



# Kiribati Ocean Outlook

## September to November 2023



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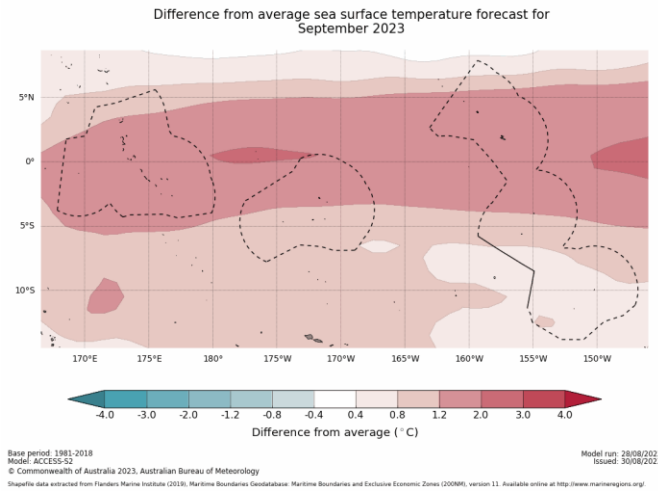
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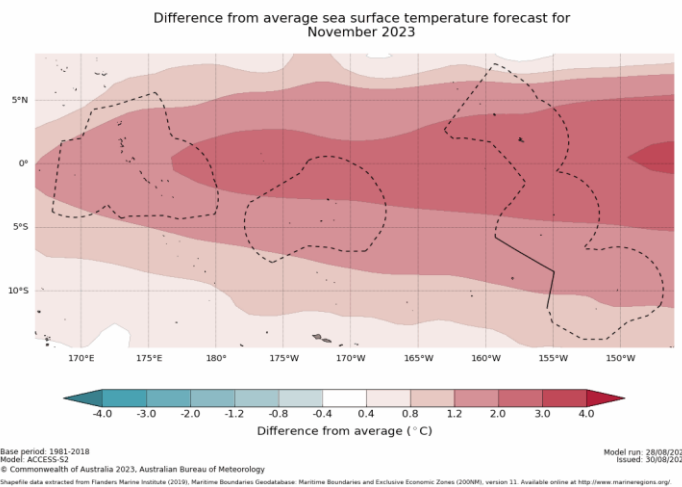
# Summary

- ❖ Significantly warmer than average sea surface temperature expected for most of the islands in the northern Line and Phoenix group while the rest of the islands are expected to slightly warmer for September to November 2023.
- ❖ The upwelling zone is forecasted to cover the whole Kiribati region for September to November 2023, thus these areas are more favorable to migratory fishes like tuna.
- ❖ The Gilbert and further north of the Line group are expected to be on Alert 1 while a few islands in the Gilbert are on Alert Level 2. However, the rest of the islands are on Watch level for coral bleaching forecast up to 4 weeks or to 24<sup>th</sup> September 2023.
- ❖ The seasonal sea level for the Central and the Southern Gilbert group and Kiritimati are anticipated to increase by 30 to 60mm (0.03-0.06m) while furthestmost of the Gilbert and Line islands possibly decrease by 30 to 60mm. The remaining islands are anticipating near normal in the coming months.
- ❖ The highest extreme spring tide within the next three months of September to November 2023 will fall on **29<sup>th</sup> of September at 04:10am in the morning with height of 2.92m.**

