

AusSeabed Quarterly Program Update

2021/22 Q1: July – September 2021

This report gives a progress update on AusSeabed program activities undertaken during July – October 2021. The activities outlined within this report have been taken from the [2021/22 work plan](#) and assessed against the AusSeabed pathway to impact document. The report is broken into four main sections providing a thematic update on the status of activities captured in Figure 1.

Please note that this style of report has been discontinued for 2021/22 and will be replaced with a more concise version for community distribution

1 Demonstrate the value of seabed mapping data for decision making

1.1.1 Govern and manage the program

Agreement with AAD executed, with AHO is under review with AHO, and with CSIRO under development. All aimed to be finalised by end of Q2

the two avenues for funding, National AODN and Proposal with Commonwealth Department are being explored.

1.1.2 Deliver annual webinar series

Two annual webinars/workshops were delivered in late August. In the first AusSeabed webinar “coordinating our seabed mapping efforts – are we there yet?”, Kim Picard presented a detailed overview of how far AusSeabed has come since 2018, and plans for 2021/22 and beyond!

The 2021 AusSeabed annual workshop introduces new members of the AusSeabed Steering Committee and included four practical sessions.

- Session 1 [00:05:49]: An introduction and user tutorial for a new Quality Assurance Tool (QAX) for multibeam echosounder data presented by Justy Siwabessy (GA), Lachlan Hurst (FrontierSI) and Matt Boyd (CSIRO).
- Session 2 [00:37:16]: An overview of the Hydroscheme Industry Partnership Program (HIPP) and the AusSeabed HIPP request tool presented by CMDR Nigel Townsend (AHO).
- Session 3 [01:17:50]: AusSeabed Marine Data Portal update and demonstration presented by Maggie Arnold (GA)

- Session 4 [01:29:35]: Towards a national seismic-derived bathymetry data asset presented by Ulysse Lebec (UWA)

See <http://www.ausseabed.gov.au/resources/news/latest-news/online-now-2021-ausseabed-webinar-and-annual-workshop> for more information and links to recordings.

2 Nationally coordinate seabed mapping activities and objectives

2.1.1 Publish key bathymetry datasets

The Australian Marine Parks Historical Seafloor Mapping Data Processing project has commenced. Other outputs are not due to be completed until the final quarter of the financial year.

Some delays from multiple events including: an unexpected shift in priorities that was needed to continue the goals of AusSeabed, an extended lock down across ACT which forced all staff to work from home, a week delay to starting Milestone 3 and complications processing historical bathymetric data. Despite this the project deadline is expected to be met.

Although the prioritised datasets are not yet published, there are several updates on bathymetry datasets in Australian Marine Parks (AMP).

- CSIRO have adjusted their priority order of bathymetry surveys to process and publish from a list AusSeabed provided. This includes R.V. Investigator and R.V. Southern Surveyor surveys. Note, R.V. Southern Surveyor surveys will be processed and published after all the R.V. Investigator surveys.
- The Tasmante survey (from the supplementary list of surveys in the prioritisation report) has been processed in AMP areas. This comes after an initial assessment of being impossible to work with. The results will eventually be made available through the AusSeabed Portal.
- Surveys BF2018_V01, IN2017_C01, IN2016_V01 from the supplementary list are either already published or in the process of being published.
- Additional data from the Bass Straight with good transits across AMPs will be made available to AusSeabed in the near future.

2.1.2 Deliver NESP/AusSeabed National Areas of Interest project

The NESP/AusSeabed National Areas of Interest was successfully funded in August 2021. The project aims to assist the planning and prioritisation of marine surveys (both physical and biological) by scoping a prioritisation framework and web tool. Focused workshops and targeted engagements with seabed mapping organisations will ensure the framework meets the needs of the Marine and Coastal Hub; key end users, such as Parks Australia; and the wider seabed mapping and biodiversity management community. Adoption and adaption of the AusSeabed Survey Coordination Tool will facilitate the development of a National Areas of Interest product to inform future survey planning. This product will support the needs of Parks Australia network Science Plans and consideration of information needs for Indigenous Protected Areas within Sea Country.

So far, governance and planning (MS 4.2.1), a desktop study (MS4.2.2) and work towards the first workshop on value prioritisation framework and metadata schema (MS 4.2.3, scheduled to be held for

November 3) has begun. The project initiation document (MS 4.2.1.2) is late, and marked at risk, although this is not a fatal risk as deliverables and scoping are being managed iteratively as needed.. Some project milestones are at risk relating to software development (MS 4.2.5.1/2), due to project dependent nature of development as this is slightly behind the revised schedule, however, development is happening locally while staging area is under construction.

