



Tonga Ocean Outlook

November 2023 - January 2024

Issue: 10

Issued 10 November 2023

TONGA METEOROLOGICAL SERVICE

P. O. Box 1380,

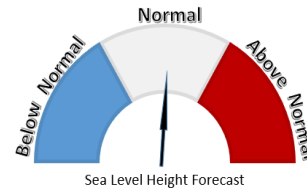
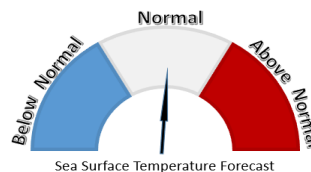
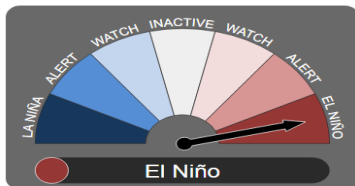
Domestic Terminal, Fua'amotu Airport,
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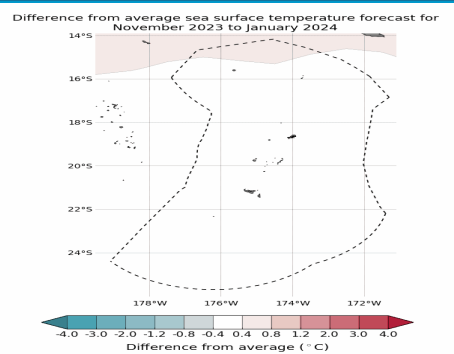
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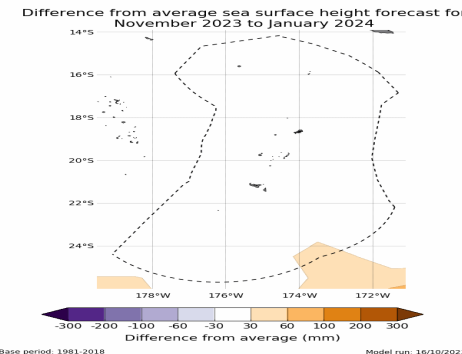
- El Niño remains in the Pacific and is likely to persist until at least the end of February 2024.
- Average sea surface temperatures (SSTs) forecast for Tonga.
- Average sea level is forecast for Tonga during the forecast period.
- The fisheries convergence zone is predicted to be north of Tonga waters in the next few months.



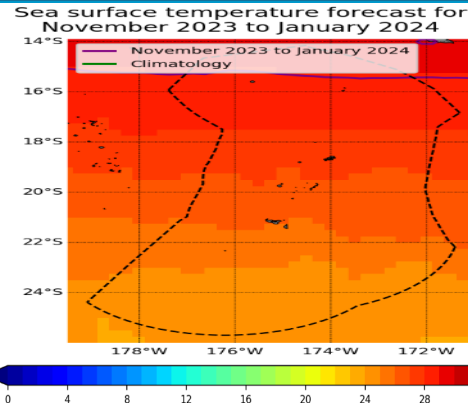
Sea Surface Temperature Forecast



Sea-level Forecast



Nutrient Zone Forecast

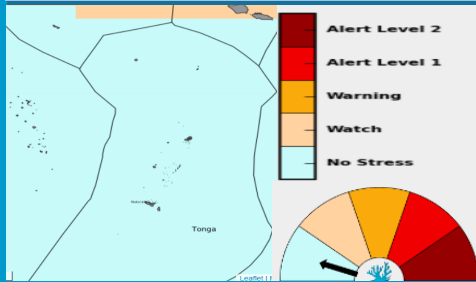


Sea surface temperature forecast for November 2023 to January 2024 shows average for Tonga. Presence of warmer or cooler waters than usual is useful because it indicates whether El Nino or La Nina like pattern is likely during the forecast period. This is consistent with the current El Nino condition.

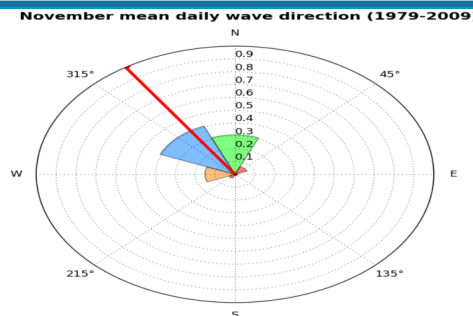
Sea level anomaly 3 month forecast shows average sea level height across Tonga waters. Stakeholders can use this forecast to make decisions about the protection of communities and infrastructure against coastal inundation. However this is typical of the season of El Nino and caution is advised.

The boundary between warm and cold ocean water is rich in nutrients and attracts Tuna. This convergence zone is normally located north of Tonga during this time of year. This information can be used by stakeholders to know where tuna can be found during this time period.

Coral Bleaching

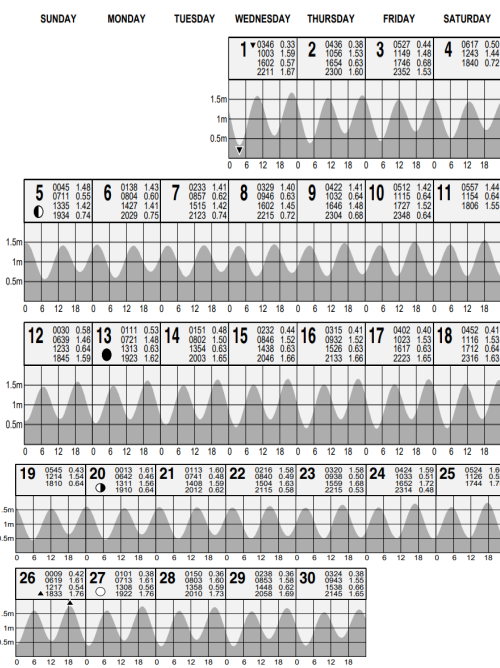


Coral bleaching status for Tonga is under No Stress level across Tonga waters as seen above. Bleaching is a common stress response of corals, caused by warmer sea temperatures. During periods of unusually high sea temperatures, corals can bleach and may eventually die if the heat stress is intense and sustained over several weeks. This information is very useful for tourists and related stakeholders.



Nuku'alofa wave climate for the month of November shows majority of the waves to come from the southeast going toward the north-west direction. This has been the average direction for the past 30 years. The average wave height for this location in November is 2.2 m with the possibility of waves reaching as high as 4.2m.

NOVEMBER 2023 Local Standard Time



Moon Phases for November 2023 to January 2024

Last Quarter Moon	New Moon	First Quarter Moon	Full Moon
5 November 21:36	13 November 22:27	20 November 23:49	27 November 22:16
5 December 18:49	13 December 12:32	20 December 07:39	27 December 13:33
4 January 16:30	12 January 00:57	18 January 16:52	26 January 06:54