

# Global Tropics Hazards And Benefits Outlook

3/17/2020

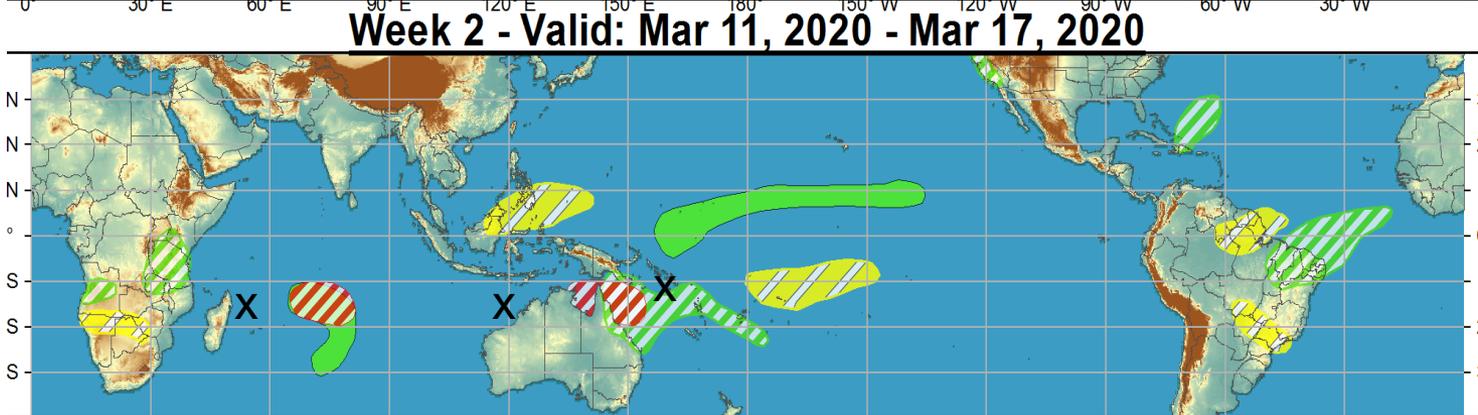
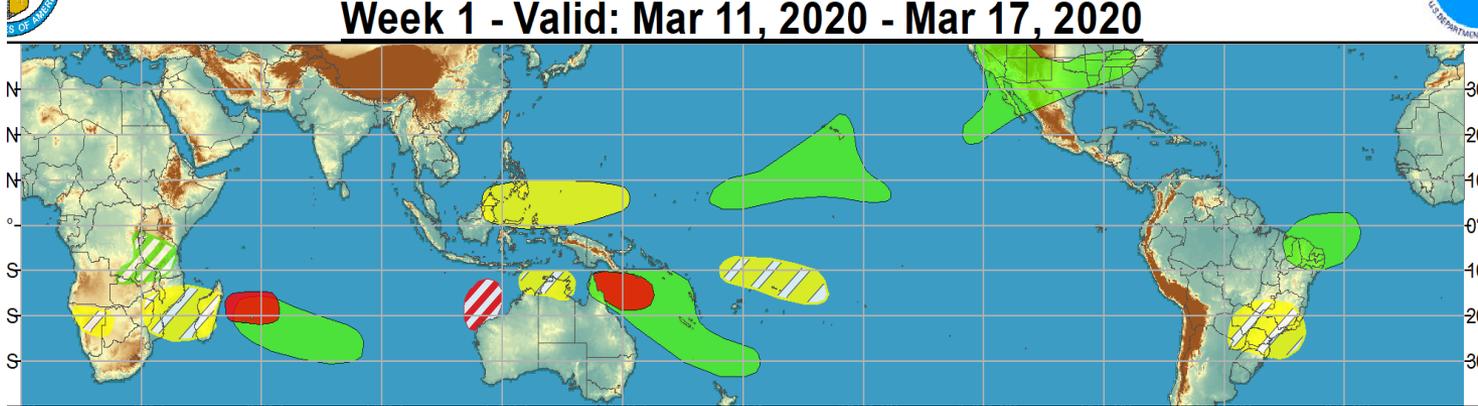
Nick Novella

## Outline

1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

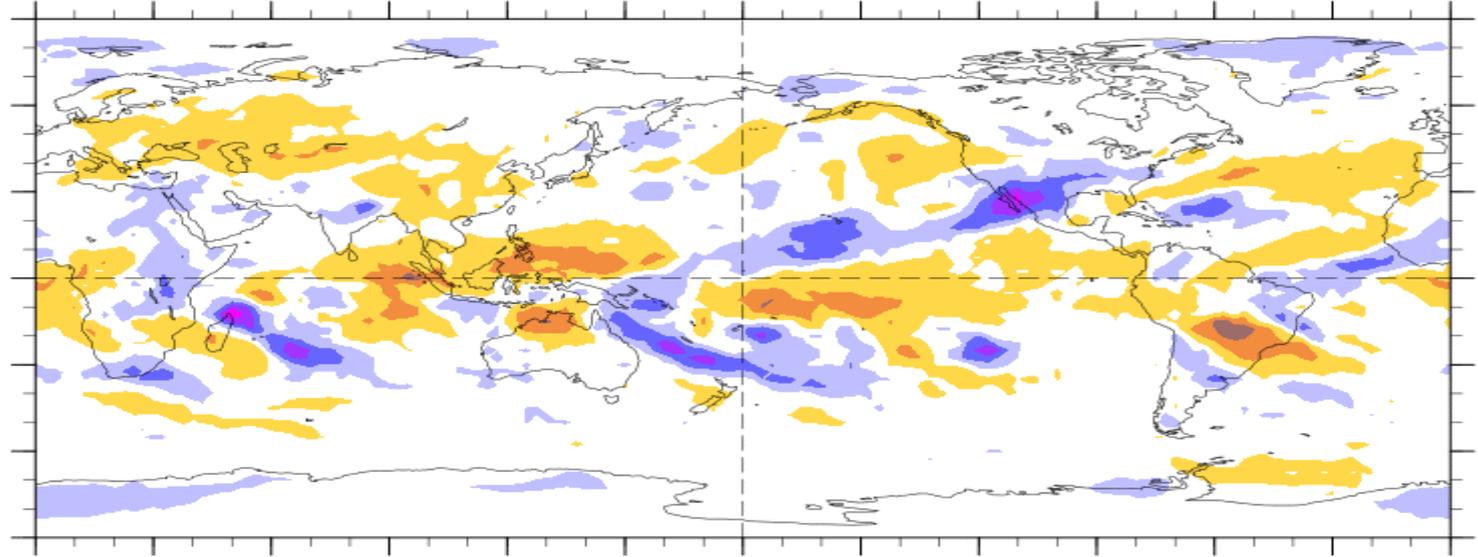
# Outlook Review

TC's  
 "21" (3/11)  
 "Herold" (3/14-pres)  
 "Gretel" (3/14-3/16)



7-Day Average OLR Anomaly

2020/03/09 - 2020/03/15



Cool shading  
 More clouds/rain

Warm shading  
 Less clouds/rain

# Synopsis of Climate Modes

## **ENSO: (March 12, 2020 Update)**

- ENSO Alert System Status: Not Active
- ENSO-neutral is favored through Northern Hemisphere spring 2020 (~65% chance), continuing through summer 2020 (~55% chance).

