

Global Tropics Hazards And Benefits Outlook

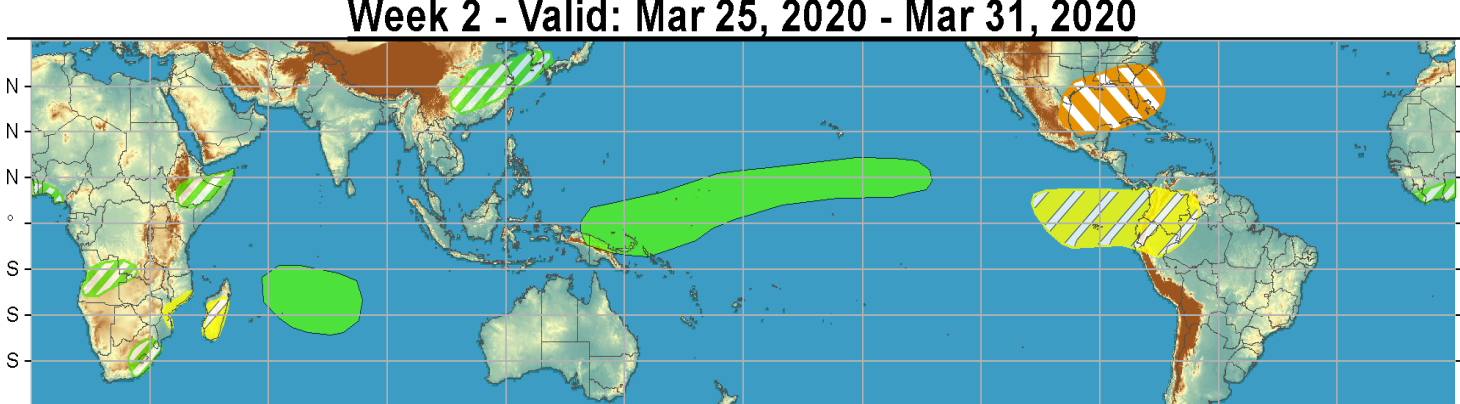
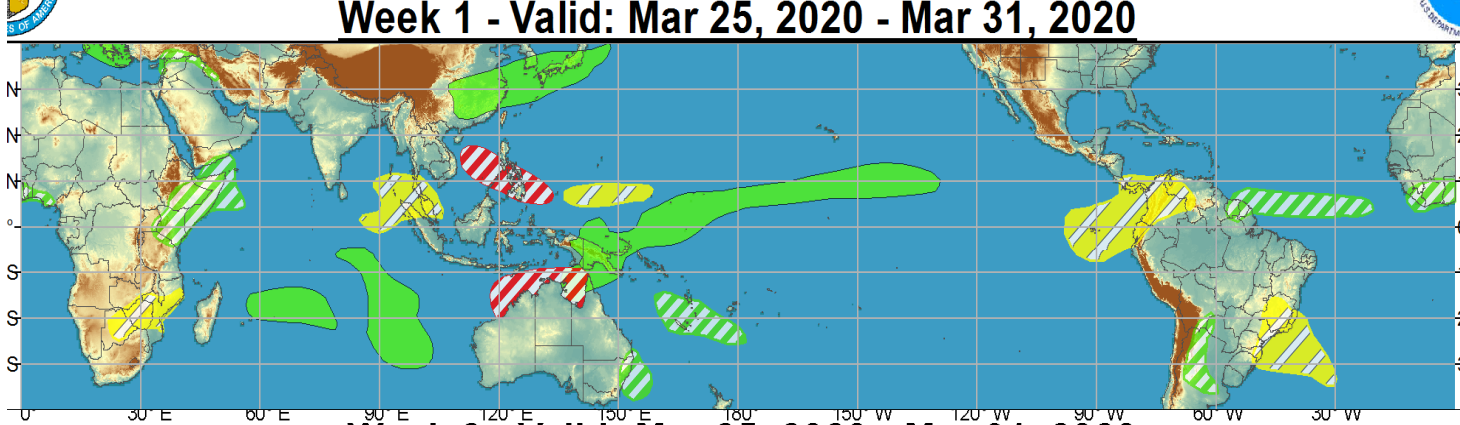
3/31/2020

