

# Vanuatu Ocean Outlook

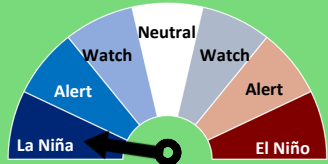
Vanuatu Meteorology & Geo-Hazards Department

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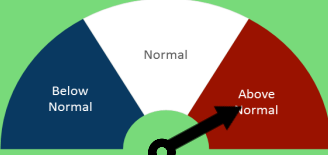
## CURRENT OCEAN STATUS



ENSO status: **LA NINA**



Sea Surface Temperature: **Above Normal**



Sea Level : **Above Normal**

## Ocean Summary:

The ENSO outlook is La Niña. La Niña event still continues but is past its peak. Latest outlook indicate a return to neutral late in the southern hemisphere autumn. Even La Niña weaks, it continues to influence the global weather and climate.

The 30-day Southern Oscillation Index (SOI) for the 30 days ending 13 March 2022 was +11.0. The 90-day SOI value was +8.7. 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 13 March 2022 were close to average in the eastern half of tropical Pacific and generally stronger than average in the central to western Pacific.

Sea surface temperature for tropical Pacific ocean for the week ending 13 March were cooler than average along the equator across most of the central and eastern Pacific.

**Loganville Harbor:** Lowest Tide: 0.12m on 1<sup>st</sup> March at 22:38pm. Highest tide: 1.79m on 2<sup>nd</sup> March at 16:41pm.

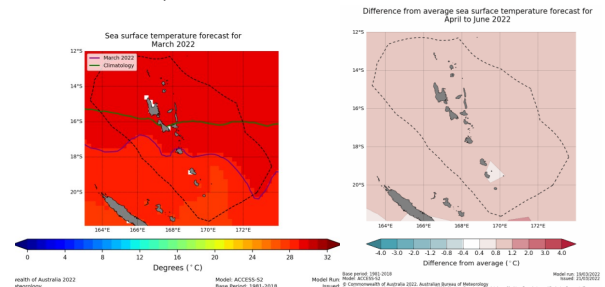
**Port Vila Harbor:** Lowest Tide: 0.21m on 1<sup>st</sup> March at 23:24pm. Highest tide: 1.52m on 2<sup>nd</sup> March at 17:29pm.

## Sea Surface Temperatures (SST) Outlook: March (monthly) and April to June (seasonally) 2022

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

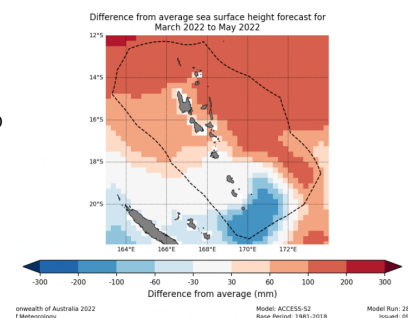


## Sea Level (SL) Outlook: April to June 2022

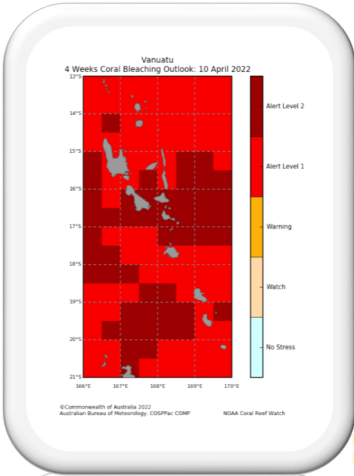
For the seasonal sea level forecast outlook for April to June 2022, Torba, Penama and parts of Sanma, Malampa and Shefa province is expecting above average sea level while near to below average is expected elsewhere.

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: 10 April 2022

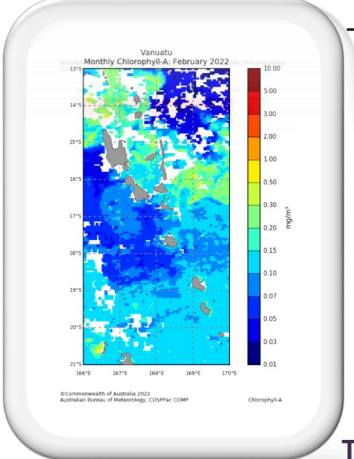


The expected coral bleaching outlook for the next 4 weeks up to 10 April shows Alert Level 1 for, Torba, Sanma, Penama Shefa and Tafea, while Malampa is in Alert level 2.

### 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 February 2022

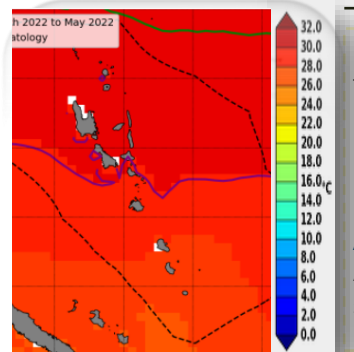


The monthly ocean Chlorophyll concentration forecast for February shows signs of chlorophyll increase in the Torba, penama and part of sanma while there is a decrease in chlorophyll concentrations (below 0.10 mg/m<sup>3</sup>) elsewhere.

### 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 to May 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 April to June 2022: Luganville & Port Vila Harbor

Luganville Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
<b>0.23m</b>	18 Apr	11:58am	1.72m	18Apr	05:25am
<b>0.11m</b>	17 May	11:46am	1.77m	17May	04:59am
<b>0.05m</b>	15 jun	11:39am	1.80m	15 jun	04:44am

Port Vila Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
<b>0.23m</b>	19 Apr	13:39pm	1.51m	18 Apr	06:24am
<b>1.10m</b>	18 May	13:25pm	1.51m	16 May	05:10am
<b>0.03m</b>	16 jun	13:15pm	1.51m	14 jun	04:40am

## Moon Phases for March to May 2022

New Moon	First Quarter	Full Moon	Last Quarter
3 March	10 March	18 March	25 March
1st April	9 April	17 April	23 April
1st May	9 May	16 May	23 May