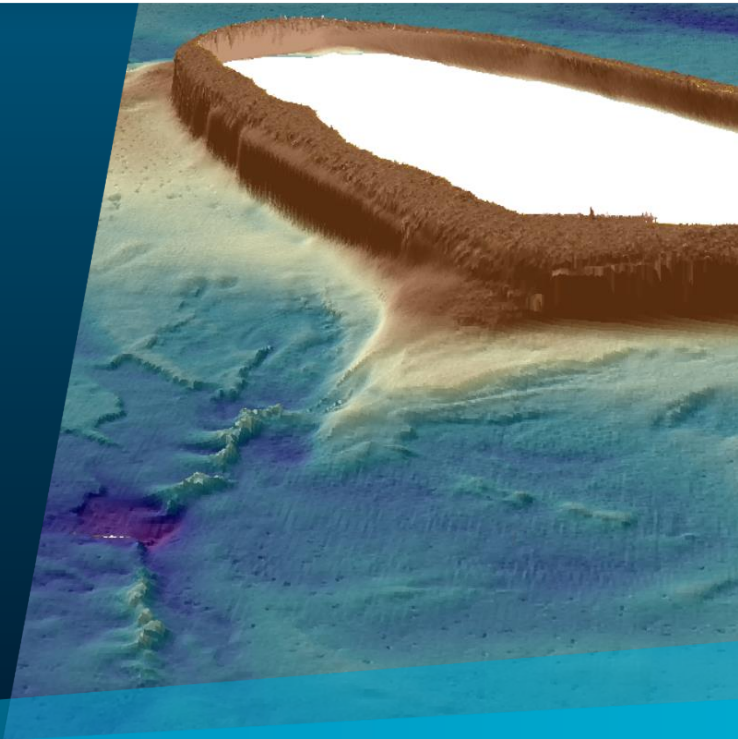
# AusSeabed Quarterly Showcase

Aug – Nov 2020

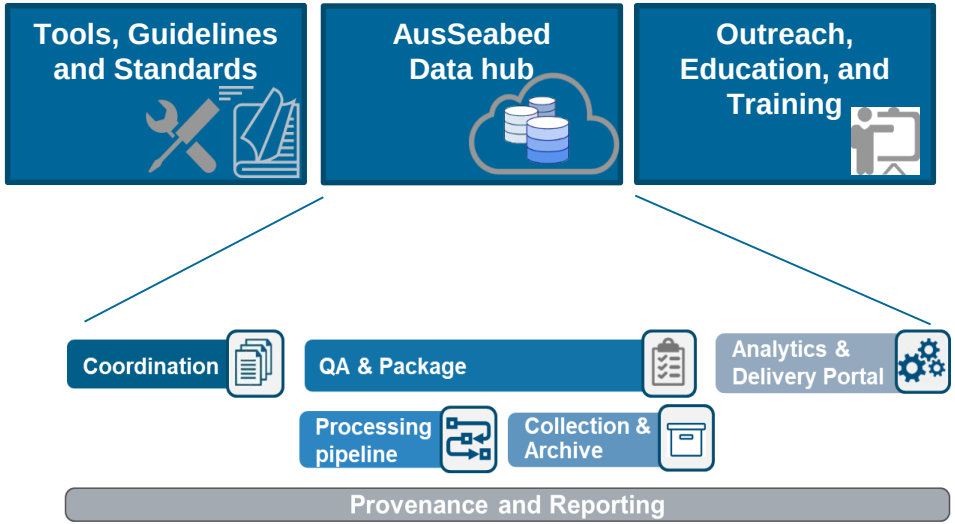


Kim and everyone

23 November 2020

# Agenda

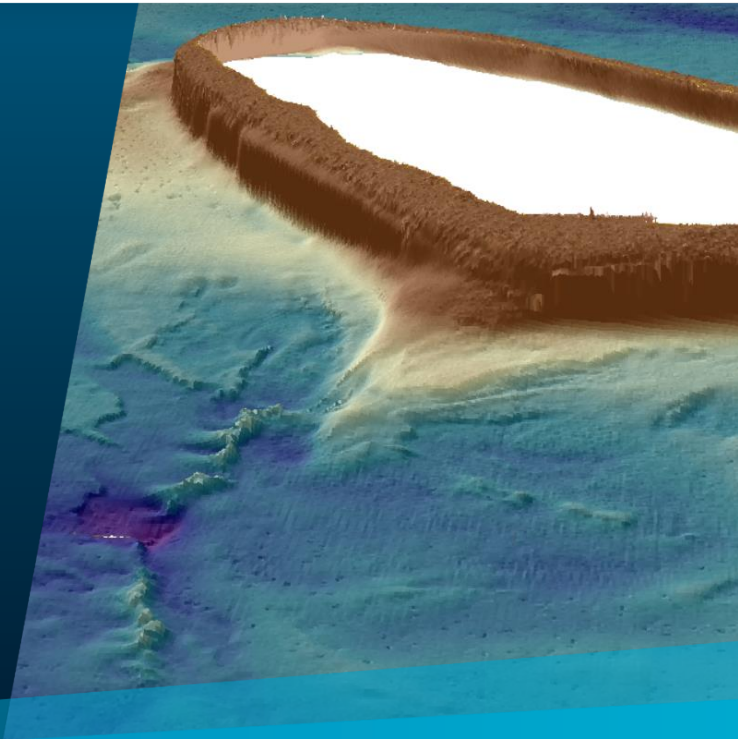
- Welcome and Introduction
- Outreach
- Data Hub
  - Survey Coordination Tool
  - Quality Assessment Tool (QAX)
  - Cloud infrastructure
  - Data Warehouse and Data Processing
  - Data Publication to Portal
  - Data Hub Policy and Management
- Next PI vision
- Open Discussion



# From Ship to Shore to Portal

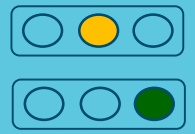
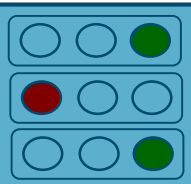
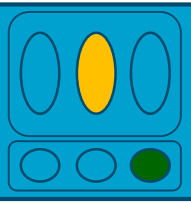
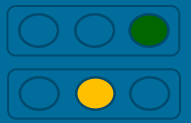
## Infrastructure for Rapid Publication

AusSeabed Quarterly Showcase - Aug to Nov 20



# Program objectives

# Program Increment Goals

| Program Objectives | PI Goals | Status |
|---|---|---|
| Improve coordination of activities relating to seabed mapping. | 1. National Prioritisation Framework revisited<br>2. AusSeabed welcoming new collaborators and partners |  |
| Expand the number of bathymetric products openly accessible through the AusSeabed platform. | 1. Increase in data published on portal<br>2. HIPP data published in time to celebrate the 100th<br>3. Operational federated hub (CSIRO-GA) |  |
| Secure an enduring AusSeabed program to continue realising benefits to the community relying on seabed mapping. | 1. Collaborative agreement signed by EB members<br>2. AusSeabed 10 year plan published<br>3. Economic Benefit Analysis delivered<br>4. Program Communication Strategy published<br>5. Webinar series successfully delivered |  |
| Deliver products and services focused on the needs of key stakeholders and end-users. | 1. End-users analysis leading to new portal functionalities<br>2. QA tools (QAX) delivered providing efficiency-gain and consistency |  |

# Data Hub: Status update

Maturity level

Discovery | prototype | Operational v.1 | Operational v.2

Coordination tool – Upcoming surveys; next AHO request and National Priorities

Processing pipeline – AWS run

QA & Package – QA tools on Github; MBES-centric

Collection & Archive – Data strategy, AWS, Portal connected

Provenance and Reporting

Analytics & Delivery Portal – Marine persona of GA Portal; UX design

# Outreach

## AusSeabed Quarterly Showcase

Aero Leplastrier | Hannah Evans | Ralph Talbot-Smith | Tim Ingleton

November 2020

# Key Outreach highlights July–October

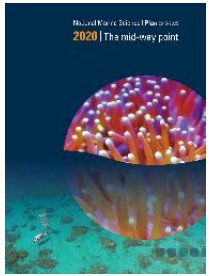
- Delivered the AusSeabed Webinar Series
- Drafted a First Nations Collaboration Plan
- Drafted an Outreach and Communications Strategy

# AusSeabed Webinar Series: Bringing the Seabed to you

**Purpose**: to inform and engage the seabed mapping community in the absence of the AMSA conference.

**Description:** 4 sessions from June-September 2020 that included 20 talks and 5 workshop activities



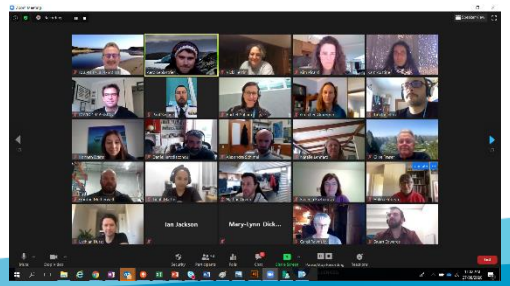






**Topics**: Ntl-Intl. perspectives on seabed mapping, Mapping for Management, Data Sharing and Collaboration, Applications of Seabed Mapping

**Impact:**

- Strengthened dom. and intl. networks
- Publicised tools, standards and digital infrastructure delivered through the AusSeabed program.



260 participants

117 organisations

20 countries

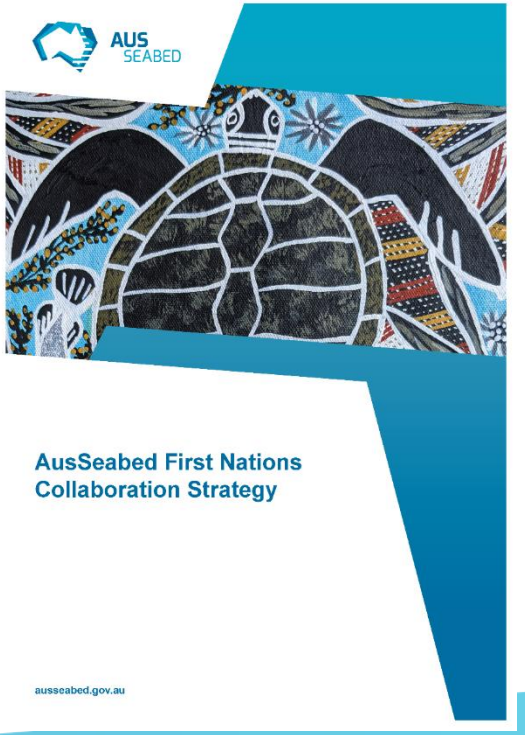
# First Nations Collaboration Strategy

**Purpose:** Develop a guiding set of principles that encourage respectful and impactful knowledge sharing and collaboration with First nations peoples across Sea Country.

**Progress & Next steps:** The first draft completed and circulated for review with the SC. Workshop draft with wider community

**Desired Outcomes:**

- Improve collaboration with Sea Country Custodians
- Increase data benefit to support cultural heritage by building awareness and improving accessibility for Traditional Custodians



# AusSeabed Communications and Engagement Strategy

**Purpose:**

- Maximise impact and boost efficiency of internal and external communications
- Continue building a community of supportive stakeholders and active collaborators
- Empower AusSeabed community to confidently champion the AusSeabed program.

**Progress & Next steps:** The first draft is almost complete and will be circulated for review with the SC in Dec. for endorsement and finalisation in February

**Desired Impacts:** Increase in number of active collaborators

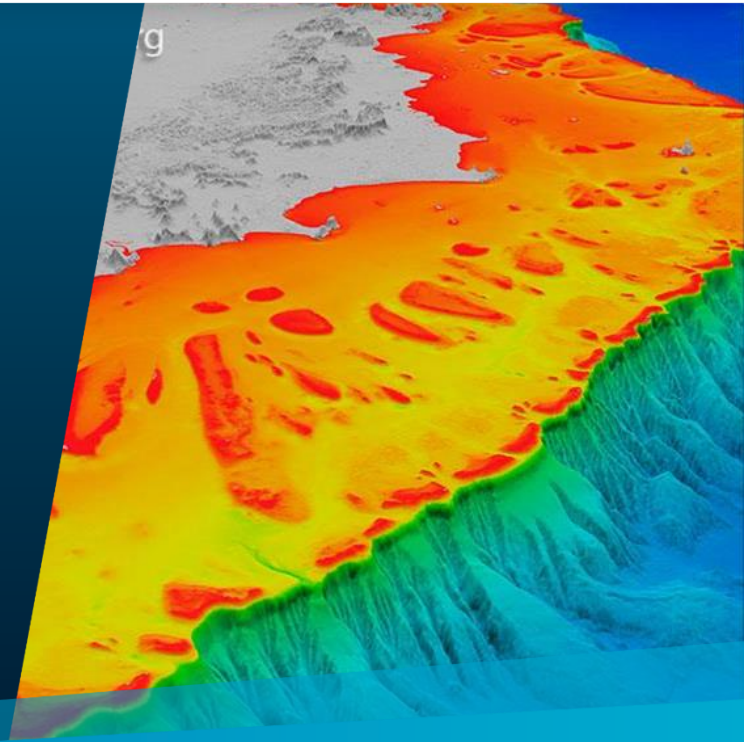
Greater awareness and familiarity of AusSeabed activities and resources

