

AusSeabed Quarterly Highlight Report

2022/23 Q2: October- December 2022

This report provides an update on key AusSeabed activities progressed this quarter against the [AusSeabed Strategic Goals](#) with specifics on data publication and usage statistics found in the following section titled: AusSeabed quarterly data report.

The associated quarterly showcase (16th February 2022) will be made available on [AusSeabed YouTube](#). These **showcases** provide a chance for the AusSeabed operational team to show the community what we have achieved in the last quarter, reflect on these achievements, and share the upcoming quarter goals.

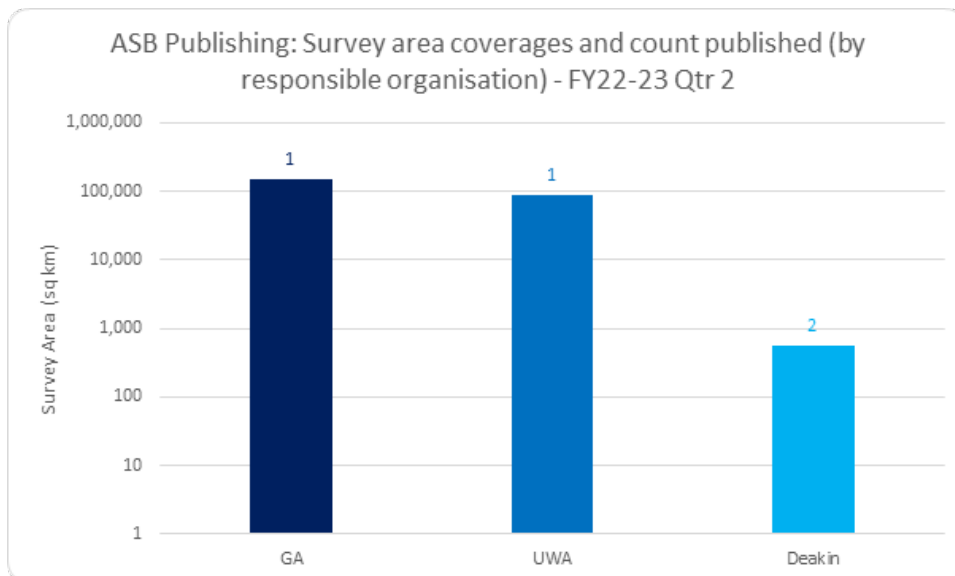
1 Products

Strategic Goal: All seabed mapping data and products in the Australian region are guided by F.A.I.R. principles (findable, accessible, interoperable and reusable) and meet the needs of users.

Published data

From October to December 2022, we published 4 surveys on the AusSeabed Marine Data Portal, covering a total of 232,511 km² (see table below). The total area does not reflect the total new data coverage added to the Australian region of interest, as surveys overlap spatially and revised versions replace previous datasets.

Datasets with data link	New or revised dataset	Reason for revision
Apollo Marine Park Bathymetry 2020 2m	Revised	New data added to original survey
Southeast Tasmania and Southern Macquarie Ridge (AUSTREA2) Bathymetry 2000 120-440m	Revised	Reprocessed by GA to raise the quality of the product
Peterborough to Port Fairy Multibeam Survey (20180010S)	New	
Bonaparte and Browse basins 3D Seismic derived bathymetry compilation 2022 30m	New	



Survey area coverages published by organisation during period 1st October 2022 – 31st December 2022. Note that the area calculations are estimates only (due to potential projection differences) and do not always account for overlaps. The value above each organisation represents the number of surveys published.

Data collected by the Hydroscheme Industry Partnership Program (HIPP), led by the Australian Hydrographic Office, is being made available through AusSeabed at 30 m resolution. Information on available data and how to request higher resolution data can be found via [a story map](#).

Upcoming Data

Upcoming and recently published data can be found on the AusSeabed [publication schedule](#). Amongst other upcoming datasets for Q2 2022/23, AusSeabed has published **the first of a series of bathymetry compilations derived from 3D seismic survey data**. These have been developed in partnership with the University of Western Australia; for further information on the project see the presentation on this work from the [2021 webinar at 1h30](#).

2 Coverage

Strategic Goal: Seabed data coverage in the Australian region provides maximum benefit to users.

Survey activities scheduled through the **Hydroscheme 2022** can be viewed via a [story map](#) created by the Australian Hydrographic Office (AHO). The field work for 4 of the surveys was completed last quarter, Hydrographers Passage, QLD (SI 1029), Furneaux Group LiDAR (SI 1032), Eclipse Shoals to Lombadina Pt, WA (SI 1025) and Booby Is to D'Arcole Is, WA (SI 1026), with Kangaroo Island (SI 1023) underway.

[The program for HydroScheme 2023 has now been published](#). The upcoming program will conduct 7 surveys in northern and eastern Australia. The AHO considers business cases for activities in future years via stakeholder submission using the HIPP request tool located within the [Survey Coordination Tool](#).

Voyage activities scheduled through the Marine National Facility can be found [here](#)

3 Awareness

Strategic Goal: Seabed mapping and AusSeabed is widely understood, valued and used across Australian Governments and the community.

After three successful years in establishing the AusSeabed Program, the Steering Committee undertook its first significant review of the initiative. This process has led to the release of a [new AusSeabed Strategy and 2025 Activities Roadmap](#), providing clear direction for the program over the coming years.

Last quarter, AusSeabed released a [First Nations Position statement](#) as a commitment to actively engage with First Nations Traditional Custodians of Sea Country in-line with a First Nations Position Statement. We invite First Nations Australians and Traditional Owners who would like to contribute to AusSeabed to contact us.

On 21 Dec 2022, GA, CSIRO and the National Oceanic and Atmospheric Administration (NOAA) in the US signed a Memorandum of Understanding to cooperate on ocean exploration and mapping.

Aligned with this effort, GA officer visited NOAA, the Centre for Coastal and Ocean Mapping – Joint Hydrographic Centre (CCOM/JHC) and the Lamont Doherty Earth Observatory in the US in Dec 22. This visit resulted in:

- increased awareness of GA marine program (incl., the AusSeabed initiative and the marine geomorphology product development),
- expanded relationships across multiple NOAA Divisions and expert groups (incl., the Ocean Exploration Research, the Ocean Coast Service with the Hydrographic Survey Division and the Ocean Laboratory, the Ocean Coastal Management, the Global Ocean Measurement Observatory),
- several activities identified that could generate collaborative projects under the MoU and would involve cross-division and branches at GA.
- synergies with LDEO and CCOM/JHC identified that will contribute to the continued development of the AusSeabed data hub infrastructure and future potential collaborative projects.

