

Algal bloom devastates marine life in South Australia

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A significant and harmful algal bloom, centred near Adelaide, the state capital of South Australia (SA), is devastating marine life, impacting local communities, and causing financial losses in aquaculture and tourism. Since being detected in March, the bloom has grown to an estimated size of nearly 5,000 square kilometres, covering around 30 percent of the state's coastline. Photographs show dead sea life and toxic yellow foam washing ashore.

The Biodiversity Council, an independent group of scientists from 11 Australian universities, published a statement in July suggesting a combination of factors caused the bloom. It pointed to a marine heatwave beginning in September 2024 reaching temperatures 2.5 degrees Celsius above average. This has combined with two other factors: the flushing of excess nutrients from the heavily farmed Murray-Darling basin during 2022-2023 floods; and nutrient upwelling—a natural process by which nutrient dense sea water is brought from the sea floor to the surface.

A citizen-led database on iNaturalist has so far documented over 500 affected marine species and the deaths of over 40,000 sea creatures, indicating a far broader impact. Local communities have led the clean-up with reports that heavily affected beaches are virtually unvisitable due to the stench of rotting marine life washing ashore and a variety of aerosolised algal toxins that can cause eye, skin and respiratory irritation.

The bloom is dominated by *Karenia mikimotoi*, a species of photosynthetic microalgae documented by scientists for nearly a century, which has reportedly persisted in low numbers for years until this latest bloom. A previous bloom of the algae was recorded in South Australia in Coffin Bay in 2014. *K. mikimotoi* has caused increasing blooms worldwide in recent decades. A 2012 bloom in China's Fujian

Province, for instance, inflicted significant financial losses on marine aquaculture.

Unlike typical algal blooms that kill through oxygen depletion during mass die-offs, *K. mikimotoi* is toxic to marine life making it particularly devastating. This outbreak is especially concerning as it has persisted through winter. Scientists are unable to estimate when the bloom will subside and have warned of its potential growth as warmer conditions return.

The bloom will only be dissipated naturally through wind and waves, decreasing nutrient levels, or cooler temperatures. Human intervention is only possible on a small scale using algaecides, introducing microorganisms hostile to the algae, or by using a modified clay shown to bind and incapacitate *Karenia* species in China and Japan.

At least twelve harmful algal species have been detected in the bloom, leading to the first-ever finding of brevetoxins—a type of neurotoxin—in Australian shellfish. According to the South Australian government, this has forced a precautionary halt to some commercial oyster and mussel harvests since July.

The tourism sector has also been affected. A snap survey of 97 tourism businesses by the Tourism Industry Council SA showed severe financial losses due to the algal bloom. It revealed that 99 percent of respondents had lost income, with an average downturn of 40 percent compared to July 2024.

The state government has announced paltry grants of up to \$10,000 to small businesses impacted by the algal bloom. However, the businesses must prove a decline in catches and business turnover during any “consecutive three-month period” between April and October to receive support. The hardest hit commercial fishery companies can apply for up to \$100,000 in

support, with additional one-off \$25,000 payments.

The total aid provided by state and federal governments amounts to just \$28 million. Facing mounting public criticism, federal Environment Minister Murray Watt announced \$14 million in federal funds, which was matched by the state government. A Senate inquiry was also announced.

Prime Minister Anthony Albanese committed an additional \$6.25 million in financial support on August 20, to provide grants to local government, to expand government monitoring of marine heatwaves, and algal bloom research. However, despite calls to do so, Albanese refused to declare the bloom a “natural disaster” that would have meant a far larger allocation of funds and resources to address the crisis.

The Biodiversity Council stated in July that the bloom was a “foreseeable and predicted” disaster that could match the massive impact of the 2019-2020 Black Summer bushfires that affected much of South East Australia and is estimated to have killed one billion animals. It warned of the “need to prepare for an increasingly dangerous and unstable future,” saying “without urgent major action, catastrophic algal blooms will become increasingly common.”

The algal bloom in South Australian waters highlights the growing impact of climate change that is taking many and varied forms. In this case, higher sea temperatures are interacting with the leaching of excessive agricultural fertilisers into the river systems.

In March 2023, a bloom of blue-green algae on the Darling River near Menindee killed millions of fish. The bloom was facilitated by the large-scale extraction of water by upstream agribusinesses under heatwave conditions. The Darling is Australia’s third longest river and a number of towns rely on it for their water supply. Health authorities initially claimed that water was safe to drink, only reversing the claim amid widespread public outrage.

Algal blooms could also affect critical environmental systems, including the internationally recognised 8,000-kilometre Great Southern Reef, which spans the entire southern coastline of Australia and supports vast kelp forests and seagrass beds. Scientists have warned that life in the Coorong wetland, located at the mouth of the Murray River, is also under threat and could be wiped out.

Scientists are warning that toxic algal blooms are a

growing international threat due to climate change and environmental degradation. Yet despite the mounting dangers associated with climate change, governments have proven incapable of taking the necessary measures to halt, let alone reverse, global warming. In the case of the United States, one of the world’s largest emitters of greenhouse gases, the Trump administration is actively dismantling climate legislation, boosting the fossil fuel industry and doing everything possible to undermine the science of climate change.

The federal Labor government in Australia fosters fossil fuel exports. It deliberately delayed a 40-year extension of the huge North-West Shelf gas project to 2070 until after the federal election in May this year. In the course of its previous term of office, it approved seven new coal mines and expanded gas extraction, despite a 2024 State of Climate report revealing that Australia had warmed by 1.51°C since 1910, as well as an increased frequency of marine heatwaves.

The failure over decades to take action to stem climate change is rooted in the capitalist system itself, in which corporate profit takes priority over all else, including mounting environmental disasters. The outmoded division of the world into rival capitalist states driven by narrow national economic and strategic interests has cut across any genuine international agreement to arrest greenhouse gas emission.

What is necessary is a unified struggle by the international working class based on a socialist program to refashion society to meet the pressing needs of the majority of the world’s population, not the profits of the ultra-wealthy few.



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