

Title	NARClIM2.0 climate projections
Alternative title(s)	Regional climate projections
Abstract	What is NARClIM? 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. NARClIM2.0 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 WRCP-CORDEX (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). Model output 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. Related links Discover how climate change will affect your region at AdaptNSW
Resource locator	
Data Quality Statement	Name: Data Quality Statement Protocol: WWW:DOWNLOAD-1.0-http--download Description: Data quality statement for NARClIM2.0 climate projections (Draft)

Terms and conditions for NARClIM data	Function: download Name: Terms and conditions for NARClIM data Protocol: WWW:DOWNLOAD-1.0-http--download Description: Please read: covers the requirement of how to acknowledge and cite NARClIM in publications, data disclaimer, license and privacy. Written work of any form, based in whole or in part on data provided by the NSW Government must acknowledge the data has been provided by the Government of New South Wales, Australia and must include the acknowledgements applicable to the data. Function: download
NARClIM2.0 at NCI	Name: NARClIM2.0 at NCI Protocol: WWW:DOWNLOAD-1.0-http--download Description: Link to the National Computational Infrastructure (NCI) Data Catalogue record for NARClIM2.0. https://dx.doi.org/10.25914/ysxb-rt43 This link provides access to the data, Technical Notes, and related NARClIM2.0 records. Function: download
[IN PRESS] Design, evaluation and future projections of the NARClIM2.0 CORDEX-CMIP6 Australasia regional climate ensemble	Name: [IN PRESS] Design, evaluation and future projections of the NARClIM2.0 CORDEX-CMIP6 Australasia regional climate ensemble Protocol: WWW:DOWNLOAD-1.0-http--download Description: Design, evaluation and future projections of the NARClIM2.0 CORDEX-CMIP6 Australasia regional climate ensemble Function: download
[IN PRESS] Evaluation of CORDEX ERA5-forced NARClIM2.0 regional climate models over Australia using the Weather Research and Forecasting (WRF) model version 4.1.2	Name: [IN PRESS] Evaluation of CORDEX ERA5-forced NARClIM2.0 regional climate models over Australia using the Weather Research and Forecasting (WRF) model version 4.1.2 Protocol: WWW:DOWNLOAD-1.0-http--download Description: Evaluation of CORDEX ERA5-forced NARClIM2.0 regional climate models over Australia using the Weather Research and Forecasting (WRF) model version 4.1.2 Function: download
Selecting CMIP6 GCMs for CORDEX dynamical downscaling: model performance, independence, and climate change signals	Name: Selecting CMIP6 GCMs for CORDEX dynamical downscaling: model performance, independence, and climate change signals Protocol: WWW:DOWNLOAD-1.0-http--download Description: Selecting CMIP6 GCMs for CORDEX dynamical downscaling: model performance, independence, and climate change signals Function: download
NARClIM2.0 List of variables	Name: NARClIM2.0 List of variables Protocol: WWW:DOWNLOAD-1.0-http--download Description: List of climate variables and indices generated as part of the NARClIM2.0 climate projections. Availability of the variables and indices is indicated for each Tier.

Unique resource identifier	
Code	630ea31a-123b-4bbf-98fc-c52a22b7c195
Presentation form	Image digital
Edition	NARClIM2.0
Dataset language	English
Metadata standard	
Name	ISO 19115
Edition	2016
Dataset URI	https://www.planningportal.nsw.gov.au/opendata/dataset/630ea31a-123b-4bbf-98fc-c52a22b7c195
Purpose	Meeting strategic requirements for regional climate data
Status	Completed
Spatial representation type	None
Spatial reference system	
Code identifying the spatial reference system	4283
Topic category	climatologyMeteorologyAtmosphere

Keyword set	
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Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16
Geographic location	
NSW Place Name	South-eastern Australia
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	1951-01-01
End position	N/A
Dataset reference date	
Resource maintenance	
Maintenance and update frequency	As needed
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Contact position	Data Broker
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Constraint set	
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Limitations on public access	
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Metadata language	