

# Vanuatu Ocean Outlook

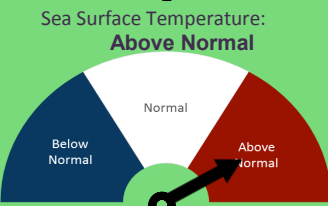
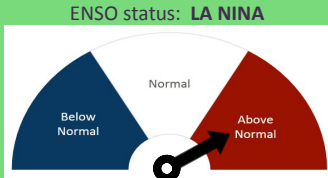
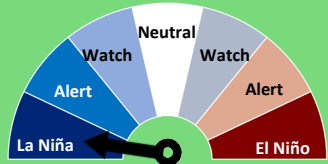
Vanuatu Meteorology & Geo-Hazards Department

January 2022

Issue 32



## CURRENT OCEAN STATUS



## Ocean Summary:

The ENSO outlook is still in La Nina and it still Continues in the Pacific. The La Nina is near or at its peak then its likely to return to neutral. La Nina events increases chances of above average rainfall across the Country.

The 30-day Southern Oscillation Index (SOI) for the 30 days ending 16 January 2022 was +2.5. The 90-day SOI value was +6.8. Sustained negative values of the SOI below -7 typically indicate El Niño while sustained positive values above +7 typically indicate La Niña. Values between +7 and -7 generally indicate neutral conditions.

Trade winds for the 5 days ending 16 January 2022 were close to average in the east and slightly stronger than average in the western tropical Pacific. Trade winds have generally been stronger than average in recent weeks to months.

Sea surface temperature for tropical pacific ocean for the week ending 16 January were cooler than average along the equator across most of the central and eastern Pacific.

**Loganville Harbor:** Lowest Tide: 0.07m on 3<sup>rd</sup> January at 23:53pm. Highest tide: 1.92m on 2<sup>nd</sup> January at 16:11pm.

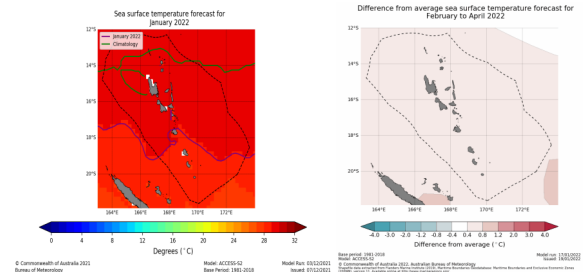
**Port Vila Harbor:** Lowest Tide: 00.08m on 4<sup>th</sup> January at 00:38am. Highest tide: 1.62m on 2<sup>nd</sup> January at 16:51pm.

## Sea Surface Temperatures (SST) Outlook: January (monthly) and February to April (seasonally) 2022

- The monthly average sea surface temperature anomaly for Vanuatu in January 2022 is expected to be above average over all region of Vanuatu (Northern , central and southern region).
- The seasonal sea-surface temperature forecast outlook for February to April 2022 is expected to be above average over all ocean water of the country starting from the northern region to the southern region .

Application: Different species of fish are sometimes known to be found a 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

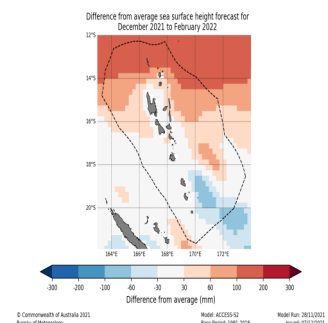


## Sea Level (SL) Outlook: December 2021 to February 2022

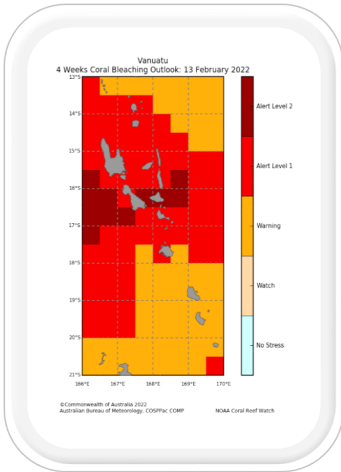
For the seasonal sea level forecast outlook for December to February, Torba province and Penama province is expecting above average sea level while near to below average is expected elsewhere

Application

- High tides at higher sea level could cause inundation of wave overland (seas-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.



## 4 weeks Coral Reef Bleaching Outlook: 13 February 2022

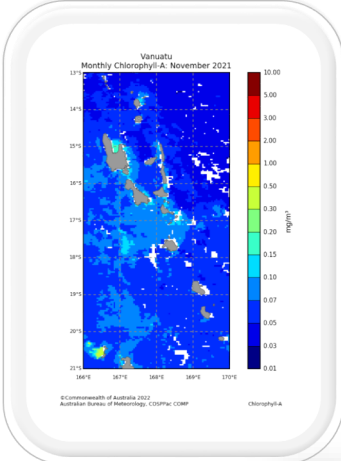


The expected coral bleaching outlook for the next 4 weeks up to 13 February shows Alert Level 1 for Torba, Sanma, Penama and Shefa while Part of Malampa is in Alert 2. Warning is expected for coral bleaching outlook in Tafea Province.

### 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. (Marshall and Schuttenberg, 2006).

## Monthly Chlorophyll for November 2022

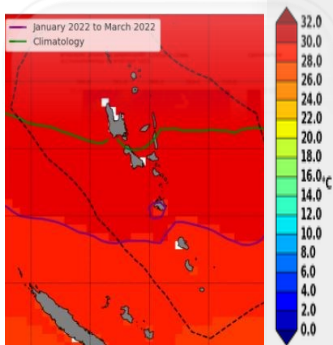


The monthly ocean Chlorophyll concentration forecast for November shows that now chlorophyll has mostly decreases (below 0.10 mg/m3) over all ocean water of the country.

### 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: January to March 2022



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 be crossing the banks and Torres group in the northern regions of Vanuatu from October to December 2021..

### 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 February to April 2022: Luganville & Port Vila Harbor

Luganville Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
0.07m	1st Feb	23:38pm	1.88m	1st Jan	16:52pm
0.12m	1 Mar	22:38pm	1.13m	2 Mar	16:41pm
0.23m	18 Apr	11:58am	1.72m	18Apr	05:25am

Port Vila Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
0.13m	2 Feb	00:26am	1.59m	1 Feb	17:35pm
0.21m	1 Mar	23:24pm	1.52m	2 Mar	17:29pm
0.23m	19 Apr	13:39pm	1.51m	18 Apr	06:24am

## Moon Phases for January to March 2022

New Moon	First Quarter	Full Moon	Last Quarter
3 January	10 January	18 January	26 January
1 February	9 February	17 February	24 February
3 March	10 March	18 March	25 March