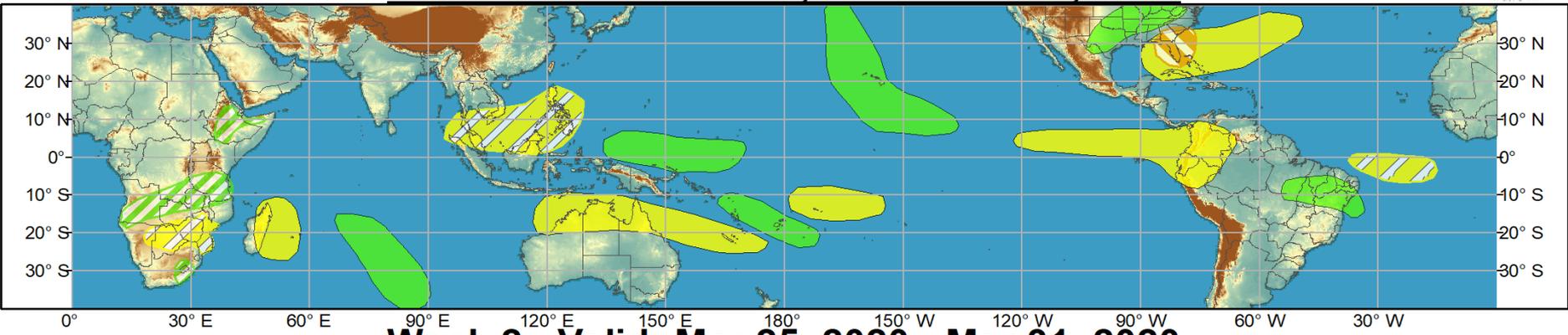
## **MJO and other subseasonal tropical variability:**

- The MJO strengthened at the beginning of March but has since weakened during the past week over the western hemisphere.
- Dynamical models are in agreement with a renewed MJO over the western Hemisphere/Africa and propagate eastward over Indian Ocean during Week-1, but solutions diverge during Week-2.
- The low-frequency base state continues to favor enhanced convection near the Date Line.

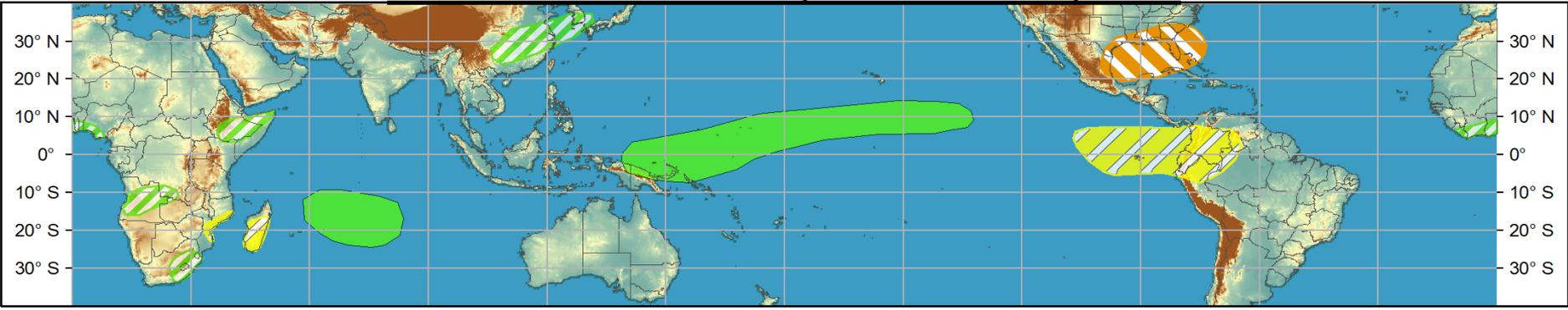


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Mar 18, 2020 - Mar 24, 2020



## Week 2 - Valid: Mar 25, 2020 - Mar 31, 2020



**Confidence**  
 High Moderate

- Tropical Cyclone Formation** Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Above-average rainfall** Weekly total rainfall in the upper third of the historical range.
- Below-average rainfall** Weekly total rainfall in the lower third of the historical range.
- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

**Produced: 03/17/2020**  
**Forecaster: Novella**

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# IR Satellite & 200-hpa Velocity Potential Anomalies

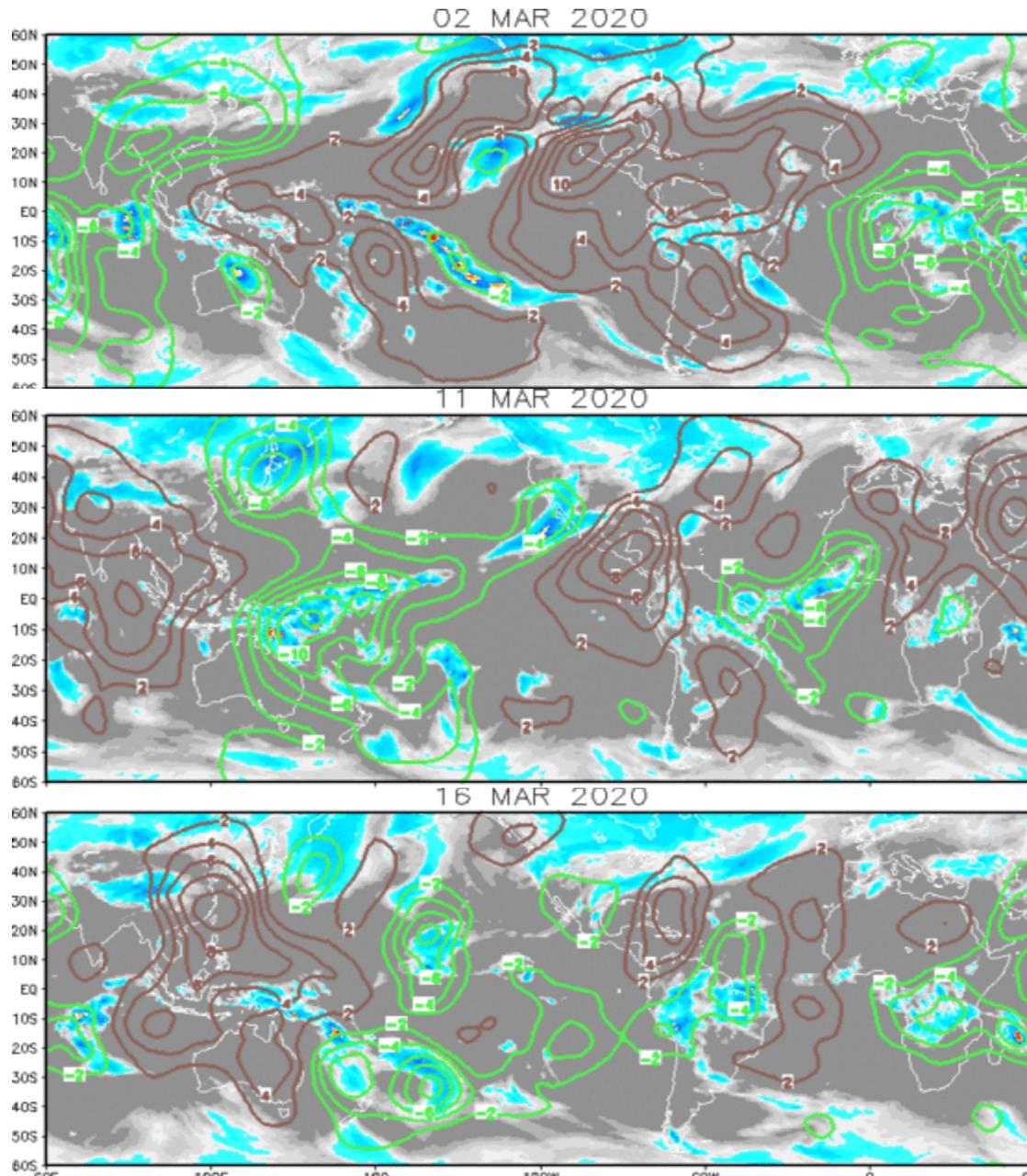
Green: Enhanced Divergence

Brown: Enhanced Convergence

Fairly well defined Week-1 pattern, enhanced (suppressed) convection over Africa/IO (W Hemisphere/Americas)

