

THE NIPPON FOUNDATION-GEBCO

SEABED

2030

Webinar 1: Where are we now? Introduction, Goals & Status of Mapping in the Region

Webinar Chair:

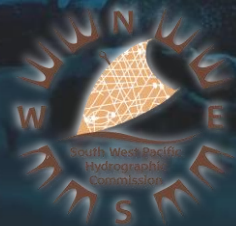
Mr. Stuart Caie, SWPHC Seabed 2030/CSB Coordinator

Presenters:

Mr. Kevin Mackay, Head, Seabed 2030 South and West Pacific Regional Center

Ms. Jaya Roperez, Data Manager, Seabed 2030 South and West Pacific Regional Center

Ms. Jennifer Jencks, Director IHO Data Center for Digital Bathymetry



International Hydrographic Organization



2022 SWPHC Seabed 2030/CSB Webinar Series: Webinar 1, May 10, 2022

Welcome

SWPHC Chair, Mr Adam Greenland



IHO

International
Hydrographic
Organization



unesco

Intergovernmental
Oceanographic
Commission



Goal	Target	SPI	Activities	Lead	Timeframe	
IHO Goal 2 Increasing the use of hydrographic data for the benefit of society	Build a portal to support and promote regional and international cooperation in marine spatial data infrastructures (MSDI)	16	Undertake a discover and catalogue exercise for SWPHC coastal states existing marine spatial data holdings	MSDIWG	2022	
	Promote new tools and methods to accelerate and increase coverage, consistency, quality of surveying poorly surveyed areas	2.2.1	17	Promote the use of CSB & SDB tools and methodologies in SWP region	IHO CSBWG; SWPHC CSB/ Seabed 2030 Coordinator	2022-2030
			18	Report on gaps and opportunities in SWP data coverage	MSDIWG	SWPHC-20
	Apply UN shared guiding principles for geospatial information management in order to ensure interoperability and extended use of hydrographic data in combination with other marine-related data	2.3.1	19	Adoption and implementation of UN GGIM-IGIF-H	MSDIWG, Coastal states	2022 onwards
			20	Engage with regional organisations to encourage Coastal States to share data within the region and adopt open data policies	MSDIWG, Coastal States	
			21	Collaborate with regional bodies and coastal states to develop and promote a "data value proposition" and share within the region	MSDI WG TBC	TBC
			22	Engage with international and regional Donors and Development Partners to adopt open data policies when funding regional activities	IHO Sec, SWPHC Chair, MSDIWG	
	23	Share MSDI catalogue within the region (IHO portal of portals)	MSDIWG	Q4 2022		
IHO Goal 3 Participating actively in international initiatives related to the knowledge and the sustainable use of the ocean	Collaborate with other bodies who deliver capacity building and training to improve effectiveness of capacity building activities and programmes	3.1.1	24	Deliver IHO CB funded workshop on Hydrographic Governance	SWPHC CB Coordinator	TBC f2f SWPHC20 - Q1 2023
			25	Deliver IHO CB funded workshop to SWPHC on MSI	SWPHC CB Coordinator	virtual 2022
			26	Engage with Pacific Community (SPC)	SWPHC Chair	Ongoing
			27	Engage with new IMO regional representative	SWPHC Chair	2022
			28	Engage with international and regional Donors and Development Partners	IHO Sec, SWPHC Chair, MSDIWG	2022
			29	Deliver IHO CB funded SWP Disaster response plan exercise	SWPHC Sec; SWPHC CB Coordinator	SWPHC21 2024
		30	Invite IHO Secretary General to consider a regional engagement plan and potential visit	SWPHC Chair	2022/ 2023	
	improve knowledge of the worlds seafloors	3.2.3	31	Engage with regional bodies and coastal states and collaborate on projects under UN Decade of the Ocean	SWPHC /MS /AM	2022-2030
			32	Engage with Seabed 2030 project to support coverage goals	SWPHC CSB/ Seabed 2030 Coordinator	2022-2030
			33	Encourage MS and coastal states to supply ENC sounding data to Seabed 2030 and IHO DCDB	SWPHC MS / Coastal States	2022-2030
		3.2.1	34	Deliver Seabed 2030 webinar series in the region	SWPHC CSB/ Seabed 2030 Coordinator	2022
		3.2.1 3.2.2 3.2.3	35	Promote, initiate and coordinate CSB & SDB programs in SWP region and encourage coastal states to submit bathymetry data to Seabed 2030 and IHO DCDB	IHO CSBWG; SWPHC CSB/ Seabed 2030 Coordinator	2022-2030
	implement a comprehensive IHO digital communication strategy in order to enhance its visibility and	3.3.1	36	Develop SWPHC digital communications strategy	SWPHC MS - HLP Cohort	2022
37			Ensure IHO digital Communication strategy adequately covers the needs of the region	IHO Secretariat / SWPHC	TBC	



Today's Agenda

13:00 - 13:15 Welcome & logistics (SWPHC Chair, SWPHC Seabed 2030/CSB Coordinator)

13:15 - 14:15 Introduction and Overview (SWPHC SB2030/CSB Coordinator, Head of RDACC for the South & West Pacific, Director of IHO DCDB)

- Objectives for these webinars
- What we are doing and why?
- Why we need to do this together?
- How we can help you?
- Review of status of mapping in the region

14:15 - 14:45 Discussion

14:45 - 15:00 Conclusions and Homework for Next Session (SWPHC Seabed 2030/CSB Coordinator)



Overview of Webinar Series



Objectives of this Webinar Series

- Overview & Introduction:
 - Objectives, strategy and motivation of the Nippon Foundation - GEBCO Seabed 2030 Project
- Promote collaboration and coordination
- Review current status of ocean mapping for this region
- Demonstrate online tools that are available
- Engage the community of stakeholders
 - Gather information about existing data, planned mapping efforts
 - Input on needs of stakeholders with respect to tools, workflows, regional mapping priorities



Webinar Schedule

- Webinar 1 – 10 May: Where are we now? Introduction and Goals including review of current mapping status in the region
- Webinar 2 – 24 May: How do we build the map? How can you contribute data?
- Webinar 3 – 21 June: Increasing Data Coverage: Crowdsourced Bathymetry and Data Coverage Polygons
- Webinar 4 – 1 July: Moving Ahead Together: Summary, Next Steps and Wrap up.



Goals for today

- Introduction to Seabed 2030
- Review status of mapping in the SWPHC region
- Introduction to the IHO Data Center for Digital Bathymetry
- Discussion: Status of mapping in the region
- Homework for next Webinar

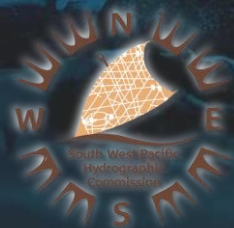


THE NIPPON FOUNDATION-GEBCO

SEABED 2030

Introduction

Mr. Kevin Mackay, Head, Seabed 2030
South and West Pacific Regional Center



International
Hydrographic
Organization



2022 SWPHC Seabed 2030/CSB Webinar Series: Webinar 1, May 10, 2022

GEBCO



' The **G**eneral **B**athymetric **C**hart of the **O**cean'

'... a joint project of **IHO** & **IOC**, managed by the GEBCO Guiding Committee (GGC)'

'...aiming to provide the most authoritative, publicly-available bathymetry data sets of the world's oceans.'

'... largely a **voluntary** community of international **scientists** and **hydrographers** collaborating with the support of their parent organizations.'

SEABED 2030

A collaborative project between The Nippon Foundation and **GEBCO** to inspire the complete mapping of the world's ocean by 2030 and to compile all bathymetric data into the freely-available GEBCO Ocean Map.