Other notable community engagements by AusSeabed collaborators include:

- Engagement by GA with the [GEBCO](#) community during the annual guiding committee meeting and Map the Gaps symposium. GA presented an overview of AusSeabed progress and a technical paper on the outcome of the [GMRT-AusSeabed](#) prototype platform for creating user-defined bathymetry grids. Meeting outcomes included 1) potential collaboration with the European Marine Observation and Data Network (EMODnet) and GEBCO Technical working group (TSCOM) relating to metadata and data standards, QA/QC and data lineage/traceability, and gridding methodologies and visualisation; 2) progression of the first GEBCO strategy and endorsement of 2023 activities by the various sub-committees.
- Engagement by GA with the UK Hydrographic Organisation (UKHO), where representatives identified common areas for collaboration. These included our overall national coordination role with the recent launch of the [UK Centre for Seabed Mapping](#) operated by the UKHO, metadata standards, data catalogues, and areas of interest and QA/QC tools. This visit resulted in the

UKHO accepting to join the next steering committee meeting in March and multiple upcoming technical meetings.

- Engagement by Iain Parnum and others in a three-day international workshop on multibeam sonar backscatter (Oct. 25-27, 2022) at Dalhousie University (Halifax, Nova Scotia, Canada), coordinated by the Backscatter Working Group (BSWG). A report was produced and shared amongst participants. Summary can be found in [AusSeabed December newsletter](#).
- Presentation by Mick O'Leary on submerged cultural landscapes at the Australasian Institute for Maritime Archaeology 2022 Conference.

AusSeabed Quarterly Data Report

2022/23 Q2: October – December 2022

1 Newly published partner contributions to the AusSeabed Portal

From Oct to Dec 2022, we published 4 surveys on the AusSeabed Marine Data Portal, covering a total of 232,511 km² (Figure 1). The total area does not reflect the total new data coverage added to the Australian Region of Interest, as surveys may overlap spatially and revised versions replace previous areas.

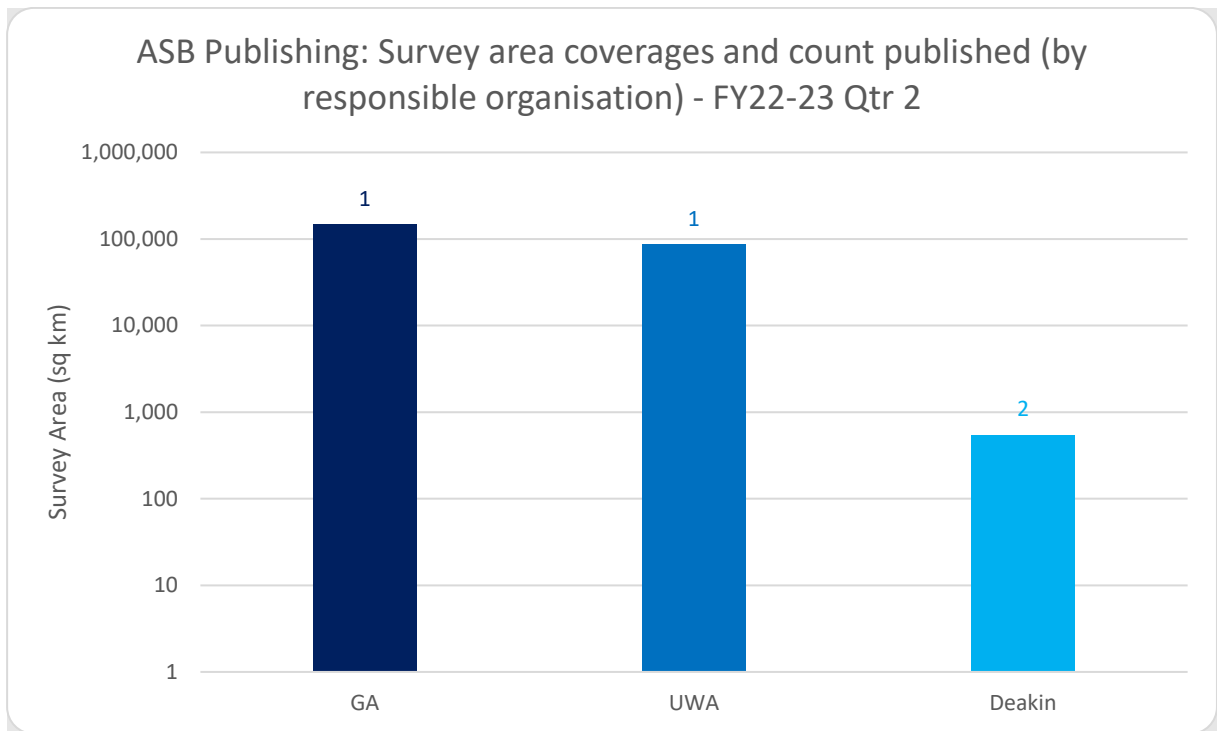


Figure 1 Survey area coverages published by organisation during period 1st Oct 2022 – 31st Dec 2022. Note that the area calculations are estimates only (due to potential projection differences) and do not always account for overlaps. The value above each organisation represents the number of surveys published.

2 Marine Sediments contributions

From Oct to Dec 2022, a total of 116 samples have been added to the Geoscience Australia corporate database and will soon be added to the Marine Sediments web service (MARS), which also part of it is displayed on the AusSeabed Marine Portal.

3 AusSeabed Portal Enhancements

Map Narrator has been added to the Portal. This function allows users to capture and share a series of interactive map scenes.

Resolution of bugs related to vector exporting, including shapefiles: whilst the Select Tool function delivers successful shapefile exports of survey/acquisition boundaries, the bug workaround, involves delivering the entire shapefile rather than the clipped version.

Resolution of bug related to the Elevation Profile tool unable to handle complex multi-layered compilations: the tool works, even though slowly, and can be used on the Great Barrier Reef and Northern Australian compilations.

4 AusSeabed Data Download Statistics

During the past quarter, there were 2,352 unique page views of the Marine Data Portal (an increase of 7.2% over the previous quarter), with an average of 10m 07s spent browsing the content (an increase of 11.2% increase over the previous quarter), clipping datasets, and exploring tool usage.