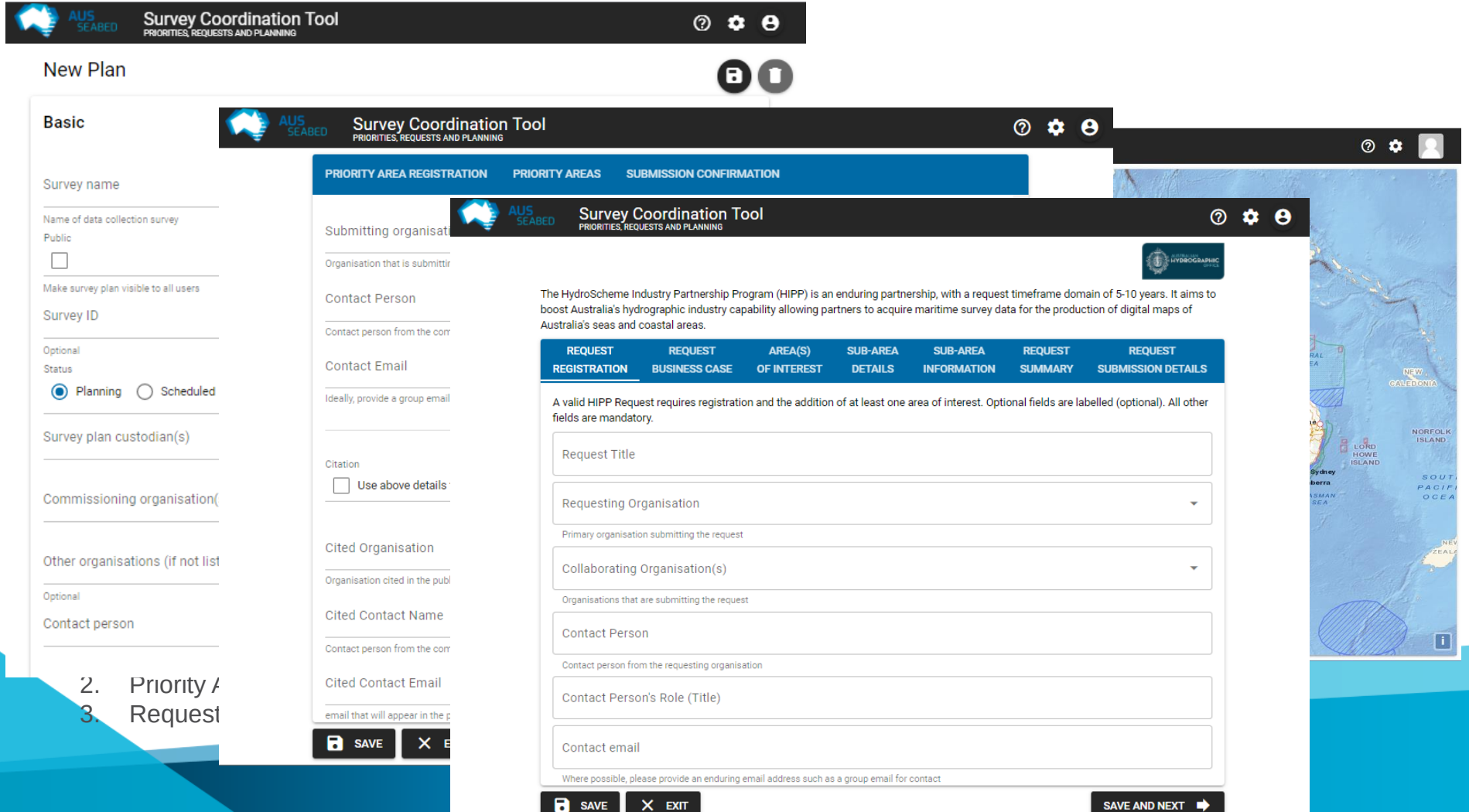
# ASB Survey Coordination Tool

AusSeabed Quarterly Showcase

Lachlan Hurst | Natalie Lennard

November 2020

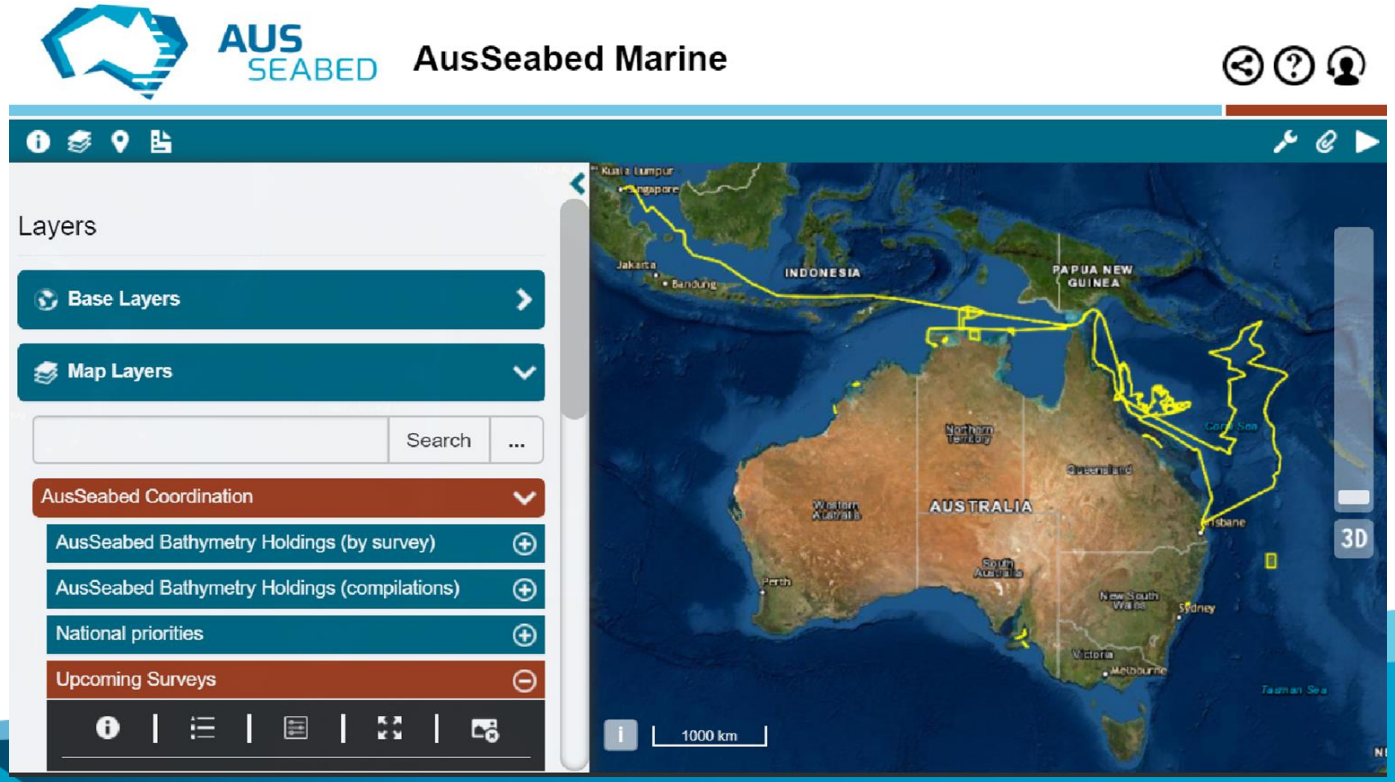



Survey Coordination Tool
PRIORITIES, REQUESTS AND PLANNING
New Plan
Basic
Survey name
Name of data collection survey
Public
Make survey plan visible to all users
Survey ID
Optional
Status
Planning
Scheduled
Survey plan custodian(s)
Commissioning organisation(
Other organisations (if not list
Optional
Contact person
2. Priority A
3. Request
Survey Coordination Tool
PRIORITIES, REQUESTS AND PLANNING
PRIORITY AREA REGISTRATION
PRIORITY AREAS
SUBMISSION CONFIRMATION
Submitting organisat
Organisation that is submittir
Contact Person
Contact person from the corr
Contact Email
Ideally, provide a group email
Citation
Use above details
Cited Organisation
Organisation cited in the publ
Cited Contact Name
Contact person from the corr
Cited Contact Email
email that will appear in the p
SAVE
Survey Coordination Tool
PRIORITIES, REQUESTS AND PLANNING
The HydroScheme Industry Partnership Program (HIPP) is an enduring partnership, with a request timeframe domain of 5-10 years. It aims to boost Australia's hydrographic industry capability allowing partners to acquire maritime survey data for the production of digital maps of Australia's seas and coastal areas.
REQUEST REGISTRATION
REQUEST BUSINESS CASE
AREA(S) OF INTEREST
SUB-AREA DETAILS
SUB-AREA INFORMATION
REQUEST SUMMARY
REQUEST SUBMISSION DETAILS
A valid HIPP Request requires registration and the addition of at least one area of interest. Optional fields are labelled (optional). All other fields are mandatory.
Request Title
Requesting Organisation
Primary organisation submitting the request
Collaborating Organisation(s)
Organisations that are submitting the request
Contact Person
Contact person from the requesting organisation
Contact Person's Role (Title)
Contact email
Where possible, please provide an enduring email address such as a group email for contact
SAVE
EXIT
SAVE AND NEXT
NEW CALEDONIA
NORFOLK ISLAND
LORD HOWE ISLAND
Sydney
Canberra

Survey Coordination Tool

# Where does the information go?

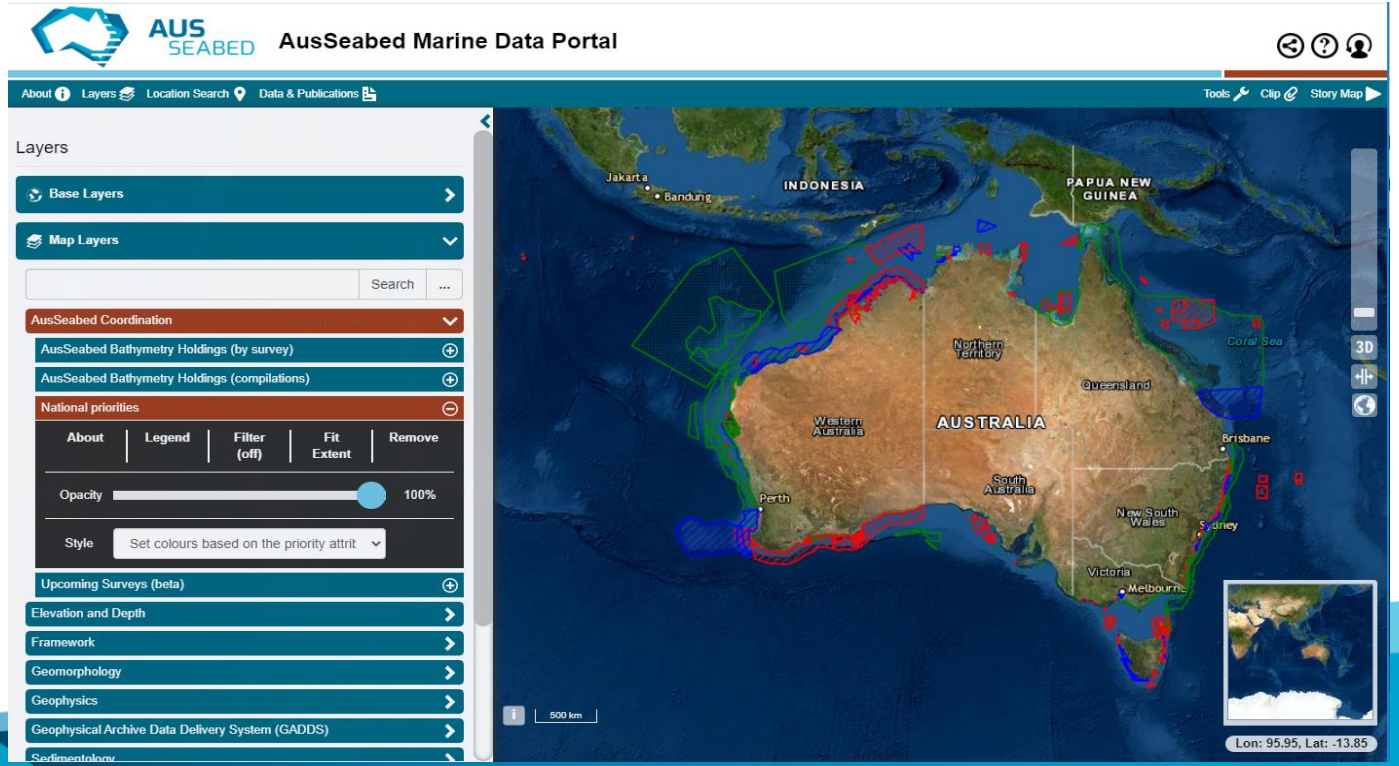
## Survey Plans = Upcoming survey layer



Survey Coordination Tool

# Where does the information go?

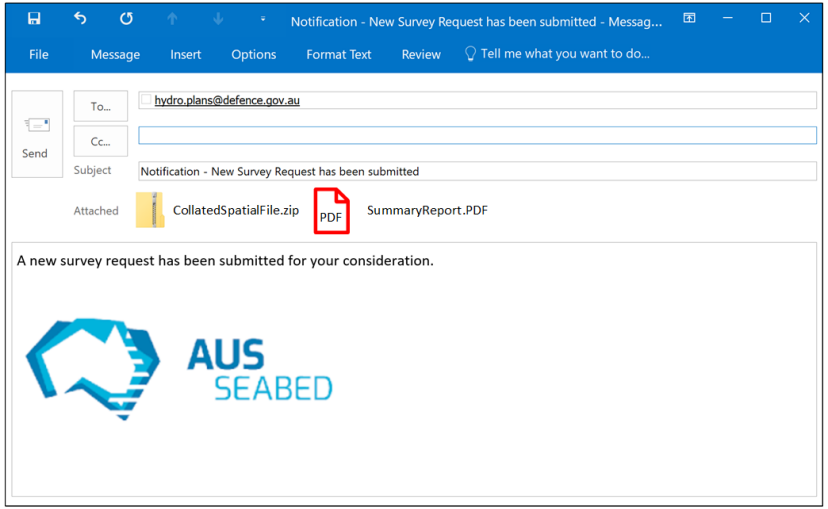
## Priorities = National Priorities Layer



