

Title	NSW Environment Multi Beam Echo Sounder Gridded Data
Alternative title(s)	Seabed NSW state-wide mapping program
Abstract	<p>Gridded multi-beam echosounder (MBES) bathymetry and backscatter data acquired using NSW government's (NSW Department of Climate Change Energy Environment and Water) multi-beam echosounder (MBES) systems aboard RV's Bombora, Seascan and Glaucus. Fieldwork surveys were completed as part of the SeabedNSW program funded by NSW government under State-wide Science (2022-30), Coastal Reforms (2015-2022), HabMap Program (2005-2015) or under collaboration with partner agencies or institutions (DPI, Parks Australia, NESP). Surveys are predominantly on the open coast and within NSW state waters (2017) with Applanix Wavemaster POSMV (&gt;2011) providing positioning, height (RTK) and 3D motion solution; or Edgetech swath system w sidescan (&gt;2021). MBES was collected in GS+ (GeoAcoustics) or Hypack with attitude and positional data acquired in POSView and post processed using POSPac either Single-Base or Precise-Point-Positioning modules for improved vessel Smoothed Best Estimate of Trajectory. Data were cube modeled in Fledermaus/Qimera software (&gt;2010) to IHO 1B standard and cleaned-soundings exported before being gridded using bin-weighted averaging (generally 5 m grid cell size) relative to Australian Height Datum and issued in grid coordinates (UTM WGS84 Zone55 or 56; GDA2020 Zone 55 or 56). General details on vessel setup, mobilisation and processing are provided at <a href="https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Research/Our-science-and-research/seabed-nsw-standard-operating-procedures-multibeam-surveying-190101.pdf">https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Research/Our-science-and-research/seabed-nsw-standard-operating-procedures-multibeam-surveying-190101.pdf</a> with survey specific details in the Survey Report and survey Rigor Statement (provided upon request). Data packages provided via the Australian Oceanographic Data Network (<a href="https://portal.aodn.org.au/">https://portal.aodn.org.au/</a>) include bathymetry and backscatter in multiple formats; while those provided on AusSeabed (<a href="https://portal.ga.gov.au/persona/marine">https://portal.ga.gov.au/persona/marine</a>) are gridded bathymetry and backscatter data as geotif only. Data are not to be used for navigation purposes.</p>
Resource locator	
<a href="#">Data Quality Statement</a>	<p>Name: Data Quality Statement</p> <p>Protocol: WWW:DOWNLOAD-1.0-http--download</p> <p>Description:</p> <p>Data quality statement for NSW Environment Multi Beam Echo Sounder Surveys</p> <p>Function: download</p>
<a href="#">AODN</a>	<p>Name: AODN</p> <p>Protocol: WWW:DOWNLOAD-1.0-http--download</p> <p>Description:</p> <p>Data available from AODN</p> <p>Function: download</p>
Unique resource identifier	
Code	1801586c-e84d-4929-88e0-7a06927126ed
Presentation form	tableDigital
Edition	1
Dataset language	eng
Metadata standard	
Name	ANZLIC Metadata Profile: An Australian/New Zealand Profile of AS/NZS ISO 19115:2005. Geographic information - Metadata

Version	1.1
Dataset URI	<a href="https://datasets.seed.nsw.gov.au/dataset/1801586c-e84d-4929-88e0-7a06927126ed">https://datasets.seed.nsw.gov.au/dataset/1801586c-e84d-4929-88e0-7a06927126ed</a>
Purpose	foundational data collection; baseline for monitoring
Status	onGoing
Spatial representation type	grid
Spatial reference system	
Authority code	WSG84 / UTM Zone 56S
Code identifying the spatial reference system	32756
Spatial resolution	5 m
Additional information source	Data within the broader collection were acquired from 2005 on-wards during various major internal programs.
Topic category	
Keyword set	
keyword value	MARINE-Biology MARINE-Coasts MARINE-Reefs MARINE-Geology-and-Geophysics ECOLOGY-Habitat GEOSCIENCES-Geomorphology
Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16
Geographic location	
West bounding longitude	149.458008
East bounding longitude	154.555664
North bounding latitude	-37.690776
South bounding latitude	-27.807985
NSW Place Name	New South Wales Marine Estate
Vertical extent information	
Minimum value	-100

Maximum value 2228

## Coordinate reference system

Authority code urn:ogc:def:cs:EPSG::

Code identifying the coordinate reference system 5711

## Temporal extent

Begin position 2005-01-01

End position N/A

## Dataset reference date

Date type publication

Effective date 2021-11-18

## Resource maintenance

Maintenance and update frequency None

## Contact info

Organisation name NSW Department of Climate Change, Energy, the Environment and Water

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Responsible party role pointOfContact

**Lineage** Surveys were undertaken based on the Australian Multibeam Guideline (Lucieer et al, 2018) and more recently updated in 'Field Manuals for Marine Sampling to Monitor Australian Waters' ( <https://www.nespmarine.edu.au/field-manuals-marine-sampling-monitor-australian-waters>, v.2020). Details of the NSW DPIE systems, equipment and processing are detailed in 'SeaBed NSW: Standard Operating Procedures of multibeam surveying' (<https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Research/Our-science-and-research/seabed-nsw-standard-operating-procedures-multibeam-surveying-190101.pdf>). XYZ positional accuracy of the bathymetry (>2011 w POS system setup) is generally better than XY (0.1 m) and Z (2017) to provide an improved best estimate of vessel trajectory. Geoswath processing: >2011 SBET was applied in GS+ with Sound Velocity Sensor (SVS - surface) and SV profiles (SVP - water column) corrections for stage 1 filtering to GSF file format and then stage 2 cube filtering in Fledermaus/Qimera (IHO1B). R2Sonic and Edgetech system: raw files imported to Qimera with SBET and SVP corrections (including TU Delft speed of sound inversion) applied to built qpd files. Cloud data is filtered using shallow-bias and a cube surface created at 2m grid cell size and highlighting soundings greater than 2 standard deviations from the predicted mean. Note: SV corrects for ray-bending arising from changes in water column density over a survey area at the surface and with depth. Generally, cleaned-soundings are then exported and/or gridded at 5 x 5m in grid coordinates WGS84Z56 and at Australian Height Datum. A signed NSW DPE Rigor Statement is provided with our AODN data package (or upon request) with QC assessments, projection, datum and processing information (similar to AusSeabed survey report) and 3rd party cross-checked by either our hydrographer or mapping scientists. Data packages provide gridded data sets in multiple formats (gif, xyz, SD (Fledermaus), KMZ, ESRI Arc Ascii) are named as per the convention prefix NSWENV\_yyyyymmdd\_LocationSite\_MB (additional details are provided within the rigor statement and the Standard Operating Procedure).

## Limitations on public access

Scope	dataset
<b>Responsible party</b>	
Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
Full postal address	NSW Australia data.broker@environment.nsw.gov.au
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Email address	<a href="mailto:data.broker@environment.nsw.gov.au">data.broker@environment.nsw.gov.au</a>
Web address	<a href="https://www.nsw.gov.au/departments-and-agencies/dcceew">https://www.nsw.gov.au/departments-and-agencies/dcceew</a>
Responsible party role	pointOfContact
<b>Metadata point of contact</b>	
Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
Full postal address	NSW Australia data.broker@environment.nsw.gov.au
Telephone number	131555
Email address	<a href="mailto:data.broker@environment.nsw.gov.au">data.broker@environment.nsw.gov.au</a>
Responsible party role	distributor
<b>Metadata date</b>	2021-10-04
<b>Metadata language</b>	eng