

# ***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 continued to strengthen in July 2015.
- South Pacific Convergence Zone (SPCZ) defined in TRMM rainfall was 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

## ***Atmospheric circulation patterns***

- More frequent highs extended over the Tasman Sea and to the north of New Zealand, with more frequent south-easterly and southerly flow over many islands. Westerly anomalies dominated along the Equator.

## ***Sea surface temperatures***

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

World Meteorological  
Organisation

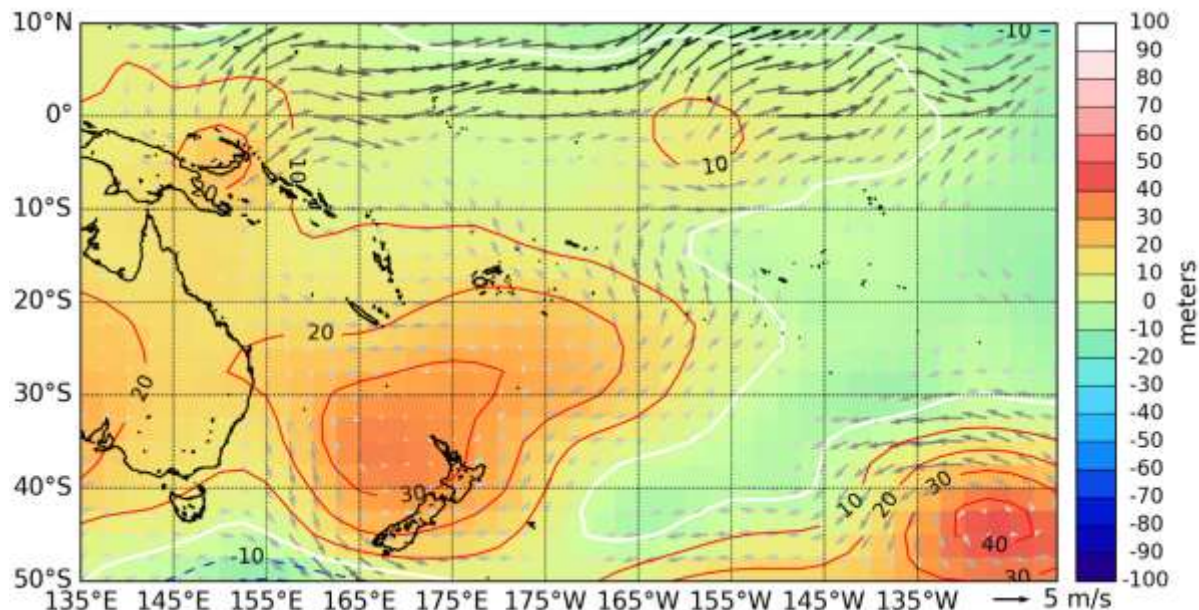
MetService of New Zealand

## ***Outgoing Longwave Radiation (OLR) and rainfall***

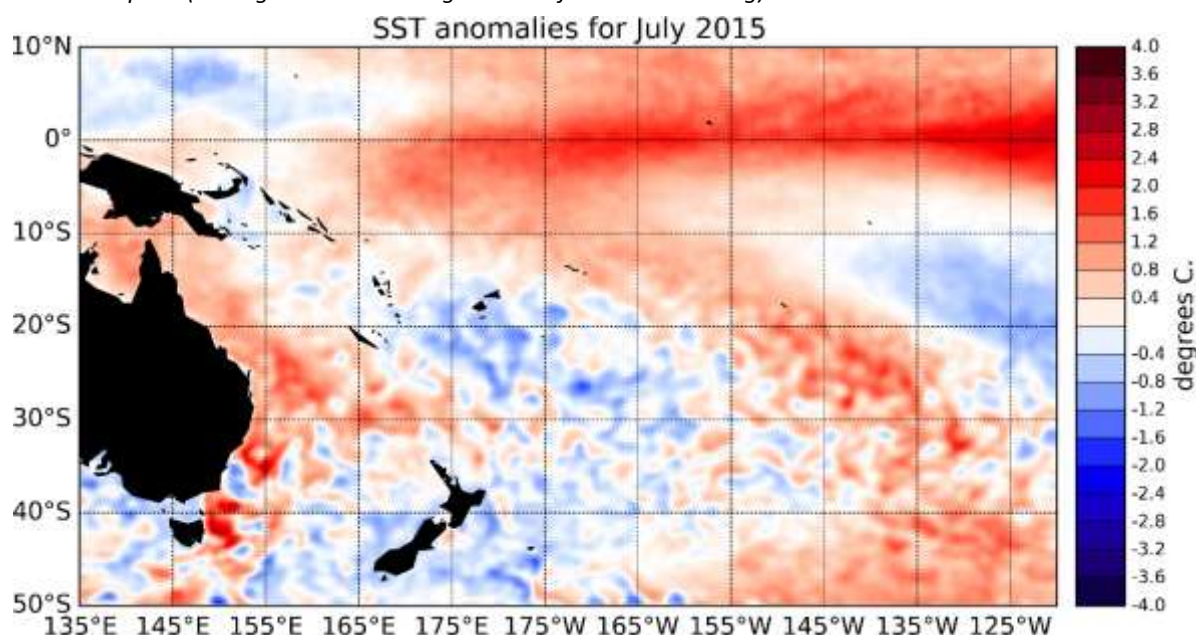
- More cloud cover than normal over Vanuatu and New Caledonia and along the Equator east of the International Dateline.
- Well-below normal rainfall for Fiji, Cook Islands, French Polynesia, Niue, Tonga, Vanuatu, and Wallis & Futuna.



# Circulation and sea surface temperature (SST) anomalies

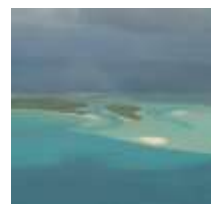


Atmospheric circulation anomalies (z1000, above) and sea surface temperature (SST) anomalies (below) for the month of July 2015. For z1000 (geopotential height at 1000 hPa), red shades indicate higher than normal geopotential height (i.e. "highs", while blue shades indicate below normal pressure ("lows"). 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 right corner for relative scaling).