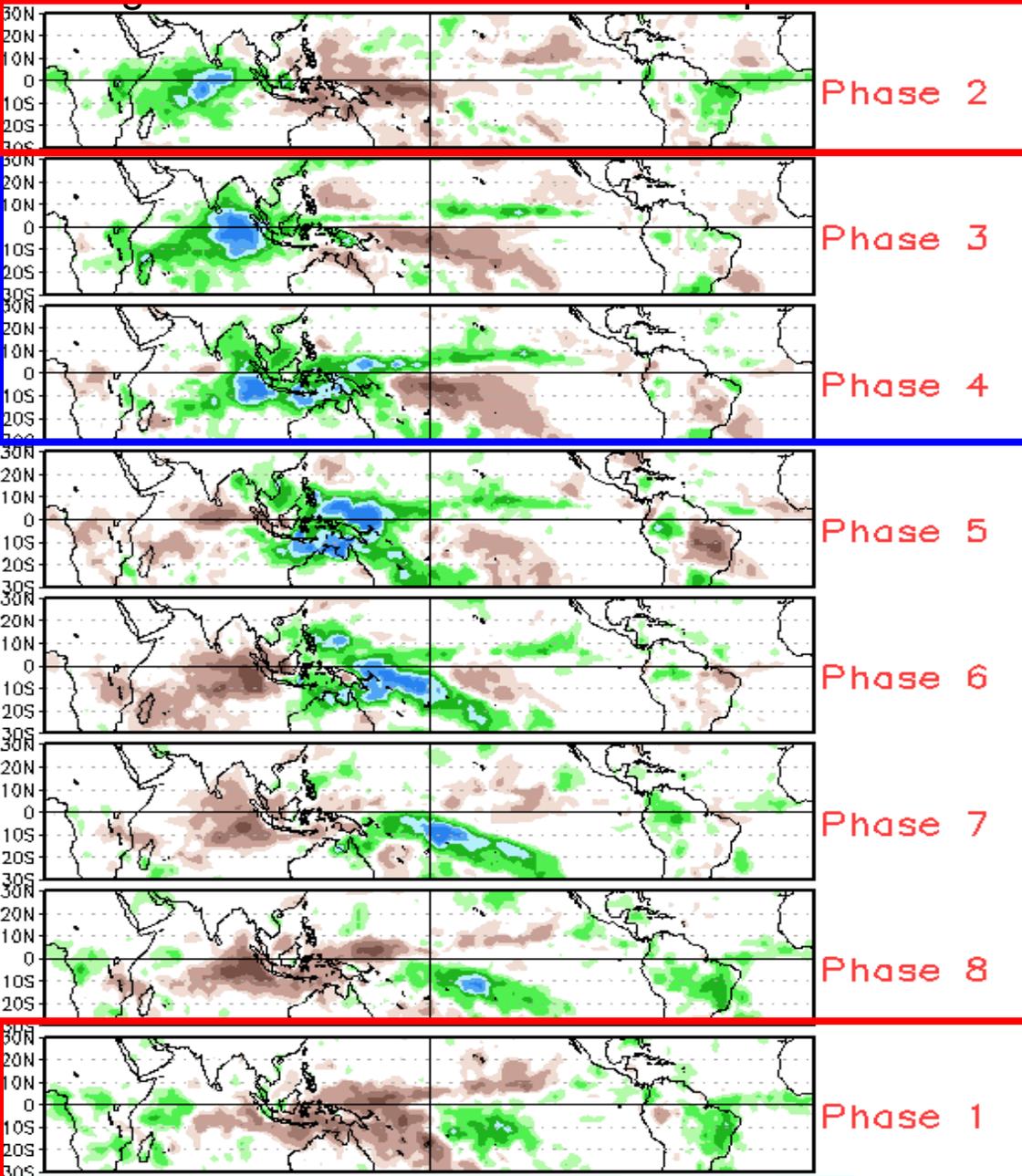
MJO weakened, but maintained eastward propagation

Currently disorganized, Enhanced subtropical jet, with Kelvin/Rossby wave activity across Africa





# Average Conditions when the MJO is present



Phase 2

Phase 3

Phase 4

Phase 5

Phase 6

Phase 7

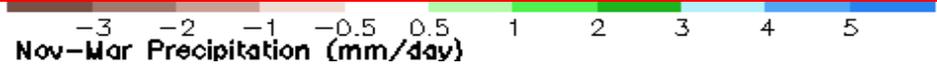
Phase 8

Phase 1

CAVEAT: These panels are representative of robust MJO events.

