ENSO update - OCOF 150

18 March 2020

ENSO Wrap-up

ENSO Wrap-Up

Current state of the Pacific and Indian oceans

Issued **17 March 2020** Next issue **31 March 2020**

Overview | Sea surface | Sea sub–surface | SOI | Trade winds | Cloudiness | Outlooks | Indian Ocean

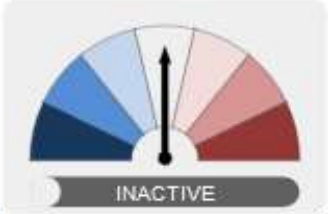
ENSO and IOD likely to remain neutral through southern winter

Australia's major climate drivers—the El Niño–Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD)—are likely to remain neutral through the southern winter.

Indicators of ENSO including the Southern Oscillation Index (SOI), trade winds, cloudiness near the Date Line, and sea surface and sub-surface temperatures in the tropical Pacific Ocean are all at neutral levels.

Warmer than average ocean temperatures in the Pacific, near to and west of the Date Line, have enhanced cloudiness in the region. This pattern would typically reduce rainfall over northeast Australia. However, waters are also warmer than average around northern Australia and in the eastern Indian Ocean, which would typically increase rainfall over large parts of Australia.

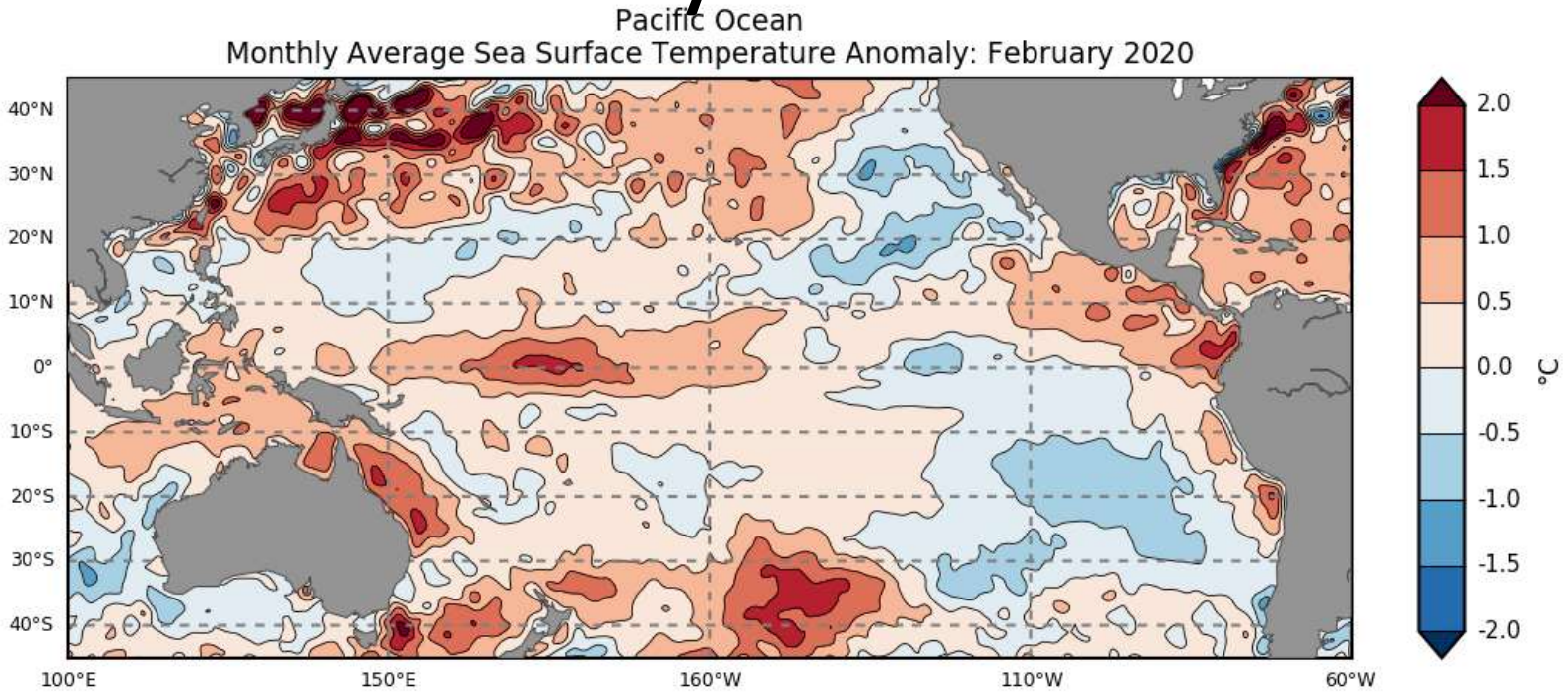
Six of the eight climate models surveyed by the Bureau indicate that ENSO is likely to stay neutral through the southern hemisphere winter, meaning it will have limited influence on Australian and global climate in the coming months. The remaining two models suggest La Niña conditions may develop during winter. ENSO predictions made during autumn tend to have lower accuracy than predictions made at other times of the year. This means that current ENSO forecasts beyond May should be used with some caution.

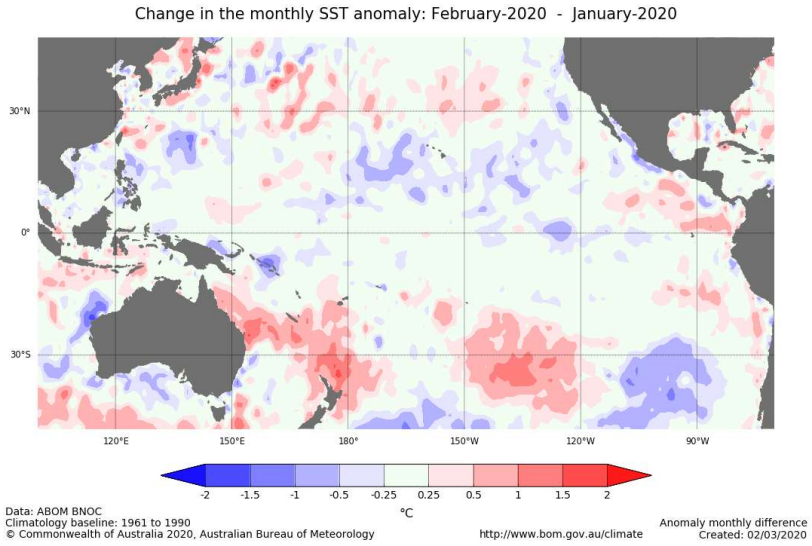


ENSO Outlook

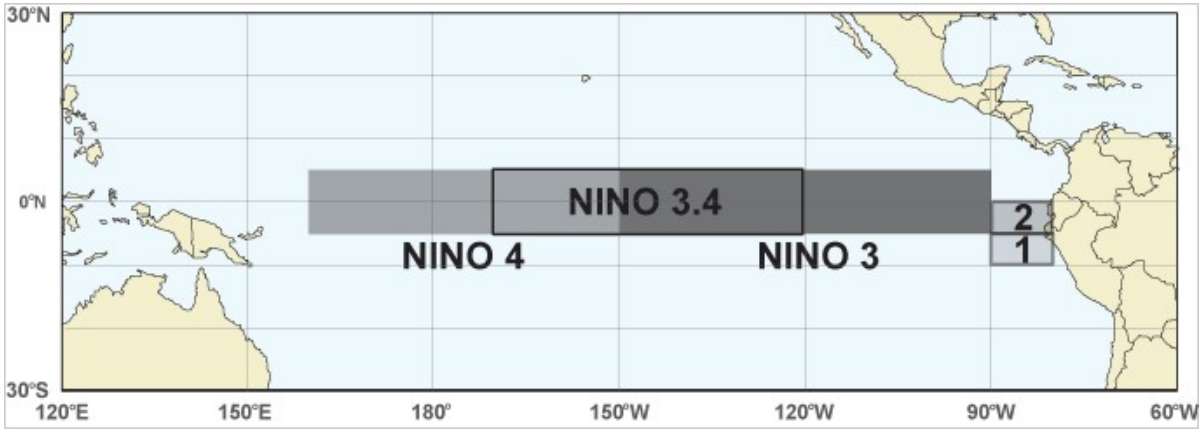
Information and video about Indian Ocean Dipole

