

Extreme heatwave hits Australia

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While Germany, Austria, Serbia and other parts of Central and Eastern Europe face one of their coldest Januaries in recent years, the Australian continent is experiencing record heatwaves. Scientific evidence indicates that global warming is exacerbating the extreme conditions around the world.

The extended period of high temperatures in Australia is having serious impacts on people's health, as well as agriculture and wildlife. On January 16, for example, some towns recorded temperatures just below 50C (122F).

Tarcoola in the middle of South Australia had the highest temperature at 49.1C. Swathes of central Australia, New South Wales (NSW) and northern Victoria recorded temperatures of around 46C.

The intense heat is expected to continue across the continent into this weekend, with Canberra, the national capital, suffering four consecutive days above 40C (104F), a record.

"Certainly the duration of this event and the spatial extent of the heatwave across the southern half of Australia seems to be quite significant," Weatherzone senior meteorologist Jacob Cronje told the media. "By the end of the week, we should see many records broken across NSW."

The heatwave started on December 25, when Marble Bar in the Pilbara mining region of northwest Western Australia reached 49.3 degrees. According to the Bureau of Meteorology (BOM), this was the third-highest December temperature ever recorded anywhere in the country.

The BOM said the heatwave emanated from the Pilbara and extended across the country. The severe heat was intensified by the failure of monsoonal rains, making the region extremely dry. These weather systems moved east across the country. According to Cronje, temperatures may exceed 50C as the heatwave continues.

Sydney Morning Herald reported a spike in cardiac arrests and people presenting to emergency departments and ambulance callouts.

NSW Health warned of heightened levels of ozone, resulting from pollution from vehicles and air conditioners interacting with sunlight. Ozone is known to be an irritant to people with respiratory conditions such as asthma.

Heatwaves are one the biggest killers in Australia. People suffering chronic conditions, such as heart disease and asthma, are the most vulnerable. The elderly and very young are at very high risk also. Medical researchers estimated that over 430 people died from the extreme heat during the January–February 2009 heatwave, when temperatures climbed to 46C.

Stone fruit farmers are losing their crops as the heat literally cooks the fruit in their skins. Dried Tree Fruits Australia chairman Kris Werner told the Australian Broadcasting Corporation: "The stone burns them, which means they burn on the inside, they become squashy and you can't use them."

In December the BOM and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) issued their joint biennial assessment of Australia's climate. The *State of the Climate 2018* report pointed to the increasing impact of global warming on the world's climate.

This year was the third warmest on record in Australia, with the annual mean temperature 1.14 degrees above average. Globally, 2018 was the fourth warmest on record. Eight of Australia's hottest years on record have occurred since 2005.

"The shift to a warmer climate in Australia is accompanied by more extreme daily heat events," the report stated.

The drying of southern Australia is one of the most important shifts in climate, impacting on agriculture

and lengthening the bush fire season. Weather patterns are changing, with a reduction in the number of cold fronts and a decrease in the number and intensity in cut-off lows in south-eastern Australia. Such systems bring most rainfall to the region.

The El Niño, La Niña and the Indian Ocean dipole weather systems are variations in ocean temperatures in the Pacific and the Indian Oceans that influence Australia's climate. El Niño and La Niña are currently very weak, with little impact on climate, while the Indian Ocean dipole is producing drier conditions across Australia, particularly in spring.

Scientists now understand that ocean temperatures have an enormous effect on climate. Measurements show that the sea has heated by one degree since 1910, similar to the warming taking place on land. Preliminary data for 2018 show the sea surface temperature around Australia was the tenth highest on record. Intense heatwaves have been measured in the Tasman Sea off southeast Australia and Tasmania. Such heat is also known to be a significant cause of the Great Barrier Reef's bleaching events.

The *State of the Climate 2018* report indicated that the world's oceans absorb more than 90 percent of the extra energy from greenhouse warming. The rate of heating on the earth's land surfaces has slowed as a result of this warming of the oceans, although what is occurring at deeper levels is not very well known.

Global warming is driven primarily by the increase in greenhouse gases, particularly carbon dioxide. There are three key global monitoring stations located around the world where the air is cleanest, with the Australian station located at Cape Grim on the northwest tip of Tasmania. These stations have been continuously monitoring for 42 years. Cape Grim has shown an upward trend, passing 400 parts per million of air (ppm) in May 2016 and remained above this level ever since, with 2017 levels at 402 ppm.

The *State of the Climate 2018* report warns that the last time carbon dioxide levels were at this level or higher was during the Pliocene epoch, 5.3 million to 2.6 million years ago, when temperatures were generally 10 to 20 degrees hotter than today.

The report assessed that emissions from fossil fuels continued to rise during 2014–2016. It concluded that “the amount of climate change expected in the next decade or so is similar under all plausible global

emissions pathways. However, by the mid-21st century, higher ongoing emissions of greenhouse gasses will lead to greater warming and associated impacts, and reducing emissions will lead to less warming and fewer associated impacts.”

In the measured language used by scientists this amounts to a stark warning that time is running out.

Significantly none of the leaders of Australia's major political parties have uttered a word on these scientific reports.

Liberal-National Coalition Prime Minister Scott Morrison, an advocate of the coal industry, rejected calls by the Intergovernmental Panel on Climate Change last October for the phasing out of coal.

Asked if Australia would be held to its target to reduce emissions by 26 percent to 28 percent from 2005 levels, Morrison contemptuously replied: “No, we won't ... Nor are we bound to go and tip money into that big climate fund. We're not going to do that either. I'm not going to spend money on global climate conferences and all that nonsense.”

Both the Labor Party and the Greens claim they will cut greenhouse gasses but when Labor was last in office greenhouse emissions continued to rise. The Greens falsely insist that the problem of global warming can be resolved without tacking its underlying source, the capitalist profit system.

Climate scientists understand the measures needed to drastically cut greenhouse gasses and curb global warming. The resources necessary for this, however, cannot be mobilised unless the profits of the banks and super rich are expropriated and used for the needs of humanity.

The author also recommends:

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[12 January 2017]



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