Year 8 Humanities

Geography

http://en.wikipedia.org/wiki/Bushfires\_in\_Australia

**Australian Bushfires**

Bushfires in Australia are frequent events during the hotter months of the year, due to [Australia's mostly hot, dry climate](http://en.wikipedia.org/wiki/Climate_of_Australia). Each year, such fires impact extensive areas. On one hand, they can cause property damage and loss of human life. On the other hand, certain native [flora in Australia](http://en.wikipedia.org/wiki/Flora_of_Australia) have evolved to rely on bushfires as a means of reproduction, and fire events are an interwoven and an essential part of the ecology of the continent. For thousands of years, [Indigenous Australians](http://en.wikipedia.org/wiki/Indigenous_Australian) have used fire to foster grasslands for hunting and to clear tracks through dense vegetation.

Major [firestorms](http://en.wikipedia.org/wiki/Firestorm) that result in severe loss of life are often named based on the day on which they occur, such as [Ash Wednesday](http://en.wikipedia.org/wiki/Ash_Wednesday_fires) and [Black Saturday](http://en.wikipedia.org/wiki/Black_Saturday_bushfires). Some of the most intense, extensive and deadly bushfires commonly occur during droughts and [heat waves](http://en.wikipedia.org/wiki/Heat_wave), such as the [2009 Southern Australia heat wave](http://en.wikipedia.org/wiki/Early_2009_southeastern_Australia_heat_wave), which precipitated the conditions during the 2009 [Black Saturday bushfires](http://en.wikipedia.org/wiki/Black_Saturday_bushfires) in which 173 people lost their lives. Other major conflagrations include the 1983 [Ash Wednesday bushfires](http://en.wikipedia.org/wiki/Ash_Wednesday_bushfires), the [2003 Eastern Victorian alpine bushfires](http://en.wikipedia.org/wiki/2003_Eastern_Victorian_alpine_bushfires) and the 2006 December Bushfires.

[Victoria](http://en.wikipedia.org/wiki/Victoria_(Australia)) has seen the majority of the deadliest and largest bushfires in [Australia](http://en.wikipedia.org/wiki/Australia), most notably the 2009 [Black Saturday](http://en.wikipedia.org/wiki/Black_Saturday_bushfires) fires, where 173 people were killed, around four thousand homes and structured were destroyed, towns were gutted and some such as [Marysville](http://en.wikipedia.org/wiki/Marysville,_Victoria) were completely destroyed.

[Global warming](http://en.wikipedia.org/wiki/Global_warming) is increasing the frequency and severity of bushfires and will lead to increased days of extreme fire danger

Bushfires in Australia, are generally defined as any uncontrolled, non-structural fire burning in a grass, [scrub](http://en.wikipedia.org/wiki/Shrubland), bush, or forested area. Australia, being a geographically and meteorogically diverse continent, experiences many types of bushfires. Fires can be divided into two main categories, depending on [topography](http://en.wikipedia.org/wiki/Topography) of the area.

* Hilly/mountainous fires – Burn in hilly, mountainous or [alpine](http://en.wikipedia.org/wiki/Alpine_tundra) areas which are usually densely forested. The land is less accessible and not conducive to agriculture, thus many of these densely forested areas have been saved from [deforestation](http://en.wikipedia.org/wiki/Deforestation) and are protected by national, state and other parks. The steep terrain increases the speed and intensity of a firestorm. Where settlements are located in hilly or mountainous areas, bushfires can pose a threat to both life and property.
* Flat/grassland fires – Burn along flat plains or areas of small undulation, predominantly covered in grasses or scrubland. These fires can move quickly, fanned by high winds in flat topography, they quickly consume the small amounts of fuel/vegetation available. These fires pose less of a threat to settlements as they rarely reach the same intensity seen in major firestorms as the land is flat.

Common causes of bushfires include lightning, [arcing](http://en.wikipedia.org/wiki/Electric_arc) from overhead power lines, arson, accidental ignition from agricultural clearing, grinding and welding, campfires, cigarettes and dropped matches, machinery, and [controlled burn](http://en.wikipedia.org/wiki/Controlled_burn) escapes.

The natural fire regime in Australia was altered by the arrival of humans. Fires became more frequent, and fire-loving species—notably [eucalypts](http://en.wikipedia.org/wiki/Eucalypts)—greatly expanded their range. It is assumed that a good deal of this change came about as the result of deliberate [action by early humans](http://en.wikipedia.org/wiki/Fire-stick_farming), setting fires to clear [undergrowth](http://en.wikipedia.org/wiki/Undergrowth) or drive game.

Plants have [evolved](http://en.wikipedia.org/wiki/Evolution) a variety of strategies to survive (or even require) bushfires or even encourage fire ([eucalypts](http://en.wikipedia.org/wiki/Eucalypt) contain flammable oils in the leaves) as a way to eliminate competition from less fire-tolerant species. Some native animals are also expert at surviving bushfires.

