

CFS GUIDE

What to do when a bushfire happens

On a day of Extreme or Catastrophic Fire Danger Rating, the most important thing you should do is activate your Bushfire Survival Plan.

Your Bushfire Survival Plan will determine how you will prepare and react to the possibility of a fire, by either planning to 'Leave Early' or 'Stay and Defend'.

Leave Early

Leaving early means leaving before roads become blocked.

You will need to identify what your trigger to leave will be - i.e. the declaration of Total Fire Bans or the forecast high-risk bushfire weather for your area.

On high risk fire days your safest option is to go well before there is any danger of a fire, so that you can leave in a calm and focussed manner.

If you intend to relocate to a Bushfire Safer Place you should do so early in the day or the night before a high risk fire days.

Do not wait until you can see smoke or flames and try to gauge how bad a fire may be – by that time trees may have fallen over roads, smoke may be too thick to safely drive through or powerlines may have fallen.

It is important to monitor the CFS website and listen to Emergency Broadcast Partners to stay informed of incidents.

Where will you go?



On a high risk fire days, your safest option is to relocate to a Bushfire Safer Place.

CFS designated Bushfire Safer Places maps and locations can be seen on the CFS website: www.cfs.sa.gov.au

Alternatively, you may wish to shelter in a self-identified Bushfire Safer Place (e.g. a well-prepared neighbour's house).

How will you get there?

When leaving early, organise your travel well in advance.

Consider how long it will take to travel out of the area, remembering that trips which usually only take only a couple of minutes may take much longer.

Identify a number of alternative routes in case your chosen route is blocked.

If it becomes too difficult or dangerous for you to leave, find a safer area or solid building to shelter in.

Even if you plan to leave early, it is a good idea to also have a Stay and Defend plan in case the situation changes and you are unable to leave.

On days of Catastrophic Fire Danger Rating, leaving early is the best option for you and your family's survival.



Stay and Defend

Staying and defending your home during a bushfire is very dangerous.

If you are planning to stay, you will need to prepare throughout the year.

The better prepared you and your home are, the more likely you are to survive a bushfire.

It is important that you consider the Fire Danger Rating when deciding whether to stay and defend your property.

The daily Total Fire Bans and Fire Danger Ratings should define your Bushfire Survival Plan.

You can find this information on the CFS website:

www.cfs.sa.gov.au

Physical and emotional preparedness

People panic when a fire approaches and their first thought is to flee.

Many more people die in their vehicles attempting to out-run a bushfire than those who stay and defend once the fire has arrived.

It is important that you try to stay calm in a bushfire, avoid making panic-driven decisions, and keep to your Bushfire Survival Plan.

Defending a property from fire is traumatic and both physically and mentally exhausting. Smoke and radiant heat can be hazardous to health, and defending your home can be a very long process.

If you intend to stay and defend your property, you will need to be able to physically and emotionally cope with intense stress.

Ideally you will need at least two people to help you defend your property.

If you have any doubts about your ability to stay and defend, or the preparedness of your property, you should plan to leave early.



- Tune your battery operated radio to your local ABC, or one of our other Emergency Broadcast Partners, and have spare batteries handy.
- Tell family or friends you are staying at home.
- Prepare inside your house by removing curtains, moving furniture away from windows and closing doors and windows.
- Keep pets inside with sufficient drinking water and food.
- Put tape across the inside of windows so they remain in place if broken.
- Fill containers with water and have a torch and ladder ready to check the ceiling space.
- Remove flammable items from the exterior of the house (e.g. blinds, outdoor furniture, door mats etc).
- Block down pipes and fill gutters with water.
- Shut all windows and doors and place wet blankets and towels around windows and door edges.

Contingency plan

Even if you choose to stay and defend, you must still have a contingency plan as a part of your Bushfire Survival Plan.

A change in household circumstances or a fire starting quickly in the local area may require you to reconsider your Bushfire Survival Plan.

Before the fire approaches

- Make sure everyone is in protective clothing and has a P2 mask (a type of dust mask) to help shield them from radiant heat, smoke and embers. They should also be wearing sturdy boots to protect their feet from hot ground.
- Remind everyone of the plan, and check that they understand their role.
- Prepare for the possibility that power and phone lines may fail.
- Charge mobile phones and tablet devices.