Week-2: Phase 3/4

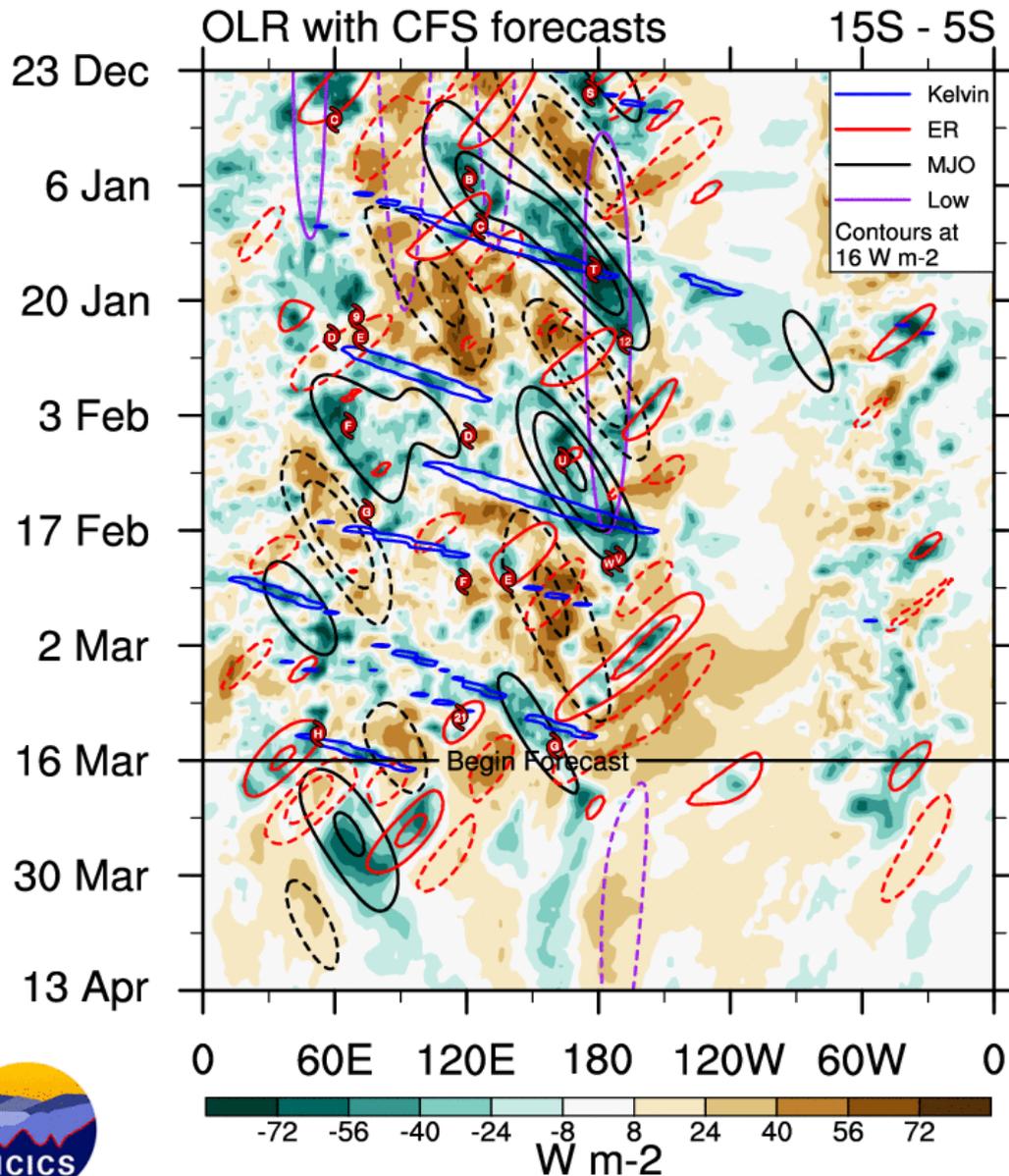
Week-1: Phases 1/2



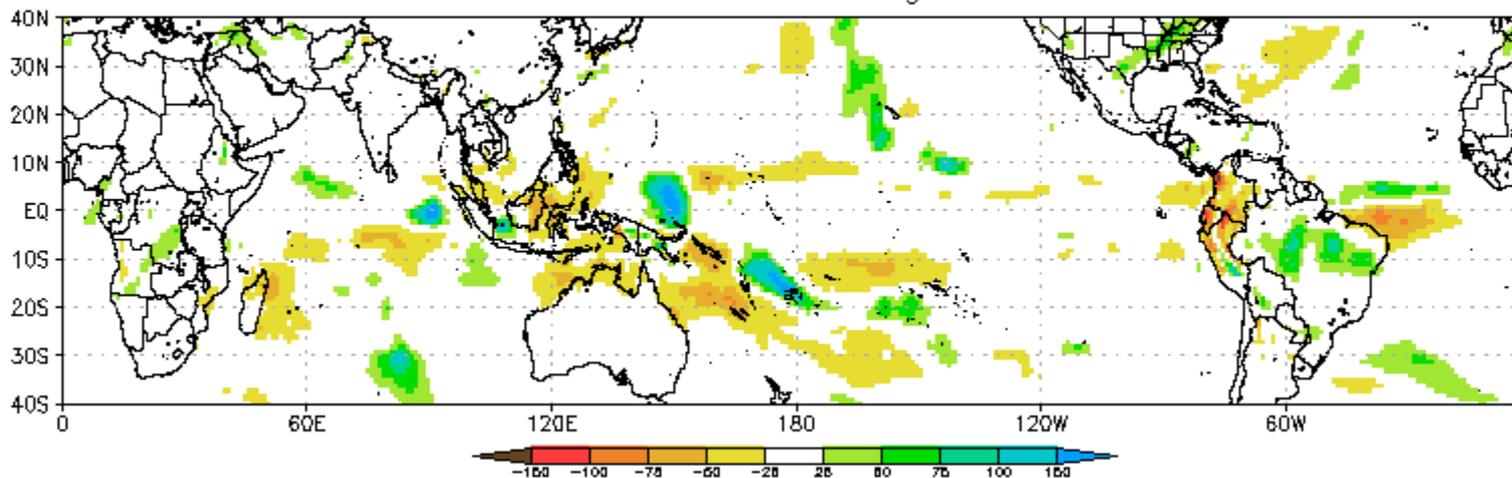
**MJO** detected during early March, but weakened during last week over WPAC.

**Rossby wave** and **Kelvin wave** presence focused across Eastern Hemisphere.

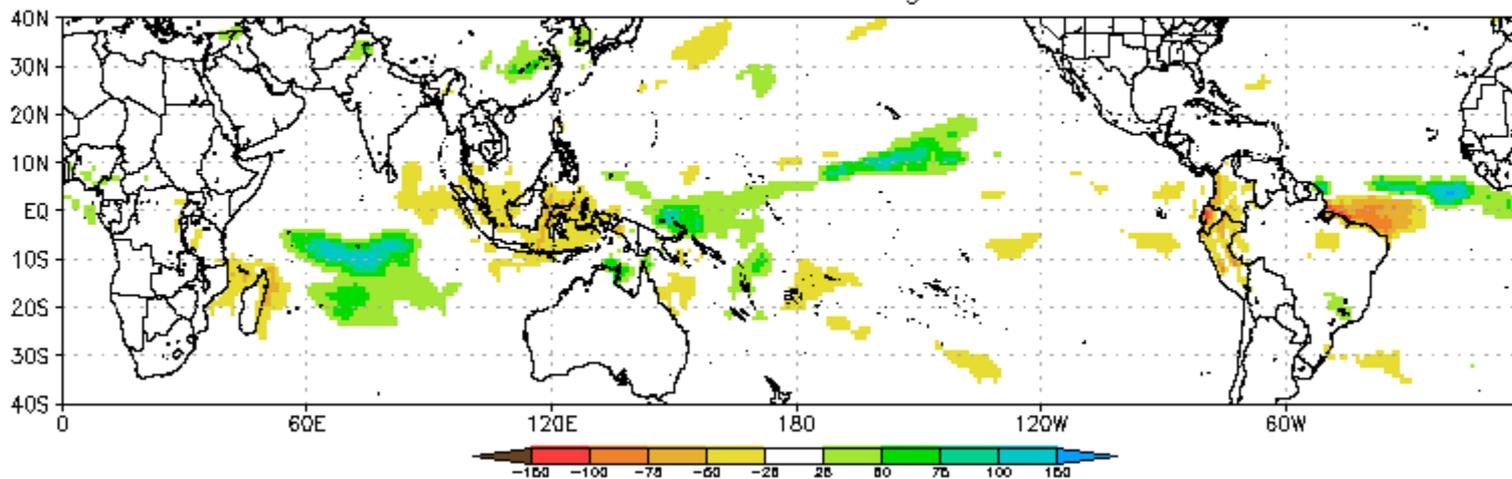
**Low frequency** contours from +IOD have timed out, but signal persists west of the Date Line.



