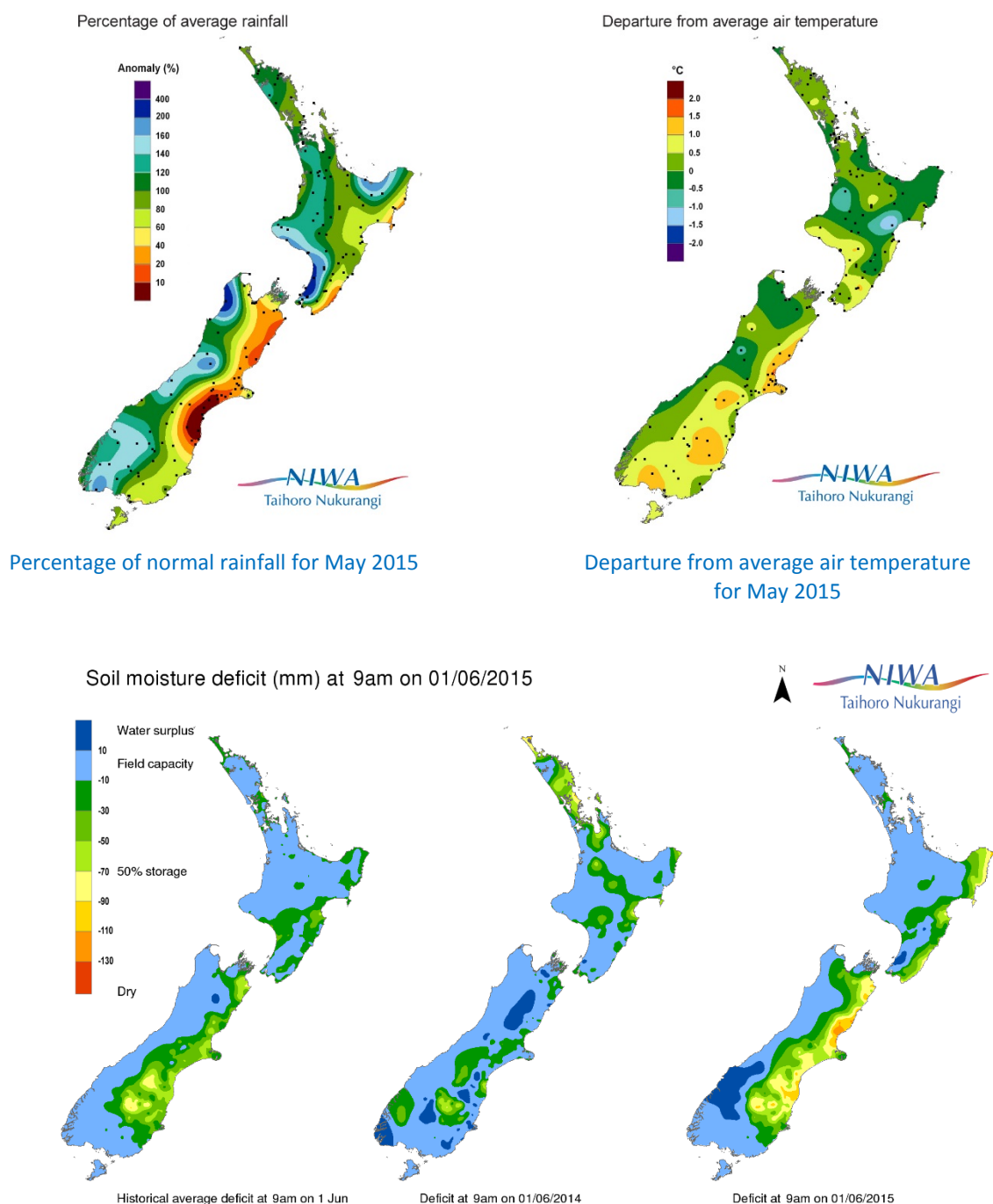


## New Zealand Climate Update No 192, June 2015

### Current climate – May 2015

May 2015 was characterised by air pressures which were well below normal in the Tasman Sea, with below normal pressures extending over New Zealand. This circulation pattern was accompanied by a westerly flow anomaly over New Zealand. This flow anomaly was clearly reflected in the distribution of rainfall anomalies observed across New Zealand.



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.