Anthony Artusa

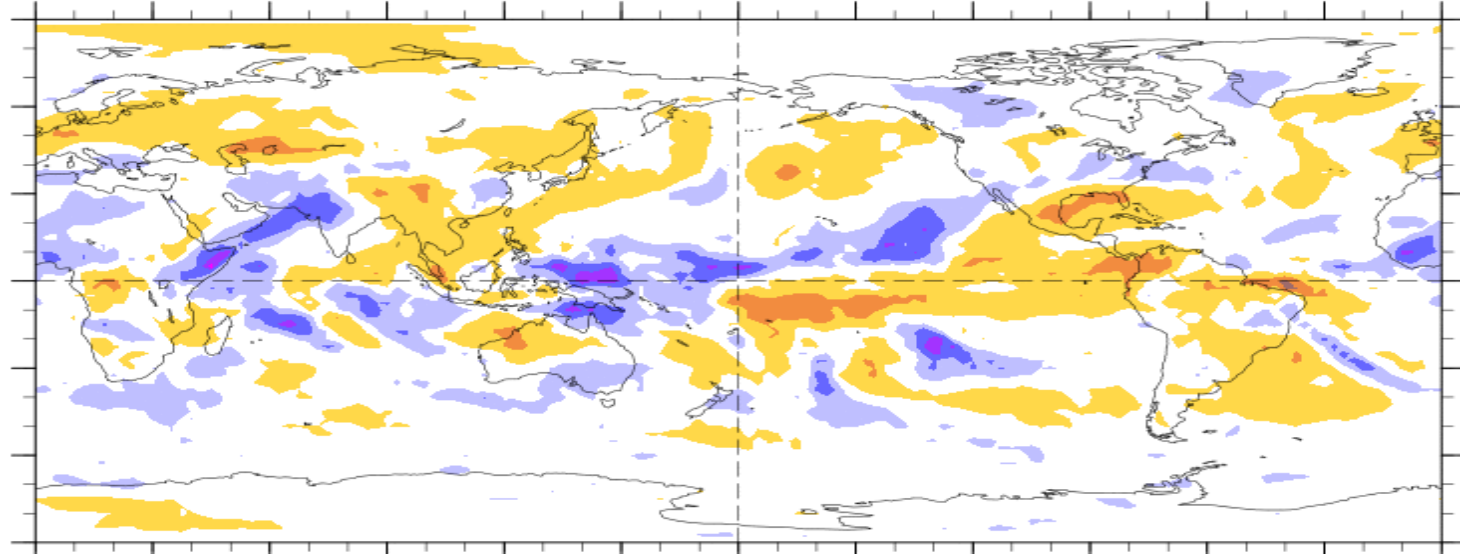
Outline

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

Outlook Review



7-Day Average OLR Anomaly 2020/03/23 - 2020/03/29



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (March 12, 2020 Update)

next update on 9th of April !

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

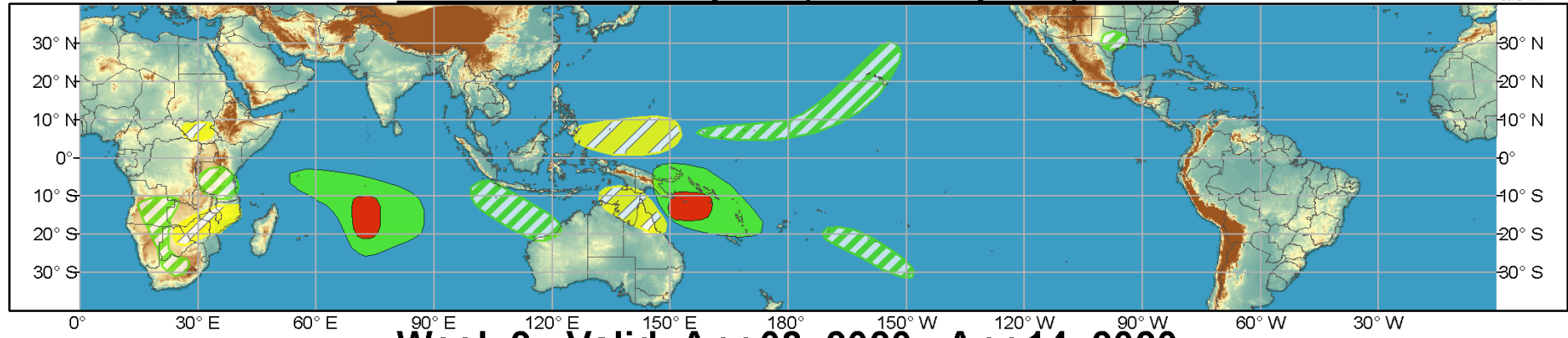
MJO and other subseasonal tropical variability:

- Variability during the past few weeks has been dominated by Kelvin wave and MJO activity
- The enhanced phase of the MJO is currently over the Maritime Continent (Phase 4)
- The week-1 forecast has the MJO index weakening to within the unit circle. However, things become much less clear during week-2. Possible solutions include the maintenance of a weak, ill-defined MJO index within the unit circle; slow eastward propagation and weakening across the Maritime Continent/western Pacific; emergence of a signal in Northern Hemisphere with/without significant eastward propagation.

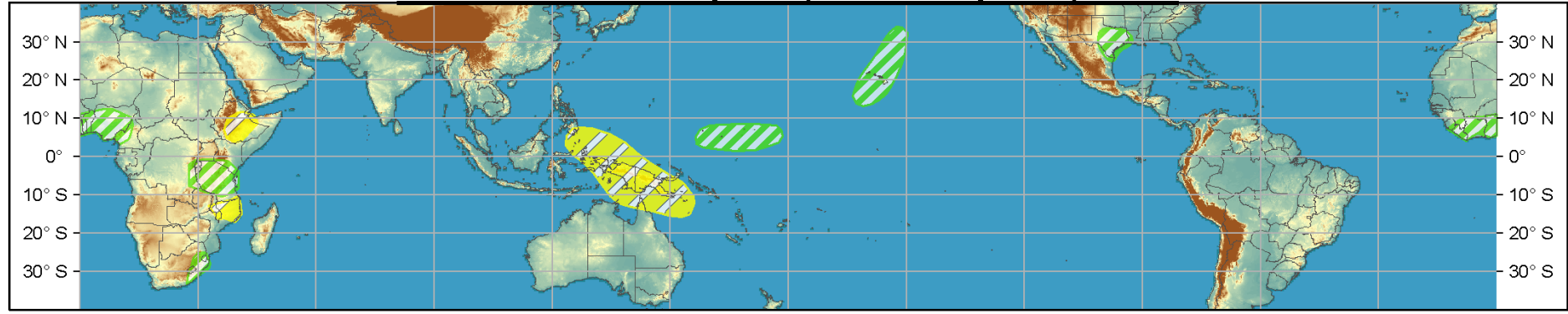


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 01, 2020 - Apr 07, 2020



Week 2 - Valid: Apr 08, 2020 - Apr 14, 2020



Produced: 03/31/2020
Forecaster: Artusa

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.

Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



IR Satellite & 200-hpa Velocity Potential Anomalies

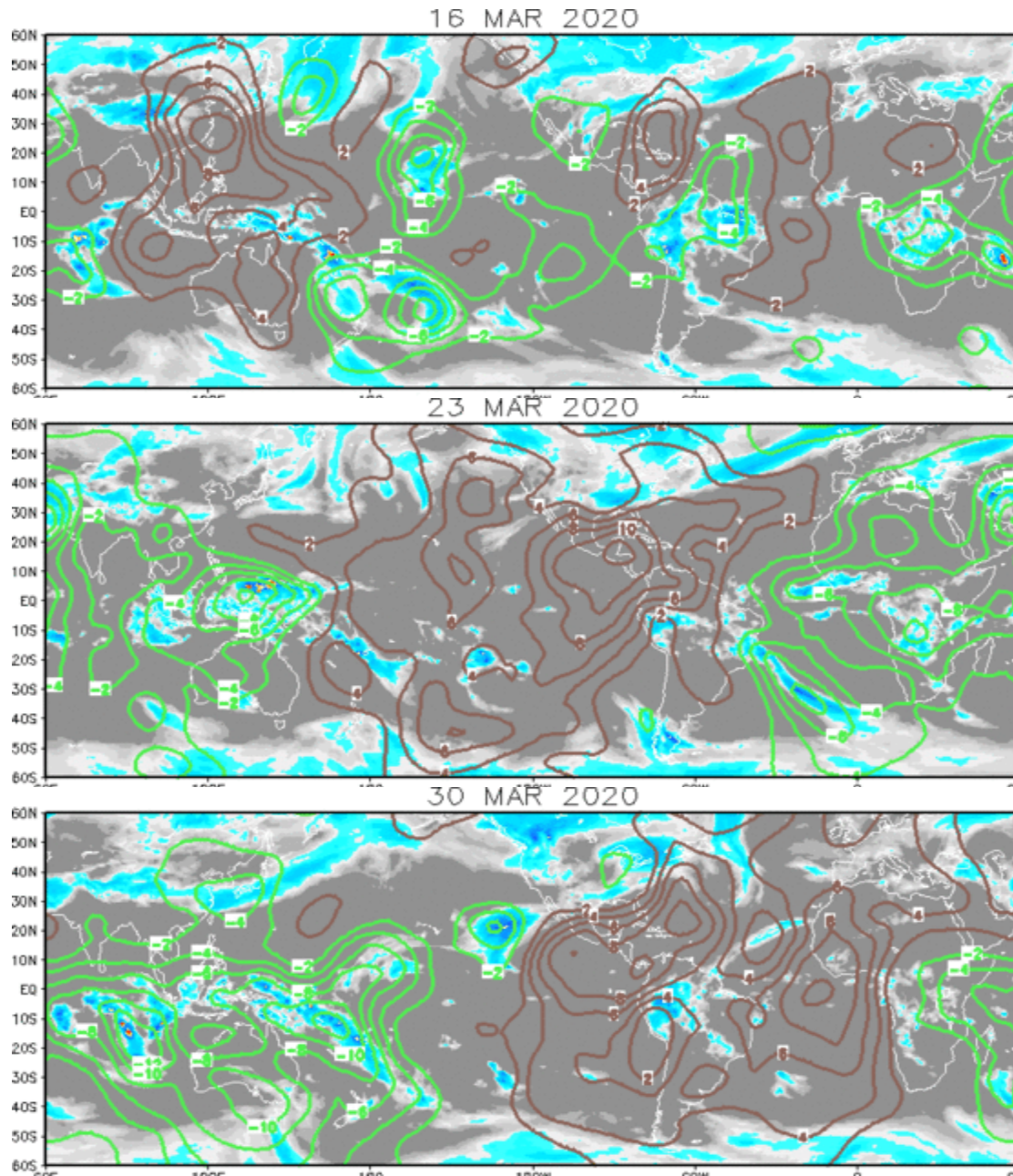
Green: Enhanced Divergence

Brown: Enhanced Convergence

+ Pattern composed of many smaller-scale features.

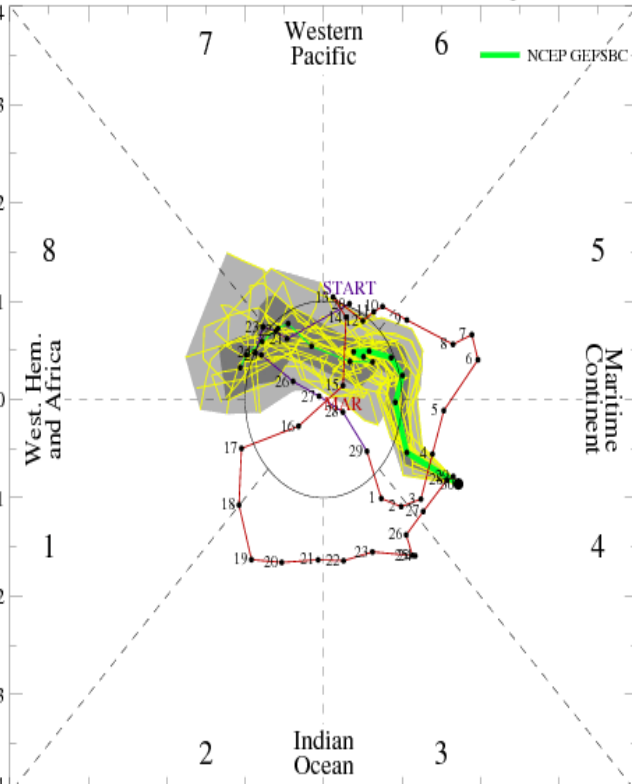
+ Much better organized pattern
– wavenumber 1... with enhanced upper-level DIV over E-Hemisphere; CON over W-Hemisphere.

