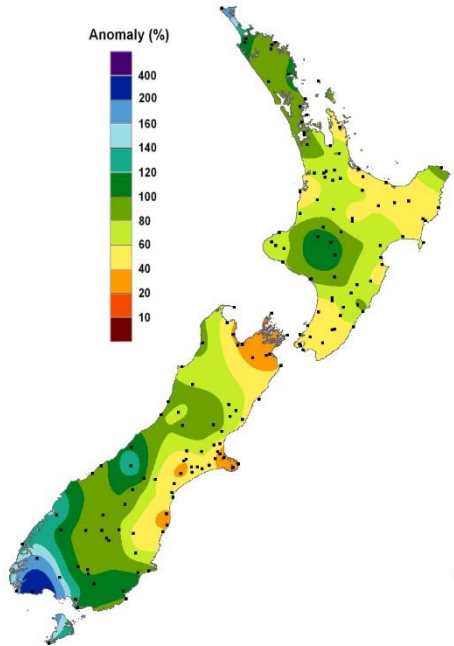


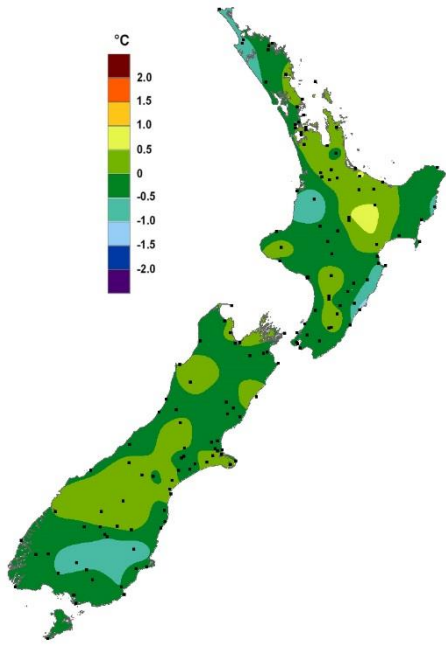
## New Zealand Climate Update No 185, November 2014

### Current climate – October 2014

October 2014 was characterised by air pressures which were lower than normal over and to the south-east of the country. This resulted in an anomalous south-westerly flow over New Zealand.