In 2009, a standardised *Fire Danger Rating* (FDR) was adopted by all Australian states. During the fire season the [Bureau of Meteorology (BOM)](http://en.wikipedia.org/wiki/Bureau_of_Meteorology_(Australia)) provides fire weather forecasts and by considering the predicted weather including temperature, relative humidity, wind speed and dryness of vegetation, fire agencies determine the appropriate Fire Danger Rating. Fire Danger Ratings are a feature of weather forecasts and alert the community to the actions they should take in preparation of the day. Ratings are broadcast via newspapers, radio, TV, and the internet.

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| **Fire Danger Rating** | |
| **Category** | **Fire Danger Index** |
| **Catastrophic / Code Red** | Forest 100+ Grass 150+ |
| **Extreme** | Forest 75–100 Grass 100–150 |
| **Severe** | Forest 50–75 Grass 50–100 |
| **Very high** | 25–50 |
| **High** | 12–25 |
| **Low to moderate** | 0–12 |

Bushfires in Australia can occur all year-round, though the severity and the "bushfire season" varies by region.These seasons are commonly grouped into years such as "[2006-07 Australian bushfire season](http://en.wikipedia.org/wiki/2006-07_Australian_bushfire_season)" and typically run from June one year until May the next year.

In southeast Australia, bushfires tend to be most common and most severe during summer and autumn (December–March), in drought years, and particularly severe in [El Niño](http://en.wikipedia.org/wiki/El_Ni%C3%B1o) years. Southeast Australia is fire-prone, and warm and dry conditions intensify the probability of fire.In northern Australia, bushfires usually occur during the dry season (April to September),and fire severity tends to be more associated with seasonal weather patterns. In the southwest, similarly, bushfires occur in the summer dry season and severity is usually related to seasonal growth. Fire frequency in the north is difficult to assess, as the vast majority of fires are caused by human activity, however [lightning](http://en.wikipedia.org/wiki/Lightning) strikes are as common a cause as human-ignited fires and arson.

Bushfires have accounted for over 800 deaths in Australia since 1851 and the total accumulated cost is estimated at $1.6 billion. In terms of monetary cost however, they rate behind the damage caused by drought, [severe storms](http://en.wikipedia.org/wiki/Storm), [hail](http://en.wikipedia.org/wiki/Hail), and [cyclones](http://en.wikipedia.org/wiki/Cyclone),perhaps because they most commonly occur outside highly populated urban areas.

Some of the most severe Australian bushfires, in chronological order, have included:

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| **Fire** | **Location** | **Area burned 1 ha ≈ 2.5 acres** | **Date** | **Human Deaths** | **Properties damaged** |
| [1961 Western Australian bushfires](http://en.wikipedia.org/wiki/1961_Western_Australian_bushfires) | Western Australia | 1,800,000 ha | January–March 1961 | 0 | 160 homes |
| [Southern Highlands bushfires](http://en.wikipedia.org/wiki/Chatsbury_bushfire) | [New South Wales](http://en.wikipedia.org/wiki/New_South_Wales) |  | 5–14 March 1965 | 3 | 59 homes |
| [Tasmanian "Black Tuesday" bushfires](http://en.wikipedia.org/wiki/1967_Tasmanian_fires) | [Tasmania](http://en.wikipedia.org/wiki/Tasmania) | Approximately 264,000 ha | 7 February 1967 | 62 | 1,293 homes |
| 1978 Western Australian Bushfires | Western Australia | 114,000 ha | 4 April 1978 | 2 | 6 buildings (drop in wind in early evening is said to have saved the towns of [Donnybrook](http://en.wikipedia.org/wiki/Donnybrook,_Western_Australia), [Boyup Brook](http://en.wikipedia.org/wiki/Boyup_Brook,_Western_Australia), [Manjimup](http://en.wikipedia.org/wiki/Manjimup,_Western_Australia), and[Bridgetown](http://en.wikipedia.org/wiki/Bridgetown,_Western_Australia).) |
| [1979 Sydney bushfires](http://en.wikipedia.org/w/index.php?title=1979_Sydney_bushfires&action=edit&redlink=1) | Sydney, and Region NSW |  | December 1979 | 5 | 28 homes destroyed, 20 homes damaged |
| [Ash Wednesday bushfires](http://en.wikipedia.org/wiki/Ash_Wednesday_fires) | South Australia and Victoria | 418,000 ha | 16 February 1983 | 75 | about 2,400 houses |
| Wooroloo Bushfire | Western Australia | 10,500 ha | 8 January 1997 | 0 | 16 homes |
| [Black Christmas](http://en.wikipedia.org/wiki/Black_Christmas_(bushfires)) | New South Wales | 300,000 ha | 25 December 2001 – 2002 | 0 | 121 homes |
| [2003 Canberra bushfires](http://en.wikipedia.org/wiki/2003_Canberra_bushfires) | [Canberra](http://en.wikipedia.org/wiki/Canberra),[Australian Capital Territory](http://en.wikipedia.org/wiki/Australian_Capital_Territory) | 160,000 ha | 18–22 January 2003 | 4 | almost 500 homes[[33]](http://en.wikipedia.org/wiki/Bushfires_in_Australia#cite_note-NDL20090210-33) |
| [2003 Eastern Victorian alpine bushfires](http://en.wikipedia.org/wiki/2003_Eastern_Victorian_alpine_bushfires) | Victoria | over 1.3 million ha | 8 January – 8 March 2003 | 3 | 41 homes |
| Tenterden | Western Australia |  | December 2003 | 2 | (2,110,000 ha of forest burnt during the 2002–2003 bushfire season in the S/W of WA) |
| [Eyre Peninsula bushfire](http://en.wikipedia.org/wiki/Eyre_Peninsula_bushfire) | South Australia | 145,000 ha | 10–12 January 2005 | 9 | 93 homes |
| [2006 Grampians Bushfire](http://en.wikipedia.org/wiki/Mount_Lubra_bushfire) | Victoria | 184,000 | January 2006 | 2 | A total of 57 houses, more than 350 other buildings were destroyed. |
| [Dwellingup bushfire](http://en.wikipedia.org/w/index.php?title=Dwellingup_bushfire&action=edit&redlink=1) | Western Australia | 12,000 ha | 4 February 2007 | 0 | 16 |
| [Kangaroo Island Bushfires](http://en.wikipedia.org/wiki/Kangaroo_Island_Bushfires) | South Australia | 95,000 ha | 6–14 December 2007 | 1 |  |
| [Boorabbin National Park](http://en.wikipedia.org/wiki/Boorabbin_National_Park) | Western Australia | 40,000 ha | 30 December 2007 | 3 | Powerlines and [Great Eastern Highway](http://en.wikipedia.org/wiki/Great_Eastern_Highway), forced to close for 2 weeks |
| [Black Saturday bushfires](http://en.wikipedia.org/wiki/Black_Saturday_bushfires) | Victoria | 450,000+ ha | 7 February 2009 –14 March 2009 | 173 | 2,029+ houses, 2,000 other structures |
| [Toodyay Bushfire](http://en.wikipedia.org/w/index.php?title=Toodyay_Bushfire&action=edit&redlink=1) | Western Australia | 3,000+ ha | 29 December 2009 | 0 | 38 |
| [Lake Clifton Bushfire](http://en.wikipedia.org/w/index.php?title=Lake_Clifton_Bushfire&action=edit&redlink=1) | Western Australia | 2,000+ ha | 11 January 2011 | 0 | 10 homes destroyed |
| [Roleystone Kelmscott Bushfire](http://en.wikipedia.org/w/index.php?title=Roleystone_Kelmscott_Bushfire&action=edit&redlink=1) | Western Australia | 1,500+ ha | 6–8 February 2011 | 0 | 72 homes destroyed, 32 damaged, [Buckingham Bridge](http://en.wikipedia.org/w/index.php?title=Buckingham_Bridge,_Western_Australia&action=edit&redlink=1) on[Brookton Highway](http://en.wikipedia.org/wiki/Brookton_Highway) collapsed and closed for 3 weeks whilst a temporary bridge was constructed and opened a month after the fires |
| [Margaret River Bushfire](http://en.wikipedia.org/w/index.php?title=Margaret_River_Bushfire&action=edit&redlink=1) | Western Australia | 4,000 ha | 24 November 2011 | 0 | 34 homes destroyed including the historic [Wallcliffe House](http://en.wikipedia.org/wiki/Wallcliffe_House) |
| [Tasmanian Bushfires](http://en.wikipedia.org/wiki/2013_Tasmanian_bushfires) | Tasmania | 20,000+ ha | 4 January 2013 | 1 | At least 170 buildings |
| [2013 New South Wales bushfires](http://en.wikipedia.org/wiki/2013_New_South_Wales_bushfires) | New South Wales | 100,000+ ha | 16 October - November 2013 | 2 | As of 19 October 2013 at least 248 buildings destroyed statewide (inc. 208 dwellings), another 109 damaged in [Springwood](http://en.wikipedia.org/wiki/Springwood_(New_South_Wales)),[Winmalee](http://en.wikipedia.org/wiki/Winmalee) and [Yellow Rock](http://en.wikipedia.org/wiki/Yellow_Rock,_New_South_Wales_(Blue_Mountains))  Major fires also occurred in the [Hunter](http://en.wikipedia.org/wiki/Hunter_Region), [Central Coast](http://en.wikipedia.org/wiki/Central_Coast_(New_South_Wales)), [Macarthur](http://en.wikipedia.org/wiki/Macarthur,_New_South_Wales)and [Port Stephens](http://en.wikipedia.org/wiki/Port_Stephens_Council) regions causing significant damage. |
| [2014 Parkerville bushfire](http://en.wikipedia.org/w/index.php?title=2014_Parkerville_bushfire&action=edit&redlink=1) | Western Australia | 386 ha | 12 January 2014 | 1 | 56 Homes |
| 2014 Grampians Bushfire | Victoria | 51800 ha | 17 January 2014 | 1 | Fire so intense it created a 12 km-wide convection column, generating its own weather and lightning strikes |