AusSeabed monitors download statistics from additional sources of bathymetry data managed by GA, including the GA Product Catalogue (eCat), the Elevation Information System (ELVIS) and the National Computational Infrastructure (NCI) (Figures 1-6). Each system monitors downloading activity with different tools and with different metrics. Future work will include investigating options for generating consistent metrics.

Marine Data Portal (AusSeabed Portal)

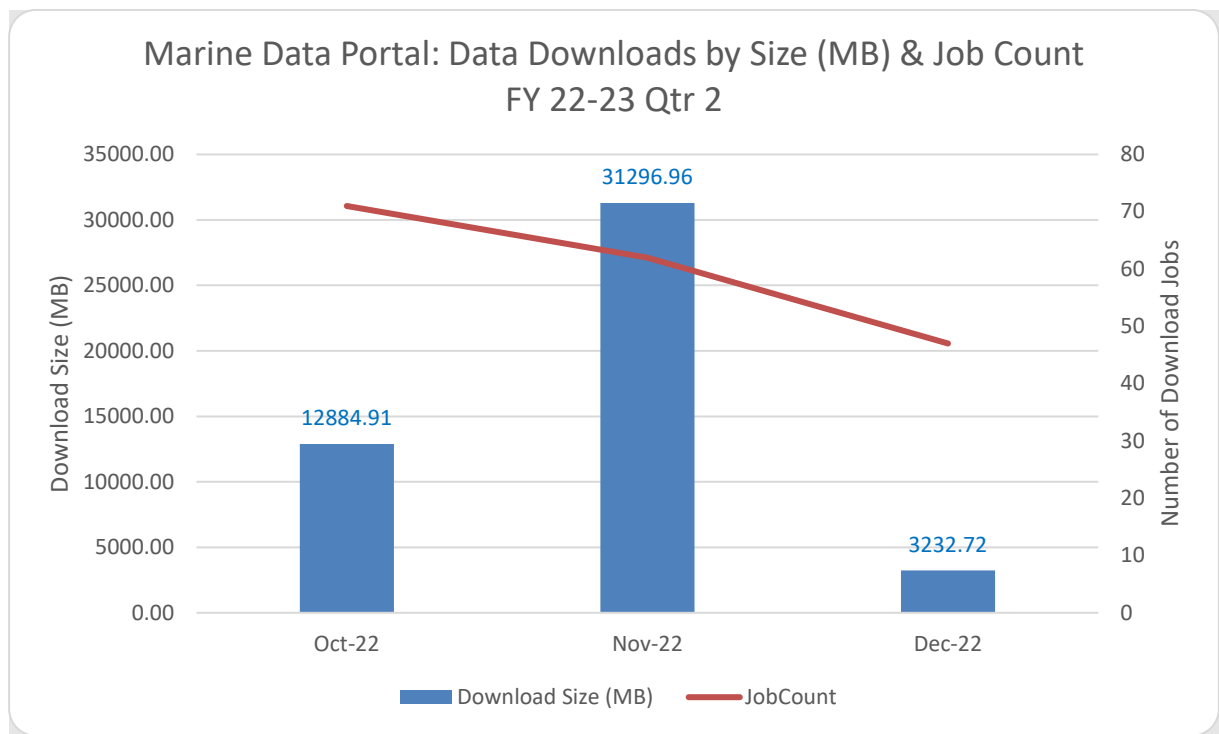


Figure 1 Marine Data Portal downloads using the Select Tool (previously known as the Clip, Zip and Ship Tool)

GA Product Catalogue (eCat)

