

IMOS Bulletin

Issue #52 March 2016

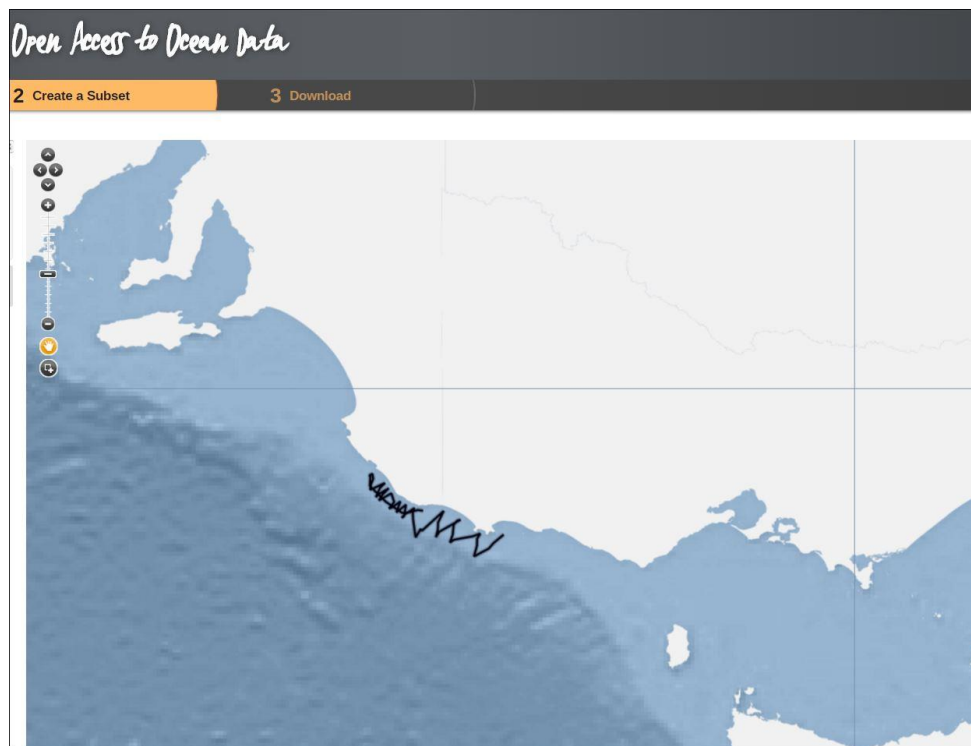
Please feel free to distribute this email bulletin to others. The Bulletin is also available for download from the website at <http://imos.org.au/bulletin.html>.

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

IMOS Data Reports

Near realtime data from two slocum glider missions: Portland20160128 , Cooktown20160217 and one seaglider mission: Lizard20160217 have been published on the [data portal](#).

Data retrieved from the glider fleet will contribute to the study of the major boundary current systems surrounding Australia and their links to coastal ecosystems.



Screenshot from the IMOS Data portal of the Portland (Victoria) Slocum glider track

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

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.