CFS Precipitation Anomalies (mm) Issued 16Mar2020  
Week-1 Forecast Ending 24Mar2020



CFS Precipitation Anomalies (mm) Issued 16Mar2020  
Week-2 Forecast Ending 31Mar2020





# JOINT TYPHOON WARNING CENTER



ABIO

ABPW

CPHC  
[\(https://www.nhc.noaa.gov/cphc/\)](https://www.nhc.noaa.gov/cphc/)

NO SUSPECT AREAS  
(ABPW)

TC 22S  
"HEROLD"



IMAGE TIME: 17/0545Z  
(PRODUCT OF JTWC/SATOPS)

LOW

TC development unlikely within 24 hours

MEDIUM

TC development likely, but expected to occur beyond 24 hours

HIGH

TC development likely within 24 hours  
(Reference TCFA)

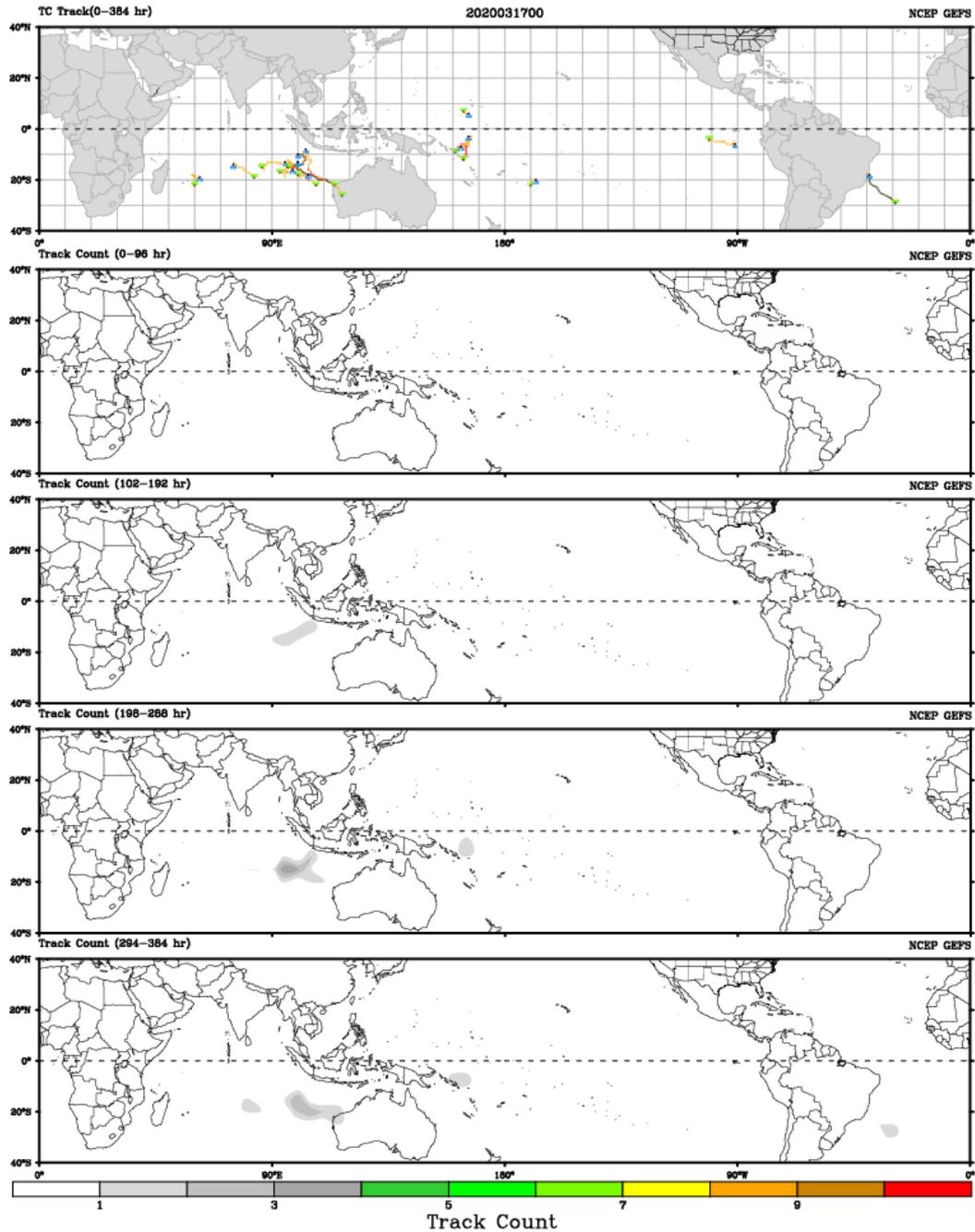
SUB TROPICAL

Monitoring for potential transition to TC. Invest label color denotes tropical transition probability



Tropical Cyclone  
(Reference Warning)

CWB TC Tracker for NCEP GEFS (Fuzzy\_AllCriteria)



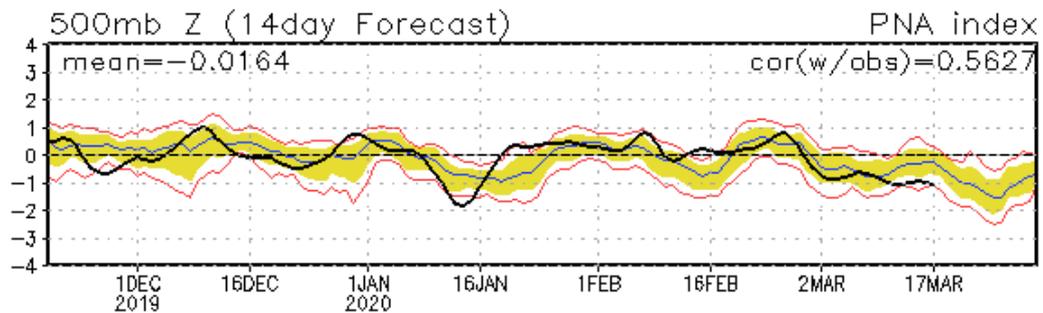
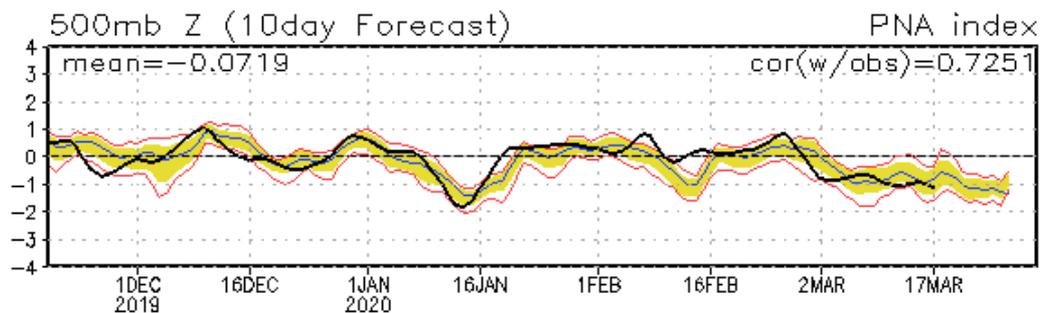
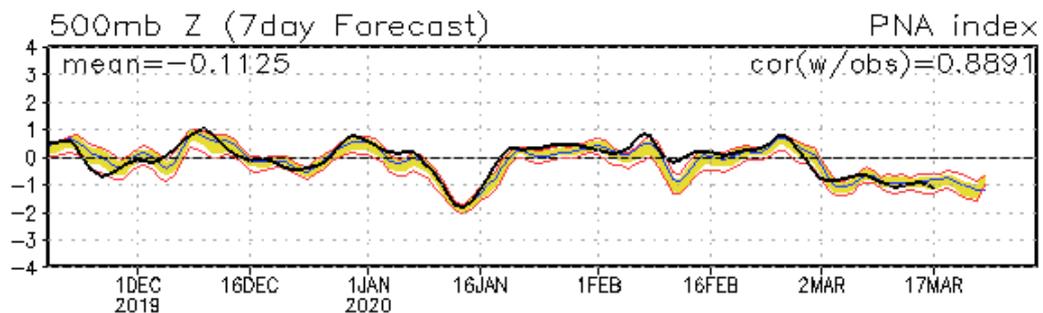
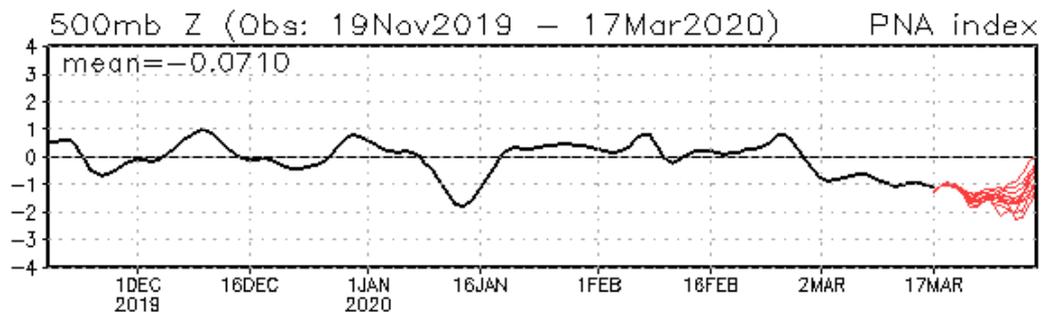
Days 1-4

