

Australia on fire

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In the southern half of Australia, bushfire is one of the biggest causes of loss due to natural hazards. The risk can only be reduced through close collaboration between the authorities, home and business owners, industrial enterprises and the insurance industry.



#Bushfire risks are on the rise, #class actions, #mitigation, #climate change.

Bushfire hazard results from the complex interaction of highly disparate anthropogenic and natural factors. It is the only natural hazard in which humans have a direct influence on the hazard situation. The majority of fires near populated areas are caused by human activity, the smaller portion starts naturally by lightning. Besides accidental causes, a significant number of fires are ignited deliberately.

In Australia, most of the overall and insured losses are caused by bushfires in the southeastern part of the country, where high hazard meets high exposure. The Black Saturday Victorian Fires in 2009 – the most recent major loss event for property and casualty insurers – burnt some 4,500 km² of land, killed 173 people, injured hundreds more and destroyed about 2,000 homes. Domestic property and contents insurance accounted for around three quarters of the A\$ 1.2bn insured property loss (indexed using CPI); commercial, industrial and farming policies accounted for one quarter. Estimates indicate that 80% of the insured people affected by the fires were underinsured.

Compared with other natural hazards, the share of total losses (destroyed houses) is higher on average in the case of bushfires; therefore underinsurance effects can be greater. Most houses are either destroyed completely or left virtually undamaged – there are only few structures with partial damage. Aside from underinsurance, 13% of the destroyed residential properties in the Black Saturday Fires were not insured at all.

The most significant bushfires in history



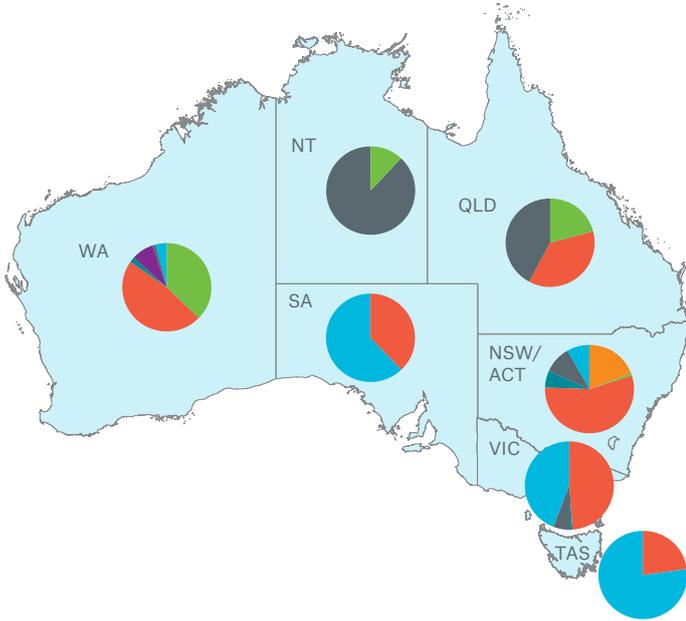
The Black Saturday Fire (VIC) in 2009, which burnt 4,500 km² of land, killed 173 people and destroyed some 2,000 homes. Overall losses A\$ 1.7bn, insured losses A\$ 1.07bn (in original values).

The Ash Wednesday Fire (VIC/SA) in 1983, which burnt 5,200 km², destroyed some 2,400 homes and killed 75 people. Overall losses A\$ 335m, insured losses A\$ 176m (in original values).

The Tasmanian Black Tuesday Fires (TAS) in 1967, which burnt more than 2,600 km², destroyed some 1,400 homes and killed 62 people. Overall losses A\$ 35m, insured losses A\$ 14m (in original values).

The Black Friday Fire (VIC) in 1939, which burnt almost 20,000 km², destroyed more than 700 homes and resulted in 71 fatalities.

**Normalised insured property losses 1980-2014:
Percentage distribution per peril in each state**

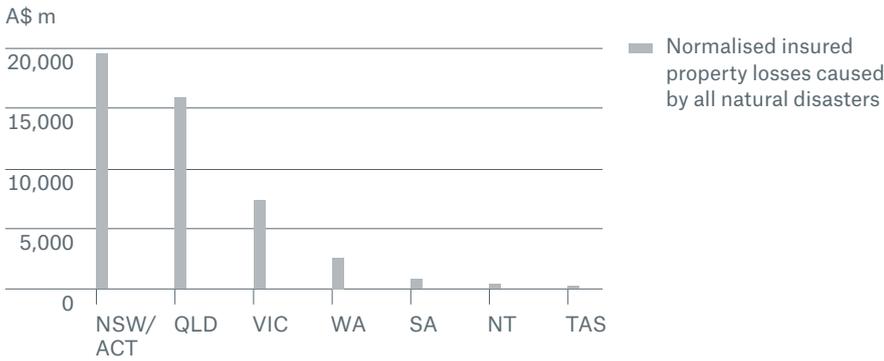


A significant share of the normalised insured property losses in Victoria (VIC), South Australia (SA), and Tasmania (TAS) were caused by bushfires.

