

## Climate change

# Thousands could perish annually in US if global heating not curbed, study finds

Every year nearly 5,800 people are expected to die in New York, 2,500 in Los Angeles and more than 2,300 in Miami

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Burned vehicles during the Carr fire near Redding, California, in July 2018. Photograph: Josh Edelson/AFP/Getty Images

Thousands of heat-related deaths in major US cities could be avoided if rising global temperatures are curbed, new research has found.

On current global heating trends, thousands of people are set to perish due to the heat every year across 15 major US cities, in an analysis by a team of British and American researchers.

Once the average worldwide temperature rises to 3C (5.4F) above the pre-industrial period nearly 5,800 people are expected to die each year in **New York City** due to the heat, more than 2,500 are forecast to die annually in Los Angeles and more than 2,300 lives will be lost annually in Miami.

This dire scenario would probably be avoided if the world was able to keep to its commitments made in the Paris climate agreement, where governments pledged to limit the global temperature rise to 2C, with an aspiration to keep the increase to 1.5C.

If global heating was limited to 1.5C, a total of 2,716 lives would be saved each year from heat mortality in New York City, the researchers found. Thousands of lives across other US cities would also be saved, right down to San Francisco, where 114 people a year would avoid dying due to the the heat, compared to a 3C world.

### An estimated 5,800 people are expected to die in New York each year if temperatures rise 3C above the pre-industrial period



Guardian graphic. Source: Science Advances

“Reducing emissions would lead to a smaller increase in heat-related deaths, assuming no additional actions to adapt to higher temperatures,” said Kristie Ebi, a study co-author and public health expert at the University of Washington.

“Climate change, driven by greenhouse gas emissions, is affecting our health, our economy and our ecosystems. This study adds to the body of evidence of the harms that could come without rapid and significant reductions in our greenhouse gas emissions.”

Overall, New York, Los Angeles, Miami, Chicago and Philadelphia are set to experience the largest number of heat-related deaths, while places such as Boston and San Francisco will suffer lower death tolls. Researchers projected this by looking at previous records on the relationship between high temperatures and mortality.

The planet has already warmed by around 1C since the dawn of the Industrial Revolution, due to the release of heat-trapping gases from human activity such as power generation, transportation and deforestation. Even if current Paris agreement pledges are met, the world is on course to heat by around 3C.

Scientists have **warned the world is now dangerously close** to breaching the 1.5C limit, which would push societies to a new reality of severe droughts, coastal flooding, wildfires and the loss of key ecosystems such as coral reefs.

But even keeping global temperatures at a 2C increase would save lives compared with the warmer alternative according to the new paper, **published in Science Advances**. Researchers found that 1,980 New Yorkers would be saved from a heat-related death at a 2C increase compared with 3C heating. In Los Angeles, 759 people would avoid this same fate.

“We are no longer counting the impact of climate in change in terms of degrees of global warming, but rather in terms of number of lives lost,” said the report’s co-author Dann Mitchell, from the University of Bristol’s Cabot Institute.

Mitchell said the looming deaths mean he would “strongly encourage” Americans to hold elected leaders to account over the climate crisis.

Donald Trump has vowed to remove the US from the Paris agreement, dismantled many of the policies designed to cut greenhouse gases and has opened up vast areas of federal land and waters to oil, gas and coal extraction. Following a period of gradual decline, US greenhouse gas emissions rose last year.

This “energy dominance” agenda is aimed at turning the US into a major exporter of oil and gas, while propping up the fading coal industry. But a series of disastrous hurricanes and wildfires, influenced by the changing climate, along with a slew of stark warnings from scientists, has provoked **record levels of concern** among Americans over the climate emergency.

A **major US government climate assessment** released last year warned that heat-related health problems, particularly among the sick and elderly, are already a problem in parts of the country.

Research **released earlier this week** highlighted the health challenges posed by climate change, including extreme weather events, the spread of mosquito-borne diseases and air pollution. The World Health Organization has previously stated that tackling the climate crisis would **save at least a million lives a year globally**, making it a moral imperative to act.

“Strengthened climate actions are needed as they would substantially benefit public health in the United States,” said Eunice Lo, from the University of Bristol’s Cabot Institute and lead author of the heat study.