Day 5-8

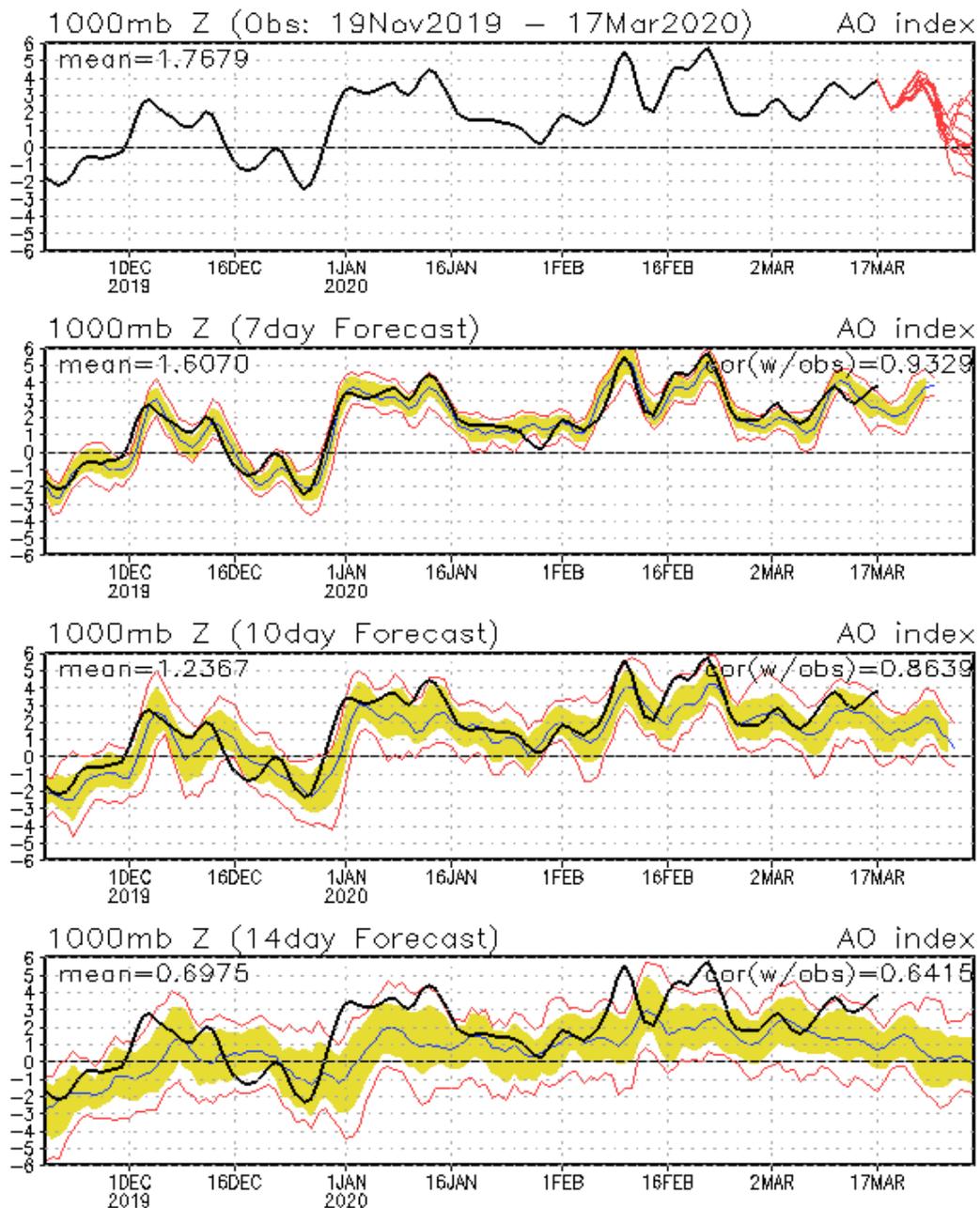
Day 9-12

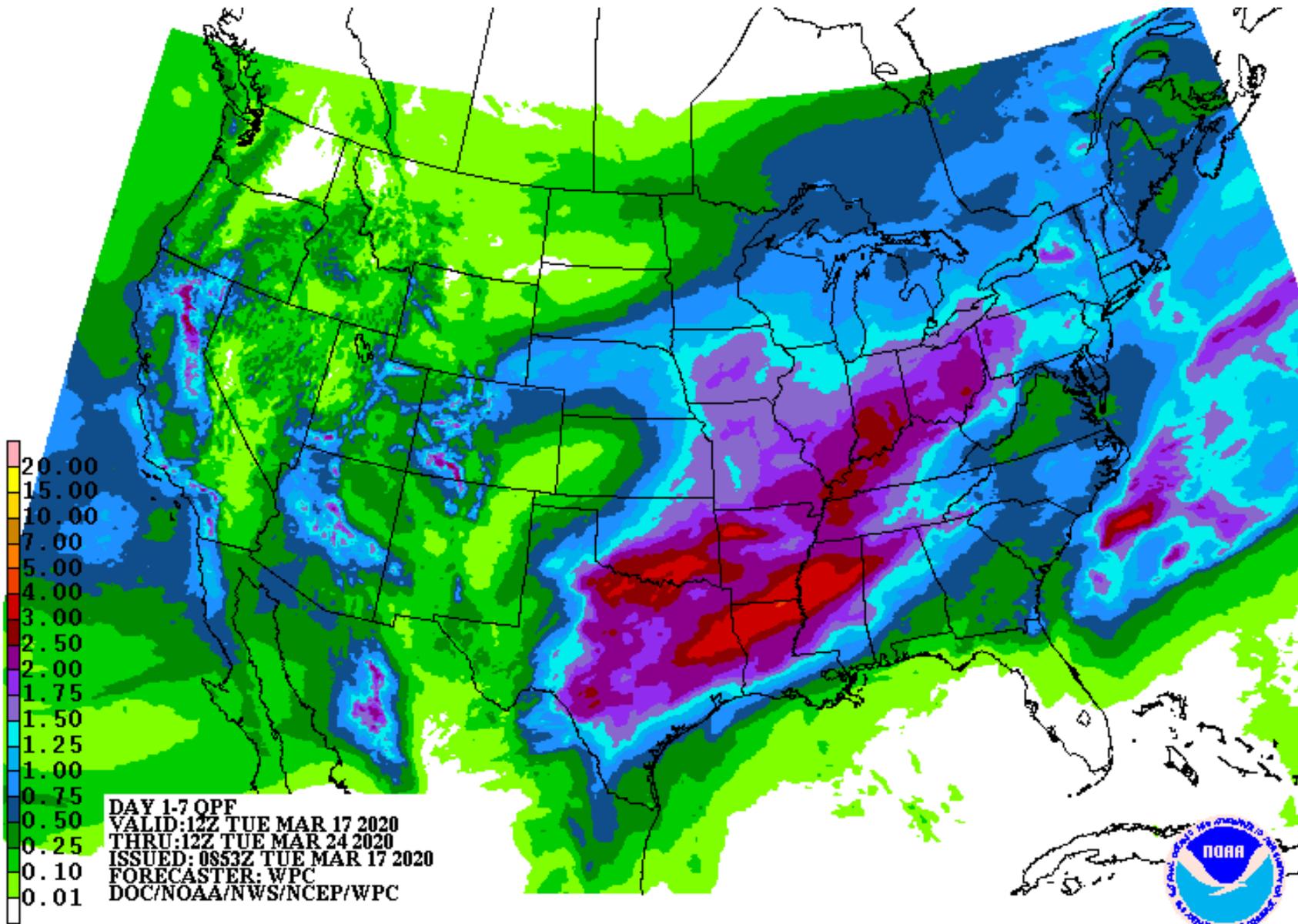
Day 13-15

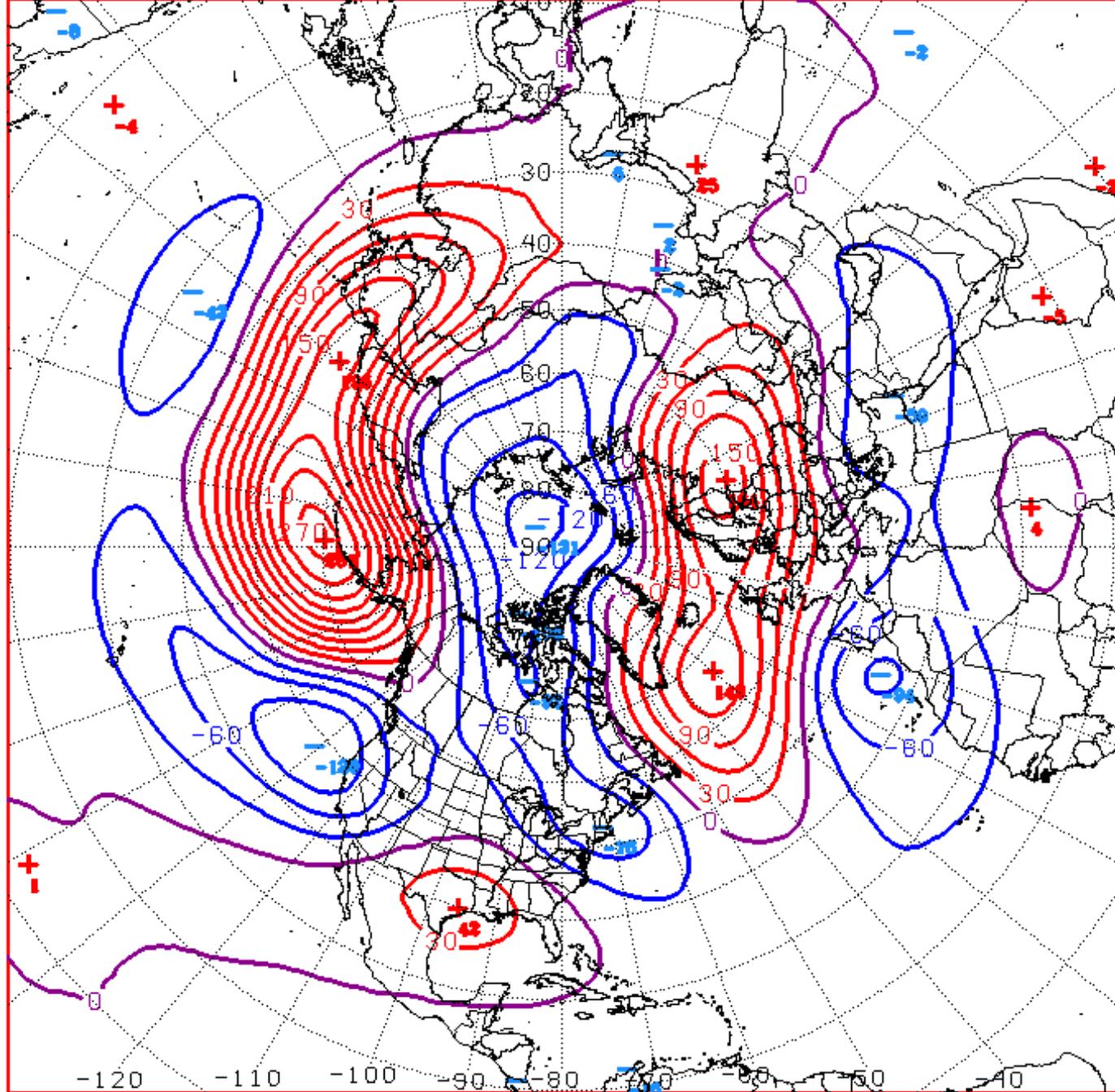
## PNA: Observed & ENSM forecasts



## AO: Observed & ENSM forecasts

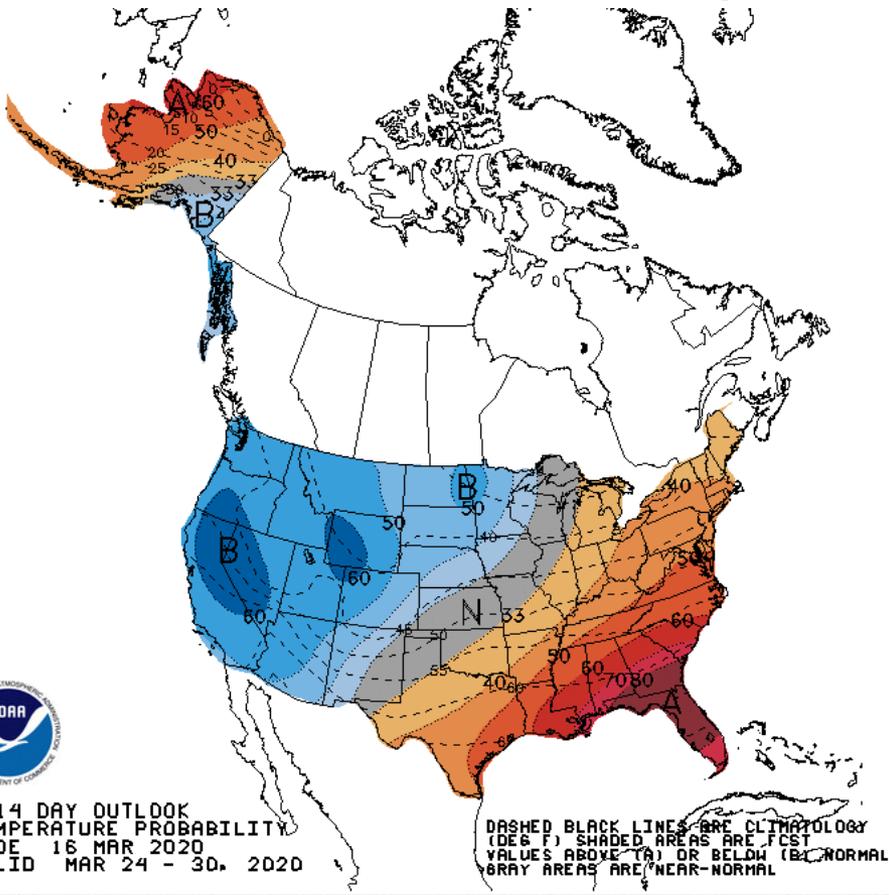




