

The Island Climate Update Supplement

*A summary of climate conditions
for the Southwest Pacific region*

Southwest Pacific regional climate last month

Collaborators

- El Niño conditions consolidated in June 2015
- South Pacific Convergence Zone (SPCZ) defined in TRMM rainfall is north of normal west of the International Dateline.

Pacific Islands National
Meteorological Services

National Institute of Water &
Atmospheric Research
(NIWA)

Australian Bureau of
Meteorology

Meteo France

NOAA National Weather
Service

NOAA Climate Prediction
Centre (CPC)

International Research
Institute for Climate and
Society

UK Met Office

ECMWF

World Meteorological
Organisation

MetService of New Zealand

Atmospheric circulation patterns

- More frequent highs extended over the Tasman Sea and far to the east of New Zealand, with more frequent south-easterly and easterly flow over many islands.

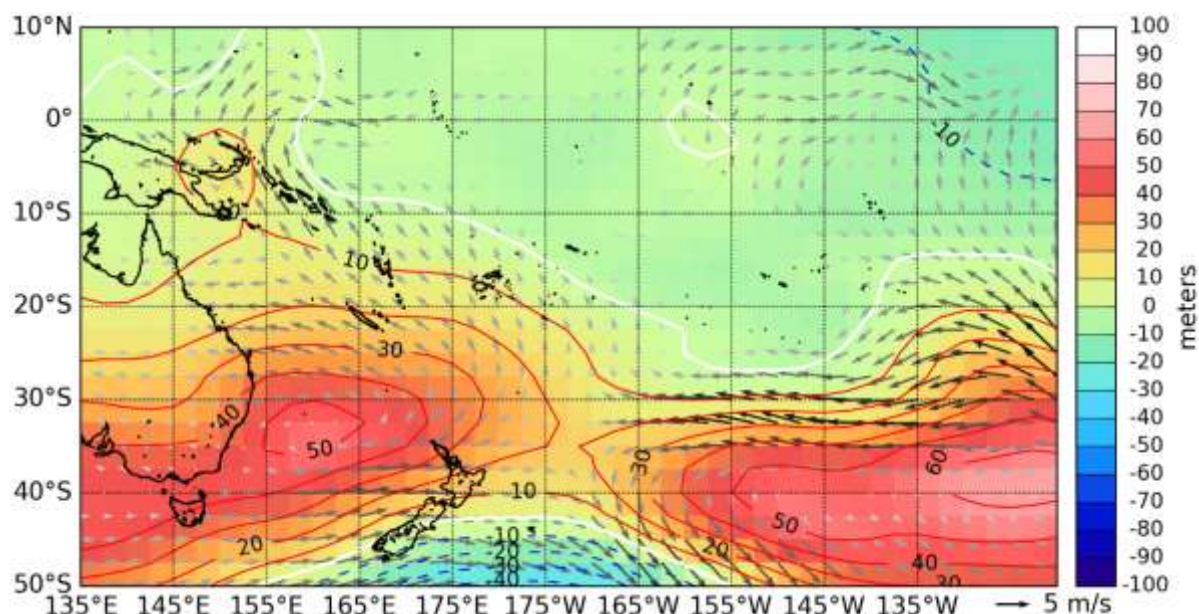
Sea surface temperatures

- Above normal sea surface temperature (SST) anomalies along the equator consistent with El Niño intensified from last month. Cool SSTs intensified to the east of New Zealand.

