

# Review of Ocean Conditions May to October 2021

[Zulfikar Begg (SPC), John Marra (NOAA)  
and Grant Smith (BoM)]

# Eight Pacific Islands Climate Outlook Forum

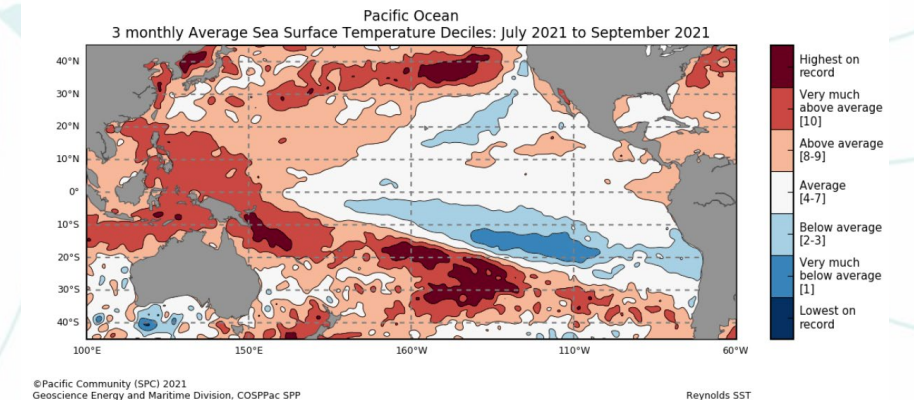
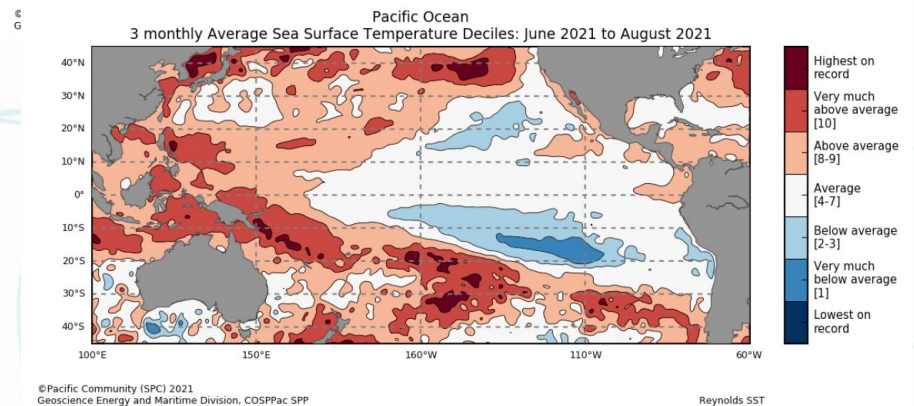
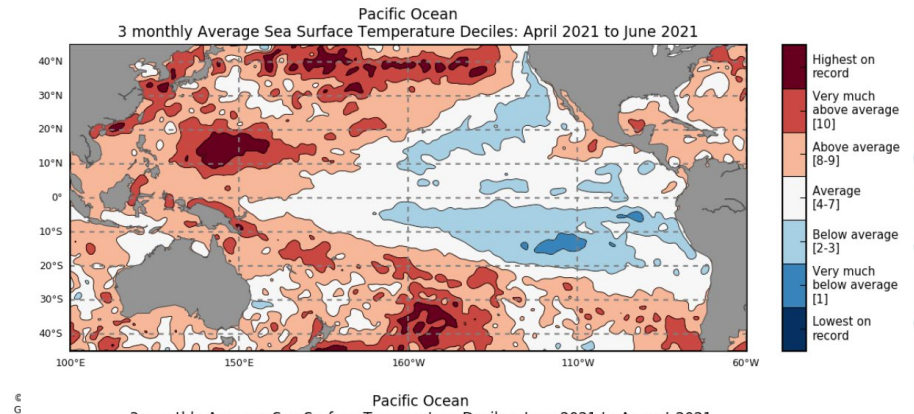
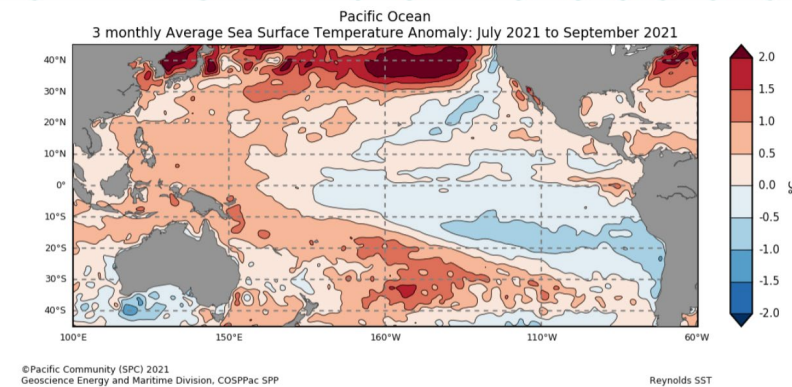
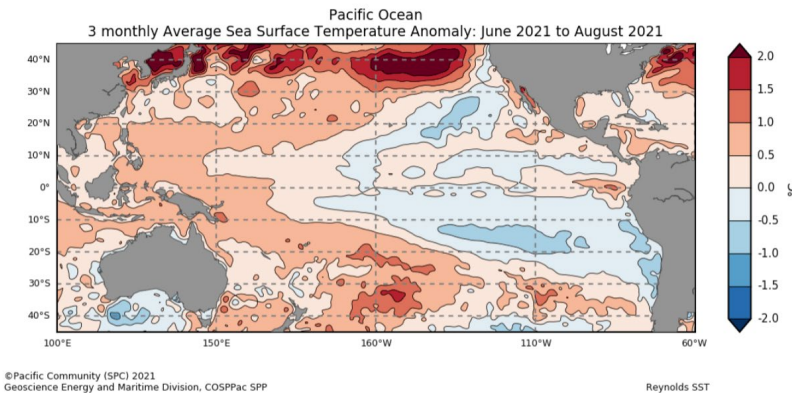
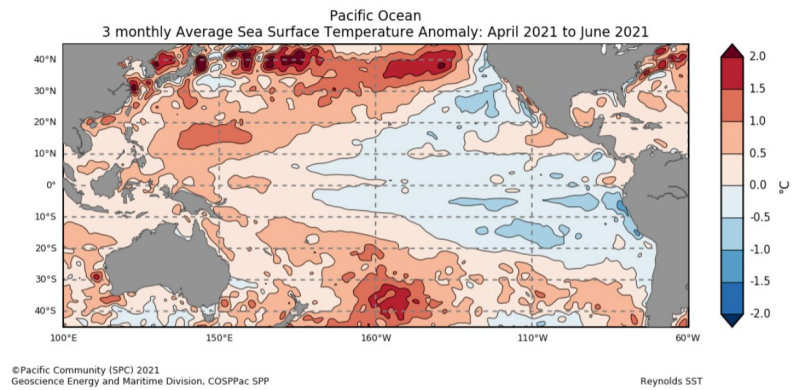
November 2020 to April 2021 summary and May to October 2021 climate and tropical cyclone outlook | Issued: 29 April 2021

