



Cook Islands Meteorological Service

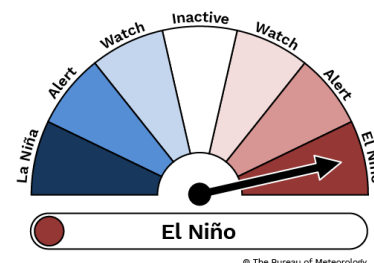
Early Action Rainfall Watch

The Early Action Rainfall Watch provides sector managers with a brief summary of recent rainfall patterns, particularly drought and the rainfall outlook for the coming months.

Issued: 12/01/2024

Current El Niño-Southern Oscillation (ENSO) status: El Niño event persists. Climate model outlooks suggest El Niño is at or near its peak, with the event likely to weaken over the coming months, returning to neutral in the southern hemisphere autumn 2024. The ENSO Outlook will remain at El Niño status until this event decays, or signs of a possible La Niña appear.

El Niño typically leads to reduced amounts of rainfall for Rarotonga and the Southern Cook Islands. The opposite is true for Penrhyn and the Northern Cook Islands, which typically gets more than normal amounts of rainfall. Warmer days are expected as well. Cook Islands Meteorological Services along with regional climate partners will continue to closely monitor conditions in the tropical Pacific as well as model outlooks for further developments.



Status summary: In December, no observed extremes for the Northern Cook Islands. Wet conditions were observed for Manihiki at the 3 and 6-month timescale, but dry conditions were observed for the Northern Cook Islands (Penrhyn, Rakahanga, Pukapuka, Nassau and Suvarrow) at the 12-month timescale. It was a dry December for the Southern Cook Islands (Aitutaki, Atiu, Mangaia, Mauke, Mitiaro and Palmerston), and it continued for the 3 – 6month timescale. No extremes were observed for the 12months timescale.

Outlook summary:

For **February**, a medium to high chance of Very Wet conditions for all Northern Cook Islands (Penrhyn, Rakahanga, Manihiki, Pukapuka, Nassau and Suvarrow) is expected. In the Southern Cook Islands, there is a medium chance of dry conditions for Aitutaki. Also there is a medium chance of wet conditions for Rarotonga, Mangaia, Manuae, & Takutea.

For **February to April 2024**, medium to high chance of Very wet conditions for all Northern Cook Islands (Penrhyn, Rakahanga, Manihiki, Pukapuka, Nassau & Suvarrow). There is a low to medium chance of Very Dry conditions for Aitutaki, Mangaia and Nga Pu Toru (Atiu, Mauke & Mitiaro)

The outlook suggests Very Wet conditions are likely to persist over the Northern Cook Islands in the coming months.

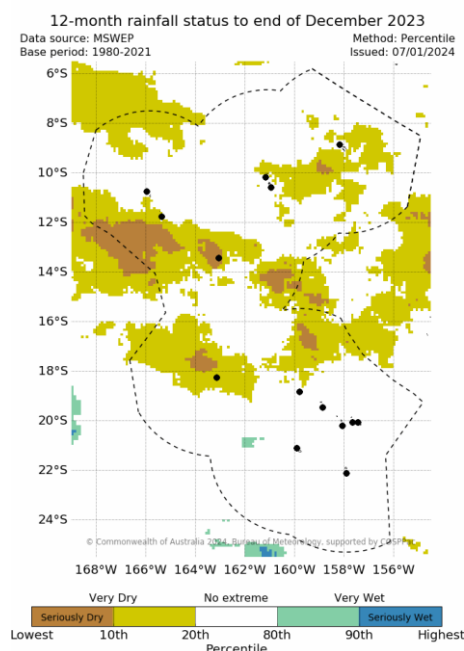
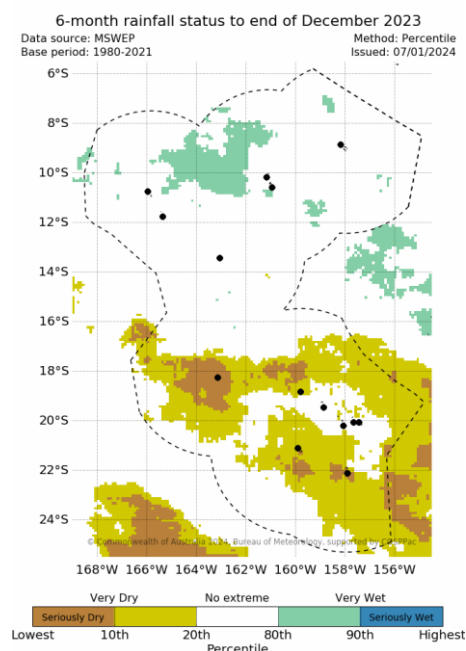
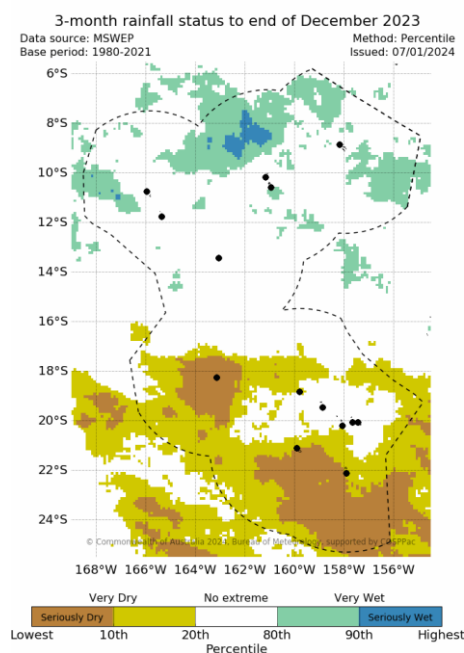
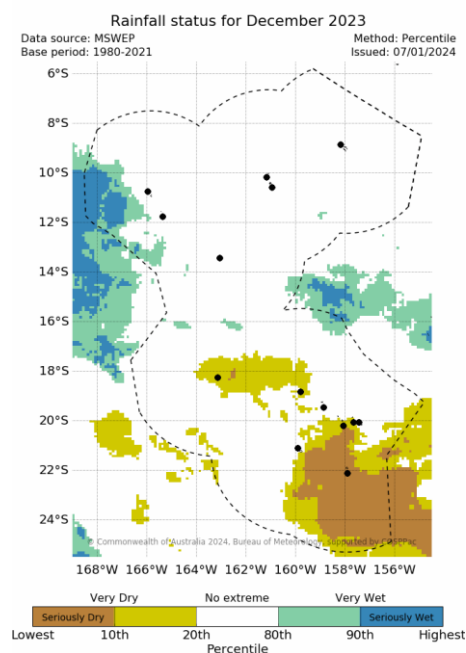
See table/maps below for additional information. See status table below for potential impacts.

