IMOS Bulletin

Issue #51 February 2016

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

Near-real-time data from the new Wistari acidification mooring (near Heron Island, on the Great Barrier Reef) is now available on the IMOS Ocean Portal.

The IMOS data holdings are detailed in a suite of reports generated by the eMII Office on a monthly basis. The summary reports for January 2016 can be downloaded directly via the IMOS website http://imos.org.au/datareports.html.

IMOS Activity Planning

Some of the deployment activities planned for March 2016 are:

- Recovery and deployment of the deep water moorings (SOFS, Pulse and SAZ) in the Southern Ocean from the RV *Investigator*.
- Sea glider deployments off Perth, WA and Lizard Island, QLD. Five Slocum glider deployments around the country (two gliders at Palm Passage, QLD; Storm Bay, Tas; Perth Region, WA; and Yamba, NSW).
- The AUV will be deployed off shore of Victoria in collaboration with Deakin University and Parks Victoria.

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.

Paper of the month

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

Jonsen, Ian. Joint estimation over multiple individuals improves behavioural state inference from animal movement data. *Scientific Reports* **6**, February 2016. doi:10.1038/srep20625

Ian Jonsen a researcher based at Macquarie University, has tested two prominent marine animal-tracking models to determine which is better at inferring the movements of Weddell seals using IMOS tracking data.

Currently, many problems arise when scientists try to correctly locate and map the movements of an animal using satellite data, which often contains location errors. Dr Jonsen looked at how these two models cope with satellite errors

when inferring the movements of marine predators, such as Weddell seals. The study used large satellite tracking datasets, collected by IMOS to unravel the movement behaviours of the seals.

Weddell Seal. *Photo credit: Clive McMahon, SIMS.*

Did you know?

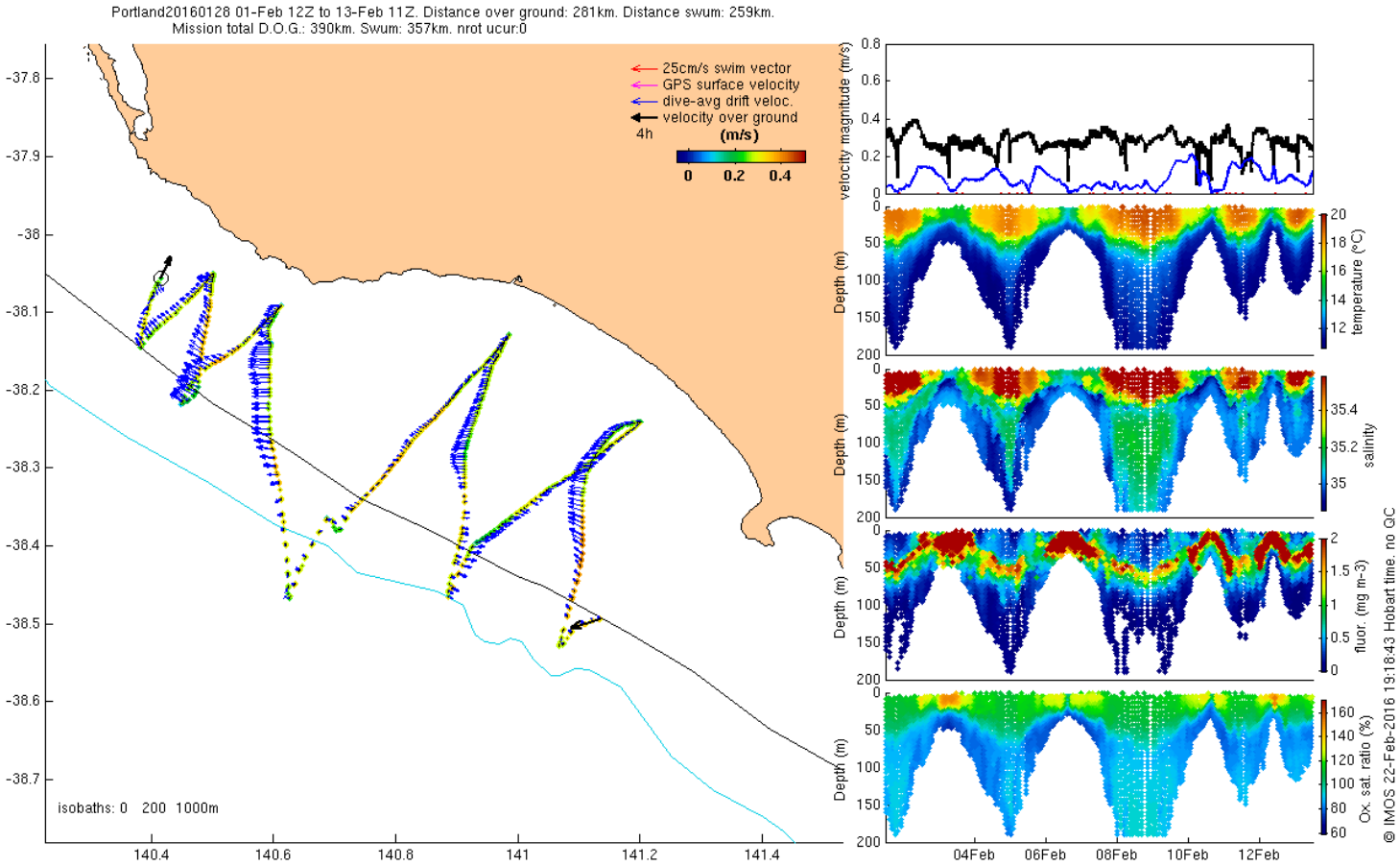
This section features various ways in which you can discover, access and use IMOS data.

That you can follow IMOS gliders as they sample through the ocean with data plots via IMOS *OceanCurrent*?

In the last few weeks an IMOS slocum glider has made the most detailed survey ever conducted of the bio-physical properties of a Bonney Coast upwelling event. The dissolved oxygen data are perhaps the most exciting: percent saturation values exceeded 150 within the upwelled water on 3 Feb, confirming that the phytoplankton were very actively photo-synthesizing, producing much more oxygen than was lost to the atmosphere. You can step through the mission seeing either 4 days or 12 days of the mission track at a time (see plot below).

Excepting some spurious measurements affected by bio-fouling, values this high have not been seen in Australian waters by the glider fleet. The closest comparison was in upwelled waters inshore of the East Australian Current near Coffs Harbour in Dec 2010, but these may have been affected by bio-fouling. The present mission DO data are not suspicious, because the high readings occurred early in the mission.

The Bonney Coast is the 200km-long stretch of narrow continental shelf near Portland, Victoria, which is famous for its periods of summer-time wind-driven upwelling. Upwelling events are routinely evident in satellite imagery but rarely sampled extensively at sea. MODIS estimates of chlorophyll-a show that the present event is not an extraordinary one.



Recent & Upcoming Events

- **5-6 March, 2016** Melbourne Science Hackfest, Melbourne, Vic. ANDS, NeCTAR, CSIRO, TERN, ALA, AURIN, University of Melbourne, AuScope, IMOS and RDS have joined forces to put on this weekend Hackfest. https://www.eventbrite.com.au/e/melbourne-science-hackfest-tickets-20718415338
- **15-17 March, 2016** Oceanology International, London, England http://www.oceanologyinternational.com/en/Whats-On/Conference/
- **1 April, 2016** Nortek day, Gold Coast, Qld. Special training course on physical oceanographic measurement techniques. http://www.imbros.com.au/news/nortek-day-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-CO_2 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.

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.