2.1.3 Initiate Aus/US arrangement and workshop

The arrangement has been drafted and with organisation for review. The planning of the Inaugural workshop on 6 and 7th Dec is under planning with the working group composed on NOAA, CSIRO, GA and AHO representatives. Agenda and speaker invites have been sent. Participant list is being refined.

3 Improve the curation and delivery of seabed mapping data

3.1.1 Publish guidelines

the Satellite Derived Bathymetry guidelines have been drafted under the lead of AHO. Reviewers/working group is being identified.

4 Improve the standards and quality related to seabed mapping procedures and data management

4.1.1 Deliver Portal enhancements

An implementation plan has been developed using the results of a User survey that was distributed at the start of the financial year. The implementation plan has three components, defining work packages and epics around user stories.

- User stories 1: One-stop-shop for bathymetry data (Desktop Launcher)
- User stories 2: Simplifying access to downloads (Streamline)
- User stories 3: Exploring and customising maps and data

4.1.2 Deliver integrated delivery pipeline

The integrated delivery pipeline is the largest activity of the work plan and includes the components necessary to deliver a complete infrastructures (see detailed summary table attached). This activity has yet to be fully scoped.

Work on product specifications progressed in this quarter. Initial progress was made on L3 Bathymetry product before recognising the need to establish preceding specifications to ensure consistency and lineage. The team agreed to define a 'Bathymetry focus' starting at raw data (L0) and progressing to

gridded bathymetry product (L3). A Template was agreed upon to provide consistency for survey metadata compilation. The initial list of product specifications was prioritised. Work was completed on the L0 MBES Data Package and is being prepared for review and feedback

4.1.1 QAX v.1 Feedback

In July 2021, QAX v.1 was completed. Development of QAX documentation and communication products was completed. This included two tutorial videos, a long one for general audiences and the short one for hydrographic surveyors, to promote the release and encourage key user and stakeholders to use the product.

QAX v.1 and tutorials were presented at AusSeabed workshop in Aug 2021 to over 130 attendees. Some feedbacks have already been received through the feedback form and the QAX github repo, and either actioned (bug) or recorded for future work.

Collaboration with NOAA/CCOM was revisited and is being further strengthen, through development of governance process through the next quarter, to ensure coordinated and collaborative development of the project. Promotional material (social media) for the official launch of v1 was done in coordinated fashion. See <http://www.ausseabed.gov.au/qax> and

4.1.2 Deliver ARDC GMRT-AusSeabed platform prototype

Over the past quarter the end-user platform requirements report (MS 3.3.2) and the platform data requirements design report (MS 3.3.3) were completed with the publication of three reports. These reports are made available via a new project web page on the AusSeabed website <http://www.ausseabed.gov.au/gmrt>. A promotional video has also been completed in the past quarter and is also available via the web page.

The prioritisation of test datasets to ingested into the platform and published on AusSeabed has been delivered. Work to deliver the datasets to AusSeabed from Deakin University, James Cook University and CSIRO is underway (MS 3.3.5). A draft of the future state architecture (MS 3.3.7) is near completion, and being presented to the AusSeabed and GMRT-AusSeabed steering committee in the coming weeks for feedback. Work on metadata harvesting and tileB ingestion (MS3.3.8) and point-cloud conversion services (MS 3.3.4) has also begun.

AusSeabed Quarterly Data Report

2021/22 Q1: July – September 2021

1 Newly published AusSeabed partner contributions to the AusSeabed Portal

From July to September 2021, we have received 11 datasets to publish on the AusSeabed Marine Data Portal from the Schmidt Ocean Institute (3), James Cook University/Schmidt Ocean Institute (1), Curtin University/University of Western Australia (1), Curtin University/Geoscience Australia (1), Geoscience Australia (1), University of Western Australia (2), and CSIRO (3). The values next to each organisation are representative of the number of surveys published. The surveys covered a total of 327,182 km². The large area coverage is due to the UWA dataset covering a large area of north Western Australia (173,593 km²).

