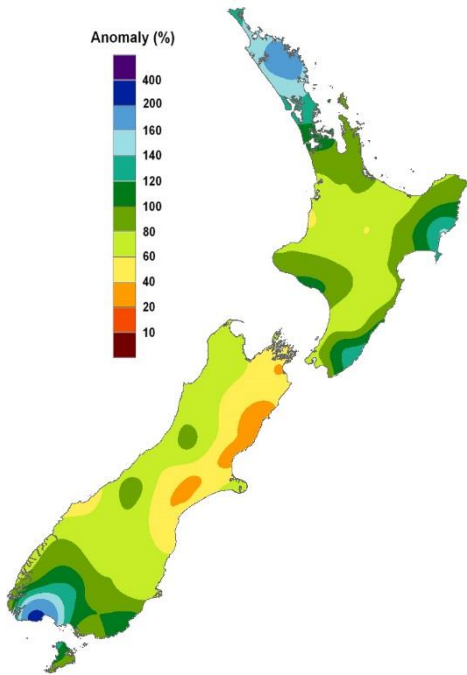


New Zealand Climate Update No 184, October 2014

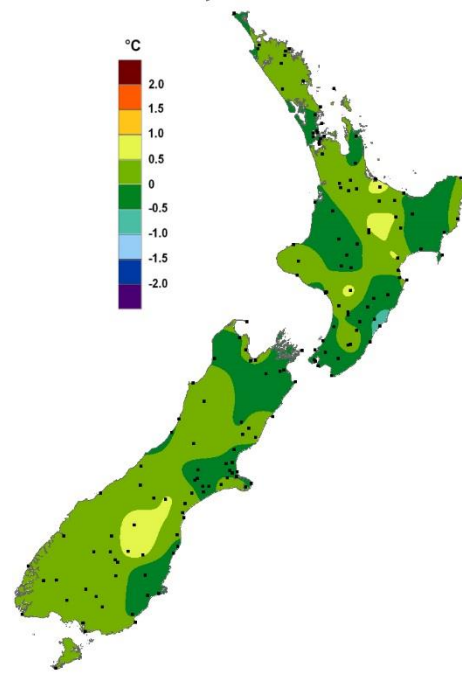
Current climate – September 2014

September 2014 was characterised by lower pressures than normal over the north-east of the country and higher pressures well to the west of New Zealand.

This pressure pattern brought about more south-easterly flows across northern New Zealand.

