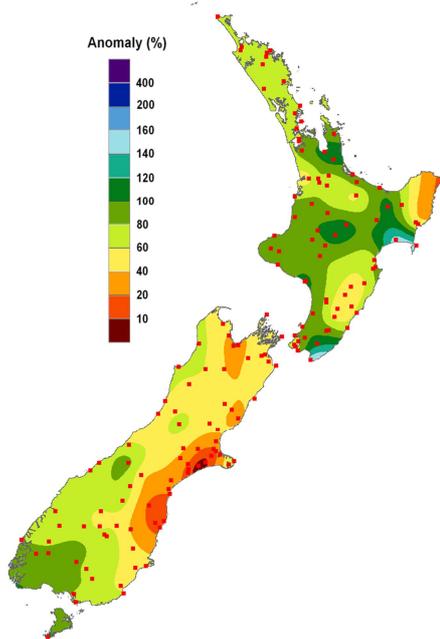


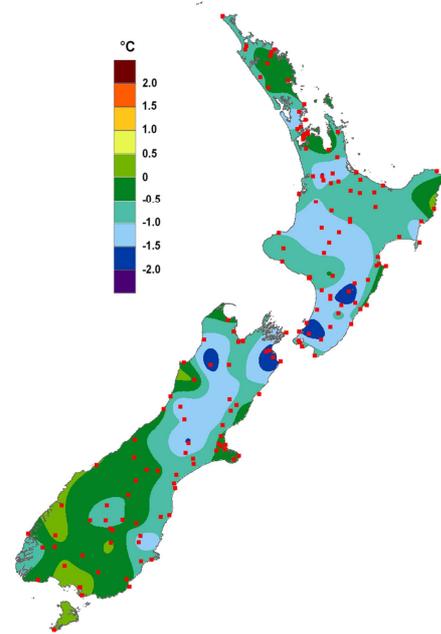
## New Zealand Climate Update No 156, June 2012

### Current climate – May 2012

May was characterised by higher pressures than normal to the southeast of the country. Lower pressures than usual were observed near Tasmania and also to the east of the North Island. This pressure pattern resulted in more easterly quarter winds than usual over New Zealand.

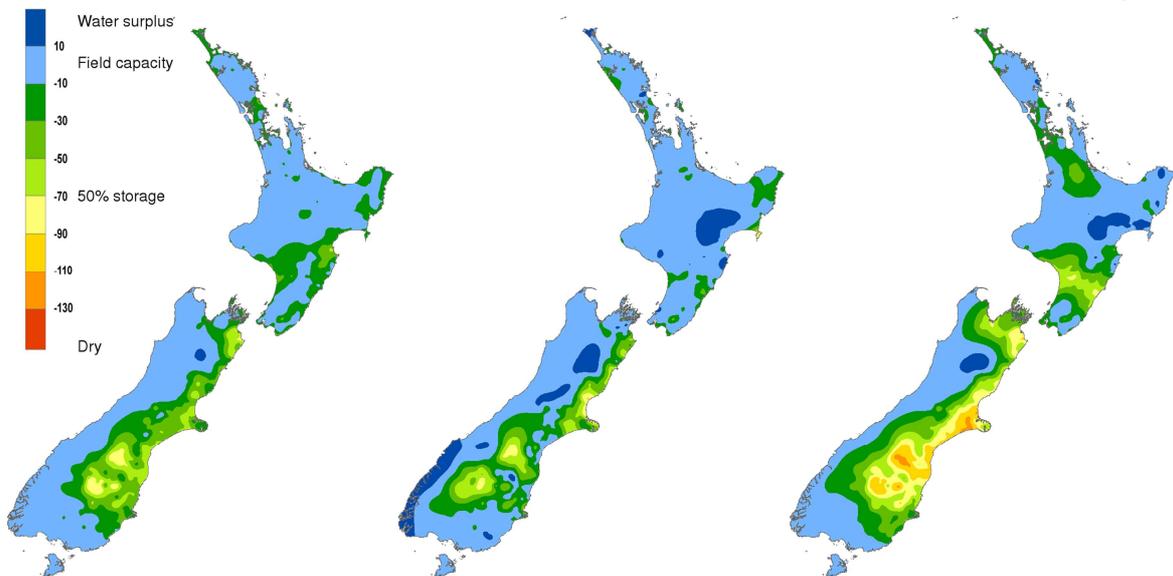
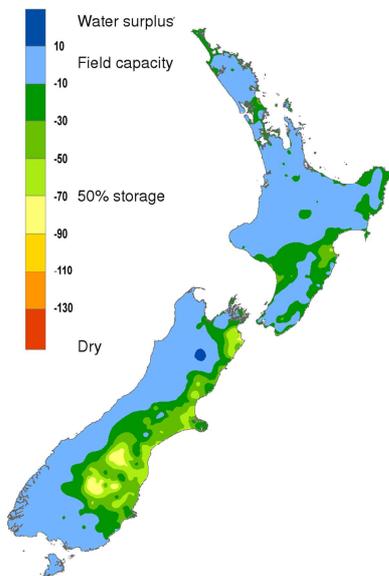


