



Kiribati Ocean Outlook

November 2022 to January 2023



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Summary

- ❖ Cool waters are expected to remain over the Kiribati region for the next three months (November 2022 to January 2023).
- ❖ The upwelling zone is predicted to be near southern parts of Gilbert and Phoenix group EEZ.
- ❖ The Gilbert group is expected to be on “**Watch**” while the rest of the Kiribati groups are expected to have no thermal stress.
- ❖ All island groups are forecasted to be near-normal in their sea level, however an increase of 30 to 60mm is detected near the northern islands of the Gilbert group.
- ❖ The highest spring tide within the three months period is expected to fall on the 23rd of January 2023 with height of 2.93 at 6:37pm.

Sea Surface Temperature (SST)

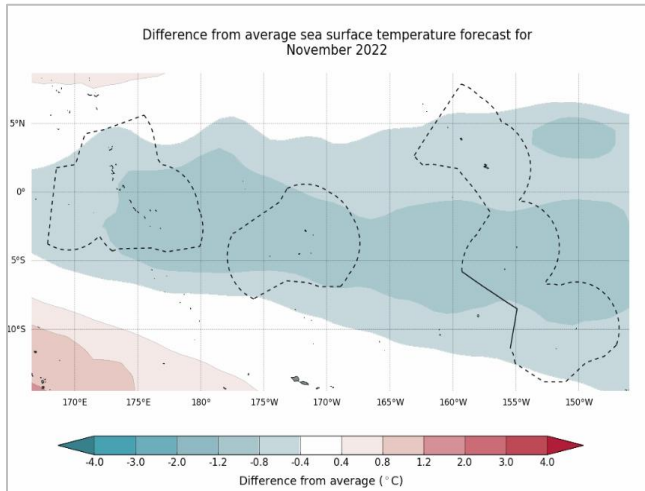


Figure 1: SST for November 2022

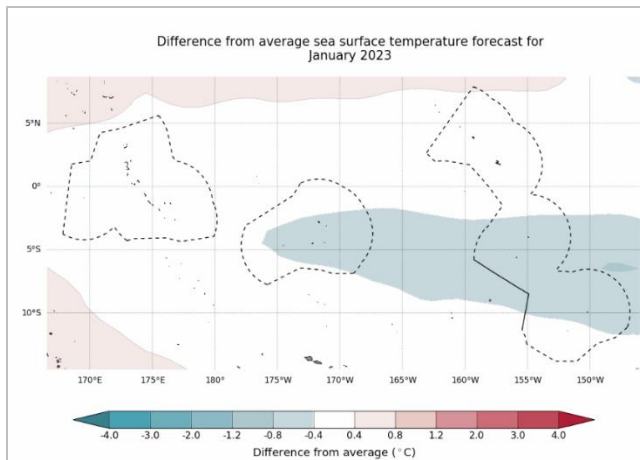


Figure 2: SST for January 2023

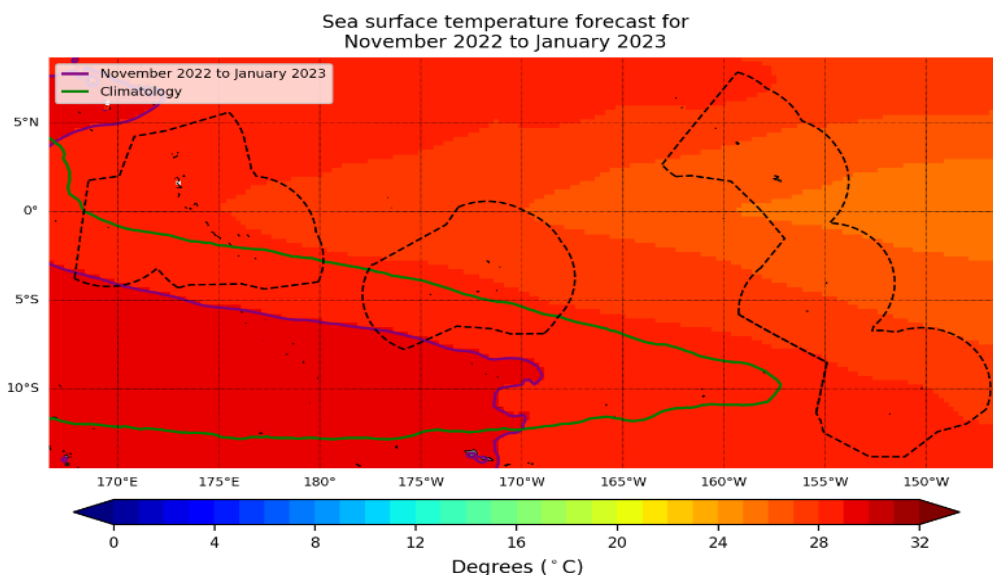
The two images show sea surface temperature (SST) variation in the Kiribati region for the month of November 2022 to January 2023.