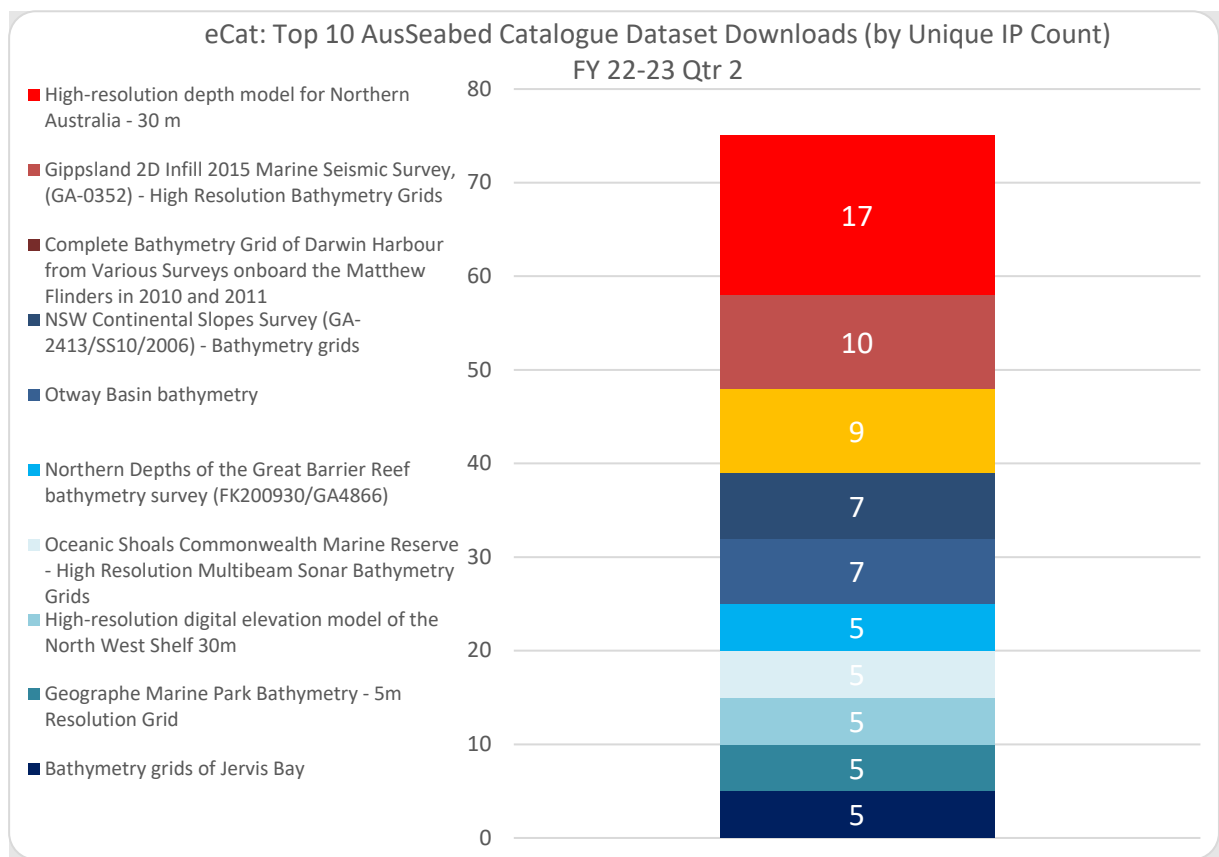


Figure 2 eCat: Top 10 Bathymetric product downloads by unique IP count

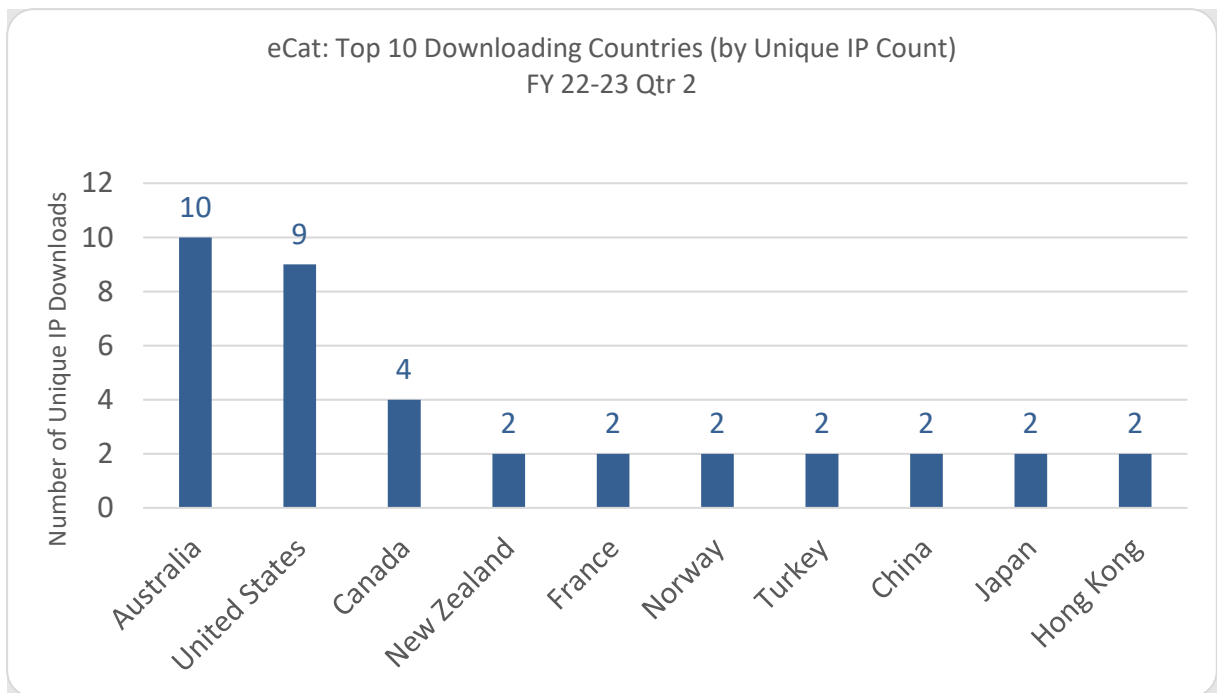


Figure 3 eCat Top 10 downloading countries of bathymetric products (by unique IP count)

Elevation Information System (ELVIS)

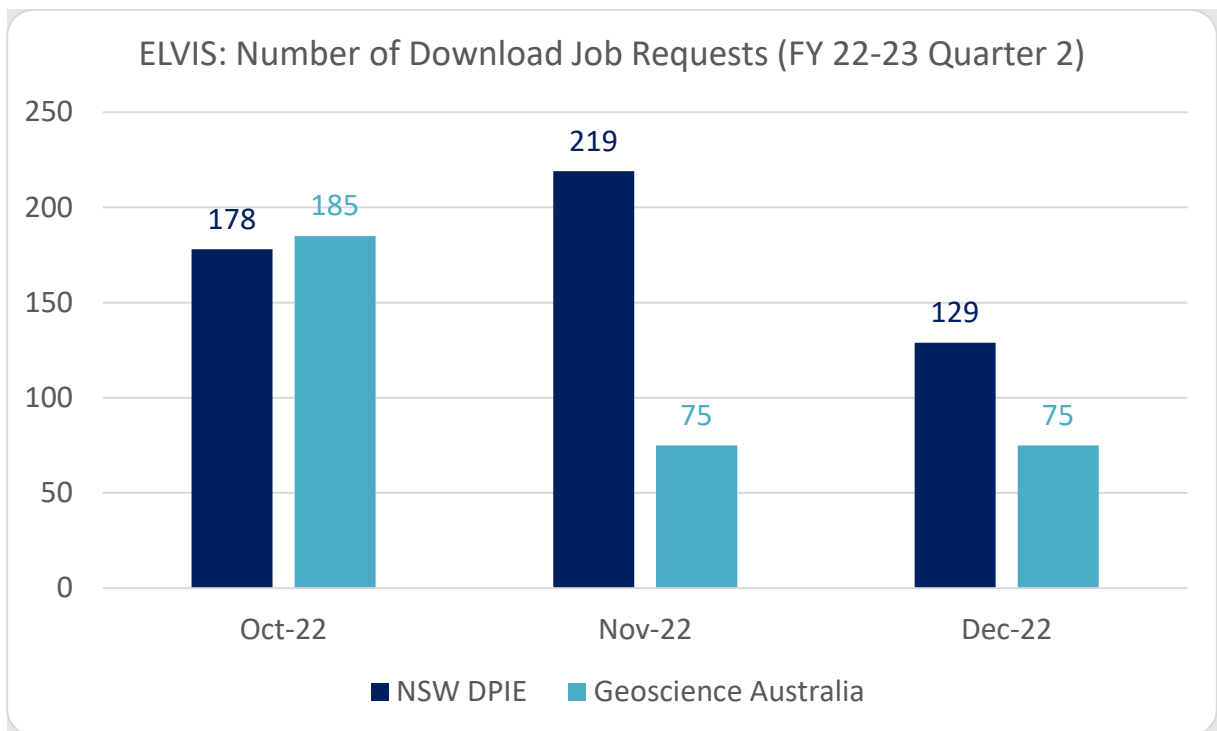


Figure 4 Number of independent job requests for bathymetric data/product downloads from the ELVIS system

