

A comparison of fuel hazard in recently burned and long-unburned forests and woodlands

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Abstract

Fuel hazard is often assumed to increase with fuel age, or the time-since-fire. However, studies on fuel hazard in long-unburned forests are scarce. We measured overall fuel hazard in *Eucalyptus* forests and woodlands in south-eastern Australia at 81 sites where time-since-fire spans 0.5 years to at least 96 years. Overall fuel hazard was higher in forests and woodlands burned 6–12 years previously than those unburned for at least 96 years. The probability of high, very high or extreme overall fuel hazard – which is an operational threshold considered to equate with almost no chance of wildfire suppression in severe fire-weather – was highest 0.5–12 years post-fire, and lowest where fire had not occurred for at least 96 years. Frequent burning can maintain forest understorey in an early successional ‘shrubby’ state, leading to higher overall fuel hazard than forests where a lack of fire is associated with the senescence of shrubs. Protecting long-unburned sites from fire and managing to transition a larger proportion of forest to a long-unburned state may benefit fuel-hazard management within these forests in the long-term.

Additional keywords: fuel age, fuel reduction, prescribed burning, wildfire.

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