February 2020 SSTs





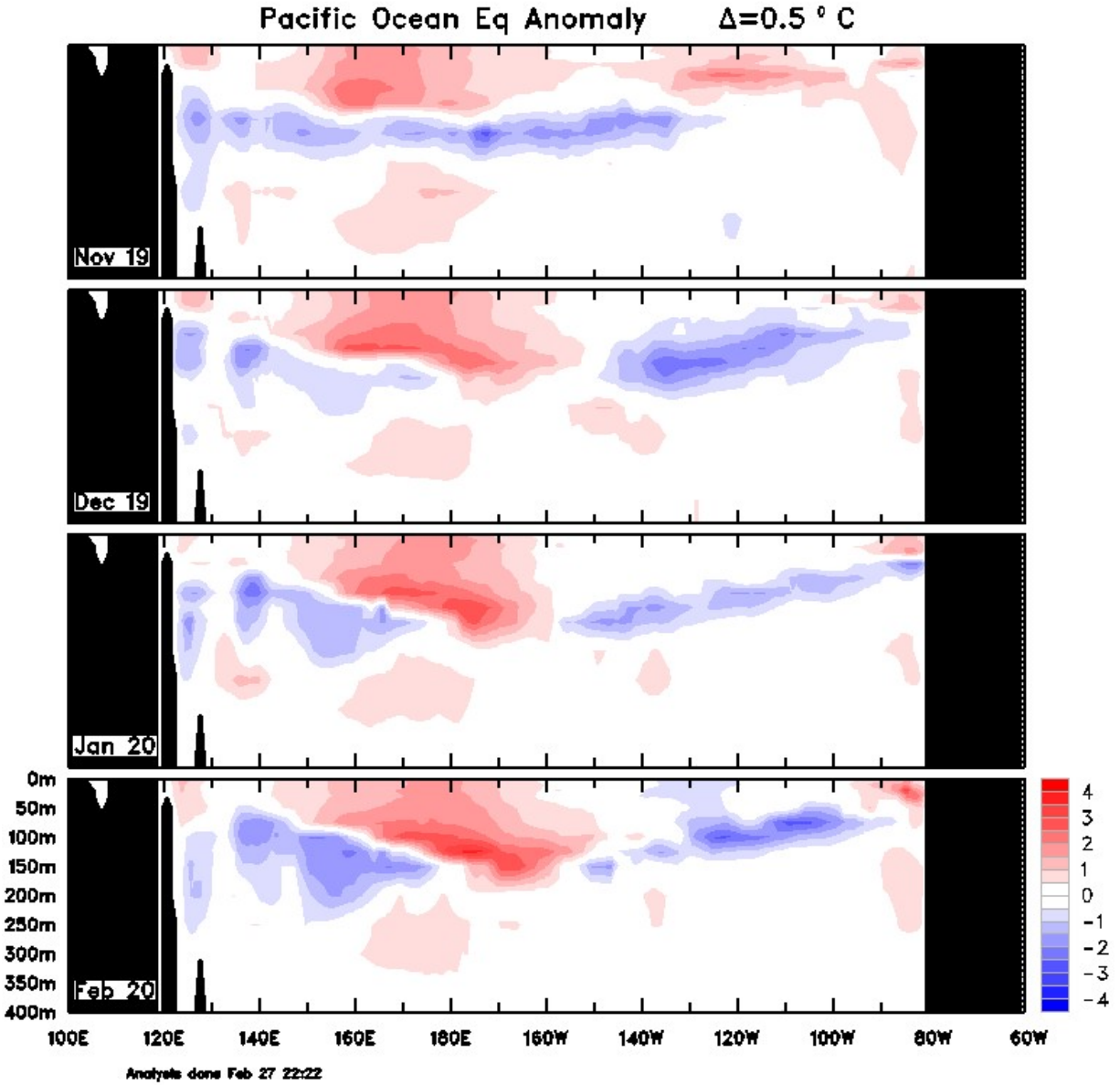
NINO SST anomalies (°C)



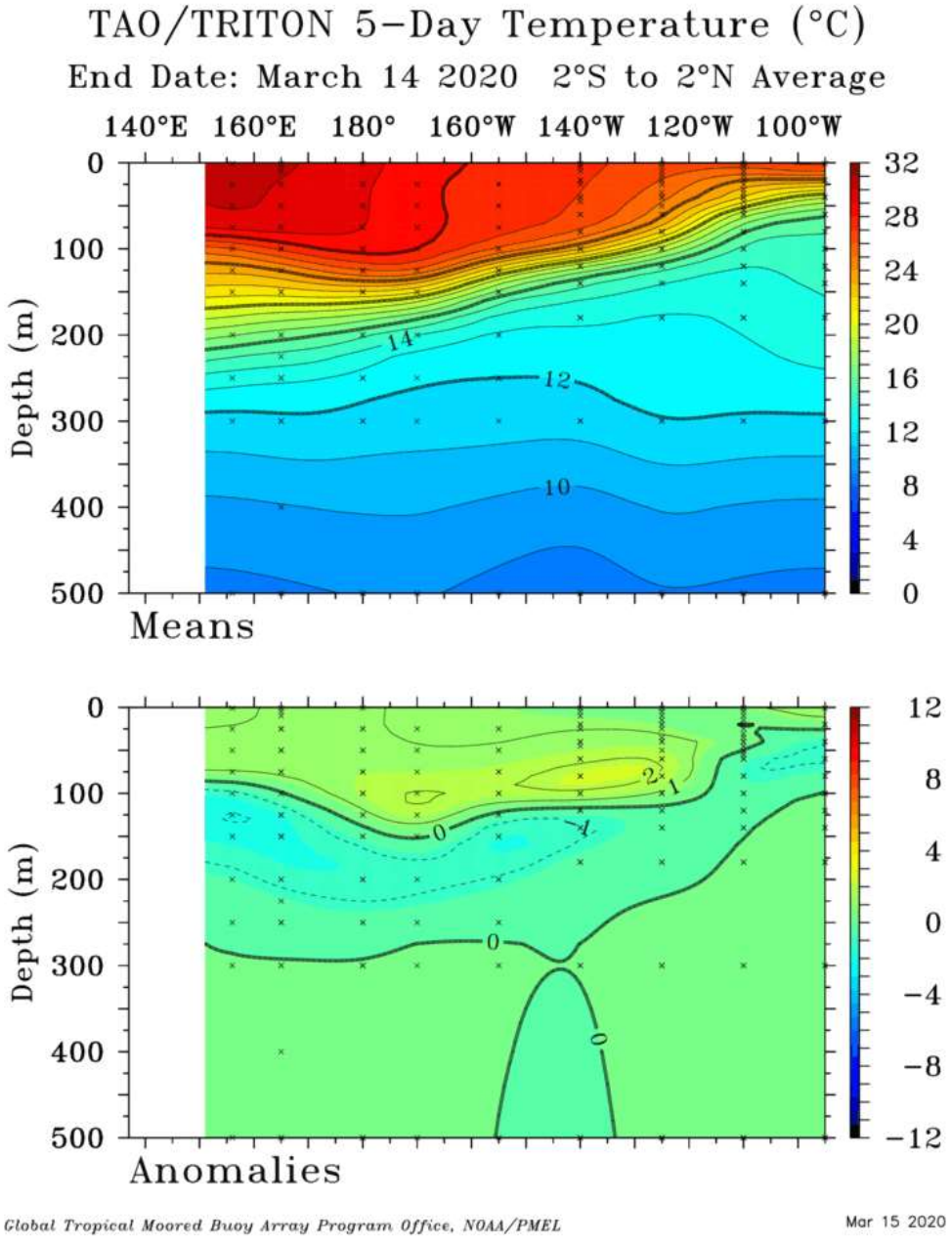
Index	Jan 2020	Feb 2020	Latest weekly
NINO3	+0.3	+0.1	+0.4
NINO3.4	+0.5	+0.3	+0.4
NINO4	+0.8	+0.8	+0.8

