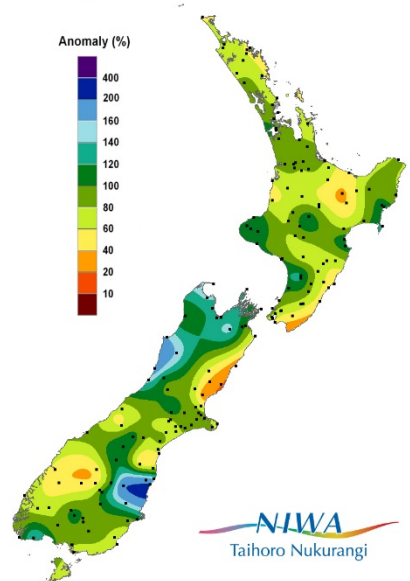


New Zealand Climate Update No 190, April 2015

Current climate – March 2015

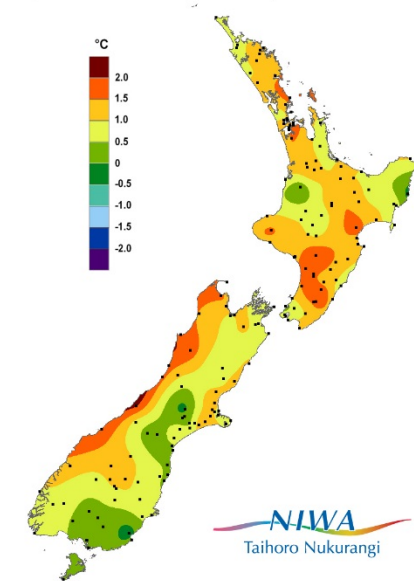
March 2015 was characterised by lower pressures than normal over New Zealand, the Tasman and south of Australia. Higher than normal pressures were located south-east of New Zealand. This pressure pattern brought about a north-easterly flow anomaly across the country.

Percentage of average rainfall



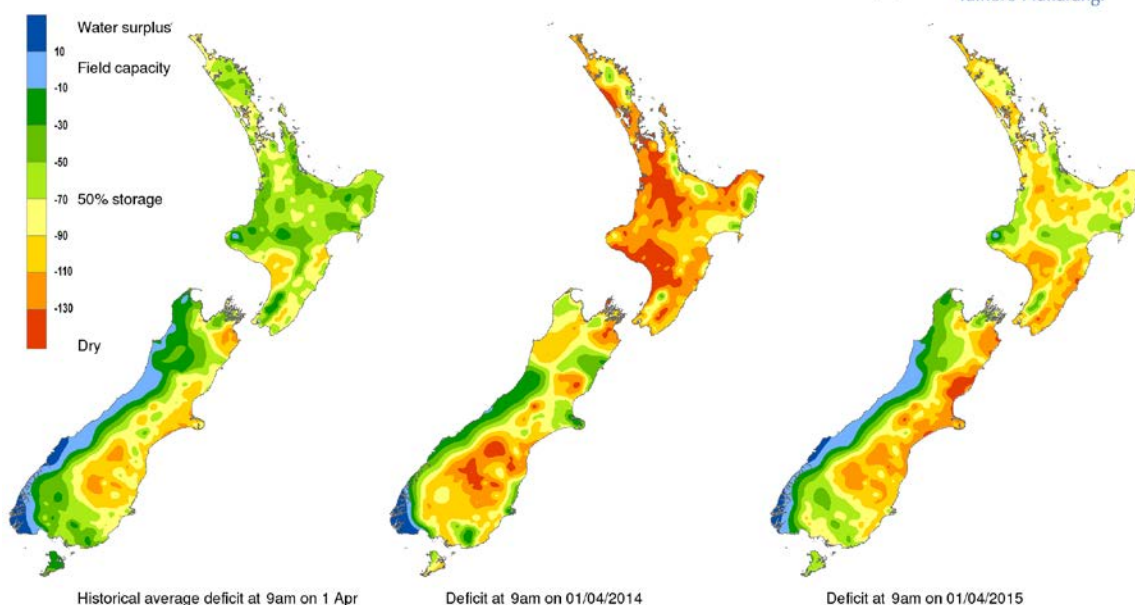
Percentage of normal rainfall for March 2015

Departure from average air temperature



Departure from average air temperature for March 2015

Soil moisture deficit (mm) at 9am on 01/04/2015



End of month water balance in the pasture root zone for an average soil type where the available water capacity is taken to be 150 mm.

