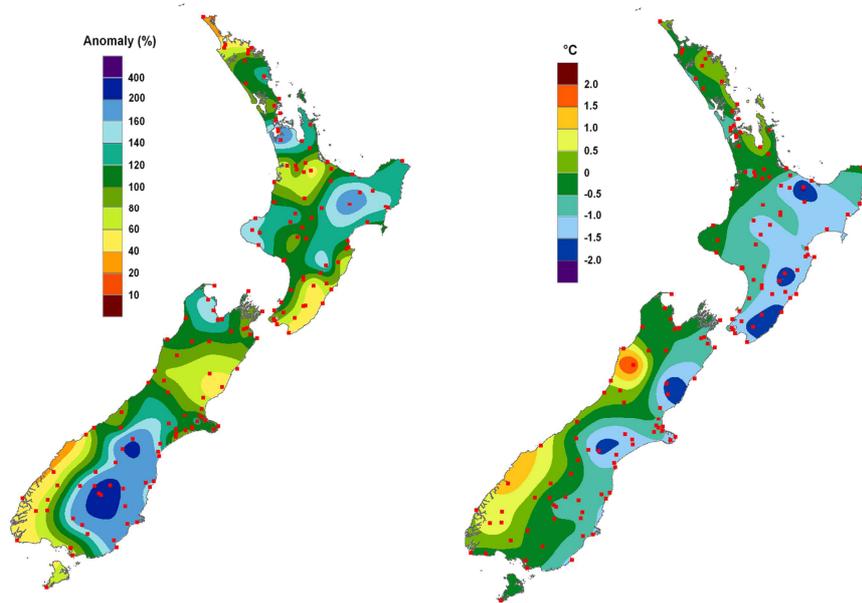


New Zealand Climate Update No 153, March 2012

Current climate – February 2012

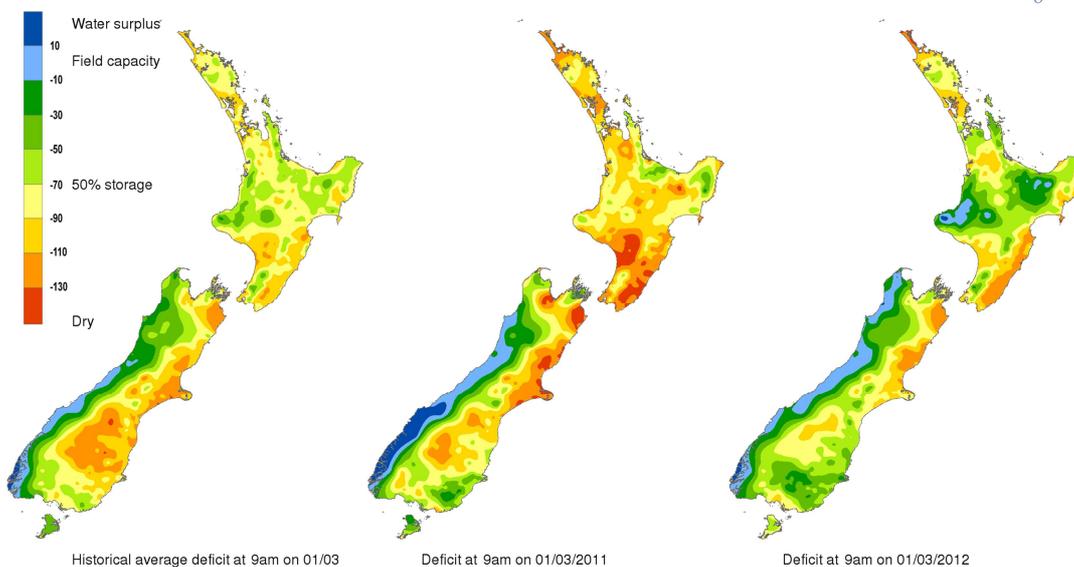
February was characterised by highs to the southeast of New Zealand, and more lows than normal over the north Tasman Sea, producing more easterly winds than usual. It was an extremely cloudy month for much of the country, due to the moist easterly wind flows and cooler than usual seas around New Zealand. Well below average temperatures were observed in eastern regions of both Islands, because of the onshore easterly winds, but it was a warmer than usual month for the West Coast. Rainfall for the month was rather patchy – with some very dry regions bordering extremely wet ones – in part because frequent thunderstorm activity during the month resulted in rather local rainfalls.



Percentage of normal rainfall, February 2012

Departure from average air temperature for February 2012.

