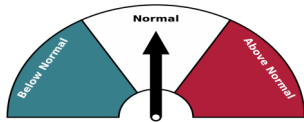


## In Brief



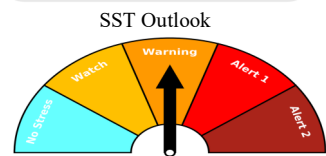
ENSO Outlook

⇒ Moderate El Niño continues in the tropical Pacific Ocean.



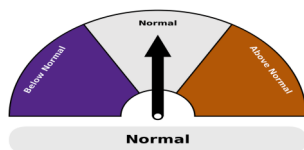
SST Outlook

⇒ The current El Niño has likely reached its peak, with the event likely to continue through the March to May 2024 period.



Coral Bleaching

⇒ *Near normal* sea surface temperatures (SSTs) are likely across most of Fiji Waters during January to March 2024.

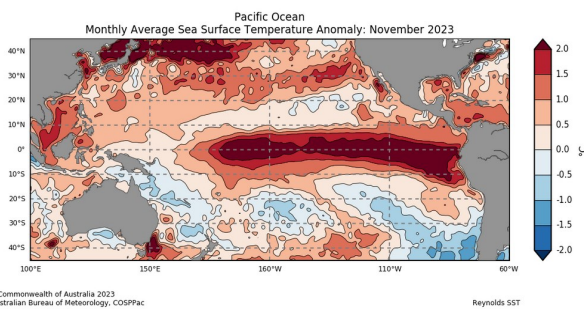


Sea Level Outlook

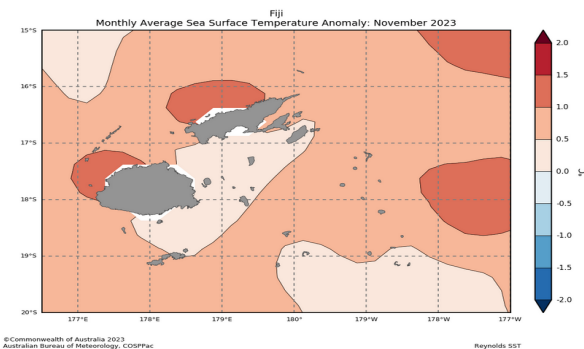
⇒ The average position of the 29°C convergence zone is likely to lie over the Fiji Group during the January to March 2024 period.

⇒ The 8-week coral bleaching outlook is at 'Watch' for most of Fiji Waters, with 'Warning' for waters around Rotuma, while the 12-week outlook is at 'Warning' for most of Fiji Waters, with 'Alert Level 1' for waters around Rotuma.

## Pacific Sea Surface Temperatures (SSTs): Recent Observations



Warmer than normal SSTs were observed across the equatorial Pacific Ocean, with near normal anomalies exist in the western Pacific Ocean. The SSTs in the equatorial Pacific Ocean is consistent with an El Niño event.

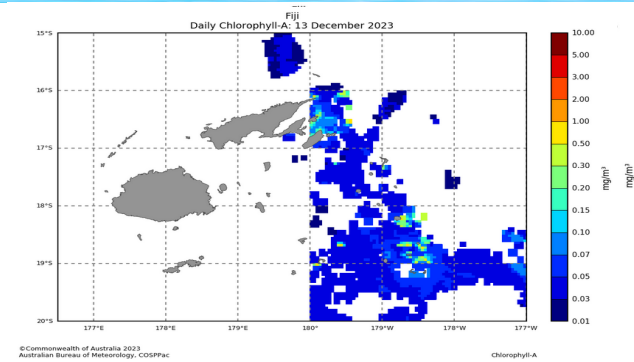


SSTs around the Fiji Waters were mostly warmer than normal during November, with anomalies of 0.5°C-1.0°C observed across most of the Fiji Waters. Anomalies of 1.0°C to 1.5°C were observed in waters north-west of Viti Levu and Vanua Levu, while *near normal* SSTs were observed in the water between Viti Levu and Vanua Levu, Beqa, Lomaiviti Group, southern Taveuni and parts of the southern Lau Group with anomalies of 0.0°C to 0.5°C.

