

IMOS Bulletin

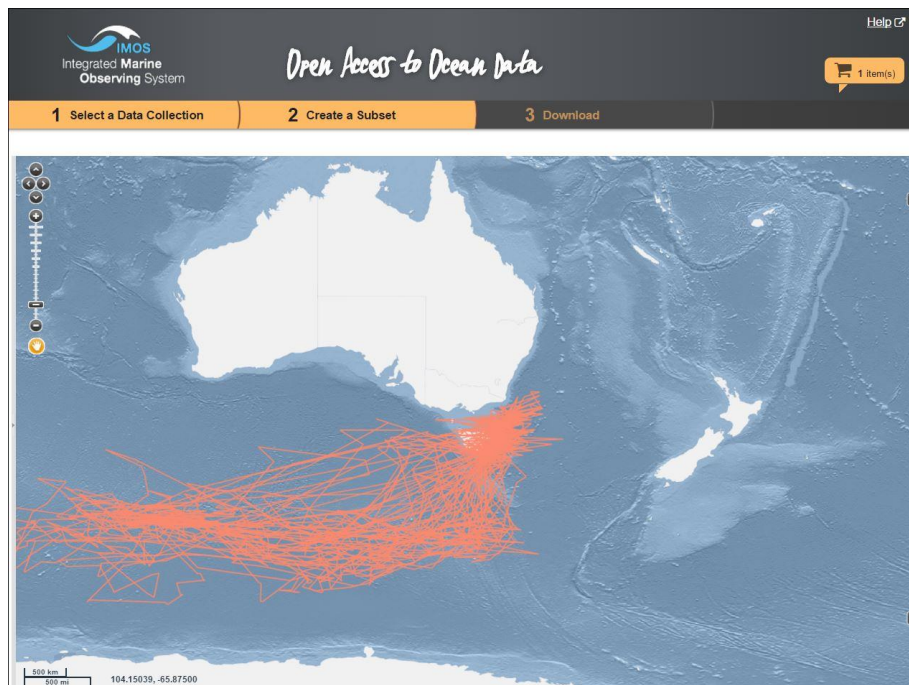
Issue #49 November 2015

Welcome to the IMOS Bulletin. Please feel free to distribute this email bulletin to others. The Bulletin is also available for download from the website at <http://imos.org.au/bulletin.html>.

If you have any comments or questions regarding the IMOS Bulletin please contact IMOS Communications, communication@imos.org.au.

IMOS Data Reports

Re-processed shearwater data provides greater accuracy



To track short-tailed shearwaters in the Southern Ocean they are fitted with geolocation archival tags that measure light, change in activity (*i.e.* wet vs. dry), and water temperature. After retrieval, the raw archived tag data is downloaded and then analysed to study the movements of birds.

IMOS is a national collaborative research infrastructure, supported by Australian Government. It is led by University of Tasmania in partnership with the Australian marine & climate science community.

To improve the accuracy of animal locations, a new algorithm was developed by Simon Wotherspoon of IMAS and Mike Sumner of ACE CRC/AAD.

This algorithm (SGAT, <https://github.com/SWotherspoon/SGAT>) calculates location from sunrise and sunset times and solar elevation estimates. The newly processed data can be accessed via the [IMOS Data Portal](#) (follow this link or type 'shearwater' in the keyword search field). The IMOS Animal Tracking and Monitoring ([AATAMS](#)) study was initially conducted in 2010 on Wedge Island, southern Tasmania on 34 adult birds in the pre-laying exodus. In 2012, ten birds were tracked from Wedge Island and 2 were tracked from Whalebone Point, Bruny Island.

The IMOS data holdings are detailed in a suite of reports generated by the eMII Office on a monthly basis. The summary reports for August 2015 can be downloaded directly via the IMOS website <http://imos.org.au/datareports.html>.

IMOS Activity Planning

Here are just two examples of observation activity coming up in December:

- Rob McCauley from the Acoustic Observations sub-facility will deploy passive acoustic loggers in the Perth Canyon, WA
- The Ocean Gliders Facility is deploying Slocum Gliders at Palm Passage in the Great Barrier Reef, Queensland, as part of the eReefs Project. Both UWA and CSIRO are working with AIMS on Slocum Glider deployments in this region. You can follow the progress of the CSIRO glider 'Amy', released on 26 November, here: <http://gliders.csiro.au/mission/30>



Final adjustments are made to the ballast of the Slocum glider 'Amy'. Image: AIMS

Future activity planning for the IMOS Facilities is provided via the IMOS website (<http://imos.org.au/imosactivityplanning.html>). The plans contain details for all the planned deployment/recovery/servicing/sampling etc. activities for the NCRIS 2015 funding period.

