



Voyage ss2013_t01

Oceanographic Methods Training Unit

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Contribution to Australia's national benefit:

The primary aim of this voyage was to give postgraduate students the opportunity to learn about and practice a wide range of oceanographic methods while at sea. By providing excellent training opportunities, we are ensuring that Australian scientists are at the cutting edge of climate change and fisheries management research. It will also ensure the continuation of Australia's at-sea oceanographic research, which will further enhance our understanding of our local marine environment and our anthropogenic footprint in this region.

The waters off the East Coast of Australia are adjacent to some of the country's most densely populated areas. Observations off eastern Tasmania demonstrate an increase in the East Australian Current's (EAC) poleward penetration over the last 60 years. This voyage has contributed to understanding the biological and biogeochemical impacts of the EAC intensification.

This research contributes to Goal 5 (Sustainable use of Australia's biodiversity) and Goal 7 (Responding to the climate change and variability) of the research priority, An Environmentally Sustainable Australia.

As a result of this voyage:

1. We have a better understanding of the physical, chemical and biological properties of water-masses within the eddy-rich EAC extension. We also have a better understanding of the fall rate correction for expendable bathythermographs, useful for climate change research.
2. We have found extremely low nutrient levels and chlorophyll in the centre of a warm core eddy, and a highly unusual water column structure, consisting of a series of small mixed layers between 400 – 700m water depth, off the Tasmanian shelf near Maria Island.
3. We have mapped the seafloor, surface pCO₂, plankton assemblages (Continuous Plankton Recorder), nutrient profiles and phytoplankton biomass along the southern extension of the EAC. We have also mapped a cross-shelf biogeochemical transect that includes the IMOS mooring at Maria Island.
4. We have commenced a program of postgraduate student instruction in oceanographic methods at sea.

Itinerary

Departed Sydney, New South Wales
08:00 Wednesday 27 February 2013

Arrived Hobart, Tasmania
10:30 Sunday 3 March 2013

> Voyage track ss2013_t01