Weekly data for the week ending 15/03/2020

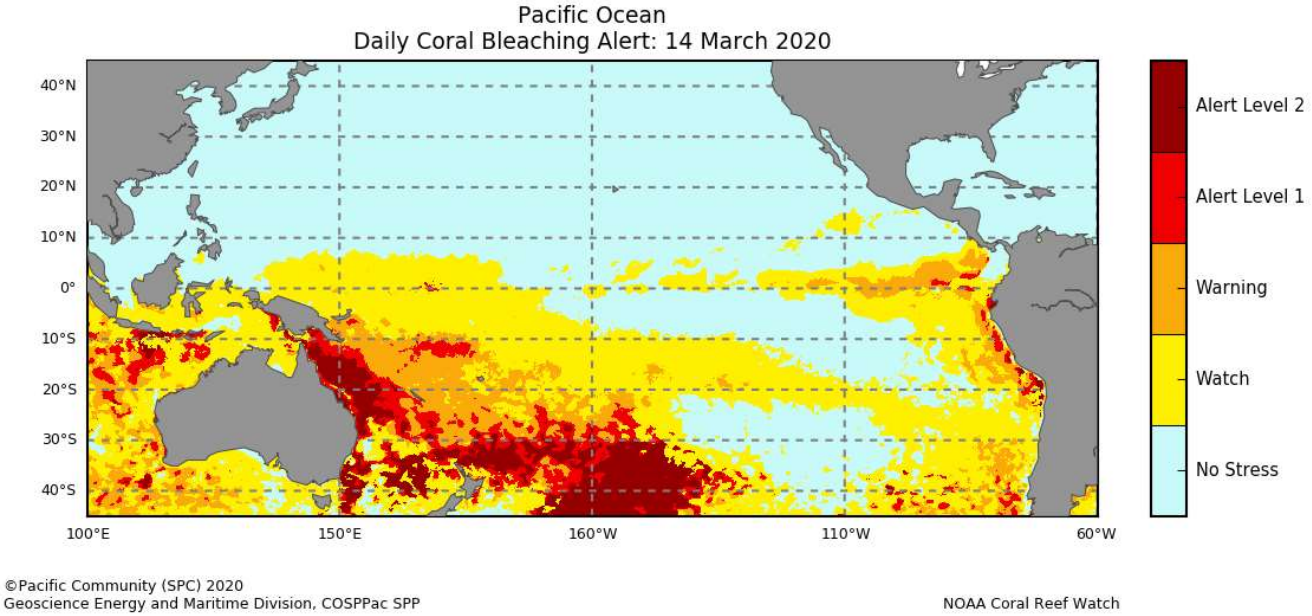
Equatorial Pacific sub-surface profile
Bureau of Meteorology