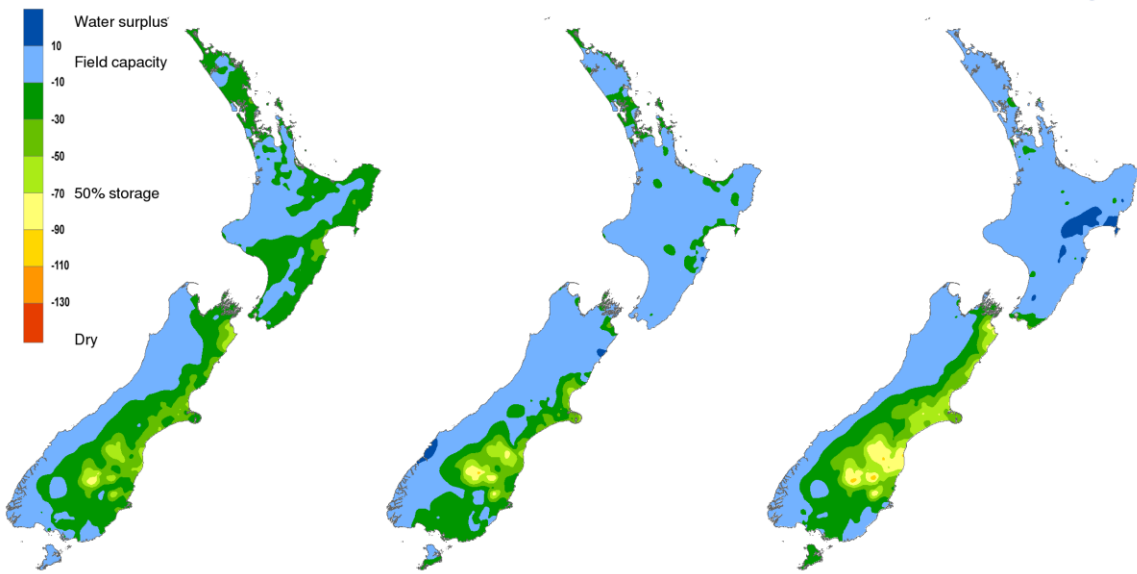


Percentage of normal rainfall for September 2014



Departure from average air temperature for September 2014

Soil moisture deficit (mm) at 9am on 01/10/2014



Historical average deficit at 9am on 1 Oct

Deficit at 9am on 01/10/2013

Deficit at 9am on 01/10/2014



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

Rainfall

A long reigning dry spell in many parts of the South Island began in mid-August and persisted into the first half of September, contributing to the south experiencing a dry September as a whole. Overall, rainfall was largely below normal (50-79%) for the Island and well below normal (< 50%) in parts of the Queenstown Lakes district. Conversely, rainfall was above normal (120-149%) in several North Island regions including parts of Auckland, Bay of Plenty, Gisborne, Hawke's Bay, Manawatu- Whanganui and Taranaki. Rainfall was generally in the near normal range for the remainder of the North Island as well as the Tasman and Nelson regions of the South Island.

Air temperature

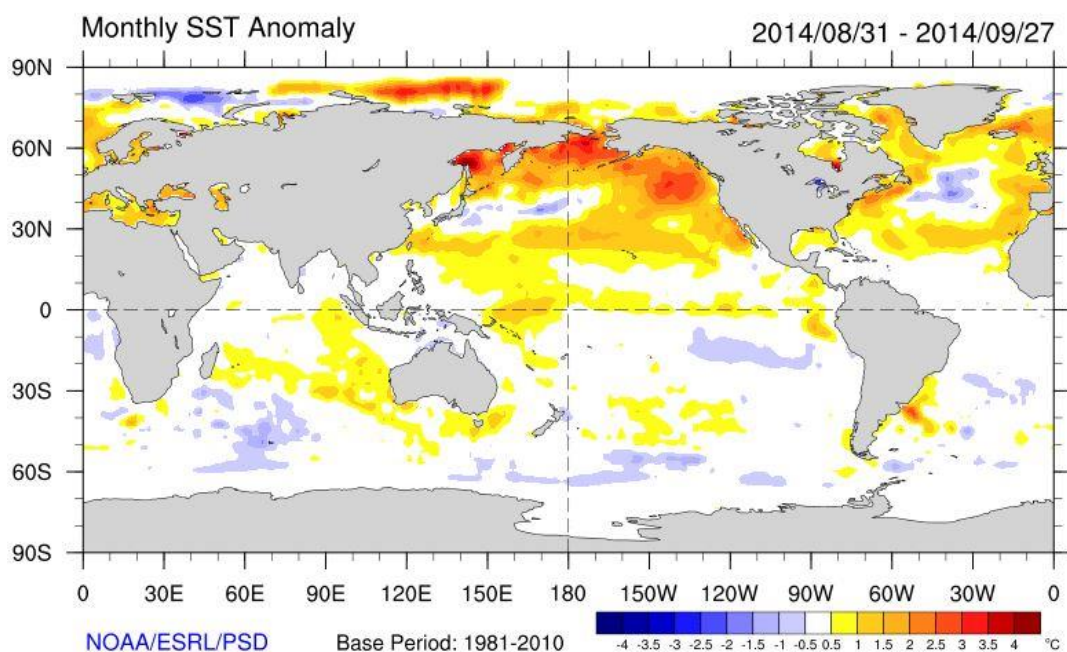
It was a mild September for Auckland, Waikato, Bay of Plenty, Manawatu-Whanganui, Taranaki and parts of the West Coast with above average (0.51 to 1.20°C) temperatures recorded. It was particularly warm in the north of the South Island on September 24th, when higher pressures and a north easterly flow brought about near-record high temperatures at several locations. Coastal Otago was not as warm during September and was characterised by below average temperature (-1.20 to -0.51°C). Generally near normal temperature was experienced elsewhere. The nation-wide average temperature in September 2014 was 10.9°C (0.50°C above the 1971-2000 September average from NIWA's seven station temperature series which begins in 1909).