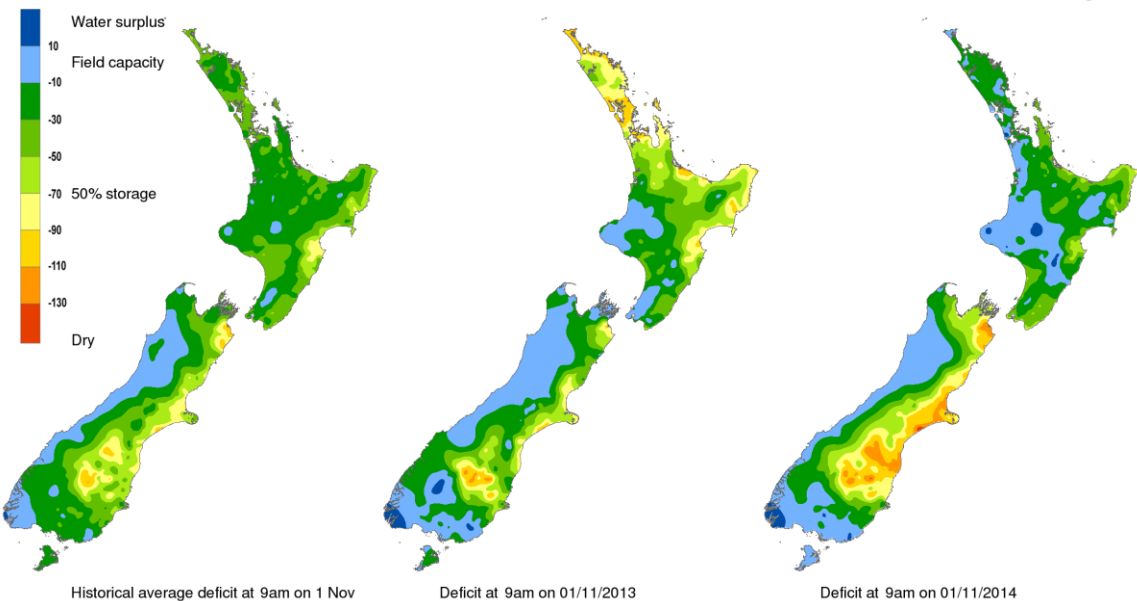


Percentage of normal rainfall for October 2014



Departure from average air temperature for October 2014

Soil moisture deficit (mm) at 9am on 01/11/2014



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

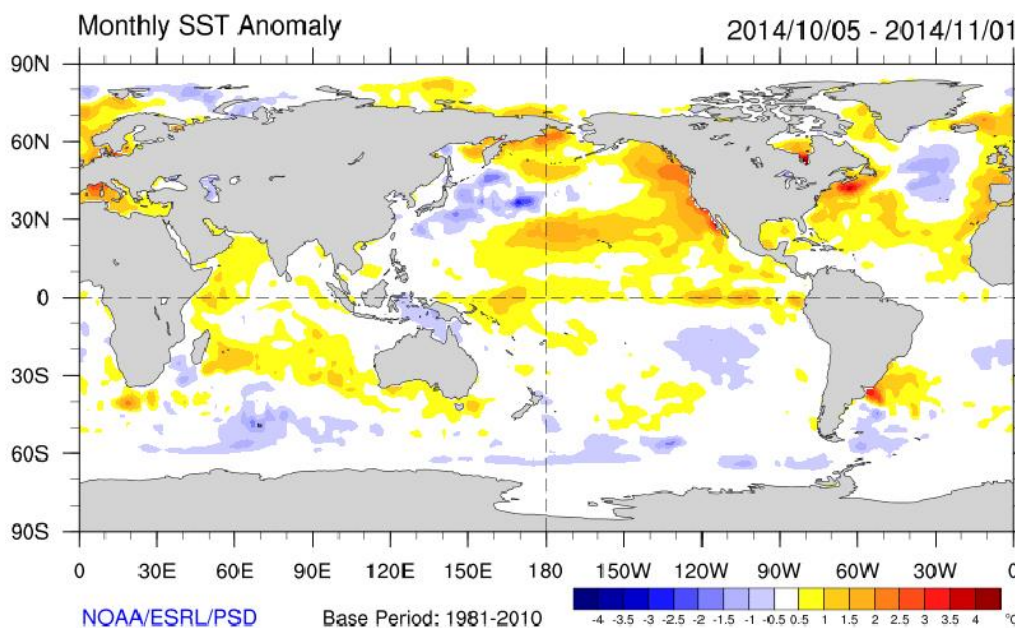
**Rainfall:** October rainfall patterns were largely influenced by the south-westerly flow anomaly persisting throughout the month. Areas exposed to the south-westerlies received rainfall that was above normal (120-149%) or well above normal (> 149%). Indeed, such rainfall anomalies were experienced in south-western Southland and Fiordland. In contrast, areas sheltered from the south-westerlies received below normal (50-79%) or well below normal (< 50%) rainfall, and this was the case for eastern and northern parts of the South Island, as well as the lower North Island, Hawke's Bay, Gisborne and the Bay of Plenty. Remaining areas of the country typically received near normal rainfall (within 20% of normal) for the month.

**Air temperature:** October saw near average temperatures (within 0.50°C of average) for most areas of the country overall. However, there was considerable day-to-day variability of temperatures at times as the anomalous south-westerly flow for the month overall (as outlined earlier) shifted between more westerly and southerly variations. Temperatures were much cooler than average during the early part of October, with a cool southerly flow bringing snow to low elevations in both the North and South Islands. The latter half of the month saw warmer than average temperatures across most of New Zealand. This effectively offset the cold start to the month, meaning temperatures were near average across most of New Zealand for the month as a whole. However, October was a cool month for isolated inland parts of Southland and Otago, Waitomo and the Far North, where temperatures were below average (-1.20 to -0.51°C), while above average temperatures (+0.51°C to +1.20°C) were observed in isolated inland parts of Bay of Plenty. The nation-wide average temperature in October 2014 was 12.2°C (0.1°C above the 1971-2000 October average from NIWA's seven station temperature series which begins in 1909)[1].