Survey Coordination Tool

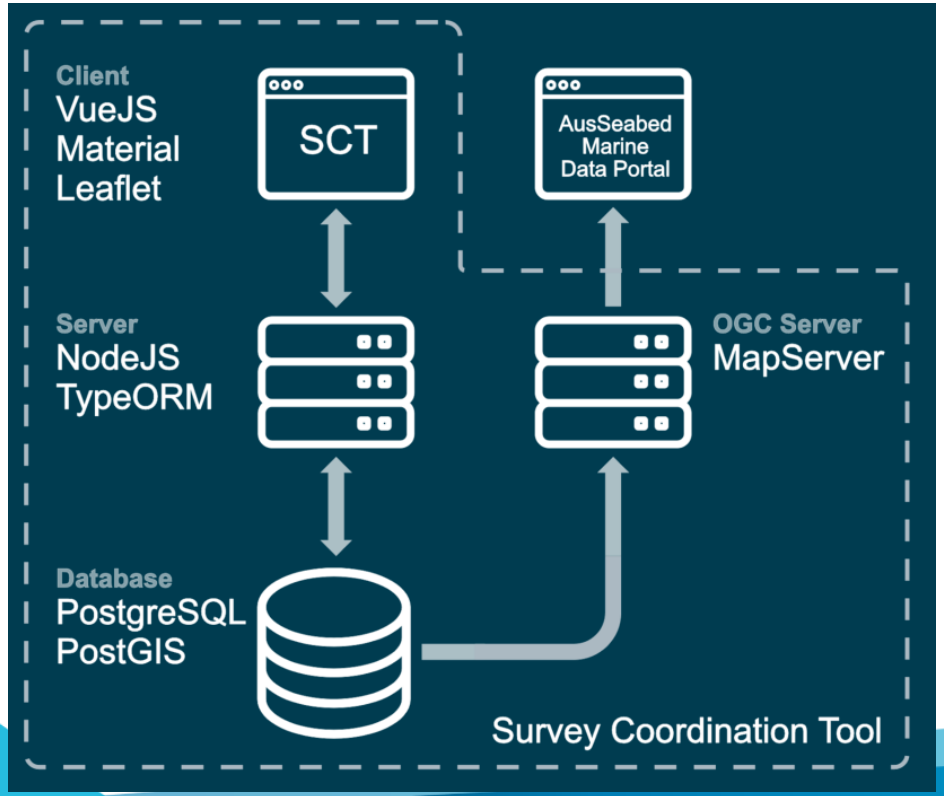
# Where does the information go?

**Requests = Formatted email to the AHO for consideration in their survey planning process**




Survey Coordination Tool

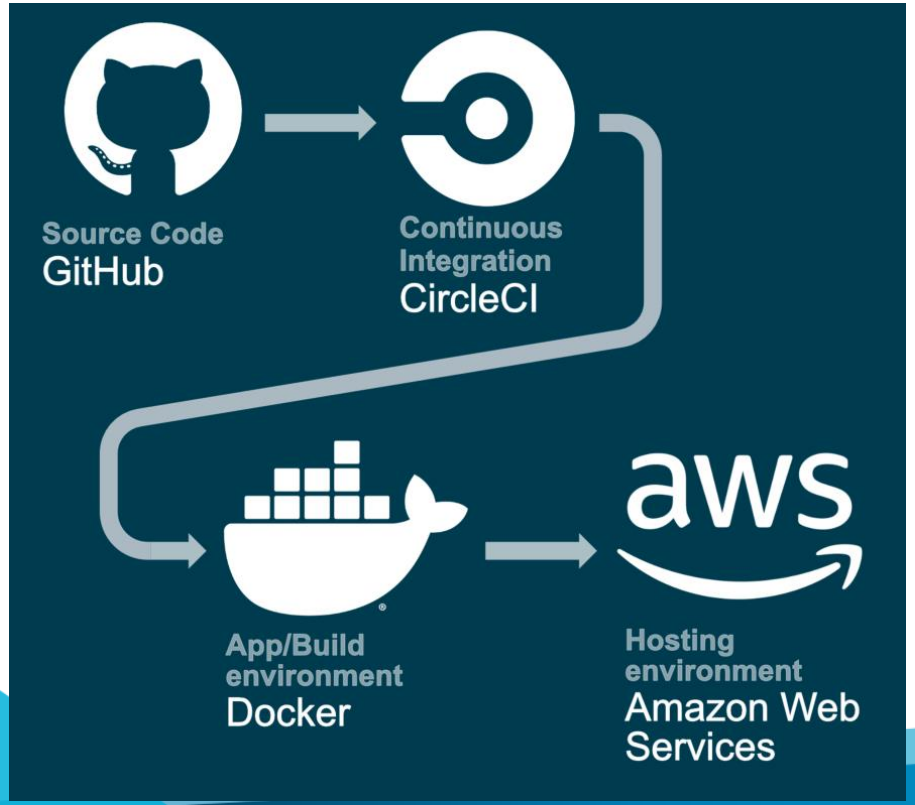
# Technology Stack




- Utlises a common web application technology stack
- Geospatial specifics handled by Leaflet and PostGIS
- SCT is open source as are all the libraries it uses
- MapServer publishes geospatial data stored in the SCT database via Open Geospatial Consortium (OGC) web services; specifically WMS and WFS

Survey Coordination Tool

# Infrastructure




- GitHub used to store source code
- Continuous Integration system (CircleCI) builds development and production releases. Development deployment is automated.
- Docker used to provide automated consistent build environments.
- Production and staging (development) instances of SCT are hosted in AWS

# Survey Coordination Tool - Goals for next PI…..

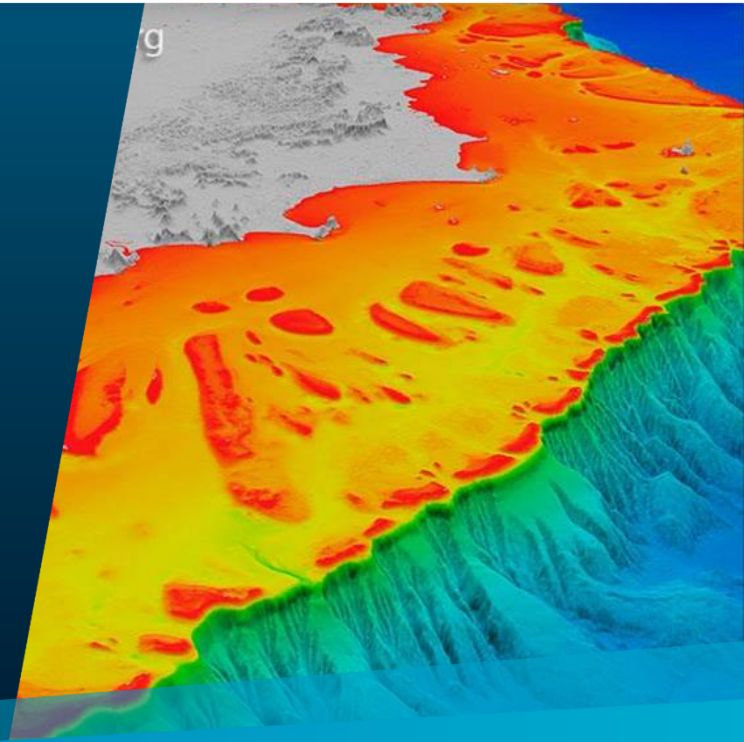
- Continue to:
  - support the user base, and increase the uptake of the tool
  - develop a backlog based on user feedback to form the foundations of future releases.
- Scoping the system requirements for supporting the National Prioritisation Framework

