

nthaus100 grid Metadata

Field	Description
Title	High-resolution depth model for the Northern Australia – 100 m
Metadata Identifier	
Parent Record Identifier	NA
Topic Category	ELEVATION: height above or below sea level. GEOSCIENTIFIC INFORMATION: earth sciences. OCEANS: features and characteristics of salt water bodies excluding inland waters.
Keywords	digital elevation model, DEM, seafloor, relief, topography
Key Dates	CREATED: V1 - 16th Aug 2016 UPDATED: V2 - 25 Feb 2017 UPDATED: V3 – 26 May 2017
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Abstract	This nthaus100 dataset contains bathymetry (depth) products from the compilation of all available source bathymetry data within Northern Australia into a 100 m-resolution Digital Elevation Model (DEM). The Northern Australia region includes a broad continental shelf over 400 km wide extending out from Western Australia and the Northern Territory, and stretching over a distance of ~1500 km. This region encompasses numerous shallow coral reefs including the offshore Sahul Banks, sand cays, drowned ancient river valleys, broad inner-shelf banks

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	<p>and a rugged coastline. Bathymetry mapping of the seafloor is vital for the protection of Northern Australia, allowing for the safe navigation of shipping and improved environmental management. Shallow- and deep-water multibeam surveys have revealed the highly complex seafloor of the continental shelf and adjacent slope canyons draining into the Indian Ocean and Timor Sea. Airborne LiDAR bathymetry acquired by the Australian Hydrographic Office cover most of the Sahul Banks reefs, with some coverage gaps supplemented by satellite derived bathymetry. The Geoscience Australia-developed Intertidal Elevation Model DEM improves the source data gap along Northern Australia's vast intertidal zone. All source bathymetry data were extensively edited as point clouds to remove noise, given a consistent WGS84 horizontal datum, and where possible, an approximate MSL vertical datum.</p>
<p>Purpose</p>	<p>This project aimed to develop a new high-resolution digital elevation model (DEM) for the Northern Australia region at a grid pixel resolution of 0.001-arc degree (about 100 m). A high-resolution DEM is a critical 3D dataset required to improve the geomorphic detail about the location and spatial extent of seabed features for Australia's continental shelf and Timor Sea region. The nthaus100 grid utilised the latest data sourced from ship-based multibeam and singlebeam echosounder surveys, airborne LiDAR bathymetry (ALB) surveys, and satellite derived bathymetry (SDB) data.</p>
<p>Data limitations (optional)</p>	<p>AUSTRALIAN HYDROGRAPHIC OFFICE NOTICE: Not to be used for navigation. This nthaus100 DEM product incorporates source bathymetry data reproduced under licence by permission of the Australian Hydrographic Office © Commonwealth of Australia 2005-2017.</p> <p>GEOSCIENCE AUSTRALIA NOTICE: This nthaus100 DEM product incorporates data which are © Commonwealth of Australia (Geoscience Australia) 2005-2017. The Commonwealth gives no warranty regarding the data's accuracy, completeness, currency or suitability for any particular purpose.</p> <p>WESTERN AUSTRALIAN MARINE SCIENCE INSTITUTION NOTICE: This nthaus100 DEM product incorporates bathymetry data sourced from Western Australian Marine Science Institution (WAMSI) project funded</p>

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	<p>by Western Australian State Government and research partners and carried out by Karen Miller, Ben Radford (Australian Institute of Marine Science) and Iain Parnum (Curtin University).</p> <p>CSIRO MARINE NATIONAL FACILITY NOTICE: This ntaus100 DEM product incorporates source bathymetry data provided by the CSIRO Marine National Facility and made available under a Creative Commons Attribution 4.0 International Licence. We acknowledge the use of the CSIRO Marine National Facility (https://ror.org/01mae9353) in undertaking this research.</p> <p>This ntaus100 DEM product has been compiled from a wide range of data sources of varying resolution and accuracy. Data are supplied 'as is' without any warranty or guarantee. The data may not be free of error, comprehensive, current or appropriate for your particular purpose. You accept all risk and responsibility for its use.</p>														
Preview Image (optional)															
Data lineage (optional)															
Data file description (optional)	<p>FILE: ntaus100 PROJECTION: Geographic Latitude/Longitude DATUM: WGS84 SCALE: 0.001*0.001 arc-degree (about 100 m) grid cells STORED DATA FORMAT: ESRI raster grid OTHER AVAILABLE DATA FORMATS: GMT/netCDF (CF-1.0) grid and Fledermaus (V7.7.7) SD grid</p>														
Spatial Extent	<p>NORTH LATITUDE: -08.0 SOUTH LATITUDE: -18.0 WEST LONGITUDE: 121.0 EAST LONGITUDE: 133.0 HORIZONTAL DATUM: WGS84</p> <table border="0"> <tr> <td>^aESRI raster Top</td> <td>-8.00013888885</td> </tr> <tr> <td>ESRI raster Left</td> <td>120.999583333</td> </tr> <tr> <td>ESRI raster Right</td> <td>132.999583333</td> </tr> <tr> <td>ESRI raster Bottom</td> <td>-18.0001388889</td> </tr> <tr> <td>ESRI raster Columns</td> <td>12000</td> </tr> <tr> <td>ESRI raster Rows</td> <td>10000</td> </tr> <tr> <td>ESRI raster Cell Size X, Y</td> <td>0.001, 0.001</td> </tr> </table> <p>^aCell-registered, showing coordinates for edge of cells</p>	^a ESRI raster Top	-8.00013888885	ESRI raster Left	120.999583333	ESRI raster Right	132.999583333	ESRI raster Bottom	-18.0001388889	ESRI raster Columns	12000	ESRI raster Rows	10000	ESRI raster Cell Size X, Y	0.001, 0.001
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	^b GMT/netCDF x_min 121.000083333 GMT/netCDF x_max 132.999083333 GMT/netCDF y_min -17.9996388889 GMT/netCDF y_max -8.00063888885 GMT/netCDF nx 12000 GMT/netCDF ny 10000 GMT/netCDF x_inc, y_inc 0.001, 0.001 ^b Grid-registered, showing coordinates of the centre of cells
Temporal Extent	NA
Vertical extent (optional)	MINIMUM HEIGHT: -5218 m MAXIMUM HEIGHT: 2918 m VERTICAL DATUM: approximates mean sea level (MSL)
Maintenance and Update Frequency (optional)	STATUS: Ongoing FREQUENCY: As required
Resource Constraints and licensing	COPYRIGHT: The content on this website is released under the Creative Commons Attribution 4.0 International Licence: https://creativecommons.org/licenses/by/4.0/ ATTRIBUTION: "© www.deepreef.org"
Processing	To be completed
References	To be completed
Credits and funding	CREDITS: Brett Brace (Royal Australian Navy) Hanna Draper (Australian Hydrographic Office) Doug White (Australian Hydrographic Office) Michael Andrew (Australian Hydrographic Office) Anne Worden (Australian Hydrographic Office) Mark Alcock (Geoscience Australia) Grant Boyes (Geoscience Australia) Robert Parums (Geoscience Australia) Michele Spinoccia (Geoscience Australia) Justy Siwabessy (Geoscience Australia) Mark Case (Australian Institute of Marine Science) Iain Parnum (Curtin University) Ralph Talbot-Smith (WA Depth of Transport) FUNDING: National Collaborative Framework – Queensland Coastline Capture Project

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Supplemental information	NA
Online resources	The data may be downloaded from the Deepreef Explorer site: https://www.deepreef.org/bathymetry/219-nthaus-bathy.html