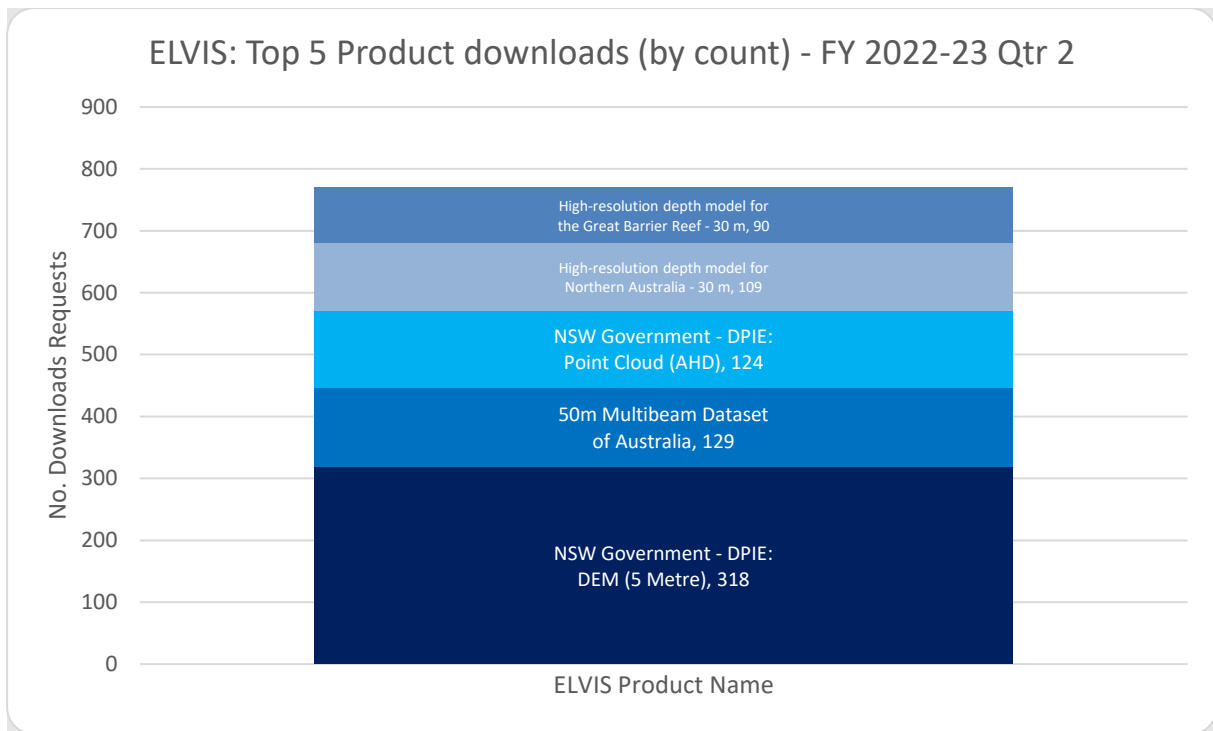


Figure 5 Top 5 bathymetric data/product downloads from the ELVIS system

National Computational Infrastructure (NCI)

