| | |
|---|---|
| Title | Wollongong seabed landforms derived from multibeam echosounder data 2022 |

## Abstract

Multibeam echosounder (MBES) bathymetry data were collected offshore of Wollongong, NSW in 2016-17. Bathymetry data coverage extends from Bellambi Point to Port Kembla, and ranges from 4 to 62 m depth. This dataset represents a classification of seabed landforms derived from this MBES, which delineates the prominent seabed features observed. This classification defines areas of reefs, peaks, plains, scarps, depressions and channels. Features were classified using the Seabed Landforms Classification Toolset developed for ArcGIS by the Coastal and Marine Unit, DPE (Linklater et al. 2023) which are publicly available on SEED (https://datasets.seed.nsw.gov.au/dataset/seabed-landforms-classification-toolset) and GitHub (https://github.com/LinklaterM/Seabed-Landforms-Classification-Toolset/).

A preliminary classification of this Wollongong survey was presented in Linklater et al. (2019), and this classification represents the final interpreted product for this survey. This dataset contributes toward an understanding of the distribution of submerged reefs along the NSW coast, which provides fundamental baseline information for managers, users and custodians of the marine environment.

The source MBES dataset for this classification is available on the Australian Ocean Data Network portal: https://portal.aodn.org.au/

Linklater, M., Morris, B.D. and Hanslow, D.J. (2023), Classification of seabed landforms on continental and island shelves. Frontiers in Marine Science, 10, https://www.frontiersin.org/articles/10.3389/fmars.2023.1258556/full.

Linklater, M., Ingleton, T. C., Kinsela, M. A., Morris, B. D., Allen, K. M., Sutherland, M. D., & Hanslow, D. J. 2019. Techniques for classifying seabed morphology and composition on a subtropical-temperate continental shelf. Geosciences, 9(3), 141.

## Resource locator

| | |
|---|---|
| Show on SEED Web Map | Name: Show on SEED Web Map<br>Protocol: WWW:DOWNLOAD-1.0-http--download<br>Description:<br>Display dataset on SEED's map<br>Function: download |
| Data Quality Statement | Name: Data Quality Statement<br>Protocol: WWW:DOWNLOAD-1.0-http--download<br>Description:<br>Data quality statement for NSW seabed landforms derived from marine lidar data 2021<br>Function: download |
| Download Package | Name: Download Package<br>Protocol: WWW:DOWNLOAD-1.0-http--download<br>Description:<br>Data (Shapefile)<br>Function: download |
| REST Service | Name: REST Service<br>Protocol: WWW:DOWNLOAD-1.0-http--download<br>Description:<br>Wollongong seabed landforms derived from multibeam echosounder data 2022 - REST<br>Function: download |

## Unique resource identifier

| | |
|---|---|
| Code | 9d6bdbfe-9069-4073-a0f5-1d90f05b4058 |

| | |
|---|---|
| Presentation form | Map digital |
| Edition | 1 |
| Dataset language | English |

## Metadata standard

| | |
|---|---|
| Name | ISO 19115 |
| Edition | 2016 |

| | |
|---|---|
| Dataset URI | https://datasets.seed.nsw.gov.au/dataset/9d6bdbfe-9069-4073-a0f5-1d90f05b4058 |
| Purpose | To support coastal and marine research, planning and management |
| Status | Completed |

## Spatial representation

| | |
|---|---|
| Type | vector |

## Spatial reference system

| | |
|---|---|
| Code identifying the spatial reference system | 4283 |
| Spatial resolution | 5 m |

## Topic category

## Keyword set

| | |
|---|---|
| keyword value | MARINE-Coasts |
| | MARINE |
| | MARINE-Reefs |
| | PHOTOGRAPHY-AND-IMAGERY-Remote-Sensing |
| | GEOSCIENCES-Geomorphology |
| | WATER |
| | ECOLOGY-Habitat |
| | ECOLOGY-Landscape |