# ASB Quality Assurance tools

AusSeabed Quarterly Showcase

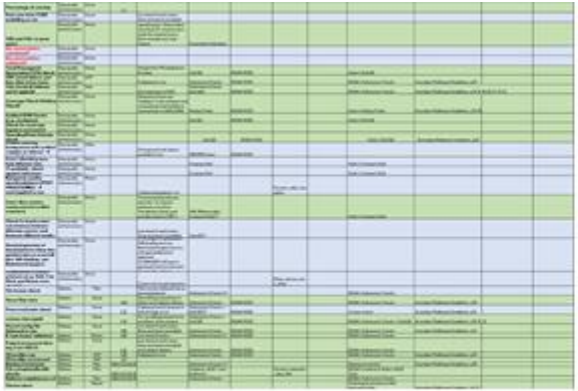
Matt Boyd | Lachlan Hurst

November 2020



## Quality Assurance tools

# History

https://www.hydroffice.org/

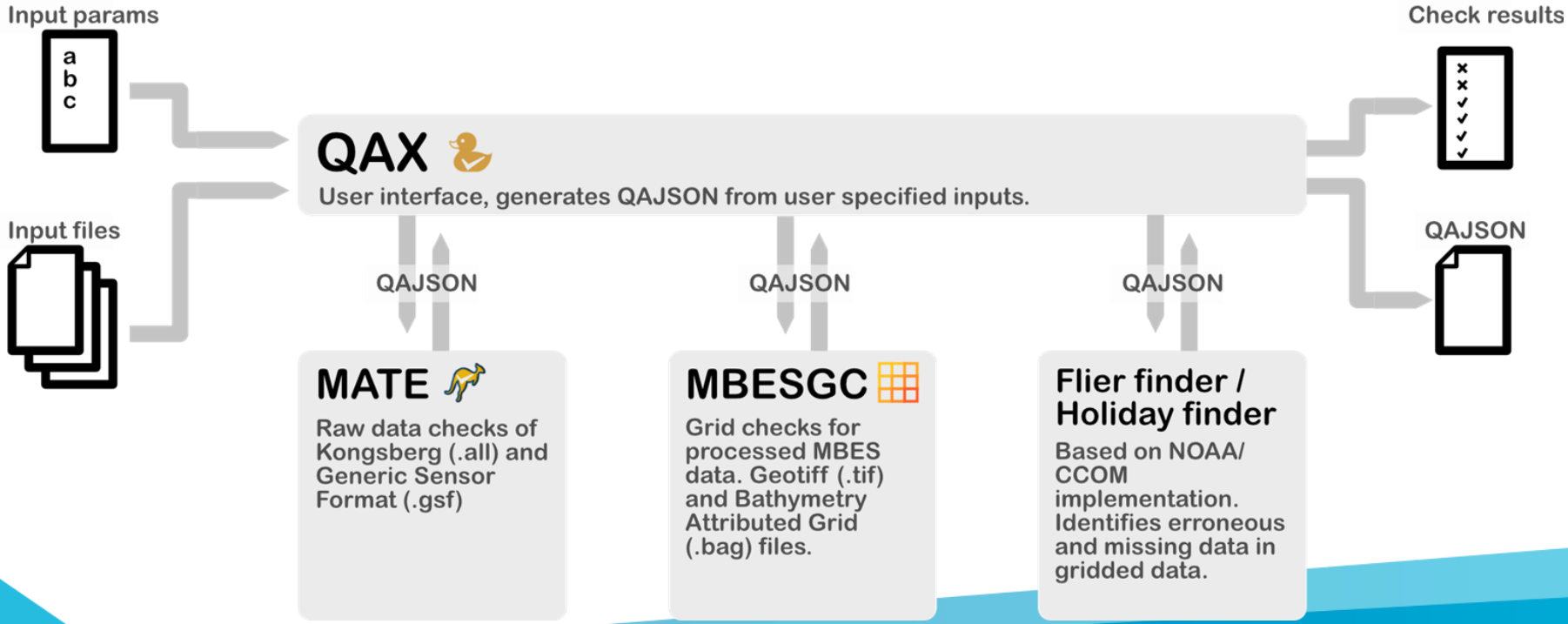
https://github.com/hydroffice/hyo2_qax

## Quality Assurance tools

# Open Source

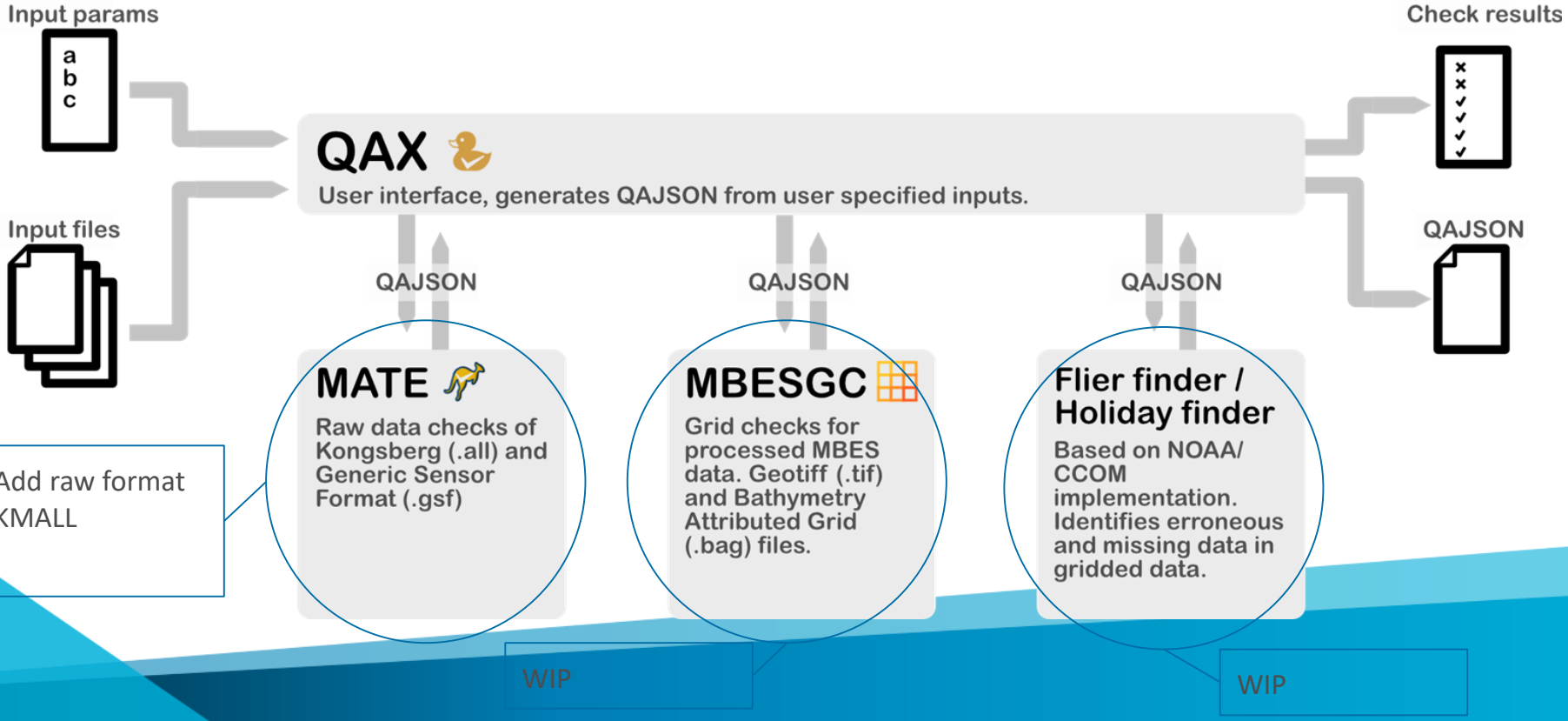
Quality Assurance tools

# Overview



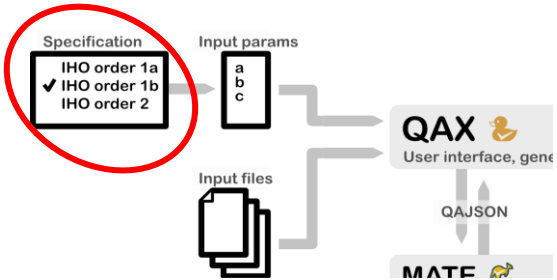
Quality Assurance tools

# Next Steps

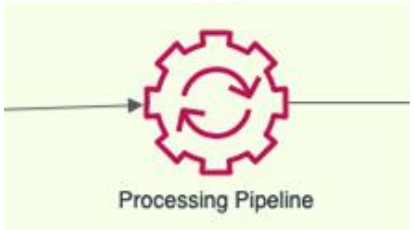


# Next Steps

- Once previous is completed will have what we believe to be a minimum viable product (MVP)
- Ambitiously wanting use of MVP in January next year
- Look to obtain feedback from users
- Following that plan is to further embed the tool within automated processes.



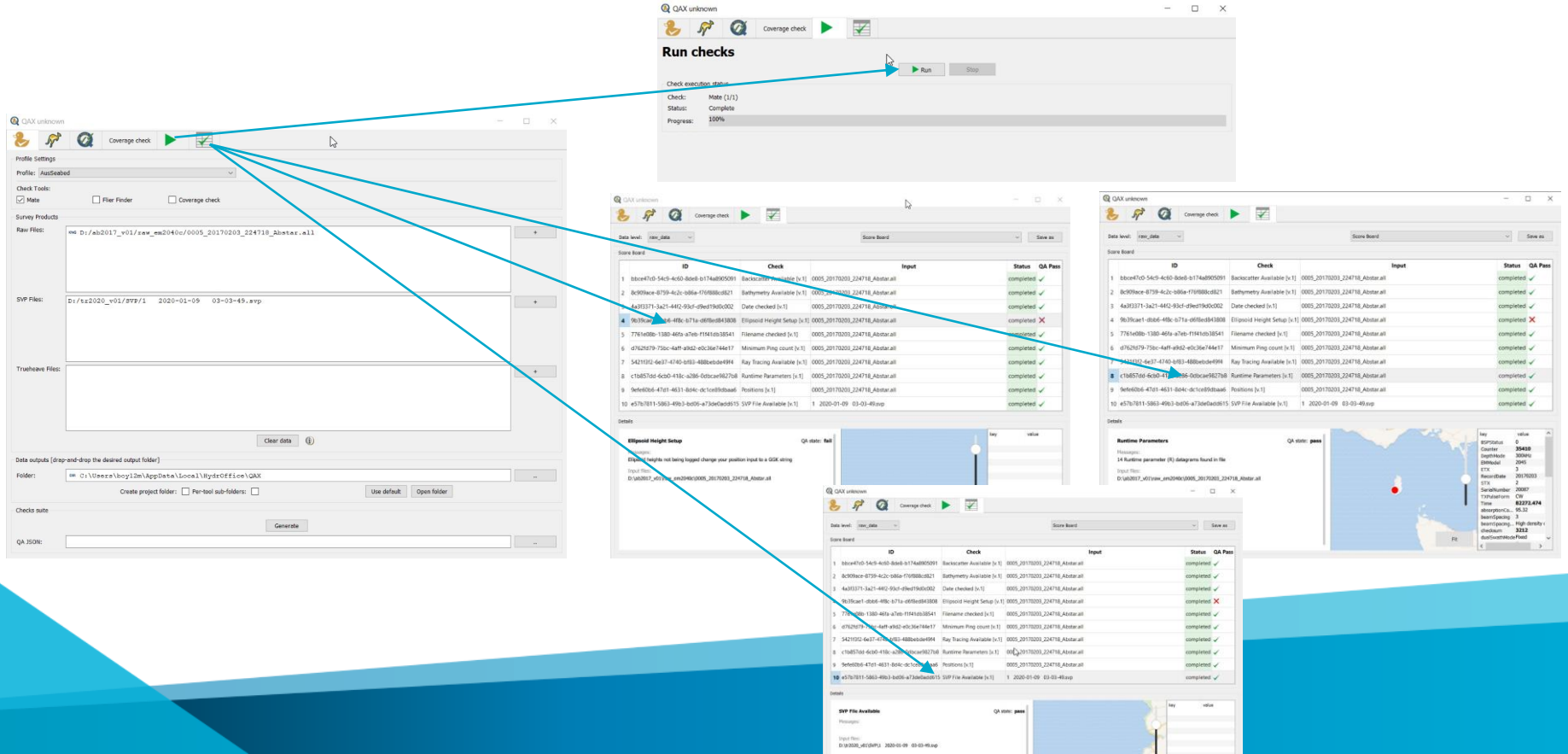

Support user input of specification




Integration of QA tools into processing pipeline

## Quality Assurance tools

# QAX

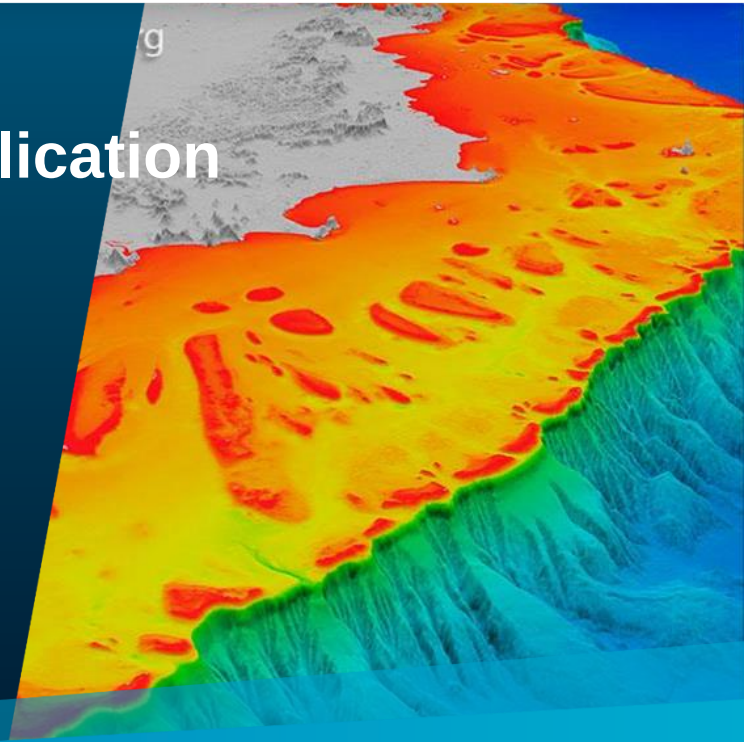


# Data Processing, Delivery and Publication

AusSeabed Quarterly Showcase

Maggie Arnold | David Penton | Justy Siwabessy |
Michele Spinoccia | Natalie Lennard |

November 2020



# Data Delivery Processing and Publication

- **Publication Schedule** now on the AusSeabed website

## Publication Schedule

### Bathymetry Publication Schedule

The AusSeabed Publication Schedule is a list of seabed mapping surveys that are intended for publication on the AusSeabed Marine Data Portal. Currently, this process is a collaboration between Geoscience Australia and CSIRO, but is intended to expand in future with more AusSeabed data collaborators.

While AusSeabed aims to publish data to the level of adherence based on the requirements stated in the AusSeabed multibeam guidelines (version 1), we will also publish interim products (version 0) that are currently available, but have not yet been standardised (version 1). Users should be aware that V1 products will always supersede V0 products.

The status of each survey indicates the level of completeness, ranging from:

- **New**: The survey has been newly added to the schedule and has not yet progressed in the publication queue,
- **On Hold**: The survey has not yet progressed in the publication queue,
- **In Progress**: The survey is in progress of being published,
- **Published**: The survey is published on the AusSeabed Marine Data Portal and is available for viewing and downloading,
- **Not Applicable (N/A)**: The survey has been published at a standardised level (version 1), and does not need to be published at a version 0 level.

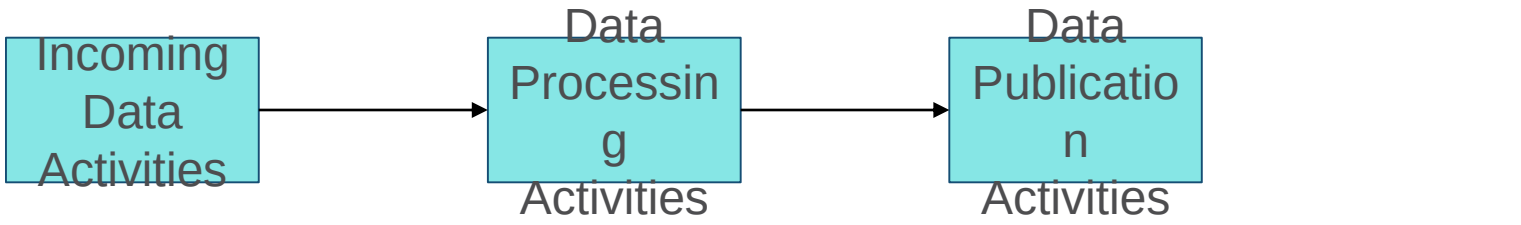
The Publication Schedule is updated weekly and once surveys are published on the AusSeabed Marine Data Portal, they will be removed from the table after a fortnight.

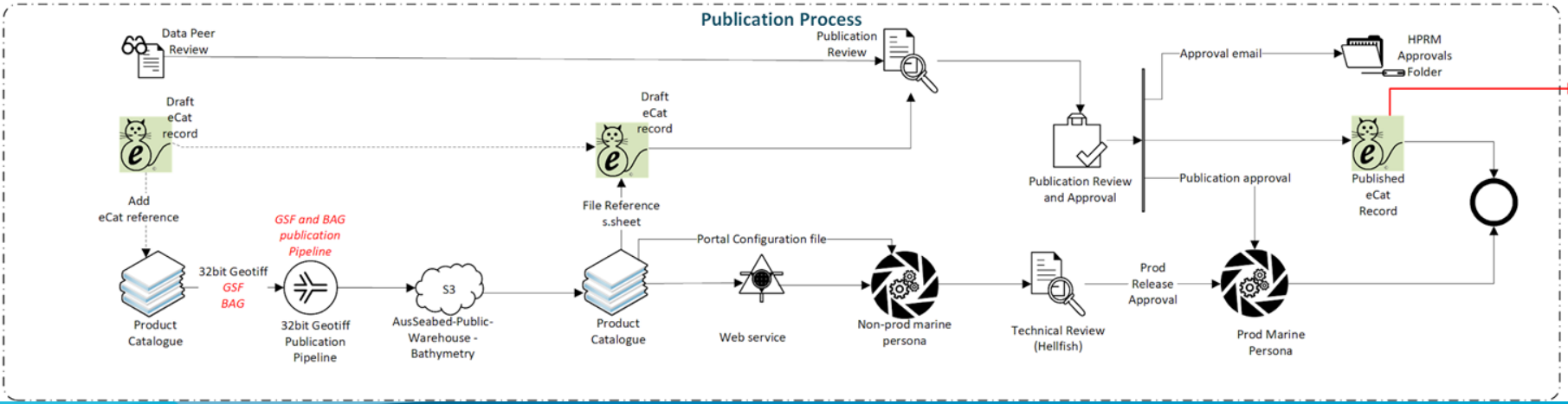
If you are interested in more information or would like to become an AusSeabed collaborator, please contact us at ausseabed@ga.gov.au.

