

RV Investigator Voyage Scientific Highlights

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| Voyage #: | IN2018_V03 | | |
| Voyage title: | Integrated Marine Observing System: monitoring of East Australian Current property transports at 27°S | | |
| Mobilisation: | Hobart, Wednesday 04 April – Thursday 05 April, 2018 Brisbane, Wednesday 18 April, 2018 | | |
| Depart: | Brisbane, 0700 Thursday 19 April, 2018 | | |
| Return: | Brisbane, 1200 Thursday, 10 May 2018 | | |
| Demobilisation: | Hobart, 22 May 2018 | | |
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| Principal Investigators: | | | |
| Project name: | | | |
| Affiliation: | | Contact details: | |

Scientific Highlights

The Chief Scientist



Dr Bernadette Sloyan is a Chief Research Scientist with CSIRO's Oceans and Atmosphere. She is a national and international leader in documenting and understanding the role of ocean circulation in the global climate system. Her work has elucidated the importance of ocean key processes; mixing and air-sea interactions, in the Southern, Pacific and Indian Oceans; the role of the ocean in moderating the rate and nature of climate change and variability. She is leading CSIRO's ocean observation efforts in major national – Integrated Marine Observing System (IMOS) – and the international - Global Ocean Ship-based Hydrographic Investigations Program (GO-SHIP) – programs. Her membership of numerous national

panels and appointment as Co-Chair of GO-SHIP and Ocean Observations Panel for Climate (OOPC) is recognition of her national and international leadership in ocean climate research.

Title

Integrated Marine Observing System: monitoring of East Australian Current property transports at 27°S

Purpose

This voyage will recover and re-deploy an array of six full-depth velocity and property (temperature, salinity and pressure) moorings observing the East Australian Current from the continental slope to the abyssal basin off Brisbane (27°S). The observing system is designed to capture the mean and time-varying flow of the EAC. We will:

1. Recover and deploy moorings at appropriate locations
2. Complete CTD/rosette stations at each mooring location, with LADCP
3. Complete a number of Triaxus and Ship ADCP sections along the mooring line
4. Complete a SADC/PTI/Triaxus bow survey surrounding the mooring array.

Contribution to the nation

The East Australian Current (EAC) is the complex and highly energetic western boundary current of the South Pacific Ocean. The EAC is the dominant mechanism for the redistribution of heat and freshwater between the ocean and atmosphere in the Australian region and it is a vital component of the eastern Australian coastal ecosystem. The monitoring of the EAC is central to our understanding of how climate variability is communicated through the global ocean. This ocean time-series site will provide significant insights into the interactions between the EAC, the Pacific basin and the local shelf ocean circulation.

As a result of this voyage

1. We will build a better understanding of complexity and variability of the East Australian Current over a range of temporal and spatial scales.
2. We have found that the East Australian Current is a highly energetic current with rapid transition in strength and position of the southward current core.
3. We have mapped the bottom bathymetry of the region surrounding the mooring array.
4. We have continued a program of the long term monitoring of the East Australian Current.