Soil moisture deficit (mm) at 9am on 01/03/2012



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 February for Fiordland, with less than half of February normal rainfall recorded there. Below normal rainfall (between 50 and 79 percent of February normal) was experienced in north Canterbury and the Kaikoura coast, Wairarapa, as well as parts of Waikato and northwards of the Bay of Islands. In contrast, it was very wet for inland Southland, Otago, the Lakes District, and Takaka (mainly due to the event on 22/23 February), south Canterbury, Taranaki, Gisborne, inland Hawkes Bay and inland Bay of Plenty, much of Auckland, and the Coromandel (with more than 120 percent of February normal recorded in these regions). Soil moisture levels at the end of February were above normal in Auckland, Bay of Plenty, Taranaki, Tasman, Otago and south Canterbury. In contrast, soils were drier than usual in coastal Southland, Fiordland, Wairarapa and southern Hawkes Bay.

Air temperature

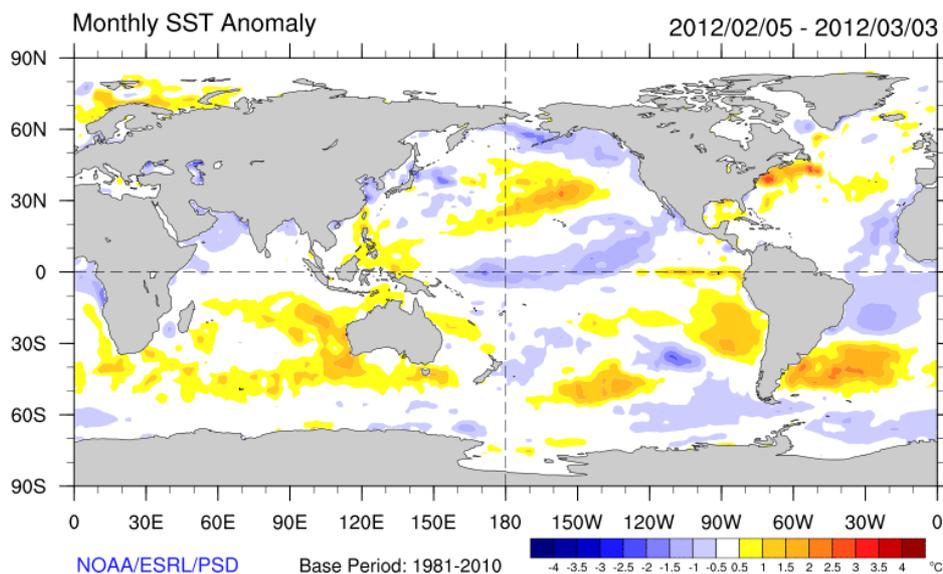
Well below average temperatures (more than 1.2°C below average) were experienced in Canterbury, as well as along the east coast of the North Island, the Central Plateau, Taupo and Bay of Plenty. Below average temperatures (between 0.5°C and 1.2°C below average) were observed in coastal Otago, the Kaikoura Coast and Blenheim, as well as Wellington, the Kapiti Coast, Manawatu-Wanganui, and the Waitomo District. In contrast, above average February temperatures (between 0.5°C and 1.2°C above average) were recorded in Fiordland and along the West Coast. Elsewhere, mean temperatures for February were close to average. The nation-wide average temperature in February was 16.4°C (0.8°C below the 1971–2000 February average), using NIWA's seven-station temperature series which begins in 1909.

Sunshine

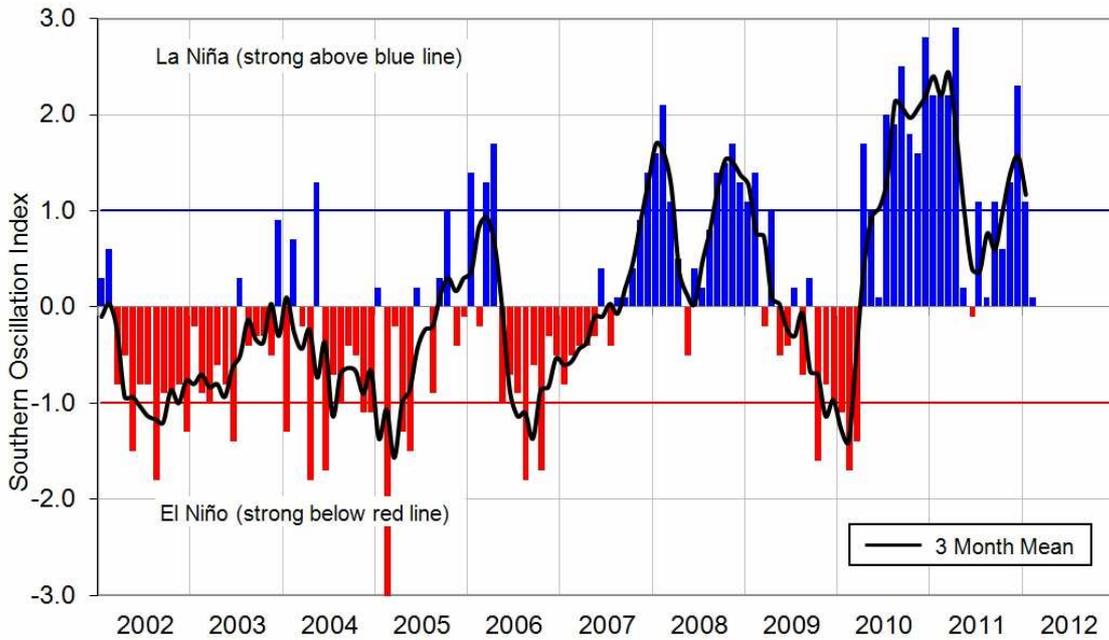
It was an extremely cloudy February across much of New Zealand. Well below normal sunshine totals (below 75 percent of February normal) were observed between Hamilton and Dunedin. It was the cloudiest February on record for Dannevirke, Waipawa, Stratford, and Blenheim.

