

Bushfires lit deliberately during adverse bushfire weather

The probability that bushfires (all vegetation fires irrespective of size) will occur on high to very high or extreme bushfire weather days is affected by both climatic conditions and human action:

- **Climatic conditions** – overall, the number and proportion of all bushfires that occur under extreme weather conditions, as opposed to other fire danger ratings, is small, due to the limited number of days on which extreme bushfire weather is experienced. This is true for all fires, irrespective of cause. Some locations are inherently more bushfire prone than others, but the likelihood of adverse bushfire weather varies from year to year. For example, during an El Niño event, the failure of spring and summer rainfall in southeastern Australia leads to earlier onset of the bushfire season, and more days with very high and extreme fire danger ratings. The implication of climate change is that certain parts of Australia will experience a higher frequency of days with more adverse bushfire weather conditions (Hennessy et al. 2006).
- **Human action** – most deliberate bushfires occur within or near the most densely populated regions of Australia. Consequently, the majority of deliberate fires occur along the coastal fringe, where climatic conditions are generally milder, and the period of adverse bushfire weather is shorter. Although they have the potential to burn out of control and cause immense damage, overall, the majority of deliberately lit fires are small in area (less than one to two hectares). Analysis of a number of different data sources indicates that the highest rates of recorded deliberately lit fires during adverse bushfire weather occur in areas, regions or jurisdictions with highest rates of recorded deliberate fires generally.

A key question for bushfire arson prevention is whether there is a greater risk of deliberate fire lighting during periods of extreme weather conditions. This is a difficult question to answer with any degree of accuracy, as many fires are suspicious but not confirmed as arson incidents, and the intention of those who light fires is rarely known. A range of data shows that as the fire danger rating increases, recorded deliberate fires account for a smaller proportion of all bushfires. The increased risk of accidental and natural fires under more adverse conditions and the absence of definitive data on causal factors means that there is a lack of conclusive evidence to indicate a systematic increase in deliberate firesetting during these peak periods of risk.

From a prevention perspective, it can be concluded that efforts to prevent all forms of human instigated firesetting generally will reduce the overall incidence of known deliberately lit fires that occur during high risk conditions. Better data on causal factors showing whether suspicious fires are a result of deliberate firesetting or of accidental/negligent human action will help guide the targeting of resources into the detection of arsonists active during more adverse weather conditions.

Reference

Hennessy K et al. 2005. *Climate change impacts on fire-weather in south-east Australia*. Aspendale: CSIRO. http://www.cmar.csiro.au/e-print/open/hennessykj_2005b.pdf, accessed 12 December 2006