June 2016



June 2017



The Network of Centers

North Pacific –Arctic Ocean

Stockholm University & University of New Hampshire
(SU & UNH)

Southern Ocean

Alfred-Wegener-Institut (AWI)

Atlantic-Indian Ocean

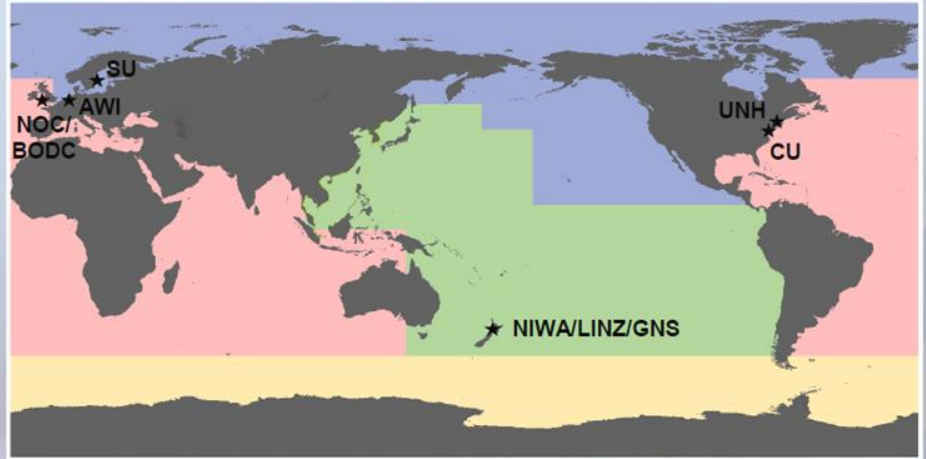
Lamont-Doherty Earth Observatory,
Columbia University (CU)

South-West Pacific Ocean

National Institute of Water & Atmospheric Research (NIWA)
Land Information New Zealand (LINZ)
GNS Science (GNS)

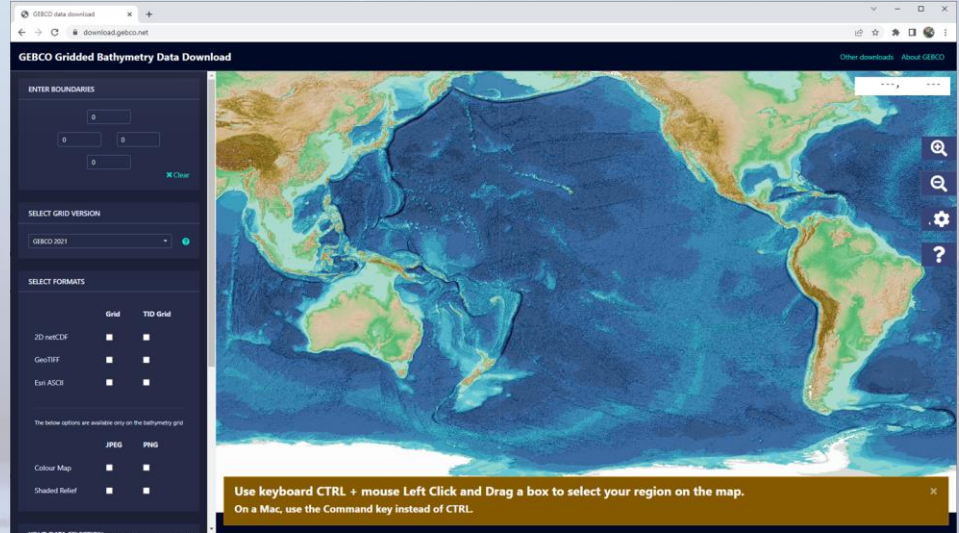
Global Center

British Oceanographic Data Centre,
National Oceanography Centre (NOC/BODC)



GEBCO Gridded Bathymetry Data

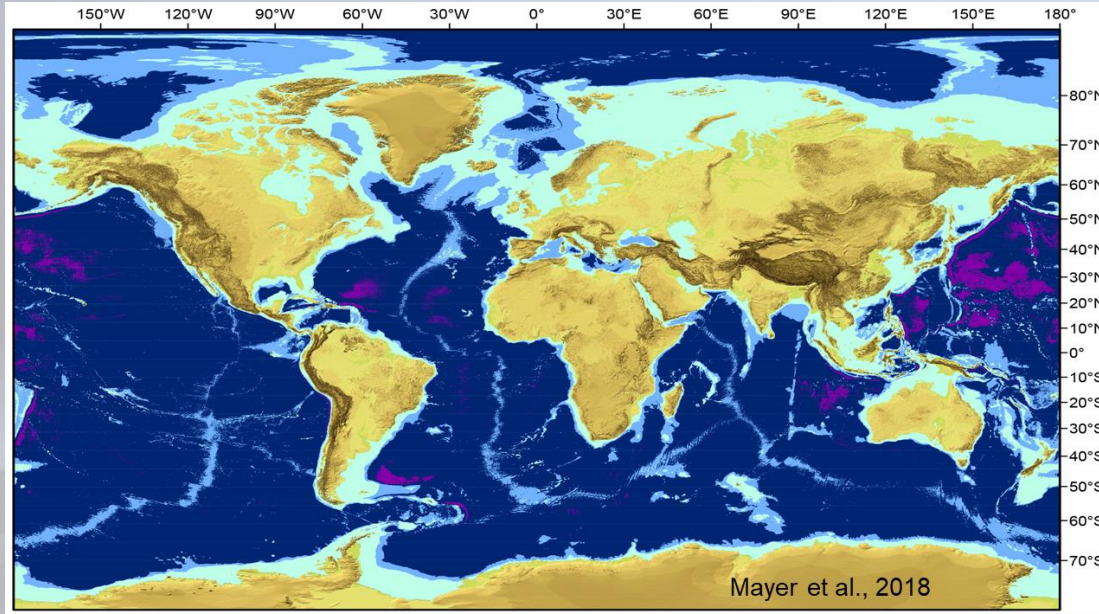
- The GEBCO_2021 grid, is a global terrain model for ocean and land at 15 arc-second (~480 m) intervals.
- It is accompanied by a Type Identifier (TID) Grid that gives information on the types of source data that the GEBCO_2021 Grid is based
- It is NOT a portal to the underlying data
- Ultimately to move to a variable resolution grid by 2030.



<https://download.gebco.net/>

What does 100% mapped mean?

Depth-dependent resolution goals



- 100x100 m (0-1500 m)
- 200x200 m (1500-3000 m)
- 400x400 m (3000-5750 m)
- 800x800 m (5750-11000 m)

Seabed 2030 Phase 2: Mapping the Gaps

$$X + Y + Z = 100\%$$

Ocean Frontier Mapping

- Use GEBCO Grid to inform location of future mapping
- Advocate for greater mapping activity
- Identify funding for mapping expeditions

Crowd Sourced Bathymetry

- Promoting CSB around the world
- Gaining support of, and data from, contributors at all levels

Technology Innovation

- What can Seabed 2030 do to accelerate uptake of technology to accelerate rate of bathymetric mapping?

SAILDRONE Missions



<https://seabed2030.org/news/saildrone-surveyor-completes-maiden-voyage-san-francisco-hawaii>