Global setting

Mature La Niña conditions are expected to dissipate in early autumn 2012. Lower pressures than normal are expected over the Tasman Sea for March to May as a whole, resulting in more frequent northeast winds than usual over the country.



Differences from average global sea surface temperatures for 5th February to 3rd March 2012. 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: February SOI +0.1; December to February average +1.2.

Outlook March to May 2012

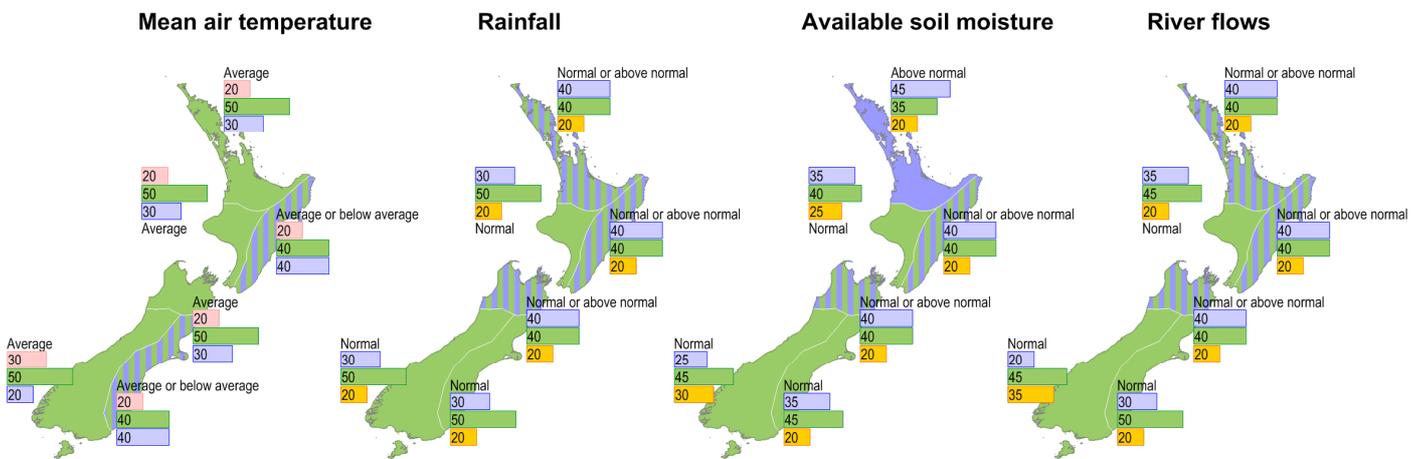
Mature La Niña conditions are expected to dissipate in early autumn.

Temperatures are likely to be average or below average in eastern areas of both Islands, and near average elsewhere.

Seasonal rainfall and **river flows** are likely to be normal or above normal in the north and east of the North Island, as well as the north of South Island, and near normal in all other regions.

Soil moisture levels are projected to be above normal in the northern North Island, normal or above normal in the east of the North Island and north of the South Island, and near normal elsewhere.

Outlook for March-May 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 (November to January) and what happened

Predicted rainfall: Summer rainfall totals are likely to be below normal on the West Coast, and normal or below normal across the remainder of the South Island, as well as in the southwest of the North Island. Near normal seasonal rainfall is likely for the eastern North Island. For the northern North Island, summer rainfall is equally likely to be normal or above normal.

Outcome: Summer rainfall totals were correctly forecast to be below normal on the West Coast, and wetter than normal was correctly indicated for north of Taupo. Observations showed near normal summer rainfall for eastern parts of Northland, Gisborne, south Hawkes Bay, North Canterbury, Christchurch, parts of Otago and parts of Southland. Elsewhere, it was wetter than forecast, with above normal summer rainfall totals observed.

Predicted air temperature: Air temperatures are likely to be above average on the West Coast of the South Island, and near average or above average across the remainder of the country. Sea surface temperatures are likely to remain above average to the northeast of the North Island during summer, but near average elsewhere about the New Zealand region.

Outcome: Seasonal temperatures were correctly predicted to be above average on the West Coast of the South Island. Observations showed near average summer temperatures for Northland, Auckland, Taranaki, and central Otago, whilst below average summer temperatures were experienced elsewhere (where near average or above average summer temperatures were indicated).

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

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