

# Vanuatu Ocean Outlook

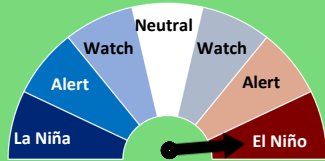
Vanuatu Meteorology & Geo-Hazards Department



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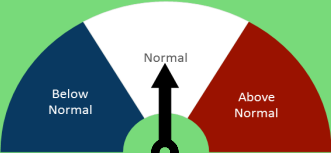
## CURRENT OCEAN STATUS



ENSO status: **EL NINO**



Sea Surface Temperature: **Normal**



Sea Level : **Normal**

## Ocean Summary:

The ENSO Outlook, an El Niño and a positive IOD are underway.

The 30-, 60- and 90-day Southern Oscillation Index (SOI) values for the period ending 8 October 2023 were -12.7, -11.0 and -12.2, respectively. 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 8 October 2023 were weaker than average in the far western equatorial Pacific, but generally close to average elsewhere. During El Niño there is a sustained weakening, or even reversal, of trade winds across much of the tropical Pacific.

For the week ending 8 October 2023, sea surface temperatures (SSTs) were warmer than average across almost all the equatorial region of the tropical Pacific Ocean.

**Loganville Harbor:** Lowest Tide: 0.27m on 29 October at 23:23pm. Highest tide: 1.88m on 28 October at 16:10pm.

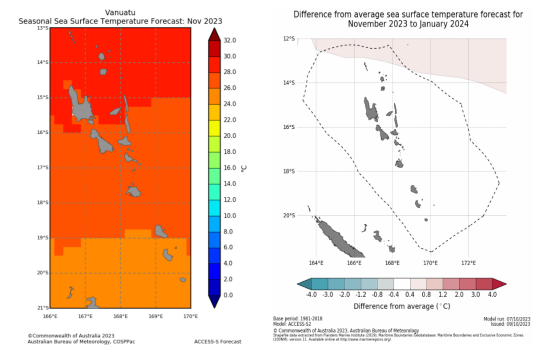
**Port Vila Harbor:** Lowest Tide: 0.23m on 31 October at 01:00am Highest tide: 1.60m on 28 October at 17:02pm.

## Vanuatu Sea Surface Temperatures (SST) Outlook: November (monthly) and November 2023 to January 2024

- Monthly Sea surface temperature for November in Vanuatu is expected to be above average with 26°C to 29°C over the northern region, 26°C over the central region and 24°C to 26°C for the southern region.
- Seasonal difference from average sea temperatures around Vanuatu from November to January is expected to be near average with difference of 0.4°C for the whole country.

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

Common name	Species	All occurrences (°C)	Abundant occurrences (°C)
Skipjack	Katsuwonus pelamis	17-30	20-29
Yellow fin	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

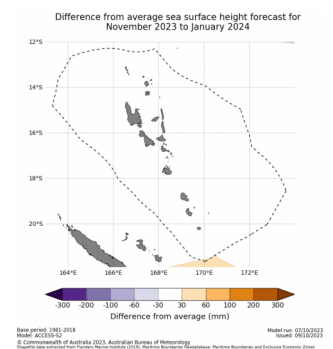


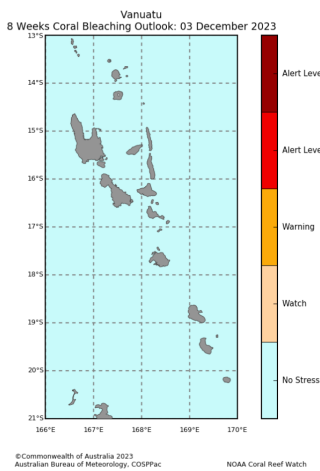
## Vanuatu Sea Level (SL) Outlook: November 2023 to January 2024

The seasonal average sea level/height for the whole Country in three months period is near average with average difference of 30mm.

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.





## Vanuatu 8 weeks Coral Reef Bleaching Outlook until 3rd December 2023

The 8 weeks coral bleaching outlook until 3rd December, indicates No stress on coral reefs over all regions of Vanuatu

### Application.

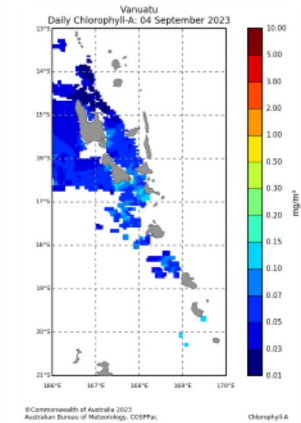
- Coral reef protect coastal areas by reducing waves, and also provide food for fishes and shells. When coral bleaching occur corals die, thus affecting the whole food chain and underwater ecosystem.
- Limiting fishing in the region can increase fish populations, which in turn maximizes the consumption of plant growth and limits their impact on the corals. (Marshall and Schuttenberg, 2006).

## Vanuatu Daily Chlorophyll A 04 September 2023

The Daily ocean Chlorophyll concentration issue on 4th September 2023 shows very little to no chlorophyll near coastal water Vanuatu islands.

### 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.



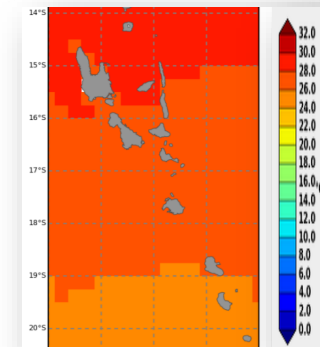
## The Convergence Zone Outlook November 2023 to January 2024

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*.

Outlook for September to November show that the locations of the edge of warm pool and cold tongue has shifted away from Vanuatu.

### 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 October to December 2023: Luganville & Port Vila Harbor

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)
0.27m	29 Oct	23:23pm	1.88m	28 Oct	16:10pm	0.23m	31 Oct	01:00am	1.60m	28 Oct	17:02pm
0.23m	27 Nov	23:14pm	1.85m	26 Nov	15:43pm	0.20m	29 Nov	00:44am	1.58m	26 Nov	16:28pm
0.21m	15 Dec	00:16am	1.81m	13 Dec	16:35pm	0.17m	15 Dec	01:04am	1.53m	13 Dec	17:22pm

## Moon Phases from October to December 2023

New Moon	First Quarter	Full Moon	Last Quarter
15 October	22 October	29 October	5 November
13 November	20 November	27 November	5 December
13 December	20 December	27 December	

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