+ Wave 1 pattern continues with eastward propagation.



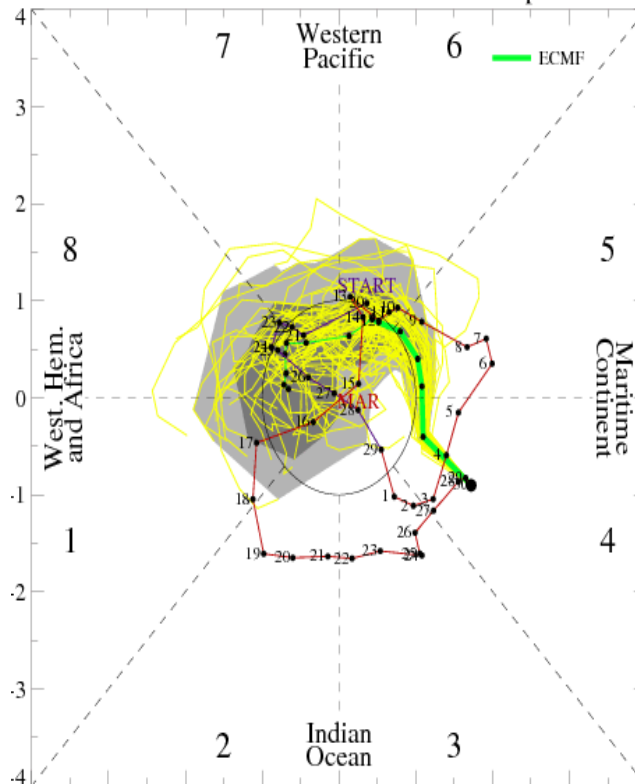
MJO Observation/Forecast

[RMM1, RMM2] forecast for Mar-31-2020 to Apr-14-2020



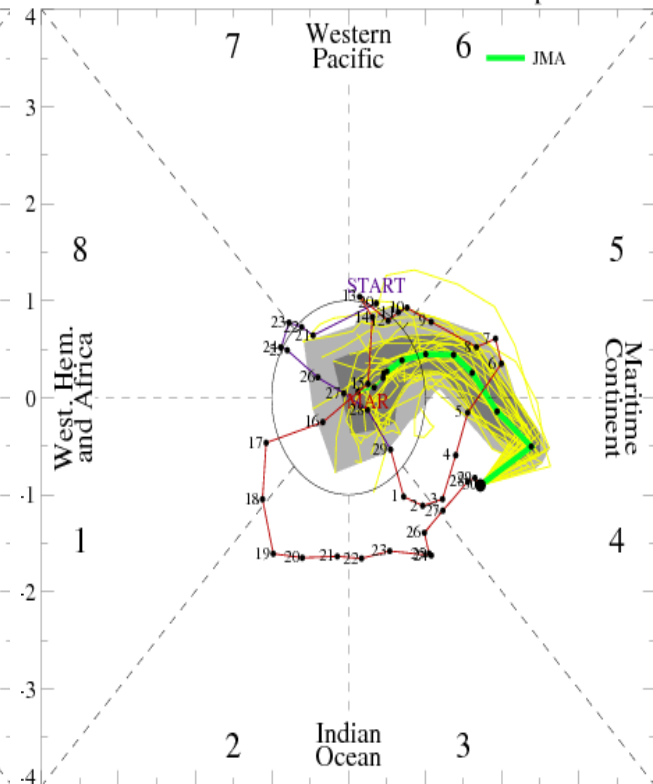
GEFS

MJO Index Forecast for 31Mar2020-14Apr2020



ECMWF

MJO Index Forecast for 31Mar2020-08Apr2020

