

Half-a-degree warmer means 30,000 more deaths yearly in urban China: study

6 August 2019, by Marlowe Hood



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An increase in global warming from 1.5 to 2 degrees Celsius above late 19th-century levels would cause tens of thousands of extra deaths in China's cities every year, researchers reported Tuesday.

Even if one assumes future adaptations to cope with scorching heat—better [public health services](#), more air conditioning, easy access to clean drinking water—the half-degree bump in [temperature](#) would likely result in some 30,000 additional heat-related deaths per year, they reported in the journal *Nature Communications*.

Without those improvements in infrastructure and preparedness, [excess mortality](#) would go up another 50 percent.

"Our study quite clearly demonstrates the benefits of limiting global warming to 1.5C," co-author Buda Su, a scientist at Xinjiang Institute of Ecology and Geography in Urumqi, China, told AFP.

Average global temperatures have already risen 1C (1.8 degrees Fahrenheit) above the preindustrial benchmark, enough to trigger longer and more intense droughts and heatwaves.

The start of the 21st century has seen several especially lethal heatwaves.

The one that gripped Europe in 2003 resulted in more than 70,000 deaths above what would have been expected in a typical mid-to-late 20th-century year.

Unprecedented high temperatures in western Russia, including Moscow, led to more than 50,000 excess deaths in the summer of 2010.

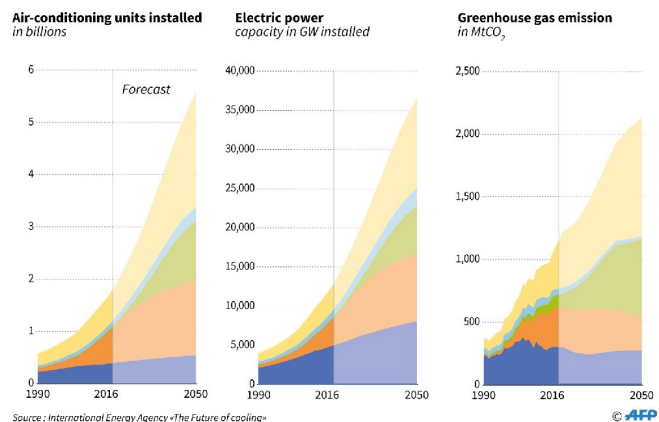
July 2019 was the hottest month across the globe ever recorded, and June saw a rash of record temperatures in the northern hemisphere.

Heatwaves are especially deadly when combined with [high humidity](#), and when night temperatures do not drop by much.

The global rise in air-conditioning

The number of air conditioners and the amount of CO₂ emissions have almost tripled since 1990

USA China India EU Rest of the world



Global growth in the number of air conditioners

Mortality among women higher

The 2015 Paris climate treaty enjoins the world's nations to cap global warming at "well below" 2C, and aim for a 1.5C limit if feasible.

National carbon-cutting pledges—if fulfilled—would see global temperatures rise by at least 3C, but the trajectory of recent greenhouse gas emissions puts Earth on a course for even [higher temperatures](#).

China's landmass has warmed more quickly than the [global average](#), and is vulnerable to other environmental stresses such as [water shortages](#).

Few studies have projected excess mortality in developing countries under different [global warming](#) scenarios, and even fewer have taken into account differences of sex and age.

To create a baseline, a dozen researchers led by Yanjun Wang from the Nanjing University of Information Science & Technology calculated heat-related mortality in 27 Chinese cities from 1986-2005.

Averaged across the country, they found that hot spells accounted each year for the [death](#) of 32 people per million.

Even in the highly optimistic scenario of a 1.5C ceiling on global temperatures, the death rate in China will likely rise to between 49 and 67 people per million—assuming improved infrastructure and capacity.

Mortality rates for women have been, and are projected to be, nearly double those for men.

The gap between working age adults, on the one hand, and small children and the elderly, on the other, is even wider.

All but one of the last 18 years rank among the hottest on record, a trend that defies explanation without the dominant influence of manmade climate change.

More information: Tens of thousands additional deaths annually in cities of China between 1.5 °C

and 2.0 °C warming, *Nature Communications* (2019). DOI: [10.1038/s41467-019-11283-w](https://doi.org/10.1038/s41467-019-11283-w) , [nature.com/articles/s41467-019-11283-w](https://www.nature.com/articles/s41467-019-11283-w)

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