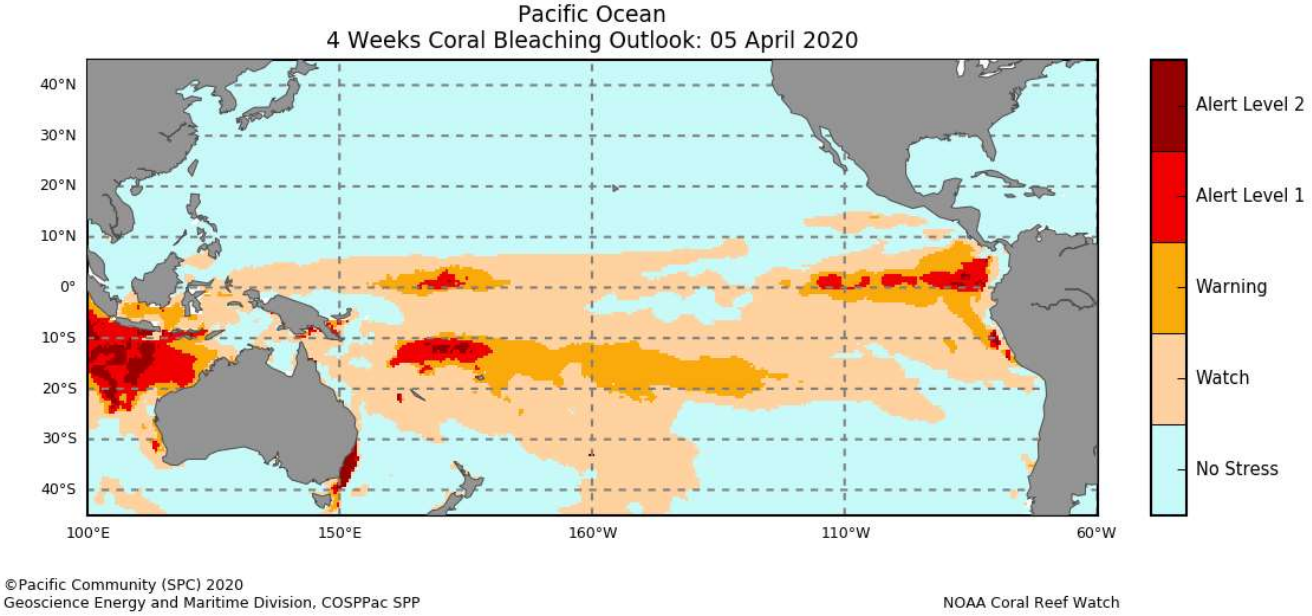


Equatorial Pacific sub-surface profile

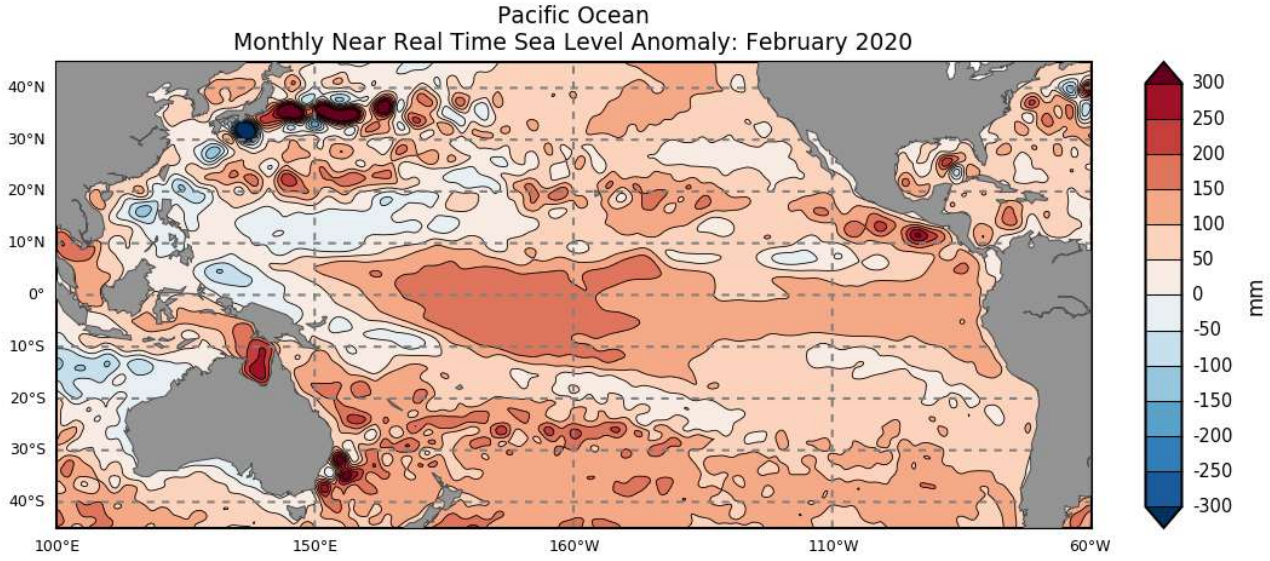


Coral Bleaching Status

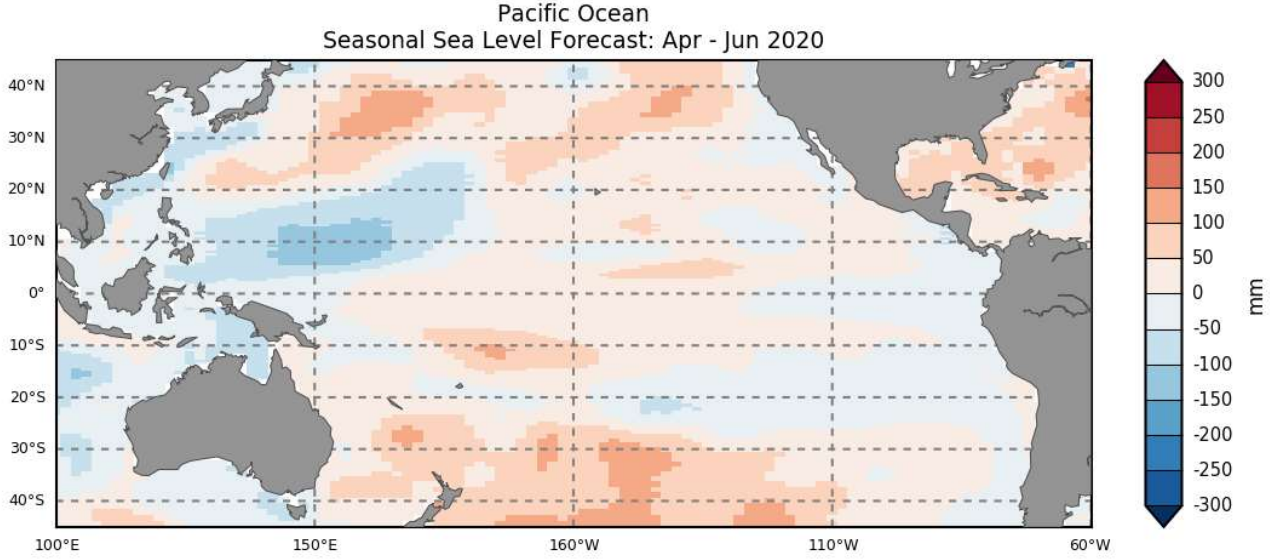




February 2020 Sea Level Anomaly

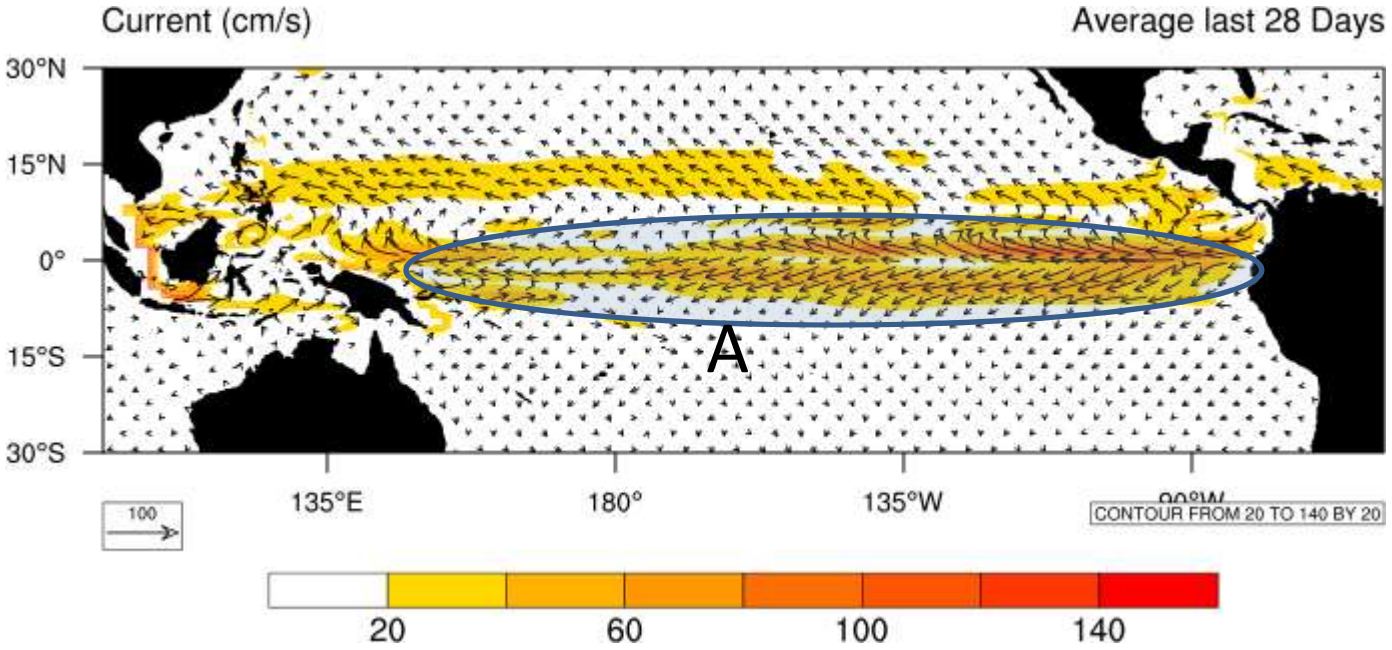


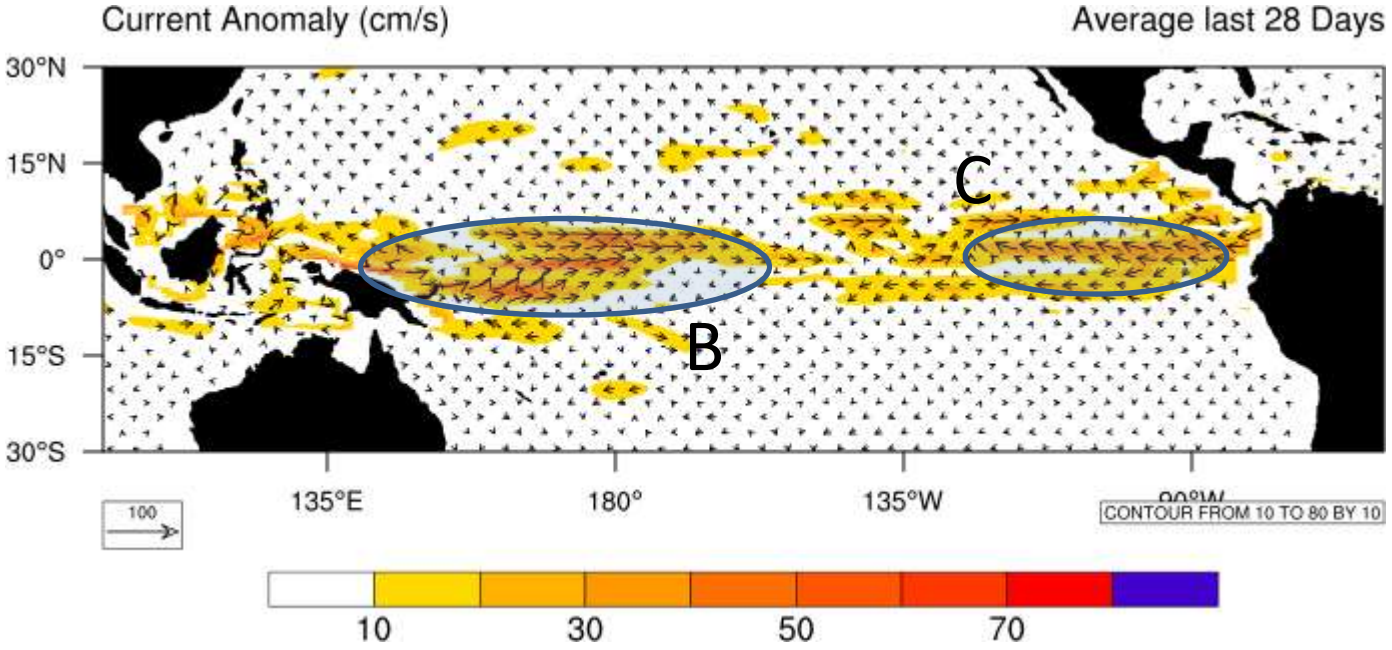
AVISO Ssalto/Duacs SLA



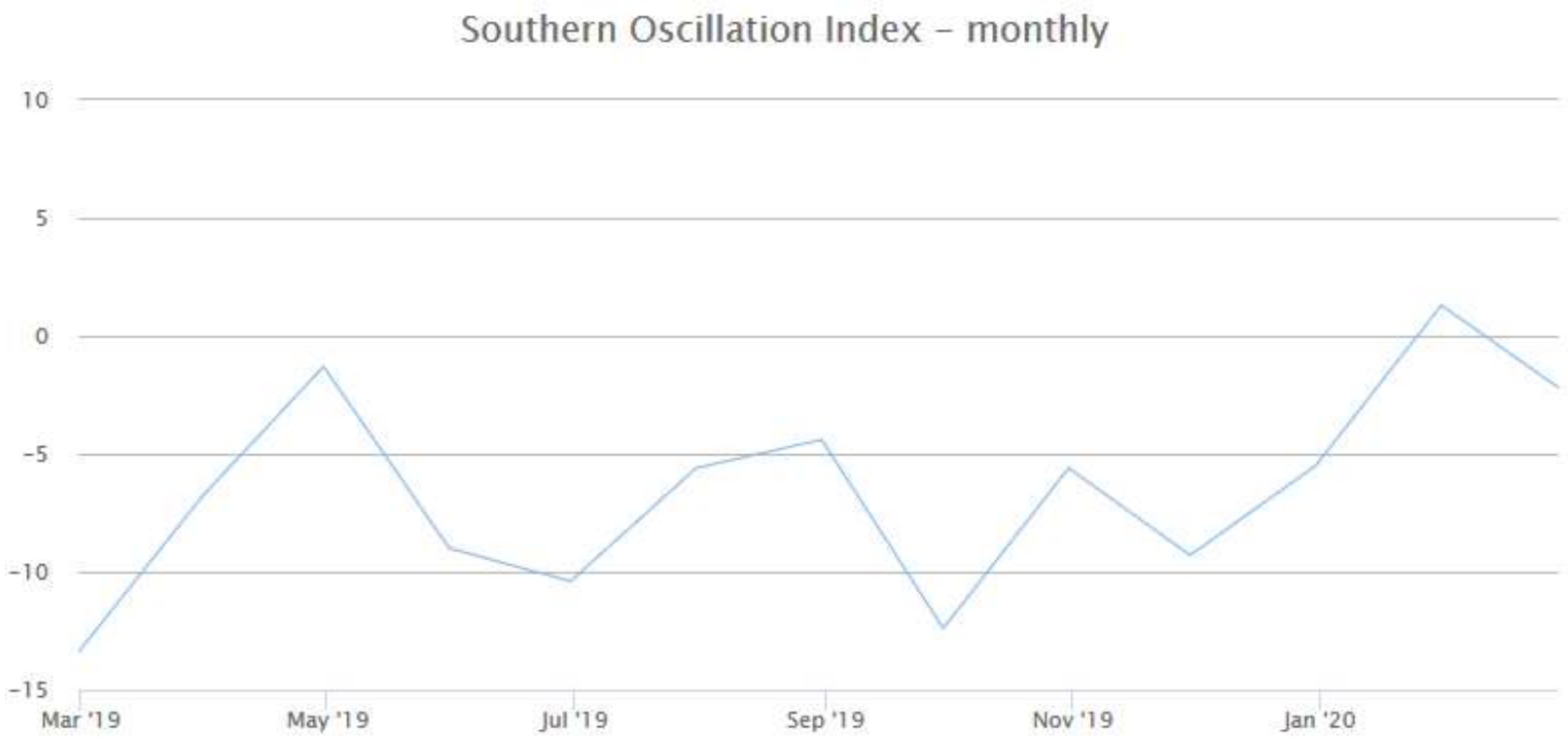