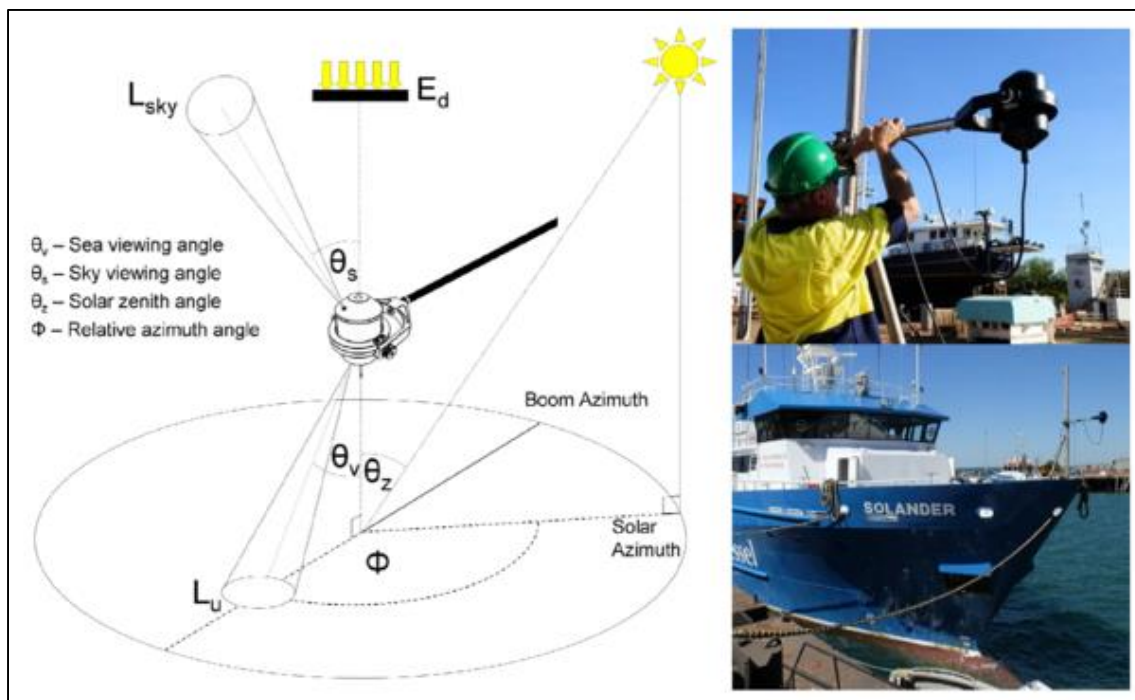
IMOS Activity Planning

Deployment and maintenance activities this month include:

- The Wireless Sensor Networks Facility will turn around its Heron Island and One Tree Island moorings in the Southern Great Barrier Reef.
- The National Mooring Network will turn around an acidification mooring off Maria Island, Tasmania.

One of the activities that hasn't been highlighted in The Bulletin in the past is the Satellite Ocean Colour sub-facility's 'Dynamic above water radiance and irradiance collector' ([DALEC](#)) system. Deployments in collaboration with Australian Institute of Marine Science (AIMS) on the RV *Solander* are generating high quality data enabling satellite validation. The methodology was applied to validate MODIS and VIIRS satellite data in Australian waters.

DALEC was developed in Australia by 'In situ Marine Optics' (IMO) and measures simultaneously sea and sky radiance together with down-welling hemispherical irradiance during autonomous ship-based deployments. The DALEC sensor head contains three compact hyper-spectral spectroradiometers (Carl Zeiss Monolithic Miniature Spectrometers), as well as a GPS and pitch and roll sensors, and is designed to be mounted on a boom positioned over the water, typically off the ship's bow.



DALEC operation principle (left) and installation on the AIMS RV *Solander*

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.

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.

Paper of the month

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

Jacquomo Monk , Neville S. Barrett, Nicole A. Hill, Vanessa L. Lucieer, Scott L. Nichol, Paulus Justy W. Siwabessy, Stefan B. Williams, 'Outcropping reef ledges drive patterns of epibenthic assemblage diversity on cross-shelf habitats', *Biodiversity and Conservation*, March 2016, Volume 25, Issue 3, pp 485-502 ([doi:10.1007/s10531-016-1058-1](https://doi.org/10.1007/s10531-016-1058-1))

This study, utilising IMOS Autonomous Underwater Vehicle (AUV) data, highlights the particular importance of outcropping reef ledge features in the study region (Flinders Commonwealth Marine Reserve, Tasmania) as they provide a refuge against sediment scouring and inundation common on the low profile reef that characterizes this region. This study has relevance to conservation planning for continental shelf habitats, as protecting a single, or few, areas of reef is unlikely to accurately represent the geomorphic diversity of cross-shelf habitats and the morphotype diversity that is associated with these features.

The paper is available to download at: <http://link.springer.com/article/10.1007/s10531-016-1058-1>

Did you know?

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

OceanCurrent 'gamifies' current forecast for swimmers

Thanks to IMOS OceanCurrent, swimmers in the annual [Rottnest Channel Swim](#) in Western Australia were provided with a new tool to help them plan a tactical race.

A new [online application](#) allows swimmers to interact with data on predicted currents in a game-like situation. By selecting the time the swimmer will set off from Cottesloe beach, and then entering the direction in which they intend to head off, the tool predicts the time it will take them to reach Rottnest Island.

Developers of the swim planning tool, IMOS OceanCurrent's Dr Madeleine Cahill and Roger Scott, wanted participants in the race to be able to access the ocean current data in a way that was fun, intuitive and most importantly, useful.

