Voyage ss2011_v01

IMOS-Southern Ocean Time Series

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Contribution to Australia's national benefit

This project lies with the 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.

This voyage achieved significant milestones in the overall effort: i) the first recovery of a full year of air-sea flux observations from SOFS-1, ii) recovery of the second full season of carbon system observations from the Southern Ocean from the Pulse-7 mooring, iii) continuing the effort to map the spatial context of SOTS via the ongoing deployment of gliders and autonomous profiling floats. Data from these systems will be provided via the Integrated Marine Observing System to Australian and international researchers.

Itinerary

Departed Hobart
16:00 Saturday 16 April 2011

Arrived Hobart
08:00 Friday 22 April 2011

> Voyage track ss2011_v01