As the fire approaches

- Wet vegetation near your house with a hose or sprinkler.
- Stay close to the house, drink water and check welfare of others.
- Patrol the inside of the home as well as the outside for embers or small fires.

As the fire front arrives

- Take all firefighting equipment inside such as hoses and pumps as they may melt during the fire.
- Go inside until the fire front passes, ensuring you have two exits.
- Patrol the inside of the home - including the ceiling space - for embers or small fires.
- Monitor where the fire front is and what the conditions are outside by looking through windows from inside.

After the fire front has passed

- Go outside and extinguish small fires and burning embers.
- Patrol the property inside and out, including the ceiling space and under decking, and extinguish any fires. Sparks and embers will continue to fall and smoulder, so you may need to keep checking for several hours or even days.
- Let everyone know that you are okay.
- Monitor the radio for updates.



Protection from radiant heat

Radiant heat is the biggest killer of people in a bushfire and can kill as the fire approaches.

As the fire front approaches your property, it is vital that you seek protection from the radiant heat by going inside a solid structure.

Your home may give some protection provided essential preparatory work has been done throughout the year.

Radiant heat cannot pass through solid structures, so the best place to be as a fire passes is inside.

Do not shelter from radiant heat inside your car, a swimming pool or a water tank - these do not provide adequate protection from radiant heat or smoke.

Stay informed

Before, during and after a bushfire it is important that you keep informed about emergencies that may be happening in your area.

There are many different ways to stay informed about bushfires and other emergencies:

- CFS website: www.cfs.sa.gov.au
- Information Hotline: 1800 362 361 (TTY 133 677)
- Facebook: [countryfireservice](https://www.facebook.com/countryfireservice) and [cfsupdates](https://www.facebook.com/cfsupdates)
- Twitter: [@cfsalerts](https://twitter.com/cfsalerts) and [@cfstalk](https://twitter.com/cfstalk)
- TV and radio emergency broadcast partners such as ABC Local Radio
- Friends, family and neighbours

Do not rely on a single source of information during emergencies.

Keep a battery powered or wind-up radio ready in case the power fails during an emergency, or your phone signal is lost.

Sometimes your own senses provide the best warning.

Stay alert to your surroundings during the Fire Danger Season.

What affects fire behaviour

Once a fire is burning, its behaviour is determined by three main factors: fuel, weather and topography.

Fuel

Bushfires are fuelled by vegetation.

How hot a fire becomes or how fast it spreads depends on the amount, type, condition and arrangement of the vegetation or fuels.

As a home owner, the only factor you can control is fuel.

By reducing the fuel load and creating a defensible space around your property, you can reduce your bushfire risk.

Fine fuels are leaves, twigs and grass that burn and

give off heat rapidly.

Under the right conditions, these fuels produce the huge flames and much of the radiant heat in a bushfire.

Embers are burning leaves and twigs carried by the wind.

Embers can travel a great distance.

Ember attack is the main cause of house loss in a bushfire, and can occur before, during and even after the fire front passes.

Heavier fuels are branches, trees and logs that burn and radiate heat slower than fine fuels.

They can burn for hours or days after the fire front has passed.

Weather

Air temperature, relative humidity, wind speed and direction, and atmospheric stability can all affect bushfire behaviour.

Temperature:

The hotter the air temperature, the less a fuel needs to be preheated to ignite.

Relative humidity:

When humidity falls below 30 per cent fire danger increases.

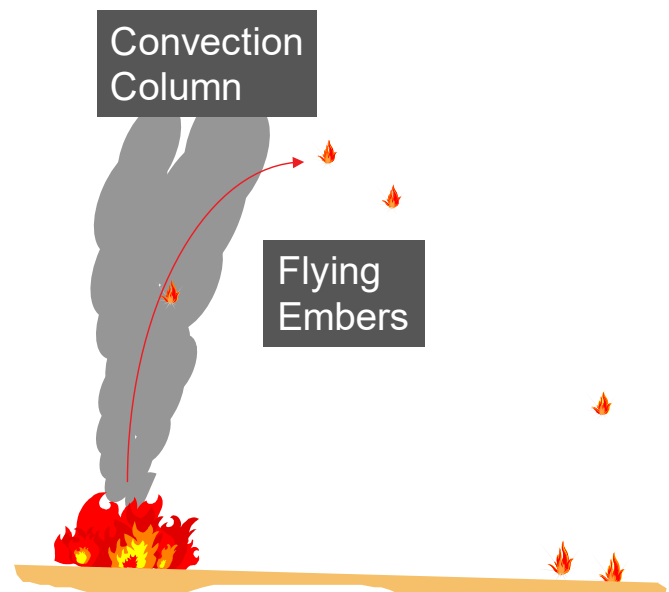
The lack of moisture in the air means fuels are drier and easier to burn.

