



## **AusSeabed Newsletter No. 25 August 2021**

Dear all,

The 2020/21 financial year was marked with success for the AusSeabed program and 2021/22 promises to be as good if not better with new projects and collaborations established. Join us next week on the 25<sup>th</sup> and 26<sup>th</sup> August to hear about last year's highlights and what next year has in store (see upcoming events section).

I would like to welcome iXblue and Hydrographic and Cadastral Survey as new members of the AusSeabed steering committee, and the [Western Australian Marine Science Institution](#) (WAMSI) and the [Blue Economy Cooperative Research Centre](#) as new AusSeabed collaborators. We look forward to your contributions.

On the 5th of August, our Executive Board endorsed the 2020/21 annual program report and the 2021/22 work plan. Both will be made available on the AusSeabed website in the next month.

During these difficult circumstances, we wish you all to stay COVIDSafe and find happiness in these little moments we often overlook.

Kind regards,

Your Steering Committee Chair,

Kim Picard

### **Your 2021/2022 Steering Committee**

Congratulations to iXblue and Hydrographic and Cadastral Survey on being elected into the 2021/22 Steering Committee. We also congratulate returning members Deakin University, the Western Australian Department of Transport and the National Institute for Water and Atmospheric Research.

We also extend our thanks on behalf of the AusSeabed community to our outgoing members FrontierSI and Fugro. We are looking forward to the new perspectives and guidance from our 2021/2022 Steering Committee.

# 2021/22 Steering Committee

## Geoscience Australia



Chair  
Kim Picard  
Marine Geoscientist

## Australian Hydrographic Office



s/g Vice Chair  
Nigel Townsend  
Assistant Director National  
Hydrography

## CSIRO Marine National Facility



Standing Member  
Stuart Edwards  
Hydrographic Surveyor

## Parks Australia



Australian Government  
Cath Samson  
Assistant Director -  
Science planning and operations

## WA Department of Transport



State Government  
Ralph Talbot-Smith  
Manager Cartographic  
Services

## NSW Department of Planning, Industry and the Environment



State Government  
Tim Ingleton  
Research Scientist

## South Australian Research and Development Institute



State Government  
Gretchen Grammer  
Research Scientist

## Curtin University



Academic  
Iain Parnum  
Senior Research Fellow

## Deakin University



Academic  
Mary Young  
Research Fellow

## IIC Technologies Ltd



Industry  
David Croesman  
Managing Director Australasia

## iXblue Pty Ltd



Industry  
Geoffrey Lawes  
Chief Technical Officer

## Hydrographic & Cadastral Survey



Industry  
Richard Cullen  
Director/  
Senior Hydrographic Consultant

## National Institute of Water and Atmospheric Research



International  
Kevin Mackay  
Programme Leader -  
Environmental Information Management

