

# FIRE FACTS



The way a fire starts and burns is influenced by various factors including the season, vegetation and local weather conditions.

## WHEN AND WHERE DO THE WORST FIRES OCCUR?

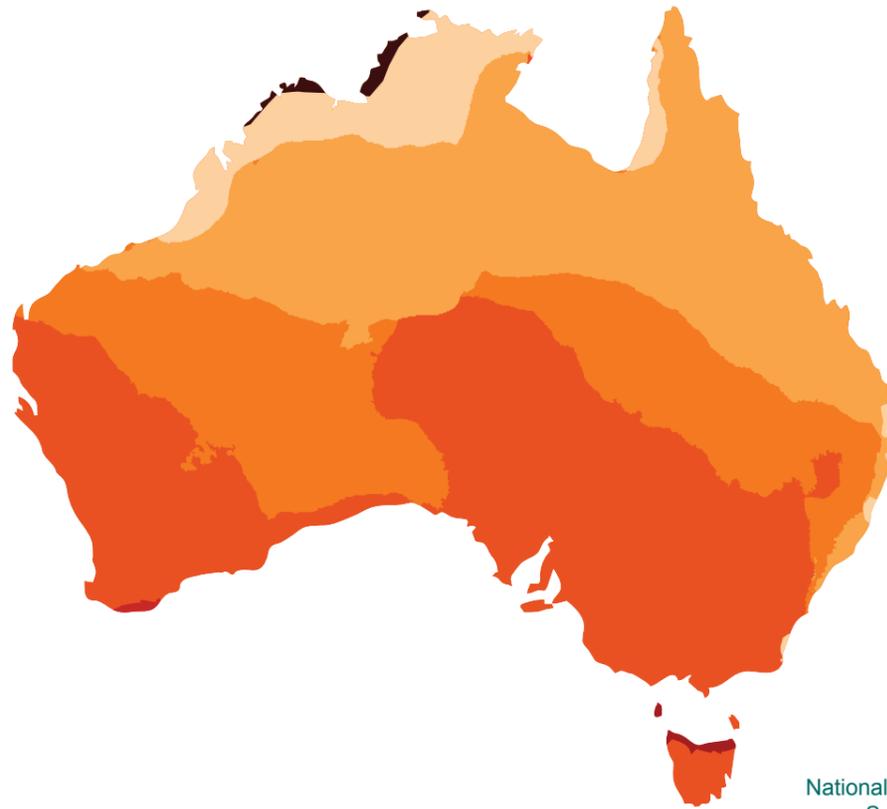
**SOUTHERN AUSTRALIA**  
Summer and Autumn

**NEW SOUTH WALES AND SOUTHERN QUEENSLAND**  
Spring and early Summer

**NORTHERN AUSTRALIA**  
Winter and Spring

### FIRE PRONE SEASONS

- Winter & Spring
- Spring
- Spring & Summer
- Summer
- Summer & Autumn
- Autumn
- Winter



Source: National Environmental Science Program

## WHAT FUELS A FIRE?



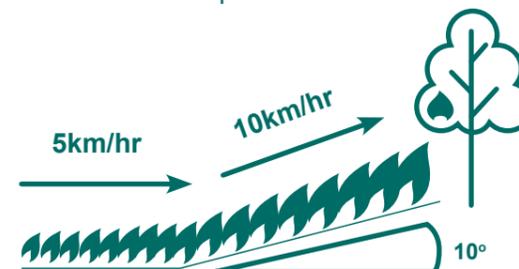
**VEGETATION**  
Bushfires are fuelled by vegetation. How hot the fire becomes and how fast it spreads depends on the nature of the vegetation or fuel, including its type, dryness, condition and quantity.



**WEATHER**  
High maximum temperatures, low relative humidity, higher wind speeds, the direction (in some cases) and atmospheric stability.



**SLOPE**  
The shape of the land has a strong effect on bushfire behaviour. A fire will burn faster uphill because the flames can reach more unburnt fuel in front of the fire. Fires can be more intense at the top of a hill or slope.



