

## Title

NSW nearshore wave buoy parameter time series data (completed deployments)

## Abstract

In-situ ocean wave measurements have been collected at nearshore locations along the NSW coast. Wave data are collected using GPS wave buoys that are deployed by NSW DCCEEW scientists on moorings in shallow coastal waters (< 35 m water depth) adjacent to beaches or rocky shores. The program currently uses Sofar Spotter wave buoys (<https://www.sofaroccean.com/products/spotter>). During 2016-2017, Datawell DWR-G4 wave buoys (<https://www.datawell.nl/Products/Buoys.aspx>) were used, while in 2018 and 2019 both Datawell and Spotter wave buoys were used. A buoy comparison experiment was carried out in 2018, which found that wave data measured by Datawell and Spotter buoys at the same location could be considered equivalent.

The wave buoys are tethered to moorings at deployment locations and float on the water surface, measuring the height, period and direction of passing waves by tracking the motion of the buoy through time using GPS. The deployments are temporary, and the duration of each wave buoy deployment varies with operational needs, ranging from several months to years. Deployment locations are chosen to support scientific research carried by NSW DCCEEW and partners on coastal dynamics along the NSW coastline and to develop nearshore wave modelling tools and data. Wave data and research support the development of Coastal Management Programs (CMPs) under the Coastal Management Act (2016).

The processed wave data from completed buoy deployments include a comma-separated value (CSV) table of widely used spectral and time-domain parameters describing wave height, period and direction, derived from spectral and zero-crossing analysis techniques. Data are provided at half-hourly temporal resolution with timestamps corresponding to the end of the half-hour buoy displacement measurement period in Australian Eastern Standard Time (AEST). Timestamps are included for each half-hour from the beginning to the end of each deployment, including when data was not recorded or when the buoy was temporarily removed from the water during mooring servicing. The time-series data have been quality controlled using standard diagnostic tests to identify suspect data points. Quality control fields (Qflag, Qcode, Percent, Dof) describe the provenance, completeness and quality of each data point. Sea surface temperature data are also provided for locations where buoys with water temperature sensors were deployed.

For more information on wave buoy data collection and processing, please see:

Kinsela, M.A., Morris, B.D., Ingleton, T.C., Doyle, T. B. et al. (2024) Nearshore wave buoy data from southeastern Australia for coastal research and management. Scientific Data. <https://doi.org/10.1038/s41597-023-02865-x>

Wave buoy equipment and deployments have been primarily funded by NSW DCCEEW with equipment grant funding from the NSW Office of the Chief Scientist and Engineer's Research Attraction and Acceleration Program (RAAP) awarded to the NSW Node of the Integrated Marine Observing System (IMOS) and administered by the Sydney Institute of Marine Science (SIMS). The Water Research Laboratory (UNSW Sydney) also provided wave buoys used in the program.

Real-time data from active nearshore wave buoy deployments is also available on SEED:

<https://datasets.seed.nsw.gov.au/dataset/nsw-nearshore-wave-buoy-parameter-time-series-data-active-deployments>

For more information on the NSW Nearshore Wave Data program please visit:

<https://www.environment.nsw.gov.au/research-and-publications/our-science-and-research/our-research/water/ocean-and-coastal-waves>

Data are provided as a ZIP file for each deployment under

## Resource locator

[Data Quality Statement](#)

Name: Data Quality Statement

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Data quality statement for NSW nearshore wave buoy parameter time series data (completed deployments)

Function: download

[NSWENV\\_NearshoreWaveBuoy\\_Locations](#)

Name: NSWENV\_NearshoreWaveBuoy\_Locations

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

ArcGIS shapefile showing locations of Nearshore Wave Buoy Deployments as at 11-October-2023

Function: download

[NSWENV\\_NearshoreWaveBuoy\\_Code](#)

Name: NSWENV\_NearshoreWaveBuoy\_Code

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Matlab code used to process Nearshore Wave Buoy Deployment data

