

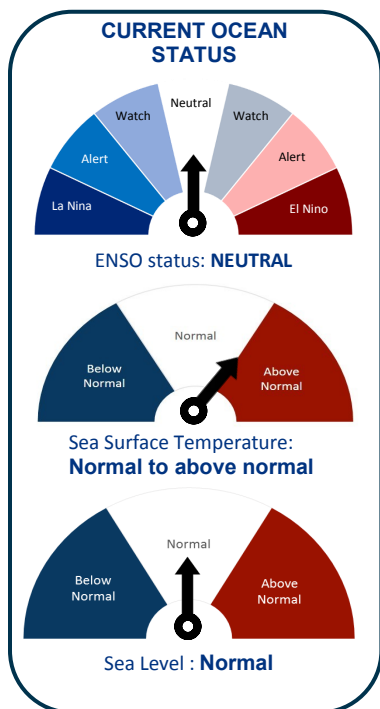
Vanuatu Ocean Outlook

Vanuatu Meteorology & Geo-Hazards Department



September 2019

Issue 04



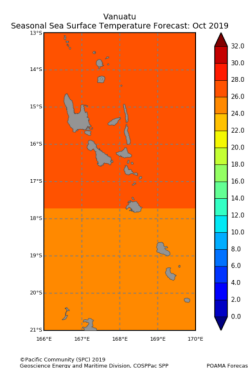
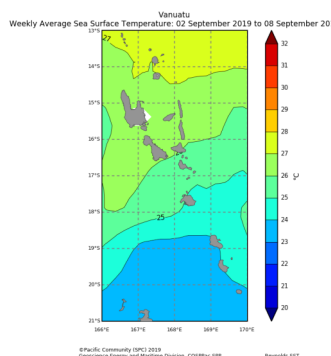
September Ocean Summary:

- The El Niño–Southern Oscillation (ENSO) is neutral.
- Waters remain warmer than average across the western equatorial Pacific ocean, but overall patterns are consistent with a neutral ENSO state.
- Trade winds remained close to average.
- The Southern Oscillation Index (SOI) is neutral.
- Luganville Harbour : Lowest Tide: 28th Sep. at 10:22am - 0.15m, Highest tide: 01st Sep. at 05:40hrs - 1.83m.
- Port Vila Harbour : Lowest Tide: 01st at 13:04hrs – 0.17m, Highest tide: 30th at 18:50hrs - 1.59m.
- Ocean Outlook (October to December)**
- Cooling Sea Surface temperatures (SST) is expected over Vanuatu in the upcoming months.
- Sea level anomalies for September to November will be normal to below normal (0mm to – 50mm) over Vanuatu.
- Trade winds over the Equatorial Pacific will continue to weaken, while over Vanuatu southeast trades remain moderate.
- Next extreme high tide will be on 31st August 2019, 04:53hrs at a height of 1.87m. (Luganville Harbour)

Sea Surface Temperatures

- Latest weekly SSTs for September shows gradual cooling in the southern waters of Vanuatu. Temperatures range from 23.0°C to 25.0°C in the southern region and 26.0°C to 28.0°C in the northern region.
- Forecast for October shows temperatures for the southern region will likely range from 22.0°C to 24.0°C, while temperatures in the northern region will likely range from 24.0°C to 26.0°C.

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

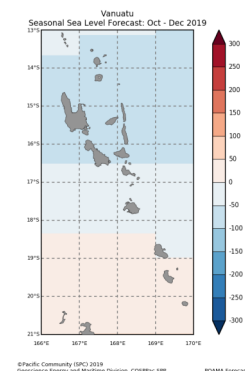
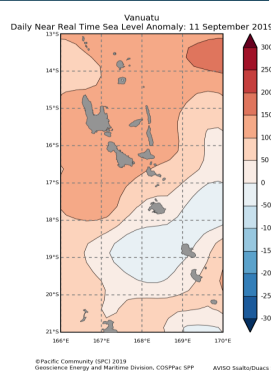


Sea Level

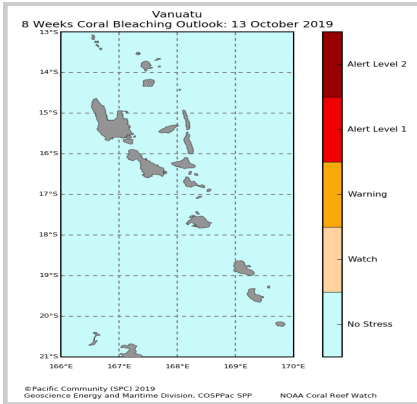
- On 11th September, SL dropped by –50mm in some parts of the southern region, while the northern region experienced SL of 200mm above normal.
- Below normal sea level (0mm to – 100mm) is forecasted for the next three months (October to December 2019).

Application

- Extreme high tides can cause inundation of waves overland (seas-flooding) during bad weather / windy conditions causing rough seas.



Coral Reef Watch

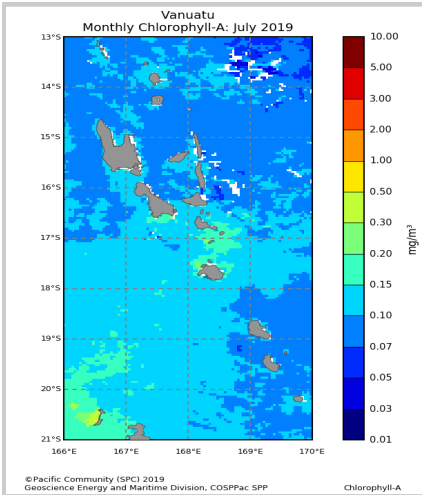


Current Coral Reef Alert for the Vanuatu Region remains at No Stress, and will continue to be at No Stress within the next month (September). This means that there is no chance of having any damage to coral.

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.

Monthly Chlorophyll

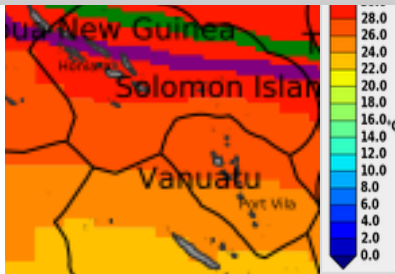


A small area of Chlorophyll concentration of up to 0.30mg/m^3 was observed between Shefa and Malampa provinces in July. Chlorophyll concentration in Vanuatu water is much less in July compared to the previous month. Latest data for September shows a significant decline in CC in Vanuatu waters.

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 September 2019, models predict it (edge of warm pool-cold tongues convergence zone) (purple) will cross Solomon Islands horizontally. Sea Surface Temperatures are forecasted to be within 24.0°C to 26.0°C within the next month.

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 September to November 2019 for Luganville & Port Vila Harbour

Luganville Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
0.15m	28 Sep	10:22 am	1.83m	01 Sep	05:40 am
0.23m	28 Oct 29 Oct	23:08 pm 23:54 pm	1.87m	28 Oct	16:43 pm
0.20m	26 Nov 27 Nov	22:58 pm 23:42 pm	1.87m	25 Nov 26 Nov	15:41 pm 16:18 pm

Port Vila Harbour					
Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)
0.17m	01 Sep	13:04 pm	1.59m	30 Sep	18:50 pm
0.22m	30 Oct	00:46 pm	1.62m	28 Oct	17:36 pm
0.18m	28 Nov	00:31 am	1.61m	25 Nov	16:27 pm

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

New Moon	First Quarter	Full Moon	Last Quarter
	6th of September	14th of September	22nd of September
29th of September	6th of October	14th of October	21st of October
28th of October	4th of November	13th of November	20th of November
27th of November			