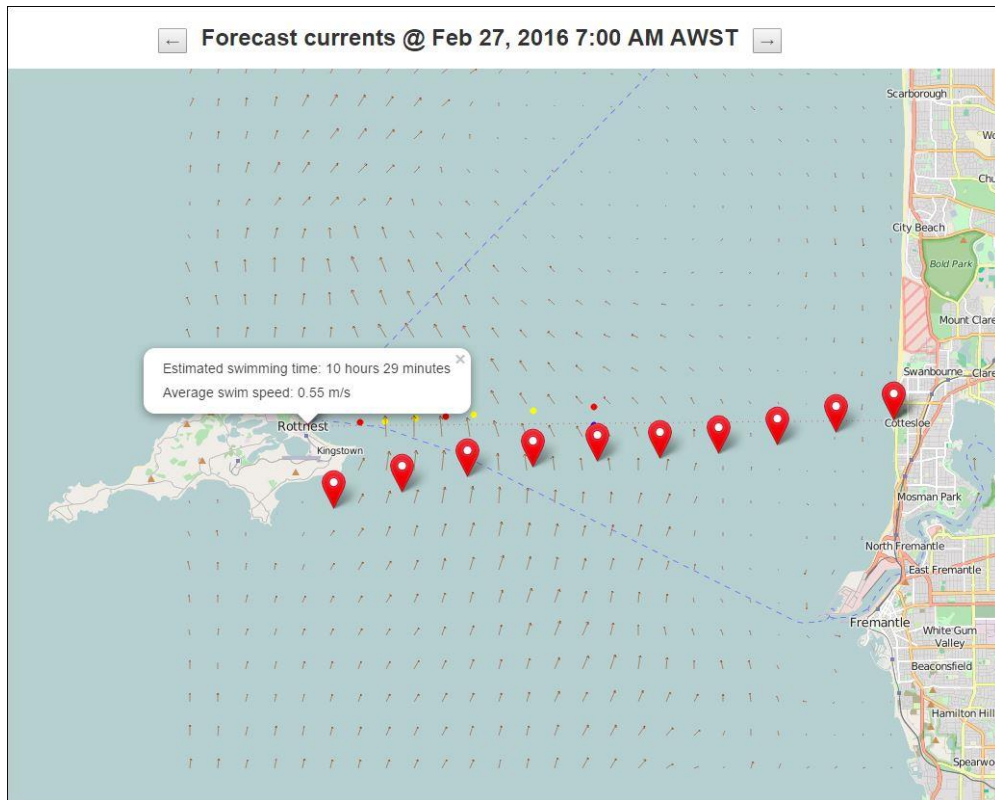
The tool presents data on current forecasts in such a way that swimmers can easily understand it and apply it directly to their individual race. They know when they'll be heading out from the beach and now they can plan the optimal direction in which to swim out.

The tool was also utilised for a subsequent swimming race to 'Rotto', the [Port to Pub swim](#). One of our own, Prof Charitha Pattiaratchi, leader of the IMOS Ocean gliders facility, came out of swimming 'retirement' to join a team of 6 to compete in the race. Chari completed his leg in fine form, defying critics who thought his swimming prowess was a thing of the past! Congratulations Chari, you've shown that a hiatus of 41 years between ocean swims is no obstacle!

The OceanCurrent swim planning tool uses current forecasts from the [Oceans Institute of the University of Western Australia](#).

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.

You can try out the Rottneest Channel Swim optimiser here: <http://rs-data3-mel.csiro.au/rotnest-swim/>



Screen-shot of a predicted swim time based on a particular time of commencement and swim direction

Great opportunity for technical or support staff

National Science Week has partnered with Australia's Science Channel to bring you '[On the job](#)'— a video series showing a day in the life of seven Australian science support staff. The star of the winning video will get the chance to spend a day with an internationally-recognised Australian research scientist and Fellow of the Academy in the discipline of their choice—an outstanding career opportunity and a unique experience to boot. Travel and accommodation costs will be covered.

Nominations are now open for lab AND field technicians, and support staff that do a great job and play an important role in Australian science. Nominations close 1 May.

<https://www.science.org.au/news-and-events/events/on-the-job>

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.

Recent & Upcoming Events

- **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/>
- **3–6 May 2016** 4th International Symposium on the Ocean in a High-CO₂ World, Hobart Tasmania.
<http://www.highco2-iv.org/>.
- **4–7 July 2016** New Zealand Marine Science Society and Australian Marine Sciences Association: Sharing Ocean Resources – Now and in the future, Wellington, New Zealand
<https://innovators.eventsair.com/QuickEventWebsitePortal/nzmss-amsa-2016/home>
- **5–7 July 2016** Climate Adaptation 2016: Change, Challenge, Opportunity, Adelaide, South Australia
<http://climate-adaptation.org.au/>
- **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.