Function: download

[NSWENV\\_20160302-20160517\\_12m\\_Narrabeen\\_WAVE](#)

Name: NSWENV\_20160302-20160517\_12m\_Narrabeen\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Narrabeen: 20160302-20160517. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20160302-20160517\\_13m\\_Collaroy\\_WAVE](#)

Name: NSWENV\_20160302-20160517\_13m\_Collaroy\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Collaroy: 20160302-20160517. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20160603-20160703\\_13m\\_Collaroy2\\_WAVE](#)

Name: NSWENV\_20160603-20160703\_13m\_Collaroy2\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Collaroy2: 20160603-20160703. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20160811-20161017\\_14m\\_Bronte\\_WAVE](#)

Name: NSWENV\_20160811-20161017\_14m\_Bronte\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Bronte: 20160811-20161017. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20160811-20161026\\_14m\\_Maroubra\\_WAVE](#)

Name: NSWENV\_20160811-20161026\_14m\_Maroubra\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Maroubra: 20160811-20161026. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20161206-20171211\\_30m\\_Figure8Pools\\_WAVE](#)

Name: NSWENV\_20161206-20171211\_30m\_Figure8Pools\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Figure8Pools: 20161206-20171211. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20170605-20171030\\_14m\\_Woonona\\_WAVE](#)

Name: NSWENV\_20170605-20171030\_14m\_Woonona\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Woonona: 20170605-20171030. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20170605-20171030\\_15m\\_FairyMeadow\\_WAVE](#)

Name: NSWENV\_20170605-20171030\_15m\_FairyMeadow\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from FairyMeadow: 20170605-20171030. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20180613-20180722\\_31m\\_Gerroa\\_WAVE](#)

Name: NSWENV\_20180613-20180722\_31m\_Gerroa\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Gerroa: 20180613-20180722. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20180816-20181203\\_13m\\_OldBarA\\_WAVE](#)

Name: NSWENV\_20180816-20181203\_13m\_OldBarA\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from OldBarA: 20180816-20181203. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20180816-20190312\\_12m\\_Farquhar\\_WAVE](#)

Name: NSWENV\_20180816-20190312\_12m\_Farquhar\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Farquhar: 20180816-20190312. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20181003-20190311\\_13m\\_OldBarB\\_WAVE](#)

Name: NSWENV\_20181003-20190311\_13m\_OldBarB\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from OldBarB: 20181003-20190311. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20190321-20190604\\_11m\\_BoomerangA\\_WAVE](#)

Name: NSWENV\_20190321-20190604\_11m\_BoomerangA\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from BoomerangA: 20190321-20190604. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20190321-20190618\\_33m\\_BoomerangB\\_WAVE](#)

Name: NSWENV\_20190321-20190618\_33m\_BoomerangB\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from BoomerangB: 20190321-20190618. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20190724-20200113\\_33m\\_BoomerangB2\\_WAVE](#)

Name: NSWENV\_20190724-20200113\_33m\_BoomerangB2\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from BoomerangB2: 20190724-20200113. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20190724-20200520\\_13m\\_BoomerangA2\\_WAVE](#)

Name: NSWENV\_20190724-20200520\_13m\_BoomerangA2\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from BoomerangA2: 20190724-20200520. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20191021-20200209\\_14m\\_Collaroy3\\_WAVE](#)

Name: NSWENV\_20191021-20200209\_14m\_Collaroy3\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Collaroy3: 20191021-20200209. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20191206-20200225\\_14m\\_Worimi\\_WAVE](#)

Name: NSWENV\_20191206-20200225\_14m\_Worimi\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Worimi: 20191206-20200225. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20191206-20210409\\_13m\\_Stockton\\_WAVE](#)

Name: NSWENV\_20191206-20210409\_13m\_Stockton\_WAVE  
Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Stockton: 20191206-20210409. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20200331-20211102\\_15m\\_Collaroy4\\_WAVE](#)

