
Climate change and health

Summary

- Climate change is a change in the world's weather systems that occurs over decades. Most of the recent changes in our climate have been brought about by human activity.
 - These changes will have significant consequences for our health, wellbeing and safety.
 - Effects of climate change include increasing air and sea temperatures, changes in rainfall patterns, more frequent and increasingly severe extreme weather events and sea level rise.
 - Climate change may affect our health and wellbeing through the impacts of extreme events, worsening air quality, changes in the spread of infectious diseases, threats to food and water quality and quantity and effects on our mental health.
 - There are things we can all do now to build our resilience to the effects of climate change and help slow its pace.
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Our health is closely linked to the environment we live in. However, our climate is changing, with significant consequences for our health, wellbeing and safety.

Climate change is a change in the world's weather systems that occurs over decades. More of the recent changes in our climate have been brought about by human activity. Without intervention, the changing climate will have far-reaching and catastrophic consequences for our state, the country and other communities around the world. It is an urgent problem with implications at the global, national, community and personal level.

The good news is that there are simple things we can all do now to build our resilience to the effects of climate change and help slow its pace. Many of these actions will also directly benefit our health, the environment and our wallets.

Climate change

Climate change is caused by increases in the amount of greenhouse gases (such as carbon dioxide, methane and nitrous oxide) in the atmosphere, which cause the earth's average temperature to rise.

Greenhouse gases trap heat in the atmosphere, raising air and sea temperatures. They are primarily produced through the burning of fossil fuels (like coal) for electricity generation, as well as through agricultural, mining, land management and transport practices.

The effects of climate change are already being felt – air and sea temperatures are increasing and leading to changes in rainfall patterns, more frequent and increasingly severe extreme weather events and sea level rise. Because of global warming, Australia's climate has warmed by just over 1.0°C since 1910.

Victoria is already warmer and drier, and the CSIRO and Bureau of Meteorology predict that this trend will continue. This means there are likely to be more severe droughts, more heatwaves and increased bushfire activity.

Although total rainfall is predicted to fall, rainfall events and storms will tend to be more intense, with a greater risk of flash flooding. The risk of severe floods is expected to increase in some parts of Australia, including Victoria, caused by the increased frequency and intensity of heavy rainfall events. Reduced stream flow will also have an impact on Victorian water supplies.

Most of Victoria's population lives within 50 kilometres of the coast. Rising sea levels and storm surges will increase risks of flooding and erosion, endangering life, damaging property and causing ecosystem damage that may affect agriculture, forestry, fisheries and tourism.

Health effects of climate change

Climate change has been described by the World Health Organization as the biggest threat to health in the 21st century – it affects health and wellbeing in many ways:

- Directly, by the increased intensity and frequency of extreme weather events (such as heatwaves, floods and bushfires); and
- Indirectly, through worsening air quality, changes in the spread of infectious diseases, threats to food and water and effects on mental health.

Climate change will also impact certain parts of the economy with increased unemployment, financial stress, food insecurity, and rising social inequalities.

Who is most at risk of health effects due to climate change?

Some people are more vulnerable to the effects of climate change and health:

- Children are vulnerable for several reasons. For example, children are more susceptible to heat stress and dehydration and are more sensitive to exposure to air pollution and smoke from bushfires. Their immune systems are not fully developed, putting them at increased risk of infections. They often need to rely on adults to keep them safe during emergencies and help them to recover afterwards.
- Pregnant women are at increased risk of heat stress during heatwaves due to the physiological demands of pregnancy. They and their unborn babies are particularly sensitive to exposure to air pollution and smoke from bushfires.
- Older people and people with pre-existing medical conditions are more prone to dehydration, heat stress, infections and exacerbation of heart and lung disease.
- People living in rural and remote areas, Aboriginal and Torres Strait Islander people, people on low incomes and other vulnerable populations are also at increased risk, in part due to inequalities in underlying health outcomes and limited accessibility of healthcare and other services. People living in rural or remote communities or along the coast are also at risk from extreme events such as bushfires, droughts, storms and sea level rises.

Staying healthy in a changing climate

There are many simple actions you can take to protect yourself and your family from the impacts of climate change.

Stay healthy in the heat

Over the last century, average temperatures in Australia have increased and heatwaves have become longer, hotter and more frequent. This trend is expected to continue as the world gets even warmer. You can stay healthy in the heat by:

- drinking plenty of water
- never leaving anyone in a car
- staying somewhere cool
- planning ahead
- checking in on others.