## Thank you to our outgoing members

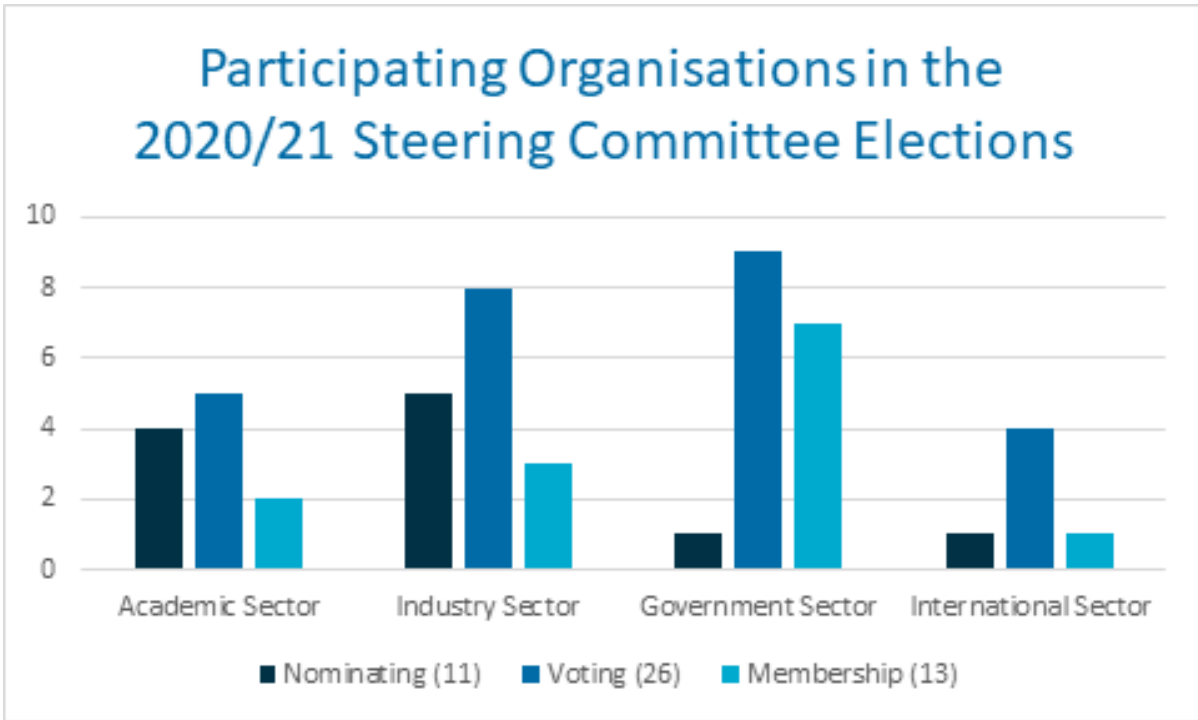


FrontierSI  
Industry  
Clive Fraser  
Science Advisor



Fugro  
Industry  
Hugh Parker  
Hydrographic Surveyor

Twenty-six organisations voted on the 11 nominations that were put forward. **Thank you** to everyone who participated in the election process, your persistent engagement is essential to the success of the AusSeabed Program.



### AusSeabed Presentation at AMSA 2021

AusSeabed Steering Committee Chair, Kim Picard, presented on how AusSeabed contributes to the United Nations Decade of Ocean Science, a global framework aiming to deliver *the science we need for the ocean we want*. Endorsed amongst the first set of decade actions, the Nippon Foundation GEBCO Seabed 2030 project is a testament to the importance of seabed mapping in supporting the sustainable use of our oceans. To find out more about the decade visit [oceandecade.org](http://oceandecade.org) and [oceandecadeaustralia.org](http://oceandecadeaustralia.org)

[AMSA2021: AusSeabed’s contribution to the Ocean Decade](#)



## AusSeabed Quarterly Data Report

2020/2021 Q4: April – June 2021

### **AusSeabed partner contributions to the AusSeabed/AODN/ELVIS platforms**

From April to June 2021, we have received 12 datasets to publish on the AusSeabed Marine Data Portal from the Schmidt Ocean Institute (1), James Cook University (1), National Environmental Science Program (1), University of Queensland (1), Geoscience Australia (1), Australian Antarctic Division (1), and CSIRO (6). (The values next to each organisation are representative of the number of surveys published). The surveys covered a total of 115,054 km<sup>2</sup>. Apart from two surveys, all are new datasets that have been published on the AusSeabed Marine Data Portal.

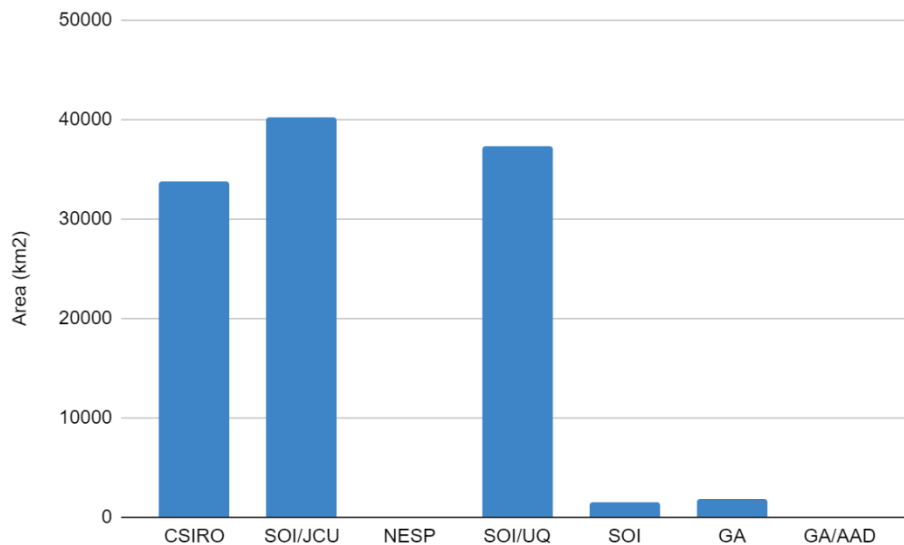


Figure 1: Survey area coverages published by organisation during period 1<sup>st</sup> April 2021 – 30<sup>th</sup> June 2021. Note that the area calculations do not account for overlaps and that there is not a direct correlation to the datasets received, as some are legacy products received prior to 2019.

## Update on AusSeabed

The AusSeabed update follows the three AusSeabed program themes: Data Hub; Tools, Guidelines and Standards; and Outreach, Education and Training. The annual highlights report and the 2021/22 work plan are being completed and will be published in early September.

### Data hub

- We have begun development of new features and tools on the Data Portal based on a user-driven design process. This process involved stakeholder interviews and prioritisation of potential portal features and tools through an end-user survey.
- We continued to establish data management policy around prospective data contributors, which include CSIRO as a managed contributing hub.
- CSIRO continues to provide bathymetry data to publish within the AusSeabed data portal.

