Name of dataset or data source:	NSW nearshore wave buoy parameter time series data (active deployments)
Custodian of the dataset or data source:	ED Science (E&H)
Description:	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.sofarocean.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 real-time wave data from live buoy deployments includes time-series charts of key parameters describing wave height, period and direction over a rolling seven-day window. The parameters are derived on board the buoy using wave spectra analysis and include significant wave height (Hm0), mean wave period (Tm01), peak wave period (TP), mean wave direction (DirM) and peak wave direction (DirP). Wind speed and direction estimated from the measured wave spectra are also provided. Parameters are plotted at half-hour intervals in local time - Australian Eastern Standard Time (AEST) or Australian Eastern Daylight Time (AEDT) - and the data time series are updated once every hour as new data points are received. The data are received directly from deployed wave buoy instruments via satellite transmission and are not quality assessed or controlled in any way. Various factors may cause erroneous data points and users are advised to exercise caution when using the data. The data are provided for general information purposes only and should not be relied upon for coastal hazard advice or to guide operational activities. Processed wave data that has passed quality assurance and control tests are also available on SEED, and could be used for coastal hazard advice or assessments: https://datasets.seed.nsw.gov.au/dataset/nsw-nearshore-wave-buoy-parameter-time-series-data-completed-deployments. 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. For more information on the NSW Nearshore Waves program please visit: https://www.environment.nsw.gov.au/research-and-publications/our-science-and-research/our-research/water/ocean-and-coastal-waves

Data quality rating:

★Institutional Environment - 4
☆Accuracy - 2
★Coherence - 5
★Interpretability - 5
★Accessibility - 5

INSTITUTIONAL ENVIRONMENT

Very Good ★

✔ Does the information have the potential to enhance services or service delivery?

✔ The following governance roles and responsibilities for this asset are clearly assigned:

- Information Asset Owner
- Information Asset Custodian
- Information Steward

✔ Data collection is authorised by law, regulation or agreement

✔ The Custodial agency has no commercial interest or conflict of interest in the data

✗ The data aligns with the Data Quality Framework, including:

- Legislation
- Policies
- Information Asset Governance
- Standards
- Data Management Plans

ACCURACY

Fair ☆

✔ No changes have been made or other factors identified (for example: weighting, rounding, de-identification of data, changes or flaws in data collection or verification methods) that could affect the validity of the data; or any changes/factors have been identified in caveats attached to the asset.

✔ The data collection met the objectives of the primary user. The data correctly represents what it was designed to measure, monitor or report.

✗ Data has been subject to a data assurance process (for example: Checking for errors at each stage of data collection and processing, or verifying data entry and making corrections if necessary.)

✗ Data is revised and the revision is published if errors are identified

✗ There are no known gaps in the data or if there are gaps (for example: non-responses, missing records, data not collected), they have been identified in caveats attached to the dataset.

COHERENCE — Excellent ★

✔ Standard definitions, common concepts, classifications and data recording practices have been used.

✔ Elements within the data can be meaningfully compared.

✔ This data is generally consistent with similar or related data sources from the same discipline

✔ The data can be analysed over time (for example, there have not been any significant changes in the way items are defined, classified or counted over time).

✔ The data does not form part of a collection or, if it is the latest in a series of data releases, there have not been any changes in methodology or external impacts since the last data release.

INTERPRETABILITY — Excellent ★

✔ A data dictionary is available to explain the meaning of data elements, their origin, format and relationships

✔ Information is available about the primary data sources and methods of data collection (e.g. instruments, forms, instructions).

✔ Information is available to help users evaluate the accuracy of the data and any level of error

✔ Information is available to explain concepts, help users correctly interpret the data and understand how it can be used

✔ Information is available to explain ambiguous or technical terms used in the data

ℹ Find out more about the data dictionary from the Custodian (contact details below).

ℹ Find out more about the primary data sources and methods of data collection from the Custodian (contact details below).

ℹ Find out more about concepts used in this dataset and how to understand or interpret the data from the Custodian (contact details below).

ℹ Find out more about ambiguous or technical terms used in the data from the Custodian (contact details below).

ACCESSIBILITY — Excellent ★

✔ Data is available online with an open licence

✔ Data is available in machine-processable, structured form (e.g. CSV format instead of an image scan of a table)

✔ Data is available in a non-proprietary format (e.g. CSV, XML)

✔ Data is described using open standards (e.g. RDF, SPARQL) and persistent identifiers (URIs or DOIs)

✔ Data is linked to other data, to provide context (e.g. employee ID is linked to employee name or species name is linked to genus)

DATA DISCLAIMER

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For more information about this dataset or data source, contact:	NSW Department of Climate Change, Energy, the Environment and Water
Data Broker email:	data.broker@environment.nsw.gov.au
Data Broker phone:	131555

Understanding the Data Quality Statement

The data quality statement aims to help you understand how a particular dataset could be used and whether it can be compared with other, similar datasets. It provides a description of the characteristics of the data to help you decide whether the data will be fit for your specific purpose.
The Data Quality statement is prepared by the data custodian (provider of the dataset), using a questionnaire that has been developed in accordance with the NSW Government Standard for Data Quality Reporting.
About the quality rating:
The reporting questionnaire asks five questions for each of these data quality dimensions:

- Institutional Environment
- Accuracy
- Coherence
- Interpretability
- Accessibility

For each question: “yes” = 1 point; “no” = 0 points
The number of points determines the Quality Level for each dimension (high, medium, low).
Only dimensions with four or five points receive a star.

Points	Quality Level	Star / No Star
0	Poor	No Star
1	Poor	No Star
2	Fair	No Star
3	Good	No Star
4	Very Good	Star
5	Excellent	Star

Evaluating data quality

Quality relates to the data's “fitness for purpose”. Users can make different assessments about the dataquality of the same data, depending on their “purpose” or the way they plan to use the data.
The following questions may help you evaluate data quality for your requirements. This list is not exhaustive.Generate your own questions to assess data quality according to your specific needs and environment.

- What was the primary purpose or aim for collecting the data?
- How well does the coverage (and exclusions) match your needs?
- How useful are these data at small levels of geography?

- Does the population presented by the data match your needs?
- To what extent does the method of data collection seem appropriate for the information being gathered?
- Have standard classifications (eg industry or occupation classifications) been used in the collection of the data?If not, why? Does this affect the ability to compare or bring together data from different sources?
- Have rates and percentages been calculated consistently throughout the data?
- Is there a time difference between your reference period, and the reference period of the data?
- What is the gap of time between the reference period (when the data were collected) and the release date of thedata?
- Will there be subsequent surveys or data collection exercises for this topic?
- Are there likely to be updates or revisions to the data after official release?