Percentage of normal rainfall, May 2012



Departure from average air temperature for May 2012

### Soil moisture deficit (mm) at 9am on 01/06/2012



Historical average deficit at 9am on 01/06

Deficit at 9am on 01/06/2011

Deficit at 9am on 01/06/2012

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

## Rainfall

It was an extremely dry May for Canterbury, with less than a quarter of normal May rainfall recorded and it was generally dry elsewhere in the South Island. It was the 2nd-driest May on record for Christchurch. Rainfall was around half of May normal in Nelson and Marlborough, and across much of Westland and Otago. In Fiordland and for the alpine districts, rainfall ranged between 50 and 80 percent of May normal. Rainfall totals were near normal in Southland, as well as across much of the north and west of the North Island. In contrast, northern Hawkes Bay and coastal Bay of Plenty experienced a wet May, whilst Gisborne, southern Hawkes Bay, and much of the Tararua District recorded below normal rainfalls. At the end of May, soils were much drier than normal for the time of year in Canterbury and Nelson, as well as in the Tararua District and around Palmerston North. Elsewhere, soil moisture levels were generally near normal.

## Air temperature

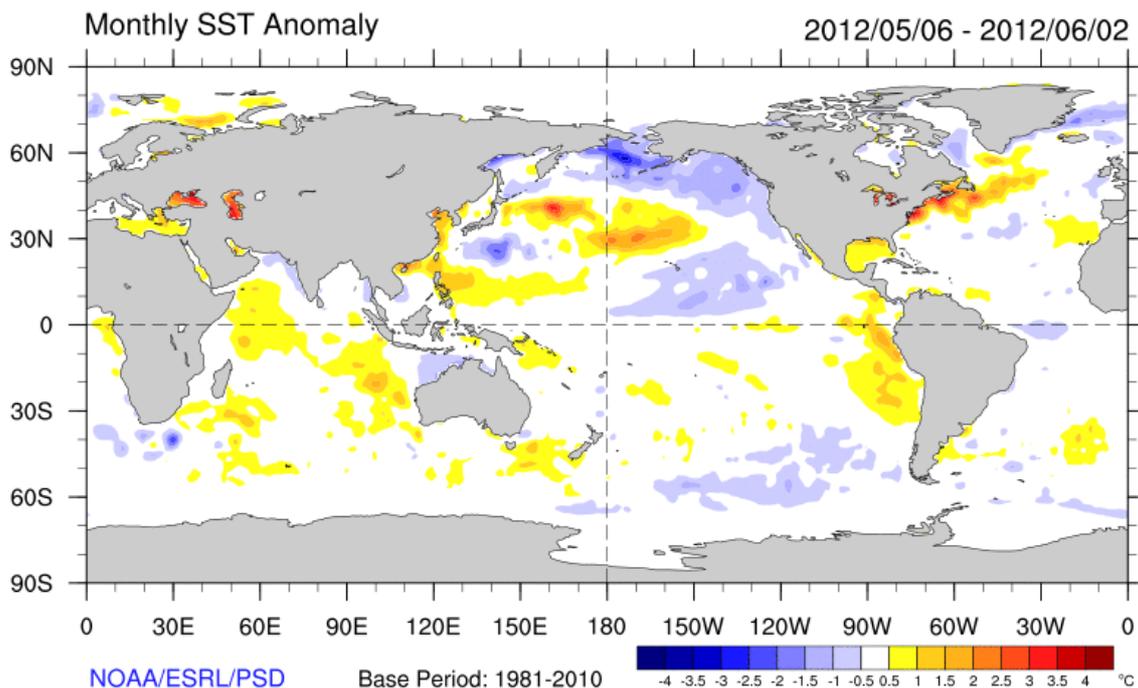
Mean temperatures for May were generally below average across much of the North Island, as well as the north and east of the South Island. Temperatures were near average (within 0.5°C of the May average) in the southwest of the country (Southland, Fiordland, and southern Westland), as well as locally around Christchurch, and in parts of Auckland and Northland and coastal Bay of Plenty. The nation-wide average temperature in May was 10.3°C (0.4°C below the 1971–2000 May average), using NIWA's seven-station temperature series which begins in 1909.

