

BUSH TECH #16

House warming

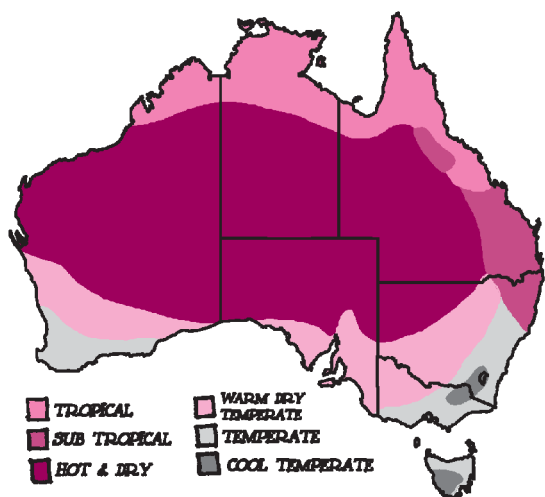
In the far north of Australia, the approach of winter is marked only by our television screens swapping cricket whites for footy jumpers. There are many traditional harvest seasons, but, in the tropics, people mostly talk about just two seasons – the wet and the dry – and maximum daily temperatures may be only a few degrees different at the peak of these seasons. Darwin, for example, has a summer daily maximum of 32°C and a winter daily maximum of 30°C.

For the rest of Australia, people talk of four seasons – summer, autumn, winter and spring. Depending on your location, the peak season differences between maximum daily temperatures in winter and summer are likely to be in the tens of degrees. For example, in Alice Springs summer temperatures can hit 42°C on a regular basis whilst winter nights average only 4°C.

This climate table shows the many climate conditions of Australia ranging from the tropics of the north to the alpine environments of New South Wales and Tasmania.

	SUMMER		WINTER	
	MIN.	MAX.	MIN.	MAX.
ALICE SPRINGS	21.0°C	35.5°C	3.7°C	19.6°C
BALLARAT	10.8°C	24.9°C	3.2°C	10.0°C
BROKEN HILL	18.4°C	32.7°C	5.3°C	15.1°C
CAIRNS	23.5°C	31.4°C	17.0°C	25.6°C
CFRINA	15.0°C	27.6°C	6.2°C	16.9°C
COOPLR PLDY	20.6°C	36.2°C	5.3°C	18.7°C
DARWIN	24.8°C	31.7°C	19.3°C	30.4°C
DLRBY	25.6°C	34.9°C	15.2°C	30.5°C
DURBO	17.9°C	33.0°C	7.6°C	15.7°C
GLRALDTON	18.3°C	31.7°C	9.4°C	19.4°C
HOBART	11.9°C	27.3°C	4.0°C	17.3°C
LAUNCLISON	10.2°C	23.2°C	2.2°C	10.8°C
LONGRACH	23.0°C	37.1°C	7.0°C	23.3°C
NORMANION	25.1°C	34.7°C	15.2°C	29.1°C
ROCKHAMPTON	22.0°C	31.8°C	9.4°C	23.0°C
THRLEDBO	6.8°C	20.8°C	-3.9°C	5.1°C

DATA SOURCED FROM COMMONWEALTH BUREAU OF METEOROLOGY (WWW.BOM.GOV.AU)

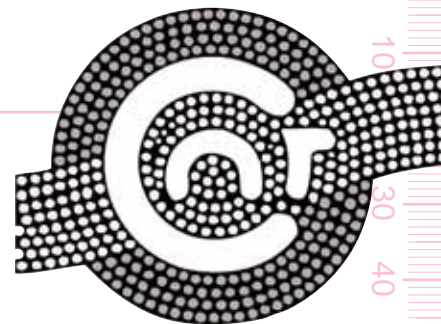


CLIMATE ZONES

If you live in an area where winter gets cold, you can prepare your house to make your life more comfortable (warmer).

