

# How heatwaves are dangerous to human health

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Record-breaking heatwaves across the Northern Hemisphere have again sparked concerns about the danger such blistering temperatures pose to people's health, particularly children and the elderly.

Such sustained heatwaves—which experts say are becoming more common due to human-driven climate change—can put [human bodies](#) under [extreme pressure](#), sometimes leading to dehydration, heatstroke and death.

Research recently found that more than 61,000 people died due to the heat in Europe last summer—and 2023 is shaping up to be even hotter.

## **The immediate effect**

As temperatures rise, the body fights to maintain its normal temperature around 37 degrees Celsius (98 Fahrenheit).

The heart ups the tempo, sending sweat to cool down the surface of the skin, the body's front line against the heat.

The skin's blood vessels also dilate, releasing heat.

## **The impact on health**

But if the heat overwhelms these temperature regulators, it can cause symptoms such as fatigue, headaches, fever and disturbed sleep.

Another early sign is dehydration, which occurs when the body loses more fluids than it takes in.

Heatstroke, which strikes when the body cannot stop its temperature rising past 40C, is considered to be the most serious heat-related illness.

The World Meteorological Organization has warned that repeatedly high overnight minimum temperatures are particularly dangerous to [human health](#), because the body never gets a chance to recover.

Such high overnight minimums—which parts of the United States, Europe and China have been suffering through this week—can lead to heart attacks and death, according to the WMO.

"Whilst most of the attention focuses on daytime maximum temperatures, it is the overnight temperatures which have the biggest health risks, especially for vulnerable populations," the UN agency said.

## **The added threat of humidity**

Humidity during heatwaves can also overwhelm the body.

Sweating helps cool bodies by evaporating off the skin—but if it is too humid, the sweat cannot evaporate.

The combination of heat and humidity is measured by what is known as a "wet bulb" temperature.

Researchers have warned that a wet-bulb temperature of 35 degrees Celsius can kill a healthy young adult within six hours.

This threshold of human survivability has only been reached a couple of times—but experts warn the number of instances will increase as the globe warms.

## **The most vulnerable**

Most vulnerable during heatwaves are the elderly, people who already have health problems, and children—particularly those under five years old.

As people get older, they have fewer [sweat glands](#), making the elderly

less able to control their temperature.

During heatwaves, these sweat glands work day and night.

After a few days, the sweat glands get exhausted and produce less sweat, increasing the body's core temperature.

Most of the estimated 61,672 people who died due to the heat in Europe last summer were over the age of 80, according to research.

## **Other factors**

Where people live and what they do can also put them more at risk during heatwaves.

Living in a city, particularly in densely populated areas or poorly insulated homes, can further expose people to the blistering heat.

People who work outside, such as construction workers, are also at an increased risk.

Those who play sports are doubly at risk because exercise also raises the body's [temperature](#).

The homeless are particularly exposed, having few ways to escape the heat.

Some drugs can also add to [health problems](#) during heatwaves, such as diuretics which reduce the amount of water in the body.

## **What to do**

During heatwaves people should drink plenty of water and try to stay as cool as possible.

Health authorities recommend people avoid going outside during the hottest part of the day—and if possible spend a couple of hours in a cool place, such as an air-conditioned cinema, library or museum.

They also advise people avoid physical exertion or drinking alcohol.

And, because [social isolation](#) can be a factor, it is advisable to regularly check in with friends and family.

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