### Tools, Guidelines and Standards

- The AusSeabed multibeam **QA Tool (QAX) v1** development has now been completed. The tool can be downloaded from GitHub. The tool assesses the quality of raw and gridded multibeam bathymetry product, and standardises QA reporting.

### Outreach, Education and Training

- Upcoming Annual workshop series starting on 25 – 26 Aug (website and GA seminar)
- South and West Pacific regional data centre for the Nippon Foundation GEBCO Seabed 2030 project.
- APPEA in Perth where we held a booth
- GEOHAB 2021
- ANZIC at Australian National University

## Update on data accessibility

### AusSeabed Portal Enhancements

The AusSeabed Marine Data Portal provides access to publicly available seabed acoustic datasets, as well as a suite of analytical tools to maximise the value of the data. We are now working with CSIRO to deliver their bathymetry datasets with standardised visualisations through the Portal. We have also made some enhancements to various tools available on the Portal for this quarter:

- The **Inspection Tool** now allows users to **Calculate Statistics** of layers that are added on the Layers Panel. This was implemented based on user feedback and a broader need for the tool outputs across Geoscience Australia.
- The **Clip Tool** now allows users to select areas for download if the data is made up of multiple layers. Areas will be highlighted on the map view and shown as multiple layers in the Clip tool. The vector option is now disabled when downloading raster data.
- A **point cloud visualisation** tool is being developed to allow users to visualise raw AusSeabed data
- The **Marine Sediments Tool** is now updated to serve data from a dynamic web service, which is linked to GA database and updated each week when new data is available.

### AusSeabed Portal Statistics

The AusSeabed publication pipeline has been undergoing significant development, including automated publication of datasets, systematic application of consistent symbology and display changes, and changes to the underlying web services delivering the data. Our Portal monitoring capability has now been implemented as of 27 May 2021, so we will be reporting on a shorter interval for this quarterly report.



For the period between 01 April 2021 to 30 June 2021: A total of 2,883 unique page views, with an average of 12 minutes spent browsing the content, clipping datasets, and exploring tool usage. Here, tools refer to data inspection, measurement, elevation profiles, downloading data from a specific area of interest (Clip tool), and the MH370 database search tool. The Marine Sediments tool had recently been implemented to link with the new dynamic, but was offline until its implementation, so statistics were not captured for usage for this period.

AusSeabed also monitors activity from the GA Catalog (eCat), GA AusSeabed Marine Data Portal, the Elevation Information System (ELVIS), and AODN. The following statistics are supplied for each application over the April–June 2021 period for bathymetry datasets. The previous quarters are supplied for reference. The larger spike in eCat downloads represents the larger number of datasets available through the system.

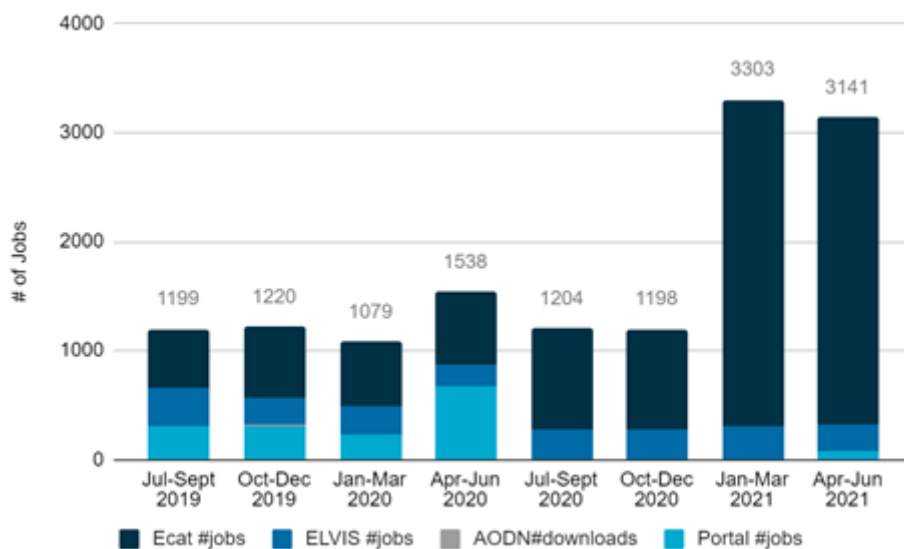


Figure 2: Combined data downloads from the GA Catalog (eCat), ELVIS, AODN and the AusSeabed Marine Data Portal (note there has been recent restricted monitoring due to development work). Source data: ELVIS, eCat, AODN and AusSeabed Portal usage statistics. From Jul – Sept 2019 and Apr – Jun 2021.

### Client Requests

AusSeabed received a total of 33 enquiries for this quarter, mainly focussing on how to download data, joining the mailing list and enquiries regarding downloading other types of data (e.g. sub-bottom data and other sources of bathymetry data). On average, we had provided responses to clients within 3 days, aligning with our typical response period.

