

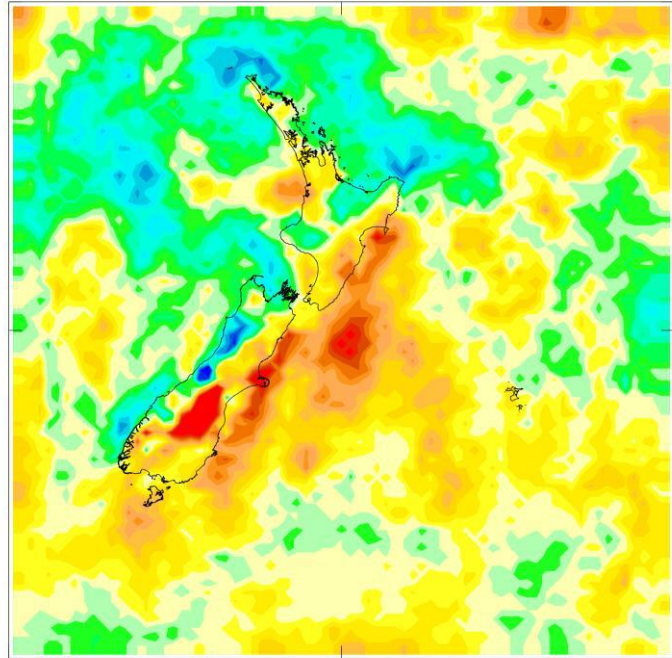
Latest climate change projections for NZ

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Research Aim 1: Improved Climate Projections

- Update and improve processes to generate regional-scale projections of New Zealand climate trends & variability to 2100
- Maximise the utility and relevance of update climate projections for impact modelling
- Improved climate projections will be packaged into formats relevant for modelling (Research Aims 2 & 3), enhanced decision-making (Research Aim 4), and scenario development (Research Aim 5)

Updated Climate Model Data



*Domain of the NIWA RCM
(spatial resolution 28km)*

More emissions →

- AR5: 6 GCMs x 4 RCPs

6 AR5 GCMs		4 RCPs			
BCC-CSM1.1	CESM1-CAM5	2.6	4.5	6.0	8.5
GFDL-CM3	GISS-EL-R				
HadGEM2-ES	NorESM1-M				

- 7 Variables

- Maximum Air Temperature
- Minimum Air Temperature
- Total Precipitation
- Relative Humidity
- Solar Radiation
- Wind Speed
- Relative Humidity