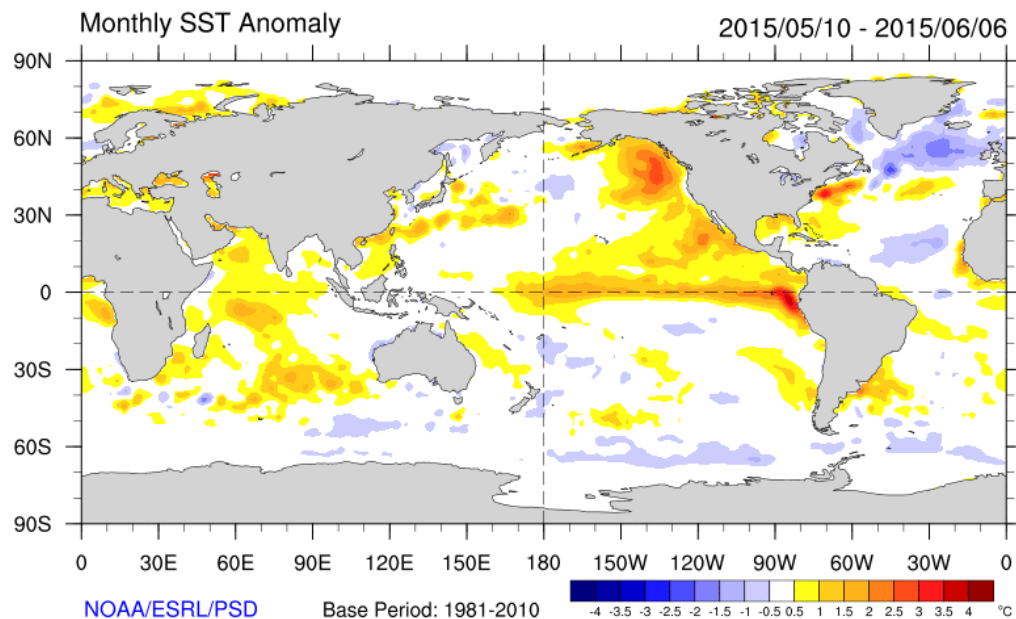
**Rainfall:** Rainfall was well below normal (< 50%) or below normal (50-79%) for eastern parts of New Zealand from Gisborne all the way south to North Otago. Rainfall was well above normal (> 149%) or above normal (120-149%) for western parts of the South Island, the Southern Lakes, southwestern and western parts of the North Island, and eastern Bay of Plenty.

**Air temperature:** May temperatures were above average (+0.51°C to +1.20°C) for parts of Southland, Otago, Canterbury, Wairarapa, Whanganui and Southern Taranaki. May temperatures were below average in isolated parts of central Hawke's Bay and western Waikato (-0.51°C to -1.20°C).

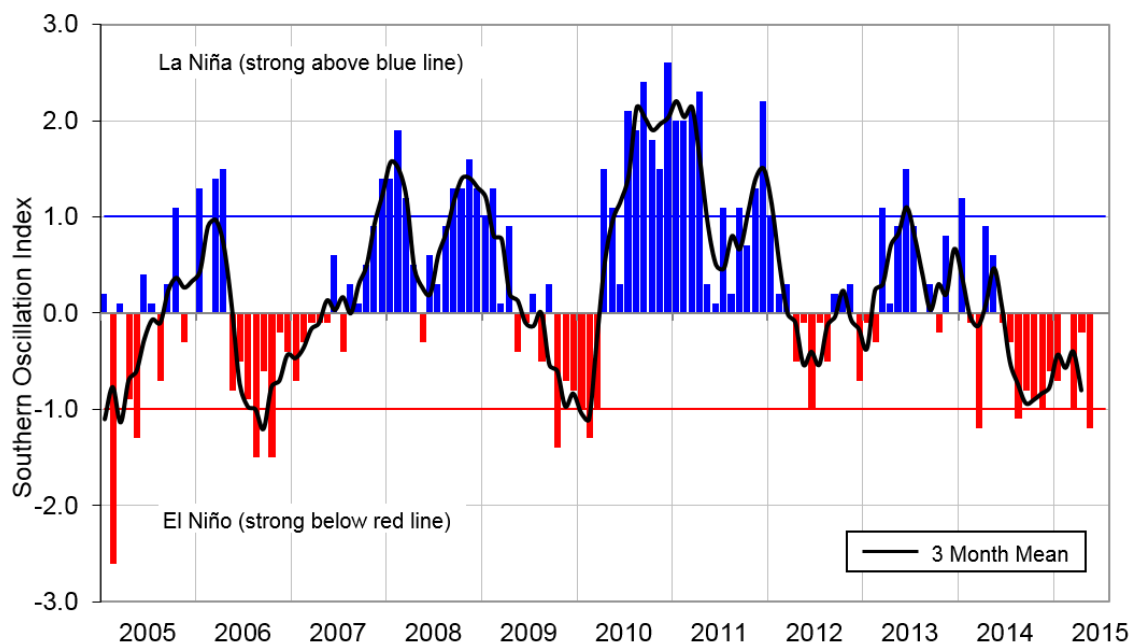
**Sunshine:** May sunshine was abundant for eastern parts of New Zealand including the eastern Bay of Plenty, Gisborne, Hawke's Bay, Wairarapa, Marlborough, Canterbury and Otago where May sunshine was typically above normal (110-125%) or well above normal (> 125%).