UTAS: Two Oceans
Two Technologies

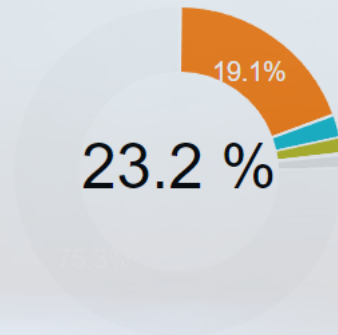


<https://www.mapthegaps.org/projects/utas-operations>



Global Coverage as of Feb 2022

Data categories



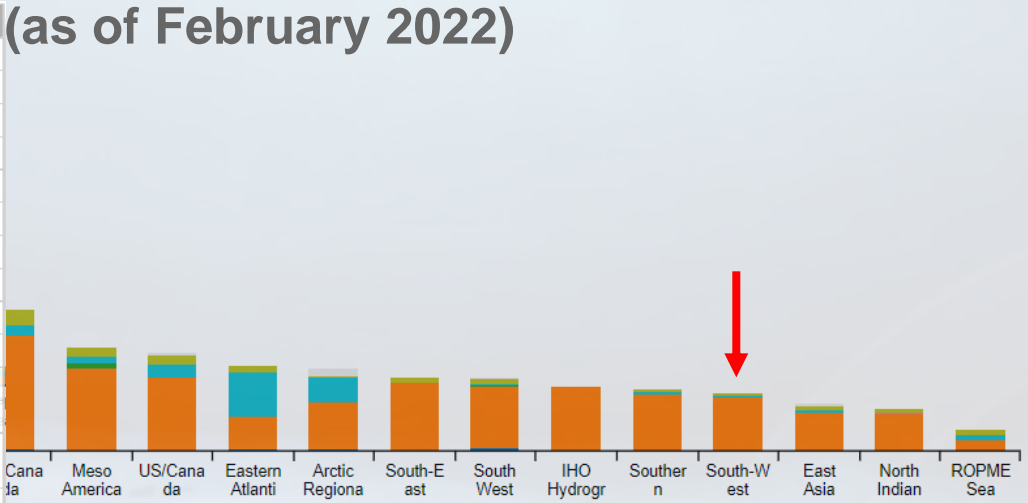
- Singlebeam
- Multibeam
- Seismic
- Isolated sounding
- ENC sounding
- Lidar
- Depth measured by optical light sensor
- Combination of direct measurement methods
- Bathymetric sounding
- Land (negative topography)
- Upcoming, processing,
- Interpolated based on a computer algorithm
- Digital bathymetric contours from charts
- Predicted based on helicopter/flight-derived gravity data
- Depth estimated by calculating the draft of a grounded iceberg using satellite-derived freeboard measurement
- Grid compilation including interpolated
- Unknown source
- Steering points
- No data

South West Pacific Hydrographic Commission Coverage

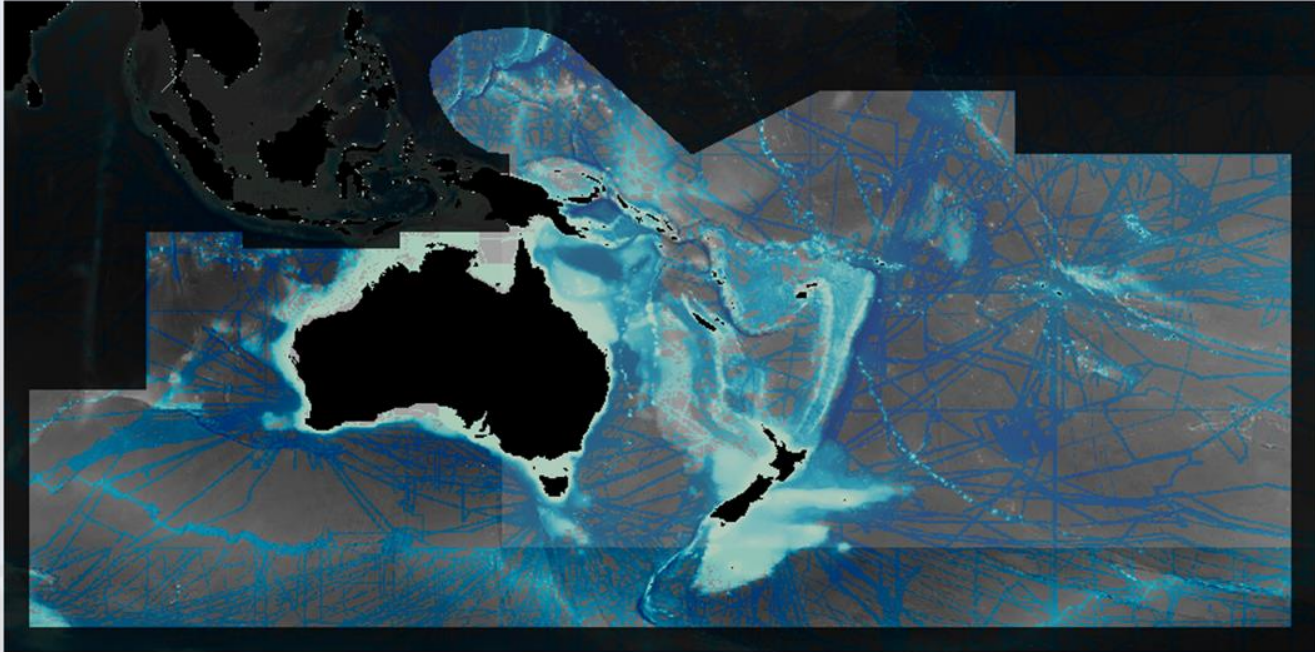
Regional hydrographic commissions

(as of February 2022)

South-West Pacific Hydrographic Commission	
Total	13.98
Singlebeam	0.12
Multibeam	12.83
Seismic	0.02
Isolated sounding	0.00
ENC sounding	0.00
Lidar	0.00
Depth measured by optical light sensor	0.00
Combination of direct measurement methods	0.21
Bathymetric sounding	0.80
Land (negative topography, not included in total)	0.00
Upcoming, processing, (not included in total)	0.00
Interpolated based on a computer algorithm (not included in total)	0.00
Digital bathymetric contours from charts (not included in total)	0.01
Predicted based on helicopter/flight-derived gravity data (not included in total)	0.00
Depth estimated by calculating the draft of a grounded iceberg using satellite-derived freeboard measurement (not included in total)	0.00
Grid compilation including interpolated (not included in total)	0.00
Unknown source (not included in total)	0.00
Steering points (not included in total)	0.00



Data Contributions* within SWPHC Region (as of 15 Feb 2022)



- NIWA
- LINZ
- CSIRO

- [AusSeabed](#)
- NOAA NCEI / IHO DCDB

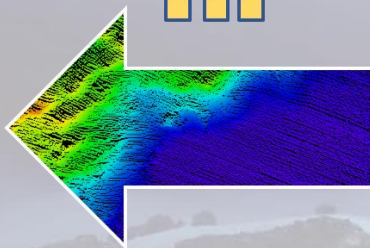
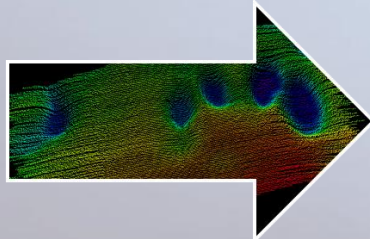
- LDEO (GMRT)
- Calypso Science

- [Caladan Oceanic LLC](#)
- Waikato Regional Council

- MGDS
- PANGAEA
- JAMSTEC
- SOPAC
- UNOLS R2R

* to SaWPaC from Feb 2021

Current Engagement with Countries / Entities



**Data Discovery
and Exchange**

Kiribati (MICTTD)

Palau (Coral Reef Research Foundation)

Niue (Ministry of Infrastructure)

Federated States of Micronesia (NORMA)

Ecuador (INOCAR)

Philippines (NAMRIA)

Japan (JAMSTEC)

SHOM

NGA

AusSeabed

MY Dapple

NIWA Partners

Target Engagement with countries/entities in the region

Working with the IHO Regional Hydrographic Commission CSB/Seabed 2030 Coordinator –
Mr Stuart Caie

- Promote ocean mapping activities
- Promote CSB
- Capacity-building
- Data gaps identification
- Coordinate mapping missions



Please answer the SaWPaC Community Survey

<https://arcg.is/OibPqm>

Opportunities to Support Ocean Mapping Activities



Ocean Frontier Mapping

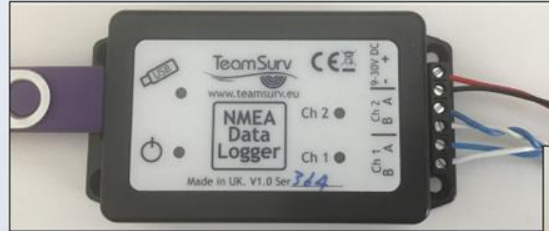
- Areas that has never been mapped
 - To fund mappers
 - To fund extra vessel days

Shereen Sharma
(development@seabed2030.org)

Crowdsourced
Bathymetry

Crowdsourced Bathymetry Activities

- IHO CSBWG
- Palau
- New Zealand
- Solomon Islands
- Samoa
- Shipping Industry



CSBWG Document: *DataLogger_ConnectionInstructions*

World Ocean Council Workshop to Advance Seabed Data Collection by Shipping Sector

WOC & Seabed 2030 Collaborate on Opportunity for Companies to Support Safe & Sustainable Shipping

Many shipping companies already have the tools needed to be a part of the solution for sustainable ocean use. The **Seabed 2030** project aims to create a complete map of the world ocean floor by 2030, using equipment commonly available on marine vessels.