Wind:

Winds will influence the speed a fire travels and the direction or growth of a fire when wind direction changes.

Stronger winds can also carry embers and fragments of burning material, which can then light small fires ahead of the main fire front which are called spot fires.

Wind can also be compressed and gain speed when rising through hills or gullies.



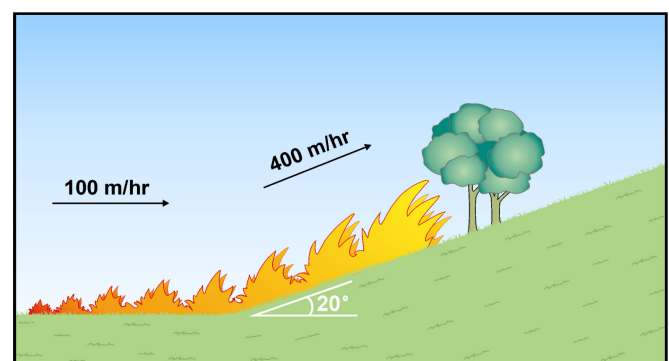
Topography

The topography, or shape of the land, has a strong affect on bushfire behaviour.

A fire will burn faster uphill because the flames can preheat unburnt fuel in front of the fire, causing the fuel to burn more efficiently.

As a general rule, the fire speed will double for every 10 degrees of lift.

The opposite applies to a fire travelling downhill, with speed halving with every 10 degrees of fall.



How a bushfire spreads

Bushfires spread along the surface of the ground in three ways:

1. Direct flame contact - Flames touch unburnt fuels and raise their temperature to ignition.
2. Radiant heat - Radiant heat from the fire raises nearby fuel to ignition temperature.
3. Burning embers - When embers land on fine fuels they can start small fires.

Fires also spread vertically from the ground to middle and upper-level fuels such as scrub and bush.

As a general rule, flame height is between three and five times the height of the fuel.



Fire features

Fire is typically teardrop-shaped when there is wind.

The fire spreads out from its point of ignition and grows with the push of the wind.

The heel or rear of the fire burns the slowest, is cooler and has the shortest flames.

The head or front of the fire burns the fastest, is the hottest area and is the most dangerous place to be near.

The flanks or sides of a fire are also dangerous areas as a wind direction change can turn them from the flank to the head.

Strands of a fire may stretch out due to differing type of fuels – these strands are called fingers.



Smoke as an indicator

The colour of smoke can indicate the fire's behaviour.

Dense white smoke indicates very moist fuels and mild fire behaviour.

Pale grey or blue smoke indicates moist fuels and mild to moderate fire behaviour.

Black or dark brown smoke indicates dry fuels and intense fire behaviour.

Copper or bronze smoke indicates very dry fuels and intense to severe fire behaviour.

The shape of a fire's smoke column can also indicate a fire's behaviour.

If smoke columns are thin and rising lazily, this indicates a small fire with a low speed.

If smoke columns are bent over close to the ground and increasing in volume, this means the fire is being driven rapidly by wind and is moving quickly on the ground.

What to do if caught in your car

A car is not the safest place to be during a bushfire, but if you are accidentally caught and cannot escape, here are some options to improve your chance of survival.

Find an open area with limited amounts of grass or fuel in it.

Park your car facing towards the fire, close windows and air vents, leave the headlights on and turn the motor off.

Get as low as you can below the level of your windows and cover yourself with any cotton or wool fabric you may have.

As soon as the fire front has passed, get out of your car and wait for help in an open area.

What to do if you are caught outside

The best protection from radiant heat during a bushfire is to shelter with a large, solid object between you and the fire.

You can be protected from the radiant heat by lying beside a large log, against a riverbank or even a solid stone fence as the firefront passes.