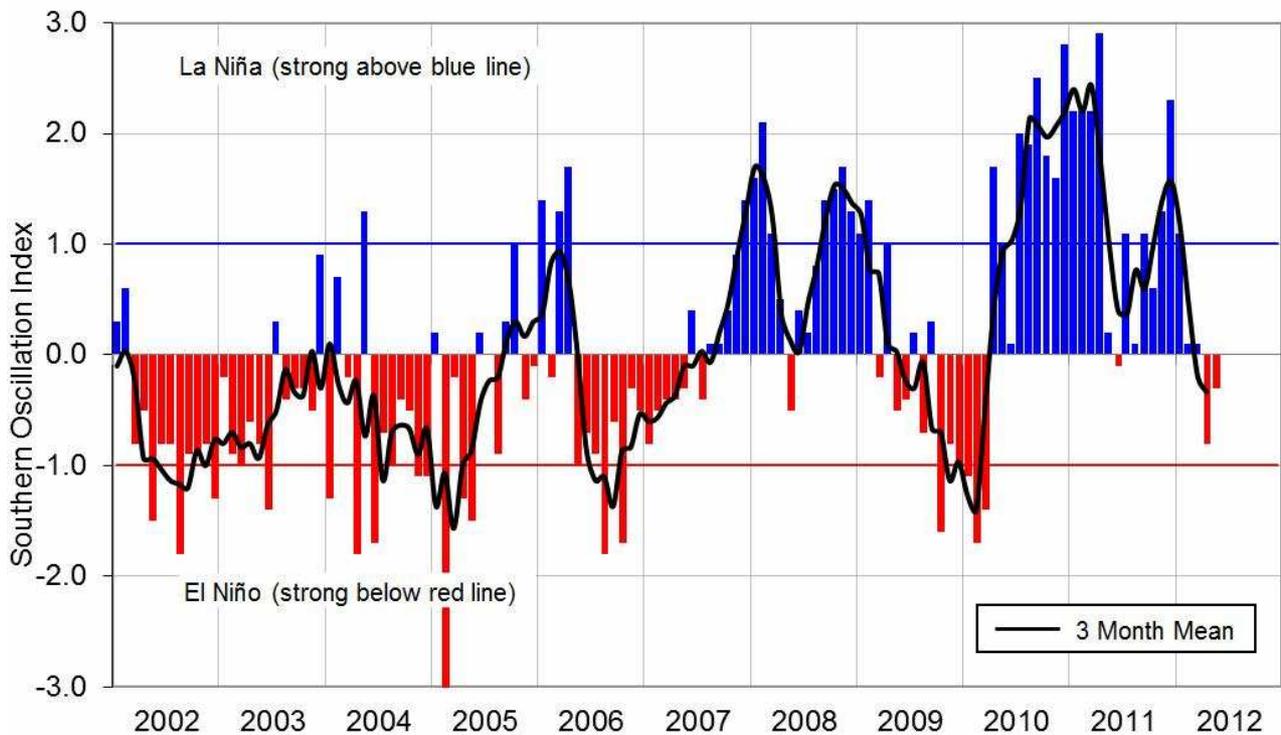
## Sunshine

May was an extremely sunny month in the west of both islands. Well above normal sunshine totals were observed in western regions between Hamilton and the Kapiti Coast, as well as Westland, Fiordland and Southland. It was the sunniest May on record for New Plymouth and Queenstown – in over 80 years of record in the case of Queenstown. Sunshine totals were also above normal in most other parts of the country. The exceptions were Canterbury, Gisborne and Nelson, which experienced closer to normal sunshine totals.

## Global setting

Neutral ENSO conditions presently exist in the tropical Pacific, but there is a likelihood of El Niño developing by spring. For winter, higher than normal mean sea level pressures are expected to the south of New Zealand (but with a weak circulation anomaly over the country itself).





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: April SOI -0.8; March to May average -0.2.

## Outlook June to August 2012

Neutral ENSO conditions presently exist in the tropical Pacific, but there is an enhanced risk of El Niño conditions developing during the second half of 2012.

