

Information and data available from the 2019 climate projections

The new climate projections for Victoria draw on the most up-to-date climate research and are suitable for anything from strategic planning to system modelling.

The VCP19 project

Victorian Climate Projections 2019 (VCP19) provides information about what the future climate could be like out to 2090 under various scenarios of human-generated greenhouse gas emissions.

The projections are not forecasts – they do not provide predictions of exactly when the next drought will hit, or when the next wet year or hot summer will come along. Rather, they draw on the best available information we have to indicate what the future temperature, rainfall and other climate variables are likely to be.

The latest science

The projections have been developed using a range of climate models that cover the state of Victoria, making this the most scientifically credible information about the future climate under different emissions scenarios that we can give at the moment.

CSIRO has done new local-scale modelling of Victoria's future climate at a resolution of 5 km. These data provide new insights about projected change at the regional level for Victoria, including rainfall over the Australian Alps and some types of climate extremes.

This new information has been assessed, synthesised with existing sources, and presented to show the range of plausible futures.

Fit-for-purpose information

Different questions or decisions need information and data at various levels of detail and complexity. Climate datasets and climate model outputs can be large and complex, but detailed data is not always necessary. It is important to choose information and data that is fit for purpose.

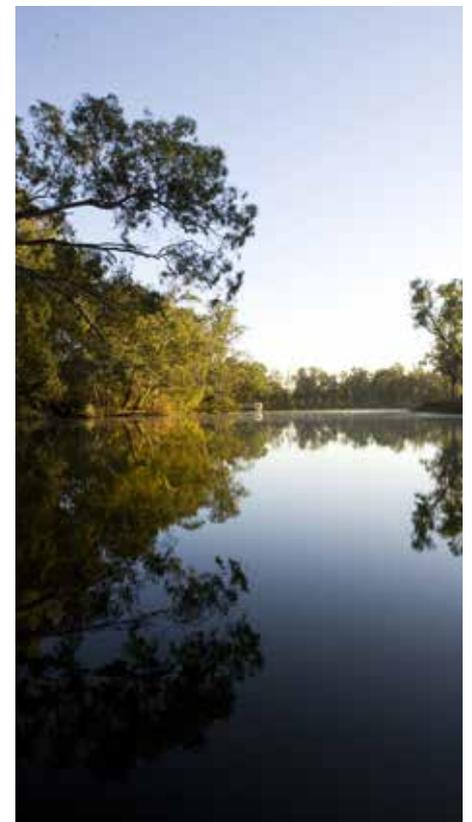
To make it easier to access the right information for any given task, all the available science and climate projections information from VCP19 is available in a range of formats:

- ▶ A detailed technical report
- ▶ Regional summaries
- ▶ Fact sheets
- ▶ High-resolution (5 km) datasets.

Examples of how the VCP19 projections could be used for a range of purposes are provided over the page.

Guidance is provided to help users identify and obtain the most relevant data for their needs. Information is also provided on how new high-resolution datasets relate to existing climate projections data.

The new high-resolution datasets are available for detailed analysis and applied research.



Which climate information should I use?

Goal	Which VCP19 products may be useful	Things to note
Raise awareness of potential climate change in Victoria (e.g. at a meeting or in a strategic plan).	Summary brochures and statements, basic graphs and graphics. Detailed data are not required.	Communicate that natural variability will continue, superimposed over the projected changes.
Explore what climate change means in terms of heat extremes.	Look at days over/under thresholds (e.g. days over 35 °C) using the thresholds calculator. Detailed data are not required.	Look at the range of possibilities, and include a range of emissions scenarios – don't pick just one number
Produce a map to visually show change in a variable of interest (e.g. areas projected to become drier or wetter).	Map plots from the VCP19 Technical Report or change layers from representative models combined with observed data layers. Detailed data are not required.	Don't pick one climate model at random – do a selection exercise for your needs and be aware of the wider context of possibilities. ¹
Put different emissions scenarios in context when talking about impacts.	Table of projected changes under each emissions scenario for main variables (e.g. temperature, rainfall and sea level).	There is little difference in projected changes under the different emissions scenarios up to at least 2030. After that, the differences are more pronounced.
Calculate climate indices that can describe the expected changes in future climate, such as temperature or potential evaporation, that are relevant to a particular sector or impact.	Detailed application-ready datasets ² as input.	Don't pick one climate model at random – do a selection exercise for your needs and be aware of the wider context of possibilities ¹
Model what a changed climate means for a crop or a catchment.	Detailed application-ready datasets as input to a technical model. ²	Don't pick one climate model at random – do a selection exercise for your needs and be aware of the wider context of possibilities. ¹
New research about climate change, climate processes, methods of producing application-ready datasets.	Gridded change data or raw model output for advanced uses.	Be aware that raw model output will likely contain biases which must be accounted for.

Notes:

1. See <https://www.climatechangeinaustralia.gov.au/en/climate-campus/modelling-and-projections/using-projections/> for more information about model selection

2. See the *Application-ready datasets* fact sheet

More information

www.climatechange.vic.gov.au/vcp19