### Client Request distribution

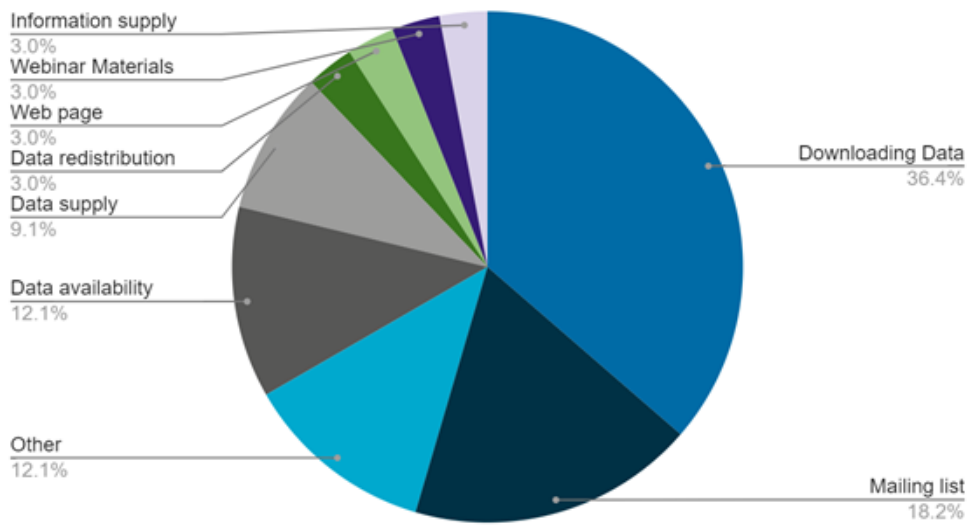


Figure 3: Distribution of client requests received during April – June 2021 as percentages.

### Survey Coordination Tool Uptake

#### Ausseabed Google Analytics



Figure 4: A time-series of usage over the quarter for the Survey Coordination Tool.



## Ausseabed Google Analytics

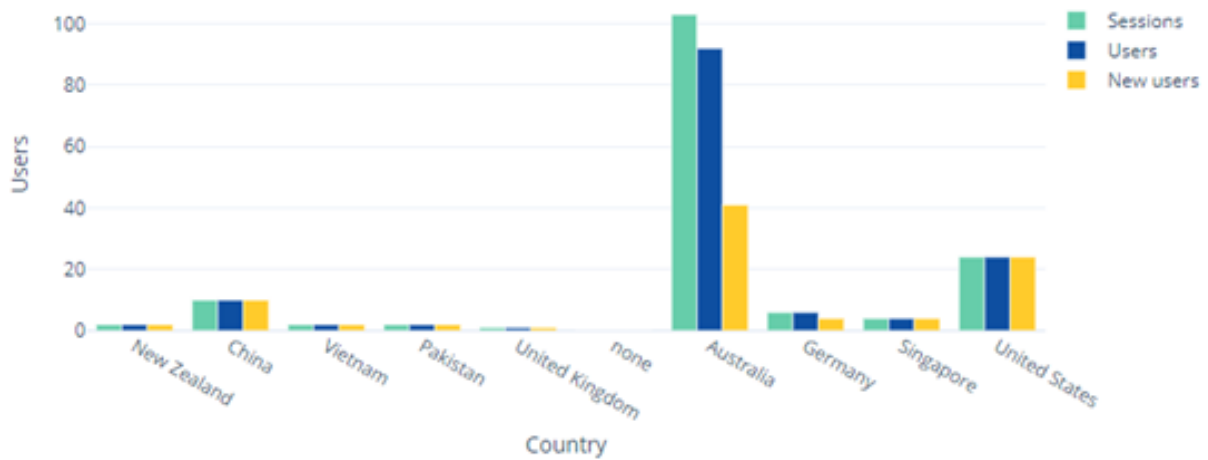


Figure 5: A bar graph depicting the number of sessions, users and new users by country over the quarter for the Survey Coordination Tool.

## CSIRO Data Trawler data extract count of Multibeam Datasets

The Data Trawler is a portal to query and download public data from CSIRO voyages and projects. Data types include underway, multibeam, CTD, Hydrology, catch composition and specimens, gravity, wildlife observations and sub-bottom profile data. There are links to the [Marlin metadata catalogue](#), deployments, reports, science publications and maps.

### [CSIRO National Collections and Marine Infrastructure - Information and Data Centre](#)

The following statistics show monthly and annual usage of CSIRO Data Trawler for data extracts and direct links to Multibeam Echosounder datasets. There appears to be a reduction in accessed datasets during 2020 and this could be as a result of Covid-19 and the lowered participants on MNF voyages during the year.

