

Marine Park Bathymetry (Geographe)

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Version

1.0.0

Program

Marine

Resource type

Derivative

Published Date

12/03/2018

View the [original metadata page](#) for the most up-to-date information on this product.

Basics

Background

Australia has established a network of 58 marine parks within Commonwealth waters covering a total of 3.3 million square kilometres, or 40 percent of our exclusive economic zone (excluding Australian Antarctic Territory).

These parks span a range of settings, from near coastal and shelf habitats to abyssal plains. Parks Australia manages the park network through management plans that came into effect for all parks on 1 July 2018.

What this product offers

Geoscience Australia is contributing to their management by collating and interpreting existing environmental data, and through the collection of new marine data.

“Eco-narrative” documents are being developed for those parks, where sufficient information is available, delivering collations and interpretations of seafloor geomorphology, oceanography and ecology. Many of these interpretations rely on bathymetric grids (measuring depth of water) and their derived products, including those in this data release.

Access

Data access

Link to data	Download the data via eCat
Dataset technical metadata	
eCat record	121158
CMI RESTful node ID	256
Access constraints	General public
Security classification	Unclassified
Update frequency	asNeeded

Details

Technical information

Bathymetry grids

The bathymetry (measurement of depth of water) of the marine parks was created by compiling and processing Geoscience Australia's bathymetry data holding gridded at the optimum resolution depending of the vessel's sonar system.

The bathymetry of the park is illustrated by a panchromatic geotiff image, developed by combining the bathymetric data with a hillshade image.

Morphological surfaces

Geoscience Australia has developed a new marine seafloor classification scheme, which uses the two-part seafloor mapping morphology approach of Dove et al. (2016). This new scheme is semi-hierarchical and the first step divides the slope of the seafloor into three *Morphological Surface* categories (Plain, <2°; Slope, 2-10°; Escarpment, >10°).

Accuracy and limitations

Not to be used for navigational purposes.

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References

Dove, D., Bradwell, T., Carter, G., Cotterill, C., Gafeira, J., Green, S., Krabbendam, M., Mellet, C., Stevenson, A., Stewart, H., Westhead, K., Scott, G., Guinan, J., Judge, M., Monteys, X., Elvenes, S., Baeten, N., Dolan, M., Thorsnes, T., Bjarnadóttir, L., Ottesen, D. (2016). Seabed geomorphology: a twopart classification system. British Geological Survey, Open Report OR/16/001.

Processing

Lineage

The Geographe Marine Park Bathymetry dataset was created by compiling GA's bathymetry data holding.

The bathymetry consist of the following surveys:

- GA-5007 Two Rocks to Cape Naturaliste LIDAR bathymetry survey.
- AIMS Geographe Bay bathymetry dataset that has been downloaded from PAWSEY in ASCII XYZ format.

The dataset was processed in the Geoscience Australia by Michele Spinoccia, using CARIS HIPS & SIPS ver 7.1.2.

Details

- Grid resolution: 5 m
- Number of grids: 1
- Total surface coverage: 828.31 km²
- Vertical Datum: MSL
- Horizontal Datum: WGS84 UTM-50S
- Use Limitation: This dataset is not to be used for navigational purposes.
- This dataset is published with the permission of the CEO, Geoscience Australia

Processing

- First a vessel configuration file was created where the co-ordinates of the motion sensor and DGPS antenna and patch test offsets were recorded.
- A new project was then created and the vessel configuration file was attached to the project file.
- The raw swath sonar data, for each line was then imported into the project and the vessel information assigned to the data.
- The motion sensor, DGPS and heading data were then cleaned using a filter that averaged adjacent data to remove artefacts.
- Different sound velocity profiles data for each block were attached to the corresponding raw swath sonar data files to correct the depths for changes in the speed of sound through the water column.
- Then a new blank field area was defined that specified the geographic area of study and the co-ordinate system used. The co-ordinates for the study areas were WGS84 UTM-50S.
- The data was cleaned by applying several filters that removed any remaining spikes in the bathymetry data using user defined threshold values. A visual inspection of the data for each line was then undertaken where artefacts and noisy data not removed by the filtering process were removed manually using Swath and subset editors modules of the Caris HIPS/SIPS software.
- All the data for each bathymetric, motion sensor, DGPS, heading, tide and sound velocity profile data were merged to produce the final processed data file. A weighted grid of the processed data was then created for each Block. In GA the tide was applied to the grid to correct for tidal variations and velocity corrections were performed to correct for different artefacts and mismatches.
- The processed data was finally exported as grids soundings or false coloured images for presentation and reporting and as final processed data in in ASCII XYZ as well as geotif formats at the optimum resolution the data can provide.
- Using CARIS Base editor 4.0 the grids were exported as ESRI ASCII grid, then imported into ARC catalogue/info to create a raster file for the entire survey as well as Google Earth KMZ.

Schema / spatial extent

WGS84 UTM50 Geographe Marine Park

Update frequency	asNeeded
Temporal extent	2018-05-23 10:56:57
Min. longitude	114.99
Max. longitude	115.70
Min. latitude	-33.67
Max. latitude	-33.25
Coordinate reference system	UTM-WGS 1984, Zone 50 South (EPSG: 32750)
Cell size X	5.00
Cell size Y	5.00

Media

Credits

Owner

Commonwealth of Australia (Geoscience Australia)

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