



Early Action Rainfall (EAR) Watch

Vanuatu Meteorology & Geo-hazards Department

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The Early Action Rainfall Watch provides a summary of recent rainfall patterns, particularly the status of the rainfall and the outlook for the coming months. This product is issued on a monthly basis. For more details and climate information, contact the Vanuatu Meteorology and Geo-hazards Department.

Summary

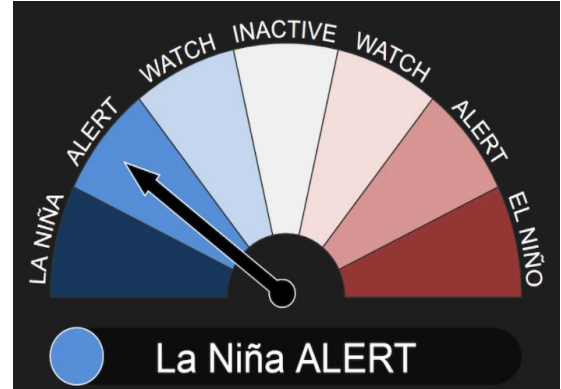
Rainfall Status: As the country progresses through its dry season, drier than normal conditions have been experienced in most of the stations in the past 3—6 months, placing Whitegrass and Aneityum in *Meteorological Drought* during this time period.

Rainfall Outlook:

The outlook for November shows a high chance (Alert 3 Wet) of higher than normal rainfall for the Sanma and Penama province.

The outlook for November to January 2022 shows a high chance (Alert 3 Wet) of higher than normal rainfall for the whole country.

The El Niño Southern Oscillation (ENSO) Status is La Niña ALERT.



Rainfall Status

The table below provides information on rainfall status for Vanuatu. The status refers to rainfall received over the last 1, 3, 6 and 12 months, highlighting very dry or very wet periods relative to normal.

		Rainfall Status			
Period		12-month period	6-month period	3-month period	1-month period
Months		October 2020 — September 2021	April 2021 — September 2021	July 2021 — September 2021	September 2021
Northern Region	Sola (1971—2021)				
	Pekoa (1971—2021)				
	Lamap (1961—2021)				
Southern Region	Bauerfield (1972—2021)				
	Port Vila (1953—2021)				
	White grass (1972—2021)				
	Aneityum (1952—2021)				

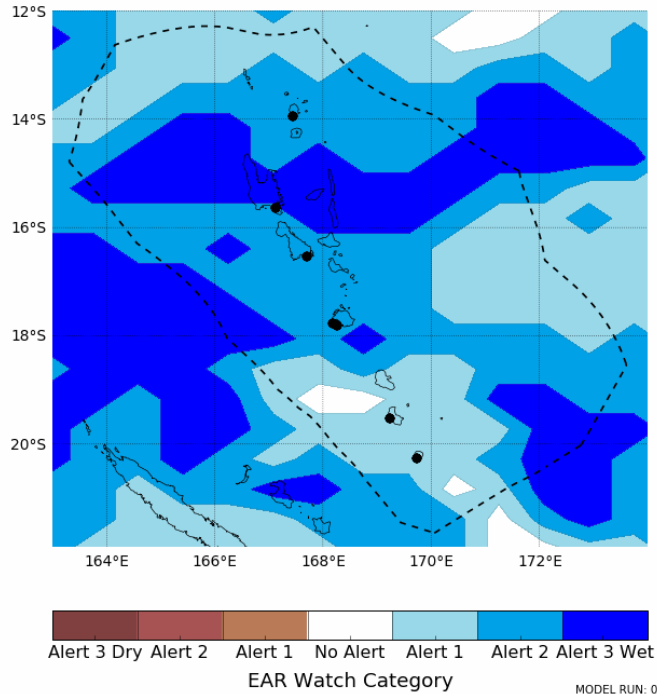
Rainfall Status Key	Meteorological Drought Rainfall has been extremely lower than normal	Drought Warning Rainfall has been very much lower than normal	Drought Watch Rainfall has been slightly lower than normal	Status not available Data not available	Normal or wetter than normal	Very Wet Rainfall has been extremely higher than normal
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Rainfall Outlook

The table below provides information on rainfall outlook for Vanuatu. The outlook refers to rainfall predicted for the next 1 to 3 months. If Alert 3 Wet (blue shade) falls over an area, this indicates there is a high chance for wetter than average conditions. If Alert 1 Wet falls over an area, this indicates there is only a slight chance to experience wetter than average conditions. Same principle applies to drier than average conditions (brown shades).

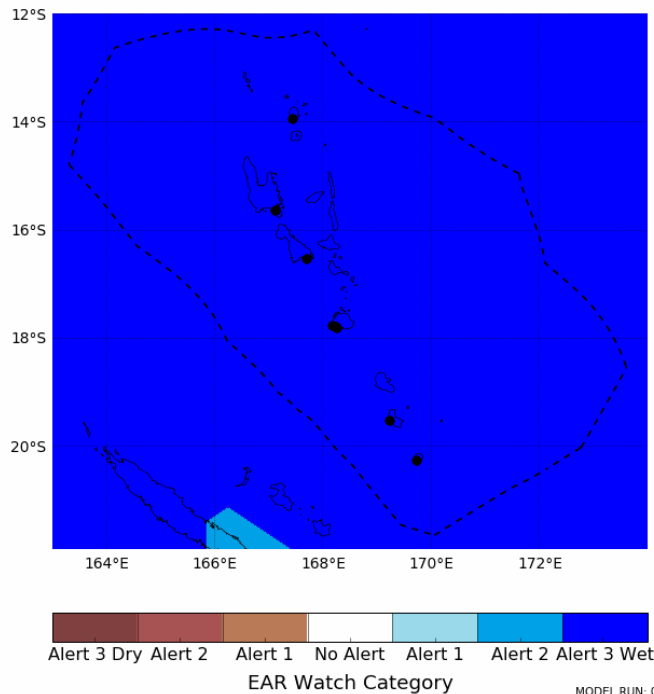
Refer to Vanuatu Climate Update for more details.