Month	Multibeam echosounder	Total	Month	Multibeam echosounder	Total	Month	Multibeam echosounder	Total
Jan 2018	9	9	Jan 2019	20	20	Jan 2020	2	2
Feb 2018	11	11	Feb 2019	6	6	Feb 2020	8	8
Mar 2018	9	9	Mar 2019	15	15	Mar 2020	8	8
Apr 2018	2	2	Apr 2019	7	7	Apr 2020	5	5
Jun 2018	2	2	May 2019	3	3	May 2020	2	2
Jul 2018	1	1	Jun 2019	9	9	Jun 2020	5	5
Aug 2018	4	4	Jul 2019	9	9	Jul 2020	7	7
Sep 2018	8	8	Aug 2019	8	8	Aug 2020	22	22
Oct 2018	3	3	Oct 2019	9	9	Sep 2020	2	2
Nov 2018	8	8	Nov 2019	41	41	Oct 2020	2	2
Dec 2018	6	6	Dec 2019	10	10	Nov 2020	16	16
<b>Total</b>	<b>63</b>	<b>63</b>	<b>Total</b>	<b>137</b>	<b>137</b>	<b>Total</b>	<b>89</b>	<b>89</b>

Table 1: Monthly data extracts of Multibeam datasets from the CSIRO NCM Data Trawler for the period 2018 to 2020.

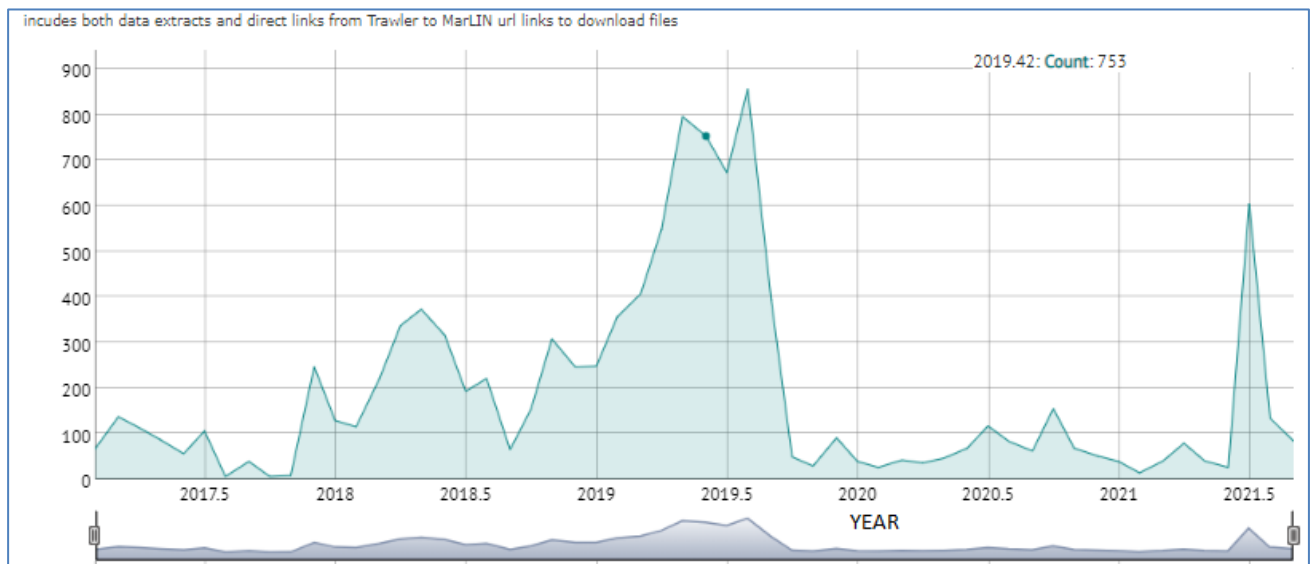


Figure 6: Showing Count of total data extracts and direct links from CSIRO Data Trawler during the period 2017 to 2021.

Calender Year	Multibeam echosounder	Total datasets
2017	85	448
2018	63	394
2019	137	485
2020	89	745
2021 (231/365)	115	306

Table 2: Summary of annual use of CSIRO NCM Data Trawler: number of datasets downloaded by type – Multibeam Echosounder out of total datasets available for period 2017 to present.

## HIPP update

The HydroScheme Industry Partnership Program has completed its first year of operations. Progress on the Annual HydroScheme survey programs can be found at [www.hydro.gov.au/NHP](http://www.hydro.gov.au/NHP)

The 2020 / 2021 season has seen a frenetic gathering of data as the HIPP proved it can deliver high quality data essential for safe navigation of Australian waters.

The HIPP team have utilised many different strategies to keep the hydrographic Survey effort going during these COVID times, and this has only been made possible by the dedicated and highly professional approach of our industry partners who rose to the challenge.