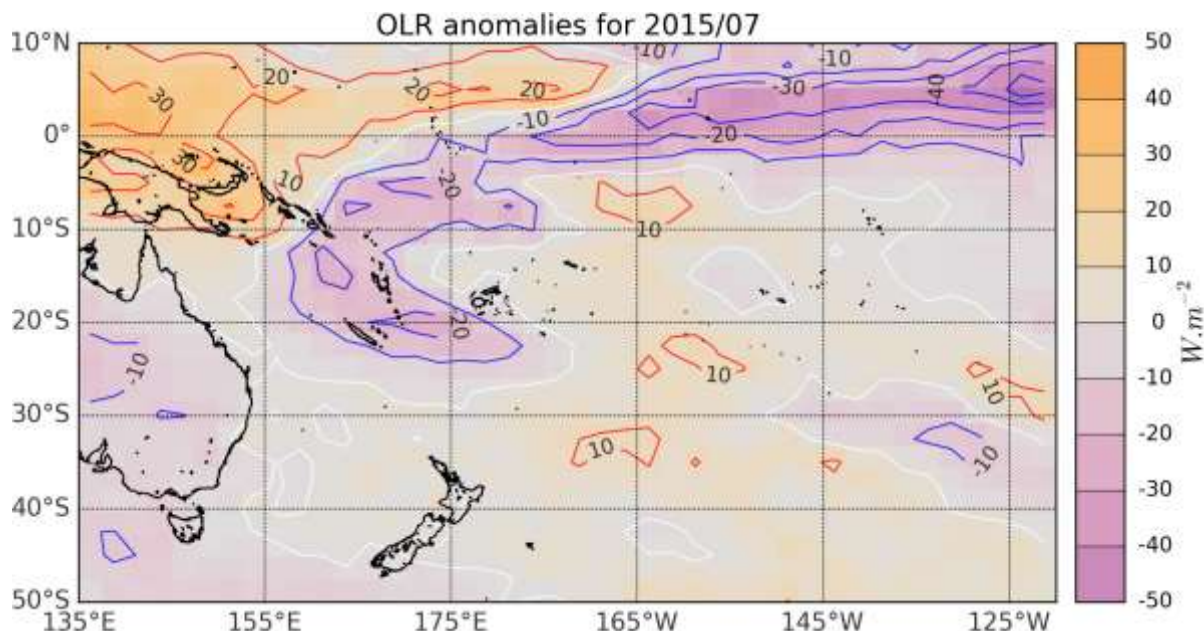


## Circulation and SST synopsis:

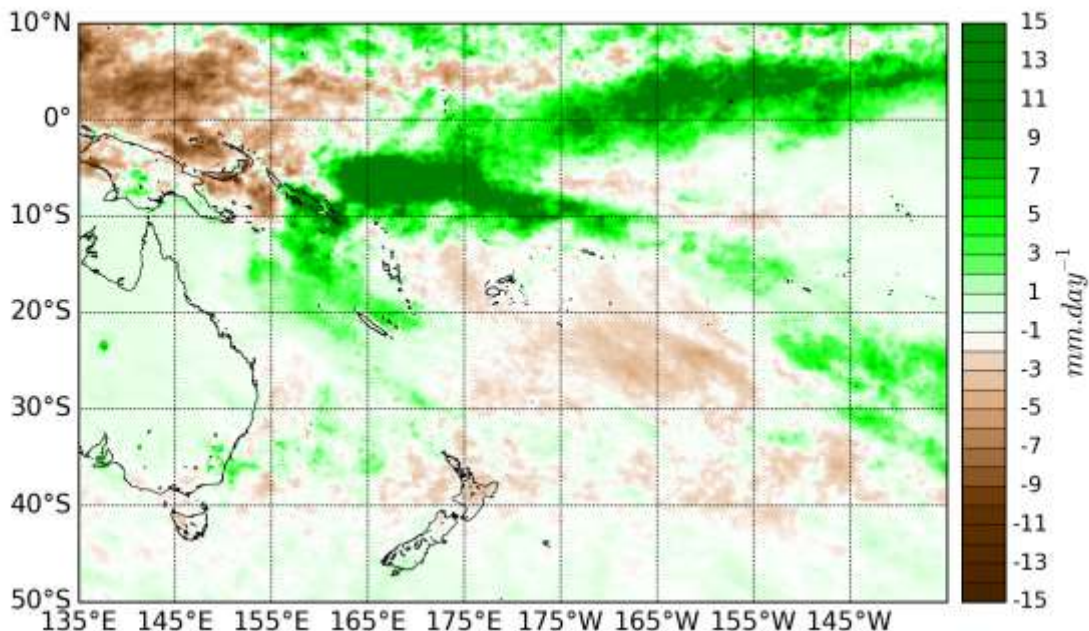
The regional atmospheric circulation pattern for July 2015 was characterised by high pressure anomalies in the Tasman Sea and north of New Zealand, south of 20°S. Slightly high pressure anomalies were also present across Papua New Guinea, the Solomon Islands, Vanuatu, New Caledonia, and Fiji. This atmospheric circulation pattern produced anomalous south and south-easterly flow across many islands, and westerly flow along and 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 weakened to the east of New Zealand and around Fiji.



# Cloud cover and rainfall patterns



OLR (top) and TRMM rainfall (bottom) as remotely sensed by satellite for the month of July 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, Vanuatu, New Caledonia, and the eastern Solomon Islands last month. Reduced cloud cover occurred over Papua New Guinea, the western Solomon Islands, Samoa, and the Cook Islands. 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. Rainfall was well below normal for many islands groups, including the Cook Islands, Fiji, French Polynesia, Niue, Tonga, Vanuatu, and Wallis & Futuna, as well as parts of northern and eastern Australia (<60% of normal rainfall). Conditions were above normal (>150% of normal rainfall) for New Caledonia, Tuvalu, southern Vanuatu and parts of northern Australia. These rainfall anomalies reflect intensifying El Niño conditions.