# Sea Surface Temperature (SST)



**Figure 1:** SST for September 2023



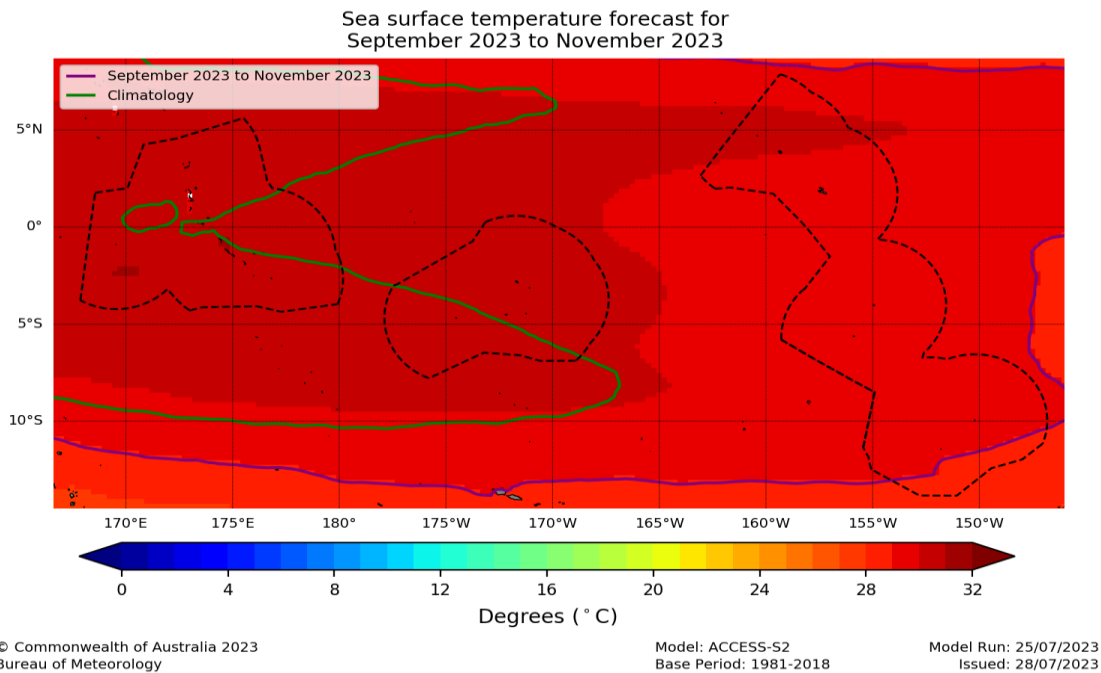
**Figure 2:** SST for November 2023

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

For figure 1, the current sea temperature remains the same as of August (1.2 to 2.0°C) over the Gilbert group and northern Phoenix and Line groups. The rest of the islands are slightly warmer by 0.8°C to 1.2°C.

For figure 2, the sea surface temperature is projected to significantly warmer than average ranging from 2.0°C to 3.0 °C for the Northern Line and Phoenix group while most of the Gilbert Islands and the rest of Line and Phoenix islands expected to slightly warmer in the upcoming months.

# Upwelling zone based on Sea Surface Temperature

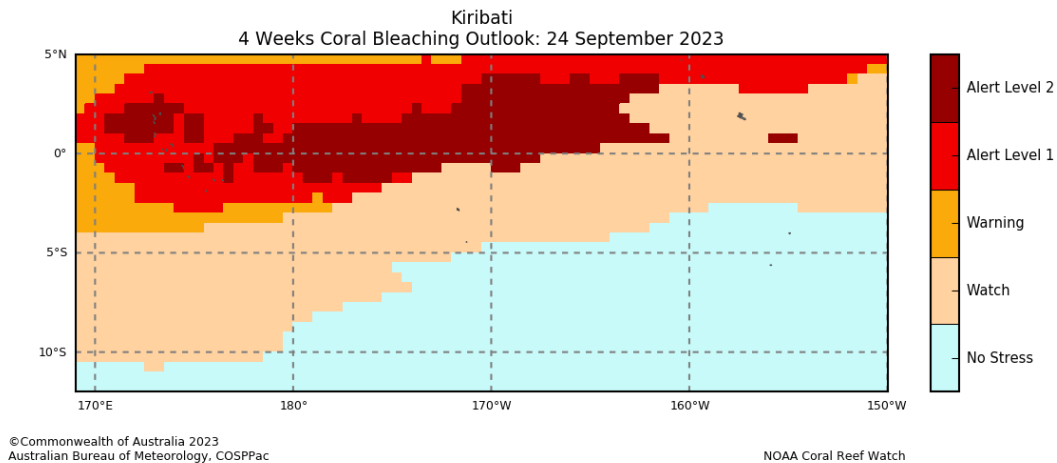


The upwelling zone shows the position of the nutrient rich area where migratory fishes like tuna species are likely to be dominant in.

On the map given above, it reveals zones that are shaded by a purple line represents the current month in forecast (September 2023), and the green line represents the normal position of the zone during the same month in the past.

The normal position (green line) of the upwelling zone lies over the Gilbert Group and extends to the Southwest of the Phoenix group. However, the current forecast shows that the whole Gilbert, Line and Phoenix groups are covered, thus the Kiribati water are now highly favorable for migratory fishes like tuna for months of September to November 2023.