Key highlights for HydroScheme 2020 include:

- 12 Survey contracted to the HIPP Panel
- Operations conducted in all states
- 12 Data collection activities completed,
- 6 Surveys fully accepted and in chart production,
- 5 surveys currently in appraisal,
- 1 currently in data processing with the contractor,
- 5 long term met ocean buoys across Torres Strait for a 3 year period
- 11 National Reference Surfaces surveyed off Cairns, Darwin, Broome, Adelaide, and Hobart

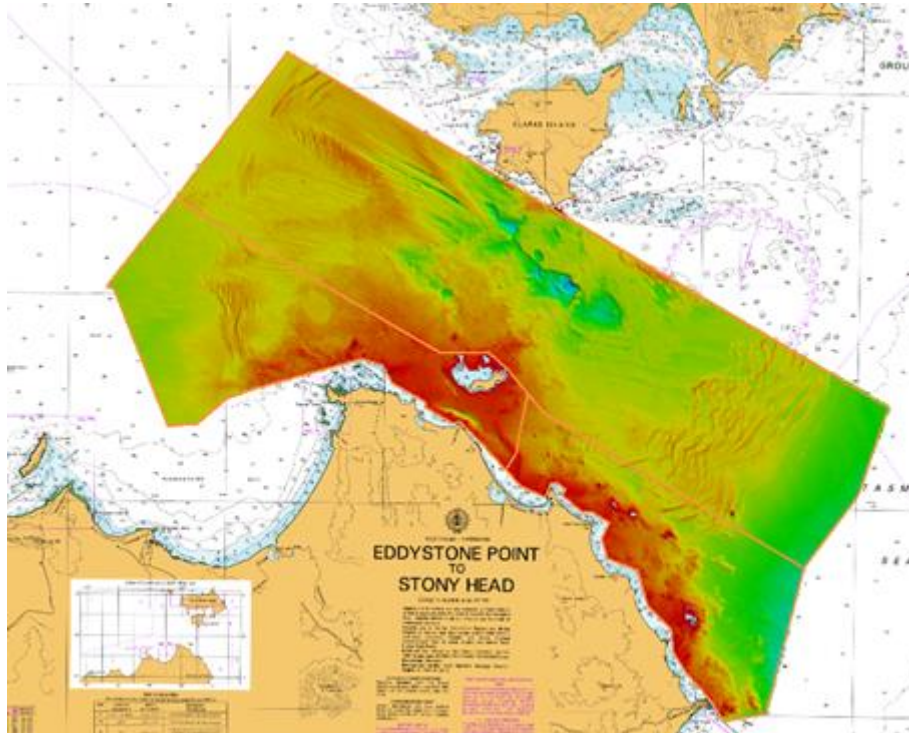
All of which corresponds to:

- 70867 linear nm sounded,
- 3693 nm<sup>2</sup> surveyed in depths mostly less than 50m,
- 81 tide gauges deployed with an associated 81 sets of 72 hour GNSS buoy data to support hydroid development,
- 176 TB of data delivered.

The final survey of the 2021 HydroScheme to be completed was the Si 1020 Banks Strait survey off the North East coast of Tasmania. This challenging survey was successfully completed by iXblue in June.

The HIPP enjoys partnerships not only with industry but with our government partners as well. We have worked closely with Geoscience Australia (GA) and the Department of Science and Technology (DST) to gather sedimentary and water column data vital

to increase our understanding of the natural environment. We have also broken new ground with the deployment of a Sub Bottom Profiler (SBP) on a HIPP chartered vessel. During a survey in the Banks Strait, a HIPP Panellist, iXblue were able to re-role the vessel at short notice to conduct this work for GA in a very important area of the Bass Strait.



*Figure 7: SI 1020 Banks Strait survey area in the Bass Strait*

The HIPP has also delivered a series of high accuracy National Reference Surfaces (NRS) that allow the detailed calibration of sonars to assist not only survey vessels but any marine user wishing to check the accuracy of their depth sounder. These NRS are located in Cairns, Darwin, Hobart, Broome and Adelaide.

The HIPP now looks towards expanding its impressive portfolio and advancing with our partners into HydroScheme 2021, with three data collection activities already underway.

## DEAKIN UNIVERSITY

### Apollo Marine Park

Deakin University recently completed mapping of the southern section of Apollo Marine Park aboard MV Yolla as part of a Parks Australia Marine Parks Grant with partners at iXblue (coverage attached). In addition, the team deployed 50 stereo baited remote underwater cameras to document fish diversity and seabed characteristics as well as provide content for development of augmented and virtual reality experiences. Our Marine Parks Grants project received grant funding from the Australian Government.