Publication Schedule for GA and CSIRO bathymetry data : AusSeabed website

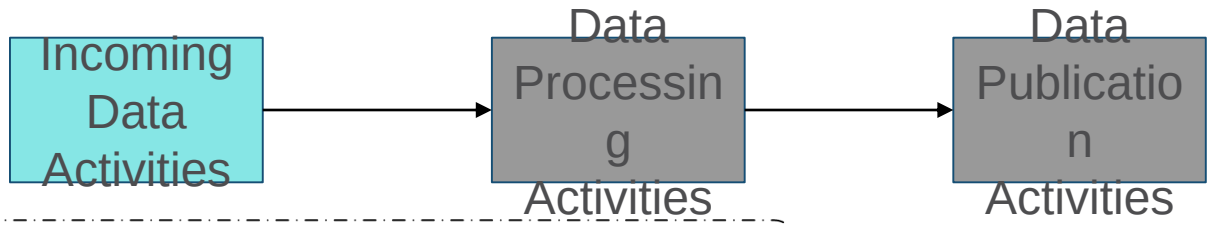
| Estimated date of release | Entity to release | Dataset label | Collecting Entity | Survey year | Status |
|---|---|---|---|---|---|
| 24 October 2020 | GA | Elizabeth Middleton reefs V1 | NESP | 2020 | In Progress |
| 24 October 2020 | GA | Outer Darwin Harbour V1 | GA/NT/AIMS | 2015 | In Progress |
| 30 October 2020 | GA | Bynoe Harbour V1 | GA/AIMS/NT | 2016 | In Progress |
| 20 November 2020 | GA | Davis Coast Survey 2017 V1 | GA/AAD/AHO | 2017 | On Hold |

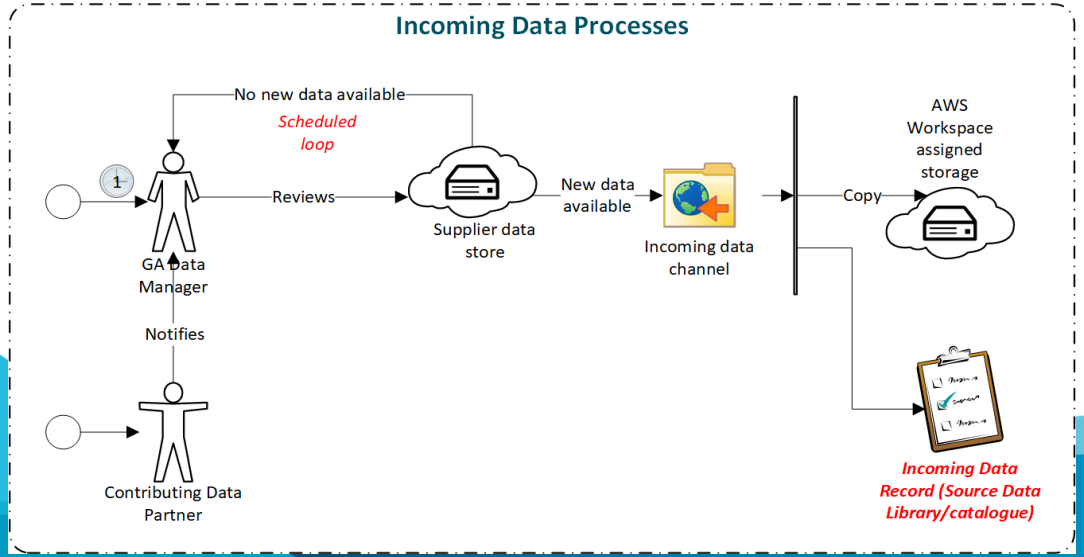
# Data Delivery Processing and Publication



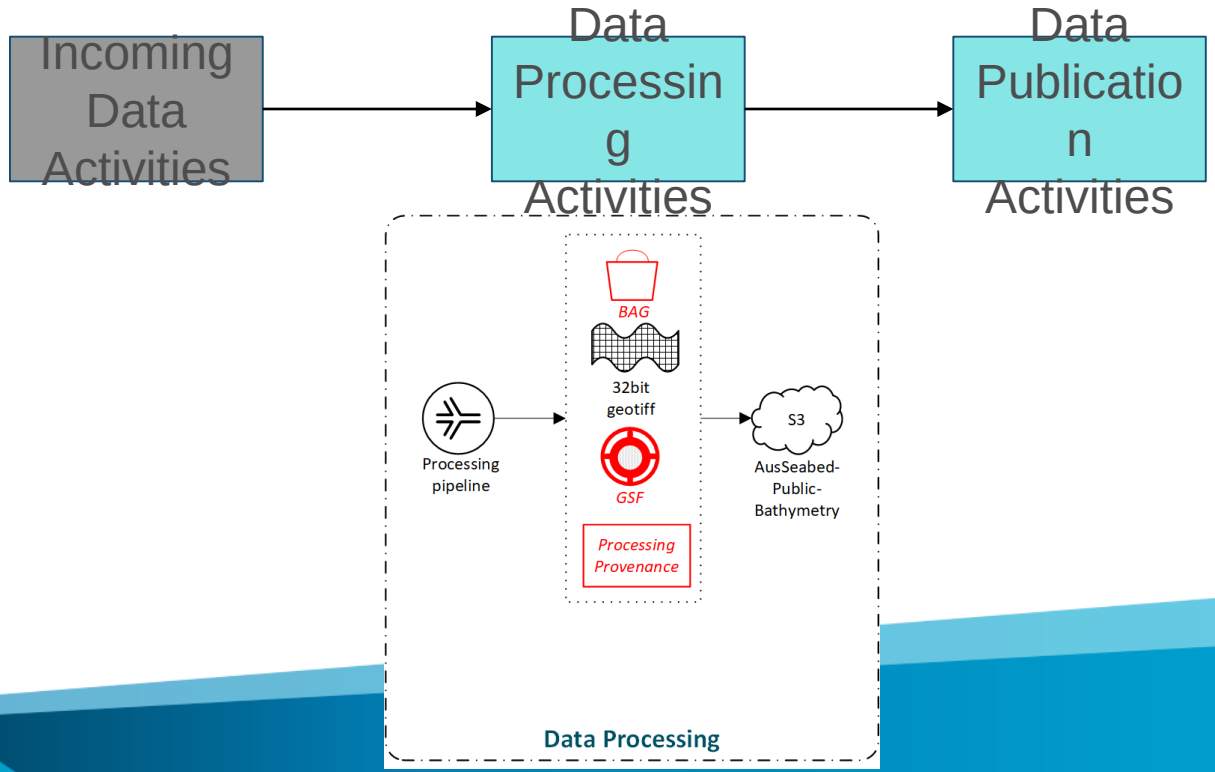



# Data Delivery Processing and Publication

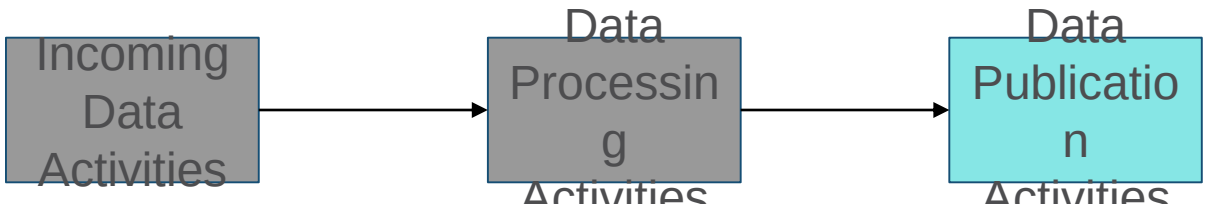


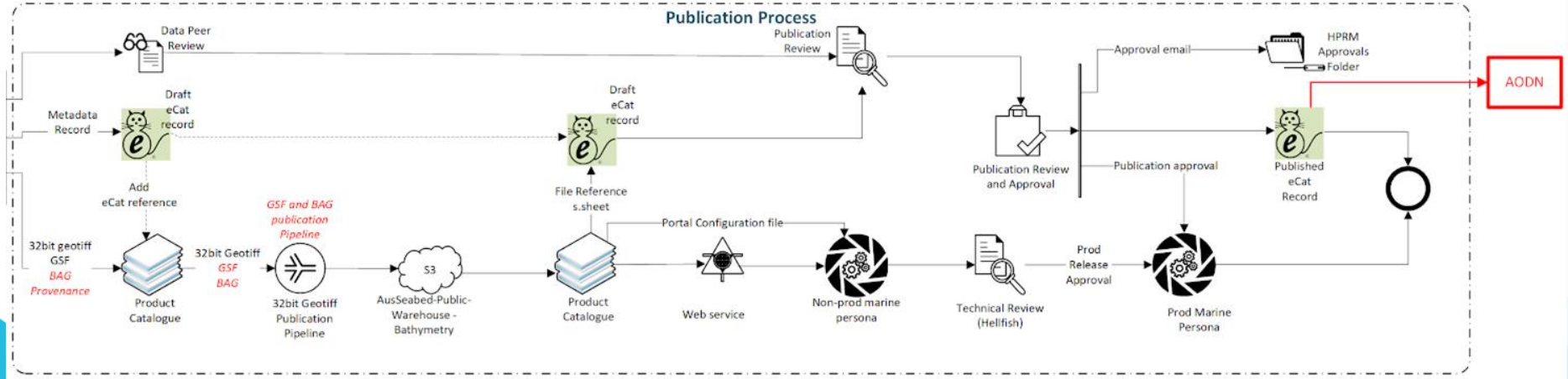



# Data Delivery Processing and Publication



# Data Delivery Processing and Publication

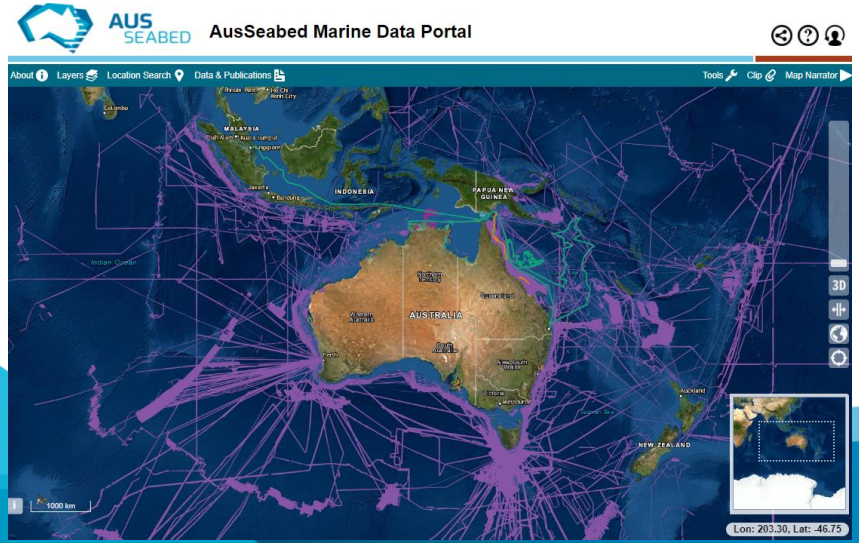


# AusSeabed Marine Data Portal update

- **Portal enhancements:** Improved download functionality (WCS), 3D visualisation, Map narrator, Profile Tool to include bathymetry grids, Clip-Zip-Ship, User authentication.

