

Fact sheet 4: Storms

What is a storm?

A storm is a disturbance of the atmosphere that can cause strong winds, rain, thunder, lightning, heavy snow and rough seas. A strong wind warning is issued by the MetService when winds of more than 87kph are expected over land.

New Zealand is particularly prone to storms, as it lies in the 'roaring forties', between 40 and 50 degrees latitude south, where mild air temperatures from the north meet cooler air from the south.

Tropical cyclones (called hurricanes in the Atlantic and east Pacific, and typhoons in the north-west Pacific) are large revolving storms which develop in the tropics, with a sustained wind speed of more than 120kph.

Tropical cyclones usually weaken as they encounter the cooler sea temperatures around New Zealand, but sometimes they can cause significant damage. In 1988 Cyclone Bola caused New Zealand more than \$200 million in damage, even though it was no longer a tropical cyclone by the time it reached our shores.

Storms have the ability to damage roads, railways, bridges, buildings and telecommunications. Crops and livestock can be affected. At sea, ships are at risk (the ferry *Wahine* foundered during Cyclone Giselle in 1968, with the loss of 51 lives).

Hazards from storms include fallen trees and poles, torn-off roofs, fast-flowing currents in streams and rivers, flying objects, land slips and flooding. Coastal areas can suffer from storm surges, which are extra-high tides caused by the high winds pushing the sea forward.

What is a snowstorm?

Even in small quantities, snow can be hazardous. It only takes a few centimetres on a road to make driving dangerous. In large quantities, snow can immobilise regions by disrupting communications, transport and supply lines, hampering the operation of emergency services, isolating communities, causing the loss of livestock, damaging forests and causing buildings to collapse under its weight. In the depths of winter, heavy snow can lie on the ground for weeks, denying livestock the ability to graze, keeping temperatures low and increasing the risk to the most vulnerable members of the community.

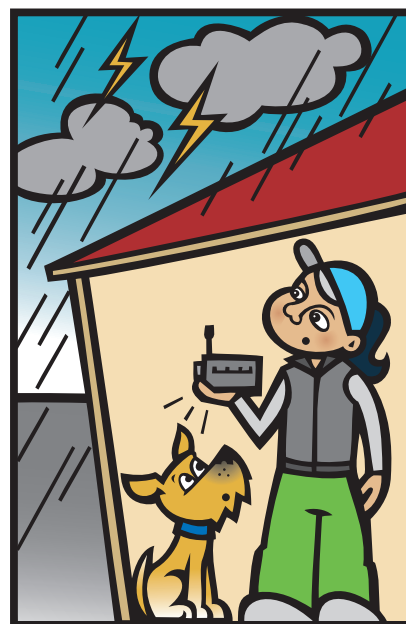
While the coldest winter outbreaks do not tend to bring very large quantities of snow, the combination of very low air temperatures and strong winds results in very low wind chill. Because this can occur even on sunny days, the danger it poses – hypothermia – may not be all that apparent.

Perhaps surprisingly, the heaviest snowfalls seldom occur in the coldest outbreaks. Major storms produce a lot of snow high up in the atmosphere, but most often this melts before reaching the ground. In winter, conditions near the ground are occasionally cold enough for snow to fall all the way to the land surface.

Heavy snow in the mountains often increases the incidence of avalanches. Because of the remoteness of most of New Zealand's mountains, avalanches are probably not significant hazards.

The likelihood of heavy snow is described in the severe weather outlooks, watches and warnings issued by MetService.

Primary concerns are the potential loss of heat, power, telephone service and a shortage of supplies if storm conditions continue for more than a day. It is important for people living in areas at risk from snowstorms to consider the need for alternative forms of heating and power generation.



What do we do before a storm?

When a strong wind warning is issued:

- Listen to your radio for information.
- Bring pets inside if possible.
- Help clear away anything outside that may become a flying missile in the wind.

When a snow warning is issued:

- Listen to your local radio station for information.
- Avoid leaving home unless absolutely necessary.
- If you have to travel, help make sure you are well prepared with snow chains, sleeping bags, warm clothing and essential emergency items.
- Remind your family to check fuel supplies for wood-burners, gas heaters, barbeques and generators.
- Bring pets inside if you can and help move stock to shelter.

What do we do during a storm?

- Stay inside. If outside find shelter quickly.
- Close all curtains to slow down flying glass.
- Stay away from doors and windows. If the wind becomes destructive, shelter further inside the house.
- Stay away from metal and electrical fixtures.

What do we do after a storm?

- Stay indoors and listen to the radio.
- Avoid dangling and broken power lines, if outside.