Sunshine

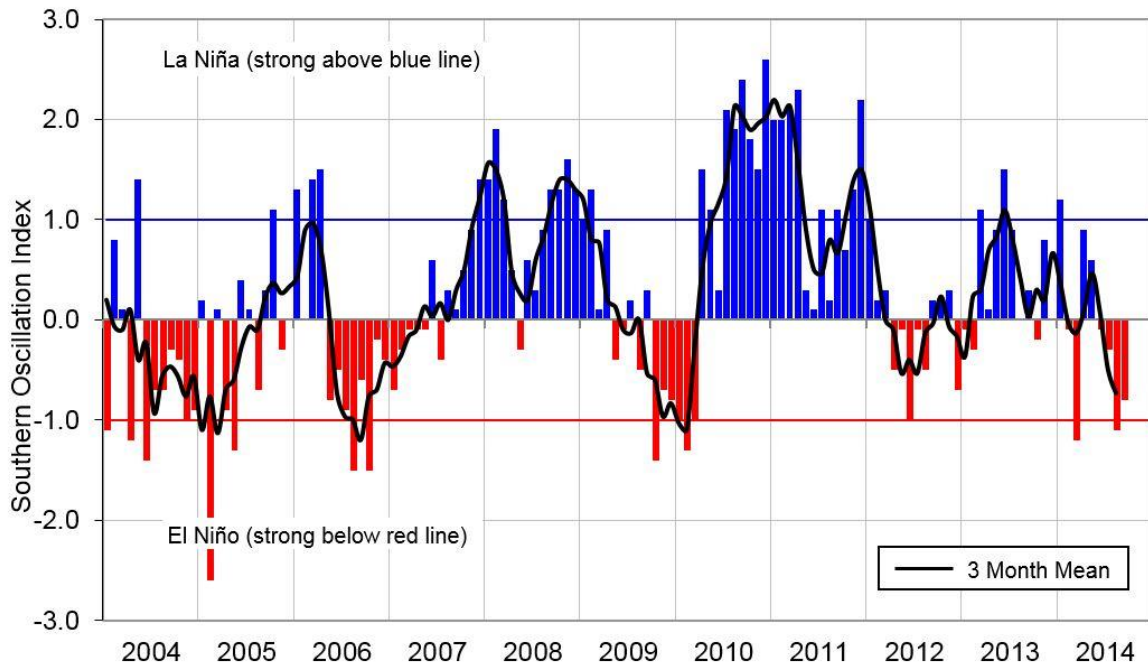
It was a sunny start to spring for most of the South Island, reflecting the dryness experienced during September. Several stations in the south received near-record sunshine hours, with Queenstown enjoying its highest September sunshine total on record following on from the sunniest August last month. The North Island along with Nelson and Marlborough were not as bright in September and received near normal (90-109%) sunshine levels.

Global setting

During September 2014, borderline El Niño conditions returned in the Pacific: sea surface temperatures rose in the western-central Pacific, sub-surface heat content increased, and the Southern Oscillation Index persisted at about -0.7. Both atmospheric and oceanic indicators are consequently close to conventional El Niño thresholds.



Differences from average global sea surface temperatures for 31st of August 2014 to 27th of September 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 – October to December 2014

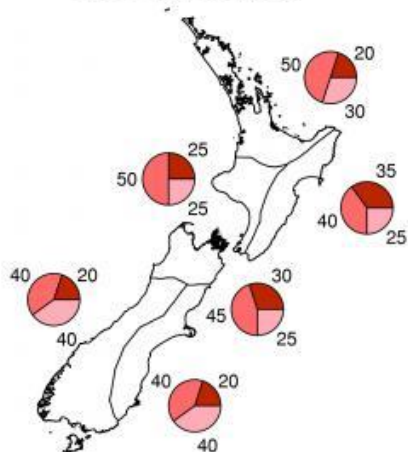
October–December **temperatures** are likely to be average or above average for the east of the North Island, but are likely to be average or below average for the southwest and east of the South Island. Temperatures are likely to be near average for remaining regions of New Zealand.