The current state of sea surface temperature (Fig 1) remains cooler than normal at all Kiribati islands.

It is expected to remain cool until January 2023, except for the Gilbert and Northern parts of the Line groups which expected to be in the normal range (Fig 2).

Cooler waters can also contribute to less rainfall within that period.

Upwelling zone based on Sea Surface Temperature

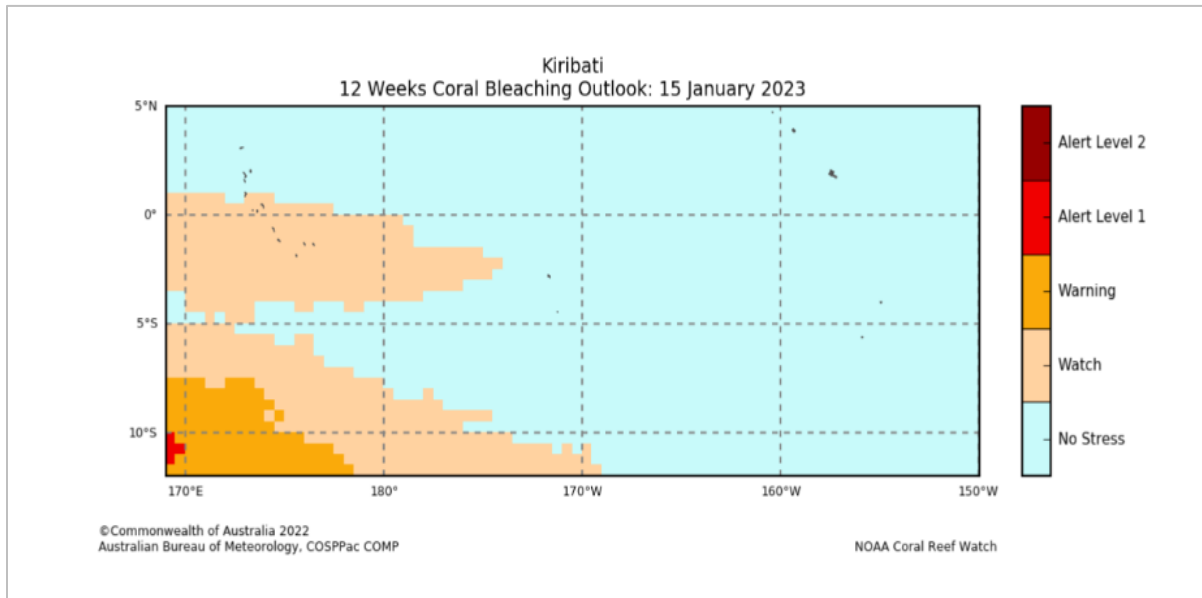


The upwelling zone shows the position of the nutrient rich area where migratory fishes like tuna species are likely to be dominant in.

In the map given above, zones that are marked by a purple line represents the current months in forecast (November 2022 to January 2023), while the green line represents the normal position of the zone during the same months.

The upwelling zone is predicted to be near the Southern EEZ of the Gilbert group and the southern part of the Phoenix group. However, the normal position of the upwelling zone lies over the southern part of the Gilbert and Phoenix groups around those months (November to January).

