



Vanuatu Ocean Outlook

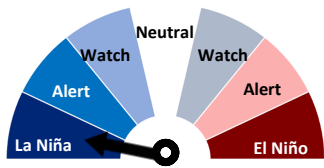
Vanuatu Meteorology & Geo-Hazards Department



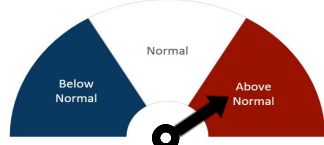
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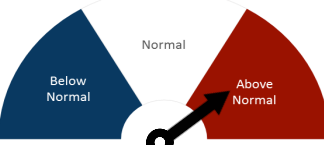
CURRENT OCEAN STATUS



ENSO status: **LA NIÑA**



Sea Surface Temperature: **Above Normal**



Sea Level: **Above Normal**

Ocean Summary:

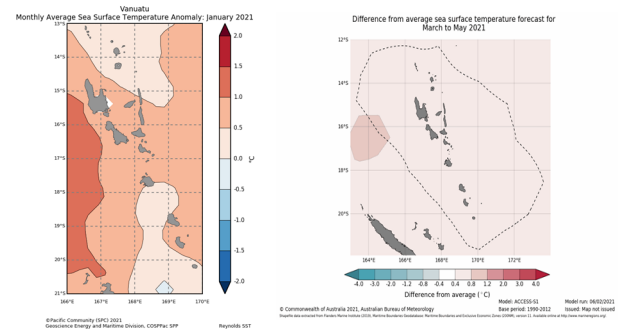
- The 2020-21 **LA NIÑA** has passed peak. Climate model outlooks indicate the El Niño Southern Oscillation (ENSO) will return to neutral during autumn (March to May 2021). The wetter influence of La Niña is likely to continue for the shorter term, with three month climate outlooks indicating above average rainfall is still likely for some parts of the country.
- The Southern Oscillation Index (SOI) value for the 30 days ending 14 February was +13.3. The 90 day SOI value was +15.3. Both values remain within La Niña threshold of above +7.
- Trade winds for the 5 days ending 14 February were stronger than average over much of the western half of the tropical Pacific, and near average strength in the central and eastern Pacific. Trade winds strength has increased compared to two weeks ago.
- The strength of warmer than average sea surface temperatures over the western Pacific has decreased in January. Cooler than average sea surface temperatures over the central and eastern Pacific have also decreased, showing signs of a decaying La Niña.
- Loganville Harbor:** Lowest Tide: 0.16m on 27th February. at 11:29 pm. Highest tide: 1.77m on 27th February at 04:49 pm.
- Port Vila Harbor:** Lowest Tide: 0.22m on 12th February. at 12:09 am. Highest tide: 1.51m on 11th February at 05:24 pm.

Sea Surface Temperatures (SST) Outlook: March 2021 to May 2021

Warmer than average SSTs were recorded in January 2021 for Vanuatu. SSTs up to 0.8°C above average are forecasted for Vanuatu for the next three months.

Application: Different species of fish are sometimes known to be found at certain ocean temperatures .

Common name	Species	All occurrences (°C)	Abundant occurrences (°C)
Skipjack	Katsuwonus pelamis	17-30	20-29
Yellowfin	Thunnus albacares	18-31	20-30
Bigeye	T.obesus	11-29	13-27
Albacore	T. alalunga	13-25	15-21
Southern	Bluefin T.maccoyii	10.5-21	17-20

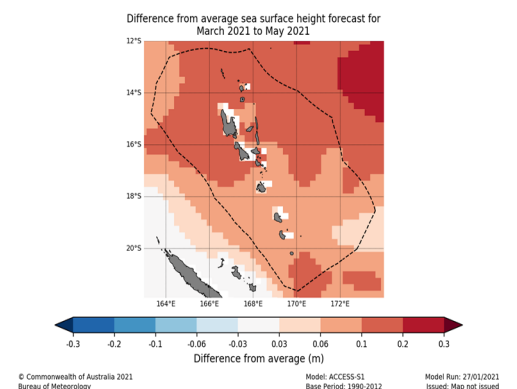


Sea Level (SL) Outlook: March 2021 to May 2021

Sea level is expected to be higher than average over the next three months.