October–December **rainfall** is likely to be in the near normal range for the north and west of the North Island, and likely to be normal or below normal in the east of the North Island. Normal or above normal rainfall is likely in all South Island regions.

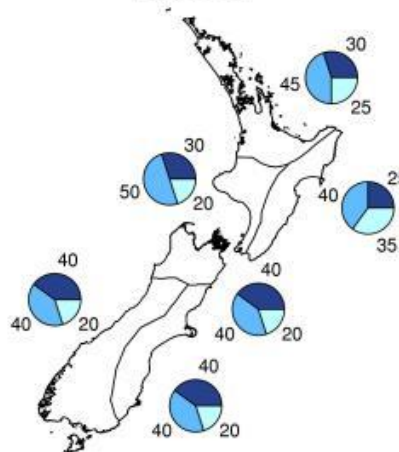
Soil moisture levels and **river flows** are most likely to be in their near normal ranges for all regions of New Zealand.

Outlook for October - December 2014

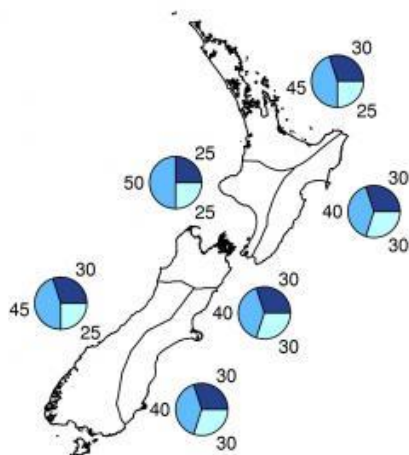
Air Temperature



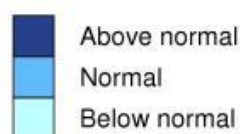
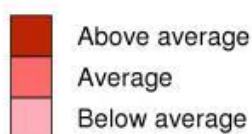
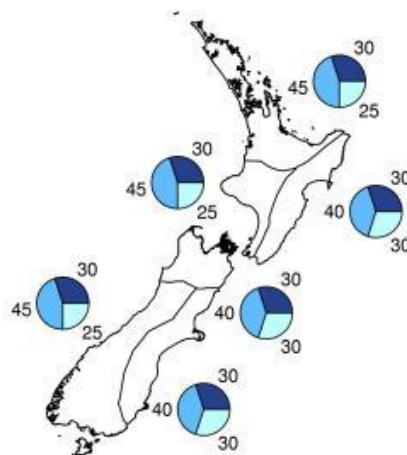
Rainfall



Available Soil Moisture



River Flows



Graphical representation of the regional probabilities, Seasonal Climate Outlook, October to December 2014.

The climate we predicted (July to September) and what happened

Predicted rainfall: Rainfall totals are equally likely to be in the normal or below normal range for the west of the North Island and the north of the South Island. For the remaining regions of New Zealand, three-month rainfall totals are most likely to be in the near normal range.

Outcome: Actual rainfall was above normal in the Far North, Kaipara, Whangarei, Auckland, Gisborne, Carterton and south-western Southland. Rainfall was largely below normal for the remainder of the country with pockets of normal rainfall recorded in Waikato, Hauraki, Thames-Coromandel and South Taranaki. The districts of Marlborough, Kaikoura, Hurunui, Waimakariri and Ashburton were particularly dry with less than 40% of rain recorded in parts.

Predicted air temperature: Temperatures are most likely to be above average for the east and west of the North Island, and about equally likely to be average or above average for the north of the North Island and all regions across the South Island.

Outcome: Actual temperatures were average across the whole country. Pockets of above average temperature were recorded in the districts of Taupo, Timaru and Mackenzie.

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

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