### Possible Applications:

Presence of warmer than usual waters in the central and eastern equatorial Pacific indicate persistence of an El Niño event and cool waters indicate La Niña. Monitoring warm patches of ocean gives insight into the potential for cyclone formation, and possible start or finish of the cyclone season. For further information on ocean temperature refer to [http://oceanportal.spc.int/portal/help/about\\_OceanTemperature.pdf](http://oceanportal.spc.int/portal/help/about_OceanTemperature.pdf).

## Chlorophyll Concentration

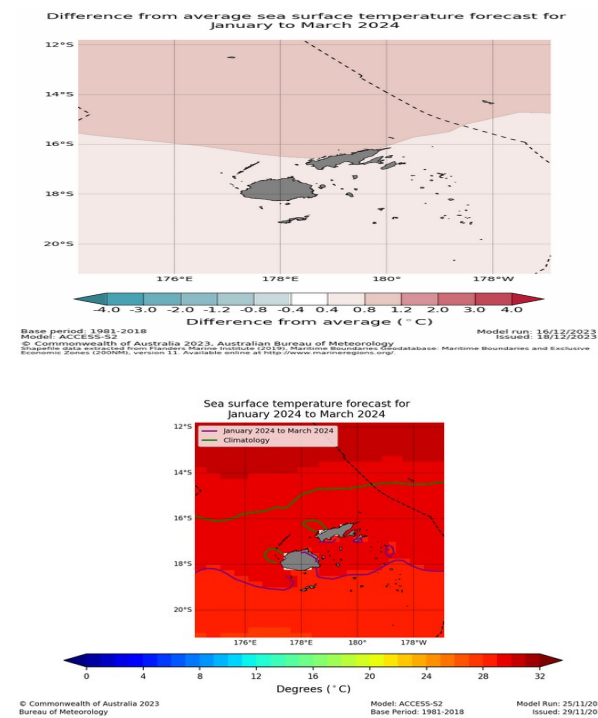


Daily chlorophyll concentration - 13<sup>th</sup> December 2023. High concentrations of chlorophyll were observed along parts of northeast coast of Vanua Levu and the southern Lau Group.

### Possible Applications:

Chlorophyll concentration can be of great interest to fishermen targeting smaller pelagic (open sea) fish. High concentration of chlorophyll can also provide indication of potential hazardous conditions near the coast from reef fish diseases, such as ciguatera, harmful algal blooms, and outbreak of Crown of Thorns starfish, which is a coral eating pest. For further information on chlorophyll concentration refer to [http://oceanportal.spc.int/portal/help/about\\_chlorophyll.pdf](http://oceanportal.spc.int/portal/help/about_chlorophyll.pdf).

## Sea Surface Temperature (SST) Outlook



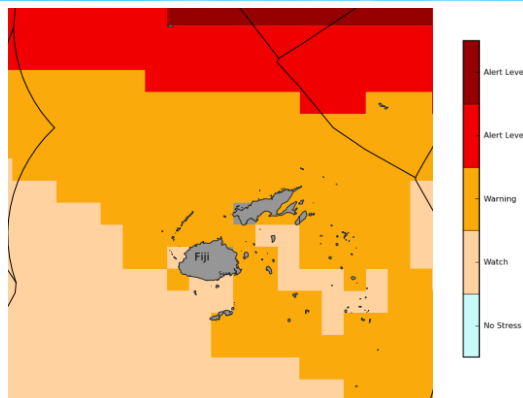
Near normal SSTs are likely across most of Fiji Waters during the January 2023 to March 2024 period. Above normal SSTs are likely for northern half of Fiji's EEZ.

While the average position of the 29°C convergence zone is usually located north of Fiji during this time of the year (green line), it is likely to be displaced over Fiji Group during the January to March 2024 period (purple line) period.

### Possible Applications:

The movement of the convergence zone has an influence on relative abundance of tuna in the Pacific Ocean. The 29°C isotherm around the western Pacific warm pool forms a good proxy for the convergence zone, and can therefore be used to track the gravity center of Skipjack tuna fishing activity. For further information on seasonal sea surface temperature forecast refer to [http://oceanportal.spc.int/portal/help/about\\_POAMA\\_SST.pdf](http://oceanportal.spc.int/portal/help/about_POAMA_SST.pdf).