Read more about [**staying healthy in the heat**](#).

Stay safe from mosquito bites

Warmer average temperatures can mean earlier spring seasons, longer warm seasons, shorter winters, hotter summers and more frequent flooding events. As a result, conditions may become more hospitable for mosquitoes that can carry diseases such as **Ross River virus disease** and **Murray Valley encephalitis**.

You can protect yourself and your family from mosquito bites by:

- wearing loose-fitting clothing when outdoors
- using mosquito repellents containing DEET or picaridin on exposed skin
- trying to limit outdoor activity if lots of mosquitoes are about

- making sure there is no stagnant water where mosquitoes can breed around your home
- ensuring your house is properly fitted with mosquito netting or screens.

Read about more ways to **[Beat the Bite!](#)**

Avoid risks from floods and minimise health risks in natural waterways

Warmer temperatures can result in a number of health risks to swimmers, including exposure to toxins from **[blue-green algal blooms](#)**, which are expected to become more frequent with climate change.

You can minimise these risks by:

- avoiding swimming at beaches or in waterways after heavy rainfall events, including floods
- looking out for any water quality advisories following flooding events or in response to blue-green algal blooms
- checking the **[EPA's Beach Report website](#)** for water quality forecasts for 36 Port Phillip Bay beaches and the **[Yarra Watch website](#)** for water quality forecasts at sites along the Yarra River over the summer months.

Learn more about **[avoiding risks from flooding](#)**, and **[beach water quality](#)**.

Be a healthy swimmer

[Cryptosporidiosis](#) outbreaks associated with swimming pools are expected to become more common due to increased patronage of swimming pools on hot days. Follow these **[healthy swimming tips](#)** to keep the water clean:

- Do not swim if you have had **[diarrhoea](#)** in the past 14 days.
- Shower and wash thoroughly (especially your bottom) before you swim.
- Wash your hands thoroughly after going to the toilet.
- Avoid swallowing water while swimming.
- Inform the pool operator if you become ill after swimming in the pool.

Get more **[healthy swimming tips](#)**.

Be aware of air pollution

Many factors affect the quality of the air that we breathe:

- Burning fossil fuels releases pollutants such as nitrogen oxides, sulphur dioxide and particulate matter into the air.
- The interaction of air pollution and sunlight produces ozone. While ozone in the upper atmosphere helps to protect us from UV radiation, breathing in ozone at ground level can trigger asthma attacks and breathing problems.
- Air quality is adversely affected by **[bushfires](#)**, which are expected to increase in frequency and severity due to climate change.
- Climate change is expected to increase the length of pollen seasons in some areas and may also result in increased growth and pollen production in some plant species. Pollen can cause allergic reactions such as **[hay fever](#)** in some individuals.

You can minimise your risk of exposure to air pollution and poor-quality air by:

- checking the **[VicEmergency website](#)** or downloading the app and setting up a 'watch zone' to find out about any bushfires (or other extreme events) in your local area
- checking the air quality in your area on **[EPA's AirWatch](#)** website
- during the grass pollen season (October through December), checking the pollen forecast for stations around Victoria on the **[Melbourne Pollen website](#)** or via the **[Melbourne Pollen Count mobile app](#)**.

Other suggestions for days of poor air quality include:

- plan (or postpone) any outdoor activities accordingly
- avoid or limit vigorous physical activity

- if you have a pre-existing lung or heart condition (including asthma) take your medication, and follow your treatment plan

Read more about [air pollution](#) and [reducing harm from bushfire smoke](#).