- External contributor data publication pipeline

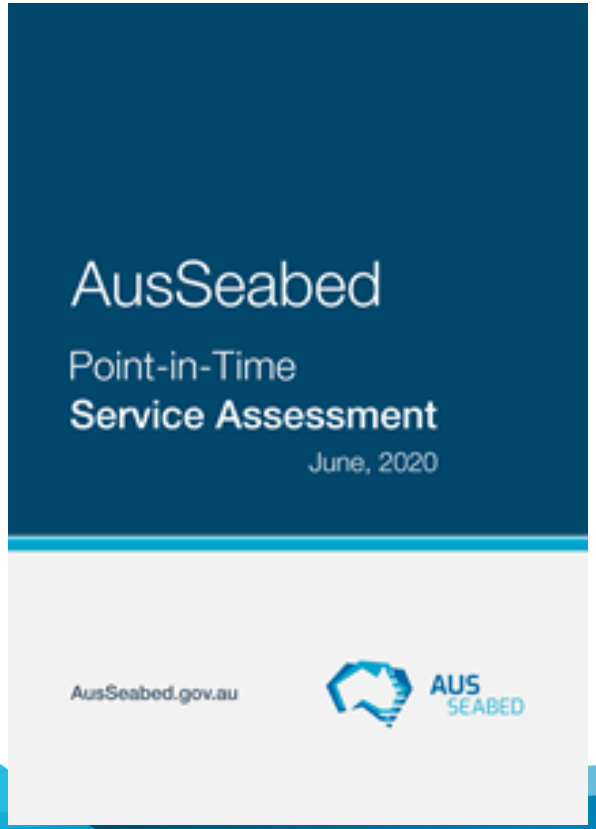


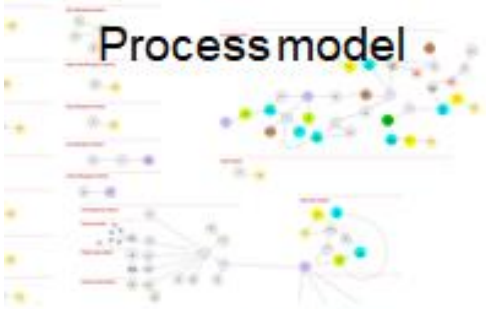

## Becoming a Contributing Data Partner Profile Form

### Contributing Data Partner Profile

| Data Provision | |
|---|---|
| Please provide the contact details for the organisation that will be providing data to the GA Local Hub. | |
| Organisation Name: | |

# User Needs Analysis



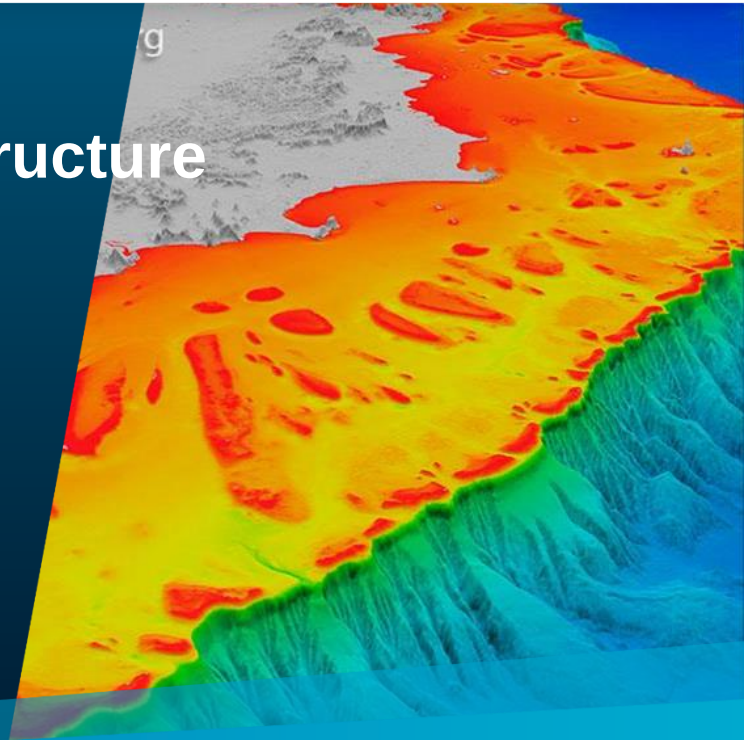



# Take home points

- The next PI will be focussed on **gathering user feedback** for the Portal
- Publishing what we promised to publish on the **Publication Schedule**
  - Focus on **Publishing** our data holdings
  - Refining external contributing partners publication pipeline
- **Usage statistics** to be gathered from Portal Clip tool
- Portal Wireframe progression

# Data Warehouse and Cloud Infrastructure

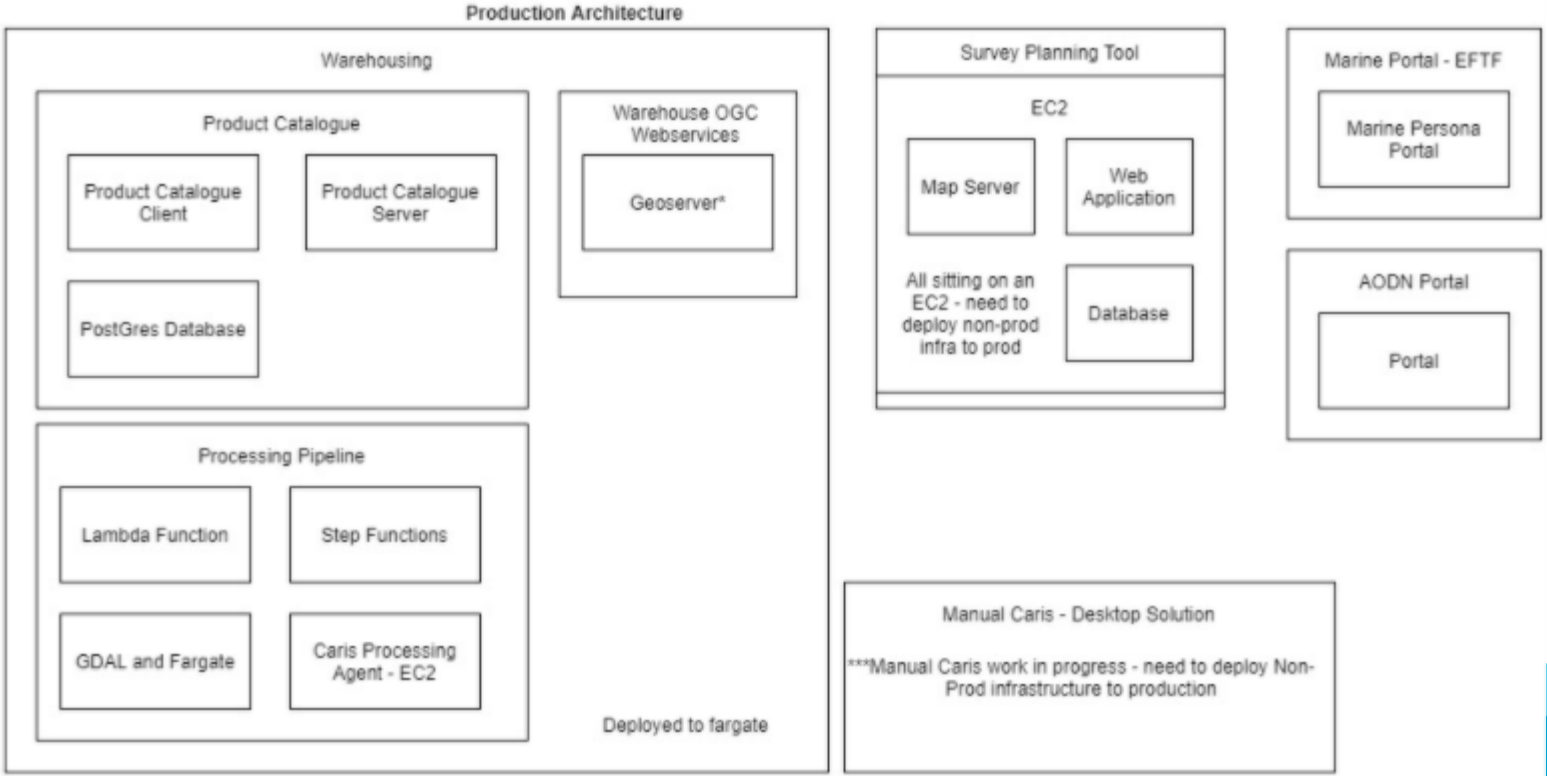
AusSeabed Quarterly Showcase



Maggie Arnold/David Penton | Ghalib Ahmad | Natalie Lennard

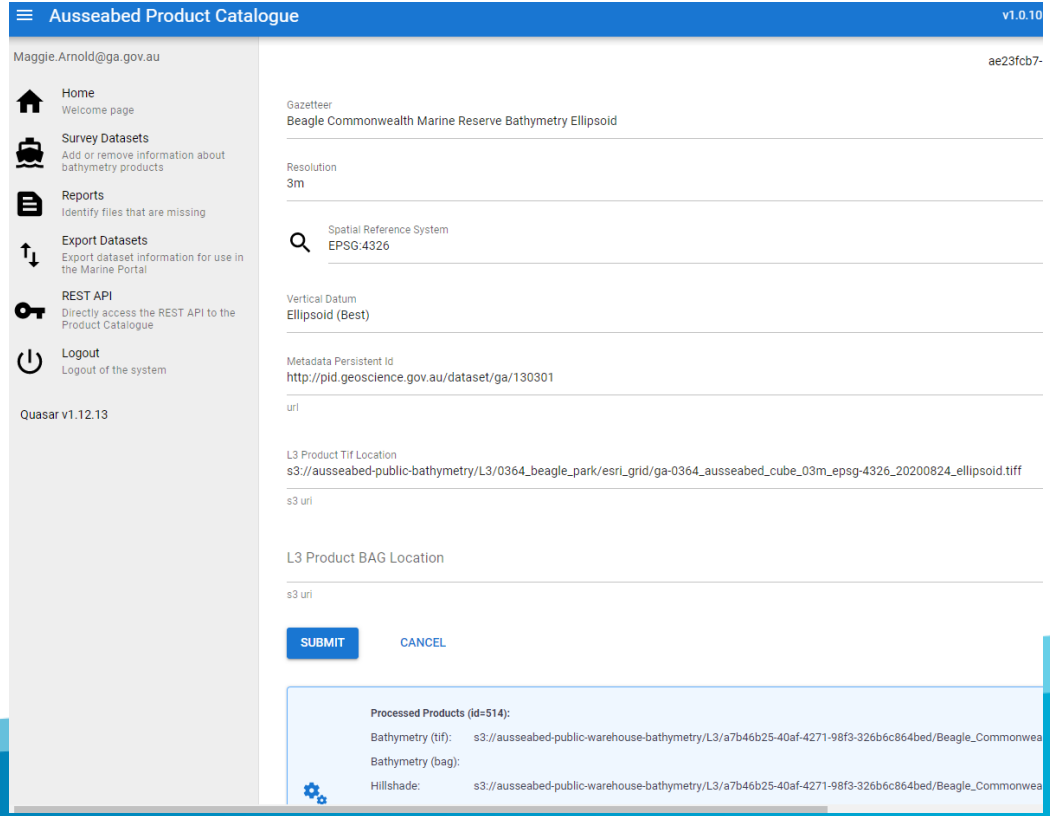
November 2020

# Ausseabed Data Warehouse



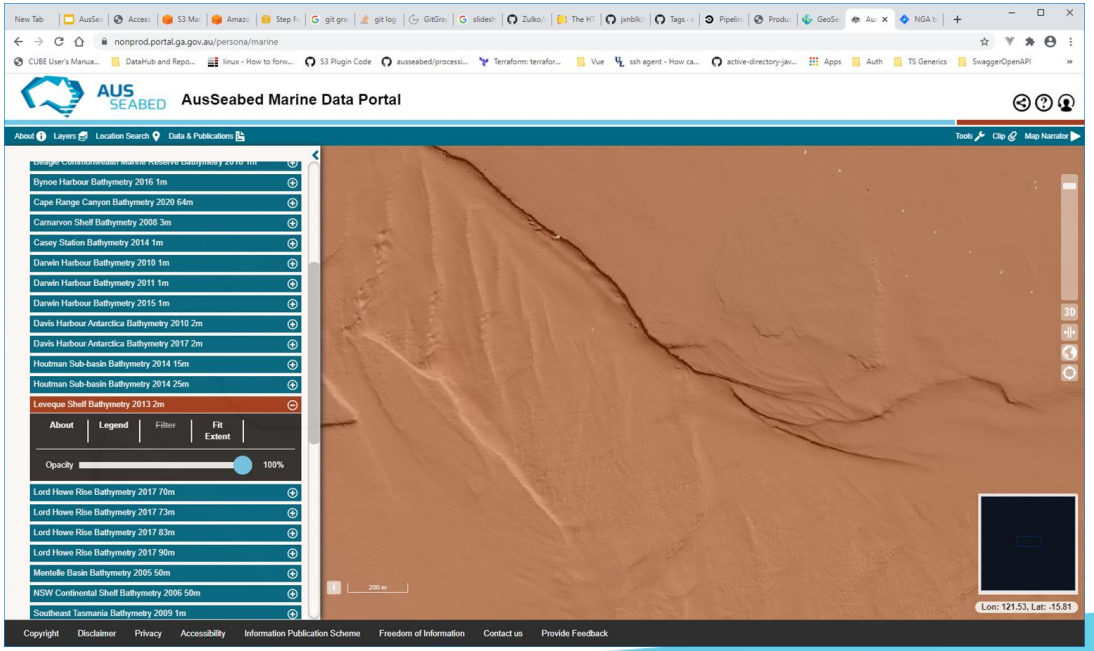
# Ausseabed Data Warehouse

- Product Catalogue update
  - Internal tool to support data publication
- Processing Pipeline for Level 3 data in place producing cloud-optimised geotiffs
- Processing Pipeline now implemented for Level 2 data



# Ausseabed Data Warehouse

- Publishing bathymetry as webservices
  - Increasing access to Ausseabed survey and compiliation data
- Publishing bathymetry to the Portal
  - Increasing multibeam data available to our users
  - Different download options
- AODN linkage