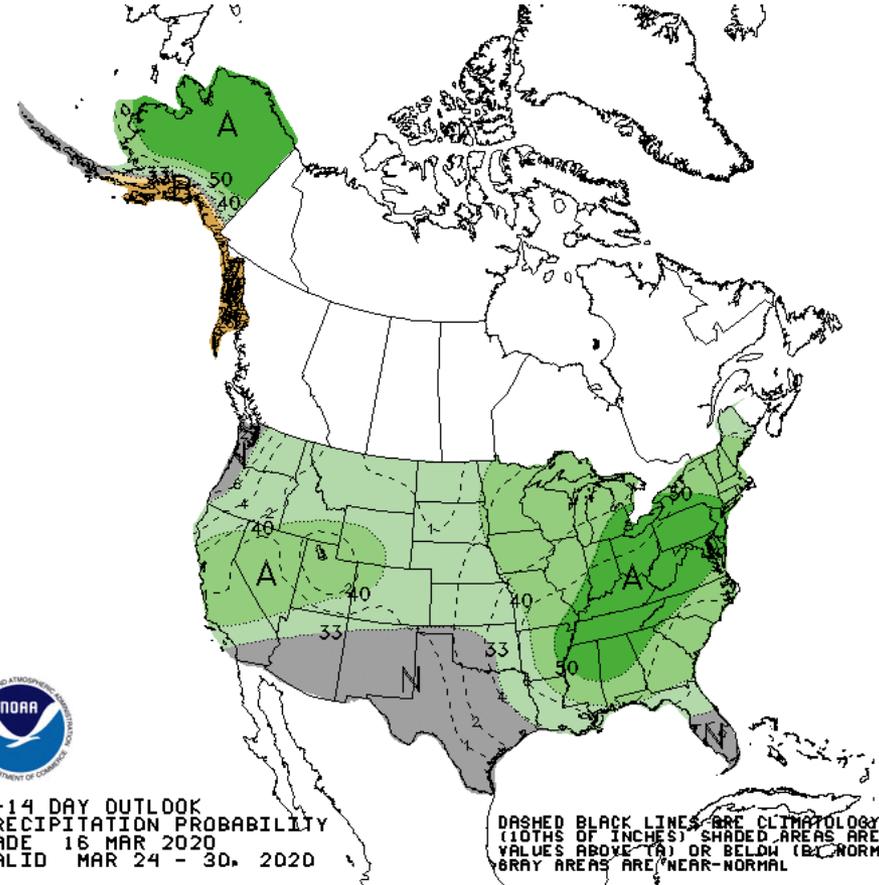
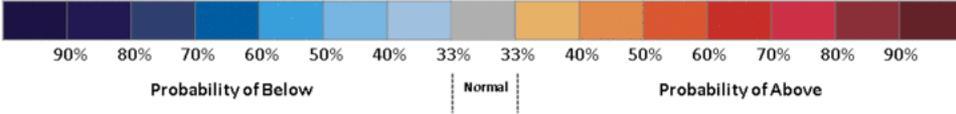


D+11 500 MB ANOMALIES FROM ALZ ENSM  
CPC MAP MADE MAR 17 2020 1327 UTC CNTD MAR 28 2020

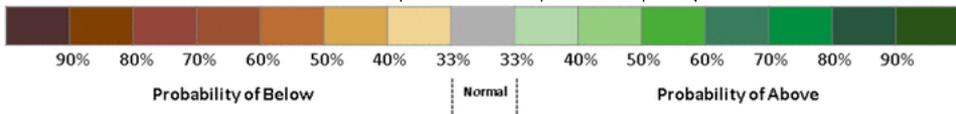
# Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 16 MAR 2020  