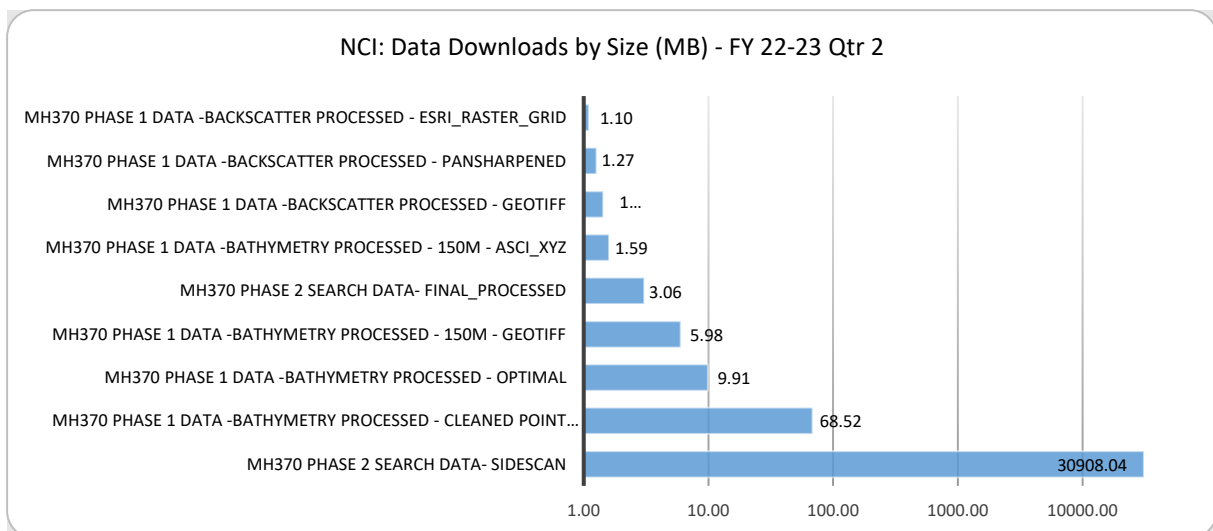


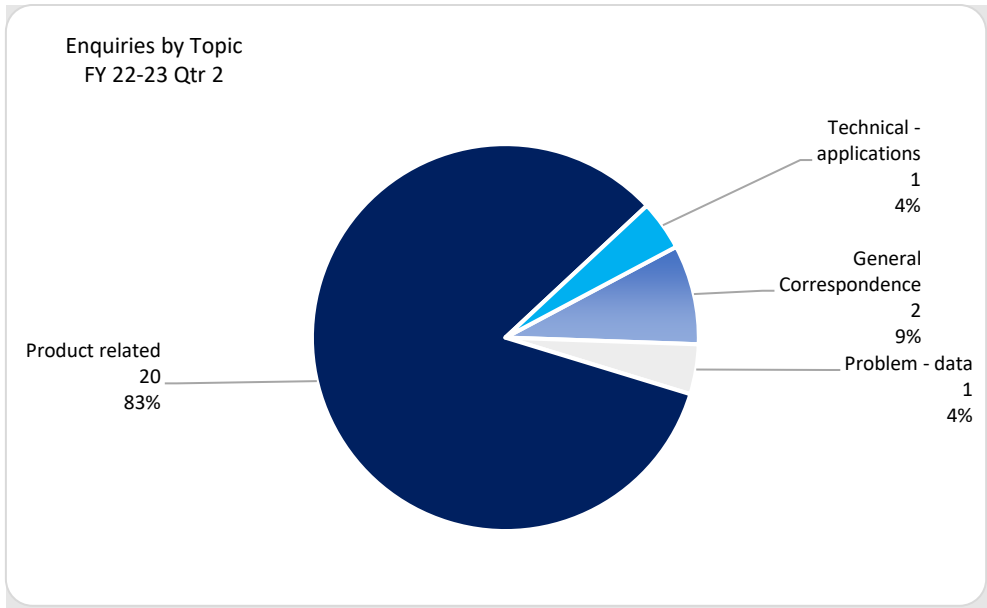
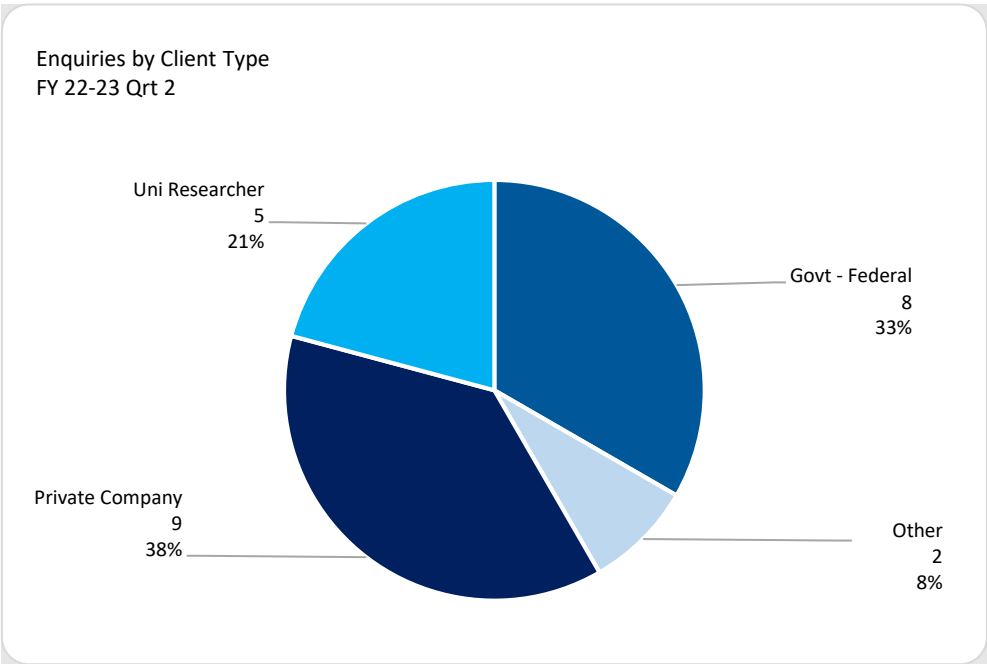
Figure 6 MH370 Products downloaded from the NCI. Note the logarithmic scale to improve the display of the smaller items. There are other products available but were not downloaded during this quarter.

5 Client Requests

AusSeabed received a total of 24 direct enquiries this quarter (Figure 8). These focused on downloading data, joining the mailing list, data supply and availability of data. On average, AusSeabed provided same day initial responses to clients and closed the enquiry within 4 days of the request.

Table 1 Total number of enquiries by month during this quarter

	October	November	December	Total
No of enquiries	11	2	11	24



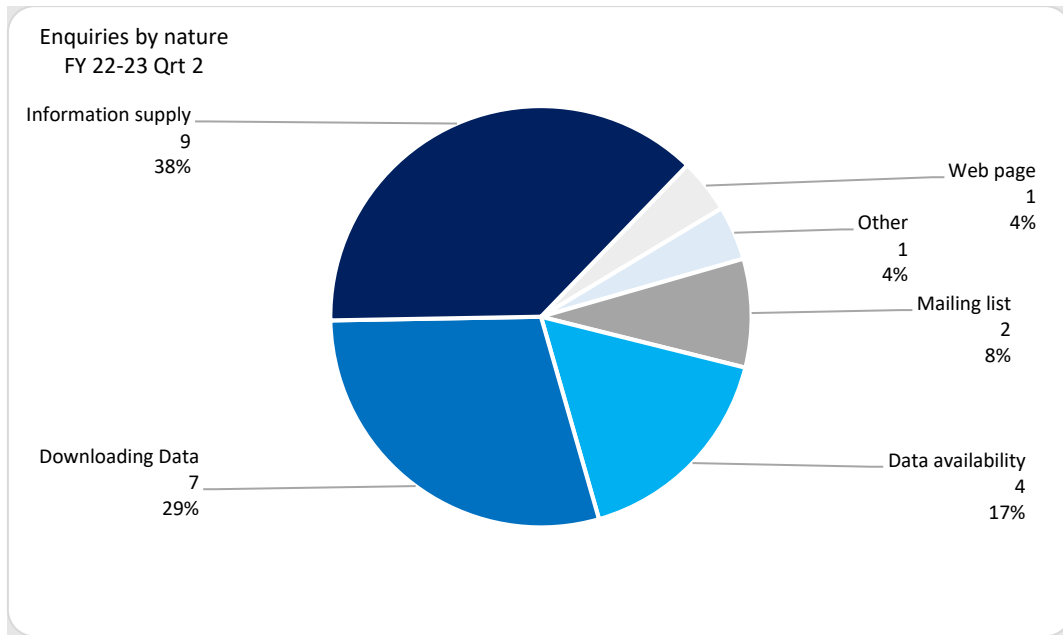


Figure 7 Distribution of client requests received during this quarter by client type, topic and by nature of enquiry.

6 AusSeabed Tool Uptake

Survey Coordination Tool (SCT)

Several client requests regarding the Survey Coordination Tool (SCT) were received and followed up during the quarter with 14 new approved registrations (Table 2). Website access statistics follow in Figure 9.