As a core partner of Seabed 2030, the World Ocean Council (WOC) is hosting workshops about the project, which aligns with the WOC's **SMART Ocean-SMART Industries** (SO-SI) program. SO-SI's mission is to ensure industry data collection and sharing is coordinated, efficient and available to public agencies and the scientific community, in support of a safe and sustainable maritime industry.



<https://www.oceancouncil.org/media/world-ocean-council-workshop-to-advance-seabed-data-collection-by-shipping-sector/>

Parting Words

IRCC12 Action Item 19

Encourage all Member States to make existing seabed mapping data available for use by Seabed 2030 in the GEBCO Grid.

Seabed 2030 provides Member States with a mechanism to respond to
UN General Assembly Resolution A/RES/72/73

*'285. Encourages Member States to consider contributing to mechanisms that encourage the **widest possible availability of all bathymetric data**, so as to support the sustainable development, management and governance of the marine environment;'*

Seabed 2030 allows Member States to make a cost-effective contribution to:

- ✓ UN Ocean Decade activities and SDG 14
- ✓ completing the GEBCO Ocean Map,
- ✓ producing the 'comprehensive digital atlas of the ocean'

(UNGA R&D Priority 1)



Questions?



Introduction to the IHO Data Center for Digital Bathymetry



How to Contribute Data to the IHO DCDB

Contact bathydata@iho.int for more information on contributing data or sharing web services to the IHO DCDB.
 Refer to [Submitting Marine Geophysical Data to the IHO DCDB](#) for how to package and submit data.

Governments, organizations, academia, industry and individuals are encouraged to contribute data to the IHO DCDB.

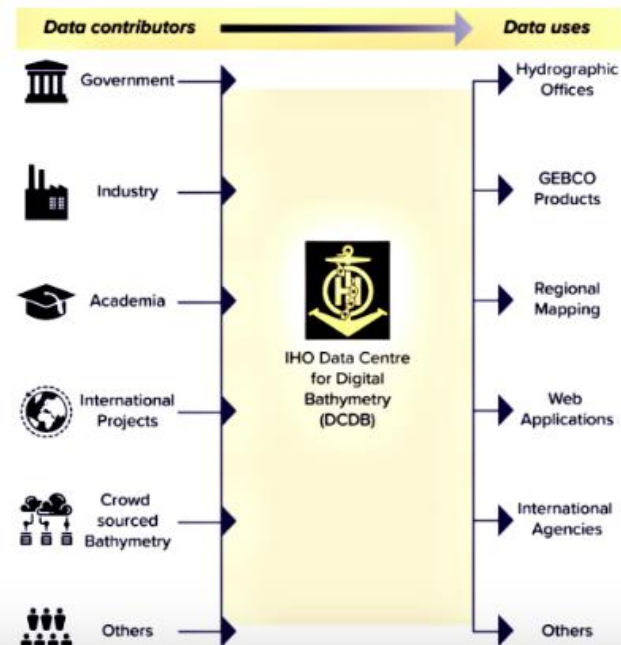
Bathymetric data and metadata can be submitted via File Transfer Protocol (FTP), email, or mail (hard drive) in the formats listed below.

- **Raw sonar data:** MGD77T or the original manufacturer's format
- **Processed data:** gsf, BAG, NetCDF, tiff, xyz, sd, asc, etc.
- **Metadata:** XML or text

Other formats and products will be considered on a case-by-case basis.

Learn more about contributing [crowdsourced bathymetry](#).

IHO Member States are invited to provide sounding data extracted from their Electronic Navigational Charts (ENC). Only soundings from ENC cells in navigational purpose bands 2 and 3 are requested. For more information, please refer to [IHO Circular Letter 11/2016](#).



IHO Data Centre for Digital Bathymetry (DCDB)

The IHO DCDB was established in 1990 to steward the worldwide collection of bathymetric data. The Centre archives and shares, freely and without restrictions, depth data contributed by mariners. The IHO DCDB is hosted by the [U.S. National Oceanic and Atmospheric Administration \(NOAA\)](#) on behalf of the IHO Member States.



IHO DCDB Data Viewer highlighting ship tracks and data availability over the Pacific Ocean and neighboring regions

The DCDB archive includes over 30 terabytes of oceanic depth soundings acquired with multibeam and singlebeam sonars by hydrographic, oceanographic and industry vessels during surveys or while on passage.

The DCDB also archives and provides access to data contributed in support of the [IHO Crowdsourced Bathymetry \(CSB\) initiative](#).

The [IHO DCDB Data Viewer](#) shows the global coverage of the DCDB's bathymetric data holdings as well as the spatial extent of data archived at other repositories via web services.

[Access Data](#)

IHO DCDB = World Reference for Raw Bathymetry

IHO International Hydrographic Organization

Data Centre for Digital Bathymetry Viewer

Layers

- IHO DCDB/NOAA NCEI ?
 - Multibeam Surveys ?
 - Multibeam Survey Footprints ?
 - Multibeam Bathymetry Mosaic ?
 - Single-Beam Surveys ?
 - Single-Beam Sounding Density ?
 - NOAA Hydrographic Surveys: ?
 - All Surveys with Digital Data
 - Surveys with BAGs
 - BAG Shaded Relief Imagery ?
- Search NCEI/DCDB Surveys ?
- Crowdsourced Bathymetry Files ?
- Search CSB Files ?
- U.S. Bathymetry Coverage and Gap Analysis ?

