PACIFIC METEOROLOGICAL COUNCIL

Review of Ocean Conditions May to October 2020

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Australian Government
Department of Foreign Affairs and Trade
Bureau of Meteorology



csirc





Sixth Pacific Islands Climate Outlook Forum

Summary Statement on the State of Climate from November 2019 to April 2020 and Climate Outlook for May to October 2020 for the Pacific Islands

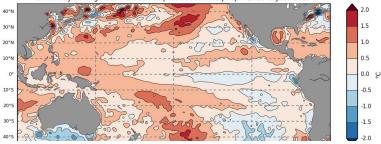
Key Messages:

Outlooks for May to October 2020

- Neutral El Niño-Southern Oscillation state predicted to continue through mid-2020.
- Average to above average tropical cyclone activity favoured in the western north Pacific over 2020.
- Below average rainfall favoured for Nauru, below average to average rainfall for the Northern Mariana Islands, Niue and Pitcairn and average rainfall for American Samoa for May to July. There is little model agreement elsewhere for the next three to six months.
- Above average air temperatures favoured for most of the western Pacific Islands over the coming three months.
- Elevated ocean heat stress favoured over the next four months across a large portion of the western and central South Pacific. Noteworthy is projected heating north of Papua New Guinea (PNG) and the western Solomon Islands.
- Along the equator, sea levels are favoured to be above average in the west and below average in the east over the next six months. Higher than average sea levels are favoured for many islands in the tropical western Pacific.

Sea surface temperature

Pacific Ocean 3 monthly Average Sea Surface Temperature Anomaly: April 2020 to June 2020



Pacific Ocean

3 monthly Average Sea Surface Temperature Anomaly: June 2020 to August 2020

Pacific Ocean

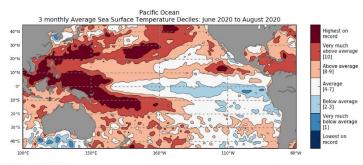
3 monthly Average Sea Surface Temperature Anomaly: July 2020 to September 2020

160°W

Pacific Ocean 3 monthly Average Sea Surface Temperature Deciles: April 2020 to June 2020 Highest on record 40°0 Very much above average [10] 20% Above average [8-9] Average [4-7] Below average [2-3] 201 Very much below average [1] Lowest on record

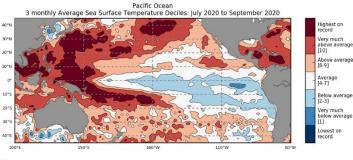
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Reynolds SST