POAMA Forecast

Ocean Currents at 17 March 2020





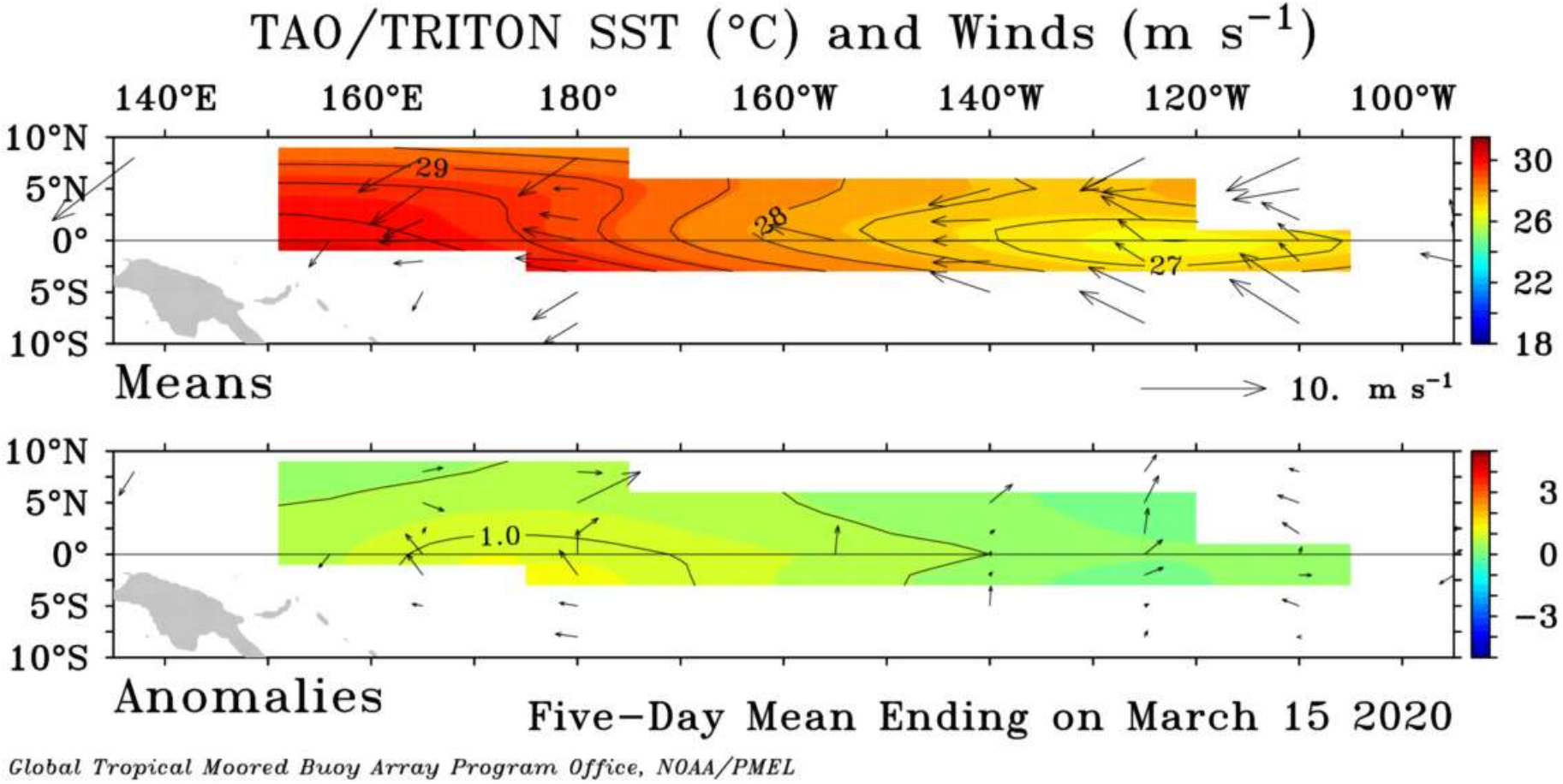
Southern Oscillation Index



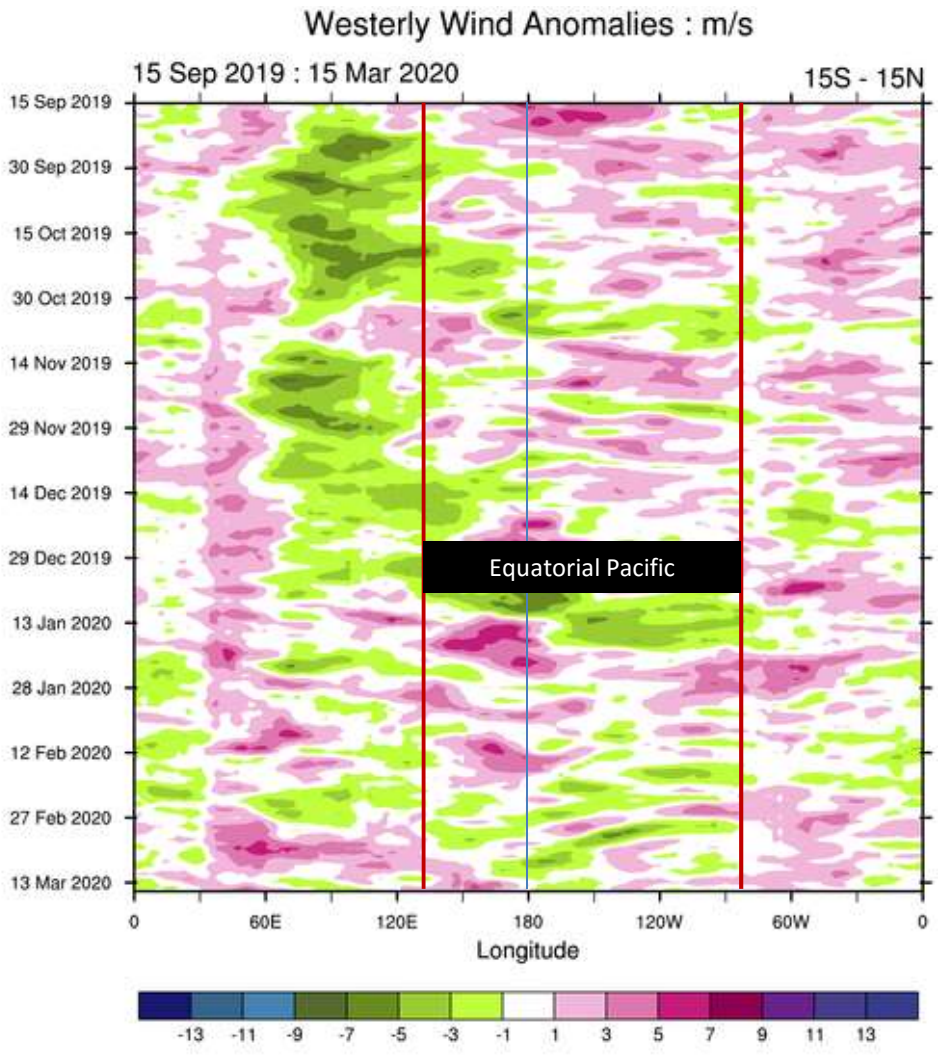
Southern Oscillation Index monthly data												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	+1.3	−2.2	-	-	-	-	-	-	-	-	-	-
2019	−0.6	−13.5	−6.8	−1.3	−9.0	−10.4	−5.6	−4.4	−12.4	−5.6	−9.3	−5.5