EMODnet
Australia
Canada
France
Germany
Japan
Grid Extract
More Information
Help

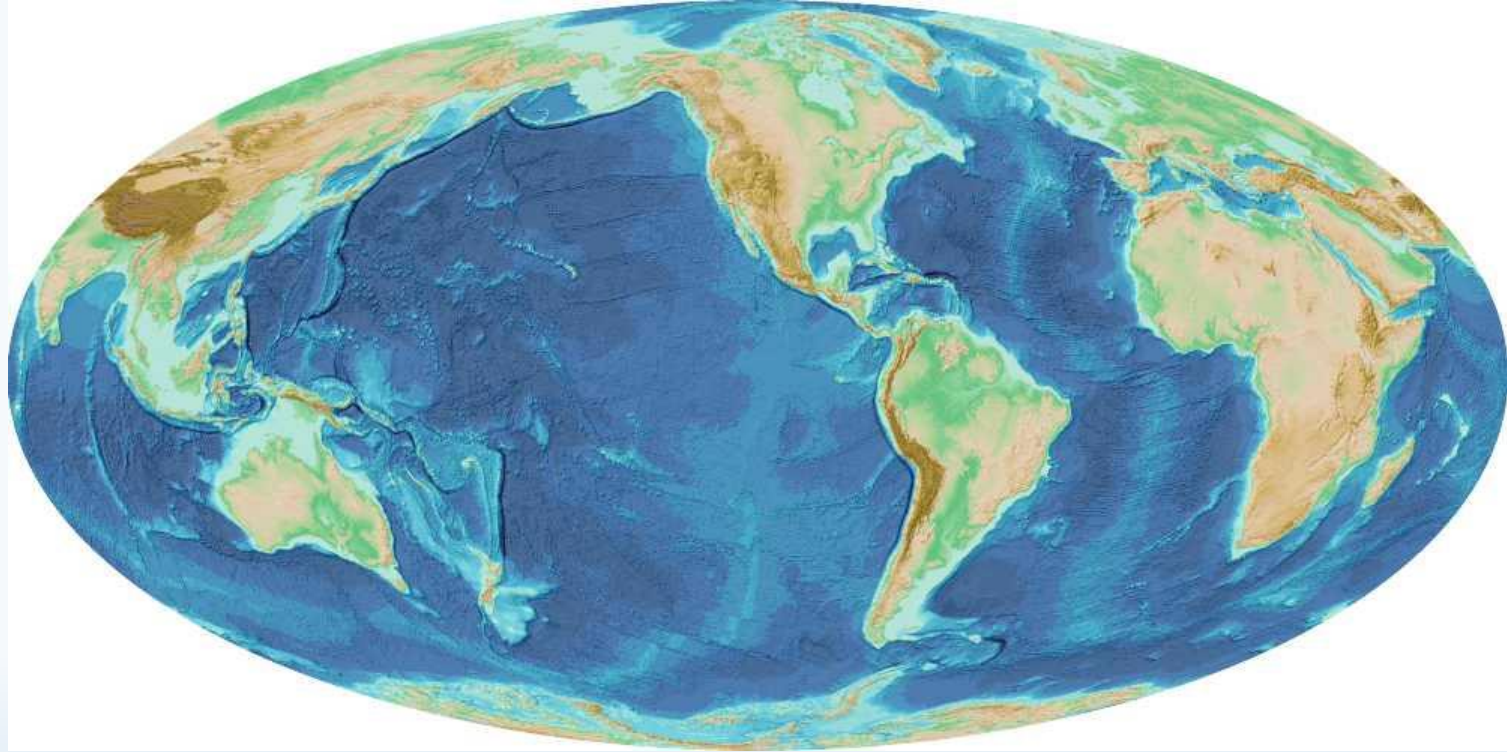
Identify Basemap Options

Mercator
Arctic
Antarctic

Position: 113.282°, 26.515°
Elevation: 156 meters

ncei.noaa.gov/maps/iho_dcdb/

15 arc second GEBCO_2021 grid



IHO DCDB & NOAA NCEI Data Holdings

The screenshot displays the 'Data Centre for Digital Bathymetry Viewer' interface. The main map shows the South Pacific Ocean region, including Australia, with a dense network of green survey tracks overlaid. The interface includes a 'Layers' panel on the left, a search bar, and a detailed 'Attributes' window for a specific survey.

IHO International Hydrographic Organization

Data Centre for Digital Bathymetry Viewer

Layers

- IHO DCDB/NOAA NCEI
 - Multibeam Surveys
 - Multibeam Survey Footprints
 - Multibeam Bathymetry Mosaic
 - Single-Beam Surveys
 - Single-Beam Sounding Density
 - NOAA Hydrographic Surveys:
 - All Surveys with Digital Data
 - Surveys with BAGs
 - BAG Shaded Relief

Search NCEI/DCDB

- Crowdsourced Bathymetry
- Search CSB Files
- U.S. Bathymetry Coverage

EMODnet

- Australia
- Canada
- France
- Germany
- Japan
- Grid Extract
- More Information
- Help

Attributes: FK200110 (2020)

Multibeam Bathymetric Survey: FK200110

[Link to Data](#)

Survey ID: FK200110
Platform Name: Falkor
Survey Year: 2020
Source Organization: Rolling Deck to Repository
Chief Scientist: SOI Data Manager
Instrument: Kongsberg EM302; Kongsberg EM710
File Count: 234
Track Length: 3654 km
Total Time: 214 hours
Bathymetry Beams: 278.500576 million
Amplitude Beams: 278.500576 million
Sidescan: 1398.194176 million pixels

Back Zoom to

ncei.noaa.gov/maps/iho_dcdb/

Multibeam Mosaic

Layers

▼ IHO DCDB/NOAA NCEI ?

- Multibeam Surveys ?
- Multibeam Survey Footprints ?
- Multibeam Bathymetry Mosaic ?

Single-Beam Surveys ?

Single-Beam Sounding Density ?

NOAA Hydrographic Surveys: ?

- All Surveys with Digital Data
- Surveys with BAGs

BAG Shaded Relief Imagery ?

?

Crowdsourced Bathymetry Files ?

?

U.S. Bathymetry Coverage and Gap Analysis ?