# Apollo Updated Coverage 26-05-2021 (Preliminary)

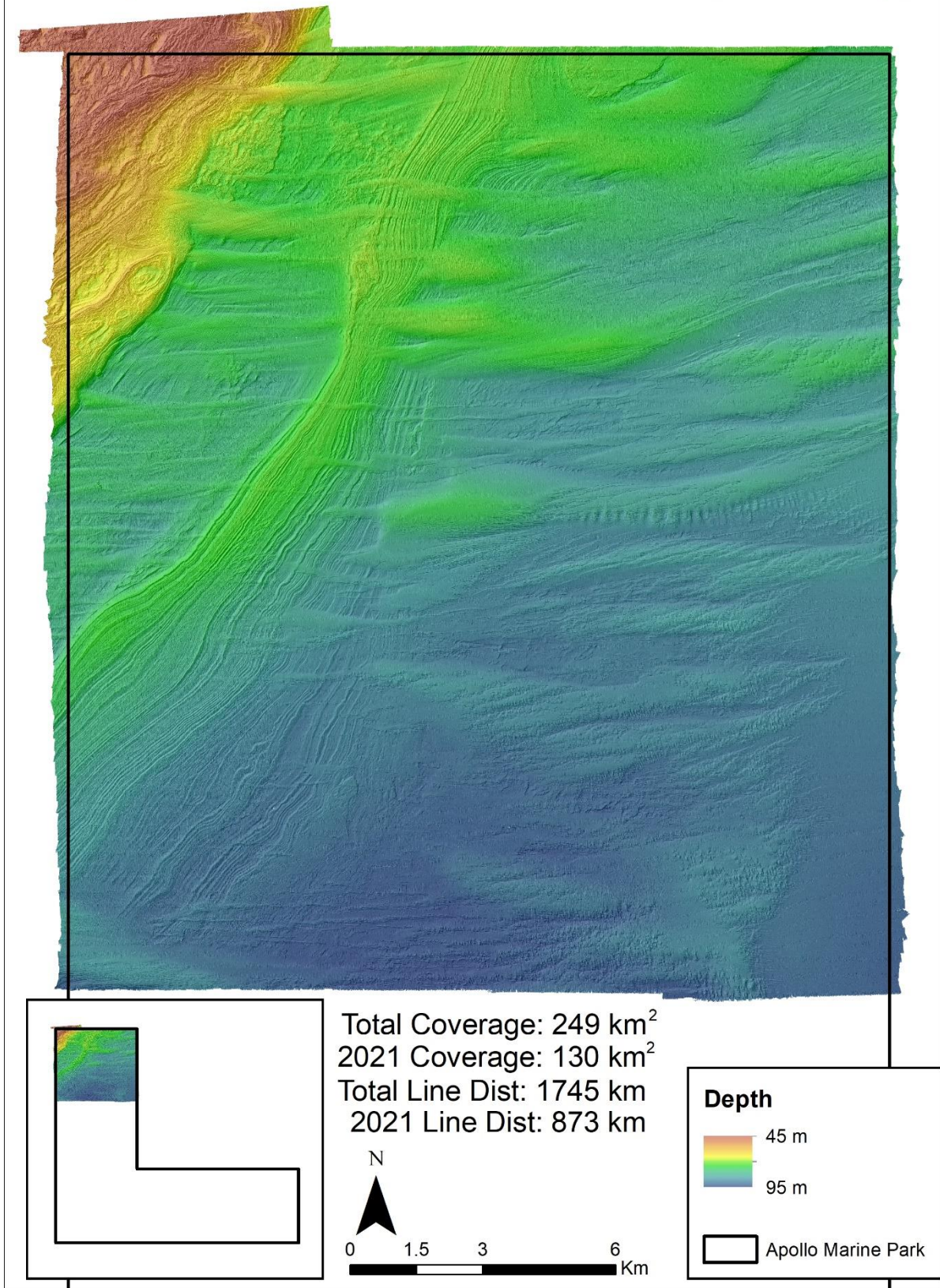
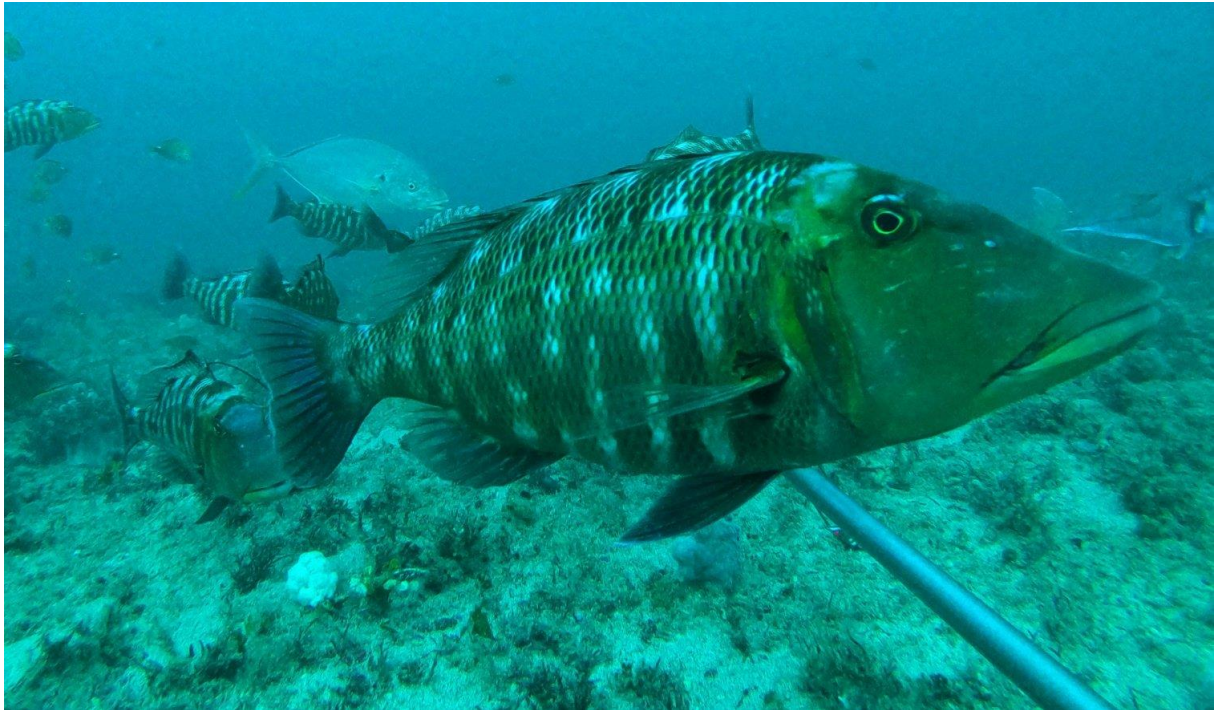