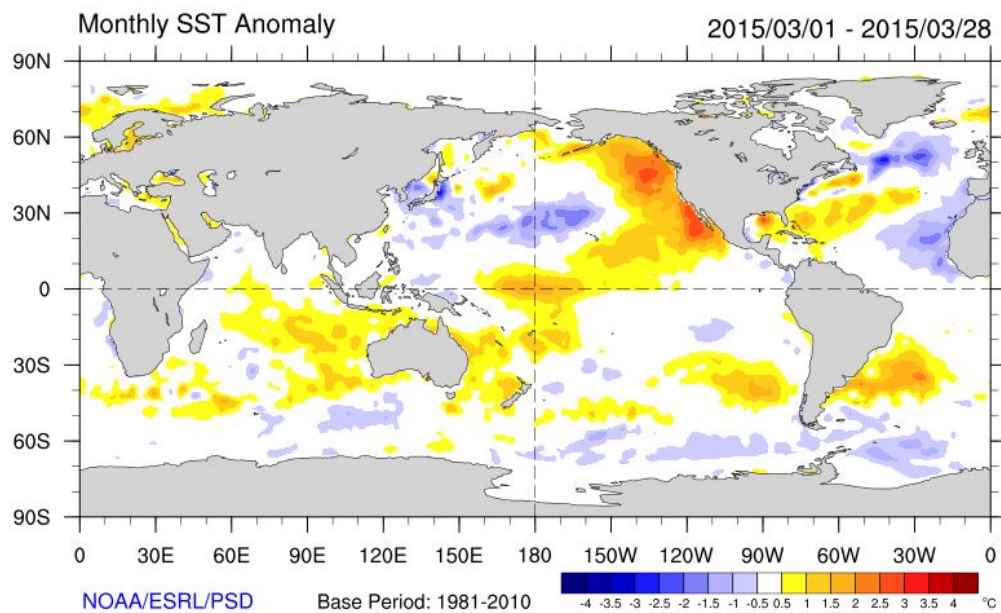
Rainfall: Most of the country received near normal rainfall (within 20% of normal) in March. However, there were pockets with high rainfall, with parts of Buller and Westland and Napier receiving over one-and-a-half times the normal March rainfall (> 150%). There were patches of low rainfall totals in Northland, Waikato, Bay of Plenty, northern Canterbury, Otago, and Southland, which received below normal rainfall (50-79%). Localised sites in Canterbury, Otago, Northland, as well as Milford Sound received well below normal rainfall (< 50%).

Air temperature: March temperatures were above average (+0.51 °C to +1.20 °C) for most of the country, and numerous sites in all regions except for Otago and Southland experienced well above average (> +1.20 °C) March temperatures. Temperatures were near average (within 0.50 °C of average) for western Waikato, inland and southern Canterbury, coastal Otago, and eastern Southland.

