AusSeabed Newsletter No. 28 February 2022

Dear AusSeabed community,

Welcome to 2022!

We have had a wonderful start to the year here at AusSeabed, kicking off with our quarterly team planning meetings. In the upcoming months, we will continue delivering our 2021/22 work plan and will begin building the 2022/23 plan at our next steering committee meeting (March 15).

Last week, I attended the Hydrospatial 2021 conference in Cairns. I must say it was refreshing to see many of you face-to-face again and engage with new stakeholders.

We are also planning a large presence at AMSA in Cairns later this year with many relevant symposia, including “Multi-disciplinary approaches to monitor change and connections through seafloor mapping” which is co-convened by members of the AusSeabed community. The call for abstracts is now open and we look forward to seeing you there!

It is worth mentioning in this time where we begin to feel safe to return to large meetings to be mindful that there are people in our community who do not feel safe and are vulnerable to coronavirus, or who are stuck in locked-down areas. AusSeabed will be working to make sure our community remains inclusive in this time of change. Please reach out to us at ausseabed@ga.gov.au at any time, if you would like to engage with us, or to be included in our initiatives.

Kim Picard,

AusSeabed Steering Committee Chair

Newsletter in a nutshell…

- AusSeabed Quarterly Showcase online now
- Complete a community vessel survey for SARDI
- AusSeabed and MaC Hub call for Areas of Interest submissions
- IBSC Recognised Training: Australasian Region Update
- Shellharbour - Tharawal (Illawarra South) multi-beam data now available on AusSeabed
- New global community survey calls for greater coordination of seabed mapping activities
- Seabed 2030 and seabed mapping features on live TV
- Update on AusSeabed activities and data usage
- Reading corner
- Upcoming Events
    - AusSeabed Quarterly Showcase: Thursday 28 April 2022 11am – 12pm
    - Australian Marine Sciences Association (AMSA): 7-11 August 2022
    - Locate 2022: 24–26 May, Canberra
    - GeoHab 2022: 16– 20 May, Venice Italy
    - Autonomous Underwater Technology (AUT) 2022 Conference: 30 March, Perth
    - APPEA 2022: 16-19 May 2022
    - SCAR Open Science Conference: 1-10 August 2022
    - EGU2022: 3-8 April, Vienna
    - 37th International Conference on Coastal Engineering 2022: 4-9 December

AusSeabed Quarterly Showcase Online

Thank you to everyone who attended the Quarterly Showcase in January. The recording **is now** available online for viewing.

This showcase highlighted: the NESP-supported National Areas of Interest project, an update from the Hydroscheme Industry Partnership Program, a peek into a new AusSeabed Data Register that is under development, an update on data publication and the delivery of new products for Australian Marine Parks, and finally an update on AusSeabed engagement outcomes. Don't hesitate to contact us at ausseabed@ga.gov.au if you have any follow-up questions.

See link – AusSeabed Quarterly Showcase: January 2022

Community vessel survey for SARDI

Do you use or plan to use Australian coastal research vessels as part of your work?

Help shape the future of coastal research vessels. The South Australian Research and Development Institute is asking you to have your say on what equipment and capabilities these vessels should have by completing a short survey.

The coastal research vessels survey closes at 5.00 pm ACDT Tuesday 15 March 2022.

See link – Complete the survey here

AusSeabed and MaC Hub call for Areas of Interest submissions

Where do YOU need seabed and biodiversity characterisation data?

AusSeabed and the National Environmental Science Program Marine and Coastal Hub (MaC Hub) have just finished redeveloping the Areas of Interest functionality of the AusSeabed Survey Coordination Tool and are requesting your submissions!