## WHAT CAUSES BUILDINGS TO IGNITE?



**EMBER ATTACK**  
The entry of windblown sparks (burning embers) through unprotected openings is the principal cause of building damage during bushfires. These sparks start small fires, often well before the main fire front or many hours after, which develop rapidly and may eventually engulf or envelope the whole building if left unattended.



**DIRECT FLAME CONTACT**  
Direct flame contact occurs when hazardous vegetation or other flammable material in close proximity to the home ignites causing flames to directly hit the exterior of the building.



**RADIANT HEAT**  
While exposure to radiant heat is the principle cause of loss of life in bushfires, it rarely causes buildings to catch fire.



**IGNITION FROM NEIGHBOURING BUILDINGS**  
In some fire events, houses built to a strong building code for bushfire have burnt down because neighbouring houses are not built to code.

## STAGES OF A BUSHFIRE ATTACK

STAGE 1	STAGE 2	STAGE 3
<ul style="list-style-type: none"> <li>• Fire front approaches</li> <li>• Ember attack</li> </ul> <p style="text-align: center;"><b>30 – 60</b> MINS MINS</p>	<ul style="list-style-type: none"> <li>• Fire front arrives</li> <li>• Direct flame contact</li> <li>• Ember attack</li> <li>• Radiant heat</li> </ul> <p style="text-align: center;"><b>5 – 15</b> MINS MINS</p>	<ul style="list-style-type: none"> <li>• Fire front passes</li> <li>• Ember attack</li> </ul> <p style="text-align: center;"><b>3 – 5</b> HOURS HOURS</p>

Clean up and rebuilding costs can be affected by a number of factors including location, building codes, BAL and the presence of hazardous materials.

## HOW TO ENSURE YOU ARE COVERED FOR A BUSHFIRE

- ❑ Make a Bushfire Survival Plan (check with your local fire service authority).
- ❑ Check that you have home buildings and contents insurance and that your policy is up to date.
- ❑ Check that you have appropriate insurances in place for any vehicles, boats or caravans that may be on your property.
- ❑ Use an online insurance calculator as a guide to help you decide how much to insure your house for.
- ❑ Check your bushfire risk. You don't have to live right near the bush to be at risk. Even if your home is a few streets away, you may be at risk.
- ❑ It's recommended that you check your BAL and the relevant rebuilding requirements with your local fire authority or local government body, as these ratings can change without notice.
- ❑ Check whether you are adequately covered for 'removal of debris' (clean up costs after a fire).
- ❑ Check that your insurance policy covers you for temporary accommodation in case your home is unlivable due to a bushfire.
- ❑ Make sure the final amount you decide to cover your home for includes clean-up and rebuild costs.
- ❑ If you're a small business, check if you are covered for the costs of interruption to your business if there is a bushfire.

## BUSHFIRE ATTACK LEVEL (BAL)

Bushfire Attack Level	Description
BAL-FZ	Direct exposure to flames from fire, in addition to heat flux and ember attack.
BAL-40	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux with the increased likelihood of exposure to flames
BAL-29	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux
BAL-19	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux
BAL-12.5	Ember attack
BAL- Low	There is insufficient risk to warrant specific construction requirements

## WHAT IS A BUSHFIRE ATTACK LEVEL (BAL)

A Bushfire Attack Level (BAL) is a measure of the severity of the potential exposure to ember attack, radiant heat and direct flame contact by a building.

BAL establishes the requirements to construct a bushfire resilient building and influences the types of materials that need to be used to increase the protection of the building from bushfire attack.

BAL takes into consideration:

- type of surrounding vegetation;
- how close the building is to the vegetation;
- slope of the land (ie. fire runs more readily and with greater intensity uphill); and
- the Fire Danger Index applicable to the region.