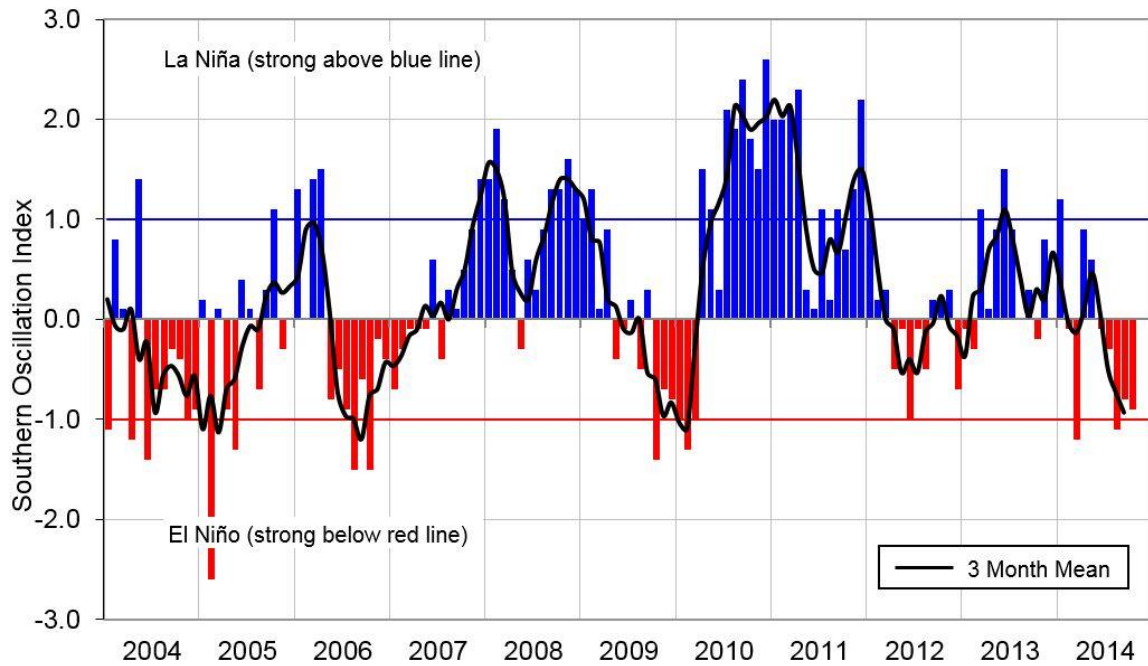
**Sunshine:** October was a sunny month for the lower half of the North Island as well as northern, central and south-eastern areas of the South Island, with above normal sunshine (110-125%) recorded in many of these areas. Balclutha, Dunedin, Cheviot and Martinborough enjoyed near-record high sunshine hours for the month. Sunshine hours were near normal (90-109%) for most remaining areas of the country.

## Global setting

At the end of October 2014, atmospheric and oceanic indicators in the tropical Pacific Ocean were at borderline El Niño thresholds.



Differences from average global sea surface temperatures for 5th of October 2014 to 1st of November 2014. Map courtesy of NOAA Climate Diagnostics Centre (<http://www.cdc.noaa.gov/map/images/sst/sst.anom.month.gif>).