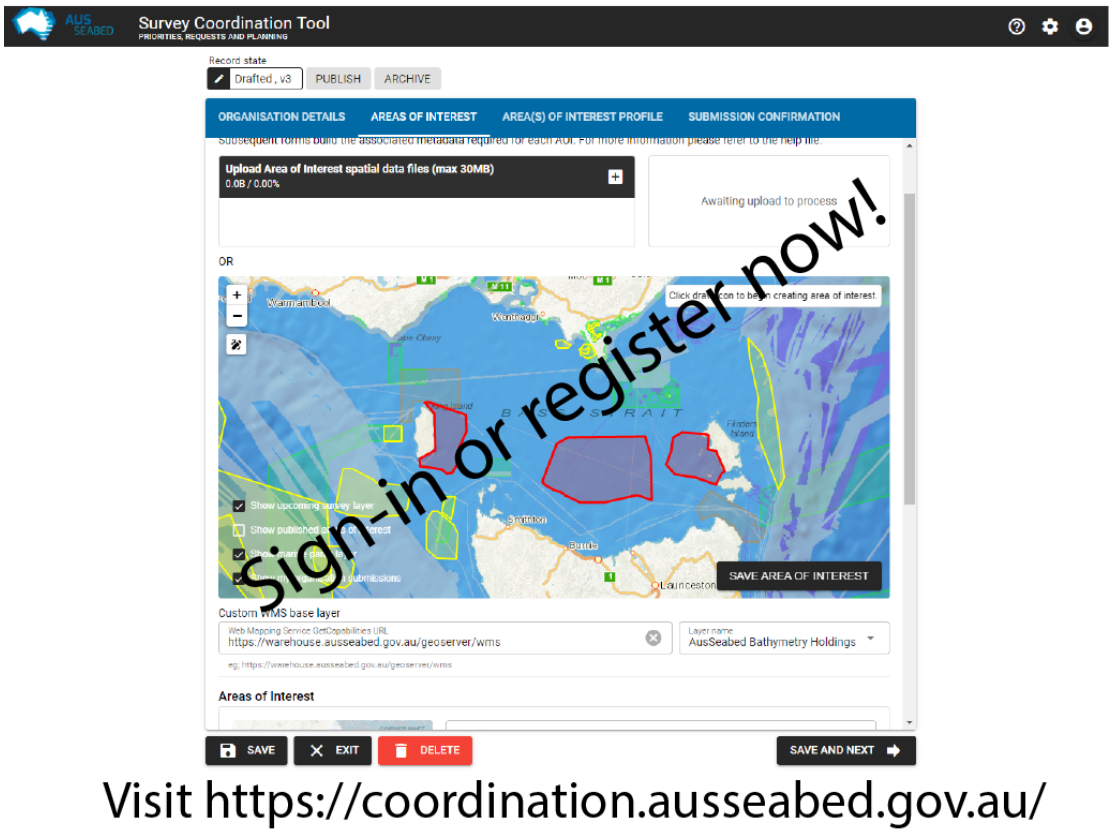
This function allows organisations and communities to publicly publish a spatial representation of their seabed data needs through the AusSeabed portal. Previously, AusSeabed pursued the development of a national priority map for seabed data acquisition, but this was limited to state and federal government data needs and didn't truly represent the need or value of seabed data in the Australian marine estate. Seabed data is valuable to a wide range of groups from government, scientists, marine estate managers, defence programs, and many stakeholders. It is uncommon for these different groups to be aware of the needs of other users when conducting surveys or research, but there is a great

opportunity for increasing collaboration and the impact of data collection by raising awareness of community data needs. By publishing your organisation's or group's seabed data needs through the Areas of Interest tool, you will help generate understanding of the regions with the greatest cumulative data need. The associated map could help focus and inform the publication of high impact legacy data and influence data acquisition plans for programs such as the MaC Hub in maximising the national benefit of survey work. The metadata options associated with each Area of Interest were developed through a series of stakeholder workshops to represent the minimum metadata set that could describe all purposes and need for seabed and biodiversity characterisation data. By facilitating the collation of Areas of Interest from across sectors, disciplines and communities AusSeabed and the NESP MaC Hub hope to see an increase in the number of collaborative and multidisciplinary surveys that are conducted in Australian waters.