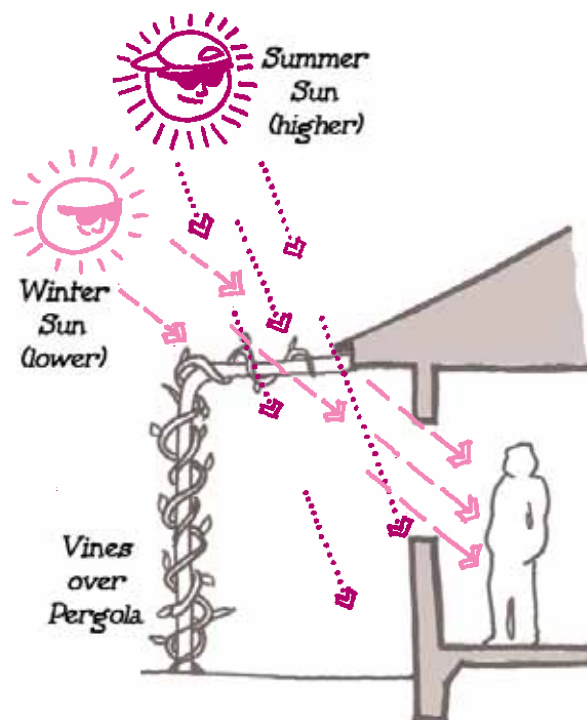
Making houses warmer in winter

When a house is being designed there are a number of things that should be considered and incorporated to make the house warmer in winter. Many of these also will make your house cooler in summer. If your house is being designed or you will be getting a new house soon, then consider the following.



Orientation

The way the house is situated in relation to the sun, the land and the prevailing winds can help in keeping the house warm in winter. If the cold winter winds come from the south-west, then you don't want your favourite sitting place to be on that side of the house. In Australia the sun always travels on the north side of your house, so this would be the better side for your sitting place.



ORIENTATION OF HOUSE

Angle of the sun

In winter time, the sun travels lower across the sky. This works to your advantage as your house can be designed to keep the hot summer sun out of the house whilst letting the winter sun into your house. As wide verandas are becoming more common on houses it is getting harder to get direct winter sun into the house itself. However, there may be a sunny spot on the veranda, out of the cold winter winds.

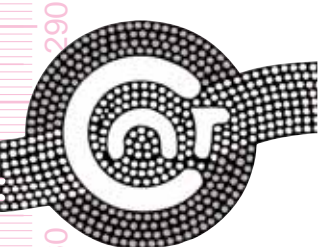
Location on the land

The landscape that surrounds the house can have a big influence. Is there a big mountain on one side that keeps the house in shade all day? Is there a lake nearby that chills the wind before it gets to your house? Is the house in a valley, which makes the wind blow twice as hard? These are just examples of what to consider when positioning your house.

Insulation

Just as we put on a jumper and hat to keep us warm, we can do something similar with our houses – our houses can 'wear' insulation. Insulation can be made from a variety of materials and come in different forms. The most common is the insulation batt. These are rectangular 'pads' that are put into ceilings and walls. If you have a concrete block house, then you will be unable to put it in your walls. However, concrete blocks themselves have an insulating effect. It is much easier and cheaper to install insulation when the house is being built but insulation still can be installed in the ceiling space of most houses even after they have been built.

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BUSH TECH BRIEF #16

House warming (continued)

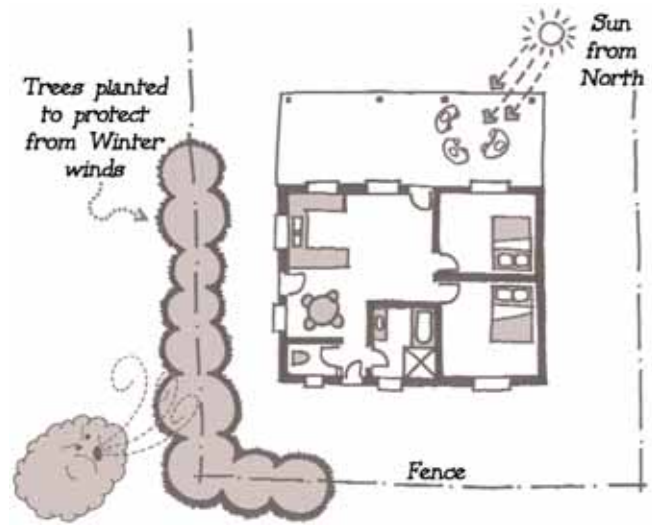
Solutions in existing houses

When you are already living in a house, you are unable to change its location or orientation. However, there is much that can be done to make your house more comfortable in winter.