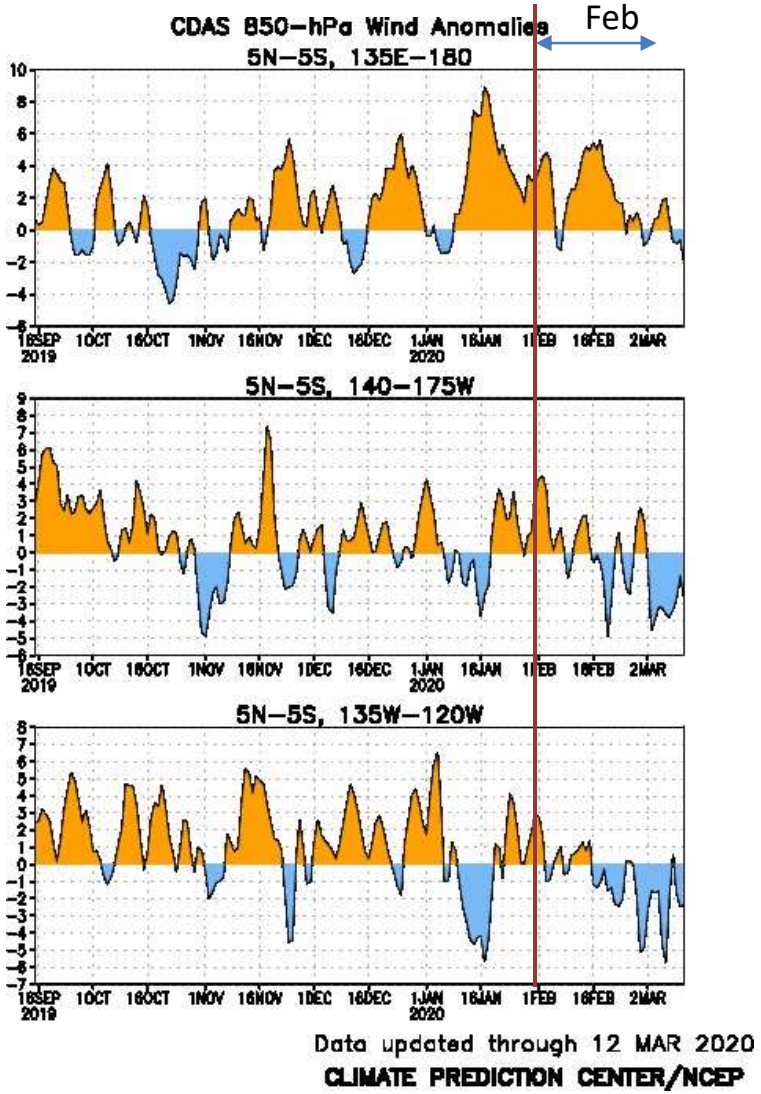
At 15 March 2020: 30-day SOI = 0; 90-day SOI = –2

