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Ocean detectives return with climate clues

The longest science voyage by CSIRO research vessel RV has returned to Australia with one of the most comprehensive datasets ever collected in the Sou As

- New observations that extend longest record of deep ocean change south of Australia
- New observations that allow the tracking of how much carbon dioxide the Southern Ocean is removing from the atmosphere and storing in the deep ocean
- An array of novel deep floats deployed, delivering snapshots of ocean conditions every ten days, from the sea surface to the sea floor
- First experiments analysing both the air and water within special onboard incubation tanks to measure how the composition and health of marine biota affect the emission of cloud-seeding gases.

Dr Rintoul said that to meet the challenges of a changing climate, we need to know what lies ahead.

“We know that the ocean has taken up more than 90 per cent of the extra heat stored by the planet in response to increased greenhouse gases in the atmosphere – global warming is ocean warming – and that the Southern Ocean stores more heat than any other part of the ocean.”

“The Southern Ocean also takes up and stores more carbon dioxide than other parts of the ocean. By soaking up large amounts of heat and carbon, the Southern Ocean slows the pace of climate change.”

“Better understanding of the Southern Ocean and its role in the earth system is essential to anticipate future climate change and its impacts.”

“By providing the foundation for more skilful weather and climate projections for Australia and the rest of the globe, the MISO voyage will help decision-makers in government, industry and the community make tough decisions based on the best possible science,” Dr Rintoul said.