We will be running drop-in sessions on Tuesday and Thursday afternoons in the last week of February and the first week of March to answer questions and help organisations get familiar and comfortable with the tool. Please look out for the virtual meeting invitations from the AusSeabed email address.

Submissions made in the next few months will help develop the understanding of community needs and inform the development of upcoming MaC Hub and AusSeabed research planning.

To access the tool sign-in or register at: https://coordination.ausseabed.gov.au/ for more information contact ausseabed@ga.gov.au



Visit https://coordination.ausseabed.gov.au/

IBSC Recognised Training: Australasian Region Update

The lack of publicly available hydrographic and cartographic training in our region has long been a limiting factor for potential students and a frustration for employers trying to find capable and qualified people to meet the growing demand for services. However, in 2021 two IBSC* recognised training programs were released in our region to start to address this training shortfall.

In September 2021 the IIC Academy in partnership with Deakin University commenced the first ever public offering in our region of a FIG/IHO/ICA S-5B Hydrographic Surveyors Program. This course is progressing well with 9 students from across government and industry in New Zealand, Australia, Singapore and USA. On the back of the success of this course, IIC and Deakin are very pleased to announce that for the 2022 Program it is teaming with O2 METOCEAN. This generous industry collaboration by O2 METOCEAN will allow the Practical Components of the Program to be run at the O2 facilities in Fremantle, allowing easier access to potential students from Western Australia.

In October 2021 the IIC Academy commenced its global delivery of a FIG/IHO/ICA S-8B Nautical Cartographers Program. This 22 week Programme is providing students with all the necessary theoretical and practical knowledge and skills required to undertake Nautical Chart production. This course is also progressing well and has 18 students from Australia, Denmark, USA and Brazil, primarily from Government and National Authority backgrounds. It is intended to commence this course again in October 2022.

Registration for the S-5B Program is open and interest is very strong. So if you are interested in attending or wish to obtain more information on either of these Programs please drop me a line at david.crossman@iictechnologies.com or hydrographicsurveyor@iicacademy.com.

Further details on the S-5B Program can also be found at:

https://www.iictechnologies.com/sites/default/files/iicacademy/IICS5Program.html

DEAKIN UNIVERSITY

IIC TECHNOLOGIES

O2 METOCEAN
An O2Marine company

* International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers

Shellharbour - Tharawal (Illawarra South) multi-beam data now available on AusSeabed

NSW Department of Planning and Environment have recently released 2 & 5 m gridded bathymetry and 5 m backscatter mosaics from Shellharbour multibeam surveys south of Wollongong in 2017. The surveyed area lies within the seacountry of the Tharawal peoples and stretches from the iconic Five Islands and Red Point near Port Kembla to Bass Point south of Shellharbour. The 60 km^2 of multibeam, combined with the 2018 marine LiDAR, provides the first 100% high-resolution digital elevation model for this the 'Illawarra South' Secondary Sediment Compartment. Compartment mapping has been funded by the state's Coastal Reforms program to provide baseline dataset and map the spatial distribution of seabed types. This will allow us to develop a better understanding of nearshore sediment distribution and transport as well as assess threats/risks associated with erosion events (i.e. East Coast Lows) and changing sea levels.

With a full digital elevation model stretching from 200 m inland to a depth of ~60 m, the data have already been used in a case study to examine data utility toward improving shoreline change forecasting. Following sediment surveys to interpret backscatter variability, Kinsela et al (2020) examined and compared the observed geomorphology and morphodynamics to theoretical predictions as derived from more traditional wave-driven sediment transport theory. The shoreface geomorphology across the Shellharbour compartment was found to be much more complex than models might suggest. The more accurate definition of sediment distribution and associated dynamics is critical to developing quantitative sediment budgets and providing a more meaningful predictive capability for examining future shoreline change scenarios.

