

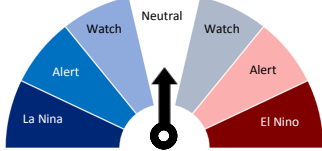
Vanuatu Ocean Outlook

Vanuatu Meteorology & Geo-Hazards Department

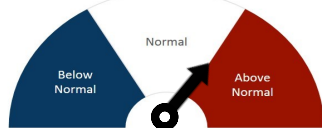
July 2019

Issue 02

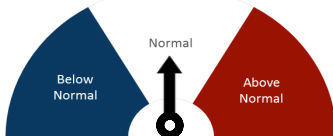
CURRENT OCEAN STATUS



ENSO status: **NEUTRAL**



Sea Surface Temperature: **Normal to above normal**



Sea Level : **Normal**

July Ocean Summary:

- Both atmospheric and ocean indicators are gradually easing away from El Niño thresholds. ENSO is currently at neutral status.
- Waters remain slightly warmer than average across much of the southwest Pacific including Vanuatu.
- Trade winds and cloudiness near the Date Line has fluctuated around average since late April.
- SOI is the only ENSO indicator that has continued to hover close to the El Niño thresholds, but in the neutral range.
- Luganville Harbour : Lowest Tide: 05th at 1222hrs - 0.19m , Highest tide : 04th at 0446hrs - 1.70m
- Port Vila Harbour : Lowest Tide: 05th at 1315Hrs – 0.15m, Highest tide: 15th at 0345hrs – 1.45m, and 16th at 0425—1.45m

Ocean Outlook (September to November)

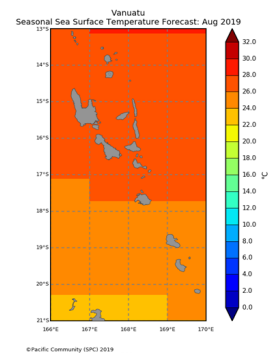
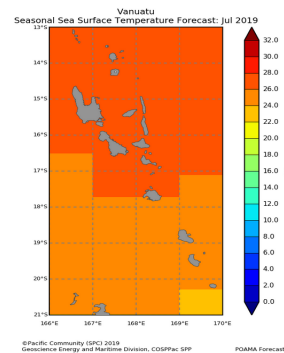
- Cooling Sea Surface temperatures (SST) is expected over Vanuatu in the upcoming months.
- Sea level anomalies for September to November will be normal to below normal (0mm to – 50mm) over Vanuatu.
- Trade winds over the Equatorial Pacific will continue to weaken, while over Vanuatu southeast trades 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

- SSTs for July showed weak positive anomalies. Temperatures range from 22.0°C to 28.0°C.
- Forecast shows weak positive anomalies will likely continue into August. Temperatures will likely range from 24.0°C to 28.0°C.

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

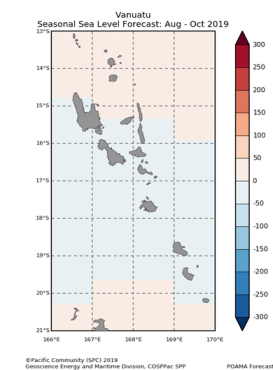
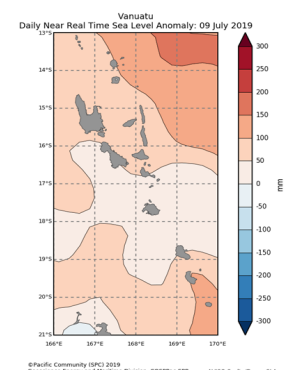


Sea Level

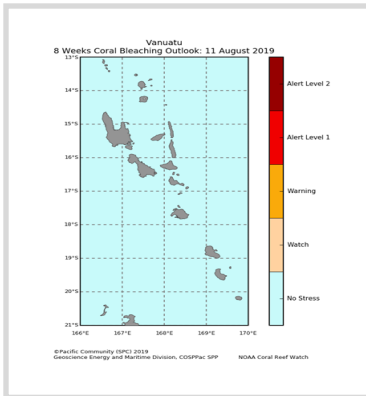
- On 9th July, parts of northern and southern Vanuatu experienced up to 100mm of sea level.
- Normal to below normal sea level (0mm to –50mm) is forecasted for the next three months (August to October).

Application

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



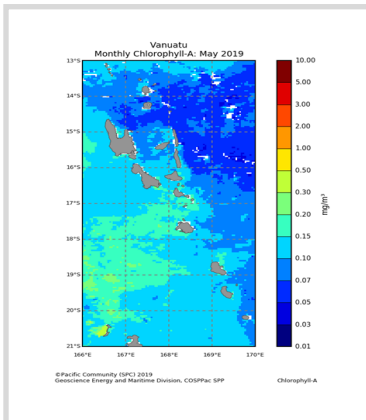
Coral Reef Watch



Coral Reef around Vanuatu in the next four weeks is on *No Stress*. 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).

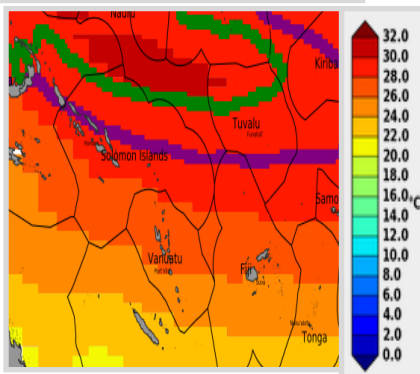


Monthly Chlorophyll

There is a moderate concentration of Chlorophyll on the Western waters of Vanuatu in May with similar pattern observed in early July. Waters around Shefa maintained higher concentrations of chlorophyll on average, compared to other areas.

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 July average position of the Warm pool –cold tongue Convergence zone. For August 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°C to 28°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 August to October 2019 for Luganville & Port Vila Harbour

Luganville Harbour						Port Vila Harbour					
Date	Time (VUT)	Lowest Tide	Date	Time (VUT)	Highest Tide	Date	Time (VUT)	Lowest Tide	Date	Time (VUT)	Highest Tide
02 Aug	11:55pm	0.08m	31 Aug	04:53am	1.87m	02 Aug	12:44pm	0.07m	31 Aug	05:42am	1.54m
28 Sep	10:22am	0.15m	01 Sep	05:40am	1.83m	01 Sep	13:04pm	0.17m	30 Sep	18:50pm	1.59m
28 Oct	23:08pm	0.23m	28 Oct	16:43pm	1.87m	30 Oct	00:46am	0.22m	28 Oct	17:36pm	1.62m

Moon Phases for the next 3 Months (August to October 2019)

New Moon	First Quarter	Full Moon	Last Quarter
1st of August	8th of August	15th of August	24 August
30th August	6th September	14th September	22nd September
29th September	6th October	14th October	
28th October	21st October		