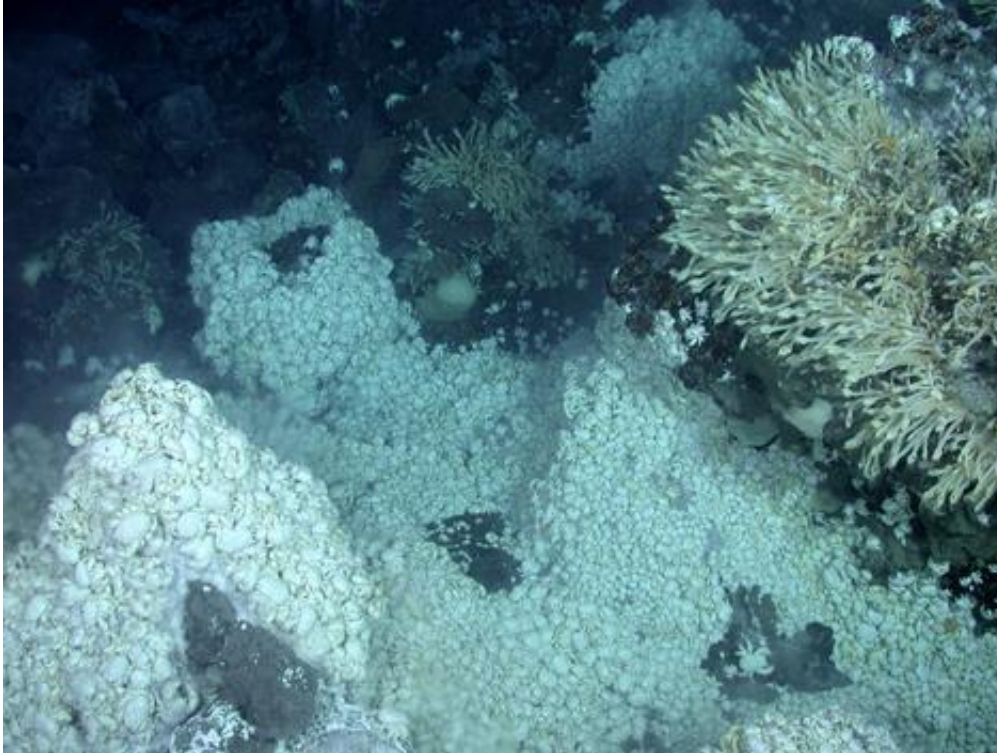


# Ocean health in 'downward spiral'

October 4 2013, by Pete Wilton

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The health of the ocean is spiralling downwards far more rapidly than previously thought, according to a new review of marine science.

The latest results from the International Programme on the State of the Ocean ([IPSO](#)) suggest that pollution and overfishing are compromising the [ocean](#)'s ability to absorb excess carbon dioxide (CO<sub>2</sub>) from the atmosphere. IPSO's scientific team warns that the oceans won't be able



to shield us from accelerating [climate change](#) for much longer and that mass extinctions of some species may be inevitable.

'What the report points to is our lack of understanding of both the role of the ocean in taking up CO<sub>2</sub> and the impact of human activity on [marine ecosystems](#),' Alex Rogers of Oxford University's Department of Zoology, Scientific Director of IPSO, told me.

The findings are published in a set of five papers in the journal *Marine Pollution Bulletin*, the papers came out of meetings hosted at Somerville College, Oxford.

'Our research at Oxford is trying to fill in these gaps in our knowledge about how carbon is transported in the deep ocean,' Alex explains. 'We need more research in particular into the active processes taking place as animals migrate up and down in the ocean every day.'

'Animals such as deep water jellyfish will feed in surface waters at night, then migrate up to 16,000 metres back down into the deep. They then repackage carbon ingested during feeding and excrete it as faecal pellets. We also see mass die-offs of [deep sea animals](#) – how this contributes to the carbon cycle, and how it might be affected by climate change, is very poorly understood.'

Alex highlights how estimates of the biomass from fish from the 'twilight zone' region (200-1000 metres deep) were recently found to be out by a factor of ten because it was not realised that these mesopelagic fish were actively avoiding underwater nets.

'That we can get the numbers out by this amount just demonstrates the poor level of knowledge about our oceans,' Alex comments.

Much more research is needed, he believes, if we are to understand how



climate change both affects and is influenced by marine ecosystems.

**More information:** [www.sciencedirect.com/science/ ...  
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Provided by Oxford University

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