## Outlook for May to October 2021

- Climate model outlooks favour the tropical Pacific Ocean being at neutral El Niño-Southern Oscillation (ENSO) levels for most of this period.
- The continuing influence of La Niña is evident in atmospheric and ocean seasonal forecasts especially for May to July.
- Drier than normal conditions are favoured for island groups close to the equator. Existing drought (including in Tarawa, western Kiribati and Penrhyn, northern Cook Islands) is likely to continue for a few more months. Forecast confidence for this region is high. Normal to above normal rainfall is likely for most off-equatorial countries. Forecast confidence is moderate.
- Most countries in the south west Pacific are entering their dry season and this should be taken into account when considering the above rainfall outlooks. In countries where above normal rainfall is favoured, the dry season may be wetter than usual. In countries where below normal rainfall is favoured, water stress may be experienced.
- Ocean surface and air temperatures are favoured to be above normal for many western Pacific Islands, except closer to the equator east of the Dateline where cooler than normal temperatures are expected.
- Coral Bleaching alerts have been issued for the NW Pacific, northern coastline of Papua New Guinea (PNG), Nauru and western Kiribati for May to July.
- Sea level over May to July is favoured to be notably higher than normal (>20cm) in the Solomon Islands with most of remaining countries likely to experience slightly above normal (10cm) to near normal sea level. Communities need to be aware of higher tides especially when combined with large waves or swell, this can lead to flooding of low-lying coastal areas. Some countries will experience their highest tides of the year in the coming months.