Kinsela, Hanslow, Carvalho, Linklater, Ingleton, Morris, Allen, Sutherland, Woodroffe 2020. Mapping the Shoreface of Coastal Sediment Compartments to Improve Shoreline Change Forecasts in New South Wales Australia. Estuaries and Coasts
https://doi.org/10.1007/s12237-020-00756-7

New global survey calls for greater coordination of seabed mapping activities

A new survey has given a major boost to efforts to map the entire seafloor by the end of the decade. Nearly 800 professionals representing 90 countries shared views on the value of seabed mapping and where activities to map using modern digital methods should be focused, as well as identifying some key challenges that need to be addressed in order to achieve the ambitious goal. The findings are released as the UN Ocean Decade endorses a range of new global Actions covering activities across the world's ocean basins.

The survey – commissioned by The Nippon Foundation-GEBCO-Seabed 2030 Project and managed by Blue Economy company NLA International – drew responses from across the scientific, academic, philanthropic and business communities, as well as from government and defence officials. Headline findings included:

- 40% of online respondents considered the main benefit of mapping the ocean floor to be 'to advance scientific understanding of seabed characteristics', with 11% highlighting the need 'to monitor environmental challenges over time'.
- Bathymetric data (81.67% of respondents) was the most desired geospatial information, followed by environmental data (69%), oceanographic data (65.33%) and classification of seabed features (63.33%).
- Respondents were interested mostly in water depths less than 200m (33.57%) and greater than 5750m (31.12%).
- An overwhelming majority of respondents (58.31%) would want access to any data sets via an online marine data portal.

See link - Full article from Seabed 2030

Seabed 2030 and seabed mapping features on live TV

CNN has featured Seabed 2030 and the importance of seabed mapping in a ten-minute slot on the "Don Lemon tonight" show. The show discusses the latest and the most relevant updates on social and political issues and analyses them in detail. This segment focuses on the recent discovery of a large coral reef, in the twilight zone off the coast of Tahiti, and delves into the Seabed2030 program and the global importance of seabed mapping. You can watch the segment here.

Update on AusSeabed

Our quarterly report for AusSeabed activities and product usage is now complete! We are currently working internally to deliver these reports in a more transparent and streamlined manner. Some top highlights from the last quarter include:

- AusSeabed data downloads grew 30%, reaching 6619 downloads
- Launch of new functionality in the Survey Coordination Tool
- Five new high-quality bathymetry data products published in Australian Marine Parks
- AusSeabed and QAX were presented at the GEBCO Map the Gaps Symposium

See link – Full quarterly report here

Reading corner

Grab a cuppa and have a read of some new relevant material published in the community:

- Chapter 13: Bathymetry in Volume 3B of Earth Observation: Data, Processing and Applications
- NASA article featuring DEA coastlines: Shifting Shores of the Australian Continent Mapped with Landsat
- Seabed2030's December newsletter: In-depth
- Jakobsson, M., & Mayer, L. A. (2022). Polar Region Bathymetry: Critical Knowledge for the Prediction of Global Sea Level Rise. *Frontiers in Marine Science*. https://doi.org/10.3389/fmars.2021.788724
- Nanson, R., Borissova, I., Huang, Z., Post, A., Nichol, S., Spinoccia, M., Siwabessy, J., Sikes, E. and Picard, K., 2022. Cretaceous to Cenozoic controls on the genesis of the shelf-incising Perth Canyon; insights from a two-part geomorphology mapping approach. Marine Geology, p.106731. https://doi.org/10.1016/j.margeo.2022.106731.
- Alexandra L. Post, Rachel Przeslawski, Rachel Nanson, Justy Siwabessy, Deborah Smith, Lisa A. Kirkendale, Nerida G. Wilson, (2022). Modern dynamics, morphology and habitats of slope-confined canyons on the northwest Australian margin, Marine Geology, 443, https://doi.org/10.1016/j.margeo.2021.106694.