Figure 8: Apollo Marine Park Coverage of survey

## Norfolk Marine Park

Parks Australia is funding two exciting Our Marine Parks Grants programs for habitat mapping in Norfolk Marine Park.



<https://parksaustralia.gov.au/marine/news/norfolk-marine-park-habitat-mapping-projects/>.

The equipment onboard the *Offshore Solution* will produce high-resolution images (via multibeam bathymetry and sub-bottom profiling) which will allow us to better understand the unique geomorphology surrounding the island. The project will also include some coastline drone mapping later in the year.





*Figure 9: Seabed mapping on the Offshore Solution as part of Norfolk Marine Park habitat mapping project, Australian Marine Parks*

## Upcoming Events

### AusSeabed Annual Workshops

Dear AusSeabed Community,

Following on from last year, AusSeabed will again be hosting its annual workshop and general meeting activities virtually in sessions on two consecutive days via webinar.

**25<sup>th</sup> August – AusSeabed Seminar.** *Three years of co-ordinating seabed mapping efforts – are we there yet?*

This session will provide updates on program development, the Steering Committee renewal, the 2020/21 highlights, and an overview of the 2021/22 work plan.

**26<sup>th</sup> of August – AusSeabed Workshop.** This session will feature workshops on the Quality Assurance Tool, the HIPP survey request tool and process, the AusSeabed Portal, and the UWA 3D seismic Bathymetry project.

Attendance is free and open to anyone with an interest in seabed mapping.

<b>Wednesday 25th August 2021</b> <b>AusSeabed Seminar</b> <b>1100-1200 (AEST)</b>
<i>AusSeabed: Three years of coordinating seabed mapping efforts – are we there yet? Kim Picard (Geoscience Australia)</i>
<a href="#">Registration Seminar</a>
<b>Thursday 26th August 2021</b> <b>AusSeabed Workshops</b> <b>1100-1330 (AEST)</b>
<a href="#">Registration Workshop</a>
<b>Workshop Session 1</b>
11:00-1140 (AEST) <i>The release of the AusSeabed QAX Tool and User Training – Justy Siwabessy (Geoscience Australia) and Lachlan Hurst (FrontierSI)</i>
<b>Workshop Session 2</b>
11:40-12:20 (AEST) The Hydroscheme Process and HIPP Requests - Nigel Townsend (Australian Hydrographic Office)
BREAK (10 mins)
<b>Workshop session 3</b>
12:30-12:45 (AEST) AusSeabed refresher on Portal functionality and data access - Maggie Arnold (Geoscience)
<b>Workshop session 4</b>
12:45-13:25 (AEST) Deriving bathymetry data asset from seismic survey datasets - Ulysse Lebrec (University of Western Australia)

Please contact [ausseabed@ga.gov.au](mailto:ausseabed@ga.gov.au) if you have any questions.

## IIC and Deakin University S-5B Hydrographic Surveyors Course in Australasia

Registrations for the IIC Technologies and Deakin University S-5 Category B Hydrographic Surveyors program will close on 20 Aug 21.

Commencing on 6 Sep 21, this course is designed for those with the desire to start or build a career in Hydrography. The course is recognised by the [FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers](#) (IBSC) and this is the first time that an S-5B accredited course is being offered to the public in Australasia.

This program will be delivered as a combination of remote learning and onsite practical's, ensuring students the knowledge and experience they need. The course delivery will maximise distance learning and will be flexible for those who are completing studies or working. There will also be a 7 week on-site practical at Deakin University's facilities in Warrnambool, Victoria, in Apr 22.

The course is filling fast, however there are still a few places left, so if you want more information or wish to register please email [hydrographicssurveyor@iicacademy.com](mailto:hydrographicssurveyor@iicacademy.com), contact [david.crossman@iictechnologies.com](mailto:david.crossman@iictechnologies.com) or follow the link.

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





## **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](mailto:AusSeabedNews@ga.gov.au)