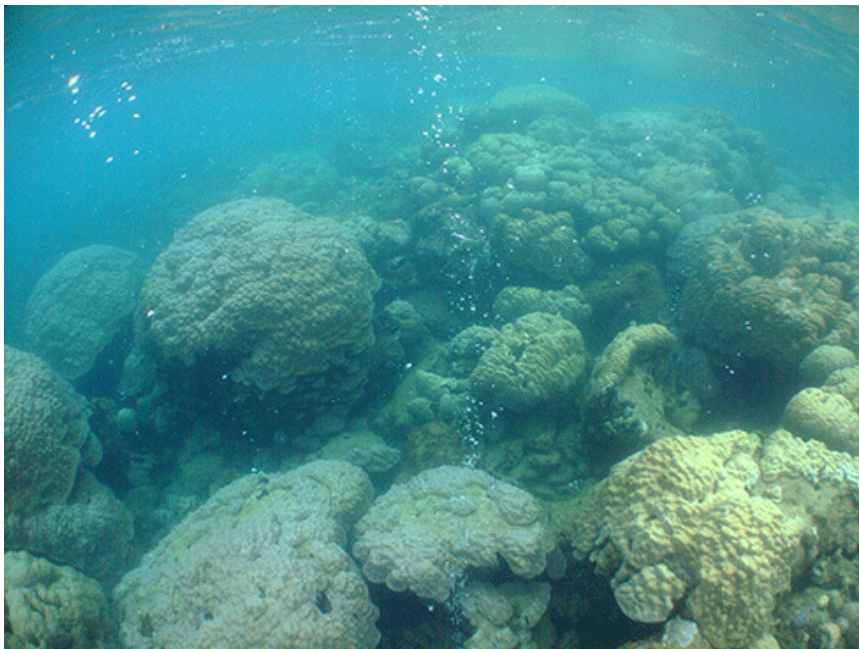


Fish in acidic ocean lose fear of predators

Research on the behaviour of coral reef fish at naturally occurring carbon dioxide seeps in Milne Bay, eastern Papua New Guinea, has shown that continuous exposure to increased levels of carbon dioxide dramatically alters the way fish respond to predators.



Credit: Katharina Fabricius / AIMS

The finding – from a [collaborative study](#) by scientists from the Australian Institute of Marine Science (AIMS), James Cook University and the Georgia Institute of Technology – has implications not just for conservationists but for fisheries and other industries dependent on the survival of fish species.

‘We found that living in an acidic environment makes small reef fish become attracted to the smell of their potential predators. Their sense of smell was acutely affected in CO₂-rich waters in ways that gravely threaten their survival,’ said AIMS scientist, Alistair Cheal.

The team is studying coral reefs next to natural seeps where carbon dioxide bubbles are made by volcanic activity under the seabed.

When CO₂ from the atmosphere dissolves in water, it causes ocean acidification, slightly lowering the pH of the water and changing its carbonate chemistry. This in turn makes it harder for a range of marine animals to survive, for example, crustaceans find it difficult to form their shells and skeletons.

‘What we have now also found in our study of fish behaviour in this environment is that the fish become bolder and they venture further away from safe shelter, making them more vulnerable to predators,’ added Mr Cheal.

The scientists also found that fish cannot adjust to rising carbon dioxide levels over time, causing concern for their ability to adapt as more CO₂ dissolves in the oceans over the next few decades.

Over the past five years AIMS researchers have been studying the area, which is the world's only known CO₂ seep site in a coral reef ecosystem.

The scientists are, in effect, studying a snapshot of our coral reefs in decades to come if CO₂ levels in the atmosphere continue to rise.

Source: AIMS

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