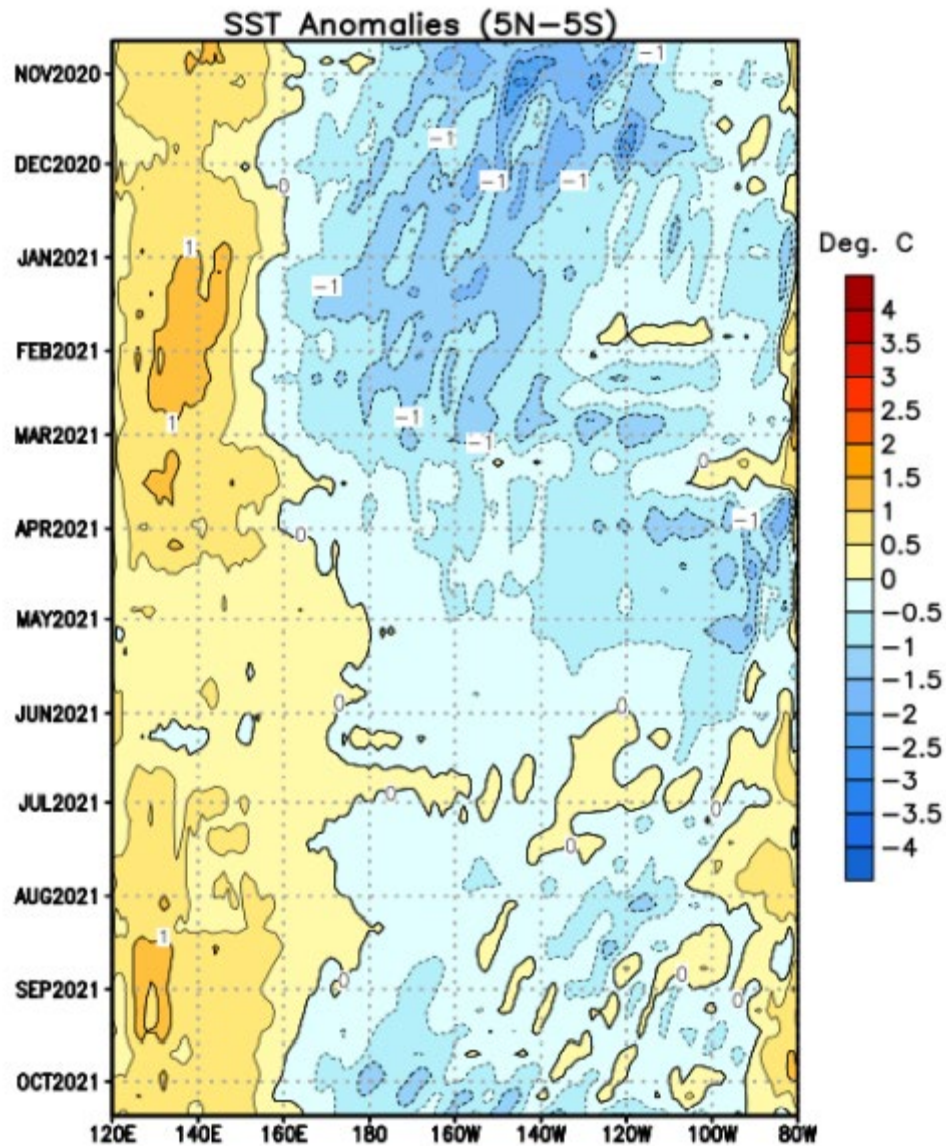


# Sea surface temperature

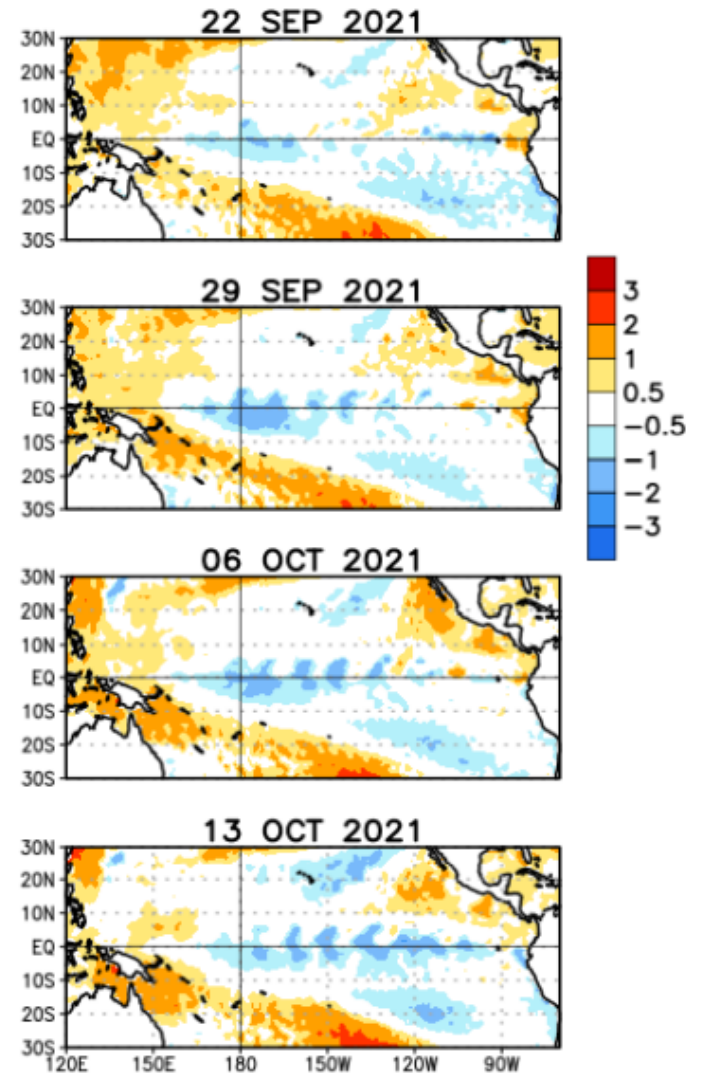




# Sea surface temperature

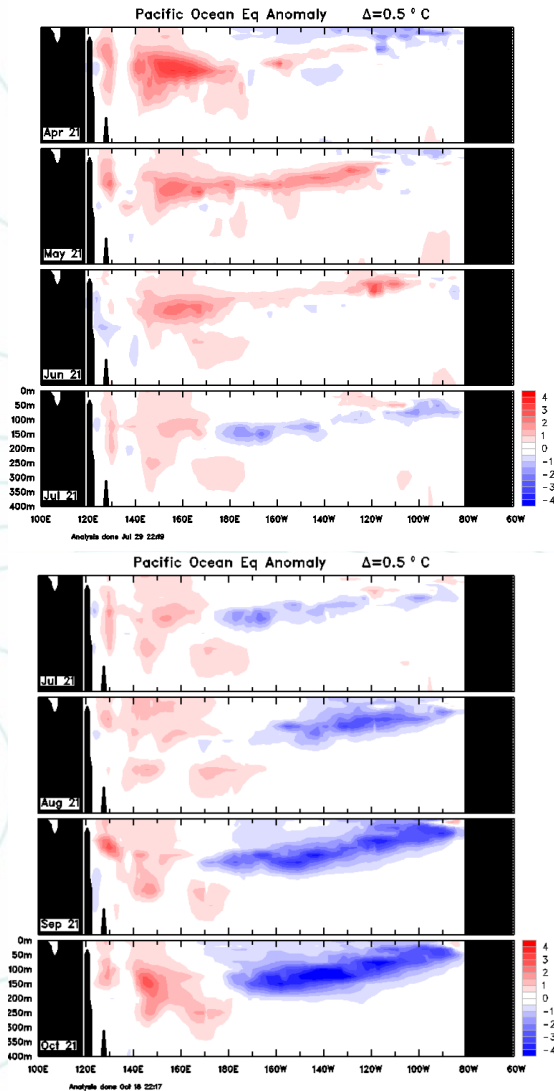


## Weekly SST Anomalies (DEG C)



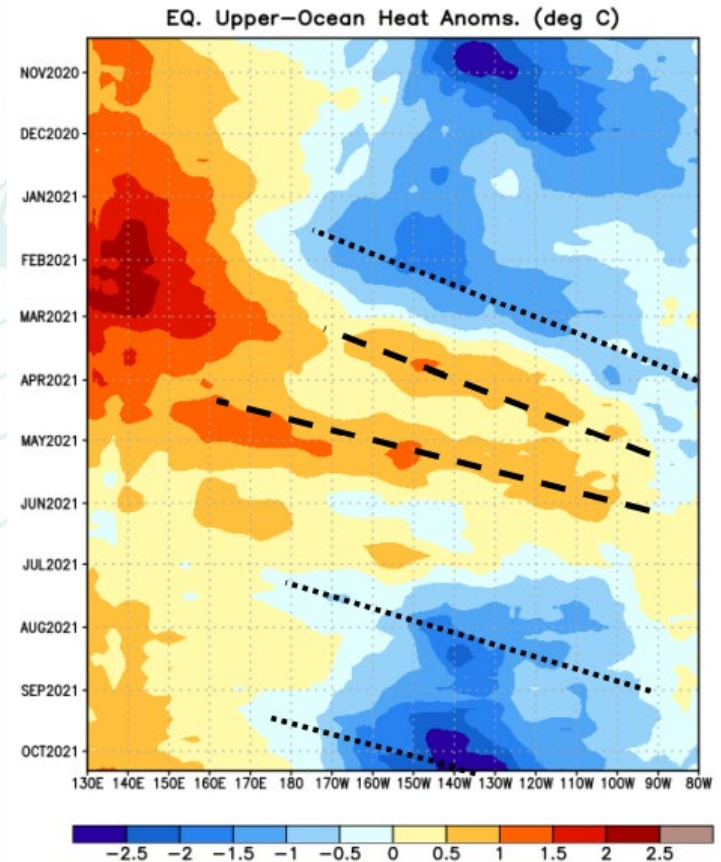
Source:NOAA

# Sub-surface temperature



Source:BoM

- From Nov 2020 to February 2021, negative subsurface temperature anomalies persisted in the eastern half of the Pacific Ocean
- During March through May 2021, positive anomalies shifted eastward in association with two downwelling Kelvin waves
- In July, negative subsurface temperature anomalies emerged. In mid-September, negative anomalies in the east-central Pacific strengthened.