Impacts

After the specified period of below or above average rainfall, the following primary agricultural and hydrological variables and secondary socio-economic and health variables may be impacted. Note the periods are estimates only. Allow for uncertainty associated with island size, topography, and geology and soil type. Contact the relevant sector offices for further information on impacts.

Southern Cook Islands				
Sector	1-month period most relevant for	3-month period most relevant for	6-month period most relevant for	12-month period most relevant for
Water	Sanitation issues, household water supply	Low water pressure, water rationing, household water tanks, household water barrels, small streams, intakes, waterfalls	Medium to large streams, intakes, waterfalls, water transportation required	Wells, community tanks
Agriculture	Shallow rooted crops (e.g. tomato, watermelon and lettuce), crop pests and diseases,	Wet and dry taro, pawpaw, mango, oranges, banana, pineapple, raparapa		
Socio-economic and health	Shallow rooted plants (e.g. flowers)	Diarrhoea, increased reliance on imported food, school closure, reduced tourist numbers	Social conflict, water stealing	Livestock death
Northern Cook Islands				
Water	Household water levels reduced			
Agriculture		Loss of some crops		
Socio-economic and health	Health conditions e.g. diarrhoea	Reduced availability of coconuts for food, social conflict increase	Mental health issues e.g. stress and anxiety	Increased number of coconut trees losing tops