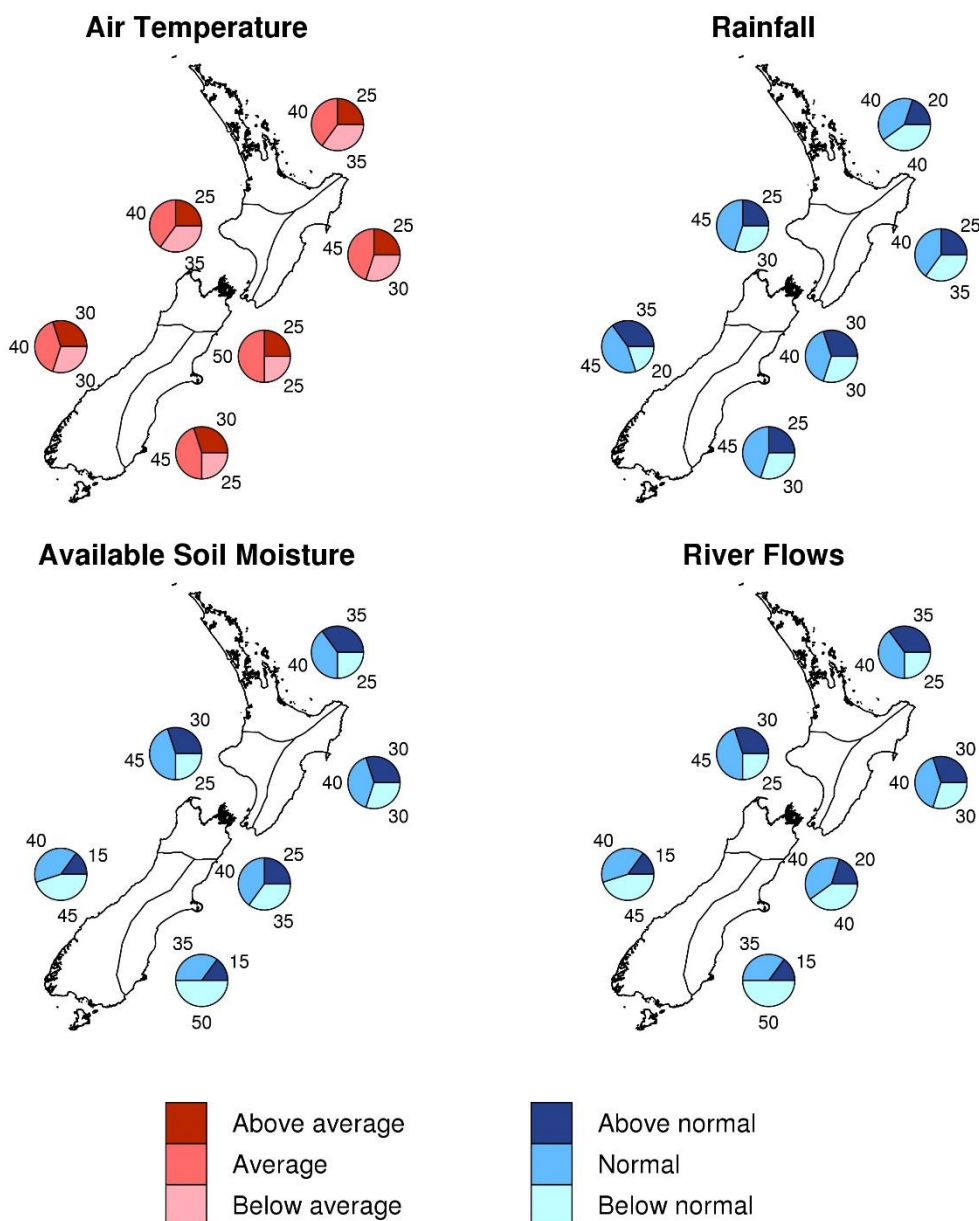
Monthly values of the Southern Oscillation Index (SOI), a measure of changes in atmospheric pressures across the Pacific, and the 3-month mean (black line). SOI mean values: September SOI -0.8; July to September average -0.7.

## Outlook – November 2014 to January 2015

**Temperatures** are likely to be average or below average in the north and west of the North Island. **Seasonal temperatures** are most likely to be near average for the remaining regions.

**Rainfall** totals are about equally likely to be in the normal or below normal range in the north and east of the North Island. **Seasonal rainfall** is most likely to be in the near normal range in all remaining regions of New Zealand.

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



Graphical representation of the regional probabilities, Seasonal Climate Outlook, November 2014 to January 2015.

## The climate we predicted (August to October) and what happened

**Predicted rainfall:** Rainfall totals are equally likely to be normal or above normal in the north and east of the North Island, and normal or below normal in the west of the North Island and in the north of the South Island. In remaining South Island regions, seasonal rainfall is most likely to be in the near-normal range.

**Outcome:** Actual rainfall was near normal for most of the North Island with pockets of above normal rainfall in the Far North, Whangarei and Gisborne districts. In the South Island, rainfall was normal in the western region with a pocket of above normal rainfall in south-west Southland. Conversely, rainfall was below normal in the north and east of the South Island. In particular, less than 40% of normal rainfall was recorded in the Christchurch district.

**Predicted air temperature:** Temperatures are most likely to be to be above average for the east of the North Island, and likely to be average or above average for all remaining regions of New Zealand. Cold snaps and frosts can still be expected in some parts of the country as winter advances into spring.

**Outcome:** Actual temperatures were near average for the whole country. A small pocket of below average temperature was recorded in Tararua.

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

[www.niwa.co.nz/our-science/climate](http://www.niwa.co.nz/our-science/climate)