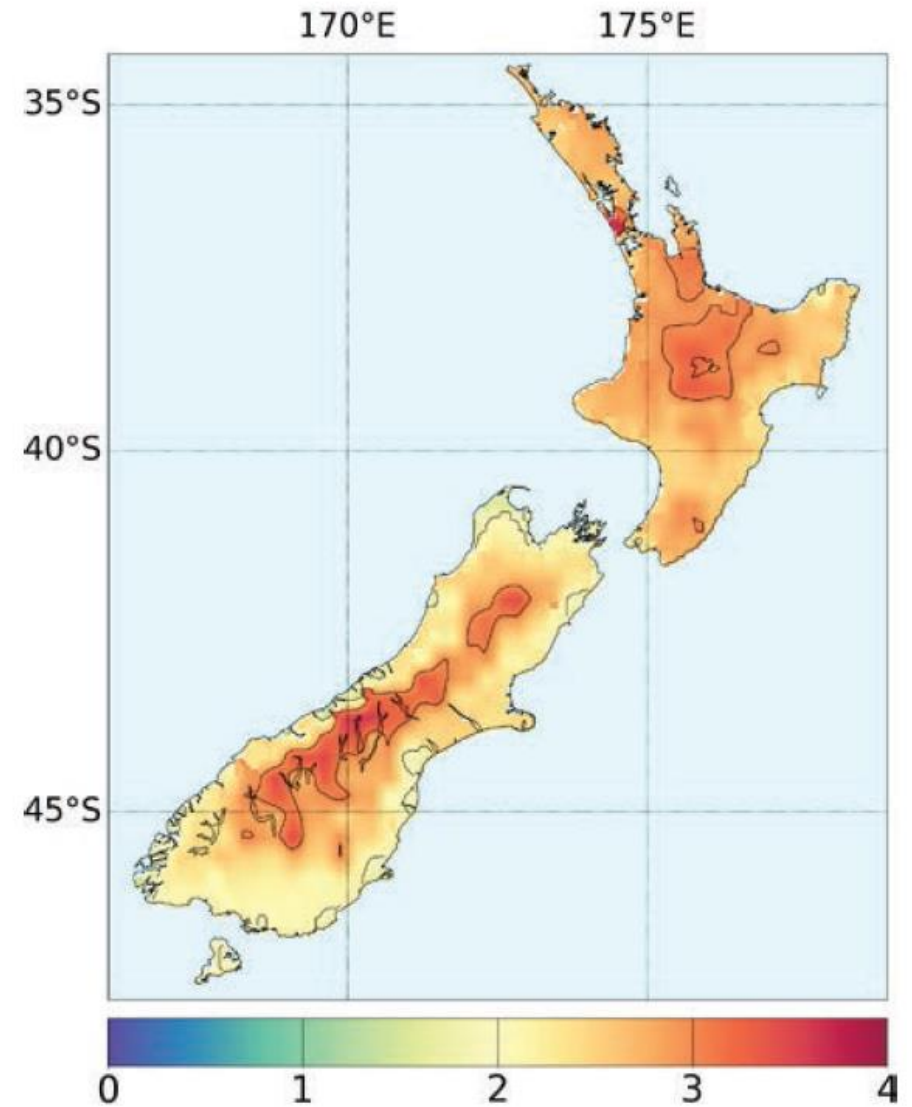
- RCM data downscaled to ~5km spatial grid (VCSN)

- Data at daily, monthly and annual time steps, 1971-2120

Updated MfE Guidance Document

<http://www.mfe.govt.nz/publications/climate-change/climate-change-projections-new-zealand>

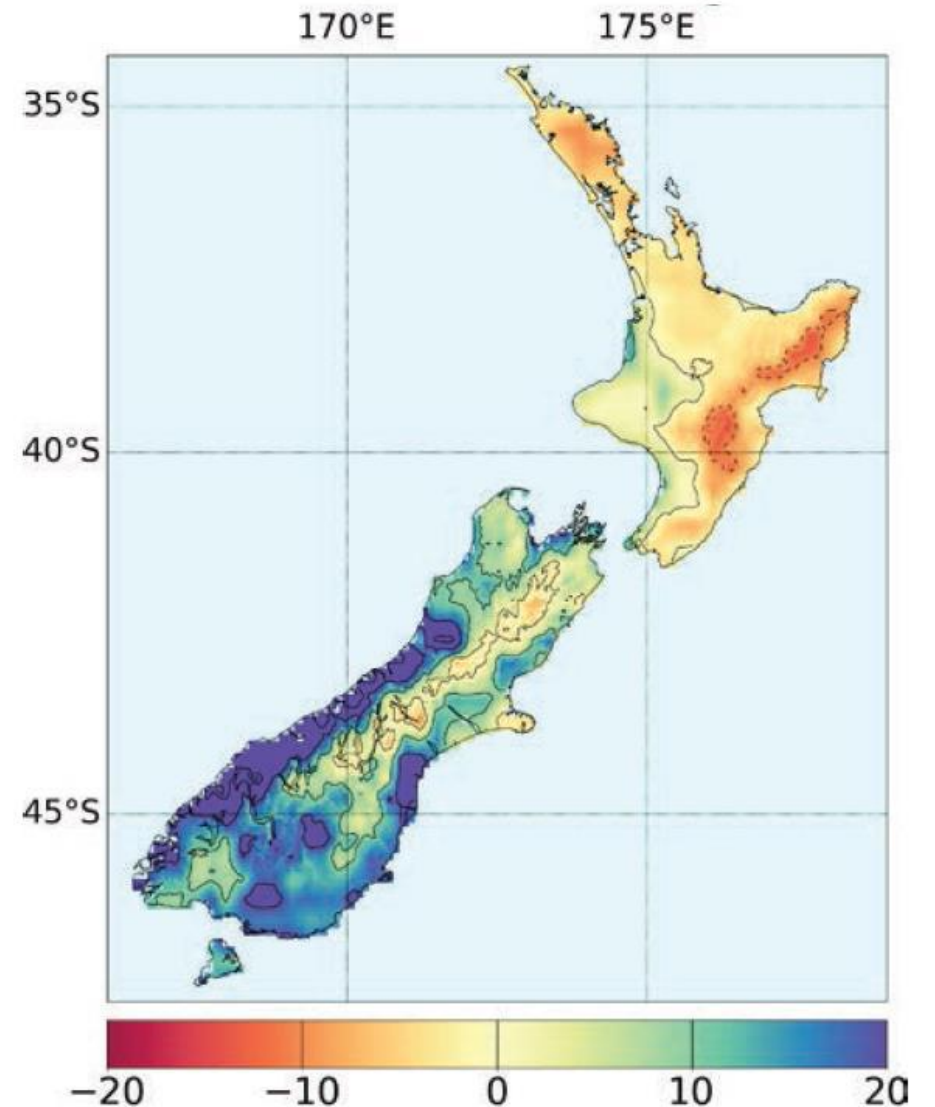
Average change in temperature (°C) by 2090 under RCP8.5



