

Ocean Outlook for April 2019

Samoa Meteorology Division (SMD)

Ministry of Natural Resources and Environment



(685) 20855/20856



www.samet.gov.ws



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Issued: March 2019

Issue Outline:

- Ocean Temperature
- Convergence Zone
- Coral Bleaching
- Sea Level Forecast
- Top 10 Highest Tides

Summary

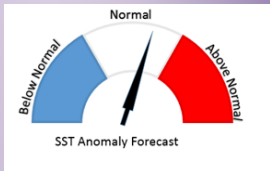
- Enhanced warming of sea surface temperature is anticipated for April 2019.
- The convergence zone is expected to shift further southward of its normal position in April.
- Coral bleaching status shifted from watch to 'warning' for the upcoming weeks.
- Near-normal sea level change is anticipated for Samoan region in the next 3 months.
- Five of the highest tides have passed with the upcoming to be in August 30th 2019

Climate Status:

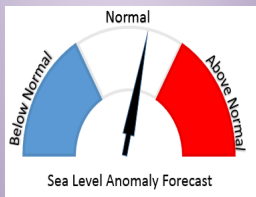
ENSO Update: ALERT



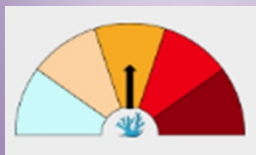
Sea Surface Temperature:



Sea Level Forecast:



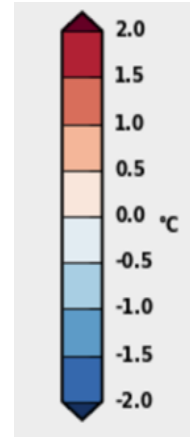
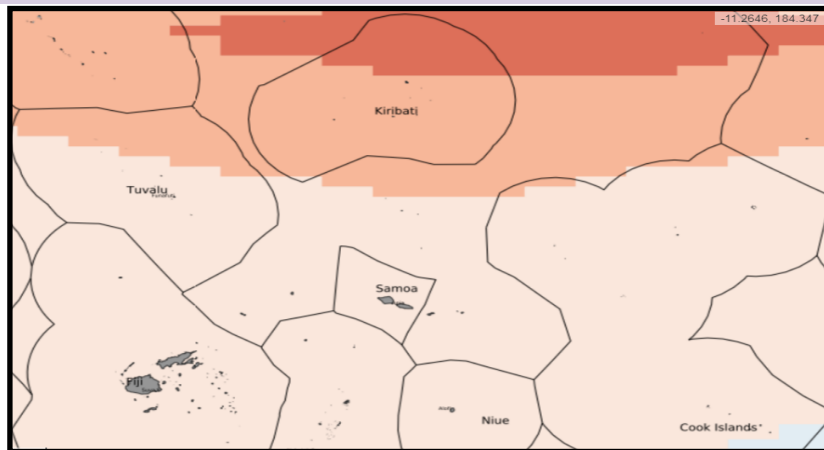
Coral Bleaching Forecast:



Alert Level

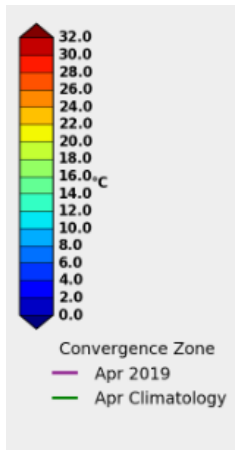
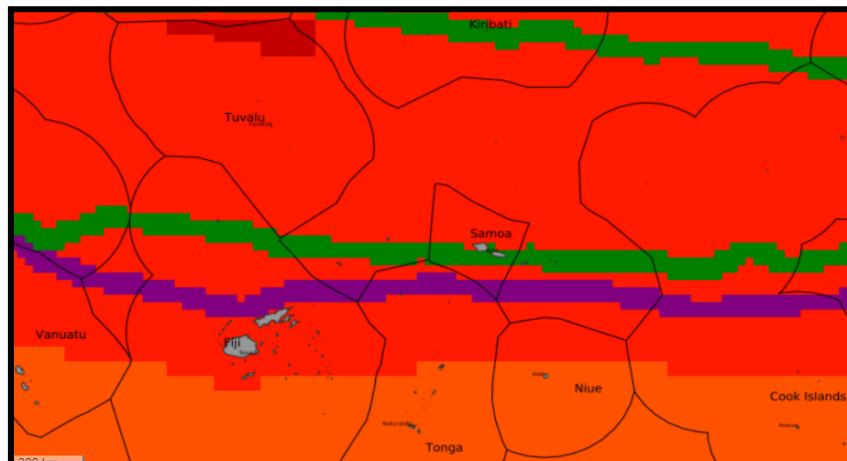
No Stress
Bleaching Watch
Bleaching Warning
Bleaching Alert Level 1
Bleaching Alert Level 2

SEA SURFACE TEMPERATURE ANOMALY OUTLOOK



The sea surface temperature for the Samoan region is anticipated to be within the range of 0 - 0.5°C similar to Tuvalu, Niue and the Cooks. In the northern Pacific, warm water anomaly of 1.0 - 1.5°C is expected in April 2019.