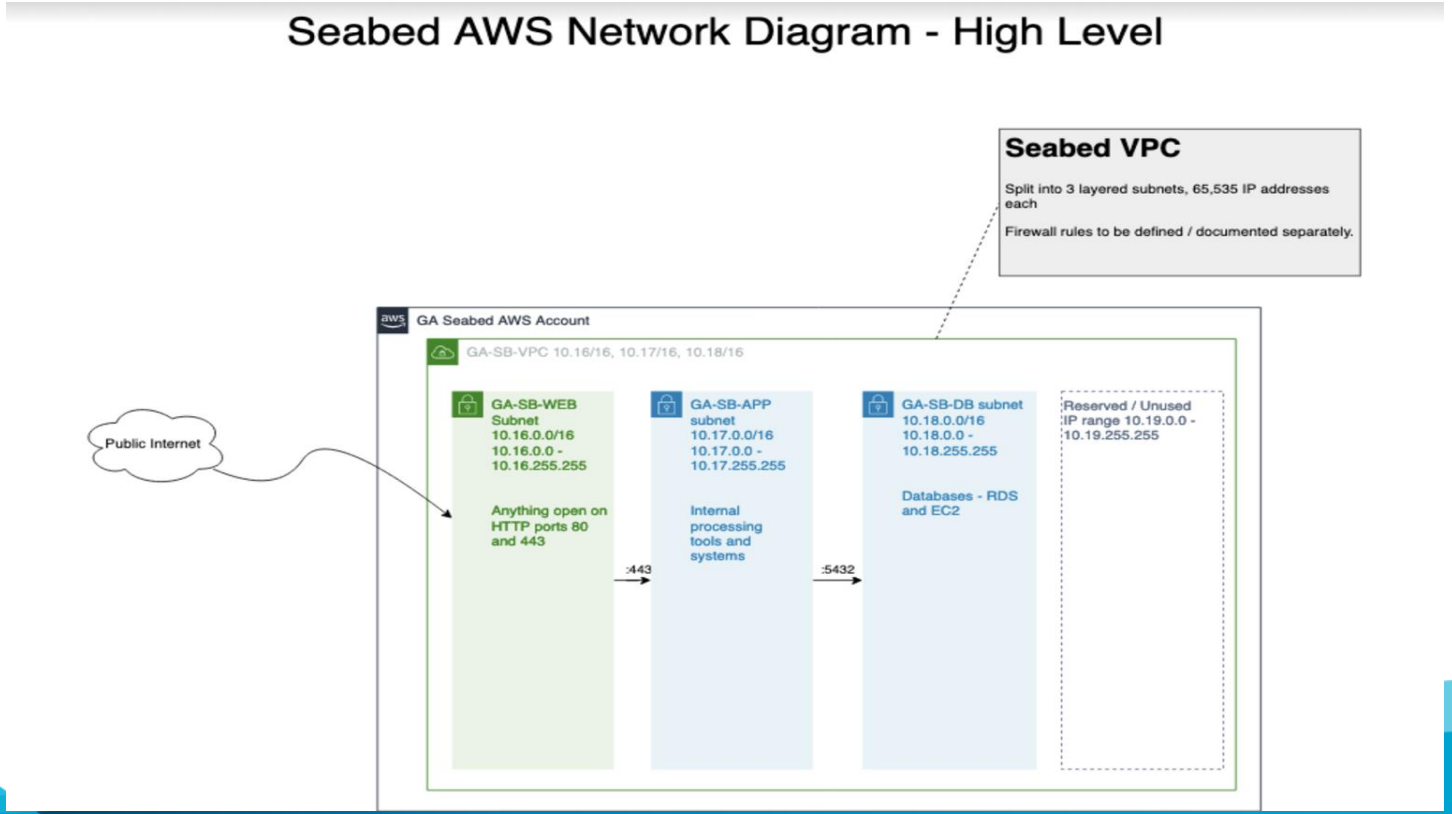


# Cloud Infrastructure

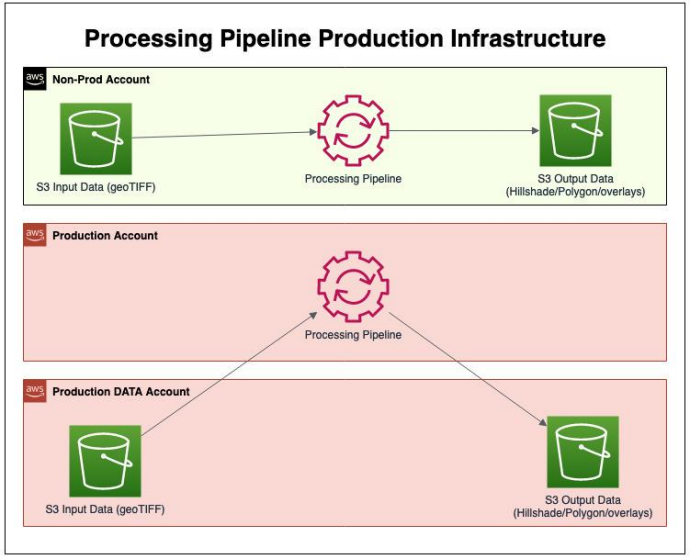
Goals for the last PI:

1. Data Management and processing in the cloud ✓
2. Deploying CARIS in the cloud ✓

# Cloud Network Model

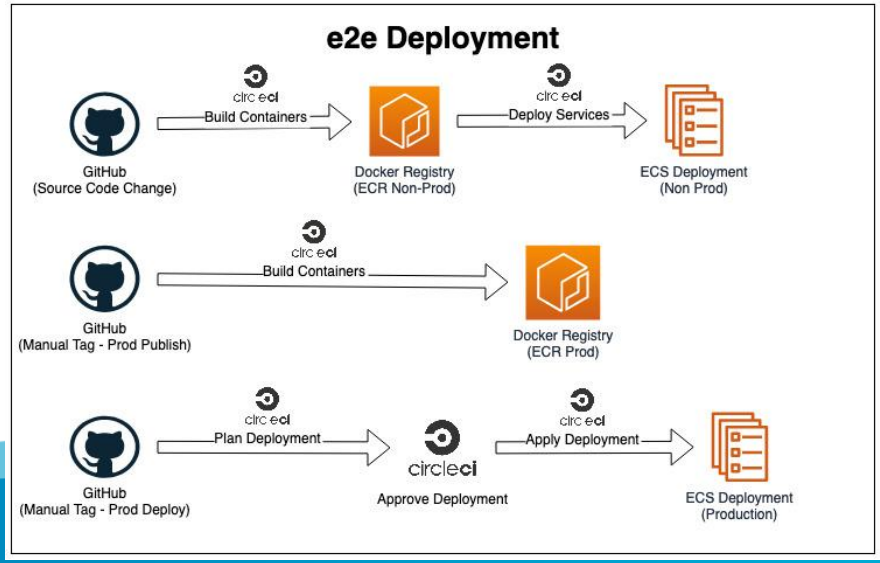


# Processing Pipeline Infrastructure

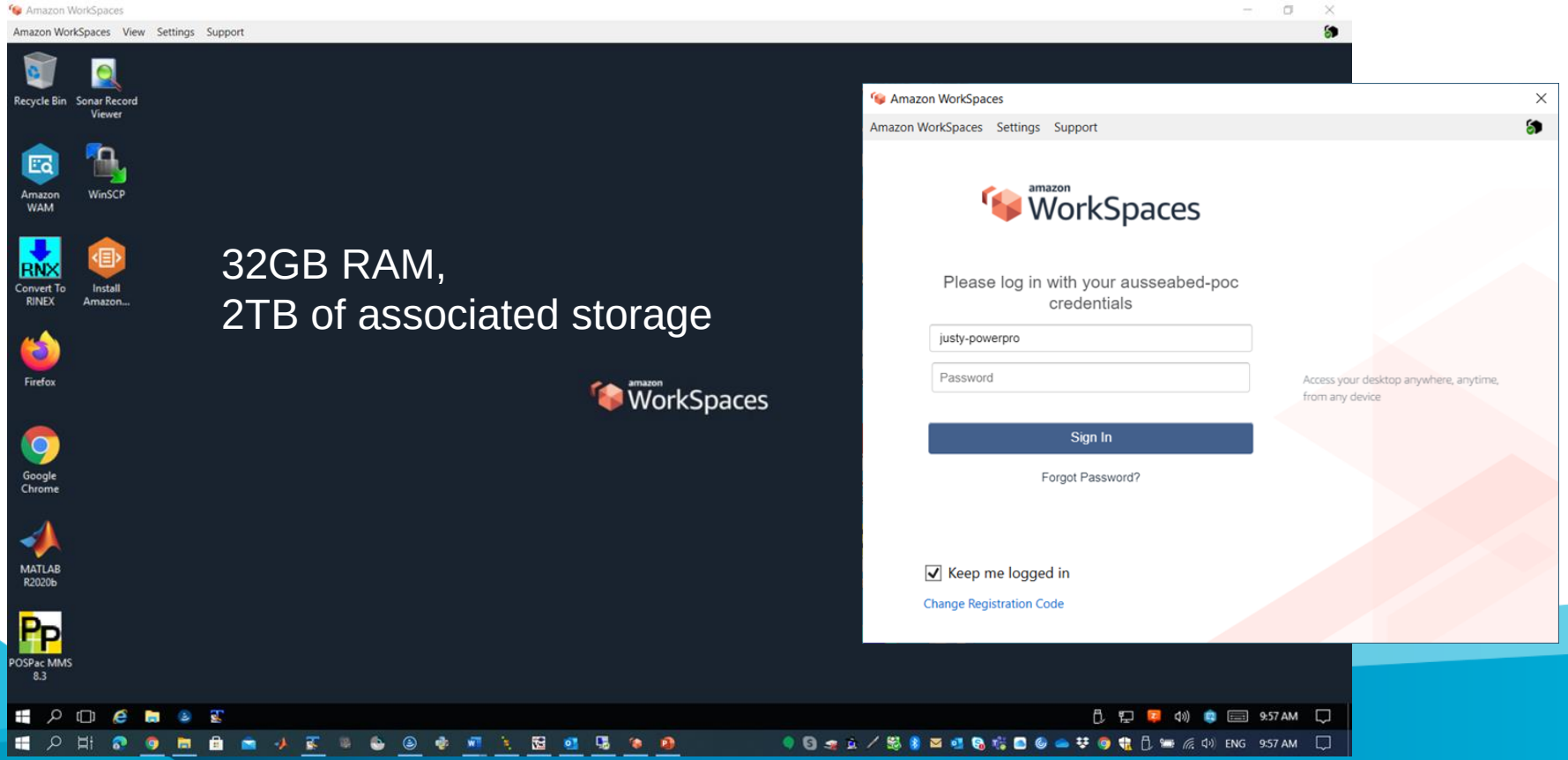



- Cloud processing and data management infrastructure established
  - Segregation of non-prod and production accounts to ensure production environments integrity
  - Segregation of production processing and data management to ensure data integrity and persistence

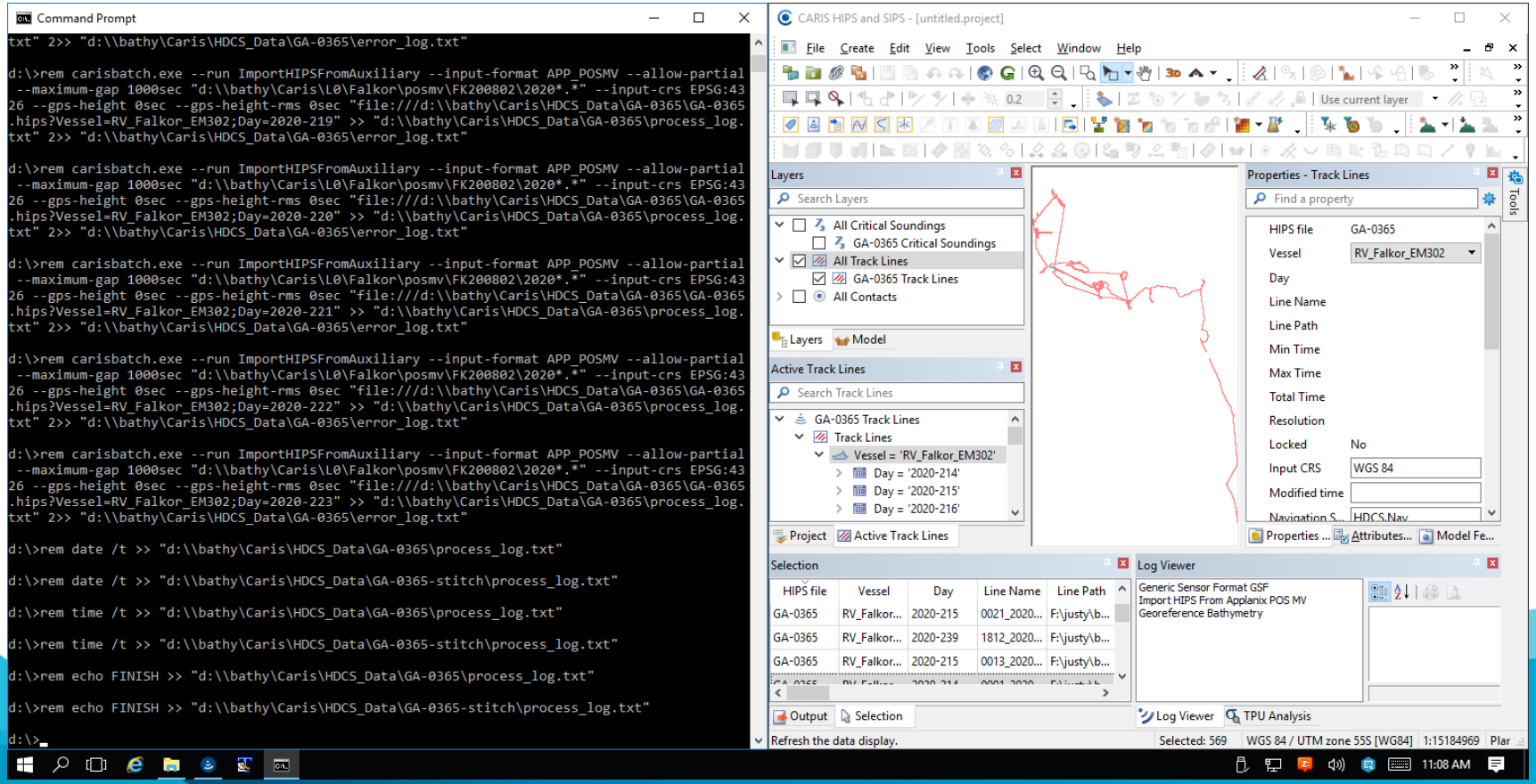
- Fully automated deployment pipeline established:
  - Provides for rapid deployment,
  - Consistency in deployment process (fewer errors), and
  - Rapid engagement of new resources through use of industry best practice.