Upcoming Events

Stay up-to date on upcoming events via the AusSeabed website. Please contact us if we have missed any, or you are running events or workshops that you would like to make the community aware of.

AusSeabed Quarterly Showcase: Thursday 28 April 2022 11am – 12pm

Come along to our quarterly showcase to stay up-to-date on our quarterly progress. You are welcome to participate in discussion, ask questions and speak up about potential areas of collaboration and funding opportunities. We look forward to seeing you there!

If you have not been invited to previous quarterly showcases, it is likely that you are not on the internal AusSeabed distribution list. Please join the mailing list via this link.

Australian Marine Sciences Association (AMSA): 7-11 August 2022

The 58th annual AMSA Conference will be held in Cairns from **7 - 11 August, 2022.**

The call for abstracts are now open, closing March 4. AusSeabed will be co-convening a session “Multi-disciplinary approaches to monitor change and connections through seafloor mapping”. Submit your abstracts here.

Locate 2022: 24th – 26th May, Canberra

Locate22 will be hosted by Geoscience Australia in Canberra this year. This year Locate22 will incorporate dedicated streams into the format of the conference. This will enable focused discussion from across industry sectors on how location technologies and practices are being used, highlighting the fundamental role they play in shaping Australia's future.

AusSeabed has submitted an abstract to present the GMRT-AusSeabed project, hoping to engage technology-driven stakeholders. The capabilities of TileDB will be presented, showing how GMRT-AusSeabed is making use of their infrastructure to deliver seamless, seabed compilations to end-users.

GeoHab 2022: 16th – 20th May, Venice Italy

The GeoHab 2022 annual conference will be held in **Venice**, Italy at **Venice International University**, San Servolo Island from 16th to 20th May. Abstract submissions are now open, closing March 20. You can submit abstracts here.

Autonomous Underwater Technology (AUT) 2022 Conference: 30 March, Perth

The AUT Conference will be held next month with the theme "Marine Autonomy for a Sustainable Future".

This event has become one of the most important networking opportunities in this field, allowing you to meet with industry leaders, academics and researchers in this innovative section of subsea development. Technology advances and recent case studies of AUT equipment will be presented, providing continued professional development.

APPEA 2022: 16-19 May 2022

The APPEA Conference and Exhibition remains the **only** conference that is **run by the industry, for the industry** and is why so many trust the event as their 'go to' investment each year.

The APPEA 2022 Conference and Exhibition will be held from 16 – 19 May 2022 at the Brisbane Convention & Exhibition Centre, Queensland. Both onsite/in person and virtual registrations will be available.

For further information on all aspects of the conference including the program, sponsorship and exhibition opportunities visit this link.

SCAR Open Science Conference: 1-10 August 2022

SCAR 2022 Open Science Conference abstract submissions are now open. You can submit abstracts here. There is a long list of Geoscience relevant sessions, and a session dedicated to the seafloor titled "The Antarctic seafloor: ecosystem interactions and environmental drivers of change".

EGU2022: 3-8 April, Vienna

There will be an AusSeabed relevant session at EGU 2022. The session aims at providing insights into new developments, methods, and results in the field of seabed mapping and classification; showcasing a range of applications. More details can be found here.

Unfortunately abstracts are now closed, but we look forward to seeing you there!

37th International Conference on Coastal Engineering 2022: 4-9 Dec

WHEN 4-9 December 2022

WHERE International Convention Centre, Sydney
New South Wales, Australia

The goal of the ICCE is to promote academic and technical exchange on coastal related studies covering a wide range of topics including coastal waves, nearshore currents, coastal structures, sediment transport, coastal morphology, beach nourishment, natural hazards and coastal management.

Share your work with the AusSeabed community

Finally, a reminder as always that anyone with an interest in AusSeabed can sign up to the newsletter mailing list on our website, where you can also check out past issues. And please send any items for the next newsletter to AusSeabedNews@ga.gov.au