Table 2 SCT statistics on all three functionalities (blue highlight) for the quarter

Quarterly Statistics	Comment	No.
Number of new SCT registered users	A user refers to a single ID tied to an individual email address	14
Number of Active SCT users	Number of users that signed into the Survey Coordination Tool at least once over the quarter	15
Total number of registered SCT users	Total user base registered within the Survey Coordination Tool	173
National Area of Interest (NAI)*		
Total number of organisations	An organisation refers to a group of people associated with the same NAI submission. There can be multiple groups from within a single organisation	25
Total registered organisations publishing new NAIs	The number of organisations that have successfully published a new NAI	0
Total registered organisations updating published NAIs	The number of organisations that have modified or created published NAIs	0
Total NAI submissions by organisations	The total number of submissions made by organisations via the NAI tool. Note that each submission may contain multiple areas/polygons.	89

Quarterly Statistics	Comment	No.
Number of new NAIs published	Total number of areas/polygons created and published through the NAI tool.	0
Upcoming Surveys		
New Survey Plans submitted	Number of new Survey Plans submitted	4
Survey Plans Finalised	Number of Survey plans transition to Finalised (there are 3 record state categories - Draft, Under Review ad Finalised)	27
Total Number of Survey Plans	Total number of Survey Plans at the end of the current quarter (there are 4 categories of Survey Plans - Planning, Scheduled, Complete, Abandoned)	107
Number of Surveys Completed	Number of Surveys reported as completed (mapping activity)	3
HIPP request		
Number of new HIPP requests submitted	Users may request survey areas to be considered for collection through AHO HIPP Survey process. This reports the number of HIPP requests submitted	0

*N.B. NAI's can be submitted into the tool, but not published. This nuance is differentiated in this report. Previous quarterly reports did not make this distinction, so reflect higher numbers.

The following website utilisation statistics regarding the SCT (see Fig 8) represent a reduction in activity down on the previous quarter. Sessions saw a decrease of ~26%, users a decrease of ~21% and new users a decrease of 17%. However, the 2022/23 Q2 statistics demonstrate an increase since re-development in Q3 2021-22.

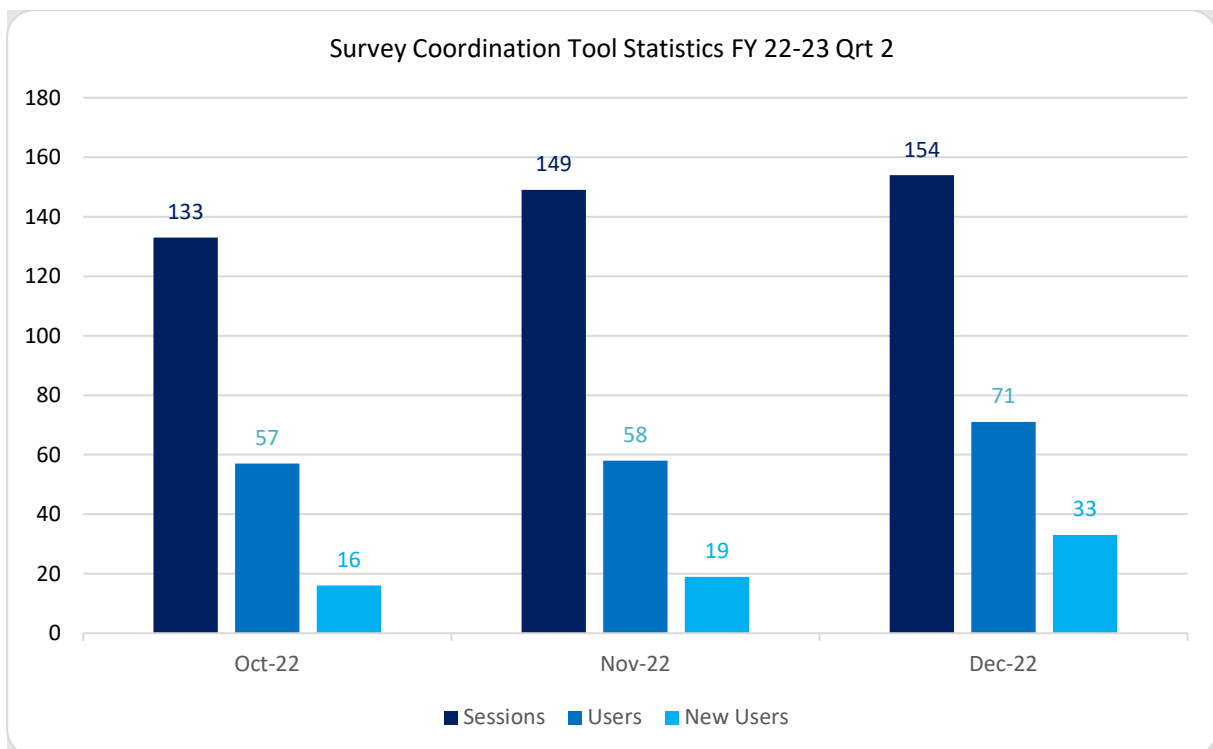


Figure 8 Number of sessions, users, and new users over the quarter for the Survey Coordination Tool from Google Analytics.

AusSeabed Website Uptake

Utilisation statistics for the AusSeabed website are slightly down on the last quarter, with an average decrease of 4% across all measurements.