Originating controlled vocabulary

| | |
|---|---|
| Title | ANZLIC Search Words |
| Reference date | 2008-05-16 |

## Geographic location

| | |
|---|---|
| West bounding longitude | 150.9 |
| East bounding longitude | 151 |

| | |
|---|---|
| North bounding latitude | -34.5 |
| South bounding latitude | -34.4 |
| NSW Place Name | Wollongong |

## 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 | 2016-08-01 |
| End position | N/A |

## Dataset reference date

## Resource maintenance

| | |
|---|---|
| Maintenance and update frequency | Not planned |
| Contact info | |
| Contact position | Data Broker |
| Organisation name | NSW Department of Climate Change, Energy, the Environment and Water |
| Telephone number | 131555 |
| Email address | data.broker@environment.nsw.gov.au |
| Web address | https://www.nsw.gov.au/departments-and-agencies/dcceew |
| Responsible party role | pointOfContact |

## Lineage

Multibeam echosounder data was collected offshore of Wollongong, NSW in 2016-17, covering an area of 102 km2 in 4 to 62 m water depth. This dataset represents a classification of seabed landforms derived from this MBES data, which delineates the prominent seabed features observed. This classification defines areas of reefs, peaks (uppermost part of the reef surface), plains, depressions and channels (within the reef surface), and scarps (areas greater than 10 degrees slope). The dataset is provided as an ArcGIS shapefile. Features were classified using the Seabed Landforms Classification Toolset (ArcGIS), developed by DPE (Linklater & Morris, 2022) which applies the methodological framework presented in Linklater et al. (2019). In this classification approach, ruggedness (VRM, Walbridge et al. 2018), slope, finescale and broadscale Bathymetric Position Index (Slope Position, Evans et al. 2014) variables were derived from the MBES dataset and used to characterise prominent features within the seascape. Procedures were implemented to reduce potential noise within the dataset and identify the full extent of reef outcrops. Manual editing was performed to separate inferred reef outcrops from soft sediment bedforms, with the resulting classification focussed on identifying the presence, extent and character of submerged reef outcrops within the MBES dataset. The classification output was reviewed and edited by the data creator to capture observed and interpreted seabed features. The resulting layer was externally reviewed to ensure scientific rigour and data integrity.

Wollongong multibeam echosounder data available for download on AODN: https://portal.aodn.org.au

Linklater, M. and Morris, B. (2022), Classification of seabed landforms on continental and island shelves. Manuscript in preparation. Linklater, M., Ingleton, T. C., Kinsela, M. A., Morris, B. D., Allen, K. M., Sutherland, M. D., & Hanslow, D. J. 2019. Techniques for classifying seabed morphology and composition on a subtropical-temperate continental shelf. Geosciences, 9(3), 141. Walbridge, S., Slocum, N., Pobuda, M., Wright, D.J., 2018. Unified geomorphological analysis workflows with Benthic Terrain Modeler. Geosciences, 8(3), 94. Evans, J., Oakleaf, J., Cushman, S., 2014. An ArcGIS Toolbox for Surface Gradient and Geomorphometric Modeling, Version 2.0-0. Available online: https://github.com/jeffreyevans/GradientMetrics.

## Limitations on public access

| | |
|---|---|
| Scope | dataset |

### DQ Topological Consistency

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|---|---|
| Explanation | ArcInfo was used to do a topological consistency check to detect flaws in the spatial data structure. No polygon overlaps were detected. |

### DQ Absolute External Positional Accuracy

| | |
|---|---|
| Explanation | This dataset represents seabed features classified from 5 m cell size input bathymetry data, with no ground-truthing undertaken. Polygons smaller than 100 m2 were eliminated. Due to the variability in sediment movement, precise feature boundaries can be variable over time. |

## Responsible party


| | |
|---|---|
| Contact position | Data Broker |
| Organisation name | NSW Department of Climate Change, Energy, the Environment and Water |
| Telephone number | 131555 |
| Email address | data.broker@environment.nsw.gov.au |
| Web address | https://www.nsw.gov.au/departments-and-agencies/dcceew |
| Responsible party role | pointOfContact |

## Metadata point of contact

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| Responsible party role | pointOfContact |

## Metadata date

2024-02-26T13:18:27.270215

## Metadata language