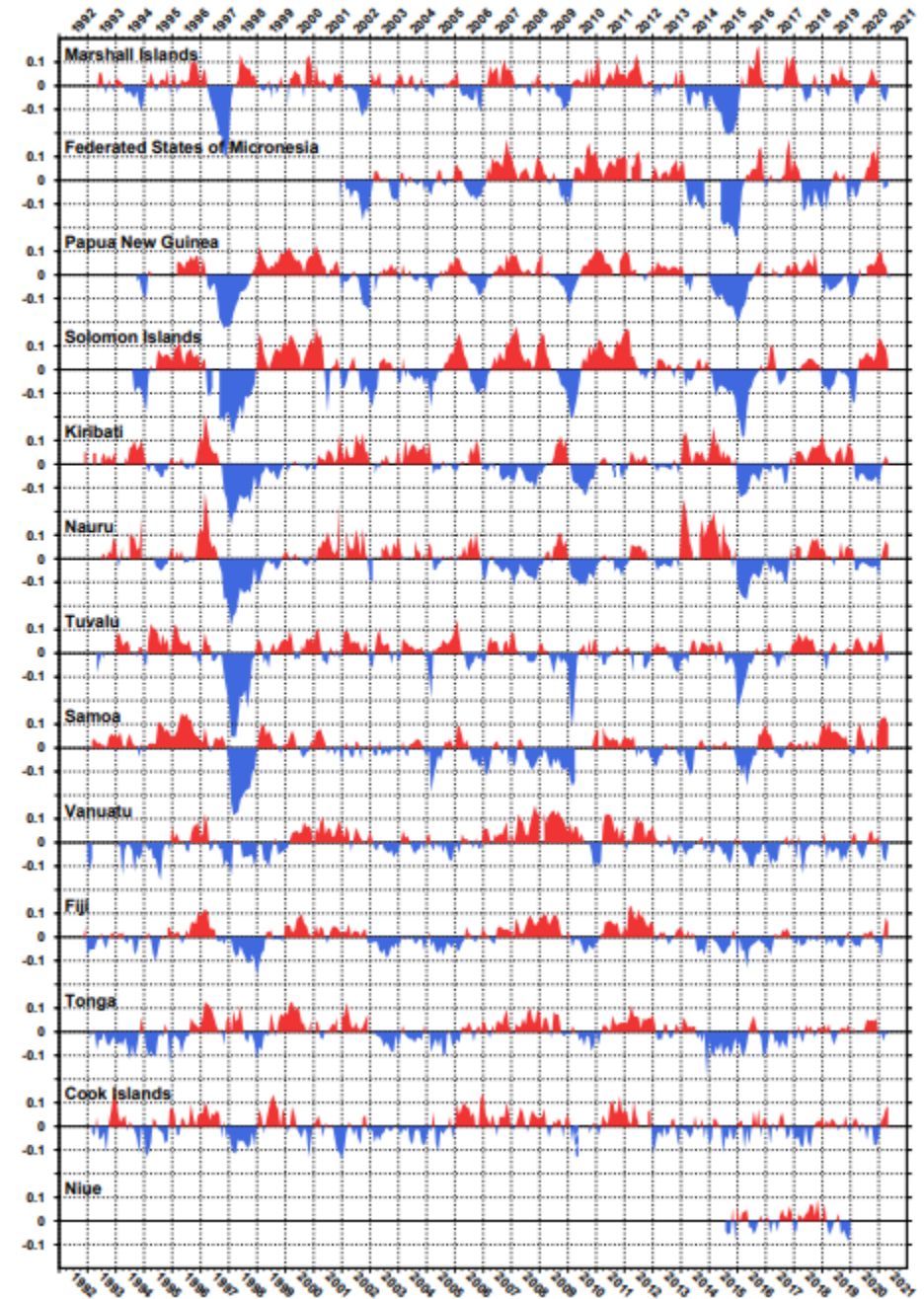
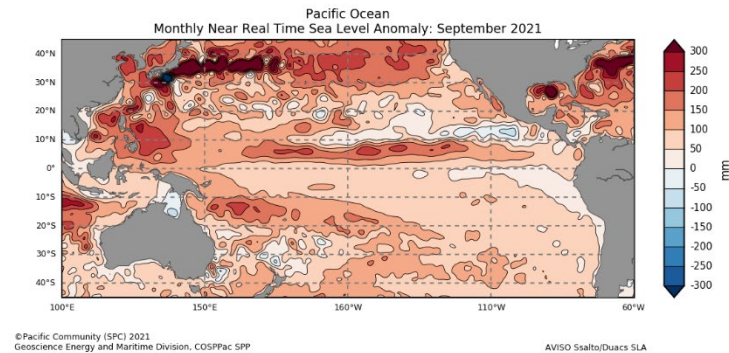
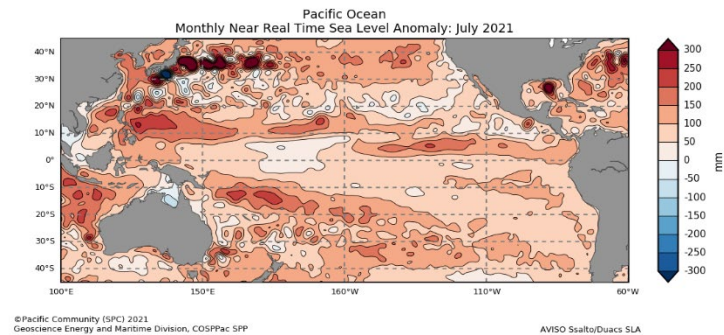
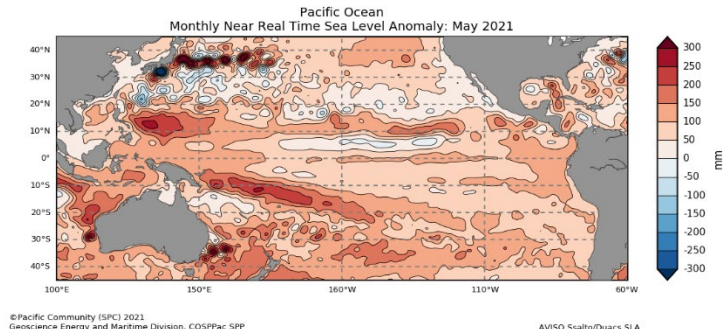


