# Record climate warming recorded in Australia for 2016

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The Australian Bureau of Meteorology last week issued its annual Climate Statement, detailing several record-breaking temperature anomalies caused by global climate change during 2016.

Around the world, climate change is causing new and dangerous weather patterns and irregularities. Last year saw the planet's hottest year ever recorded, marking the third consecutive year in which a new record has been set.

Arctic sea ice levels reached a new historic minimum, with long-term warming accelerating sea ice thinning. This is creating what climate scientists call a "negative feedback loop," with less ice resulting in less of the sun's energy being reflected back into space, which in turn further reduces sea ice levels and causes more heat to be absorbed by land and ocean.

In Australia last year, average temperatures were the fourth highest recorded, surpassed only by 2005, 2013 and 2014. Last year's mean temperature was 0.87°C above the 1961–1990 average. The minimum recorded daily temperatures were 1.03°C above average, the second warmest on record.

The bureau's Climate Statement noted that 2016 saw Australia's hottest ever autumn, largely due to a prolonged heatwave that affected much of the country in late February and the first half of March. The report noted: "Autumn was marked by long runs of days with above average temperatures, as well as many record-high temperatures."

Within an overall warming trend, the statement identified significant regional variations. Several of Australia's urban centres recorded their hottest-ever year.

These included Sydney, the country's largest city, which saw 28 days reach a maximum of 30°C or higher, the highest number since 1940. The average maximum temperature in the city was 23.9°C, which is 2.2 degrees above average. Also registering highest-ever average temperatures was Brisbane, the state capital of Queensland, Hobart, state capital of Tasmania, and Darwin in the Northern Territory.

The Bureau of Meteorology attributed the record temperatures in several eastern and northern coastal cities to the record sea surface temperatures in these regions.

Average ocean temperatures around Australia reached a record 0.73 °C above the 1961–1990 average, surpassing the previous high registered in 2010. The record is consistent with a recent warming trend, with above-average Australian sea surface temperatures registered every year since 1994. The Climate Statement noted: "There has been a total increase of approximately 1°C since 1900, very similar to the increase in temperature observed over land."

The record high ocean temperature in 2016 had significant adverse effects on the marine environment. The statement noted that coral bleaching in the Great Barrier Reef was "the worst on record, affecting some 1,000 km of reef north of Lizard Island, while in Western Australia it was the third time a bleaching event has ever been recorded."

The Climate Statement also reviewed the impact of notable and anomalous weather events across Australia in 2016. These included bushfires in Victoria, Tasmania and Western Australia at the beginning of the year, floods in eastern and northern Australia, and severe lightning storms in Victoria in November that triggered grassfires as well as a pollen-related spate of asthma attacks that hospitalised thousands and killed several people.

These incidents underscore the dangers that climate change poses to the lives of ordinary people around the

world.

The Bureau of Meteorology noted the climatic impact of the very strong El Niño effect in the first half of 2016: “The year commenced with one of the three strongest El Niños on record already underway in the central Pacific, and record-warm waters across much of the Indian Ocean.”

The El Niño effect, and its alternative La Niña, is a cycle of alternating warm and cold temperatures in the central and eastern parts of the Pacific Ocean. The effect has been occurring for tens of thousands of years, but climate change may be intensifying the global impact. With greater ocean warming in the equatorial Pacific Ocean, “extreme” El Niños and La Niñas appear to be occurring with increasing frequency.

The most recent El Niño, which ended in May 2016 after lasting two years, was among the strongest in recent decades.

The *World Socialist Web Site* previously noted: “It has been held responsible for record flooding in Argentina, Paraguay, Bolivia, Uruguay, and Brazil, as well as flooding and landslides in Ethiopia, which killed more than 100 people. It has been thought to have directly caused droughts in South Africa, Thailand, and Venezuela, affecting millions of people and, in the latter case, resulted in electricity rationing. It has also been blamed for the intensity of Tropical Cyclone Winston, which destroyed parts of Fiji in February, as well as having enhanced the Pacific cyclone season generally.”

The first half of 2016 saw significantly lower rainfall in northern Australia, and the least active tropical cyclone season seen since the beginning of satellite records in 1970. After the breakdown of El Niño in May, record rainfall was registered in much of Australia. Annual rainfall in 2016 was 17 percent higher than average.

Anomalous climatic conditions in Australia and internationally are quickly becoming the “new normal” amid accelerating climate change.

Climate scientists have known for decades about the phenomenon, and have issued detailed proposals on how to resolve the crisis. National governments around the world, however, have failed to take the necessary steps. In Australia and internationally, the ruling elite has been far more concerned to protect the profit interests of key corporate interests than it has been to address the environmental crisis.