



Voyage ss2010_v09

Impact of the East Australian Current on Water Chemistry, Bio-Optical Properties and Coastal Primary Productivity in the NSW Region

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Contribution to Australia's national benefit:

As a result of this voyage:

1. We have a better understanding of the impact of river runoff on regional productivity and the nutrients driving primary production on the NSW continental shelf. We also have more comprehensive estimates of the variability in bio-optical parameters in the NSW coastal region.)
2. We have found strong differences in primary productivity across the shelf, elevated from background levels by river runoff and upwelling. As expected, large phytoplankton (>10 μm) are responsible for most of the productivity in the near shore, but small phytoplankton (< 2 μm) are responsible for most productivity offshore.

3. We have mapped the variability of bio-optical parameters along the NSW coast using underway and discrete sample collections in waters ranging from turbid river discharges to clear blue EAC waters. We have also mapped changes in primary productivity across the shelf in waters influenced by upwelling, river runoff and eddy activity.
4. We have commenced a program of sample analysis to improve satellite-based estimates of ocean colour and productivity, are compiling data to input parameter values to a regional biogeochemical model and will test its prediction of CO₂ drawdown under perturbed conditions (e.g., nutrient enrichment)

Itinerary

Departed Sydney 10:00,
Friday 14 October 2010

Arrived Sydney 16:00,
Sunday 31 October 2010

> Voyage track ss2010_v09