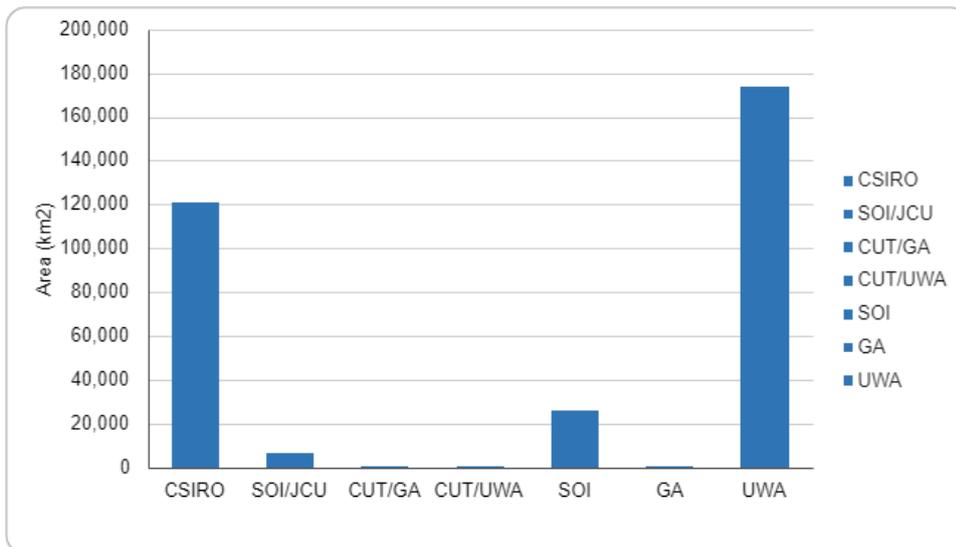


Figure 1 Survey area coverages published by organisation during period 1st July 2021 – 30th September 2021. Note that the area calculations do not account for overlaps and that there is not a direct correlation to the datasets received, as some are legacy products received prior to 2019

2 AusSeabed Portal Enhancements

The AusSeabed 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 have been working with CSIRO over the last year to deliver their bathymetry datasets with standardised visualisations through the Portal. We've also been working with them to standardise metadata and product specifications to ensure consistency in the datasets we deliver. We have been focussing on the Portal enhancements documentation and have a few functions that have been developed, but not yet ready for release.

- 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. This can be accessed via the AusSeabed Marine Data Portal from the layers tab under Sedimentology. In future, we will be developing product description documentation.

3 AusSeabed Portal Statistics

For the period between 01 July 2021 to 30 September 2021: A total of 2,831 unique page views, with an average of 9 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. AusSeabed also monitors usage statistics from the GA Catalog (eCat), GA AusSeabed Portal, the Elevation Information System (ELVIS), and AODN (Figure 2).

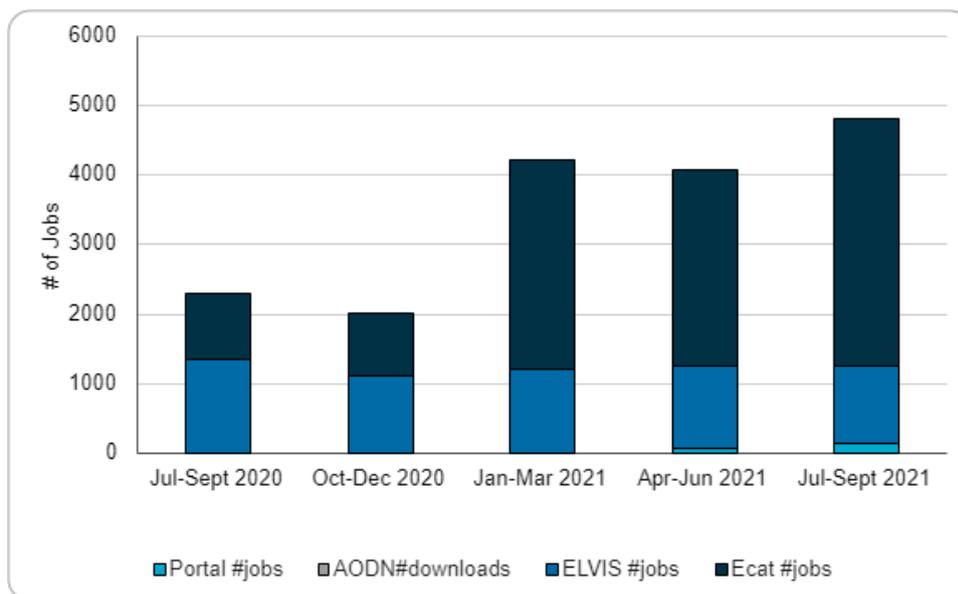


Figure 2 Combined data downloads from the GA Catalog (eCat), ELVIS, AODN and the AusSeabed Marine Data Portal. Source data: ELVIS, eCat, AODN and AusSeabed Portal usage statistics. Note: There was an anomaly of 70,809 downloads over two days during this quarter for eCat jobs that is not reported. Additionally, the AusSeabed Portal statistics were not captured between July 2020 and May 2021 and for the July-Sept quarter, we are reporting on an additional dataset (NSW DPIE LiDAR bathymetry) available in ELVIS that was not accounted for previously.