Updated MfE Guidance Document

<http://www.mfe.govt.nz/publications/climate-change/climate-change-projections-new-zealand>

Annual average change in rainfall (%) by 2090 under RCP8.5



Updated MfE Guidance Document

[http://www.mfe.govt.nz/
publications/climate-
change/climate-change-
projections-new-zealand](http://www.mfe.govt.nz/publications/climate-change/climate-change-projections-new-zealand)

Waikato Region highlights (2090, RCP8.5)

- Increase in mean temperature (°C): Summer 3.3; Autumn 3.2; Winter 3.1; Spring 2.7
- Change in mean precipitation at Ruakura (%): Summer +3; Autumn -3; Winter +5; Spring -6
- Increase in “hot days” (Tmax ≥ 25°C): Present 23.6 days/yr; Future 84.0 days/yr
- Decrease in “cold nights” (Tmin ≤ 0°C): Present 15.2 nights/yr; Future 1.9 nights/yr
- “Dry days” increase by 5-10 days/yr
- 99th percentile rainfall amount increase by 5-10%
- 99th percentile wind speed decrease by 0-5%
- Increase in PED (amount of water needed for irrigation) by 50-100mm/yr (25-35%)

Latest climate projections (maps and charts)

<http://ofcnz.niwa.co.nz>

The screenshot displays the NIWA website interface for climate projections. At the top, the NIWA logo and the text 'Our Future Climate New Zealand' are visible. Below this is a navigation menu with links for 'Home', 'National maps', 'Local charts', 'Additional information', and 'Contact us'. A green banner contains the text: 'Our Future Climate New Zealand. Welcome to Our Future Climate New Zealand. This interactive website has been designed to give you the ability to look at a number of climate change projections for New Zealand.'