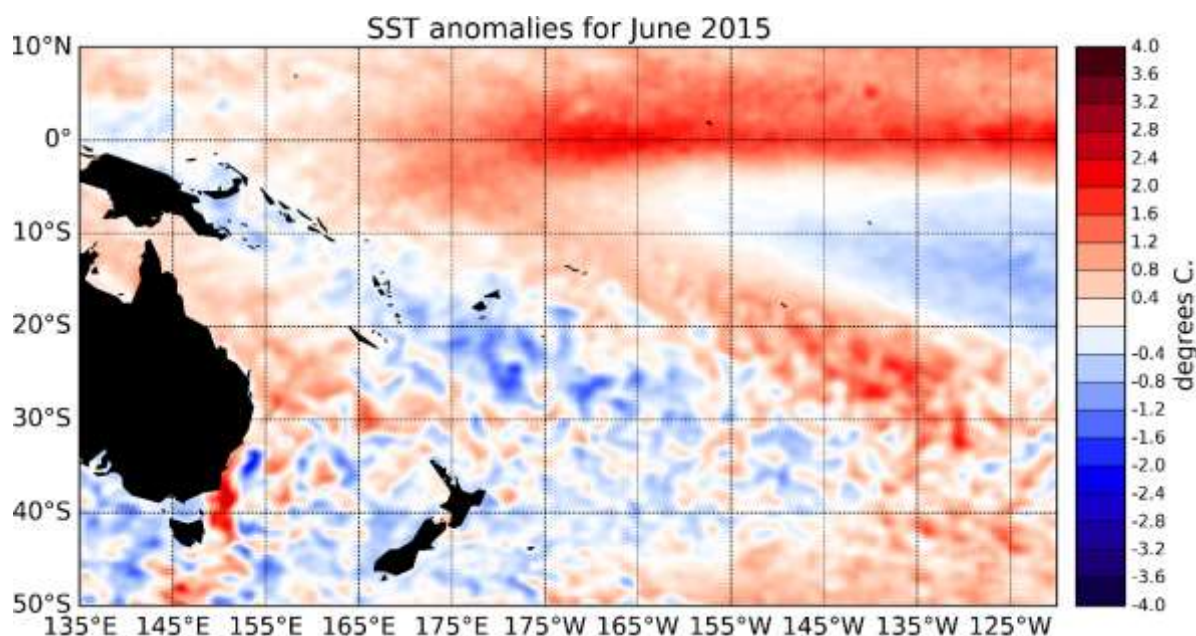
Outgoing Longwave Radiation (OLR) and rainfall

- More cloud cover than normal over the Solomon Islands and along the Equator.
- Well-below normal rainfall for Fiji, Tuamotu, Niue, Samoa, Tonga, Vanuatu, and New Caledonia, and northern New Zealand.

Circulation and sea surface temperature (SST) anomalies



Atmospheric circulation anomalies (z1000, above) and sea surface temperature (SST) anomalies (below) for the month of June 2015. For z1000 (geopotential height at 1000 hPa), red shades indicate higher than normal geopotential height (i.e. "highs", while blue shades indicate below normal pressure ("lows"). For SSTa, red shades are above normal; blue shades are below normal. Arrows indicate surface wind vector (speed and direction), with the shading and length of the arrow proportional to speed (see legend in bottom right corner for relative scaling).

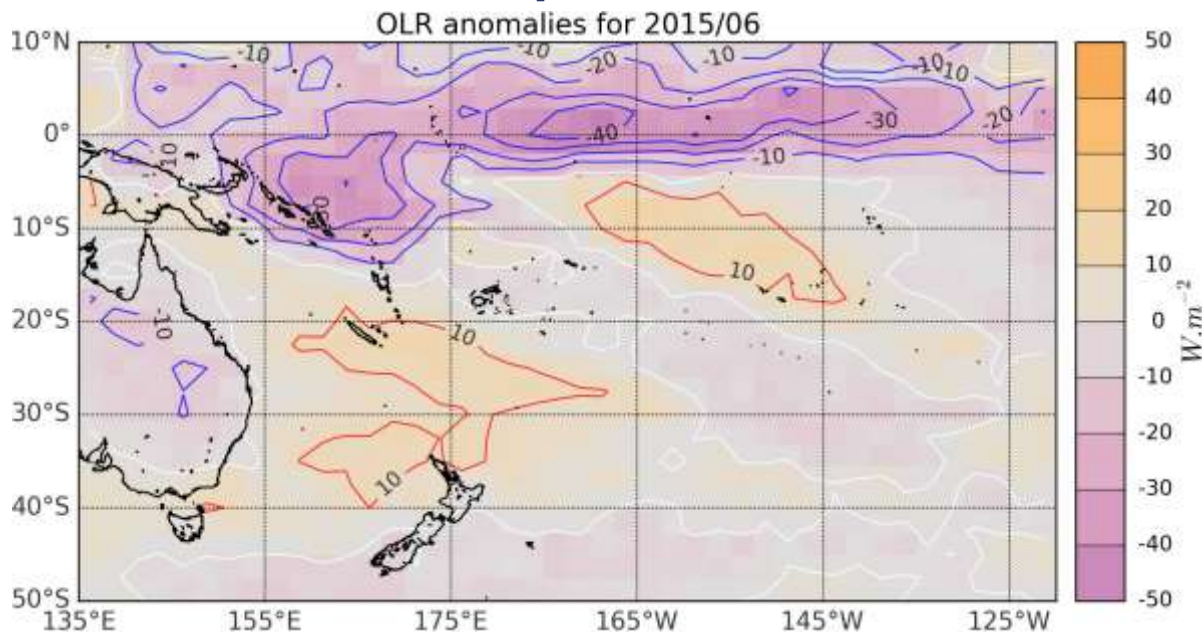


Circulation and SST synopsis:

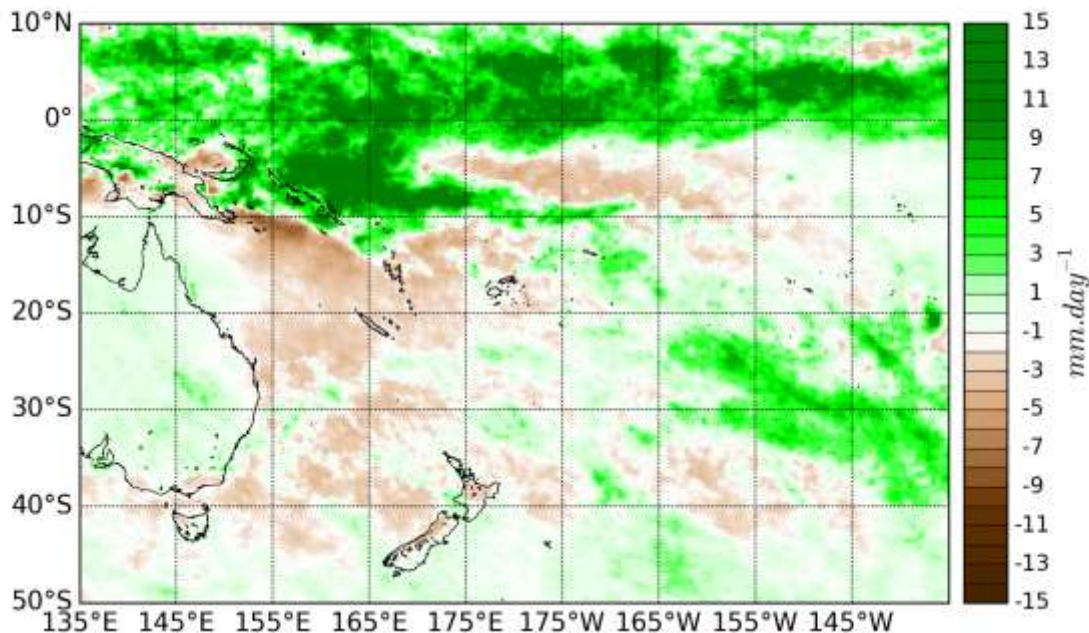
The regional atmospheric circulation pattern for June 2015 was characterised by very high pressure anomalies in the Tasman Sea and south of Australia, as well as far to the east of New Zealand, south of 30°S. Slightly high pressure anomalies were also present across Papua New Guinea, the Solomon Islands, Vanuatu, New Caledonia, and Fiji. This atmospheric circulation pattern produced anomalous south-easterly and easterly flow across many islands, and westerly flow north of the Equator. Above normal sea surface temperatures intensified along the Equator, around French Polynesia, and off the New South Wales coast. Negative SST anomalies intensified to the east of New Zealand extending to Pitcairn Island.



Cloud cover and rainfall patterns



OLR (top) and TRMM rainfall (bottom) as remotely sensed by satellite for the month of June 2015. For OLR, brown shades indicate increased outgoing longwave radiation as measured in watts per square metre (clear skies, reduced cloud cover), while purple shades indicate decreased outgoing longwave radiation (cloudy conditions). TRMM rainfall indicates the daily anomaly relative to average in millimetres per day for last month. Green shades indicate above normal daily rainfall while brown shades indicate below normal daily rainfall.



Radiation and Rainfall Synopsis:
 The OLR pattern indicates cloudier-than-normal skies (increased convection) existed over the Equator and the Solomon Islands last month. Reduced cloud cover occurred over New Caledonia, Fiji, Samoa, and northern New Zealand. The western portion of the SPCZ was well-defined in the TRMM rainfall estimates and was north of normal for the time of year to the west of 175°E, but the eastern portion was not well-defined. Rainfall was well below normal for many islands groups, including Fiji, Tuamotu, Niue, Samoa, Tonga, Vanuatu, and New Caledonia, as well as northern New Zealand (<60% of normal rainfall). Conditions were above normal (>150% of normal rainfall) for the Solomon Islands and northern Australia. These rainfall anomalies reflect intensifying El Niño conditions.