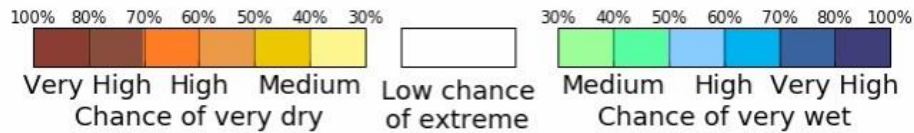
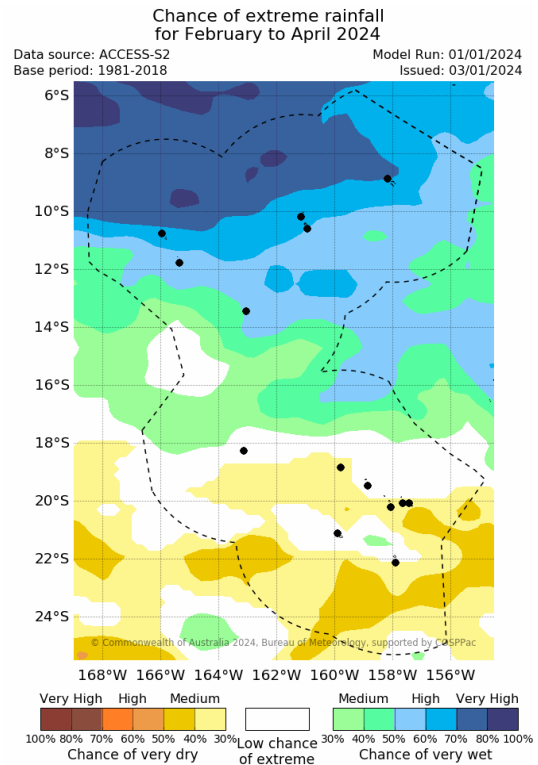
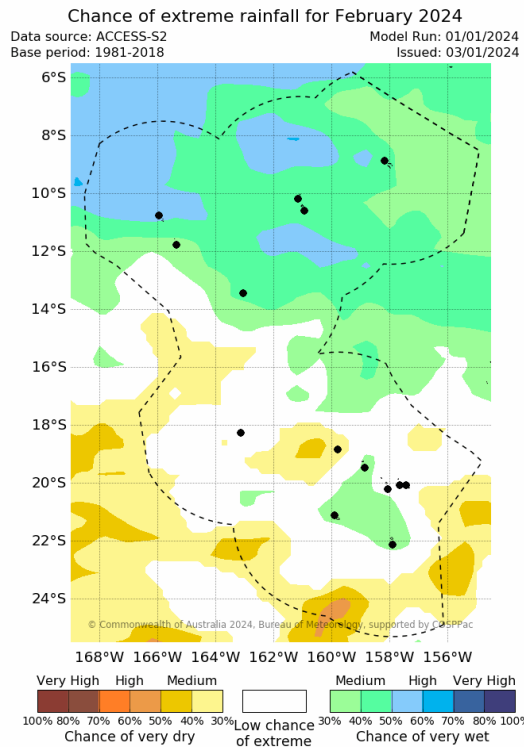
Rainfall Monitoring for the past month, 3-month, 6-month and 12-month



About Rainfall Monitoring

The 'rainfall status' maps are based on rainfall values from the MSWEP dataset which are then converted to the percentile index. The percentile index calculates the ranking of rainfall observed for a period against corresponding periods in the historical record for a particular timescale. MSWEP is a global precipitation product that combines rain gauges, satellite and ERA-5 reanalysis data and is provided at a 0.1° resolution. Seriously Dry is defined as meteorological drought assessed by rainfall data only. It corresponds to rainfall for that period being in the bottom 10% of the historical record. 'No extreme' indicates that rainfall is within the middle 60% of historical observations for the respective timescale. In other words, rainfall that is not 'extreme'. The 3-, 6- and 12-month timescales are more accurate representations of drought while the 1-month timescale can be used to provide an indication of recent 'dry (or wet) spell' conditions.

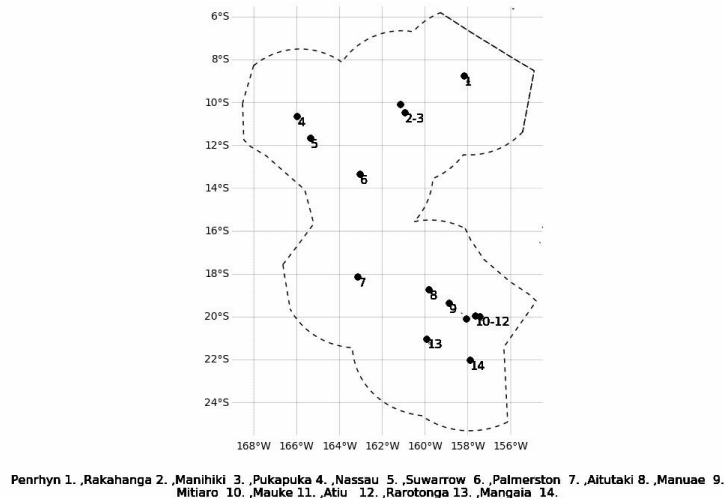
Extreme Rainfall Outlooks



About Rainfall Outlooks

The 'chance of extreme rainfall' maps are based on the likelihood of Very Wet or Very Dry conditions. This is equivalent to the chance that rainfall for that forecast period will be in the top or bottom 20% of historical observations for that selected period. The darker the shading, the more likely these extreme scenarios are. The white shading refers to a low chance of extreme which means the most likely scenario for that outlook period is for rainfall to be 'near average' or slightly below average or slightly above average (not Very Wet nor Very Dry). The outlooks have been produced using the [Australian Bureau of Meteorology ACCESS-S2 model](#).

Cook Islands Reference Map



Contact the Cook Islands Meteorological Service for further information.

The Director, Cook Islands Meteorological Service
P.O Box 127, Rarotonga, Cook Islands, Phone: 682 20603, Website:
<http://www.met.gov.ck> Email: mot.weather@cookislands.gov.ck