shown to be inadequate as a basis for understanding responses of biodiversity. Effects of large fires in these landscapes are strongly dependent on their recurrence rate. Adaptive management of resultant fire regimes rather than fire events is required.