► EMODnet

► Australia

► Canada

► France

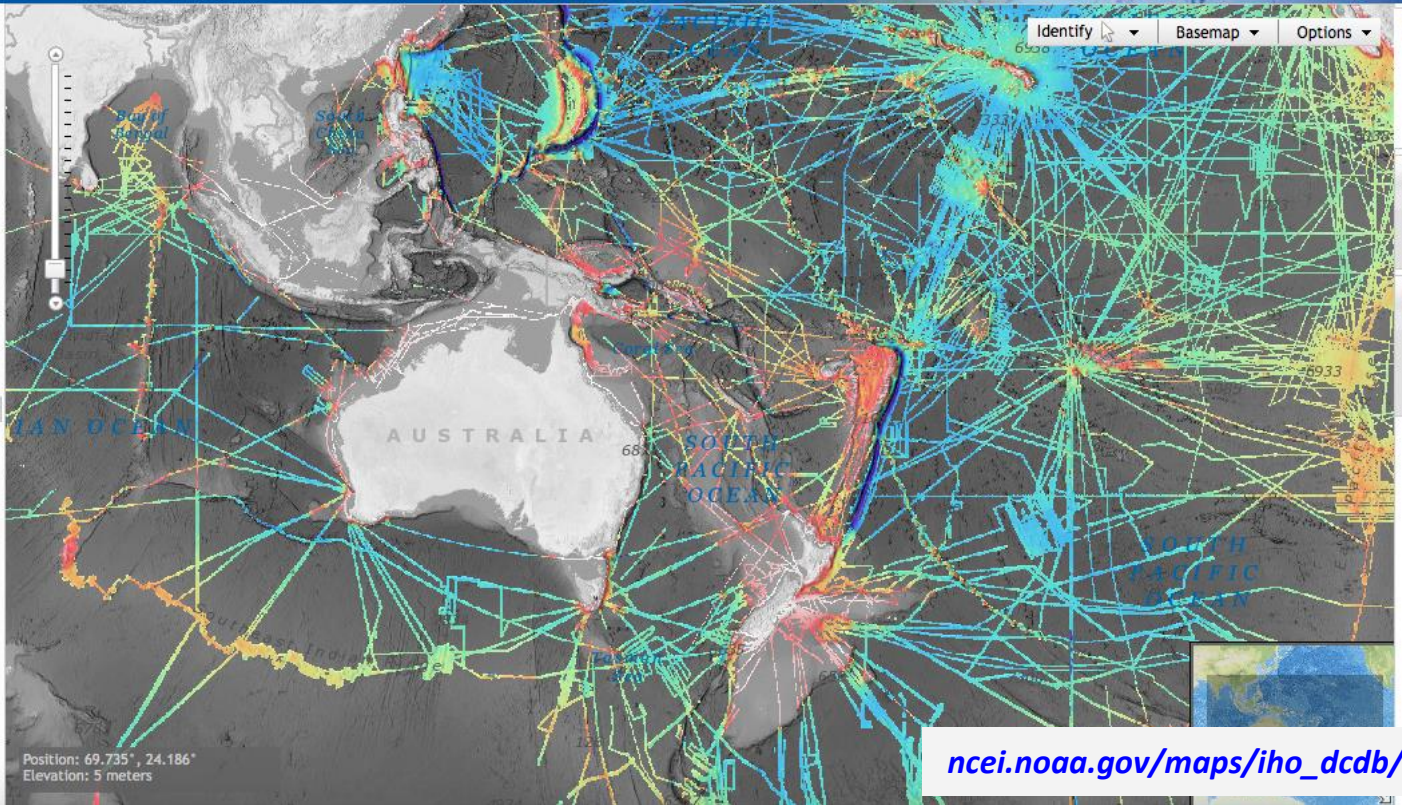
► Germany

► Japan

Grid Extract

More Information

Help



NEW - Grid Extract for MB Mosaic

Layers

Grid Extract

► Help

Multibeam Mosaic ▾

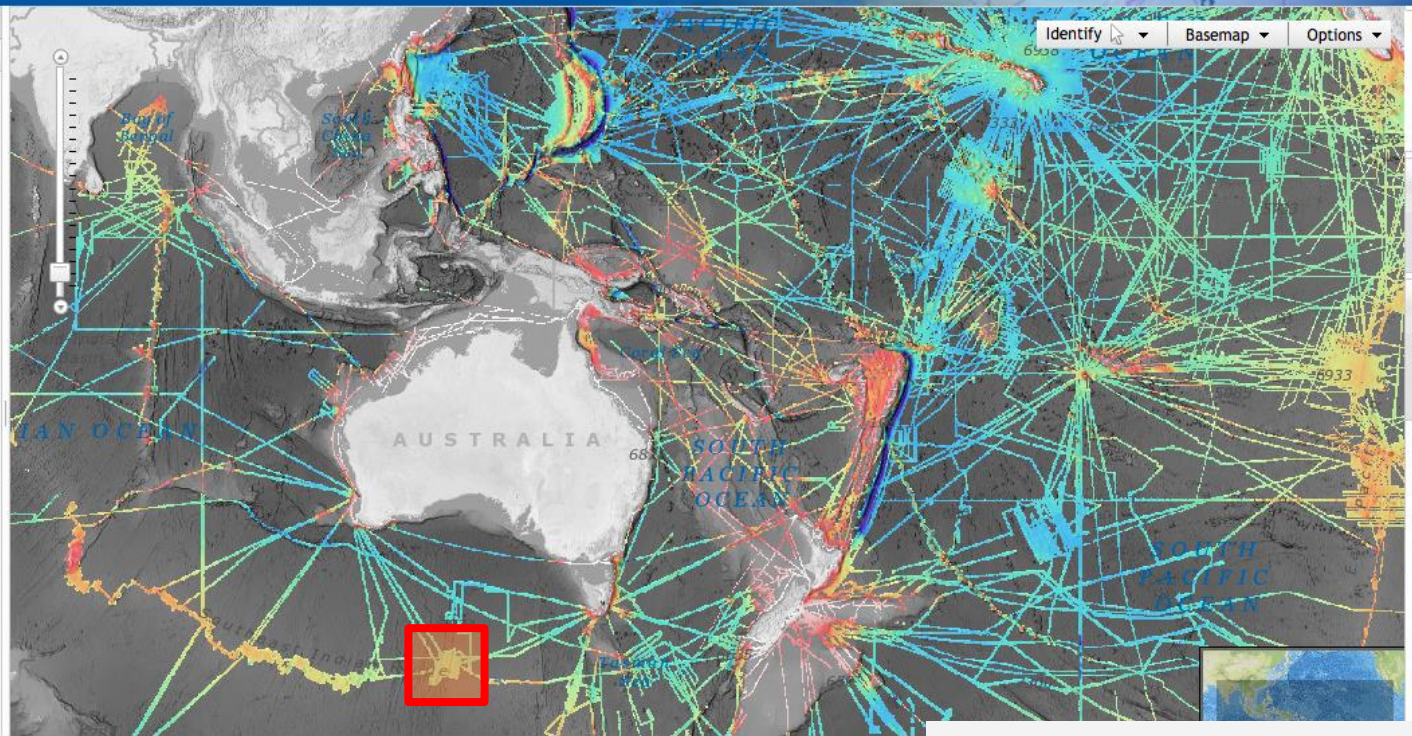
Extract a bathymetric grid from the [NCEI Multibeam Bathymetry Mosaic](#). The depth values are in meters, stored as 32-bit floating point values. The cell size is 3 arcseconds (approx. 90m).

Draw Rectangle Enter Coordinates

Area of Interest: 122.29, -51.74, 131.79, -45.48

Output image dimensions: 11391 x 7518 pixels

[Download Data](#) ←



NEW data - uploaded since Feb. 2021

The screenshot shows the IHO Data Centre for Digital Bathymetry Viewer interface. The top left features the IHO logo and the text 'International Hydrographic Organization'. The top right displays the title 'Data Centre for Digital Bathymetry Viewer'. The main area is a map of Australia and its surrounding waters, with green lines indicating survey tracks. The map includes labels for 'Bay of Bengal', 'Sea of China Sea', 'Coral Sea', 'AUSTRALIA', 'SOUTH PACIFIC OCEAN', and 'Tasman Sea'. A vertical scale bar is on the left, and a 'Position: -168.319°, 23.811°' and 'Elevation: -4883 meters' are shown at the bottom left. The right side has a vertical toolbar with 'Mercator', 'Arctic', and 'Antarctic' map styles. The top right has 'Identify', 'Basemap', and 'Options' dropdowns.

Layers

- IHO DCDB/NOAA NCEI ?
- Multibeam Surveys ?
- Multibeam Survey Footprints ?
- Multibeam Bathymetry Mosaic ?
- Single-Beam Surveys ?
- Single-Beam Sounding Density ?
- NOAA Hydrographic Surveys: ?
 - All Surveys with Digital Data
 - Surveys with BAGs
- BAG Shaded Relief Imagery ?

Search NCEI/DCDB Surveys ?

Current filter:
Date Added: 2021-02-01-present

- Crowdsourced Bathymetry Files ?
- Search CSB Files ?
- U.S. Bathymetry Coverage and Gap Analysis ?

EMODnet
Australia
Canada
France
Germany
Grid Extract
More Information
Help

- UNOLS R2R = 9 surveys
- Marine Geoscience Data System (LDEO) = 1
- Fugro = 1
- Caladan Oceanic LLC = 30

EMODnet Web Services

IHO International Hydrographic Organization

Data Centre for Digital Bathymetry Viewer

Layers

- IHO DCDB/NOAA NCEI ?
- EMODnet**
 - EMODnet Multibeam Surveys ?
 - MAREANO Multibeam Surveys ?
 - MAREANO Multibeam Shaded Relief ?
 - EMODnet Single-Beam Surveys ?
 - MAREANO Single-Beam Surveys ?
 - EMODnet Digital Terrain Model (DTM) ?
- Australia
- Canada
- France
- Germany
- Japan
- Netherlands
- New Zealand
- United Kingdom
- Other C
- Known
- Bathym

Identify Basemap Options

Bay of Bengal

Indian Ocean

AUSTRALIA

SOUTH PACIFIC OCEAN

SOUTH PACIFIC OCEAN

Position: 173.927°, 28.077°
Elevation: -5955 meters

ncei.noaa.gov/maps/iho_dcdb/

Mercator Arctic Antarctic

Spatial extent of data archived at other repositories via web services.

AusSeabed Web Services

The screenshot displays the 'Data Centre for Digital Bathymetry Viewer' interface. On the left, a 'Layers' panel is visible, with the 'Australia' section highlighted by a red box. This section contains several checked items: 'AusSeabed Bathymetry Holdings', 'AusSeabed Bathymetry Holdings (Compilations)', 'AusSeabed 50m Multibeam 2018', 'AusSeabed MH370 Phase 1 Data 150m', and 'AusSeabed Great Barrier Reef Bathymetry 2018 30m'. Other layers include 'AusSeabed Northern Australia Bathymetry 2018 30m' and 'AusSeabed Multibeam Bathymetry of Australia 2015 5m'. The main map area shows Australia with various bathymetry data overlaid in purple and white lines. The map includes labels for 'AUSTRALIA', 'INDIAN OCEAN', 'SOUTH PACIFIC OCEAN', 'Bay of Bengal', 'South China Sea', and 'Carroll Sea'. A scale bar and a vertical position indicator are on the left. At the bottom left, the position is given as 86.915°, 10.407° and the elevation as -3438 meters. At the bottom right, the URL ncei.noaa.gov/maps/iho_dcdb/ is displayed. The top right of the interface has 'Identify', 'Basemap', and 'Options' menus. The right side of the interface has a vertical menu with 'Mercator', 'Arctic', and 'Antarctic' options.

