



Voyage ss2010_v07

Integrated Marine Observing System (IMOS) Facility 3. Southern Ocean Time Series (SOTS) Moorings for Climate and Carbon Cycle Studies Southwest of Tasmania (47°S, 140°E)

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Contribution to Australia's national benefit:

This project lies within the national priority of An Environmentally Sustainable Australia: Responding to Climate Change and Variability. The Southern Ocean is important to global and regional climate and carbon cycling, because of its highly energetic interactions with the atmosphere, its deep mixing, and its role in connecting all the basins in the global ocean. The development and deployment of instrumentation to observe air-sea exchanges in these waters is essential to enable informed assessment of possible changes in climate and climate variability, and in uptake of atmospheric CO₂ by the Southern Ocean. The physical and meteorological observations will allow testing of the parameterization of air-sea interactions in climate models. This informs development of climate projections and assessment of their fidelity, and thus their utility in efficient adaptation to changing climate. The

carbon, oxygen, and biogeochemical observations will contribute to determining the factors that control, and thus the propensity for change, in the ecosystem service the Southern Ocean provides of absorbing significant amounts of anthropogenic CO₂. This informs debate about the urgency of efforts to mitigate emissions.

As a result of this voyage:

1. A significant milestone in the overall development of the sustained observing system, it marks the start of the second 6 months of operational deployments of all 3 moorings, accompanied by profiling floats and the ocean glider. Data from these systems are provided via the Integrated Marine Observing System (IMOS) internet interface to Australian and international researchers.

Itinerary

Departed Hobart, TAS
08:00 hrs, Tuesday 7 September 2010
Arrived Hobart, TAS
08:00 hrs, Wednesday 15 September 2010

> Voyage track ss2010-v07