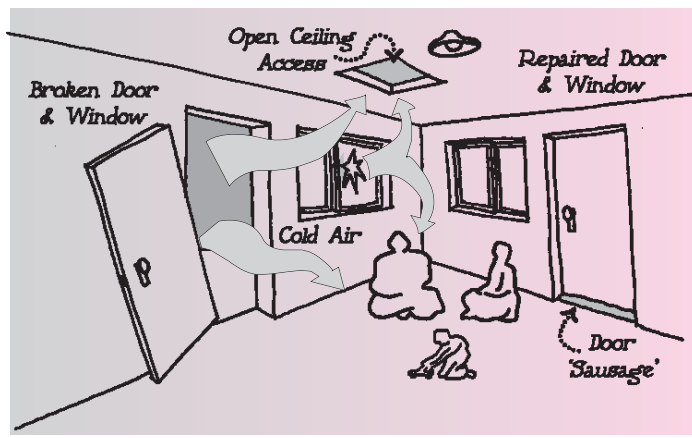
Short term solutions

Repair any holes in your house. When there are holes and gaps in the house, warm air inside gets out and cold air from outside gets in. Broken windows, doors that are broken or don't close, and holes through walls are all places that let the cold into the house. Also, it is important for safety reasons that these items be repaired.

With all repairs complete, there will still be gaps around the house that will allow cold air in and warm air out. Gaps under doors can be sealed with 'door sausages', which are long, thin bean bags placed at the base of the door (see drawing below). They can be bought from retail stores in larger town centres and some community stores may stock them.



SOLAR ACCESS



KEEPING THE COLD OUT

If you have an evaporative cooler, the cold breeze can blow through it and come inside. To fix this, cover your air conditioner outside with plastic or a tarp. If you do not have a cooler you may still have vents in your ceiling. Have a look at the ceiling in each room to see if there are vents in it. If there are, and you can close the vents then do so. If they are fixed vents, get into the ceiling space and tape some paper over them. This needs to be checked regularly as any mice in the ceiling will want to make a nest out of your paper. Check also that the access hole to your ceiling has the cover on it. If it doesn't, get a new cover as lots of air will escape through your ceiling space.

Another way to keep heat inside the house is keep the room doors closed. This is called 'zoning' and will help keep heat within a room. Heavy curtains over your windows will help keep the heat inside but this will prevent you from seeing outside. If you have a ceiling fan it is likely to have a switch that reverses the direction of the fan. This will blow warm air from the ceiling down to the floor.

If you can afford it, getting insulation into the ceiling is highly beneficial as heat generated inside the house is kept in. It will also keep the house cooler in summer. Another good buy is a pot belly stove, which is a safe way to generate heat inside the main living area.

Long term solutions

Plants may shade your house during summer but the shade means the sun won't reach your house during winter. Deciduous plants are plants that drop their leaves in winter and grow them back for summer. Many people in central Australia use grape vines but there also are native vines such as *Passiflora Foetida*

(Bush Passionfruit) and the Bower Vine (Jasmine). Another advantage is that these vines often bear edible fruit and others are used for bush medicines.

Evergreen trees (those that keep their leaves all year round) can be planted on the side that the cold winter winds come from. This will create a windbreak that will slow down the winds.

Long-term maintenance of the house is important to the performance of the house. By repairing broken windows and doors throughout the year, the house will be ready when colder weather comes.

What not to do

Many people turn the oven on and leave the oven door open to heat a room. This creates a highly dangerous situation where a young child can crawl or fall into a hot oven. Children have also been known to jump on oven doors when they are open, which eventually breaks the oven. Using hotplates to warm up your house also is dangerous as it may be difficult to know whether a hotplate is on or not. Again, this can lead to someone getting burnt. The other problem with using your oven and stove as a heater is that it uses a lot of electricity. If you have powercards you will find that they will not last long and you will not have electricity to run your lights, your hot water or your radio.

An open fire is not a safe way to warm up your house. Building a fire inside your house or even on the veranda is very dangerous. Spilt embers can catch clothes that are lying around and the whole house could catch fire. Pot belly stoves or specifically designed fireplaces are the only way a fire should be used inside. Pot bellies and fireplaces are safe because they channel the smoke and ash out of the house. But they can be dangerous if children are not kept away from them. The best way to do this is to use an approved fire mesh screen. In an existing house, it is easier to fit a pot belly stove than it is to build a new fireplace. Pot belly stoves can be bought at specialty stores but you need building approval from your local council and the stove must be installed by a qualified builder.

FOOTNOTE

1. For example, the Bininj, who are the traditional owners of Kakadu National Park, have six seasons, which recognise changes in weather and harvest times.

Prepared and illustrated by Andrew Lane
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