IHO International Hydrographic Organization

Data Centre for Digital Bathymetry Viewer

Layers

- IHO DCDB/NOAA NCEI
- EMODnet
- Australia**
 - AusSeabed Bathymetry Holdings
 - AusSeabed Bathymetry Holdings (Compilations)
 - AusSeabed 50m Multibeam 2018
 - AusSeabed MH370 Phase 1 Data 150m
 - AusSeabed Great Barrier Reef Bathymetry 2018 30m
 - AusSeabed Northern Australia Bathymetry 2018 30m
 - AusSeabed Multibeam Bathymetry of Australia 2015 5m
- Canada
- France
- Germany
- Japan
- Netherlands
- New Zealand
- United Kingdom
- Other Data Sources
- Known Non-Public Data
- Bathymetric Coverage Maps

Grid Extract
More Information
Help

Position: 86.915°, 10.407°
Elevation: -3438 meters

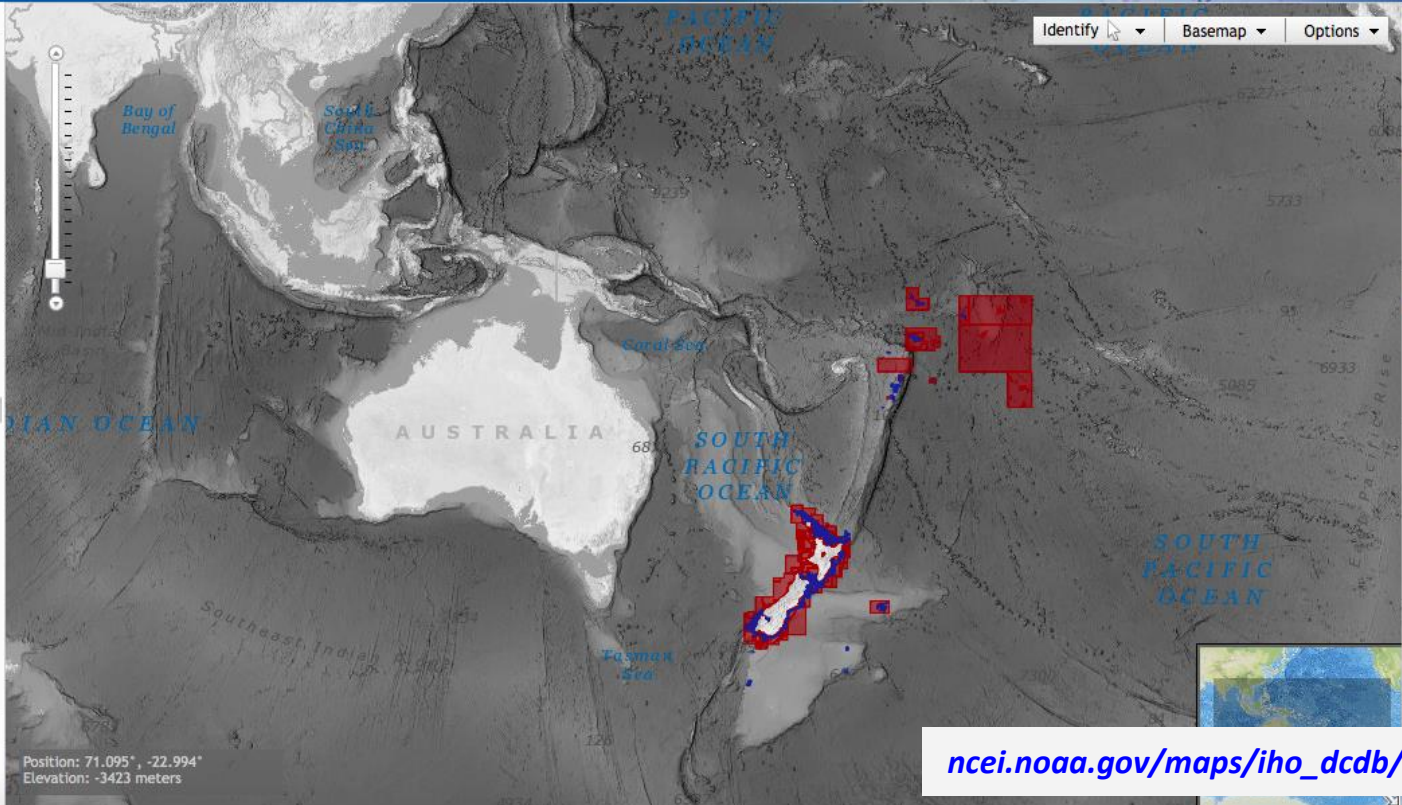
ncei.noaa.gov/maps/iho_dcdb/

NEW - LINZ Web Services



Data Centre for Digital Bathymetry Viewer

- Layers
- ▶ IHO DCDB/NOAA NCEI ?
 - ▶ EMODnet
 - ▶ Australia
 - ▶ Canada
 - ▶ France
 - ▶ Germany
 - ▶ Japan
 - ▶ Netherlands
 - ▶ New Zealand
 - LINZ Bathymetric Data Index ?
 - LINZ Bathymetric Surface Model Index ?
 - ▶ United Kingdom
 - ▶ Other Data Sources
 - ▶ Known Non-Public Data ?
 - ▶ Bathymetric Coverage Maps



ncei.noaa.gov/maps/iho_dcdb/

NEW - IFREMER Web Services

The screenshot displays the IHO Data Centre for Digital Bathymetry Viewer interface. The top navigation bar includes the IHO logo and the text "Data Centre for Digital Bathymetry Viewer". On the left, a "Layers" panel lists various data sources, with the "France" section highlighted in red. Under "France", the "IFREMER RAW Multibeam" layer is checked, while "SHOM Bathymetric Grids" is unchecked. The main map area shows a grayscale bathymetric view of the Indian Ocean region, with red lines indicating multibeam data tracks. Labels on the map include "Bay of Bengal", "AUSTRALIA", "SOUTH PACIFIC OCEAN", and "SOUTH INDIAN OCEAN". A vertical scale bar is on the left, and a coordinate box at the bottom left shows "Position: 73.556°, -26.190°" and "Elevation: -3607 meters". On the right, there are menu options for "Identify", "Basemap", and "Options", along with a vertical toolbar for "Mercator", "Arctic", and "Antarctic" projections. A small inset map in the bottom right corner shows the global context. At the bottom right, the URL ncei.noaa.gov/maps/iho_dcdb/ is displayed.

IHO International Hydrographic Organization

Data Centre for Digital Bathymetry Viewer

Layers

- ▶ IHO DCDB/NOAA NCEI (?)
- ▶ EMODnet
- ▶ Australia
- ▶ Canada
- ▶ France**
 - IFREMER RAW Multibeam (?)
 - SHOM Bathymetric Grids (?)
- ▶ Germany
- ▶ Japan
- ▶ Netherlands
- ▶ New Zealand
- ▶ United Kingdom
- ▶ Other Data Sources
- ▶ Known Non-Public Data (?)
- ▶ Bathymetric Coverage Maps


Identify ▼ Basemap ▼ Options ▼

Mercator Arctic Antarctic

Position: 73.556°, -26.190°
Elevation: -3607 meters

ncei.noaa.gov/maps/iho_dcdb/

GEBCO 2021 Type Identifier Grid Web Service




IHO
International
Hydrographic
Organization

Data Centre for Digital Bathymetry Viewer

Layers

- ▶ IHO DCDB/NOAA NCEI ?
- ▶ EMODnet
- ▶ Australia
- ▶ Canada
- ▶ France
- ▶ Germany
- ▶ Japan
- ▶ Netherlands
- ▶ New Zealand
- ▶ United Kingdom
- ▶ Other Data Sources
- ▶ Known Non-Public Data ?
- ▼ Bathymetric Coverage Maps
 - Global Multi-Resolution Topography ?
 - GEBCO_2021 Type Identifier ?

