

Australia hit by second hottest year on record in 2024

Mark Wilson
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2024 was Australia's second hottest year on record since national observations began in 1910, as reported by the Bureau of Meteorology (BOM).

This is a further confirmation that the predicted climate change effects of extreme weather and soaring temperatures are currently affecting the population and will continue to do so unless fossil fuel emissions are drastically curtailed.

The BOM is Australia's national weather and climate agency, a branch of the federal government's Department of Agriculture, Fisheries and Forestry. They have yet to release their full Annual Climate Statement for 2024, expected in February this year. The reports of previous years analyse and summarise long-term climate trends related to not just temperature, but also rainfall, atmosphere and ocean metrics.

The raw climate data that will inform the reports, however, have already been released, and allow for a preliminary assessment of Australia's climate. The average national temperature for 2024 was 1.46°C higher than the 1961–1990 average. It has only been surpassed so far by 2019, which holds the record at 1.51°C above the long-term average.

When compared to the pre-industrial level Australian era—using nineteenth century data that is less reliable—the average temperature of the Australian continent last year is estimated at nearly 2°C warmer than that period.

The national average maximum temperatures were 1.48°C above the long-term twentieth century average, the fourth warmest on record. The average minimum temperatures, however, were recorded at 1.43°C above the long-term average, the highest ever observed since reliable records began in 1910. The spring season in particular (August–November) was the hottest Australian spring on record, coming in at 2.08°C

warmer than the twentieth century average.

Impacts varied somewhat by state, with Queensland observing its hottest year on record, while South Australia and Western Australia had their second hottest year. The capital of Western Australia, Perth, also had its hottest year on record, for the first time reaching average temperatures above 20°C.

The temperature of last year is only fractionally behind that of 2019, with a difference of 0.05°C. The high temperatures observed in these recent years are not an anomalous event, but are instead becoming ever more regular as climate change continues unabated.

Professor Sarah Perkins-Kirkpatrick, a climate scientist from the Australian National University, told the *Guardian*: “It is not physically possible for us to have really cool years anymore. With all that warming baked in, to have a year a lot cooler than average is virtually impossible.”

The ten hottest years on record in Australia have all occurred since 2005. This is a reflection of a global pattern, since the high temperatures of Australia observed in recent years are a local expression of record-shattering global temperatures.

The ten warmest years for Earth on record have all occurred in the past decade. On January 10, the Copernicus Climate Change Service confirmed 2024 as the hottest year on record, with global temperatures reaching 1.6°C above pre-industrial levels, exceeding the previous warmest year on record, 2023, by 0.12°C.

2024 thus marks a historic and unsettling milestone in the development of the climate crisis. It is the first calendar year to surpass the established 1.5°C target set by international agreements such as the 2015 Paris Accords. The reaching of this milestone is directly linked to the effects of climate change, which is in turn rooted in the unsustainable burning of fossil fuels and

the subsequent emissions of greenhouse gases (GHG).

Beyond the year-to-year records, on average the world has so far warmed approximately 1.3°C since pre-industrial times. The increasing likelihood of substantially overshooting the 1.5°C target is significant in part because it is the approximate temperature at which many climate “tipping points” are likely to be activated, such as the collapse of the West Antarctic and Greenland ice sheets, which could accelerate the rate of global warming beyond what is predicted from fossil fuel emissions alone.

If fossil fuel burning continues at the current rate, the world will be expected to reach between 2.6°C and 3.1°C by the end of the century. Citing these figures is necessary to demonstrate the full extent of the climate crisis, for both Australia and internationally. But it is insufficient to explain the impact that climate change is currently having, and is projected to have, on the human population.

Part of the reason for this is that because the Earth’s oceans warm much slower than land surfaces, it skews the global average down. This applies just as much to a local study of the Australian climate, or any other region of the world. Thus, as explained by Adam Schlosser, a senior climate scientist from MIT:

Just about every human lives on a large land region. This means that almost everybody will experience a stronger warming than what the global climate talks suggest when they reference global warming averages of 1.5 or 2 degrees Celsius. And this has impacts beyond ourselves: it has major implications for our food, water and resource systems.

These implications as they relate to Australia were discussed in the State of the Climate report, a collaborative report between the BOM and Australia’s national science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO). As the *World Socialist Web Site* reported in December 2024:

Among the future impacts for Australia that the report forecasts are increased heat extremes,

longer drought times, a longer fire season for the southeast, continued warming and acidification of the oceans surrounding Australia, more frequent and severe coral bleaching events, and fewer but more intense tropical cyclones. All these impacts have the potential to cause catastrophic damage and loss of life.

The report concludes, in line with the vast body of scientific literature on the subject, that there must be a substantial and urgent reduction of global GHG emissions if temperatures are to be stabilised at 1.5°, and the worst of those future impacts mitigated.

What has been the response of the federal Labor government under Prime Minister Anthony Albanese and Environment Minister Tanya Plibersek to these severe warnings? The dismissal of scientific evidence on climate change, the disregard for the working-class population who will be most affected by its impacts, and the doubling down on securing the profit interests of the fossil fuel and mining corporations.

This was all most recently demonstrated in the announcement late last year by Labor that it would significantly expand at least three coal mines, with a combined estimated 936 million tonnes of CO2 equivalent over their lifetime. The decision brought the number of coal mine approvals by the current Labor government to ten, a program that is completely incompatible with stabilising average temperatures at 1.5°C above pre-industrial levels.

The necessary task of halting the climate crisis and implementing scientifically informed safeguards to protect the environment falls not to Labor, or any other capitalist party. It is a task that can only be carried out by the international working class, the sole social force on the planet capable of overturning the capitalist system, the root cause of climate change and the threat of disastrous levels of warming.



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