Equatorial Trade Winds

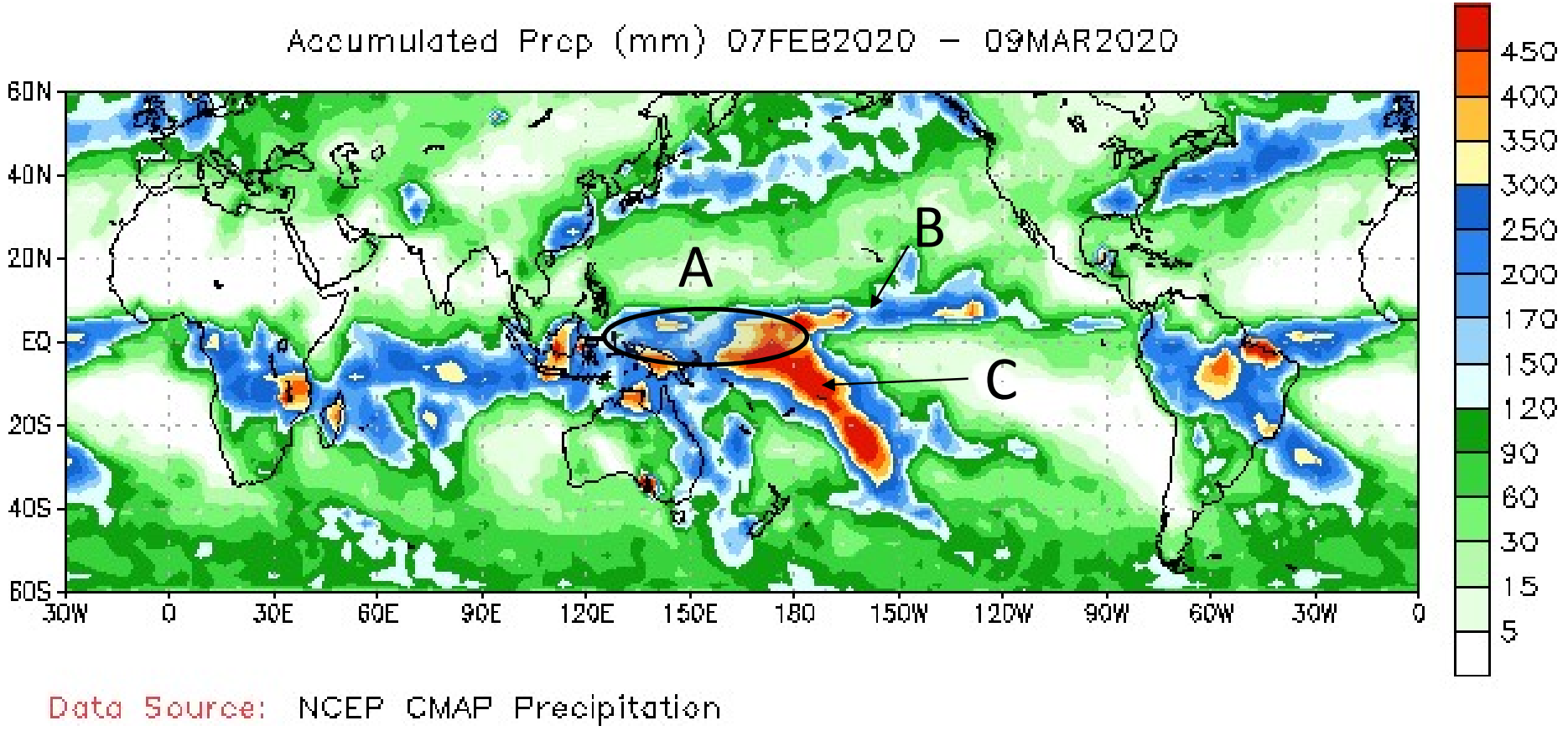


Equatorial Trade Winds

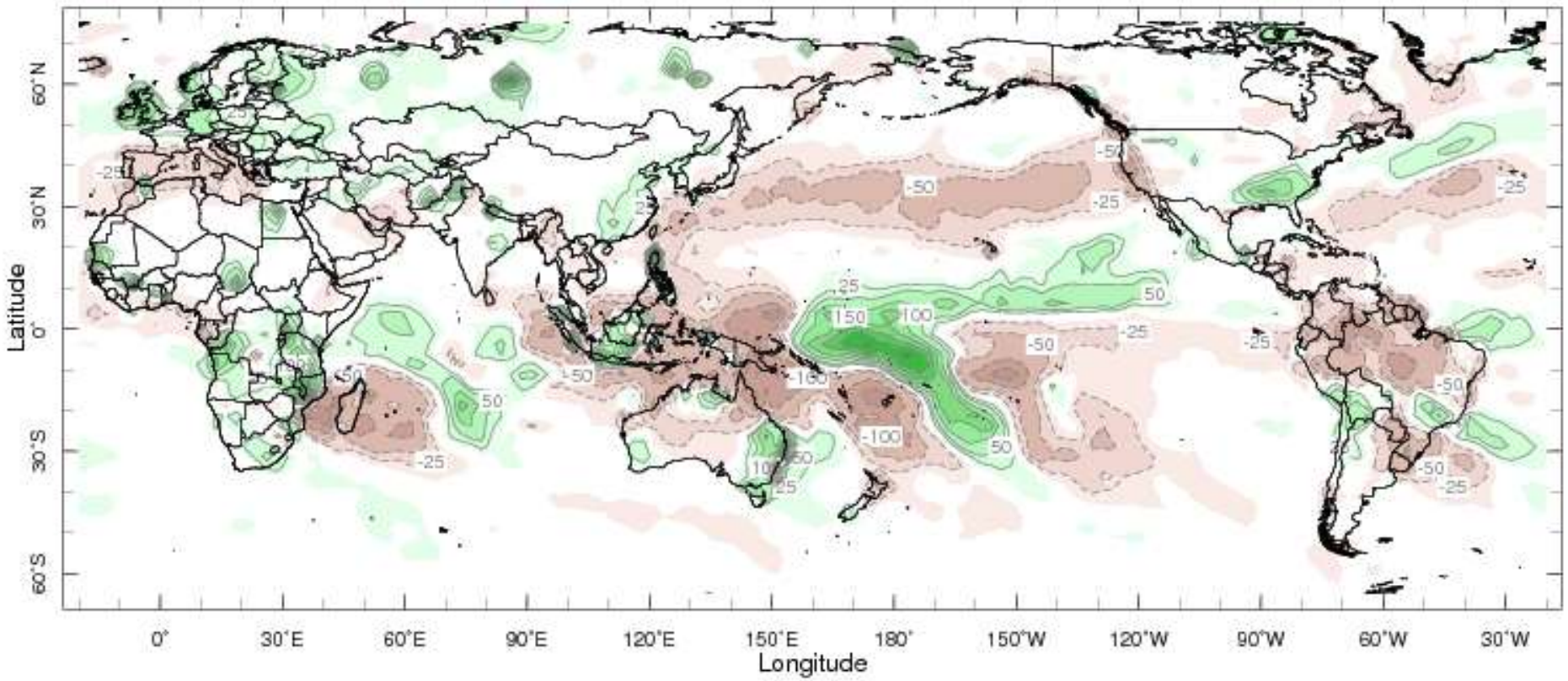




Satellite Rainfall



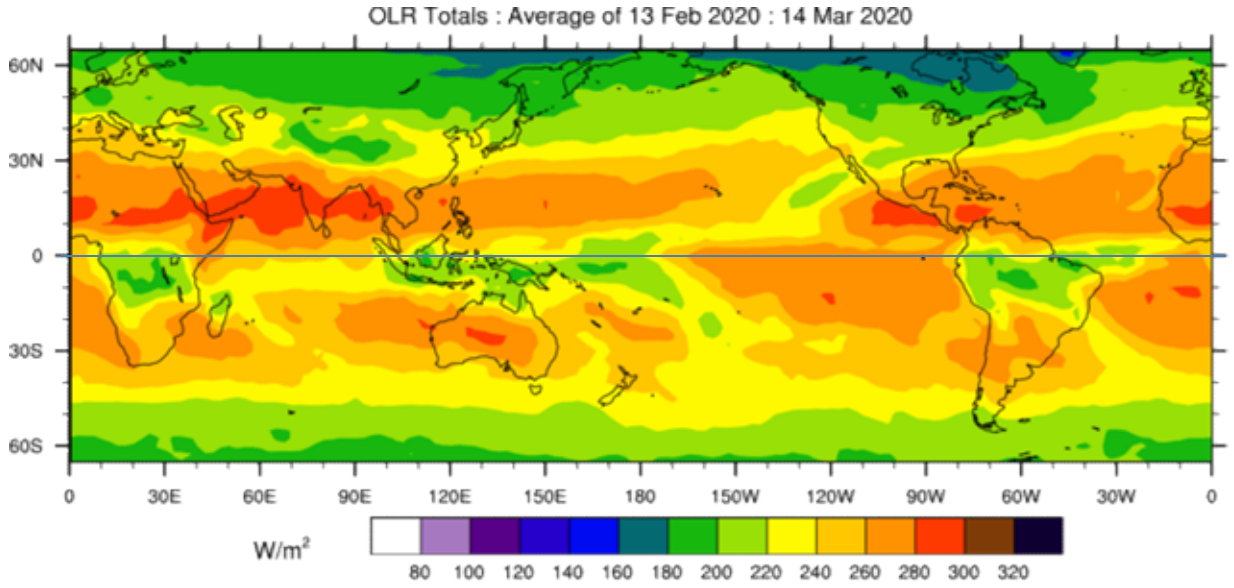
Satellite Rainfall Anomaly



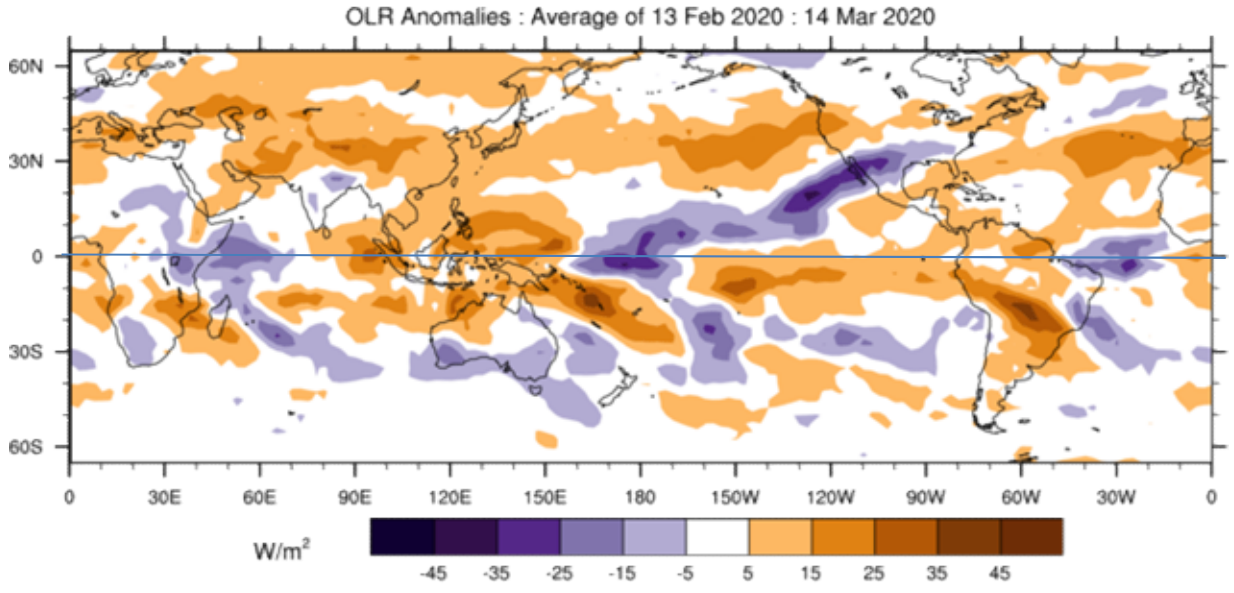
Feb 2020

Units = mm per month

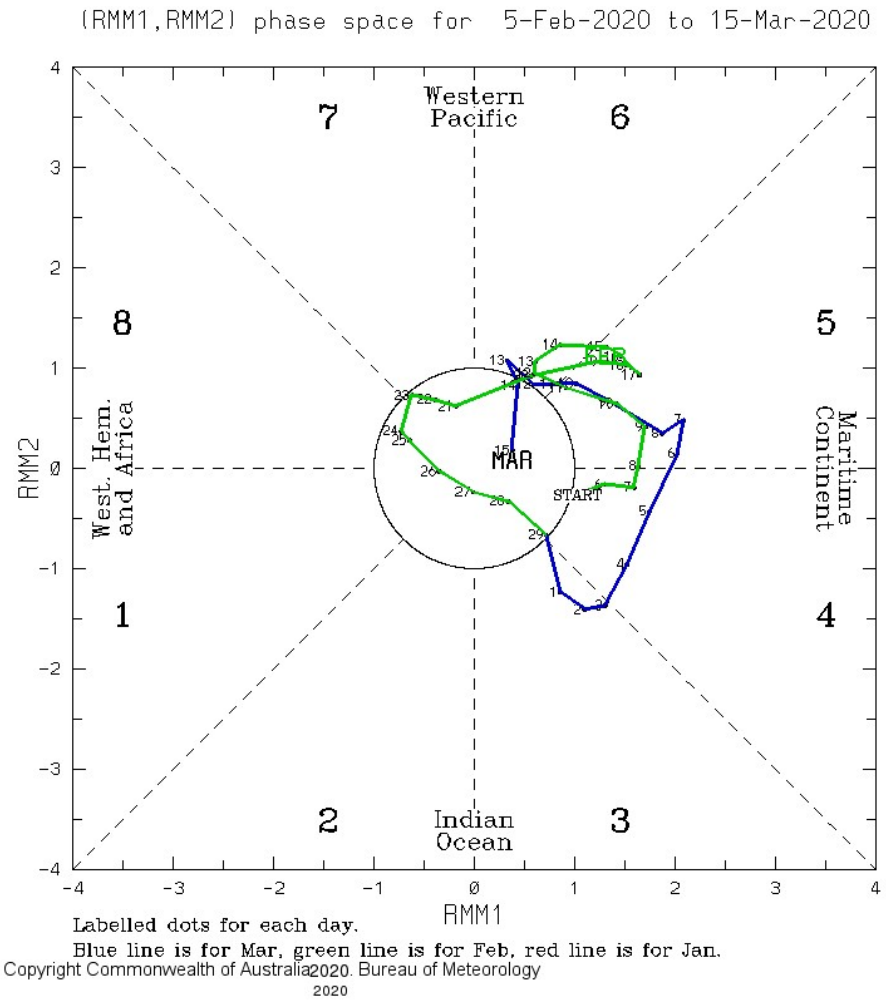
Outgoing Longwave Radiation (OLR)



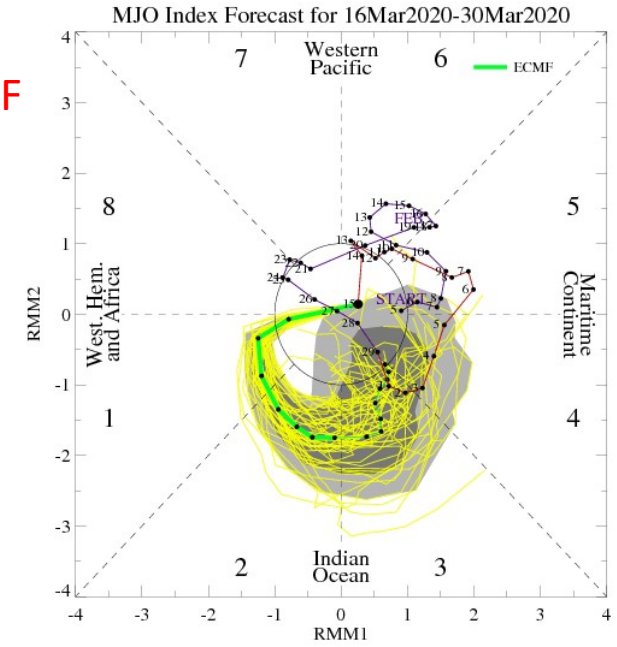
30 Days



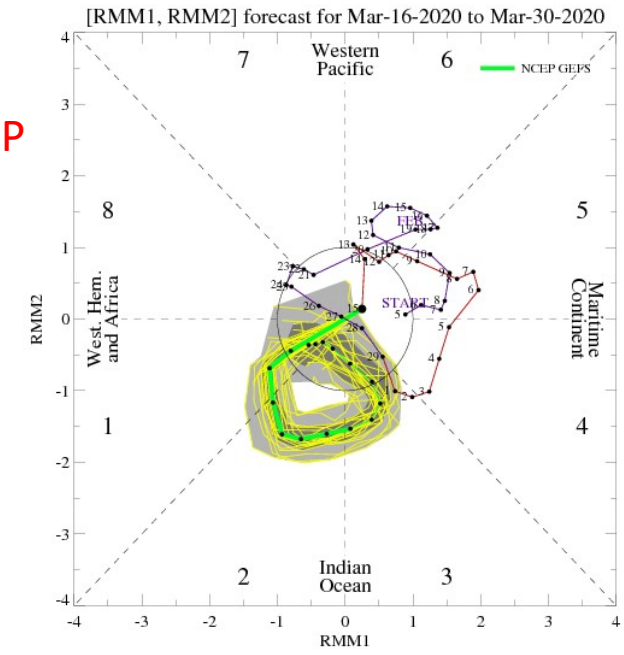
Madden-Julian Oscillation



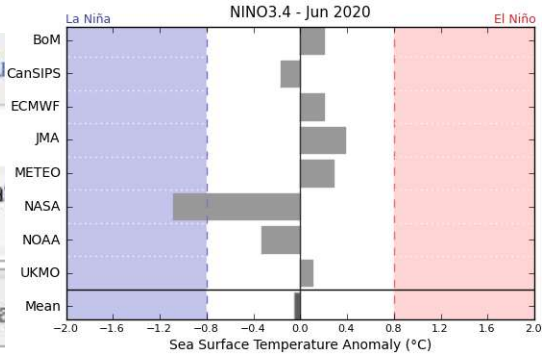
ECMWF



NCEP



Climate Model Summary for April to August 2020



Issued **12 March 2020** Updated **17 March 2020** Next issue **14 April 2020**

Australian climate is influenced by temperature patterns in the Pacific and Indian Oceans. This page provides informa
Ocean outlooks for the coming six months based on a survey of international climate models.

Overview | Pacific Ocean | Indian Ocean | Bureau model | Models | Related informa

IOD and ENSO likely to remain neutral until at least mid-winter