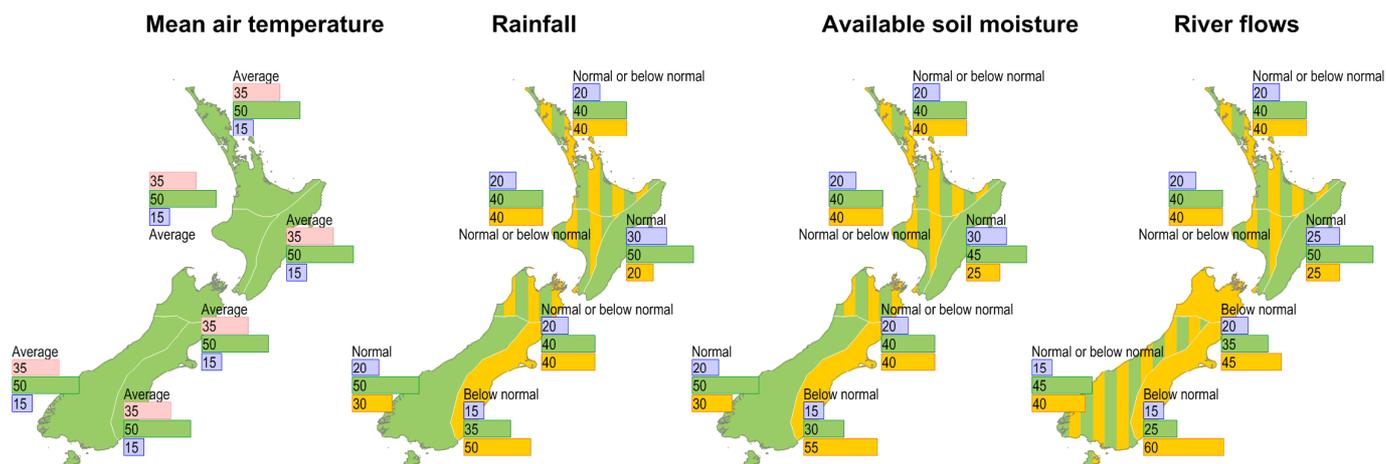
**Temperatures** are likely to be near average overall for all regions, although frosts and snowfalls typical of winter will occur from time to time.

**Seasonal rainfall** likely to be below normal in the eastern South Island, normal or below normal for Nelson/Marlborough, as well as the west and north of the North Island. Near normal winter rainfall totals and soil moisture levels are predicted for the West Coast, and the eastern North Island.

**Soil moisture levels** likely to be below normal in the eastern South Island, normal or below normal for Nelson/Marlborough, as well as the west and north of the North Island. Near normal winter rainfall totals and soil moisture levels are predicted for the West Coast, and the eastern North Island.

**River flows** predicted to be below normal for the north and east of the South Island, near normal in the eastern North Island, and normal or below normal elsewhere.

# Outlook for June-August 2012



Key to maps (example interpretation)

**Below normal**  
 Upper tercile: 20% chance of above normal 20  
 Middle tercile: 30% chance of normal 30  
 Lower tercile: 50% chance of below normal 50

In this example the climate models suggest that below average conditions are likely (50% chance of occurrence), but, given the variable nature of the climate, the chance of normal or above normal conditions is also shown (30% and 20% respectively).

## The climate we predicted (March to May) and what happened

**Predicted rainfall:** Rainfall totals are likely to be normal or above normal in the north and east of the North Island, as well as the north of the South Island. In all other regions, near normal seasonal rainfall totals are likely.

**Outcome:** Autumn rainfall was correctly forecast for Northland, Auckland, Coromandel, and Bay of Plenty – but it was drier than forecast in Waikato and Waitomo (with areas of below average rainfall observed). Normal or above normal rainfall was forecast for the north of the South Island (but below normal rainfall was experienced). In all other regions, near normal seasonal rainfall totals were predicted. This was a correct forecast for Taranaki and Wellington, Marlborough and parts of north Canterbury – but over the bulk of the country, below normal rainfall was generally recorded.

**Predicted air temperature:** Temperatures are likely to be average or below average in eastern areas of both Islands, and near average elsewhere.

**Outcome:** Temperatures were below average in all eastern regions. Near average temperatures were observed in parts of Northland, Auckland, the Bay of Plenty, Golden Bay, the Buller District, parts of the West Coast, Southland and parts of inland Otago. Above average temperatures were recorded around Westport as well as for coastal Fiordland and coastal Southland. But it was cooler than forecast for the remainder of the country, with below average temperatures observed.

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

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