Name: NSWENV\_20200331-20211102\_15m\_Collaroy4\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Collaroy4: 20200331-20211102. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20201110-20210824\\_13m\\_Broulee\\_WAVE](#)

Name: NSWENV\_20201110-20210824\_13m\_Broulee\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Broulee: 20201110-20210824. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20201110-20230609\\_13m\\_Bengello\\_WAVE](#)

Name: NSWENV\_20201110-20230609\_13m\_Bengello\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Bengello: 20201110-20230609. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20201116-20210402\\_13m\\_Merimbula\\_WAVE](#)

Name: NSWENV\_20201116-20210402\_13m\_Merimbula\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Merimbula: 20201116-20210402. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20210510-20221123\\_13m\\_Merimbula2\\_WAVE](#)

Name: NSWENV\_20210510-20221123\_13m\_Merimbula2\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Merimbula2: 20210510-20221123. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20210630-20211207\\_06m\\_Deegan\\_WAVE](#)

Name: NSWENV\_20210630-20211207\_06m\_Deegan\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Nearshore wave data from Deegan: 20210630-20211207. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20211119-20221124\\_13m\\_Broulee2\\_WAVE](#)

Name: NSWENV\_20211119-20221124\_13m\_Broulee2\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

**Description:**

Nearshore wave data from Broulee2: 20211119-20221124. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20211221-20230830\\_15m\\_Collaroy5\\_WAVE](#)

Name: NSWENV\_20211221-20230830\_15m\_Collaroy5\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

**Description:**

Nearshore wave data from Collaroy5: 20211221-20230830. For more information see Readme txt file in data package.

Function: download

[NSWENV\\_20220301-20221116\\_06m\\_Deegan2\\_WAVE](#)

Name: NSWENV\_20220301-20221116\_06m\_Deegan2\_WAVE

Protocol: WWW:DOWNLOAD-1.0-http--download

**Description:**

Nearshore wave data from Deegan2: 20220301-20221116. For more information see Readme txt file in data package.

Function: download

**Unique resource identifier**

Code eb752d3a-ef07-4cd1-9b9e-7916236d7c94

Presentation form Diagram digital

Edition 1

Dataset language English

**Metadata standard**

Name ISO 19115

Edition 2016

Dataset URI <https://datasets.seed.nsw.gov.au/dataset/eb752d3a-ef07-4cd1-9b9e-7916236d7c94>

Purpose Coastal Hazard Management

Status On going

Spatial representation type None

**Spatial reference system**

Code identifying the spatial reference system 4283

**Topic category**

<b>Keyword set</b>	
keyword value	OCEANOGRAPHY-Physical MARINE-Coasts
<b>Originating controlled vocabulary</b>	
Title	ANZLIC Search Words
Reference date	2008-05-16
<b>Geographic location</b>	
West bounding longitude	149.501953
East bounding longitude	153.984375
North bounding latitude	-37.746396
South bounding latitude	-27.870161
<b>Vertical extent information</b>	
Minimum value	-100
Maximum value	2228
<b>Coordinate reference system</b>	
Authority code	urn:ogc:def:cs:EPSG::
Code identifying the coordinate reference system	5711
<b>Temporal extent</b>	
Begin position	2021-02-12
End position	N/A
<b>Dataset reference date</b>	
<b>Resource maintenance</b>	
Maintenance and update frequency	Continual
<b>Contact info</b>	
Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
Telephone number	131555
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>Limitations on public access</b>	

## Responsible party

Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
Telephone number	131555
Email address	<a href="mailto:data.broker@environment.nsw.gov.au">data.broker@environment.nsw.gov.au</a>
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Responsible party role	pointOfContact

## Metadata point of contact

Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
Telephone number	131555
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

**Metadata date** 2024-09-17T00:08:53.688659

**Metadata language**