

Acid oceans will affect marine life for thousands of years

A report on ocean acidification reveals that its effect on marine organisms and ecosystems is variable and complex and even if we decrease carbon dioxide outputs, the impacts will still be felt for thousands of years.



Credit: Tracey Nicholls

For many years the ocean has been on the front line in the fight to slow down climate change, absorbing around a quarter of the carbon dioxide we produce. Now, the scars of this attack are beginning to show.

Ocean acidification, often referred to as the ‘other CO problem’, is a chemical response to the dissolving of carbon dioxide into seawater.

The equation is simple: as CO in the atmosphere goes up (and there was a record-breaking increase in 2013), the pH of the ocean falls (ie it becomes more acid), with negative impacts on marine biodiversity, ecosystems and society.

For the past two years, CSIRO has been working as part of an international team brought together under the UN’s Convention on Biological Diversity to investigate the impacts of ocean acidification, and [the findings](#) have just been released. The team of 30 scientists includes Dr Richard Matear, CSIRO; Professor Philip Munday, James Cook University; and Professor Maria Byrne, University of Sydney.

The scientists found that the rate of acidification since pre-industrial times and its projected continuation are unparalleled in the last 300 million years, and are likely to have a severe impact on marine species and ecosystems, with flow-on effects to various industries, communities and food security.

The loss of tropical coral reef alone – such as the Great Barrier Reef – could end up costing US\$1 trillion a year.

Ten years ago, only a handful of researchers were investigating the biological impacts of ocean acidification. Around

one thousand published studies later, our understanding of ocean acidification and its consequences has increased greatly.

Experimental studies show the variability of organisms' responses to simulated future conditions: some are impacted negatively, some positively, and others are apparently unaffected.

The report authors say that if we are to truly understand the future impacts of ocean acidification, more research is needed to reduce the uncertainties, reduce emissions, and reduce the problem.

Source: CSIRO

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