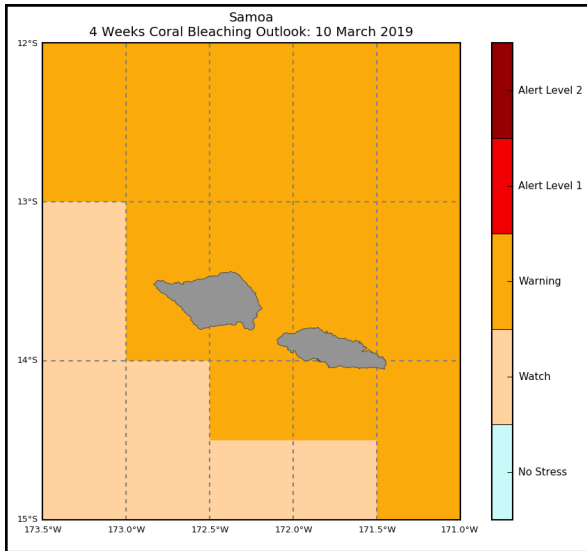
SEA SURFACE TEMPERATURE WITH CONVERGENCE ZONE



The forecasted convergence zone for April 2019 (purple line) is expected to shift further south of its normal position (green line). The predicted sea surface temperature will be around 28°C to 30°C.

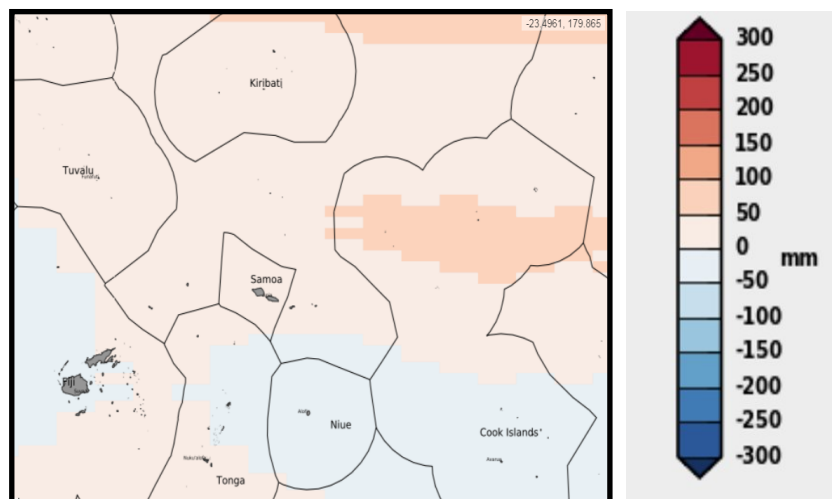
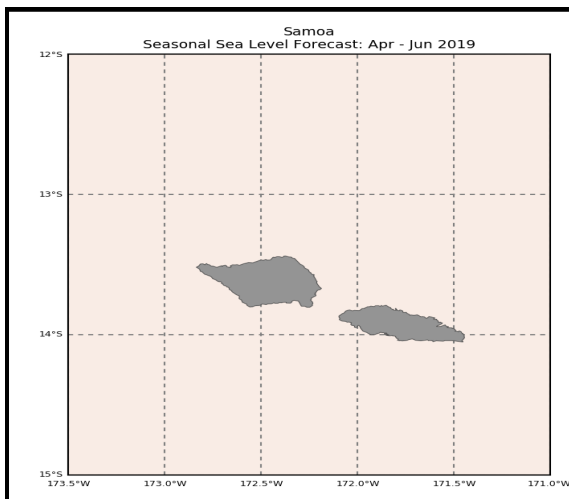
N.B Convergence zones are where cold and warm water meet, and are rich in nutrients, attracting lots of fish.

CORAL BLEACHING STATUS



Warning for coral bleaching is in place for the Samoan region in the next 4 weeks. The expected warmer conditions of the sea surface temperature coincide with this warning. Therefore, it is highly recommended that responsible sectors are advised to continue monitoring and take precautionary actions.

SEASONAL SEA LEVEL OUTLOOK



In the upcoming three months, the sea level around the Samoan region is expected to be within the range of 0 - 50mm while there is an anticipated drop in the southern areas of the region impacting Niue and Cook Islands.

This forecast is based on the combined long-term effects of temperature, salinity and wind on the water levels and do not include daily changes in tide or weather.

10 highest tides for 2019

Date	Time	Height (m)
31-Aug	6:33	1.56
20-Feb	19:01	1.55
19-Feb	18:11	1.55
29-Sep	6:15	1.54
28-Sep	5:25	1.54
01-Sep	7:25	1.53
30-Aug	5:44	1.53
22-Jan	19:19	1.53
20-Mar	17:54	1.53
21-Jan	18:27	1.53

This table shows the ten (10) highest tides that will take place this year.

- The next high tide expected for 2019 falls on 30th August with its height of 1.53m followed by the highest tide of 2019 on the following day 31st August anticipating 1.56m height.
- Five (5) of the highest tides have come to pass with the recent one on March 20th.

Major Contributors:

- Pacific Ocean Portal: oceanportal.spc.int
- Bureau of Meteorology: <http://www.bom.gov.au/climate/enso/>