EAR Watch Categorical forecast for
November 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: 01/10/2021
 Base period: 1990-2012
 Model: ACCESS-S1

EAR Watch Categorical forecast for
November 2021 to January 2022



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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/>.
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Climate Change Drought Projections to 2090

For the whole of Vanuatu, the overall amount of time spent in drought is expected to stay the same or slightly decrease in the future. Droughts are expected to occur less often. Drought length is not expected to change. Overall, there is low confidence ('trust') in drought projections. However, droughts will continue to occur including serious droughts and people still need to prepare for these events.

Time periods and impacts

The following table provides examples of impacts that have been associated with drought at the 1, 3, 6 and 12 month periods. For further information and details refer to the ENSO handbook and contact the relevant government departments.

Sector/ Department	12-month period	6-month period	3-month period	1-month period
Water	Large water sources e.g. large rivers, lakes. Groundwater supply systems affected, water level drops, hand dug wells dry up and groundwater sources become saline.	Dams, bores, industrial tanks, wet lands, medium rivers. Rainwater catchments will be heavily affected including large rainwater tanks, surface water affected with reduced water level. Water quantity and water quality is further reduced.	Small to medium water tanks, small rivers. Rainwater catchments will be affected & water level reduced.	Water quality in wells and tanks reduced in small islands and west side of large islands.
Agriculture and freshwater fisheries	Large fruit trees, (e.g. coconuts, coffee, mango, guava, orange, mandarin), wild yam.	Rice, sugarcane, banana, wheat, root crops affected e.g., mature yam, Fiji taro, manioc.	Banana, cassava, new yam, water taro, English potato, kumala, vanilla, young kava, apple banana, aquaculture.	Small vegetables (e.g. tomato, lettuce, Chinese cabbage) and island cabbage on small islands and drier side of larger islands (W to N). Pasture will also be affected.
Livestock		Loss of large livestock (pigs, goats and cattle), farmed and wild freshwater fish and prawns.	Loss of small livestock (poultry).	
Forestry	Bushfire, insect pests and Diseases.	Loss large trees (due to increase spread and intensity of insect attacks) Loss of forest canopy affects quality and quantity of water, bushfire.	Loss of small trees (spread of insects and diseases attacks), sandalwood seedlings, bushfires.	
Environment	Loss of habitat, migration of endemics/species, degradation of landscape quality, loss of biodiversity/vegetation (extinction), introduction of alien/invasive species, secondary impacts, e.g., resettlements (2015)	Streams/lakes & any water bodies affected, introduction of alien/invasive species, landslides on new volcanic slopes.		Grassland
Health	Health - further deterioration in human health (e.g. cases of cholera appear, severe unbalance diet leading to death, cough & stunting, mental stress, diarrhoea, increased cases of skin diseases). Education - school close. Socio-economic - less income/ less production of local produces, bush fires destroying building, reduced river transport on large rivers, women migrating to get water. Increased chances of traditional houses burn down, reduced building materials.	Health - Increase in migration due to water and food shortages. Deterioration in adult human health (poor lactation, malnutrition, cases of typhoid, dengue, malaria, increase in skin, respiratory and eye diseases). Education - Affect education and children attendance, increase in social disruptions (e.g. reduced school hours) unbalance diet (relying on rice, tin fish & noodles), mental stress, diarrhoea, increased cases of skin diseases. Socio-economic - Increase in social disruptions (e.g. financial stress, assets being sold, crime). Social obligations being postponed. less income/less production of local produces, bush fires destroying building.	Health - Deterioration in young and old human health (malnutrition, poor lactation, dehydration, skin disease and diarrhoea cases). Education - affects schools for children due to reduced water supply e.g. schools close half day. Socio-economic - Unbalance diet/ less vegetables, additional labor on children & women, traveling distance to collect water, increase in psychological/mental stress, stealing. Food prices increase, reduced income. Some negative social disruption but also some positive impacts e.g. formation of women's networks.	Increase in gender based violence, increase non-communicable diseases. Disable persons due to higher water needs, increase discrimination.
Tourism Accommodation: Toilet/Shower, Swimming Pool, Restaurants, Flower/ garden, Water, Activities, Snorkeling, Kayaking, Water, Picnic, Waterfall	Airline & transport industry affected, agriculture and fishermen activities affected as well as duty free shops.	Drop in visitor numbers, reducing employment, reduce in income for business owners. Increase water temperature affecting snorkeling, reduce in the water level affect visitors to river activities, drier river level, reduced in income, reduced number of visitations.	Poor quantity and quality supply of water, inconsistency supply, affect availability of vegetables and others for hotels, flowers and plans drying up.	
Infrastructure	Road works thrive on drought as rainfall disturbs & damages roads & infrastructure (bridges & culverts)			
Energy	Infrastructure that depends on water in hydro-power, during drought, river/water level drops, affects generation of electricity. Sola energy companies thrive on droughts.			