Application

- High tides at higher sea level could cause inundation of wave overland (sea-flooding), also contributing to coastal erosion. During bad weather / windy conditions causing rough seas.
- Low tides at lower sea level could reduce sea level over wharfs and docks, and could also expose coral reefs further during low tides.



Coral Reef Outlook: April 2021

Coral bleaching Outlook for April shows Torba, Sanma, Penama and Malampa provinces are expected to be in warning forecast, while no stress is forecasted over most of Shefa (except Shepherd groups), and Tafea province.

Application

- Coral reef protect coastal areas by reducing waves, and also provide food for fishes and shells. When coral bleaching occur corals die, thus affecting the whole food chain and underwater ecosystem.
- Limiting fishing in the region can increase fish populations, which in turn maximizes the consumption of plant growth and limits their impact on the corals.

Monthly Chlorophyll

In contrast to previous months, chlorophyll concentrations have significantly increased over Vanuatu waters in December 2020. Up to 0.5 mg/m³ of chlorophyll (green color) dominated most of the islands, with much less concentration evident over the Torba and Penama group.

Application.

- Fishermen targeting smaller pelagic (open sea) fish, may be interested in the chlorophyll concentration.
- Filter feeders (i.e. oysters, mussels, clams, scallops) thrive in high chlorophyll concentrations.
- Crown of thorns spawning is likely to be more successful under high chlorophyll concentrations.

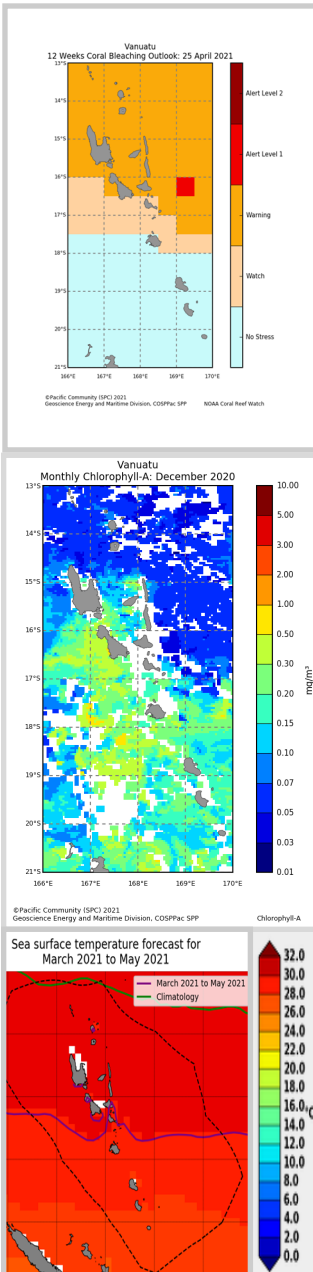
The Convergence Zone Outlook: March 2021 — May 2021

The **green line** is the average position of the *Warm pool –cold tongue Convergence zone*. The **purple line** is the edge of the *Warm pool –cold tongue Convergence zone*.

Forecast shows this Convergence Zone will remain over Vanuatu within the next three months.

Application:

Along the eastern edge of Warm pool-cold tongue Convergence zone is rich with nutrient which support high abundance of tuna.



Top Highest and Lowest Tides for March 2021 to May 2021: Luganville & Port Vila Harbour

Luganville Harbour						Port Vila Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)	Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
0.18m	28 Mar	10:57 pm	1.73m	30 Mar	05:43 am	0.27m	1 Mar	12:59 am	1.55m	30 Mar	06:44 am
0.13m	28 Apr	11:45 am	1.79m	28 Apr	05:12 am	0.15m	29 Apr	01:28 pm	1.56m	28 Apr	06:06 am
0.06m	27 May	11:36 am	1.81m	27 May	04:48 am	0.05m	28 May	01:14 pm	1.55m	26 May	04:52 am

Moon Phases for March 2021 to May 2021

New Moon ●	First Quarter ◐	Full Moon ○	Last Quarter ◑
			6 March
13 March	22 March	29 March	4 April
12 April	20 April	27 April	4 May
12 May	20 May	26 May	