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Paper of the month

This month we'd like to highlight the following paper that references IMOS data:

J.E. Wood, A. Schaeffer, M. Roughan, P.M. Tate, 'Seasonal variability in the continental shelf waters off southeastern Australia: Fact or fiction?', *Continental Shelf Research*, Nov. 2015, [doi:10.1016/j.csr.2015.11.006](https://doi.org/10.1016/j.csr.2015.11.006)

There has been a long held view that as the East Australian Current strengthens and warms in Summer, it translates to stronger (and warmer) currents on the continental shelf adjacent to the western boundary current. However, prior to the deployment of the IMOS moorings off SE Australia, there were no *in situ* moored time series long enough to investigate this question.

This paper uses three years of mooring data from two locations along the coast of NSW (Coffs Harbour and Sydney) to investigate seasonality in the shelf temperature and velocities. This comprehensive dataset allows us to dispel the myth that currents on the shelf strengthen seasonally, in fact less than 6% of the variability in shelf currents can be attributed to a seasonal cycle. This is in marked contrast to temperature which exhibits a strong seasonal cycle at both locations.

Without multiple years of data from the NSW-IMOS moorings on the shelf of NSW, this study would not have been possible.

This paper was led by one of the early IMOS PhD students, Dr Julie Wood, who was a student of Dr Moninya Roughan, leader of the NSW Moorings sub-facility.

Did you know?

This section features various ways in which you can discover, access and use IMOS data.



We've discovered recently that if you want to reach over 2,500 people in just a few days you put an IMOS video up on Facebook.

'How does the ocean control atmospheric CO₂?' is the second video in the 'IMOS in MOcean' series. CSIRO's Tom Trull explains how carbon and heat transfer between the atmosphere and the Southern Ocean plays a key role in global climate change and how IMOS measures these variables.

'IMOS in MOcean' is presented via the [IMOS website](#) and through our [YouTube channel](#) and [Facebook page](#).

A number of other videos are in various stages of planning or production so that the collection will eventually represent the diversity of data collections and collectors, partners and end-users.

Keep an eye out for future episodes and do [let us know](#) if you have an idea for a new video.

IMOS in MOcean: <http://imos.org.au/imosinmocean.html>

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Recent & Upcoming Events

30 November – 4 December Goa IO Symposium 'Dynamics of the Indian Ocean: Perspective and Retrospective'
<http://www.io50.incois.gov.in>

14-18 December 2015 American Geophysical Union (AGU) Fall Meeting, San Francisco, USA
<http://fallmeeting.agu.org/2015/>

10-14 January 2016 American Meteorological Society Annual Meeting, 'Earth System Science in Service to Society', New Orleans, USA. <http://annual.ametsoc.org/2016/>

19-21 January, 2016 9th International Conference on Marine Bioinvasions (ICMB), Sydney, Australia.
<http://www.marinebioinvasions.info/>

9-12 February 2016 Species on the Move International Conference, Hobart, Australia
<http://www.speciesonthemove.com/>

February 21-26 2016 2016 Ocean Sciences Meeting, New Orleans, USA
<http://osm.agu.org/2016/>

12-15 April 2016 IX International Congress on the History of Oceanography, Adelaide, Australia
http://www.flinders.edu.au/science_engineering/environment/activities/icho-2016.cfm

3-6 May 2016 4th International Symposium on the Ocean in a High-CO₂ World, Hobart Tasmania.
<http://www.highco2-iv.org/>. Abstract submission now open.

31 July-5 August 2016 13th Annual Meeting of the Asia Oceania Geosciences Society, Beijing, China
<http://www.asiaoceania.org/aogs2016/public.asp?page=sessionProposal.htm> Abstract submission now open

For a full list of upcoming conferences please visit the Calendar page at <http://imos.org.au/calendar.html>. If you would like an event or conference featured on our website calendar please contact communication@imos.org.au.

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