Source:NOAA

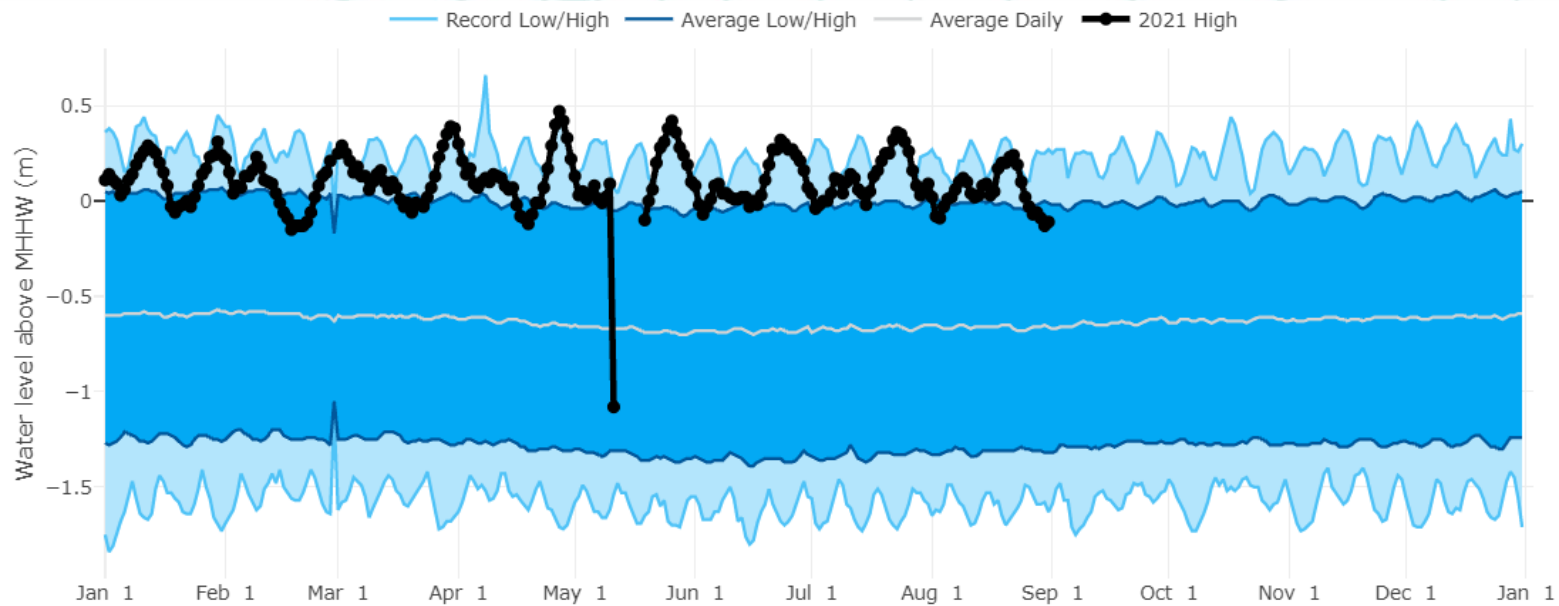
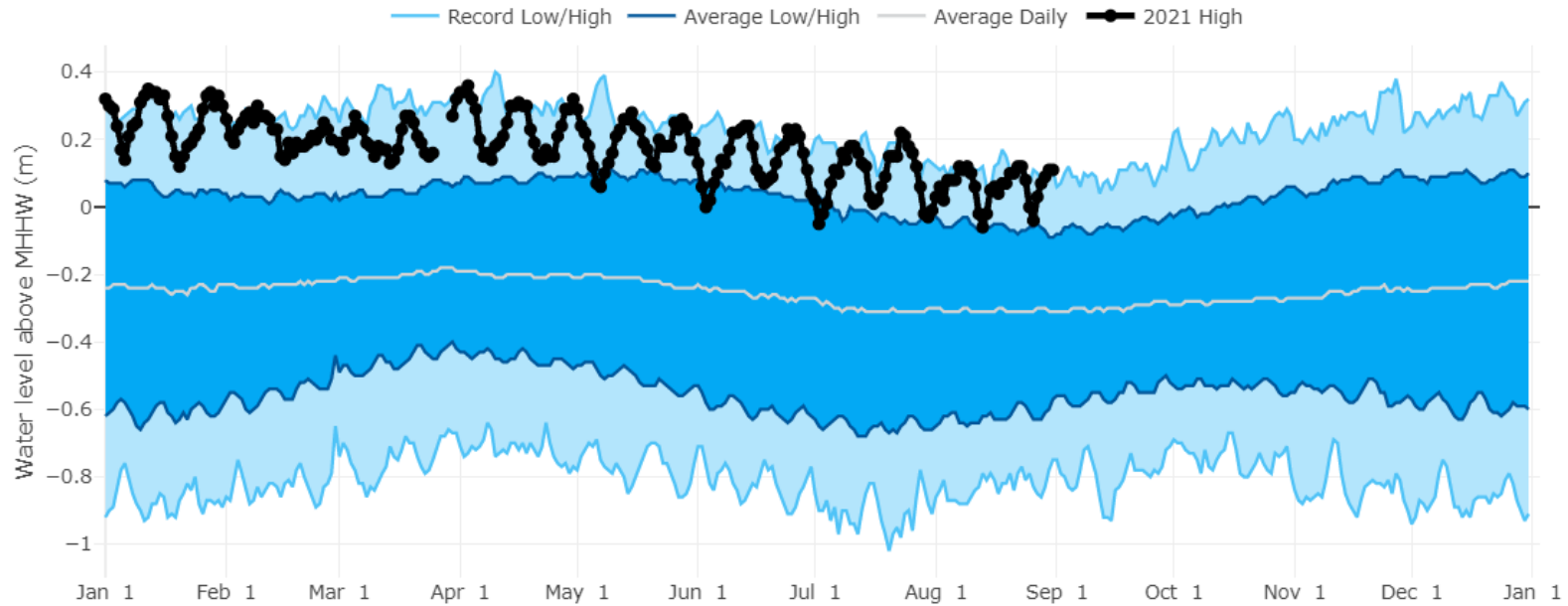