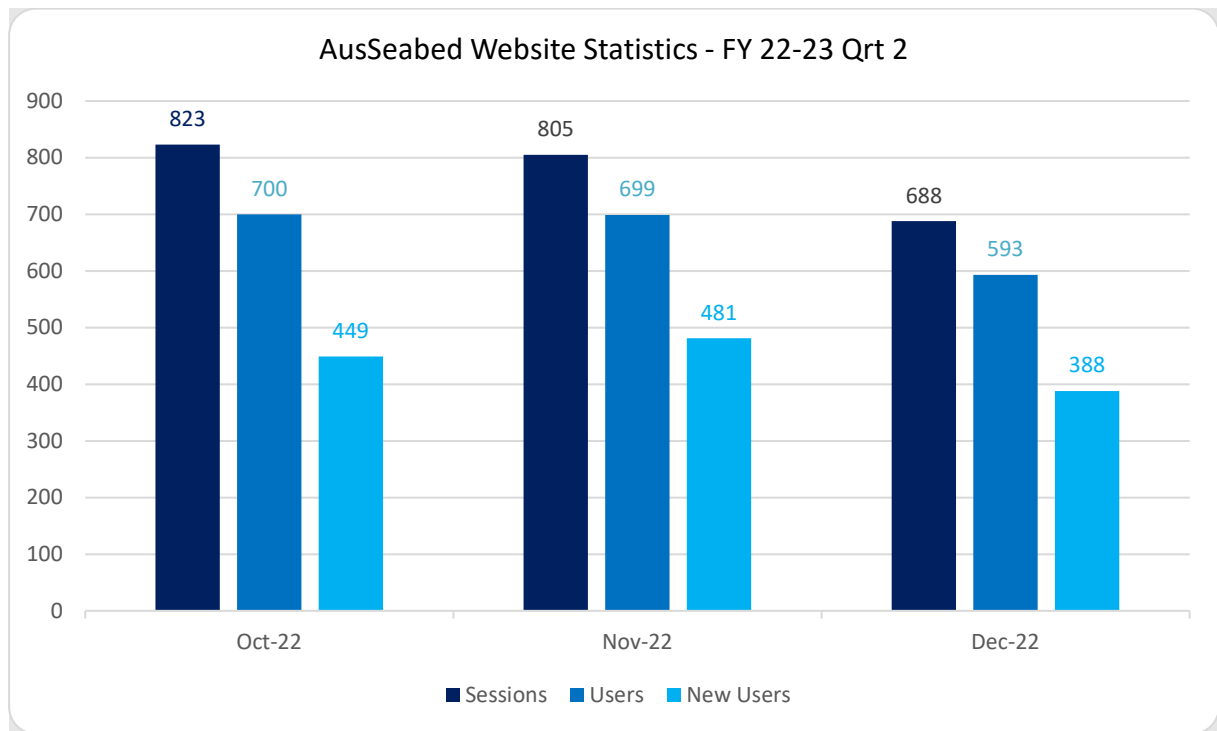


Figure 9 Number of sessions, users, and new users over the quarter for the AusSeabed webpage.

AusSeabed Marine Data Portal Uptake

Utilisation statistics for the Marine Data Portal are slightly up on the last quarter, with an increase in sessions of 8%, an increase in users of 6% and an increase of new users of 14.5%

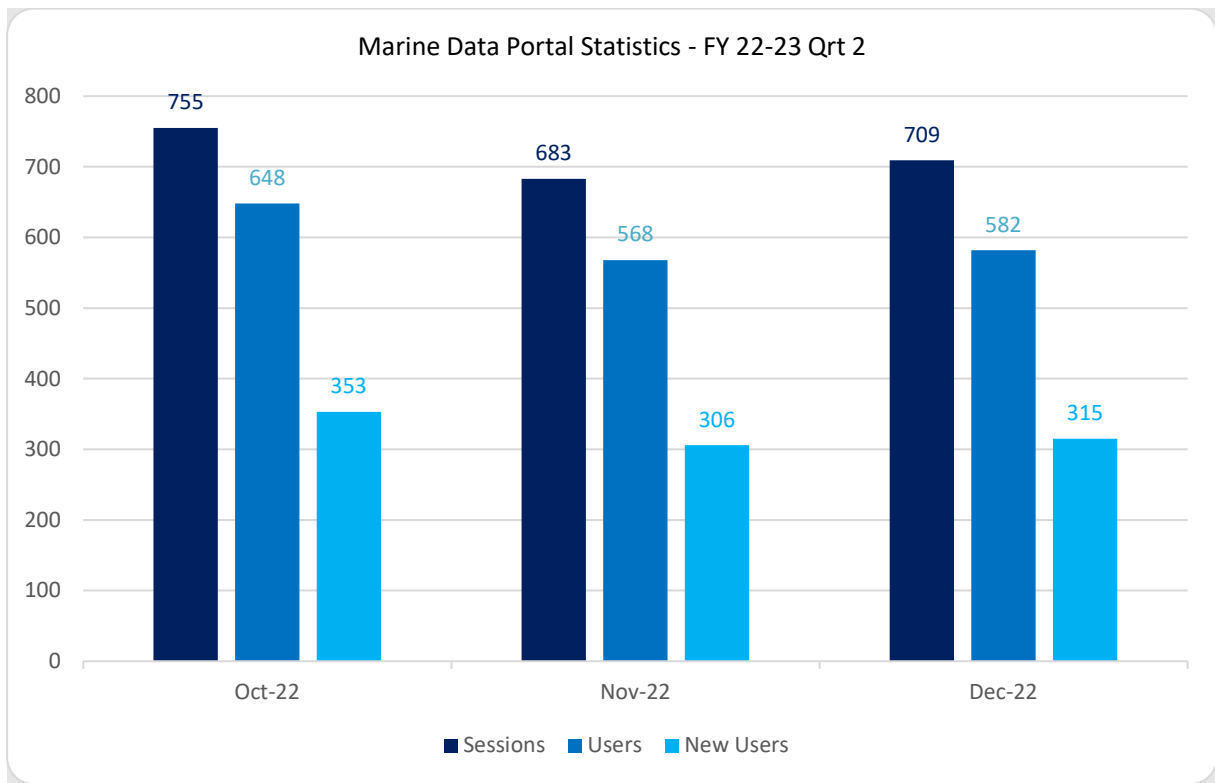


Figure 11 Number of sessions, users, and new users over the quarter for the Marine Data Portal.



7 Appendix A – Table of Published Products

FY 22-23 Quarter 2

Product Name	Entity	Persistent ID	Date Published	Status
Apollo Marine Park Bathymetry 2020 2m	Deakin	http://pid.geoscience.gov.au/dataset/ga/147191	10-Nov-2022	Revised
Southeast Tasmania and Southern Macquarie Ridge (AUSTREA2) Bathymetry 2000 120-440m	GA	http://pid.geoscience.gov.au/dataset/ga/147364	10-Nov-2022	Revised
Peterborough to Port Fairy Multibeam Survey (20180010S)	Deakin	http://pid.geoscience.gov.au/dataset/ga/147281	9-Dec-2022	New
Bonaparte and Browse basins 3D Seismic derived bathymetry compilation 2022 30m	UWA	http://pid.geoscience.gov.au/dataset/ga/147396	16-Dec-2022	New