



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: 08/04/2021

Current El Niño-Southern Oscillation (ENSO) status: The Australian Bureau of Meteorology's ENSO Outlook has been reset from La Niña to Inactive.



Status summary:

Penrhyn is in "Meteorological Drought" for three, six and 12 months, while the one-month rainfall was at Drought Warning level. Following a dry March, Rarotonga has a six-month Drought Warning, but no alerts are current for three and 12 months.

Outlook summary:

For **April**, a "High Chance Dry" alert is in place for Pukapuka in the northern Cook Islands, while remaining northern sites (Penrhyn and Rakahanga), have "Low Chance Dry" alerts. In the southern Cook Islands, "Medium Chance Wet" alerts are current for Rarotonga, Mauke, Mitiaro and Atiu, while "Low Chance Wet" alerts exist for Aitutaki, Mangaia and Manuae.

For **April to June 2021**, "High Chance Dry" alerts are in place for all northern Cook Islands sites (Penrhyn, Rakahanga and Pukapuka). For the southern Cook Islands, Mauke, Mitiaro and Manuae have "High Chance Wet" alerts, while most other islands have "Medium Chance Wet" alerts, with the exception of a "Low Chance Wet" alert at Mangaia. See table/maps below for additional information. See status table below for potential impacts.

Rainfall status at the end of March 2021, Outlook to June 2021

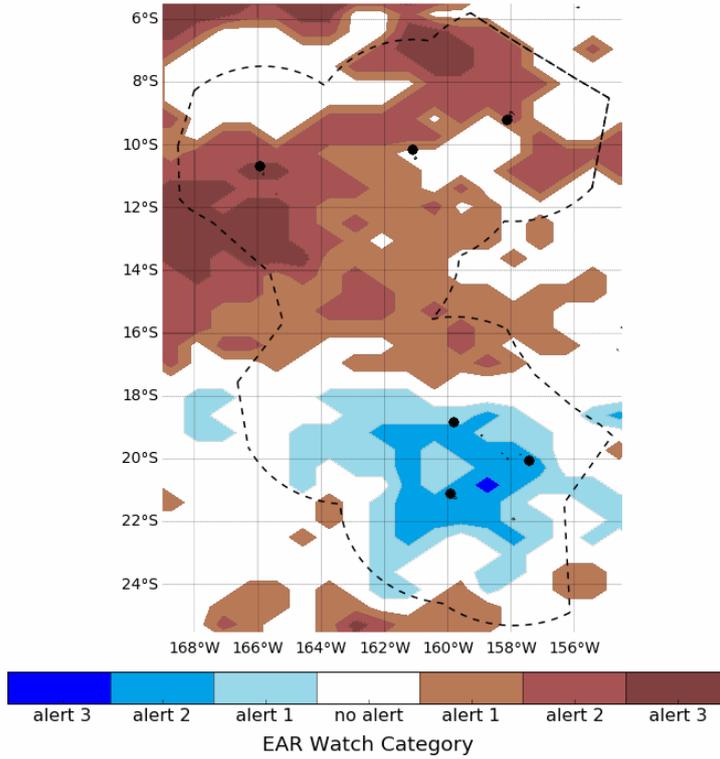
Northern Cook Islands						
	Rainfall Status				Rainfall Outlook	
	Past 12 months	Past 6 months	Past 3 months	Past month	Next month Apr. 2021	Next 3 months to Jun. 2021
Penrhyn						
Rakahanga						
Pukapuka						
Southern Cook Islands						
	Rainfall Status				Rainfall Outlook	
	Past 12 months	Past 6 months	Past 3 months	Past month	Next month Apr. 2021	Next 3 months to Jun. 2021
Aitutaki						
Mauke						
Rarotonga						

Rainfall status key	Meteorological Drought	Drought Warning	Drought Watch	Missing Observations	No Alert	Very Wet
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Outlook Key	High Chance Dry	Medium Chance Dry	Low Chance Dry	Outlook not available	No Alert	Low Chance Wet	Medium Chance Wet	High Chance Wet
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ACCESS-S Rainfall Outlooks for April, and April to June 2021

