

# NARClIM2.0

## Interactive Climate Change Projections Map - GeoTIFFs for Average Temperature

This data package contains information summarised from the latest climate projections of the NSW and Australian Regional Climate Modelling Project, known as NARClIM2.0.

NARClIM is designed to help government, industry and community in NSW and Australia plan for our future with robust regional and local scale data.

The data are provided as GeoTIFFs, which are similar to image files but are embedded with georeferenced (longitude, latitude) data. The data at 4-km resolution represent averages of outputs from a combination of 10 climate models, run for the period between 1 January 1951 to 31 December 2100. A Geographic Information System (GIS) is needed to view, use and export the data to other software (e.g. excel) for further analyses.

The metadata for this data package is available from:

<https://datasets.seed.nsw.gov.au/dataset/narclim-climate-projections-n2-0>

## What do the GeoTIFFs capture?

The GeoTIFF files contain Average Temperature data at 4-km resolution for the entire New South Wales (NSW) region. They include historical baseline and future projections under two emission scenarios, providing modelled outputs on a range of plausible climates that may be experienced depending on our actions to reduce emissions:

- Low emissions scenario (SSP1-2.6)\* aligned with our 2050 Net Zero Targets
- High emissions scenario (SSP3-7.0)\*

\*Shared Socioeconomic Pathways

## Key information about the GeoTIFFs

- Raster data: The data at each 4-km grid is calculated as an average from the results of 10 climate models.
- Temporal coverage: the 20-year climatology is defined as
  - Historical baseline: the 1990-2009 period represents a ‘2000’ climatology, serving as a reference period for future projections to be compared with.
  - Future projections: seven future periods or climatologies including 2020-2039, 2030-2049, 2040-2059, 2050-2069, 2060-2089, 2070-2089, and 2080-2099
- Statistics provided:
  - Annual means: calculated from 1 January to 31 December for each 20-year period
  - Seasonal means: calculated for each 20-year period for Summer (December, January, February), Autumn (March, April, May), Winter (Jun, July, August), Spring (September, October, November)
- Data provided in two formats:
  - Absolute values: the projected values for the variable for each period
  - Relative change: the difference between the future projections and the historical baseline, presented as a direct change in value

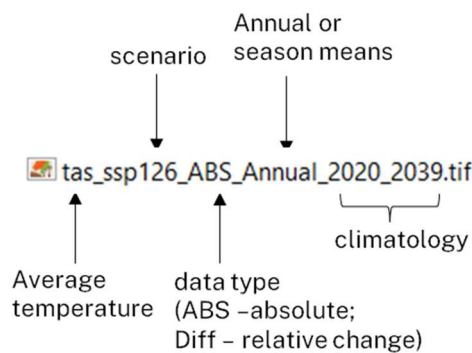
Note that a continuous time series of the daily and monthly modelled output can be accessed from the Climate Data Portal <https://climatedata.environment.nsw.gov.au/>

## How are the GeoTIFFs presented in the data package?

The data package is organised into the following folders:

- Historical Baseline
  - Absolute
- Projections
  - SSP1\_2.6
    - Absolute
    - Relative\_Change
  - SSP3\_7.0
    - Absolute
    - Relative\_Change

There is a total of 145 GeoTIFFs within the data package, with each GeoTIFF having the following naming convention:



## How to use the layer files?

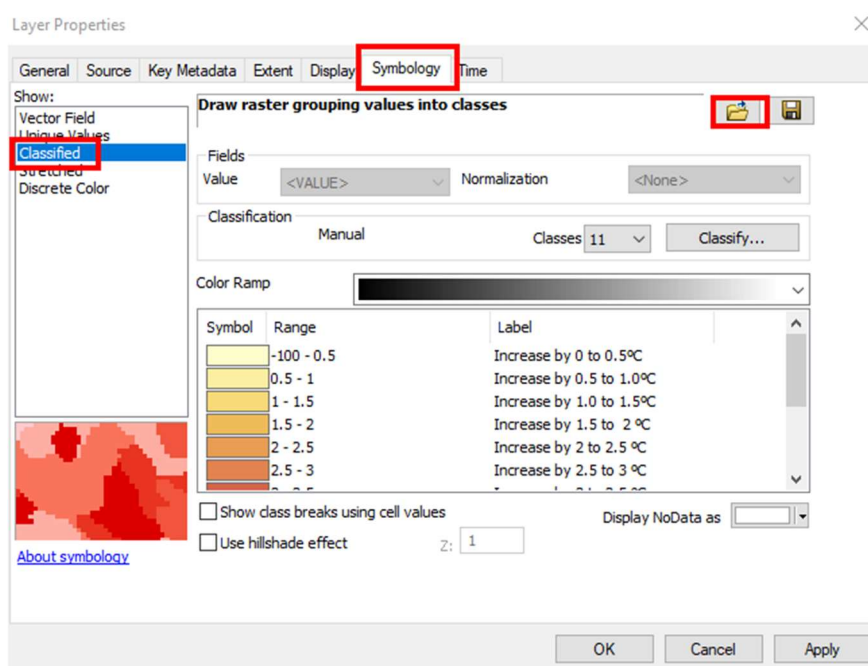
Two layer files are supplied with the data package to help with visualising the GeoTIFFs. One layer file is intended for displaying 'Absolute' data files and the other is for displaying the 'Change' data files.

Note – The layer file was created in ArcGIS v10.8.2.

You might need access to this version or more recent versions of ArcGIS to use the layer file

To use the layer file, you will need to follow the steps below:

1. Double click on the GeoTIFF, or right click and select 'Properties'
2. Select the Symbology tab
3. Change the GeoTIFF from 'Stretched' to show as 'Classified'
4. Open the folder button, navigate to the appropriate layer file and select it



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Environment and Heritage (EH)  
Department of Climate Change, Energy, the Environment and Water  
Locked Bag 5022, Parramatta NSW 2124; Phone: 1300 361 967 (EH enquiries);  
Email: [info@environment.nsw.gov.au](mailto:info@environment.nsw.gov.au); Website: [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)