Keep food safe

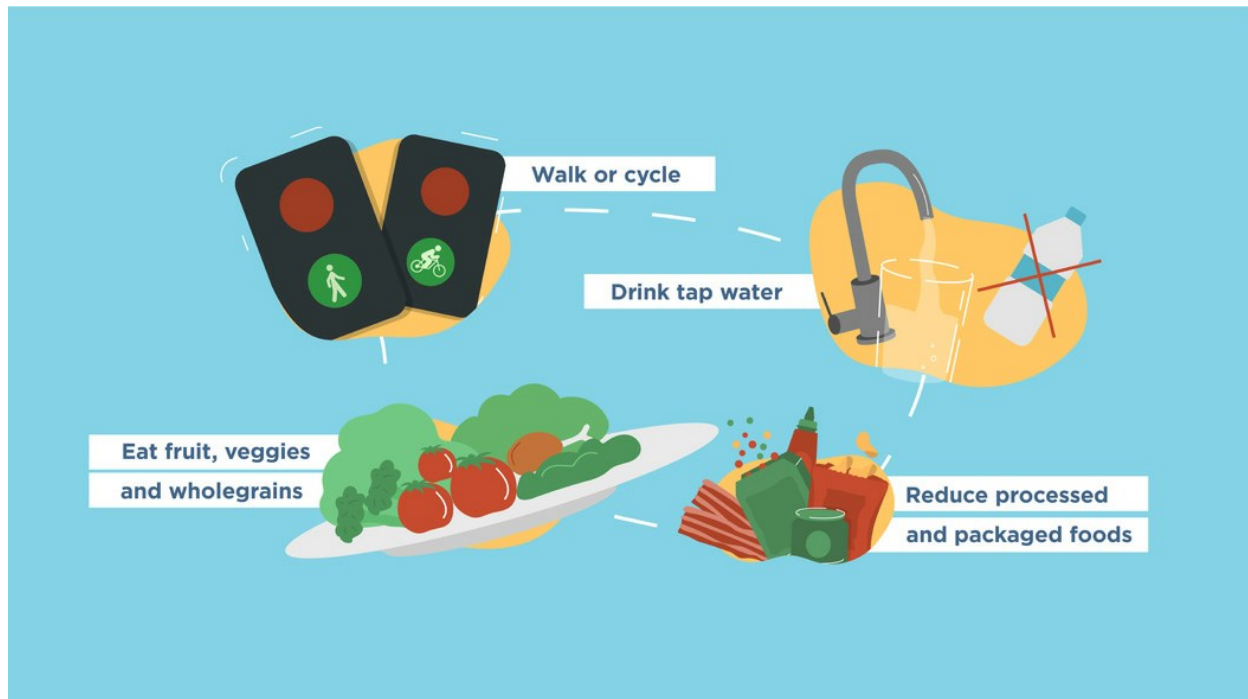
Higher temperatures increase the risk of food-borne infections such as gastroenteritis (gastro), caused by increased growth of pathogens such as Campylobacter, Salmonella, and E. coli. You can keep food safe in hot weather by following [summer food safety tips](#).

Look after your mental health

Aside from its effects on physical health, climate change may adversely affect the mental health of many Australians. Extreme weather events such as floods, droughts and bushfires can lead to psychological distress due to trauma, illness, loss of loved ones, destruction of property and displacement, and disruption of communities, goods and services.

[Getting help and support for mental health issues](#) early can make a big difference to getting the right treatment or assistance for your needs.

Actions to reduce your contribution to climate change



Individual action can make a difference. If we each make changes, together this adds up to collective action that makes an even bigger difference.

There are plenty of positive things you can do to help slow or reduce climate change, which will also benefit your health, including:

- Increasing your use of 'active transport' (such as walking and cycling) can help to reduce your risk of obesity, diabetes, heart disease, some cancers, and musculoskeletal conditions.
- Reducing your reliance on cars by using active transport or public transport will improve air quality, which will help to reduce rates of lung cancer and other lung conditions (including asthma), heart disease and stroke.
- Eating a diet rich in plant-based foods, including fruits, vegetables, nuts, seeds and whole grains, and with fewer animal-based foods is good for your health and the environment.
- As part of a well-balanced, regular diet and a healthy, active lifestyle, eating the recommended amount of fruit and vegetables for **men** and **women** every day can help you reduce obesity and maintain a healthy weight, lower your cholesterol and lower your blood pressure.

- Reducing your consumption of high kilojoule processed foods will help to reduce excess energy consumption and reduce the environmental impacts associated with these foods. Processed foods are generally high in saturated fat, added sugars or salt, take more energy to produce and are usually packaged, which contributes to landfill waste.
- Drinking tap water. Victoria has some of the world's best drinking water. Drinking tap water over bottled water or sugary drinks is better for your health and the environment, and it's a lot cheaper too.
- Cooling and **heating your home efficiently** will help you remain comfortable all year round, and save on energy.

These benefits are not only important for the health of our communities, but also help to reduce demands on the health system.

Where to get help

- Your **GP (doctor)**
- **Sustainability Victoria** Tel. **1300 363 744** – for advice about energy, waste and recycling
- **Australian Government Department of the Environment and Energy** Tel. **(02) 6274 1888**
- **Environment Protection Authority** Pollution Watch Line Tel. **(03) 9695 2777** to report pollution from motor vehicles or industrial pollution, 24 hours, seven days
- **Environment Protection Authority** Tel. **(03) 9695 2722** – for air quality information

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