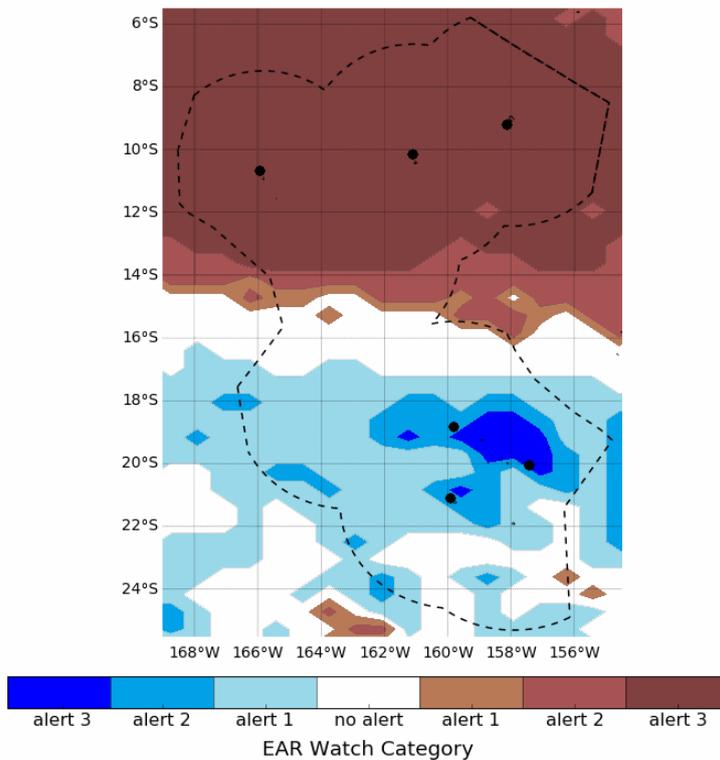
EAR Watch Categorical forecast for April 2021



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Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <http://www.marinerregions.org/>

MODEL RUN: 01/04/2021
Base period: 1990-2012
Model: ACCESS-S1

EAR Watch Categorical forecast for April to June 2021



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Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <http://www.marinerregions.org/>

MODEL RUN: 01/04/2021
Base period: 1990-2012
Model: ACCESS-S1

Rainfall status

The Percentile Index is used to assess rainfall status. Meteorological Drought is defined as drought assessed by rainfall data only. A station is assigned 'No Alert' when rainfall has been near normal for the period(s) in question.

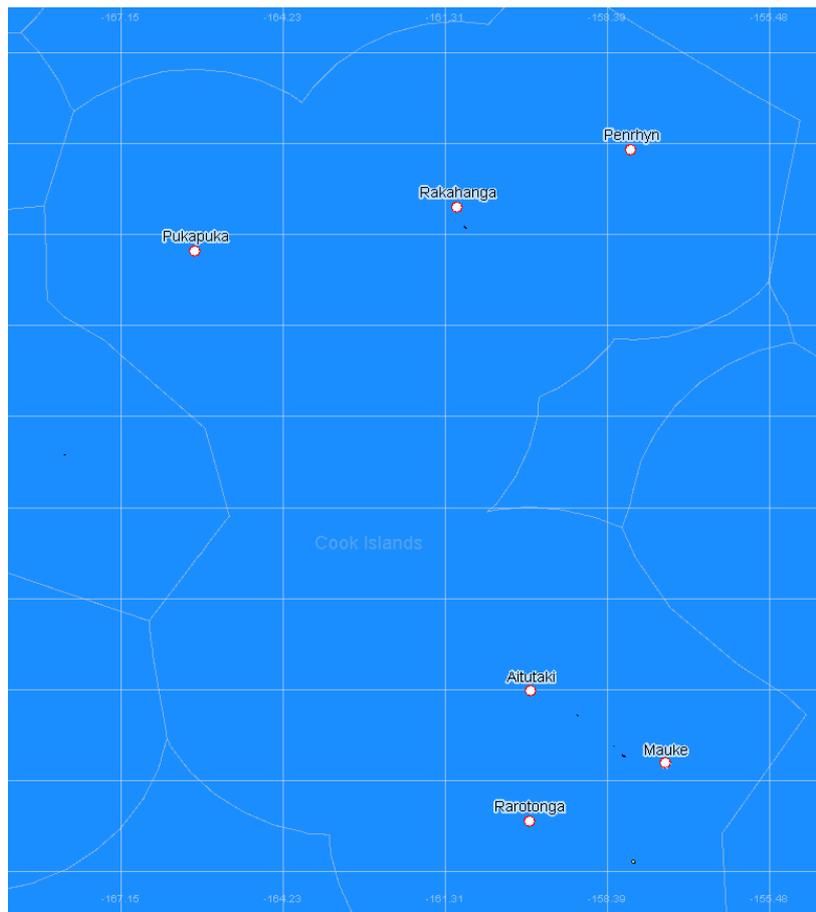
After the specified period of below or above average rainfall, the following primary agricultural and hydrological variables and secondary socio-economic and health variables may be impacted. Note the periods are estimates only. Allow for uncertainty associated with island size, topography, geology and 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	Copra yield reduced

Rainfall Outlook

Seasonal outlooks have been produced using the Australian Bureau of Meteorology ACCESS-S model <http://www.bom.gov.au/climate/ahead/about/model/access.shtml>. The outlook provides an indication of total one and three-month rainfall, not how intense the rain may be in any one event, nor how it may vary within the three months. A station is assigned 'No Alert' when near normal rainfall is favoured or there are equal chances of below normal, normal and above normal rainfall.

Cook Islands rainfall monitoring stations



Contact the Cook Islands Meteorological Service for further information.

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