



# Cold waves and cold weather

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## Key facts

A cold wave is marked by a drop of average temperature well below the seasonal norms of a region. Before or during a cold wave, there may be other significant winter weather events, such as blizzards or hailstorms. They can have a significant impact on people's health, and on crops, livestock and companion animals, provision of public services and power supply. Climate change is related to a global increase in temperatures and extreme weather events, including cold waves and other extreme cold weather events.

## Main health impacts

Health concern	Risk factors
<p><b>Cold-related conditions:</b> hypothermia, frostbites, chilblains, trench foot.</p> <p><b>Hypothermia:</b> Is defined when body temperature falls below 35°C (95F), which most commonly is caused by cold weather or cold-water immersion.</p> <p><b>Frostbite:</b> Injury caused by freezing of the skin and underlying tissues, resulting in a loss of feeling and colour in the affected areas.</p> <p><b>Chilblain:</b> Painful inflammation of small blood vessels in the skin due to repeated exposure to cold. It can cause itching, red patches, swelling and blistering, mostly on hands and feet.</p> <p><b>Trench foot:</b> Injury of the feet resulting from prolonged exposure to wet and cold conditions.</p>	<ul style="list-style-type: none"><li>• Workers in some occupations, such as agriculture, fishing and construction, may endure greater cold exposure.</li><li>• Certain behaviours, such as alcohol abuse can increase the risk.</li><li>• People living in precarious types of shelter or people experiencing homelessness are at higher risk.</li><li>• People that practice winter sports, infants (below one year) and seniors (above 65 years) are also at high risk of frostbite and hypothermia when not wearing appropriate clothing.</li></ul>
Worsening of pre-existing chronic cardiovascular and respiratory diseases	<ul style="list-style-type: none"><li>• Some chronic respiratory and cardiovascular diseases are worsened by cold weather.</li></ul>
Injuries and trauma.	<ul style="list-style-type: none"><li>• Icy roads can lead to increased vehicle accidents.</li></ul>

Carbon monoxide poisoning: frequent symptoms are headache and nausea, vomiting, confusion, up to serious medical problems and even death	<ul style="list-style-type: none"> <li>• The use of outdoor heating/cooking devices to get some extra warmth indoors can lead to dangerous and potentially deadly carbon monoxide (CO) poisoning.</li> </ul>
Increased transmission of respiratory illnesses, skin diseases and vaccine-preventable diseases	<ul style="list-style-type: none"> <li>• Cold waves can lead to disruption of basic health services provision.</li> <li>• Some studies have shown that cold weather is associated with greater SARS-CoV-2 transmission. Similarly, influenza outbreaks have peaks coinciding with cold and dry weather patterns.</li> </ul>
Occupational risks: work-related accidents or injuries	<ul style="list-style-type: none"> <li>• A higher risk of injury on cold days may happen among fishing, transport, electricity, gas and water distribution workers.</li> </ul>
Mental health consequences	<ul style="list-style-type: none"> <li>• Extreme weather events and climate change may cause high levels of anxiety, and cold weather events may lead to mood disorders.</li> </ul>

## Disease tools that may be relevant

[\\_> Acute diarrhoea](#)

[\\_> Hepatitis A](#)

[\\_> Hepatitis E](#)

[\\_> Typhoid fever](#)

[\\_> Measles](#)

[\\_> Meningococcal meningitis](#)

[\\_> Poliomyelitis \(polio\)](#)

[\\_> Acute respiratory infections \(ARIs\)](#)

[\\_> COVID-19](#)