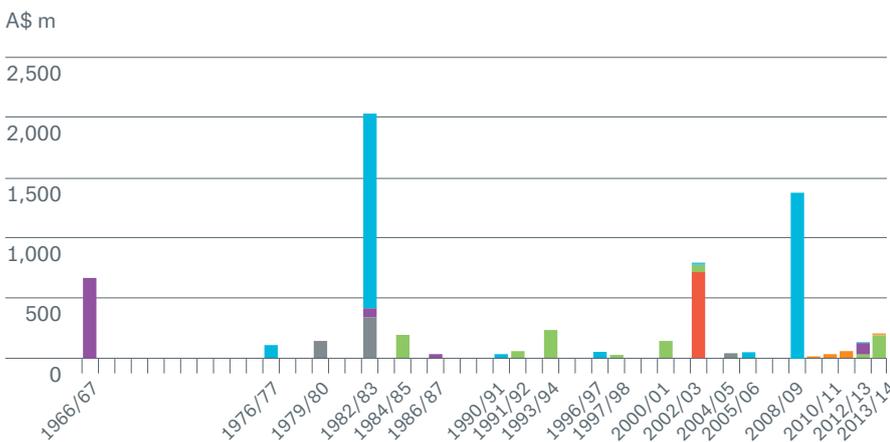
Normalisation removes the effect that increased wealth, i.e. the number of houses and their price over time, has on losses. This makes it possible to compare losses that occurred at different points in time.

Sources: ICA, Munich Re NatCatSERVICE

- Earthquakes
- Tropical cyclones
- Convective storms (incl. hail)
- Winter storms
- Sandstorms
- Floods
- Bushfires



**Normalised insured property losses 1967-2014
caused by bushfires**



Since the devastating 1967 Tasmanian fires, about half of the normalised insured property losses were caused in Victoria (VIC) and one quarter in New South Wales and the Australian Capital Territory.

Sources: ICA, Munich Re NatCatSERVICE

- WA
- VIC
- TAS
- NSW
- ACT
- SA

Accidentally caused fires

In a human-caused bushfire, the party responsible for the fire may face civil and/or criminal charges, based on negligence or strict liability. Liability insurance comes into play if a party caused the fire with a legal liability, but no wilful intent was involved. Since a large proportion of damaging fires in Australia are directly or indirectly attributable to human activity, and given the substantial monetary losses, fire-fighting costs and harm to people they cause, the risk of bushfire also needs to be considered in connection with casualty contracts.

The exposure of public utility companies is particularly high, as overhead power lines are a potential ignition source and run throughout the country over long distances. Under “normal conditions” a low single-digit percentage figure of bushfires start in the context of power lines. But during days of extreme fire danger, the percentage of fires caused by electrical distribution installations rises strongly above the long-term average. This becomes evident when regarding the three costliest bushfire disasters since 1980. A significant portion of the individual fires were electricity-caused – half of the fires during the Ash Wednesday disaster in 1983 and one third of the fires during the Black Saturday events in 2009. Only the Canberra fires in January 2003 were all started by lightning. Wind is a key variable. Adverse wind conditions, i.e. high wind speeds and change in wind direction, can turn a normal fire into an uncontrollable inferno. High wind speeds also increase the probability of an inferno being triggered by electrical assets.

Recent settlements set new records

The 2009 Black Saturday Fires also showed the great loss potential for the casualty line of business. Class action lawsuits were filed against an electricity distribution company and other parties. The Kilmore East Fire, which destroyed 1,242 homes and killed 119 people, was claimed to be caused by faults in the company’s power transmission system. The parties agreed to settle the action and Victoria’s Supreme Court approved an almost A\$ 500m payout to a total of 5,000 plaintiffs – the largest settlement in Australian legal history.

The electricity distribution company, which had liability insurance that especially provided cover for bushfire liability, agreed to pay A\$ 378.6m. Victorian State Parties – another defendant – agreed to pay A\$ 103.6m and a maintenance contractor settled for A\$ 12.5m. The settlement was without admission of liability by the parties. The two companies and state parties also settled with plaintiffs for A\$ 300 million in a class action over the Murrindindi-Marysville Fire, the electricity distribution company paying a share of A\$ 260.9 million.

Disaster mitigation measures reduce economic costs

In 2014, the Australian Business Roundtable commissioned a case study that focused on a worst-case bushfire scenario in the Greater Melbourne metropolitan area. The study illustrated the economic benefit of mitigation. Expressed in monetary terms, the ratio of the benefits of undergrounding electricity wires relative to its costs projected up until 2050 was estimated to be as high as 3.1. The benefit-cost ratio of building more resilient houses and proper vegetation management near houses were estimated to be 1.4 and 1.3 respectively.

There is a need for coordination to ensure that the most effective activities are targeted. Measures suggested by the Australian Business Roundtable include more detailed mapping of bush and fire loads that allows the determination of the risk level for each house, as well as the ascertainment of the most effective ways of mitigating the bushfire risk. The incentives for mitigation can be either market-based (insurance discount) or mandated (legal requirement).

In order to reduce the risk of electrically caused bushfires, the Victorian Government announced a A\$ 750m programme of works to take place over a ten-year period in 2011. The programme is focused on activities that will reduce the risk and not cause significant impact on electricity supply reliability. Part of the programme is replacing bare wire power lines with underground cables in the highest bushfire risk areas.

Munich Re strongly supports the concept of targeted pre-loss mitigation work for bushfire and other critical natural hazards as a means of increasing resilience in communities and saving life and property. This was and remains one of the motivating factors behind our support for the Australian Business Roundtable.

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