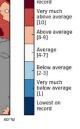


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Reynolds SST



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Reynolds SST

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150°E

40°N

30°N

20°N

10°N

10°

20°5

30°

40%

40°N

30°N

20°N

10°N

10°5

20°5

30°9

40 9

100°E

0

Reynolds SST

60°W

110°W

2.0

1.5

1.0

0.5

0.0 U

-0.5

-1.0

-1.5

-2.0

2.0

1.5

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-0.5

-1.0

-1.5

2.0

Sea surface temperature

3

2

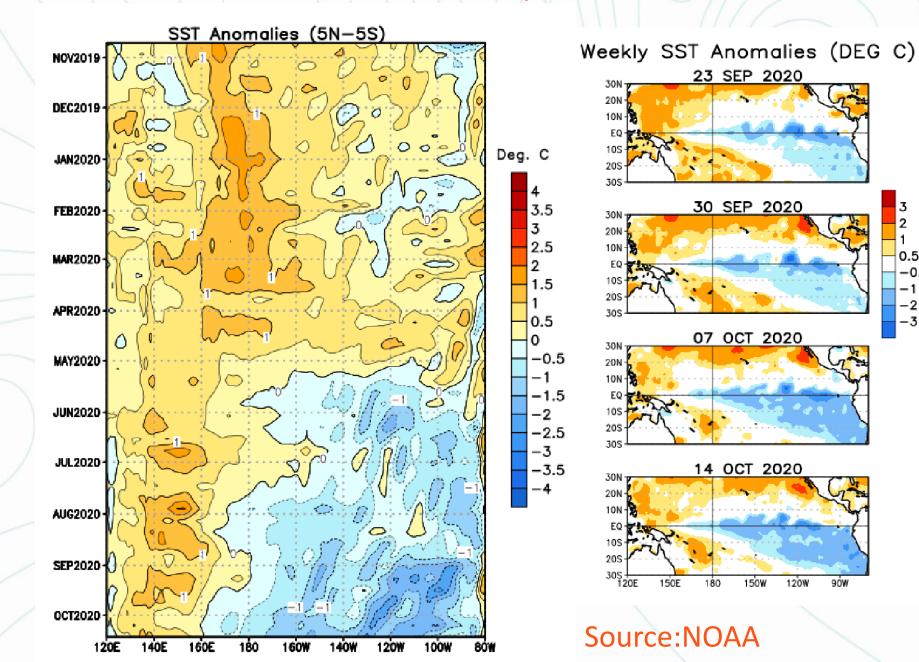
0.5

-1

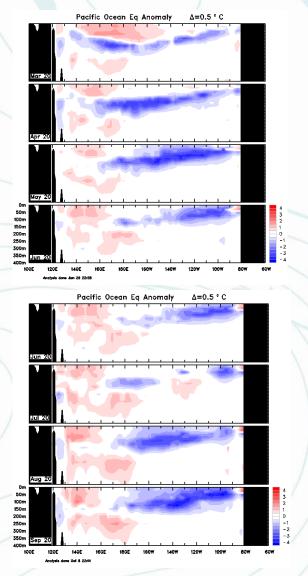
-2

-3

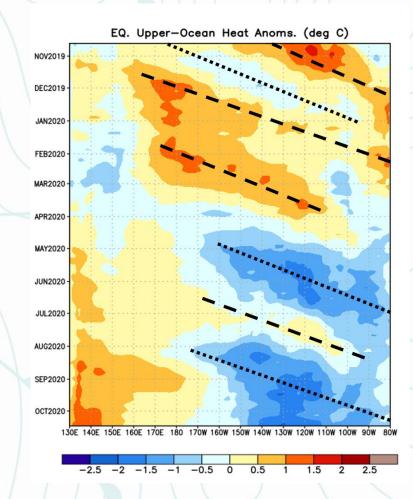
-0.5



Sub-surface temperature



Source:BoM

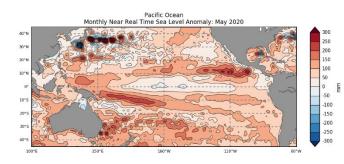


Source:NOAA

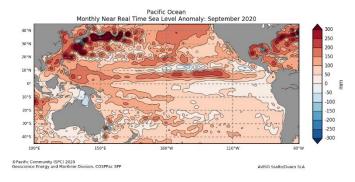
SEA LEVEL ANOMALIES THROUGH AUGUST 2020 (m)

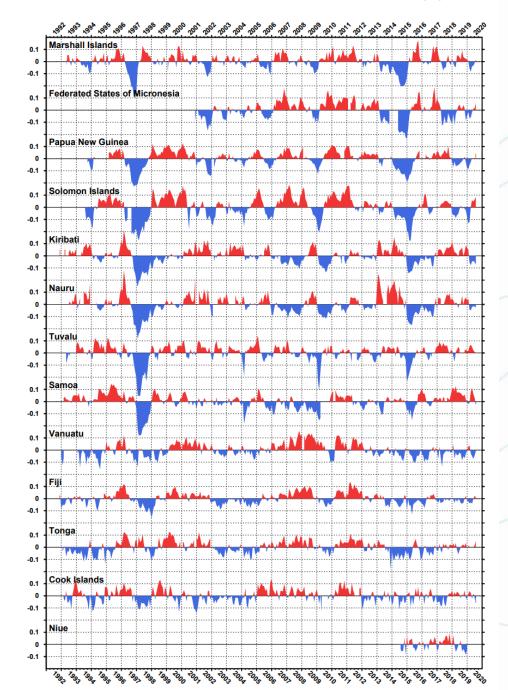
Sea level

- mu

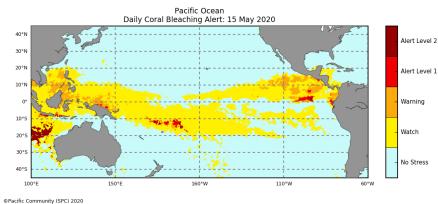


Pacific Ocean Monthly Near Real Time Sea Level Anomaly: July 2020 40.0 250 200 150 100 50 0 -50 10 -100 -150 -200 -250 300 100°E 150°F 110°V 60°W



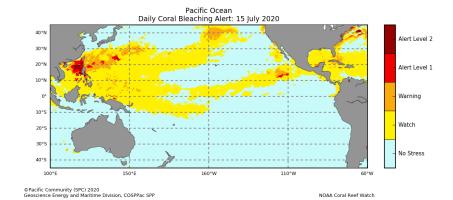


Coral bleaching



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NOAA Coral Reef Watch

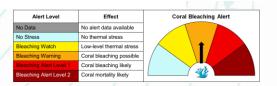


Pacific Ocean Daily Coral Bleaching Alert: 15 September 2020 40°N Alert Level 2 30°N 20°N Alert Level 1 10°N 0° Warning 10°S Watch 20°S 30°5 No Stress 40°5 110°W 100°E 150°E 160°W 60°W