Grid Extract
More Information
Help

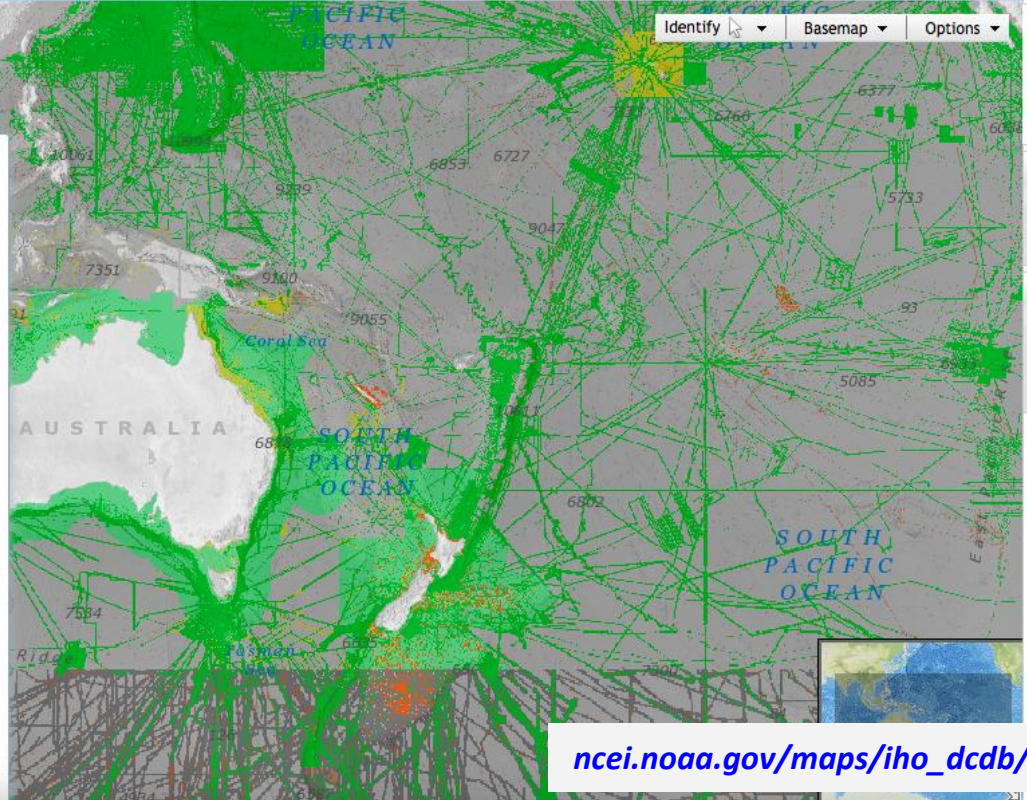


Type Identifier (TID) grid for the GEBCO_2021 grid. Explanations of the data sources are available [here](#). Note: when zoomed out, resampling artifacts may cause smaller lines to disappear; zoom in for a more accurate view. Click on the map to display the type identifier description at each point.

Legend:

GEBCO_2021 TID

- Singlebeam
- Multibeam
- Seismic
- Isolated sounding
- ENC sounding
- Lidar
- Depth measured by optical light sensor
- Combination of direct measurement methods
- Predicted based on satellite-derived gravity data
- Interpolated (computer algorithm/GMT)
- Digitized contour
- Bathymetric sounding within gridded dataset
- Pre-generated grid
- Unknown source
- Steering points



ncei.noaa.gov/maps/iho_dcdb/

Crowdsourced Bathymetry Data

The screenshot displays the IHO DCDB/NOAA NCEI web interface. On the left, the 'Layers' panel shows various data layers, with 'Crowdsourced Bathymetry Files' checked. The main map area shows a bathymetric map of the Pacific Northwest coast, with a red dashed box highlighting a specific area of interest. A 'Request Data from CSB Point Store' dialog box is open, prompting the user to enter their email address and specify the area of interest. The dialog box also includes options for creating a grid, setting the grid cell size (85m), and selecting the grid format (NetCDF). A red warning message states: 'This is an experimental feature and may change or be removed in the future.' The dialog box has 'OK' and 'Cancel' buttons.

IHO International Hydrographic Organization

Layers

- IHO DCDB/NOAA NCEI
- Multibeam Surveys
- Multibeam Survey Footprints
- Multibeam Bathymetry Mosaic
- Single-Beam Surveys
- Single-Beam Sounding Density
- NOAA Hydrographic Surveys:
 - All Surveys with Digital Data
 - Surveys with BAGs
- BAG Shaded Relief Imagery

Search NCEI/DCDB Surveys [Reset]

Crowdsourced Bathymetry Files

Search CSB Files [Reset]

U.S. Bathymetry Coverage and Gap Analysis

EMODnet

Australia

Canada

France

Germany

Japan

Grid Extract

More Information

Help

Identified Features (135)

- Crowdsourced Bathymetry Files (135)
- 2019-08-29T16:28 - 2019-09-04T05:33
- 2019-08-28T16:14 - 2019-08-29T06:05
- 2019-08-24T20:32 - 2019-08-28T03:02
- 2019-08-23T21:56 - 2019-08-24T20:32
- 2019-08-22T05:13 - 2019-08-22T19:41
- 2019-08-21T14:23 - 2019-08-28T16:13
- 2019-08-21T03:49 - 2019-08-22T01:41
- 2019-08-16T15:54 - 2019-08-21T03:48
- 2019-08-13T22:32 - 2019-08-16T15:53
- 2019-08-10T05:03 - 2019-08-18T05:19
- 2019-08-10T03:13 - 2019-08-13T22:32
- 2019-08-07T18:32 - 2019-12-27T00:00
- 2019-08-07T16:18 - 2019-08-08T15:17

Request Data from CSB Point Store

Please enter your email address to request these data. You will be notified when the file is ready.

Email:

Area of Interest:

Create grid?

Grid Cell Size (m)

Grid Format

This is an experimental feature and may change or be removed in the future.

OK Cancel

Position: -137.815°, 49.772°
Elevation: -3909 meters

300km
200mi

ncei.noaa.gov/maps/iho_dcdb/

The IHO DCDB is a Member State Resource

Webinar #2:

- How to package/submit data and metadata
- How to download and access data

The screenshot displays the 'Data Centre for Digital Bathymetry Viewer' interface. The top header features the IHO logo and the text 'International Hydrographic Organization' on the left, and the title 'Data Centre for Digital Bathymetry Viewer' on the right. Below the header is a 'Layers' panel on the left side, which includes a tree view under 'IHO DCDB/NOAA NCEI' with options like 'Multibeam Surveys', 'Single-Beam Surveys', and 'NOAA Hydrographic Surveys'. There are also search fields for 'NCEI/DCDB Surveys', 'CSB Files', and 'U.S. Bathymetry Coverage and Gap Analysis'. The main map area shows a satellite-style view of Australia and the surrounding Indian Ocean, with a dense network of green lines representing bathymetry data. A vertical toolbar on the right side contains icons for 'Mercator', 'Arctic', and 'Antarctic' map projections. At the bottom of the map, a status bar shows the current position as '113.282°, 26.515°' and an elevation of '156 meters'.



Questions?



Discussion: Status of mapping in the region
Existing data
Planned surveys



What data exists in the region?

- Where is it stored?
- Is it available/can it be shared?
- Are there any barriers to sharing?

What surveys are planned in the region?

- LiDAR
- Echo sounder
- Satellite Derived Bathymetry
- Crowdsourced Bathymetry
- Marine Science Research (UNCLOS)

Webinar 1: Summary & Conclusions

- Introduction to Seabed 2030
- Review status of mapping in the SWPHC region
- Introduction to the IHO Data Center for Digital Bathymetry
- Status of mapping in the region



Next Webinars in this Series

- Webinar 2 – 24 May: How do we build the map? How can you contribute data?
- Webinar 3 – 21 June: Increasing Data Coverage: Crowdsourced Bathymetry and Data Coverage Polygons
- Webinar 4 – 1 July: Moving Ahead Together: Summary, Next Steps and Wrap up.



Homework

- Identify and assemble information about existing datasets that are held by your country (e.g. web services, polygons, etc)
- Identify and assemble information about planned surveys in your area of jurisdiction (e.g. polygons of areas)
- Assemble information about technical challenges that we might be able to help you address.
- Input on strategies for gaining access to non-public data?
- Send questions and correspondence to: scaie@linz.govt.nz, cc: SWPHC@linz.govt.nz



Thank you!

Please join us for Webinar 2 on 24 May:
How do we build the map? How can you contribute data?