# Sea level

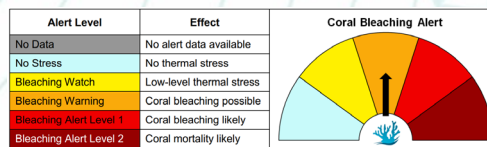
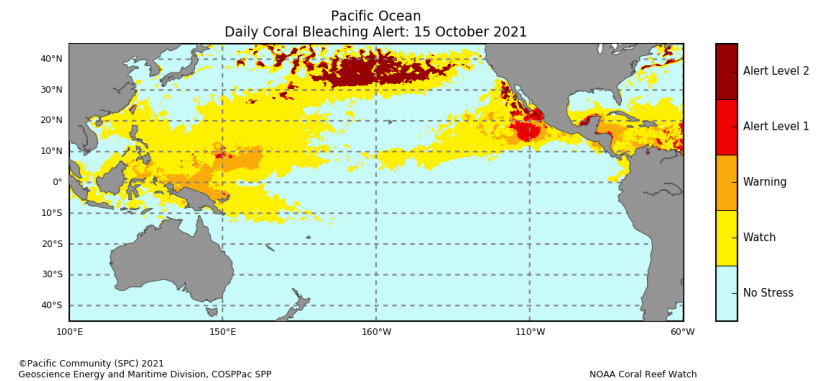
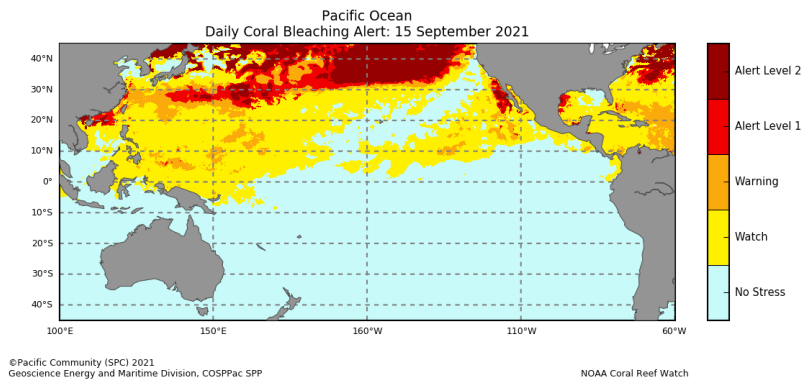
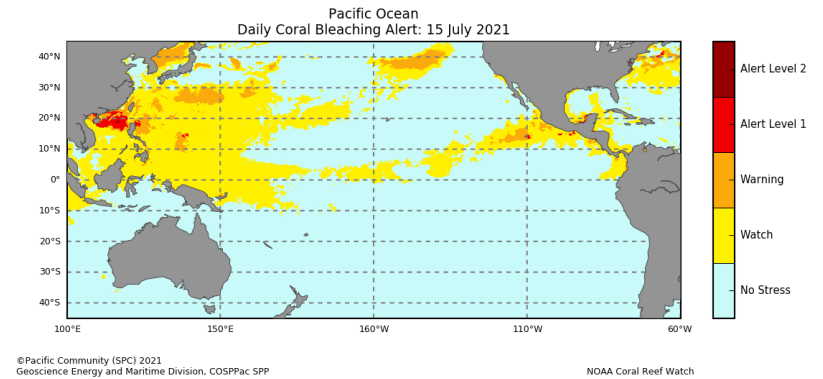
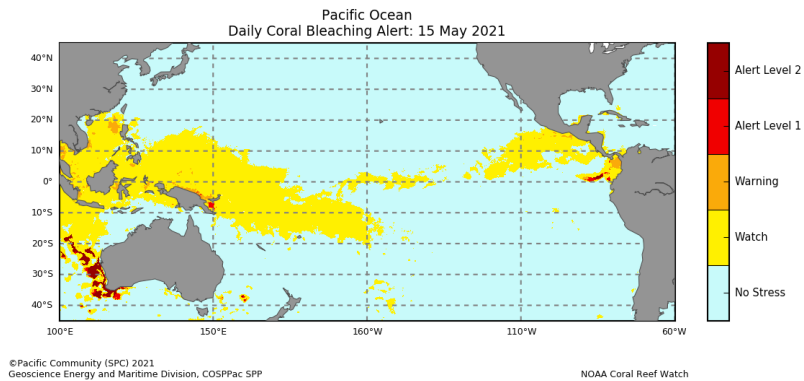
## SEA LEVEL ANOMALIES THROUGH MAY 2021 (m)



# UoH-Sea level



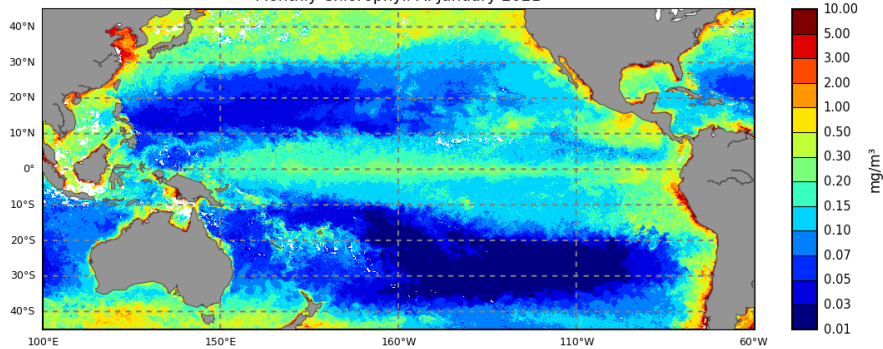
# Coral bleaching





# Chlorophyll

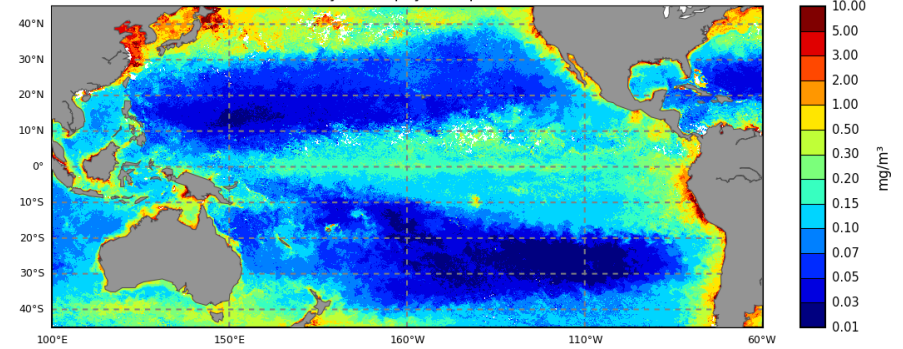
Pacific Ocean  
Monthly Chlorophyll-A: January 2021



©Pacific Community (SPC) 2021  
Geoscience Energy and Maritime Division, COSPPac SPP

Chlorophyll-A

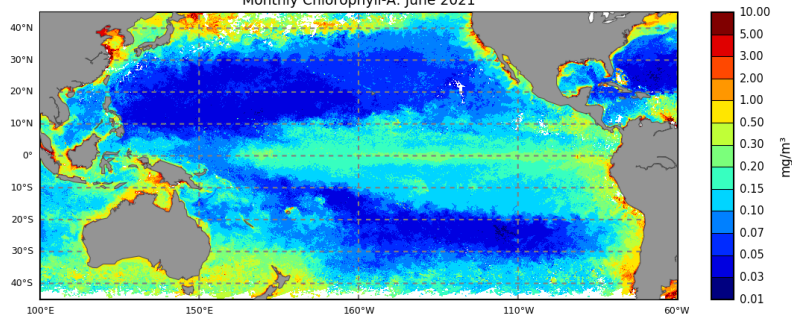
Pacific Ocean  
Monthly Chlorophyll-A: April 2021