## Global setting

An El Niño event is now under way in the tropical Pacific. In the second half of May, the Pacific trade winds weakened substantially and the Southern Oscillation Index (SOI) dropped below -1, indicating coupling had been achieved between the warmer sea surface temperatures and the overlying atmospheric circulation.



Differences from average global sea surface temperatures for 10 May to 6 June 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: May SOI -1.2; March to May average -0.8.

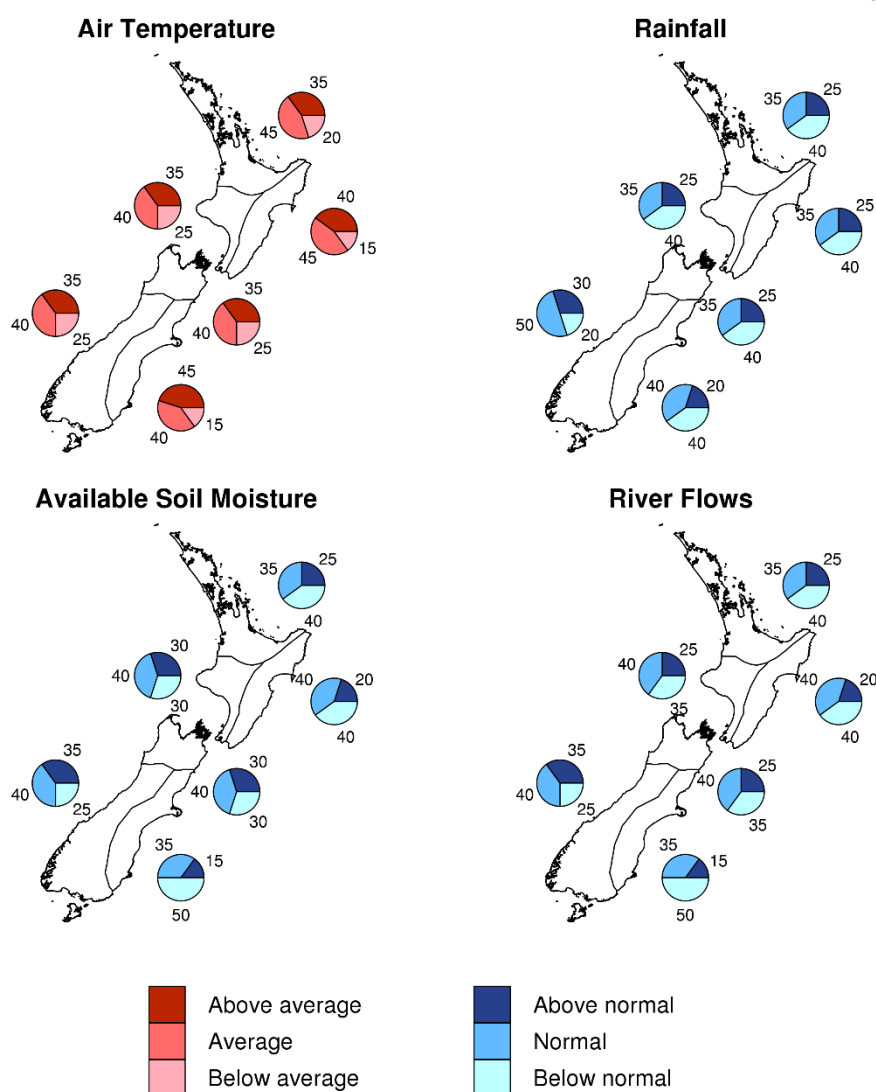
## Outlook – June to August 2015

**Temperatures** are equally likely to be average or above average in all regions of New Zealand except in the north of the North Island, where temperatures for the next three months as a whole are most likely to be in the near normal range. Note that cold snaps and frosts are to be expected in some parts of the country as we progress into winter.

**Rainfall** are about equally likely to be in the near normal or below normal range for all regions of New Zealand except for the west of the South Island, where near normal rainfall is the most likely outcome.

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

### Outlook for June - August 2015



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

## **The climate we predicted (March - May 2015) and what happened**

**Predicted rainfall:** March – May 2015 rainfall totals are most likely to be in the near normal or above normal range in the east of the South Island, near normal in the north and west of the South Island, and near normal or below normal for regions of the North Island.

**Outcome:** Actual rainfall was above normal for the western regions of both the North and South Island and near normal for all other regions. Small areas of below normal rainfall were found along the coasts of Gisborne, Masterton, Wairarapa, Hurunui and Waitaki.

**Predicted air temperature:** March-May 2015 temperatures are most likely to be in the near or above average range for all regions of New Zealand.

**Outcome:** Actual temperatures were in fact above average for the entire country. Isolated pockets of near average temperature were observed in Otorohanga, coastal Gisborne and coastal Clutha.

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

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