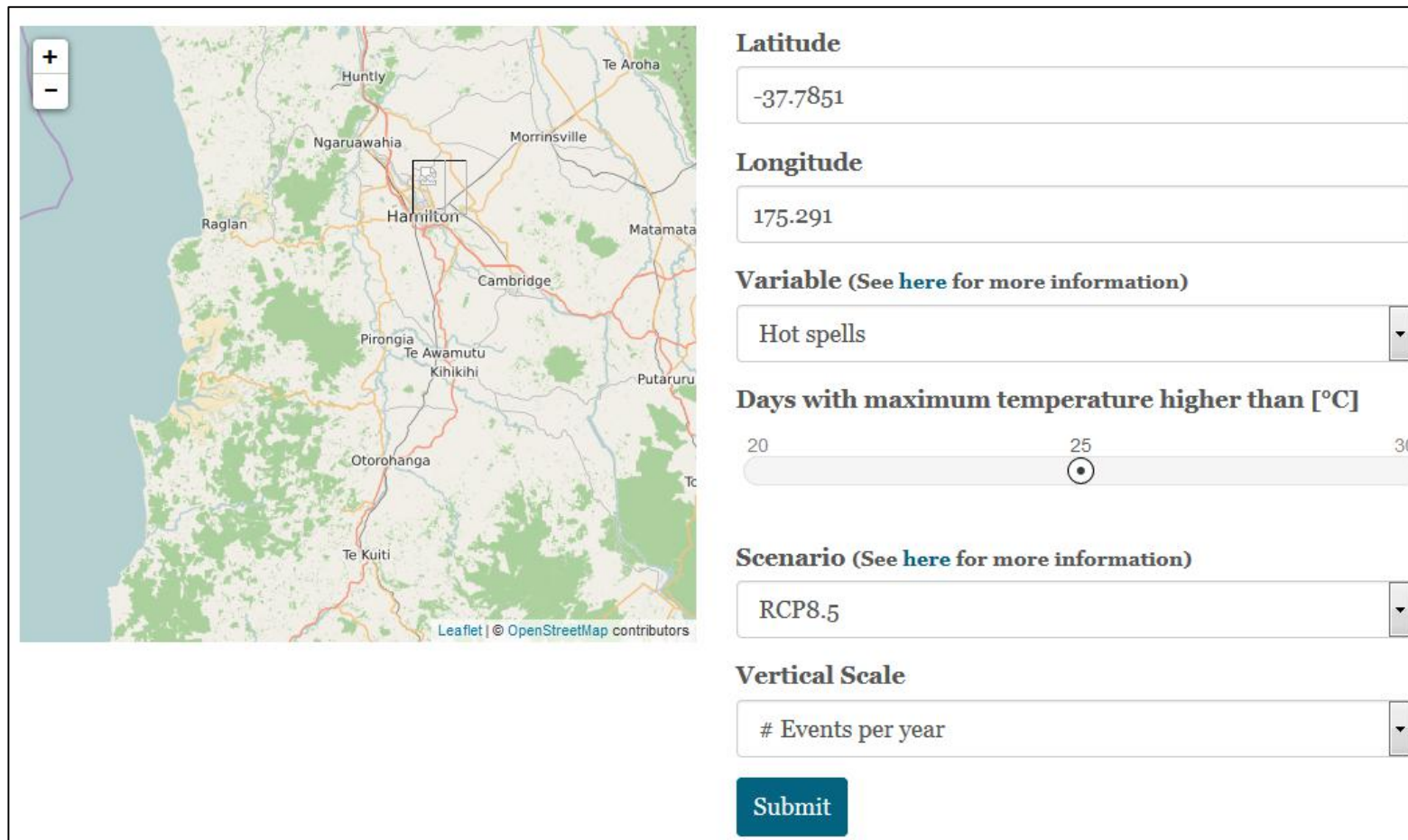
The main content area is divided into two sections:

- National Maps:** This section features a topographic map of New Zealand with color-coded projections. Three specific locations are labeled: WESTPORT, NELSON, and WELLINGTON. Below the map is the text: 'Explore a range of temperature and rainfall projections for New Zealand.' and a button labeled 'Explore Maps'.
- Local Charts:** This section displays a line chart with the y-axis labeled 'mm' ranging from 600 to 2.0K. The chart shows two fluctuating lines representing different climate variables over time. Below the chart is the text: 'Explore temperature and rainfall projections over time for a selection of locations around New Zealand.' and a button labeled 'Explore Charts'.

At the bottom of the page, a footer contains the text: 'Our Future Climate New Zealand © 2014 NIWA. Version 1.00 Terms and Conditions'.

Future Extremes web tool

<http://futureextremes.cci.org.nz/>



Latitude
-37.7851

Longitude
175.291

Variable (See [here](#) for more information)
Hot spells

Days with maximum temperature higher than [°C]
20 25 30

Scenario (See [here](#) for more information)
RCP8.5

Vertical Scale
Events per year

Submit

Thanks very much!

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