©Pacific Community (SPC) 2021  
Geoscience Energy and Maritime Division, COSPPac SPP

Chlorophyll-A

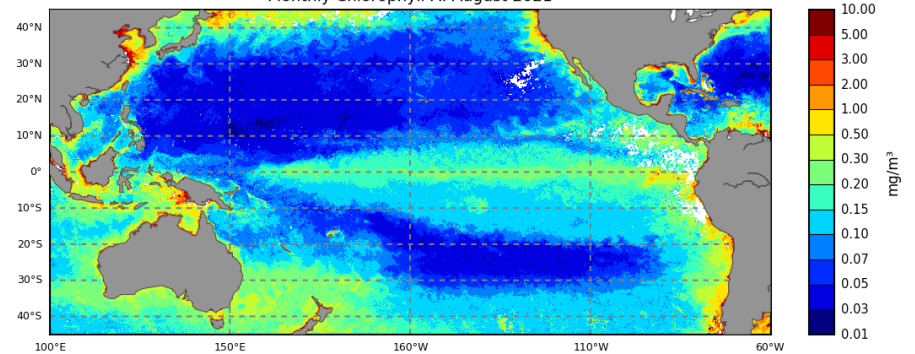
Pacific Ocean  
Monthly Chlorophyll-A: June 2021



©Pacific Community (SPC) 2021  
Geoscience Energy and Maritime Division, COSPPac SPP

Chlorophyll-A

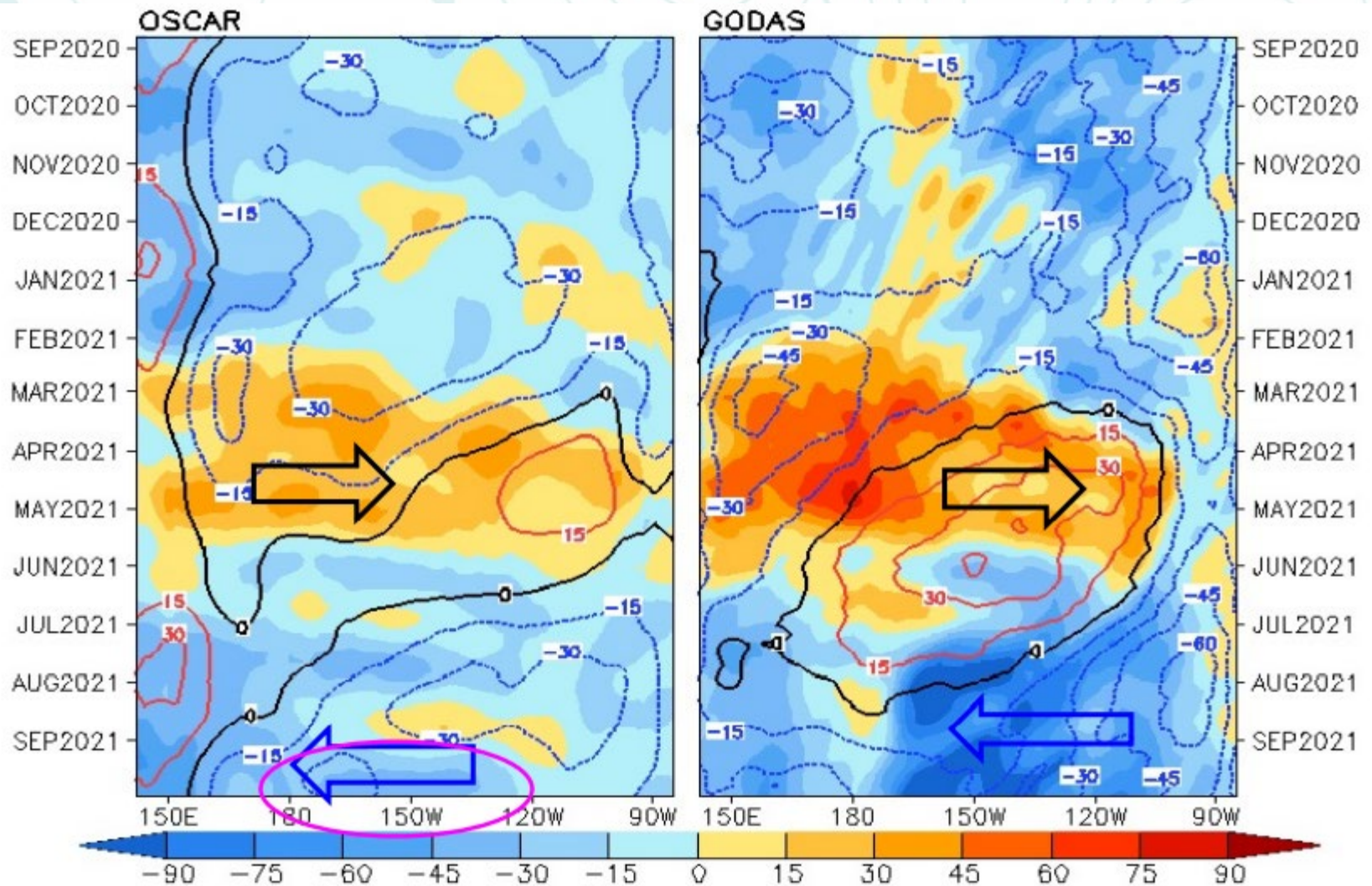
Pacific Ocean  
Monthly Chlorophyll-A: August 2021



©Pacific Community (SPC) 2021  
Geoscience Energy and Maritime Division, COSPPac SPP

Chlorophyll-A

# Current Anomaly (cm/s)



Source:NOAA



# Case Study-KI

[Top Stories](#)[Latest](#)[New Zealand](#)[World](#)[Sport ▼](#)[Entertainment](#)

[Pacific update: King tide flooding in Kiribati, sacrifice of Pacific soldiers remembered \(1news.co.nz\)](https://1news.co.nz)



NOW PLAYING

Pacific Update: King tides flood villages in Kiribati

Dame Cindy Kiro meets the Queen via video link

Hundreds strip naked by Dead Sea to draw attention to shoreline issues

1 NEWS' Barbara Dreaver has the latest news from around the Pacific region. (Source: 1 NEWS)

In this week's bulletin, Barbara Dreaver looks at king tide flooding in Kiribati and the sacrifice of Pasifika soldiers in the world wars.