## Coral Bleaching Outlook



The 4 weeks coral bleaching outlook is at 'No Stress' across most of Fiji Waters, with 'Watch' for waters around Rotuma.

The 8 weeks coral bleaching outlook is at 'Watch' across most of Fiji Waters, with 'Warning' for waters around Rotuma.

The 12 weeks coral bleaching outlook is at 'Warning' across most of Fiji Waters, with 'Alert Level 1' for waters around Rotuma.

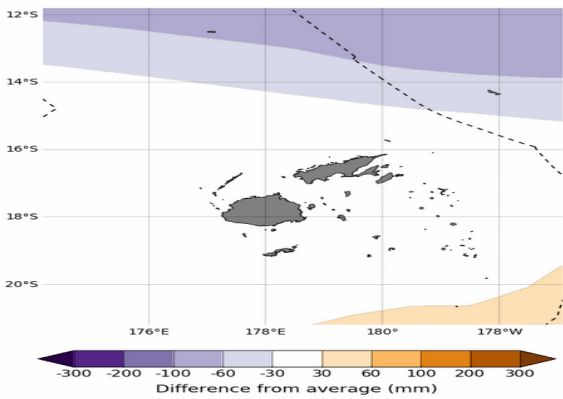
Caption: The image is for 12 weeks outlook.

### Possible Applications:

Once a potential bleaching event is detected, a management plan should be implemented to reduce the impacts of bleaching. For further information on coral bleaching refer to [http://oceanportal.spc.int/portal/help/about\\_coralbleaching.pdf](http://oceanportal.spc.int/portal/help/about_coralbleaching.pdf).

## Sea Level Outlook

Difference from average sea surface height forecast for January to March 2024



Base period: 1981-2018  
 Model: ACCES3-52  
 © Commonwealth of Australia 2023, Australian Bureau of Meteorology  
 Scientific data extracted from JRC's Marine Institute, 2019, Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <http://www.marine-geo.org>

Near normal sea level is likely across most of Fiji's EEZ during the January to March 2024 period. Below normal sea level is likely for Rotuma during the January to March 2024 period.

### Possible Applications:

Stakeholders can use forecasts of extreme sea level to make decisions about the protection of communities and infrastructure against coastal inundation. For further information on sea level refer to [http://oceanportal.spc.int/portal/help/about\\_POAMA\\_Sea\\_Level.pdf](http://oceanportal.spc.int/portal/help/about_POAMA_Sea_Level.pdf).

## Tide Predictions (January to March 2024)

Suva Tidal Gauge						Lautoka Tidal Gauge					
Monthly Highest Tide			Monthly Lowest Tide			Monthly Highest Tide			Monthly Lowest Tide		
Date	Time	Height	Date	Time	Height	Date	Time	Height	Date	Time	Height
13 Jan	19:52	2.08m	14 Jan	02:26	0.37m	13 Jan	19:38	2.32m	13 Jan	01:21	0.29m
11 Feb	19:34	2.13m	12 Feb	02:02	0.34m	10 Feb	18:31	2.39m	11 Feb	01:00	0.23m
12 Mar	07:49	2.12m	11 Mar	00:49	0.36m	10 Mar	18:13	2.39	11 Mar	00:33	0.25m

All date and time are in Fiji Standard Time.

## Moon Phases (January to March 2024)

New Moon ●	First Quarter ◐	Full Moon ○	Last Quarter ◑
			5 <sup>th</sup> December
11 <sup>th</sup> January	18 <sup>th</sup> January	26 <sup>th</sup> January	3 <sup>rd</sup> February
10 <sup>th</sup> February	17 <sup>th</sup> February	25 <sup>th</sup> February	4 <sup>th</sup> March
10 <sup>th</sup> March	17 <sup>th</sup> March	25 <sup>th</sup> March	

**Disclaimer:** While Fiji Meteorological Service takes all measures to provide accurate information and data, it does not guarantee 100% accuracy of the information presented in this outlook. The Department should be sought for expert advice, clarifications and additional information as and when necessary. The user assumes all risk resulting directly or indirectly from the use of this outlook.