VALID MAR 24 - 30, 2020



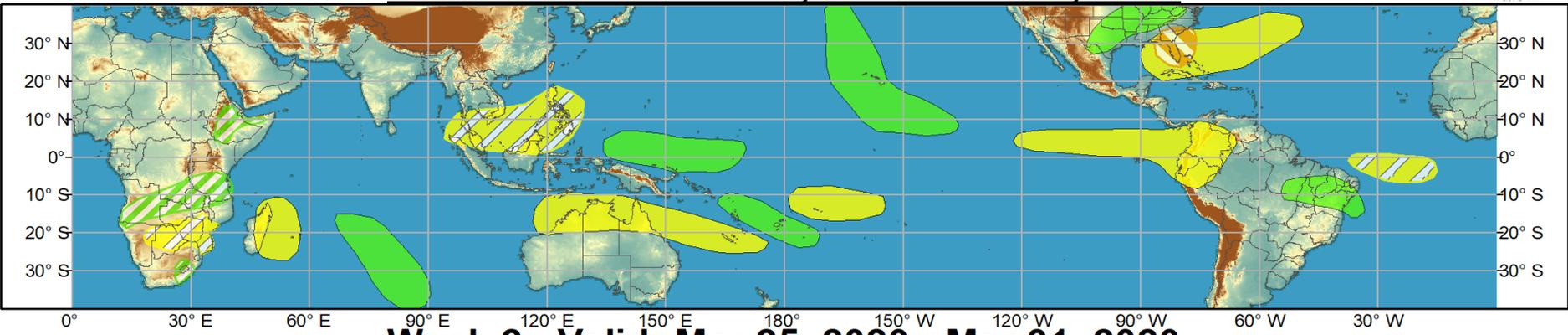
8-14 DAY OUTLOOK  
PRECIPITATION PROBABILITY  
MADE 16 MAR 2020  
VALID MAR 24 - 30, 2020



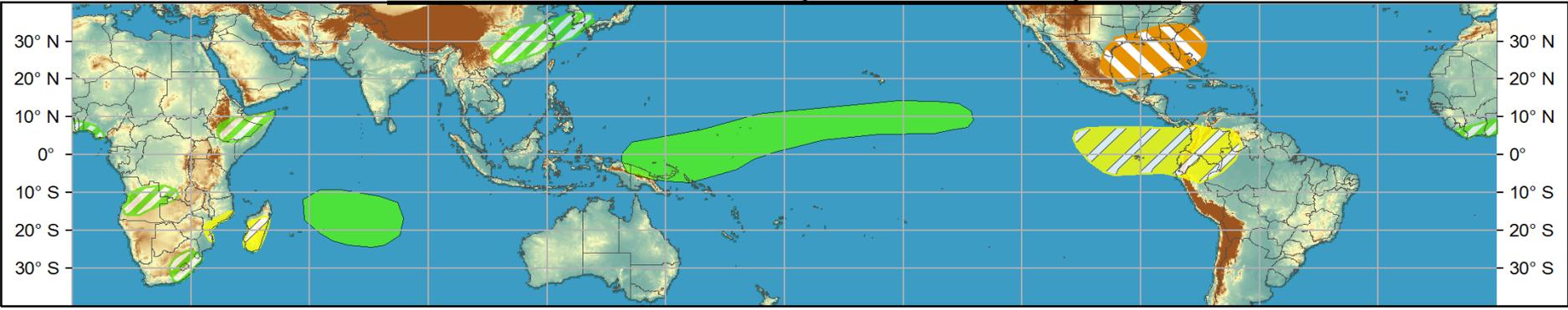


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