# Case Study-KI



**Humans of Kiribati**  
March 28 · 🌐

## Help

"Help"

March 28 2021

Once again the king tide has risen into another village, and people are calling out for help. Here we take a tour of Buota village. A new house in the process of being built, a roadway submerged, a pig with its head just above water, all of these scenes are the new normal when king tides arrive. They wash away vegetation, the coconut trees fall, their roots holding the land together are torn and erosion speeds up. Water even comes out of the ground.

Video Credit: Temereke Rawekai

[See Less](#)

👍👎👏 269

29 Comments 12K Views

👍 Like

💬 Comment

➦ Share

[Comments](#)

[Hide](#)



**Charlotte Jones** @charlotte\_tas · 29 Apr

Replying to @charlotte\_tas

Some footage from [#HumansOfKiribati](#) Facebook page from the 28th of March king tide. One month later and the water is still high.



0:43 48 views

💬 1

🔄

❤️ 1

⬆️



**Kiribati Meteorological Service**

March 26 · 🌐

## Spring tide Advisory #2:

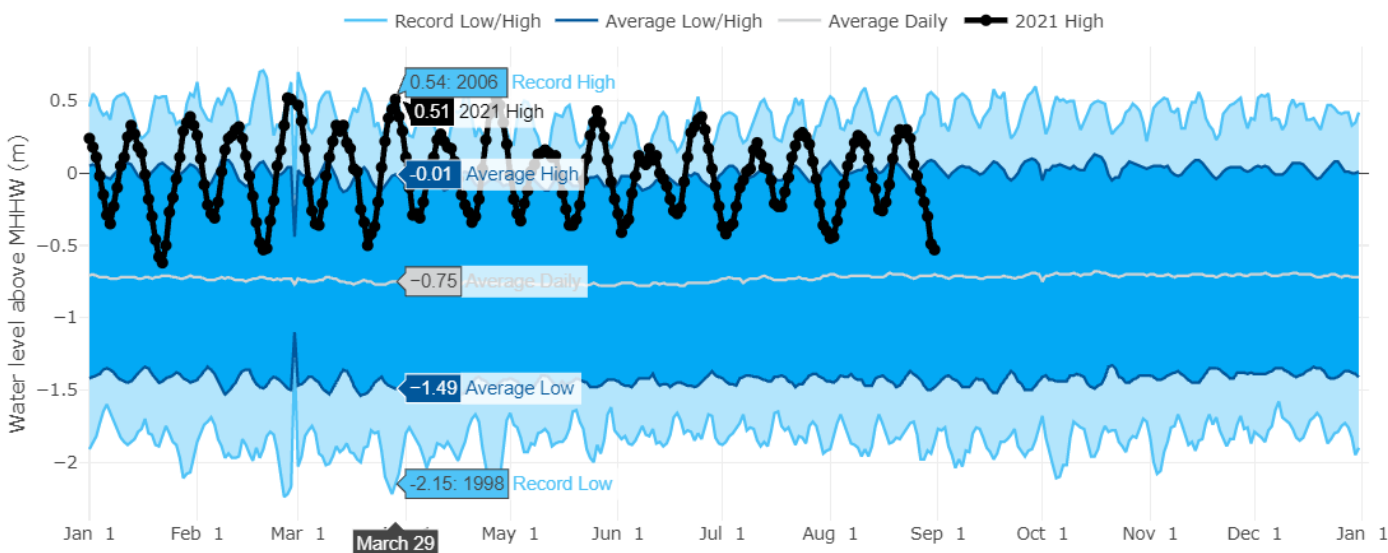
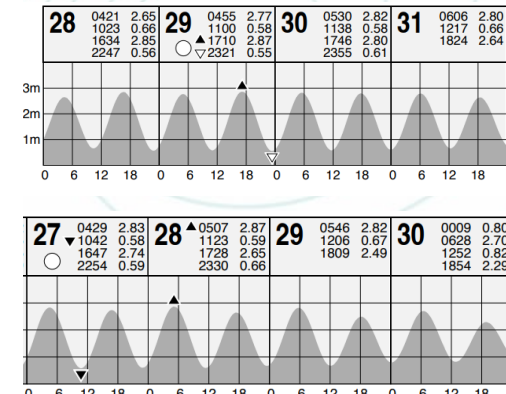
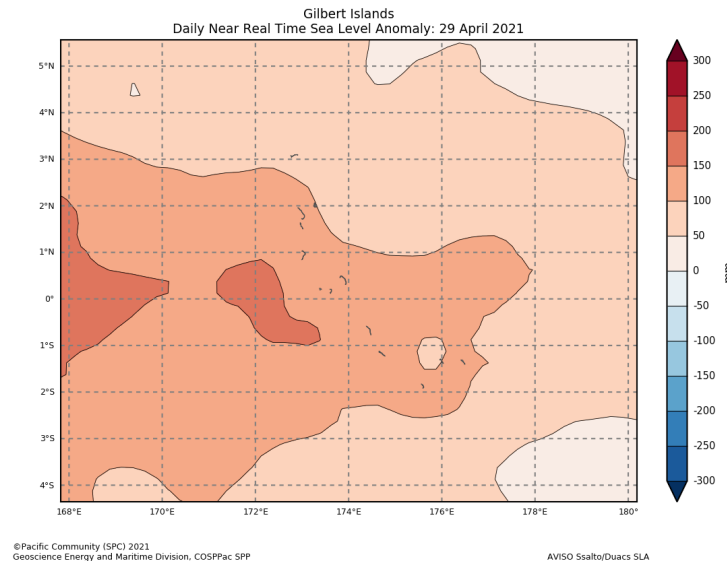
Tide predictions predict tide level of 2.8m and above on the 28th, 29th, 30th and 31st of March. This height could cause inundation to coastal areas. The public is advised to take preparatory measures to minimize impacts.



## 10 highest tides for 2021

Date	Time	Height (m)
5-Nov	16:39	2.93
6-Nov	17:17	2.91
4-Dec	16:24	2.91
5-Dec	17:08	2.89
28-Feb	17:32	2.88
4-Nov	16:02	2.88
28-Apr	5:07	2.87
29-Mar	17:10	2.87
7-Oct	17:02	2.86
8-Oct	17:37	2.86

# Case Study-KI



The background features a complex pattern of thin, teal-colored wavy lines that resemble topographical contour lines or fluid flow paths. These lines are interspersed with small, solid teal circles and triangles, some of which are positioned along the lines, suggesting a vector field or a series of data points. The overall aesthetic is clean and modern, with a light teal color palette.

Thank you/vinaka