

Vanuatu Ocean Outlook

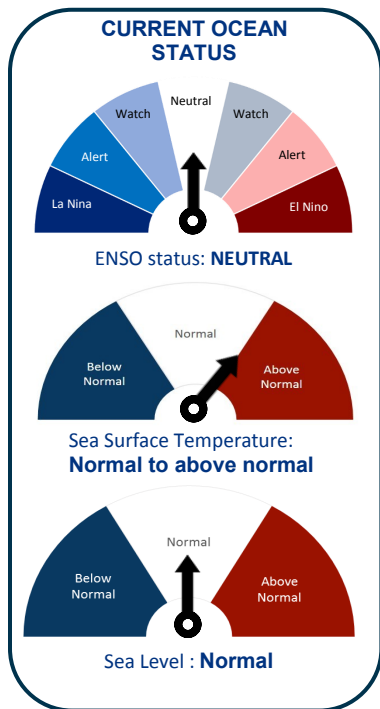
Vanuatu Meteorology & Geo-Hazards Department



November 2019

Issue 06

October Ocean Summary:



- The El Niño–Southern Oscillation (ENSO) remains neutral.
- Warm sea temperatures over Vanuatu have intensified in October compared to the previous months. Anomalies reached up to 2.5°C warmer than average in small regions within 100m below sea surface. The cool anomalies observed in the previous months have weakened.
- Trade winds remained close to average.
- The Southern Oscillation Index (SOI) in October was -5.2 .
- Luganville Harbour : Lowest Tide: 28th Oct. at 23:08pm - 0.23m, and 29th Oct. at 23:54pm—0.23m. Highest tide: 29th Oct. at 16:43pm - 1.87m.
- Port Vila Harbour : Lowest Tide: 30th at 00:46 am – 0.22m, Highest tide: 28th at 17:36pm - 1.62m.

Ocean Outlook (December 2019 to February 2020)

- Warm SSTs across the Pacific region is likely to weaken into the next three months. Over Vanuatu, normal to weak positive anomalies of up to 0.5°C are likely to persist.
- Above normal sea level is forecasted for the southern islands in Vanuatu, and below normal sea level is expected for the northern islands.
- Trade winds for the 5 days ending 10 November were close to average across the tropical Pacific.

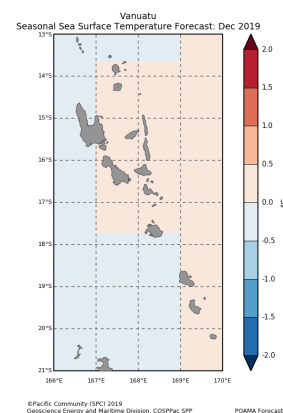
Sea Surface Temperatures

Latest SSTs range from 24.0°C down south to 28.0°C up north in October. SSTs are likely to remain normal in Vanuatu into December 2019, with some areas showing chances of experiencing up to 0.5°C above average.

Application:

Different species of fish are sometimes know to be found at certain 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

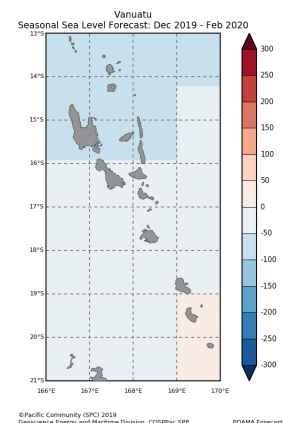


Sea Level

- Latest SL was above average in October across Vanuatu. Northern waters surrounding Torba, Penama and Sanma experienced SL up to 150mm, while SL around Shefa and Tafea were up to 50mm. Below normal SL is forecasted for December 2019 to February 2020.

Application

- High tides at higher sea level can cause inundation of waves overland (seas-flooding) during bad weather / windy conditions causing rough seas.

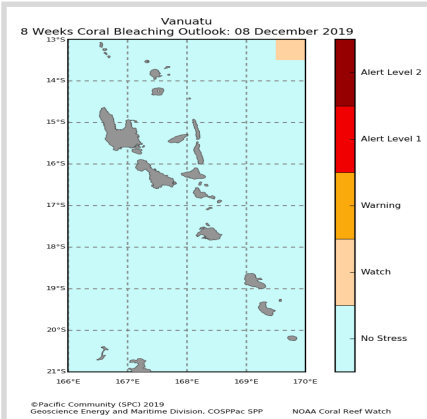


Coral Reef Watch

Current Coral Reef Alert for the Vanuatu Region remains at No Stress, and will likely remain at No Stress into early December. This means that there is no chance of having any damage to coral.

Application

- Coral reef provide food for fishes and shells. When there is coral bleaching, the corals can die and the whole food chain is affected.
- 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).

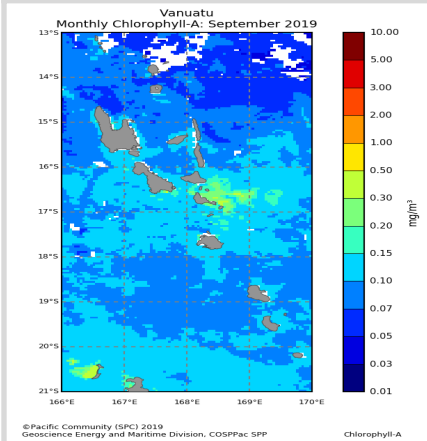


Monthly Chlorophyll

Chlorophyll concentration of up to 0.30mg/m³ was observed around Malampa province in September. Latest data for November shows a steady decline in CC in Vanuatu waters.

Application

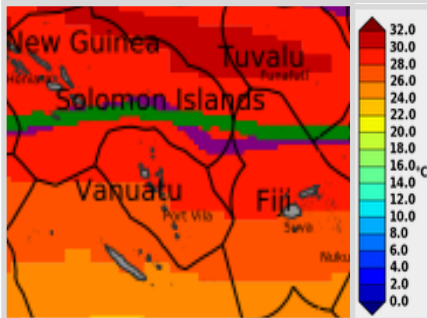
- Fishermen targeting smaller pelagic (open sea) fish may be interested in the chlorophyll concentration.



Sea Surface Temperature With Convergence Zone

The green line is the average position of the Warm pool –cold tongue Convergence zone. For December 2019, models predict it (edge of warm pool-cold tongues convergence zone) (purple) will remain over Solomon Islands.

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 November 2019 to January 2020

Luganville & Port Vila Harbour

Luganville Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
0.21m	25 Dec	22:50 pm	1.80m	25 Dec	16:02pm
0.17m	13 Jan	00:33 am	1.82m	12 Jan	17:40 pm
0.09m	9 Feb	23:32pm	1.85m	9 Feb 10 Feb	16:45pm 17:30pm

Port Vila Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
0.20m	27 Dec	00:19am	1.57m	24 Dec	16:02pm
0.18m	12 Jan	00:42am	1.55m	11 Jan	17:44pm
0.17m	10 Feb 11 Feb	00:24am 01:06am	1.57m	10 Feb	18:22pm

Moon Phases for the next 3 Months (November 2019 to January 2020)

New Moon	First Quarter	Full Moon	Last Quarter
26th of December	4th of December	12th December	19th of December
25th of January	3rd of January	11th of January	17th of January
24th of February	2nd of February	9th of February	16th of February