

Name of dataset or data source:	NARClIM2.0 climate projections
Custodian of the dataset or data source:	ED Science (E&H)
Description:	<p><u>What is NARClIM?</u> The New South Wales and Australian Regional Climate Modelling (NARClIM) project develops high-resolution regional climate projections that cover NSW and South-eastern Australia at a higher resolution and the Australasian continent and beyond at another resolution (named the NARClIM and CORDEX domains, respectively). Computer modelled climate projections are the best information we have available on our future climate. NARClIM has been designed to help government, industry and community in NSW and Australia plan for our future with robust regional and local scale data. The NARClIM project uses currently available global climate models (GCM) and greenhouse gas (GHG) emissions scenarios from the latest Coupled Model Intercomparison Project (CMIP) used in the IPCC reports and applies regional dynamical downscaling using the latest Weather Research and Forecasting model (WRF). NARClIM generates critical climate indices for a broad range of applications and climate change adaptation and risk analysis. The NARClIM project is led by the NSW Government with support from the ACT, South Australian, Victorian, and Western Australian governments, National Computational Infrastructure, Murdoch University and the University of New South Wales.</p> <p><u>NARClIM2.0</u> NARClIM2.0 was released in the second half 2024. It is the most detailed regional climate projections available in Australia to date at 4km grid resolution for South-eastern Australia and 20km for Australasia. NARClIM2.0 simulates the climate using five CMIP6 GCMs and two RCMs with continuous data from 1950 to 2100. Rigorous and peer-reviewed analysis of CMIP6 GCMs was undertaken to identify the best-performing models for NARClIM2.0 over eastern Australia's geographically complex and heavily populated regions. These five GCMs were chosen because they performed well in simulating various aspects of daily climate, were independent models, and showed diverse signals of climate change. This made them the most suitable group for downscaling to represent a wide range of future climates. The current release includes two GHG scenarios - SSP1-2.6 (low emissions) and SSP3-7.0 (high emissions), with a third scenario, SSP2-4.5 (middle of the road emissions), available in 2025. Shared Socioeconomic Pathways do not estimate the relative likelihood of any scenario. Since any future scenario is plausible, it is best to consider multiple scenarios where possible. NARClIM2.0 has been designed to WRCPCORDEX (https://cordex.org/) standards. Additionally, the 4km grid resolution over South-eastern Australia is considered 'convection permitting' in that it better captures convective processes like strong winds, extreme rainfall, storms and coastal atmospheric dynamics. NARClIM provides users with state of the art climate projections for Australia at the finest resolution currently available. Each generation of NARClIM is based on best available climate modelling and scenarios at the time of release. Consequently, there are expected differences between projections/results of the modelling but there are mostly similarities in trends (across NSW and over time).</p> <p><u>Model output</u> NARClIM2.0 contains approximately 150 climate variables defined by CORDEX guidelines. The most commonly used variables (CORDEX CORE) at daily and monthly frequencies in regular grid will be available on the NSW Climate Data Portal in late 2024. Most variables and additional frequencies/time steps are currently available on the National Computational Infrastructure at ANU (https://dx.doi.org/10.25914/ysxb-rt43). For more information, visit the AdaptNSW website, or contact us through the NARClIM Mailbox, narclim@environment.nsw.gov.au.</p> <p><u>Related links</u> Discover how climate change will affect your region at [AdaptNSW]</p>

Data quality rating:

- ★Institutional Environment - 5
- ★Accuracy - 5
- ★Coherence - 5
- ★Interpretability - 5
- ★Accessibility - 5

INSTITUTIONAL ENVIRONMENT

Excellent



- ✓ Does the information have the potential to enhance services or service delivery?
- ✓ The data aligns with the Data Quality Framework, including:
 - Legislation
 - Policies
 - Information Asset Governance
 - Standards
 - Data Management Plans
- ✓ 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

ACCURACY

Excellent



- ✓ 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.
- ✓ 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.

i Find out more about the quality assurance processes from the NSW Government Standard for Data Quality Reporting.
<https://www.finance.nsw.gov.au/ict/resources/data-quality-standard>

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.

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 data quality 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 the data?
- 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?