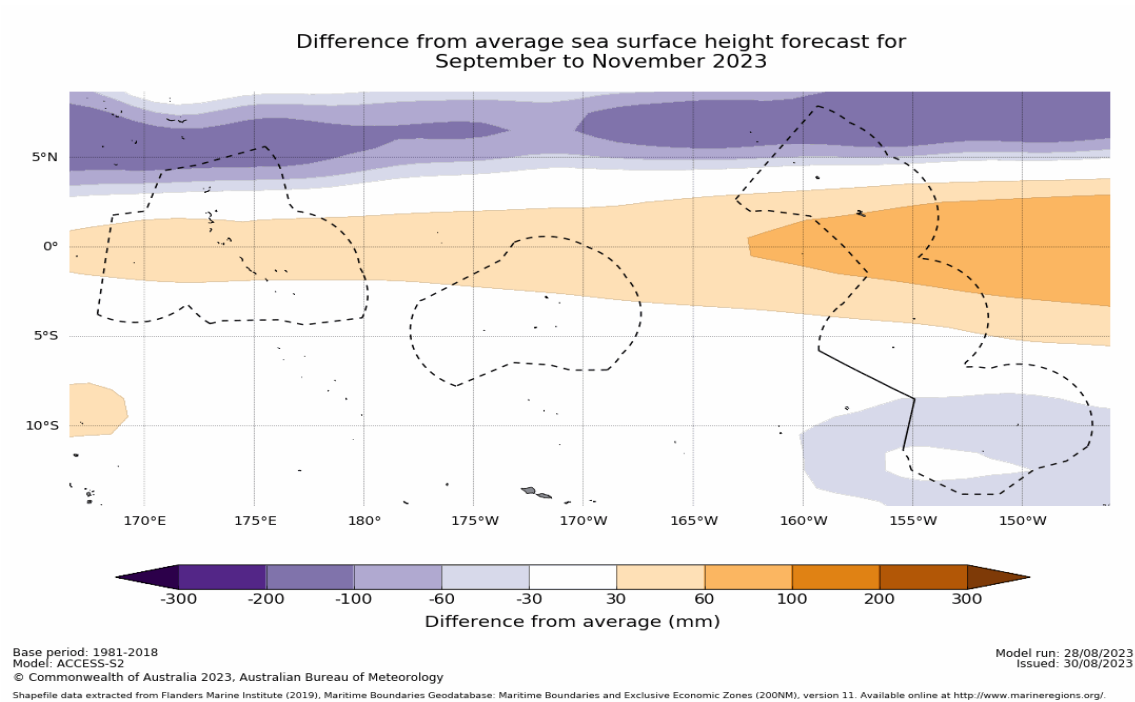
# Coral Bleaching



The coral bleaching outlook maps for the 4 weeks or to 24<sup>th</sup> September 2023, it shows that most of the Gilbert and further north of the Line group are expected to be on Alert level 1. Some of the islands in the Gilbert are on Alert level 2 while the rest of the islands in the Phoenix and Line group are expected to be on Watch level. Thus, the public are encouraged to take precautionary measures to lessen possible impacts especially for scuba divers, snorkelers, fishermen, surfers, and other leisure activities.

**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 seasonal sea level is anticipated to increase by 30 to 60mm (0.03-0.06m) in the Central and Southern most parts of the Gilbert and Kiribati. However, the northernmost parts in the Gilbert and Line groups are likely to decrease in their sea level by 30 to 60mm (0.03 to 0.06m). The rest of the island are expected to be near normal for the month of September to November 2023.

# Extreme Spring Tide Prediction

MONTH	DATE	TIME	HEIGHT(M)	MOON PHASE
September	28 <sup>th</sup>	0332AM	2.84	Full Moon
	<b>29<sup>th</sup></b>	<b>0410AM</b>	<b>2.92</b>	
		1631PM	2.84	
	30 <sup>th</sup>	0445AM	2.90	
		1705PM	2.87	
October	1 <sup>st</sup>	0520AM	2.80	
		1739PM	2.83	
	28 <sup>th</sup>	1605PM	2.86	
	29 <sup>th</sup>	1639PM	2.87	
	30 <sup>th</sup>	1713PM	2.82	

The table above shows extreme spring tides expected for the months of September to October 2023. The next highest spring tide will be on the **29<sup>th</sup> of September 2023 with a height of 2.92m at 04:10am** in the morning.

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 damages and inundation if associated with gusty and strong winds. Thus, those who live along the coastal areas are encouraged to take precautionary measures to minimize possible threats.