# CARIS in the Cloud



# CARIS on Workspaces in the Cloud



# Where to next:

Data Warehouse:

- Technical Lead recruitment in progress **= Continued investment in innovation**
- Other data types to incorporate into the Publishing pipeline
  - Backscatter **= Expanding into other data types**
- Marine Sediments dynamic webservices **= bringing new versions of services online**
- Resolution of Technical debt **= continued investment in improvement**
- AODN linkage **= connecting with others**

Cloud infrastructure:

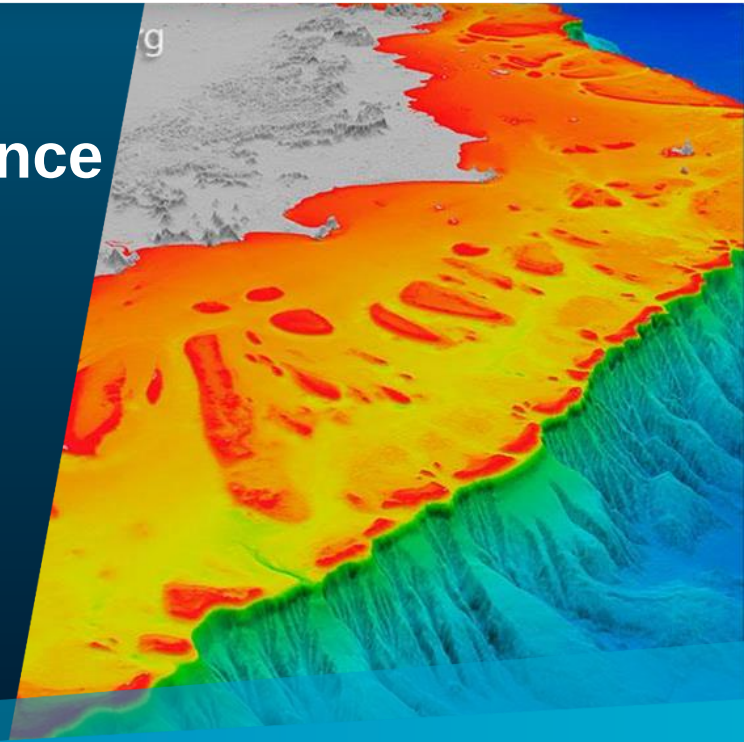
- Maturation of the processing pipeline for all levels (delivery of L2 processing in the cloud) **= new processing pathway to broaden the products available**
- Development of cloud based incoming pathway for consistent data submission **= consistent method for adding data to the GA ASB Hub**

# Data Hub Policy and Data Governance

AusSeabed Quarterly Showcase

Natalie Lennard

November 2020



# Data Hub Policy and Data Management

Goals for the last PI:

1. Establish our core data management policies: ✓
    a. Incoming data Policies
    b. Data storage policies
    c. Data distribution Policies
2. Establish the supporting business processes to implement agreed policies ☑
3. Implement the policies ☑
4. Distribute the information to the team and community ☑

Confluence Home Spaces Apps Create Search

AusSeabed Data Management Documentation

- GA Local Hub Metadata Requirements
- GA Contributing Hub Data Distribution Policies
- GA Local Hub Publication Process
- GA Local Hub Prioritisation Process
- Updating the Publication Schedule
- eCat and the Publication of Contributing Data ...
- Review process of Nonproduction Ausseabed ...
- GA Contributing Hub Storage Model
- GA Contributing Hub Web Content
- What kind of contributor are you?
- How to register for the Survey Coordination Tool
- AusSeabed Local Hub Technical Requirements
- AusSeabed Survey Coordination Tool
- Document Checklist

Archived pages

AusSeabed Data Management Documentation / AusSeabed Data Management Policies, Processes, Forms and Tools

# AusSeabed Local Hub Technical Requirements

DP Created by D Penton
Last updated Oct 19, 2020 • 6 min read

The Local Hub must provide three services:

- publication of ISO19115-3 metadata through a catalogue service - nominally GeoNetwork
- publication of Web Mapping Service and Web Coverage Service according to AusSeabed protocols
- direct download of Local Hub products through HTTP protocol

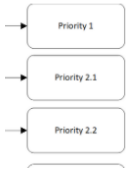
The Local Hub must also provide a description of their holdings in an Excel format that can be read by the

oth new incoming data processing
ion will be relevant until such time
erships are put into place.

nmitted funding specifically for
nership program. Under this model,
esources that is also provided by

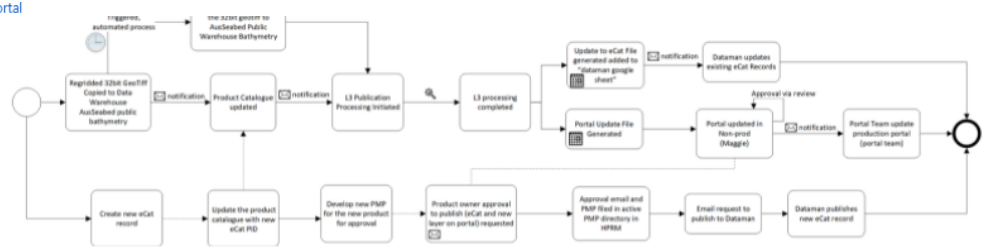
To be available through the AusSeabed website in the next PI.

- Publication of ISO19115-3 metadata
  - General Background
  - Technical Details
- AusSeabed protocols for publishing Web Mapping Service and Web Coverage Services
  - Naming of layers
  - Bathymetry
  - Hillshade
  - Extent Polygon
- Direct download of Local Hub products
- Description of holdings for inclusion in EFTF Portal
  - Display names on the portal





- GA Local Hub Metadata Requirements
- GA Contributing Hub Data Distribution Policies
- GA Local Hub Publication Process
- GA Local Hub Prioritisation Process
- Updating the Publication Schedule

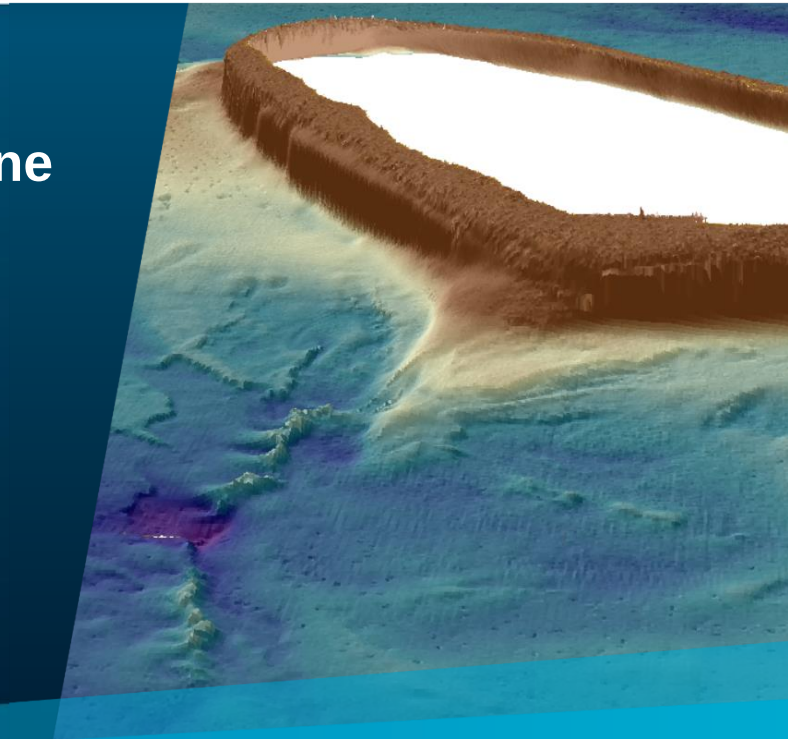



# Data Hub Policy and Data Management - Goals for next PI…..

1. Finalise the content and publish the policies to the community = **focussing on connecting other hubs/collecting other data!**
2. Transition to sections operations team:
   a. BAU for Survey Coordination tool **= operational services**
   b. BAU for L3 publication **= operational services**
3. Continue to develop supporting policies and procedures as required/identified **= continued investment in improvement**

# More Data from Everywhere and Everyone

## Linking contributing hubs

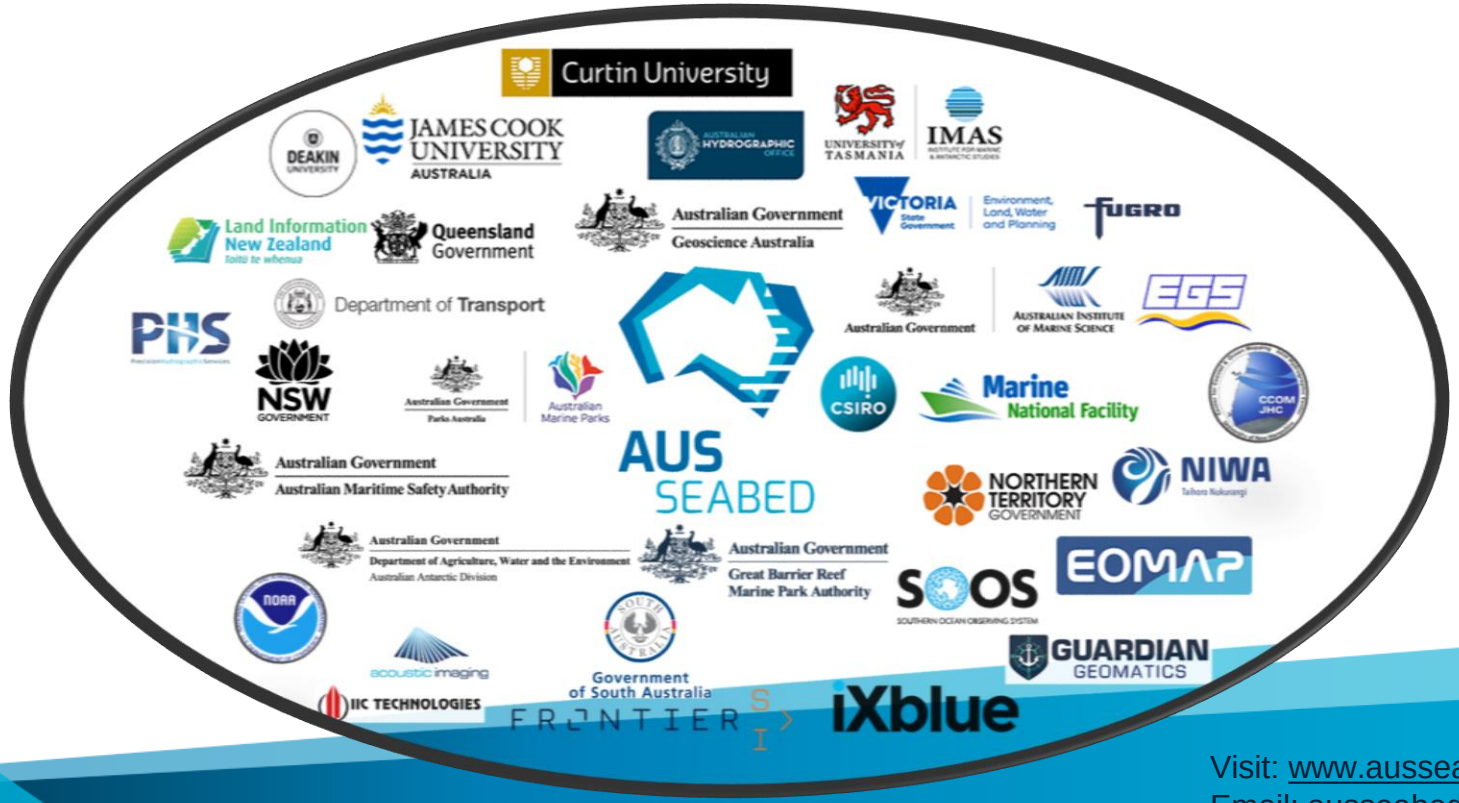


AusSeabed Quarterly Showcase – Nov 20 to Feb 21

# Program Increment Goals

| Program Objectives | PI Goals | Status |
|---|---|---|
| Improve coordination of activities relating to seabed mapping. | 1. Engagement plan in place to progress Aus-US collaboration (GA, CSIRO, NOAA)<br>2. National Prioritisation Framework workshop delivered | |
| Expand the number of bathymetric products openly accessible through the AusSeabed platform. | 1. Finalise CSIRO hub integration<br>2. Two new contributing hubs underway (1. IMSA-PAWSEY; 2. TBD)<br>3. Continue data publication of Falkor ongoing surveys in Aus<br>4. GA fully transitioned to cloud-based processing (workstation)<br>5. Operational Cloud Automated Processing Pipeline for key data levels | |
| Secure an enduring AusSeabed program to continue realising benefits to the community relying on seabed mapping. | 1. Collaborative agreement between EB signed<br>2. Key agreements signed between CSIRO, AHO<br>3. Communication and Engagement Strategy published | |
| Deliver products and services focused on the needs of key stakeholders and end-users. | 1. QA tools (QAX) in testing with volunteered HIPP contractors<br>2. Portal wireframe report delivered and socialised with key stakeholders | |

# Thank you

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