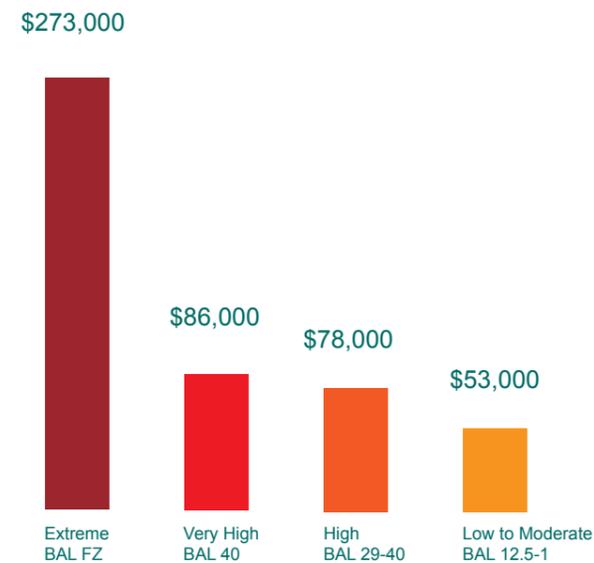
## BUILDING CODES & BAL

Following the 2009 Victorian bushfires, the Australian Building Codes Board adopted a national bushfire standard for residential buildings. The new Standard, 'A53959-2009 Construction in bushfire-prone areas', aims to improve the ability of a building to withstand bushfire attack.

The standard sets out the building requirements for house design and construction according to the BAL that it falls into.

Contact your local fire authority for assistance with working out the BAL level of your property. Your local government body can advise about the specific requirements of a BAL certificate by a qualified assessor.

## POTENTIAL ADDITIONAL COST TO REBUILD\*



(Additional Costs per m2 by House Type - 200m2 Average House)

\* Costs provided by PI based on IAG data

## HOW MUCH DOES IT COST TO REBUILD AFTER A BUSHFIRE?

The chart above outlines the potential additional rebuild costs according to BAL.

The requirements for house design and construction vary according to the BAL.

Importantly, the majority of buildings in bushfire-prone areas may predate current bushfire regulations. Therefore, if you live in a bushfire prone area it may now cost significantly more to rebuild your home under the new Standards.

A typical four bedroom home in a high risk bushfire area (BAL code FZ) can cost more than \$100,000 extra to rebuild and meet the new Standard to fire proof homes.

## CLEAN UP COSTS

The costs of demolition and clean up should be included in your sum insured, or the terms of your policy. It is important to consider these costs when deciding how much it will cost to rebuild after a bushfire.

If asbestos is likely to be present on your property, a licensed asbestos removalist should be engaged to do the cleanup work. If you are insured, your home insurer may organise and assist in cleaning up, securing your home and removal of debris. Hazardous materials that may be present after the fire include:

- LP gas cylinders;
- ashes, especially from burnt treated timbers (such as copper chrome arsenate or 'CCA');
- garden or farm chemicals;
- medicines; and
- metal and other residues from burnt household appliances.

## HOW MUCH DO CLEAN-UPS COST?

Where there is significant damage to a home or a home is destroyed completely, clean-up costs can reach the tens of thousands of dollars.

 **\$46,000** is the average cost for debris removal

 **\$68,000** is the average cost for debris removal for asbestos properties

Source: IAG data from current debris removals after the 2019-2020 Christmas period fires.

## Information

For more practical information on how to prepare and act when your home is threatened by a bushfire, contact the relevant fire services authority in your state or territory:

### New South Wales

NSW Rural Fire Service  
www.rfs.nsw.gov.au

Fire and Rescue NSW  
www.fire.nsw.gov.au

### Queensland

Queensland Rural Fire Service  
www.ruralfire.qld.gov.au

Queensland Fire and  
Emergency Services  
www.qfes.qld.gov.au

### South Australia

South Australian Country Fire Service  
www.cfs.sa.gov.au

South Australian  
Metropolitan Fire Service  
www.mfs.sa.gov.au

### Northern Territory

NT Police Fire & Emergency Services  
www.pfes.nt.gov.au

### Victoria

Country Fire Authority  
www.cfa.vic.gov.au

Metropolitan Fire Brigade  
www.mfb.vic.gov.au

### Australian Capital Territory

ACT Fire & Rescue  
esa.act.gov.au/fire-rescue  
ACT Rural Fire Service  
esa.act.gov.au/rural-fire-service

### Tasmania

Tasmanian Fire Service  
www.fire.tas.gov.au

### Western Australia

Department of Fire &  
Emergency Services  
www.dfes.wa.gov.au