Title	NSW Marine Estate Towed Video Imagery	
Alternative title(s)	NSW Marine still imagery of the seabed for the NSW continental shelf	
Abstract	Raw downward facing still imagery of the seabed over the NSW continental shelf acquired using NSW government's (Department of Climate Change Energy Environment and Water) towed video system aboard RV Bombora. Acquisition is ongoing (>2015) predominantly funded by the department under Coastal Reform Climate Change Fund project 'State-wide Science' and/or by various collaborative agencies (DPI; Parks Australia; FRDC) and educational institutions (UoW: UTas). Imagery is captured over areas to 1) ground-truth seabed typologies and validate habitat boundaries derived from multi-beam echosounder (MBES) surveys (www.aodn.org.au or www.ausseabed.gov.au) and/or 2) habitat assessments and monitoring to capture broad distribution of seabed benthic communities. For biodiversity-type assessments, imagery is captured, and transects/sites are selected in a sampling design in accordance with the Australian Field Manuals for Marine Sampling. Imagery captured is generally of benthic habitats in 10-120m of water depth over the NSW inner shelf. Georeferenced (XYZ) and time-stamped (UTC) still imagery is accessible via SEED, the online annotation platform Squidle+ and SeaMap Australia.	
Resource locato	ır	
<u>Data Quality</u> <u>Statement</u>	Name: Data Quality Statement Protocol: WWW:DOWNLOAD-1.0-httpdownload	
	Description: Data quality statement for NSW Marine Estate Towed Video Imagery	
	Function: download	
Unique resource	identifier	
Code	406af3af-e466-434c-84fa-63d6c02af35e	
Presentation form	Image digital	
Edition	1	
Dataset language	English	
Metadata standard		
Name	ISO 19115	
Edition	2016	
Dataset URI	https://www.planningportal.nsw.gov.au/opendata/dataset/406af3af-e466-434c-84fa-63d6c02af35e	
Purpose	baseline for monitoring	
Status	Completed	
Spatial representation type	video	
Spatial reference system		

Code identifying

4283

Topic category	imageryBaseMapsEarthCover	
Additional information source	Data were collected on 5-6 separate dates during the time period to acquire imagery once from each for the randomly selected locations identified at the start of the survey.	
Spatial resolution	1 m	
the spatial reference system		

Keyword set	
keyword value	MARINE-Biology
	MARINE-Coasts
	MARINE-Reefs
	PHOTOGRAPHY-AND-IMAGERY-Remote-Sensing
Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16
Geographic location	
NSW Place Name	Port Stephens Great Lakes
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	2019-10-20
End position	N/A
Dataset reference date	
Resource maintenance	
Maintenance and update frequency	Unknown
Contact info	
Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
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Responsible party role	pointOfContact

Lineage

Video surveying was undertaken following the recommendations detailed in 'Field Manuals for Marine Sampling to Monitor Australian Waters' (https://www.nespmarine.edu.au/fieldmanuals-marine-sampling-monitor-australian-waters). Details of the NSW DPIE towed video system and equipment are provided 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-operatingprocedures-multibeam-surveying-190101.pdf). XYZ positional accuracy of the still imagery is better than XY (3 degrees of slant range [eg. 2.6m radius @ 100m]; 2x ship's speed for XY (horizontal) and/or >2x cable speed for Z (vertical). Filtered coordinates were then used to estimate 'fish' GPS location using the neighbouring average (3s time-step). Where a coordinate estimate was performed using one of these methods, the image's metadata "Flag" column was populated with a "1" or "3" respectively. Interpolated positions were then validated by comparison of image content against bathymetric features at corresponding coordinates, primarily at transitions between high-relief reef and low-relief sediment. Image (JPG) and image metadata records (generated in csv format) were uploaded for access and annotation in Squidle+.

Constraint set

Use

constraints

This data is provided under a Creative Commons Attribution 4.0 licence http://creativecommons.org/licenses/by/4.0. Attribute 'NSW Department of Climate Change, Energy, the Environment and Water' in publications using this data.

Limitations on public access

Scope

dataset

DQ Conceptual Consistency

Effective date

2020-05-18

Explanation

As the imagery is acquired using a moving platform some images may capture the same section of seabed. Survey speed of $\sim 1 \text{kt } (0.51 \text{m/s})$; image capture rate 1 image every 2 seconds; and approximate area of seabed captured in each image. nb: tow-fish roll, pitch and heave values are recorded by the video camera and saved within the video data file.

DQ Absolute External Positional Accuracy

Effective date

2020-05-18

Explanation

Squidle+ ingestion of data requires a position and an altimetry value or height of the 'tow fish' above the seabed. At the time of acquisition, the the towed video system did not have an altimeter and thus the height of the tow fish was estimated as Tow-Fish Altitude = [Water Depth at Tow-Fish (from MBES survey)] - [Tow-Fish Pressure Sensor Depth] + [P-Sensor to SLR camera (offset =0.52)] nb. P-sensor value is not corrected for tide whereas MBES data is static to AHD. XY position of fish is determined by relative position of USBL transponder (fish) to transceiver (vessel). GPS position is G2 quality (\sim 0.4-0.5 in real-time) and is relative to the vessels Centre of Mass (reference frame 0:0:0) with a 12.4m forward offset (X = -1.5) from transceiver to COM entered in the USBL software (Y = 0). USBL heading offset is checked following each installation (nominally 23 degrees from centreline) and USBL (Tracklink, USA) precision is 3 degrees of slant range value. Original image time-stamping is synched with computer UTC (<1s) but naming convention uses USBL/Video text feed based on POS MV output.

Responsible party

Contact position Data Broker

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Metadata point of contact

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Metadata date 2024-02-26T13:43:57.256516

Metadata language