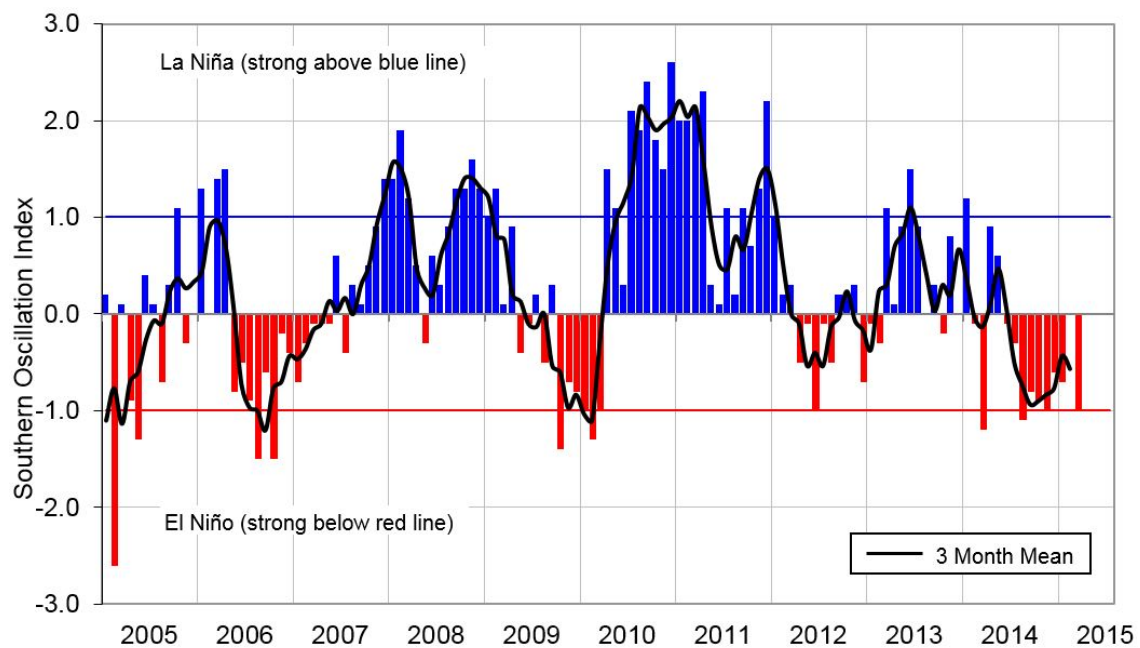
Sunshine: It was a relatively cloudy month for much of the country, with many areas recording below normal sunshine (75-90%) - including parts of Northland, Waikato, Christchurch, and Otago. In most other areas, sunshine was near normal (within 10% of normal), except Dunedin, Taranaki, and western Waikato where it was sunnier than usual (110-125%).

Global setting

Sea surface temperature anomalies in the tropical Pacific intensified significantly around the international Dateline during March 2015 and are currently showing a pattern consistent with weak El Niño conditions. Atmospheric patterns across the region were also generally consistent with weak El Niño anomalies.



Differences from average global sea surface temperatures for 1 to 28 March 2015. Map courtesy of NOAA Climate Diagnostics Centre (<http://www.cdc.noaa.gov/map/images/sst/sst.anom.month.gif>).



Monthly values of the Southern Oscillation Index (SOI), a measure of changes in atmospheric pressures across the Pacific, and the 3-month mean (black line). SOI mean values: March SOI -1; January to March average -0.6.