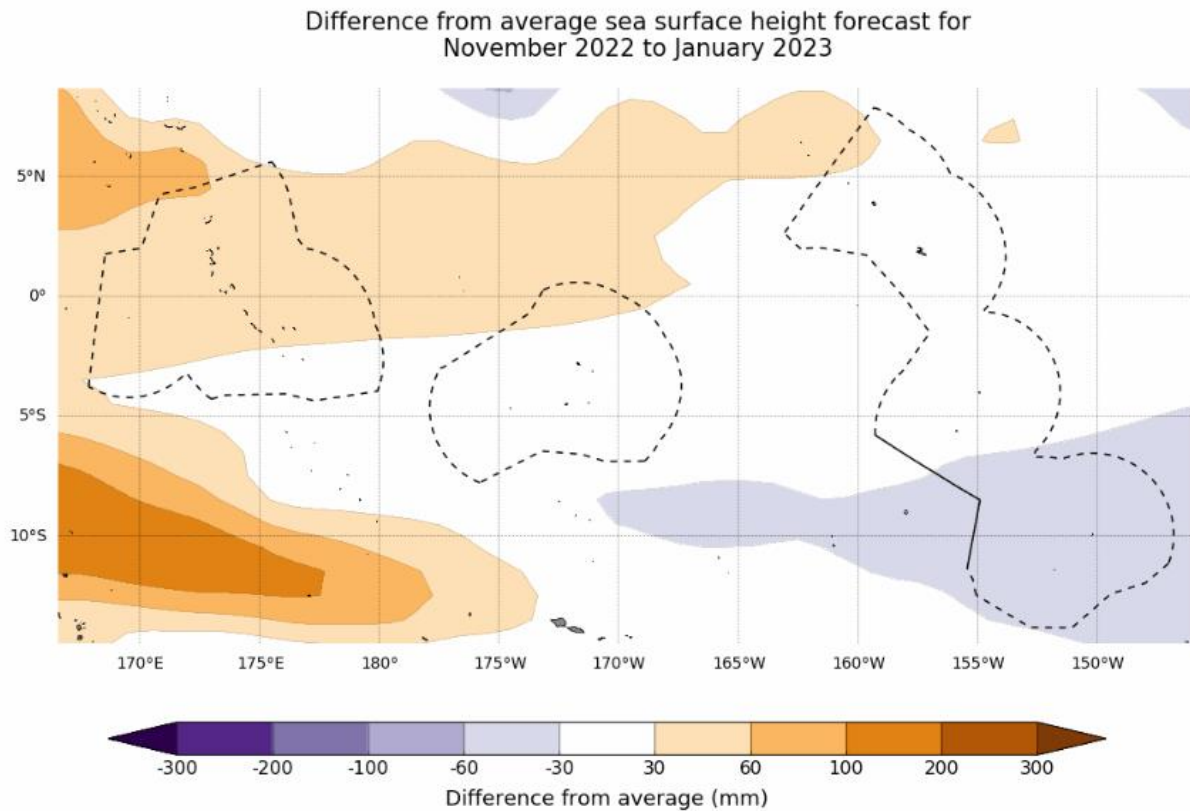
Coral Bleaching



For the twelve weeks coral bleaching outlook shown above, most parts of the Gilbert group are forecasted to be on **“Watch”** while the rest (Phoenix and Line groups) will likely to experience **no thermal stress**. Hence, the public is advised to take precautions especially for the Gilbert to western part of the Phoenix group.

Note: This forecast is based only on the Sea surface temperature, thus verification from MFMRD on coral conditions is required. Local environmental conditions can also contribute towards the bleaching process

Seasonal Sea Level Forecast



The Phoenix and Line groups are expected to be normal in their sea level height from sea surface temperature in the months of November 2022 to January 2023. However, the prediction for the Gilbert group is expecting a slight increase in sea level by 30 to 60mm (0.03 to 0.06m) above the height from the astronomical tides.

Extreme Spring Tide Prediction

MONTH	DATE	TIME	HEIGHT (m)	MOON PHASE
NOVEMBER	23 rd	1558	2.81	New Moon
	24 th	1635	2.86	
	25 th	1715	2.84	
DECEMBER	23 rd	1629	2.84	
	24 th	1714	2.86	
	25 th	1800	2.83	
JANUARY	21 st	1628	2.85	
	22 nd	1713	2.92	
	23 rd	1755	2.93	
	24 th	1837	2.86	

The table given above shows spring tides expected for the months of November 2022 to January 2023. The next spring tide is on the 23rd of November with height of 2.81m at 3:58pm in the afternoon. Moreover, the highest spring tide within these months will fall on the 23rd of January with height of 2.93m at 6:37pm.

These heights may increase when coincide with the increase of sea level from sea surface temperature (refer to map on page 6) and can also cause the damages and inundation if associated with gusty and strong wind. Thus, those who live along the coastal areas are encouraged to precautionary measures to minimise possible threats.