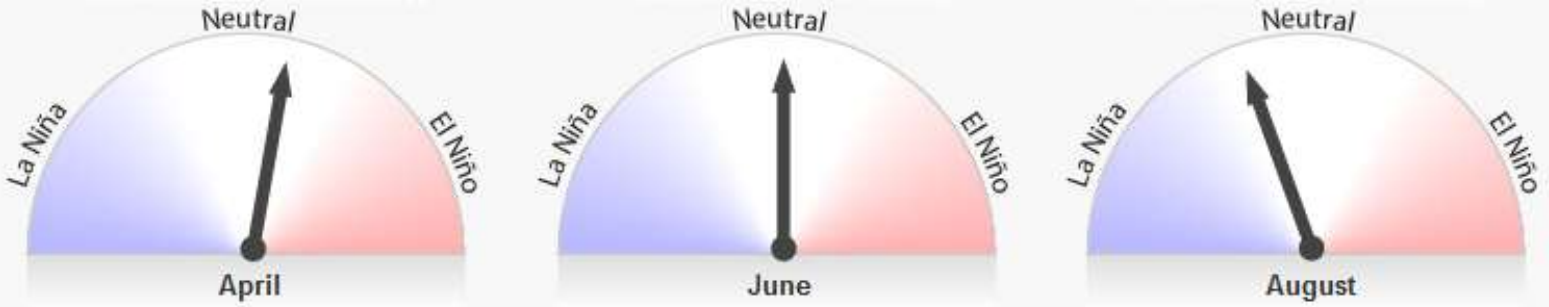
The Indian Ocean Dipole (IOD) is currently neutral. Outlooks suggest it will remain at neutral levels through the southern autumn and into winter. The IOD typically has little impact on Australian climate during summer and early autumn - but can start to influence rainfall and temperature patterns from May.

The El Niño–Southern Oscillation (ENSO) is also neutral, however warmer than average sea surface temperatures in the western tropical Pacific may be contributing to some changes in weather patterns over the region. The latest outlooks from the surveyed models suggest that an ENSO-neutral state is the most likely scenario until at least mid-winter 2020.

The neutral IOD and ENSO outlook suggests that other drivers/influences are likely to play a bigger role in Australian rainfall/temperature patterns in the coming months.

Further details: ENSO Wrap-Up (ENSO and IOD); Climate Outlooks

Average of international model outlooks for NINO3.4



Climate Model Summary