Outlook – April to June 2015

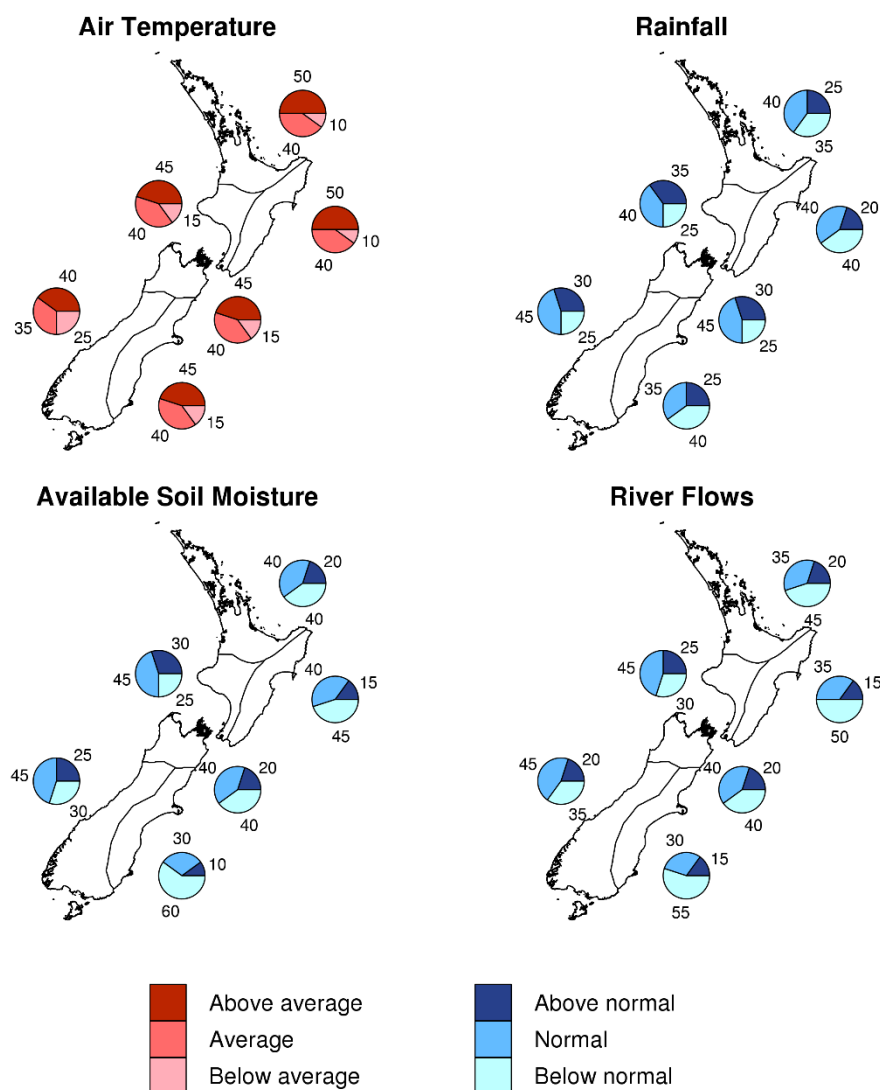
Temperatures are most likely to be in the above average range in the east and north of the North Island. For all remaining regions of New Zealand temperatures are about equally likely to be in the near average or above average range. As autumn progresses, cold snaps and frosts can still be expected from time to time in some parts of the country.

Rainfall is equally likely to be in the near normal or above normal range in the west of the North Island. Rainfall totals for the season are about equally likely to be in the near normal or below normal range for the north and east of the North Island and the east of the South Island. In the north and west of the South Island, rainfall is most likely to be in the near normal range.

Soil moisture levels and river flows are most likely to be below normal in the east of the South Island. Soil moisture levels and river flows are most likely to be in the near normal range in the west of the North Island and west of the South Island.

In the north and east of the North Island, **soil moisture levels** are about equally likely to be in the near normal or below normal range, while **river flows** are most likely to be in the below normal range. Soil moisture levels and river flows are equally likely to be in the near normal or below normal range for the north of the South Island.

Outlook for April - June 2015



Graphical representation of the regional probabilities, Seasonal Climate Outlook, April-June 2015.

The climate we predicted (January to March 2015) and what happened

Predicted rainfall: January – March 2015 rainfall is likely to be in the near-normal or above normal range in North Island regions, most likely near-normal in the north of the South Island, and likely near-normal or below normal in all other regions of the South Island.

Outcome: Actual rainfall was below (50-79%) to well below (<50%) normal for the entire North Island as well as the north and east of the South Island. Rainfall for the west of the South Island was largely in the near normal range with the exception of inland areas where rainfall was slightly below normal.

Predicted air temperature: January – March 2015 temperatures are most likely to be in the above normal range in the west of the South Island, and likely to be near-normal or above normal in all other regions.

Outcome: Actual temperatures were above average for most parts of the country with the exception of Waitomo, Gisborne, Hastings, Central Hawke's Bay, Ashburton, Timaru, Clutha and parts of Southland where near average temperatures were observed.

For more information about NIWA's climate work, visit:

www.niwa.co.nz/our-science/climate