4 Client Requests

AusSeabed received a total of 45 enquiries during this quarter. These focused on functionalities of the portal, joining the mailing list and availability of other types of data (e.g. sub-bottom data and other sources of bathymetry data). On average, AusSeabed provided same day initial responses to clients and closed the enquiry within 5 days of the request.

Table 1 Total number of enquiries by month for July-Sept 2021

| | October | November | December | Total |
|-----------------|---------|----------|----------|-------|
| No of enquiries | 9 | 12 | 7 | 28 |

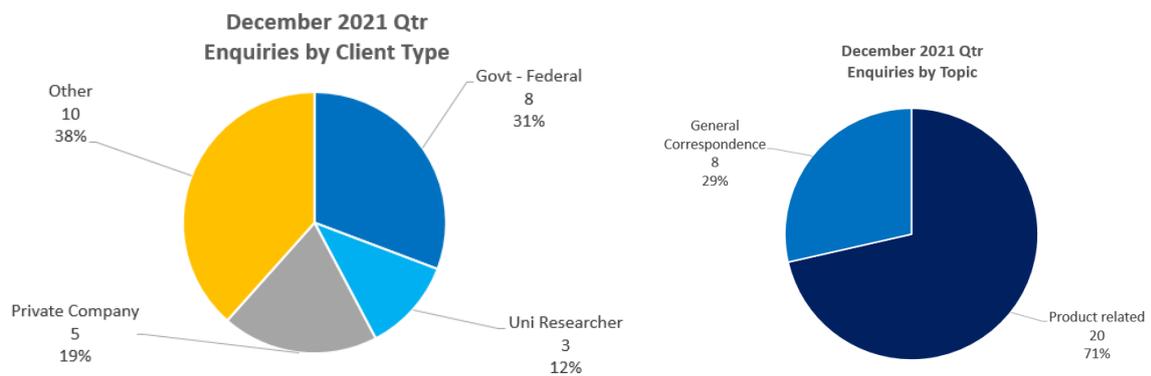


Figure 1 Distribution of client requests received during this quarter by client type (top) and by nature of enquiry (bottom).

5 Survey Coordination Tool Uptake

Several enquiries received and followed up during the quarter with one new registrant.

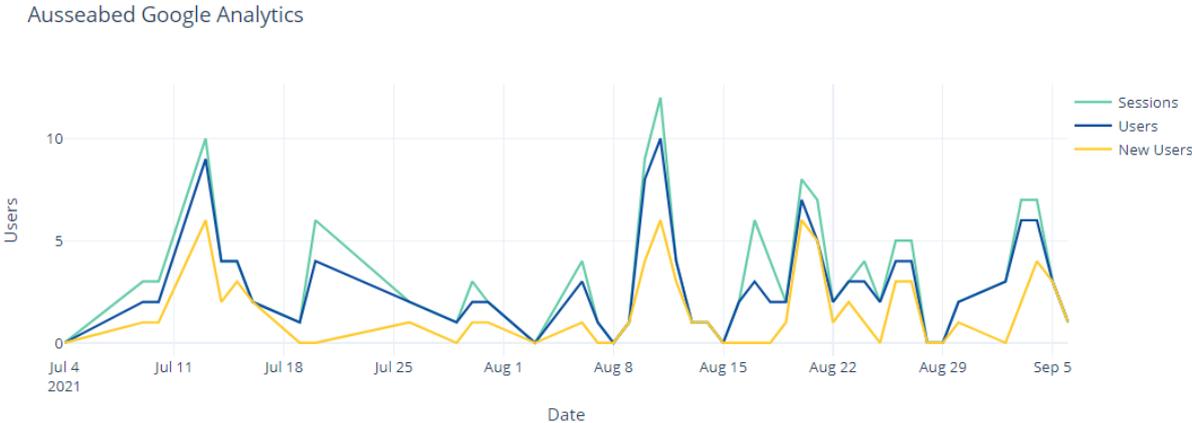


Figure 2 A time-series of usage over the quarter for the Survey Coordination Tool.