



## Transit Voyage SS01-2009

### “Next Wave” Early Career Training Program – biological oceanography of the East Australian Current.

Iain Suthers, Sydney Institute of Marine Science (Chief Scientist)

#### Contribution to Australia’s national benefit:

This transit voyage involved training of future Australian marine scientists as part of the MNF’s “Next Wave” Program. Ten undergraduate and post-graduate students from seven universities (University of New South Wales, University of Tasmania, La Trobe University, University of Melbourne, Southern Cross University, University of Wollongong, Murdoch University) with no prior oceanographic experience, spent seven days aboard Australia’s premier oceanographic research vessel. They used and analysed most of the *Southern Surveyor’s* equipment; with daily lectures on oceanography, climate science, Australia’s Integrated Marine Observing System (IMOS) and on careers in marine science. We discovered a surprising abundance of gelatinous zooplankton (salps) which are increasing in abundance with climate change and are under intense scrutiny as a solution for transferring carbon to the deep ocean. We made one of the first multidisciplinary studies of the biology, oceanography and bathymetry of Gascoyne Seamount.

#### As a result of this voyage:

1. We have a better understanding of Gascoyne Seamount, including its bathymetry and the effect of currents impinging on one of our least studied seamounts. It rises from nearly 5000m deep to less than 100m from the surface, and is located in a region of great oceanographic variability which is not easily modelled. We have partially mapped Gascoyne Seamount with the vessel’s high resolution swath mapper.
2. We have found that a weak and variable current can still cause significant upwelling. We found significant biomass of a large gelatinous zooplankton (salps) in the region, which have a large contribution to the fisheries and carbon flux in the region.

#### Addressing National Research Priorities

##### An Environmentally Sustainable Australia

- Goal 5: Sustainable use of Australia’s biodiversity
- Goal 7: Responding to climate change and variability

#### Itinerary

Departed Sydney 25 January 2009  
Arrived Wellington 1 February 2009

#### > Transit voyage track SS01-2009

