



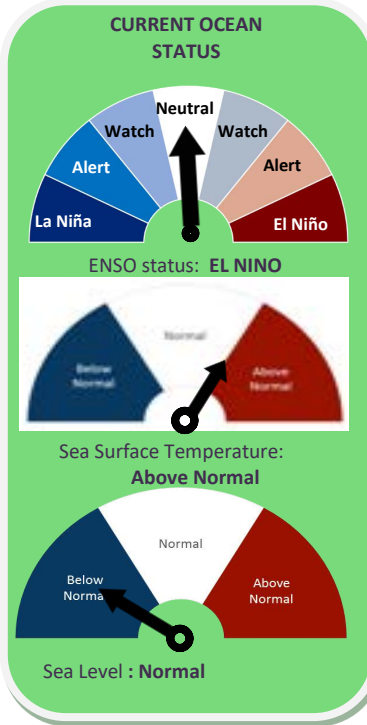
Vanuatu Ocean Outlook

Vanuatu Meteorology & Geo-Hazards Department



MAY 2024

Issue 54



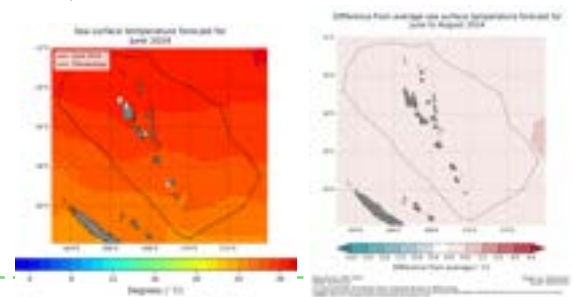
Ocean Summary:

- The ENSO is currently Neutral and bureau and international models suggest ENSO will likely to remain until at least July 2024.
- The 30-, 60- and 90-day Southern Oscillation Index (SOI) values for the period ending 28 April 2024 were -8.5, -2.7 and -7.3, 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 28 April 2024 were generally close to average over most of the Pacific. During El Niño there is a sustained weakening, or even reversal, of trade winds across much of the tropical Pacific.
- Sea Surface temperatures were warmer than average across the equatorial region of the tropical Pacific ocean.
- Loganville Harbor:** Lowest Tide: 0.15m on 7 June at 11:43am. Highest tide: 1.74m on 6 June 03:59am.
- Port Vila Harbor:** Lowest Tide: 0.10m on 7 June at 12:28am Highest tide: 1.48m on 5 June at 03:59am.

Vanuatu Sea Surface Temperatures (SST) Outlook: June (monthly) and June to August 2024 (seasonally) 2024

- Monthly Sea surface temperature for June in Vanuatu, 28°C–29°C over northern region, 27°C for Central region and 26°C over the southern region.
- Seasonal sea temperatures around Vanuatu from June to August is expected to be above average for the whole country with average difference of 0.8°C.
- 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
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

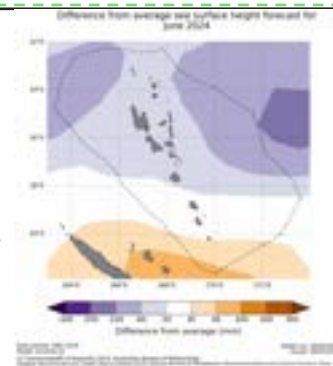


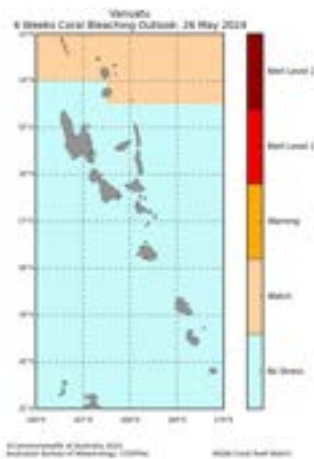
Vanuatu Sea Level (SL) Outlook: June 2024

Most of the country is expected to have lower than normal sea surface heights of up to 60mm. Tafea province is expected to have normal sea level heights.

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.





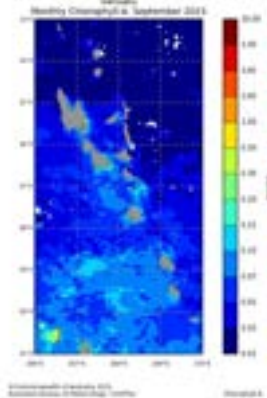
Vanuatu 4 weeks Coral Bleaching Outlook until 26th May 2024

A Watch is in place for Torba province while the rest of the country is at No Stress.

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 September 2023

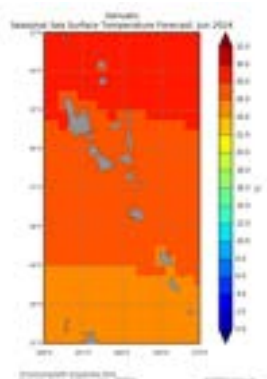


Chlorophyll concentrations from September were low especially in the northern islands. Pockets of higher concentrations were found at the southern coasts of Espiritu Santo and Malakula, reaching 0.30mg/m3.

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 for June 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*.

Both the average position of the warm pool and edge of the warm pool has shifted outside Vanuatu's EEZ

Application:

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

Top Lowest and Highest Tides for May to July 2024: 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)
0.15m	9 May	11:51am	1.78m	8 May	04:20am	0.13m	9 May	12:11pm	1.53m	8 May	05:10am
0.15m	7 Jun	11:43am	1.74m	6 Jun	03:59am	0.10m	7 Jun	12:28pm	1.48m	5 Jun	03:59am
0.14m	22 Jul	11:45am	1.79m	23 Jul	05:38am	0.11m	22 Jul	12:31pm	1.4m	23 Jul	06:25am

Moon Phases from May to July 2024

New Moon	First Quarter	Full Moon	Last Quarter
8 May	15 May	24 May	31 May
6 June	14 June	22 June	29 June
6 July	14 July	21 July	28 July