House loss and weather conditions

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Bushfires are strongly dependant on weather conditions, virtually all of the devastating bushfires involving significant house loss have occurred under very severe fire weather condition. Our research has highlighted the fact that these extreme fire weather conditions influence both the intensity of the bushfire and also the vulnerability of elements in the urban environment (materials becoming dryer and more flammable).

In this paper we will focus on the latest Bushfire CRC research outcomes in correlating house loss and fire weather intensity. This is done by analysing the relationship between historic house loss rate per single event and the localised fire weather under which this house loss occurred. Historic house loss data in Australia and meteorological data has been compiled between 1957 and 2005. For each location of house loss, temperature, relative humidity, wind speed and wind direction have been extracted and FFDI and GFDI calculated. This Information is discussed for both an Australia context and for individual States/Territories (Victoria, NSW, ACT and South Australia).

For any part of Australia the regional frequency and intensity of extreme fire weather can be determined, providing an insight into the potential magnitude and frequency of iconic loss events in that region. And also provide a valuable context for community education, town-planning and construction standards stringency at a regional level.

Key Words

urban interface, weather conditions, house loss, urban planning