

Scientists warn of health costs of Australian heatwaves

Frank Gaglioti
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Since the start of the year, southeastern Australia has been hit by a series of heatwaves, continuing into February. Such events are known to have a severe impact on human health, as well as producing conditions for catastrophic bush fires.

January ended with heatwave conditions. South Australia was particularly badly hit, with temperatures reaching 41 Centigrade in Adelaide and 42 C in the state's north. In neighbouring Victoria, Melbourne reached 39 C and Mildura, in the northeast, experienced five successive days over 40 C from January 25.

Australia's Bureau of Meteorology (BOM) rated January as an exceptionally hot month for the whole country and the third warmest on record. January was Sydney's second-warmest month in the past 24 years.

In Melbourne, thousands of households were cut off electricity due to a "large amount of faults," according to the privatised power providers. As a result, many people were unable to use air-conditioning to escape the oppressive heat.

In some regions of Australia, extreme heat conditions have persisted into February. Western, central and northern parts of Queensland have experienced temperatures above 40 C, and forecasters have warned that the heat could persist.

BOM forecaster Sam Campbell said: "For many people they won't see overnight temperatures dropping below 30 C overnight and then the daytime temperatures getting up into the 40s and approaching, say, 45 C around Longreach... So it is actually going to be a significant heat event for Queensland."

In recent years, studies have pointed to the serious health consequences of extreme heatwaves. An assessment of PerilAUS, a database of natural disasters, conducted by Andrew Gissing and Lucinda Coates from Macquarie University, characterised heatwaves as

Australia's "deadliest natural disaster."

The assessment estimated that the January–February 2009 heatwave, which produced horrific bushfires that killed 177 people in Victoria, also resulted in 432 deaths from the effects of extreme heat. In that period, Melbourne experienced three successive days over 43 C, while Adelaide had eight days over 40 C. Extremely hot nights, with minimums of 20 to 25 C in Melbourne and 30 C in Adelaide, meant people experienced little relief in between scorching days.

Earlier heatwaves produced similar results—for example the 1939 Black Friday bushfires resulted in 71 deaths in Victoria, while at least 420 people died from the heat, mostly in New South Wales.

The mortality statistics are probably understated as people present to hospitals with various illnesses, such as heart attacks or renal failure, that heatwaves exacerbate. Children, the elderly, disabled people and outdoor workers are considered at the greatest risk.

A perspective published in the *Medical Journal of Australia*, "Extreme heat threatens the health of Australians," by Marion Carey and others in 2017 showed that extreme heat disrupts the body's thermoregulatory mechanisms so it is unable to maintain a normal core temperature. This can exacerbate pre-existing conditions in vulnerable parts of the population.

A Climate Council report, *The silent killer: Climate change and the health impacts of extreme heat*, published in 2016, estimated that during the heatwave in southeast Australia in January–February 2009, emergency call-outs jumped by 46 percent; cases involving heat-related illness jumped 34-fold; and cardiac arrests almost tripled in Victoria. In total, 374 excess deaths were recorded, a 62 percent increase on the previous year.

Similar mortality figures have been experienced internationally. A heatwave in France in July 2006 produced 2,065 deaths, one in Japan during June 2010 resulted in 1,718 deaths and one during July 2010 in Russia reportedly resulted in 55,736 deaths from heat and wildfires. On the Indian sub-continent, 3,729 people died in May 2015.

The extreme heat conditions have intensified and become more frequent due to the effects of global warming. According to the Climate Council, the number of hot days in Australia has more than doubled since 1960. This warming trend has accelerated in the past few years, with 2013 the hottest year on record.

A study led by Sophie Lewis from the Australian National University, prepared for the Intergovernmental Panel on Climate Change, assessed the potential magnitude of future extreme temperatures in Australia under the conditions outlined in the 2015 Paris Climate Accord. That international agreement aimed to restrict greenhouse gas emissions and limit the increase in global temperatures to between 1.5 and 2 degrees Celsius above pre-industrial levels.

The study warned that at the top end of that range, Australian cities could have 50 C days as early as 2040 to 2050. In other words, even if the 2-degree limit set by the Paris accord were met, the temperatures would reach critically dangerous levels.

“If we warm average temperatures, we shift the whole distribution of temperatures, and we see a really large percentage increase in extremes. What seems like a small increase in average temperatures, say 1 degree, can lead to a two- or three-fold acceleration in severity of extremes,” Lewis told the *Sydney Morning Herald*.

This underscores the inadequacy of the Paris accord, which again demonstrated the inability of governments worldwide to take any effective action to contain global warming.

In a paper published in *Scientific Reports* in 2017, Sarah Perkins-Kirkpatrick, a research fellow at the Climate Change Research Centre at the University of NSW found that the worst effected regions in parts of the tropics could experience heatwave conditions for the whole of the summer.

Government indifference and inaction has increased the impacts on health. The Australian government and some of the state governments have no heatwave action plans. Victoria, Tasmania and South Australia have

plans, but they are totally inadequate. The Victorian plan, published in 2009, does not allocate extra resources to meet the growing threat of heatwaves. Most of the responsibility for any response is shoved onto local councils, which are unable to respond effectively.

Australian governments also have taken no long-term measures, such as urban planning, to mitigate the impact of extreme heatwaves. Systematic cuts to the public health system by successive Labor and Liberal-National governments have left hospitals ill equipped to cope with large influxes of patients in extreme conditions.

To stem temperature increases and deal with their social consequences, an international strategy is required but that is entirely bound up with the fight for socialism. Capitalist governments worldwide, tied to the profit interests of the financial elite, have demonstrated their complete indifference to the growing disaster facing the human population.



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