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NOAA Coral Reef Watch

Pacific Ocean Daily Coral Bleaching Alert: 18 October 2020 40°N Alert Level 2 30°N 20°N Alert Level 1 10° 0 Warning 10°S Watch 20°S 30°5 No Stress 40°5 110°W 100°E 150°E 160°W 60°W ©Pacific Community (SPC) 2020 Geoscience Energy and Maritime Division, COSPPac SPP NOAA Coral Reef Watch



Case Study-Palau



Eveline van der Steeg @EvelinevdSteeg

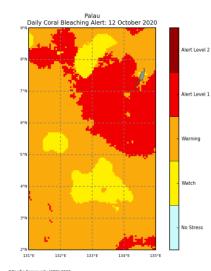
Coral reefs in Palau are starting to bleach as we reach 5 DHW. Fingers crossed it will cool down over the next weeks! #CoralBleaching @Coralassist_Lab @ecology_ncl pic.twitter.com/vo3SRg7Wcx

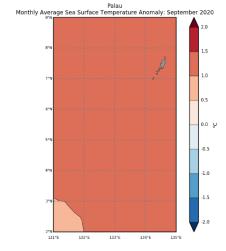
6:55 PM - 25 Sep 2020 from Palau



Twitter

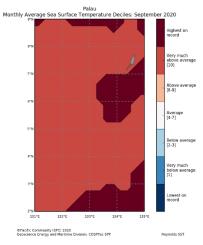
By: Eveline van der Steeg @EvelinevdSteeg



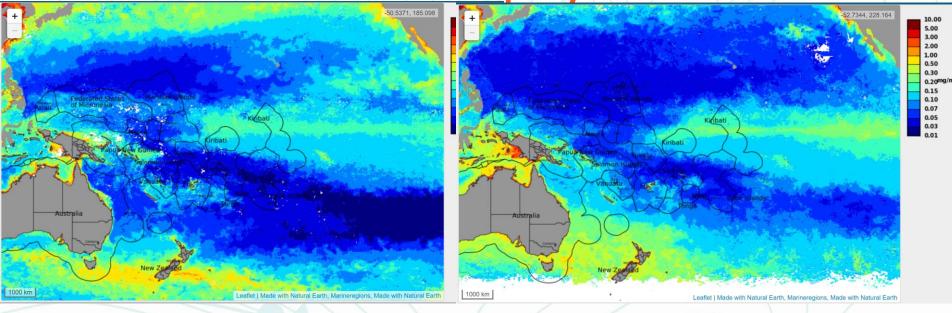


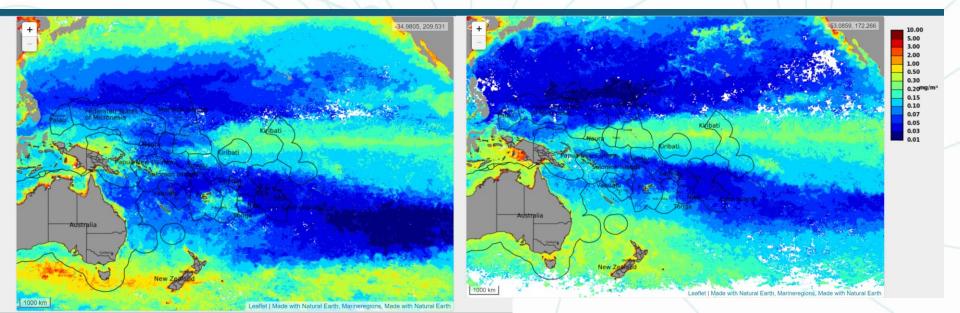
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Reynolds SS

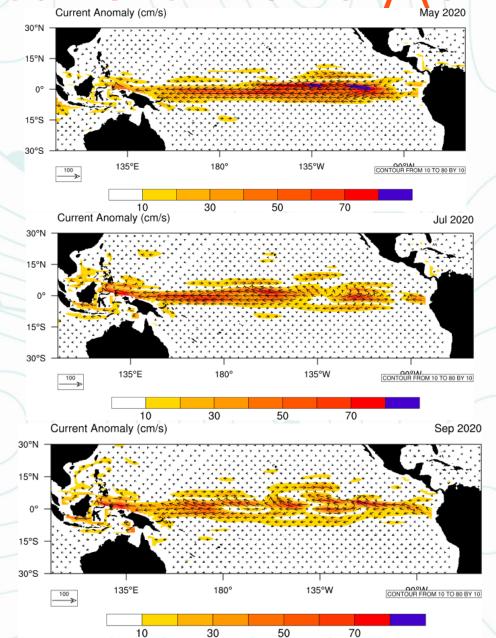


Chlorophyll





Current Anomaly (cm/s)



Thank you/vinaka