

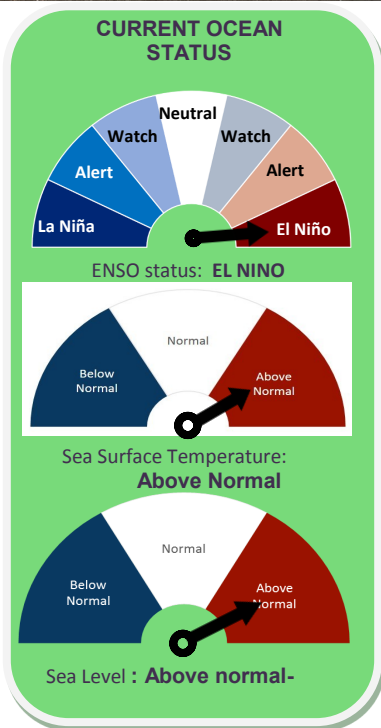
Vanuatu Ocean Outlook

Vanuatu Meteorology & Geo-Hazards Department



JANUARY 2024

Issue 51



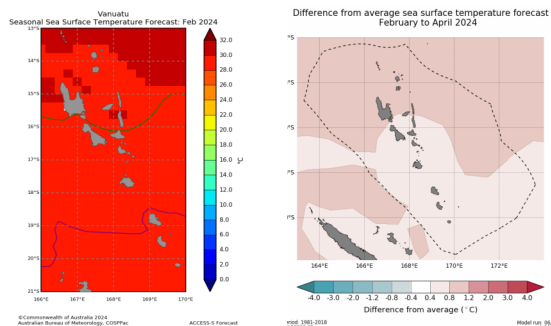
Ocean Summary:

- The ENSO Outlook, El Niño continues in the tropical Pacific
- The 30-, 60- and 90-day Southern Oscillation Index (SOI) values for the period ending 7 January 2024 were -1.5, -4.3 and -5.3, 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 7 January 2024 were close to average across most of the tropical Pacific. During El Niño there is a sustained weakening, or even reversal, of trade winds across much of the tropical Pacific.
- Warmer than average sea surface temperatures (SSTs) in the tropical Pacific persist above El Niño thresholds.
- Loganville Harbor:** Lowest Tide: 0.07m on 10 February at 23:45pm. Highest tide: 1.91m on 10 February 17:02pm.
- Port Vila Harbor:** Lowest Tide: 0.14m on 11 February at 00:04am Highest tide: 1.60m on 10 February at 17:51pm.

Vanuatu Sea Surface Temperatures (SST) Outlook: February (monthly) and February to April 2024 (seasonally)

- Monthly Sea surface temperature for February in Vanuatu is expected to be above average with 30°C to 32°C over the northern region, 30°C over the central and southern region.
- Seasonal sea temperatures around Vanuatu from February to April is expected to be above average in the northern region while near average in the central and southern region with difference of 0.8 to 1.2°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

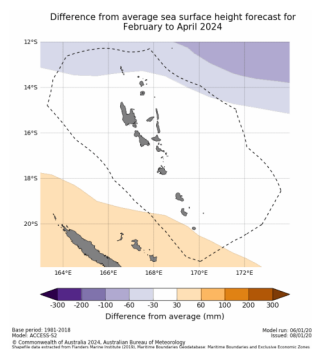


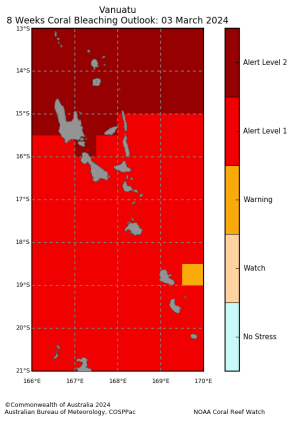
Vanuatu Sea Level (SL) Outlook: February to April 2024

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 Bleaching Outlook until 3rd March 2024

The 8 weeks coral bleaching outlook until 3rd of March, indicates alert level 2 for Torba, Sanma and part of Penama while alert level 1 is expected over the rest of the country.

Application.

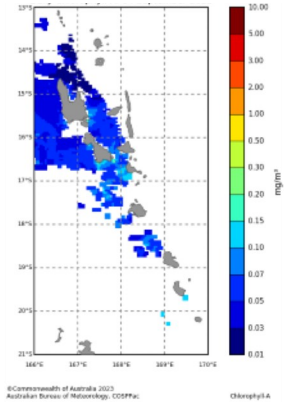
- Coral reef protect coastal areas by reducing waves, and also provide food for fishes and shells. When coral bleaching occur corals die, thus affecting the whole food chain and underwater ecosystem.
- Limiting fishing in the region can increase fish populations, which in turn maximizes the consumption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



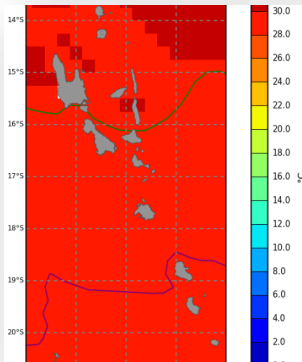
The Convergence Zone Outlook December 2023 to February 2024

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 February 2024 show that the average position of the warm pool-cold tongue convergence zone will be position between the northern islands and the edge will be located north of Tafea province.

Application:

Along the eastern edge of Warm pool-cold tongue Convergence zone is rich with nutrient which



Top Lowest and Highest Tides for January to March 2024: Luganville & Port Vila Harbor

Luganville Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
0.13m	13 Jan	00:06am	1.88m	12 Jan	17:13pm
0.07m	10 Feb	23:45pm	1.91m	10 Feb	17:02pm
0.09m	9 mar	22:38pm	1.85m	10 Mar	16:47pm

Port Vila Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
0.14m	31 Jan	00:54am	1.58m	12 Jan	17:59pm
0.14m	11 Feb	00:34am	1.60m	10 Feb	17:51pm
0.20m	9 Mar	23:25pm	1.57m	12 Mar	07:06pm

Moon Phases from January to March 2024

New Moon	First Quarter	Full Moon	Last Quarter
11 January	18 January	26 January	3 February
10 February	17 February	24 February	4 March
10 March	17 March	25 March	2 April

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