

Sydney, Melbourne warned to prepare for 50-degree days

4 October 2017



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Sydney and Melbourne could regularly face 50 degree Celsius (122F) days within 25 years even if Australia meets its Paris global warming targets, a new study warned Wednesday.

Other areas across the country should also prepare for extreme heat, said the research led by the Australian National University (ANU) and supported by the Centre of Excellence for Climate System Science, an international consortium.

The study assessed the potential magnitude of future extreme temperatures under the 196-nation Paris Agreement, which targets curbing increases in global temperatures to between 1.5C and 2.0C above pre-industrial levels.

"Major Australian cities, such as Sydney and Melbourne, may experience unprecedented temperatures of 50 degrees Celsius under 2.0 degrees of global warming," said lead author and ANU [climate](#) scientist Sophie Lewis, adding it could occur by the 2040s.

"The increase in Australian summer temperatures indicates that other major cities should also be prepared for unprecedented future extreme heat."

The study's climate modelling projected daily temperatures of up to 3.8C above existing records in the states of Victoria and New South Wales, despite efforts to curb warming.

In ratifying the Paris agreement last year, Australia set an ambitious target to reduce emissions to 26 to 28 percent from 2005 levels by 2030.

This would represent a 50–52 per cent reduction in emissions per capita between 2005 and 2030.

With its heavy use of coal-fired power and relatively small population of 24 million, Australia is considered one of the world's worst per capita greenhouse gas polluters.

Lewis said dealing with such heat in cities would need proper planning, with hospitals better equipped to cope with more admissions.

Australia has just experienced its hottest winter on record amid a long-term warming trend largely attributed to climate change.

Maximum daytime temperatures were 1.9C above the long-term national average of 21.8C during the June-August season, the Bureau of Meteorology said last month.

Data from the weather bureau and national science body CSIRO shows Australia has warmed by approximately 1.0C since 1910.

More recently, over 200 weather records were broken during the last summer, with intense heatwaves, bushfires and flooding plaguing the December 2016-February 2017 season.

The study, published in *Geophysical Research*

Letters, said only immediate climate action internationally could prevent record extreme seasons year after year.

"One of the hottest years on record globally in 2015 could be an average year by 2025," said Lewis.

Fellow researcher Andrew King, from the University of Melbourne, said the study team used a combination of observations and modelling to assess how the magnitude of record-breaking events may change in the future.

"Previous scientific studies have focused on how current temperature extremes have been impacted by climate change, or on how the frequency of these current extremes will change in the future," said King.

"This study takes a different approach and examines how the severity of future [temperature](#) extremes might change in the [future](#)."

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