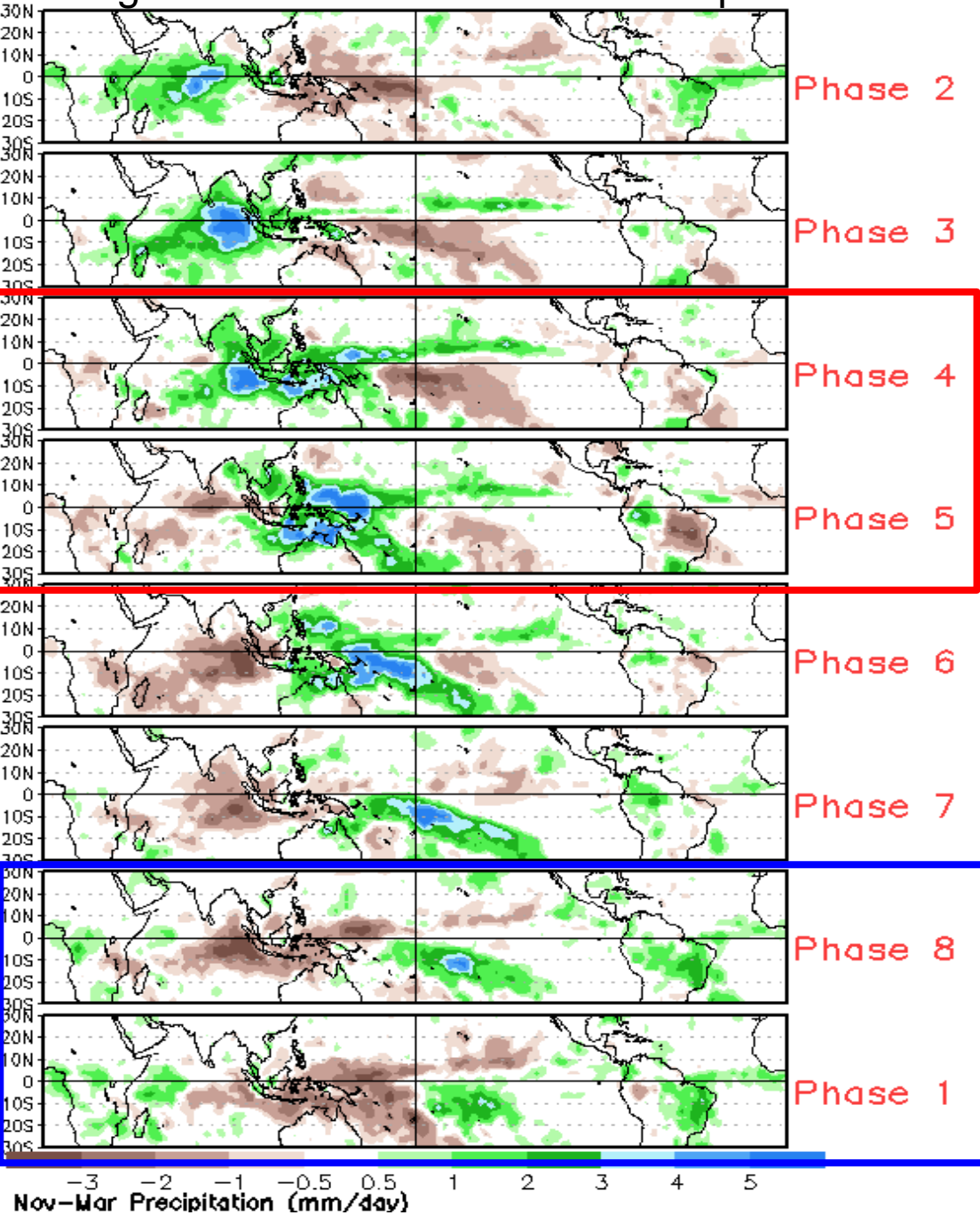


JMA

Most models indicate rapid weakening of intraseasonal signal during week-1 across the Maritime Continent.

During week-2, GEFS and ECMWF RMM forecasts indicate possible re-emergence of signal across Phases 8/1 (Western Hemisphere).

Average Conditions when the MJO is present



Week-1: Phases 4/5
Week-2: Phases 8/1

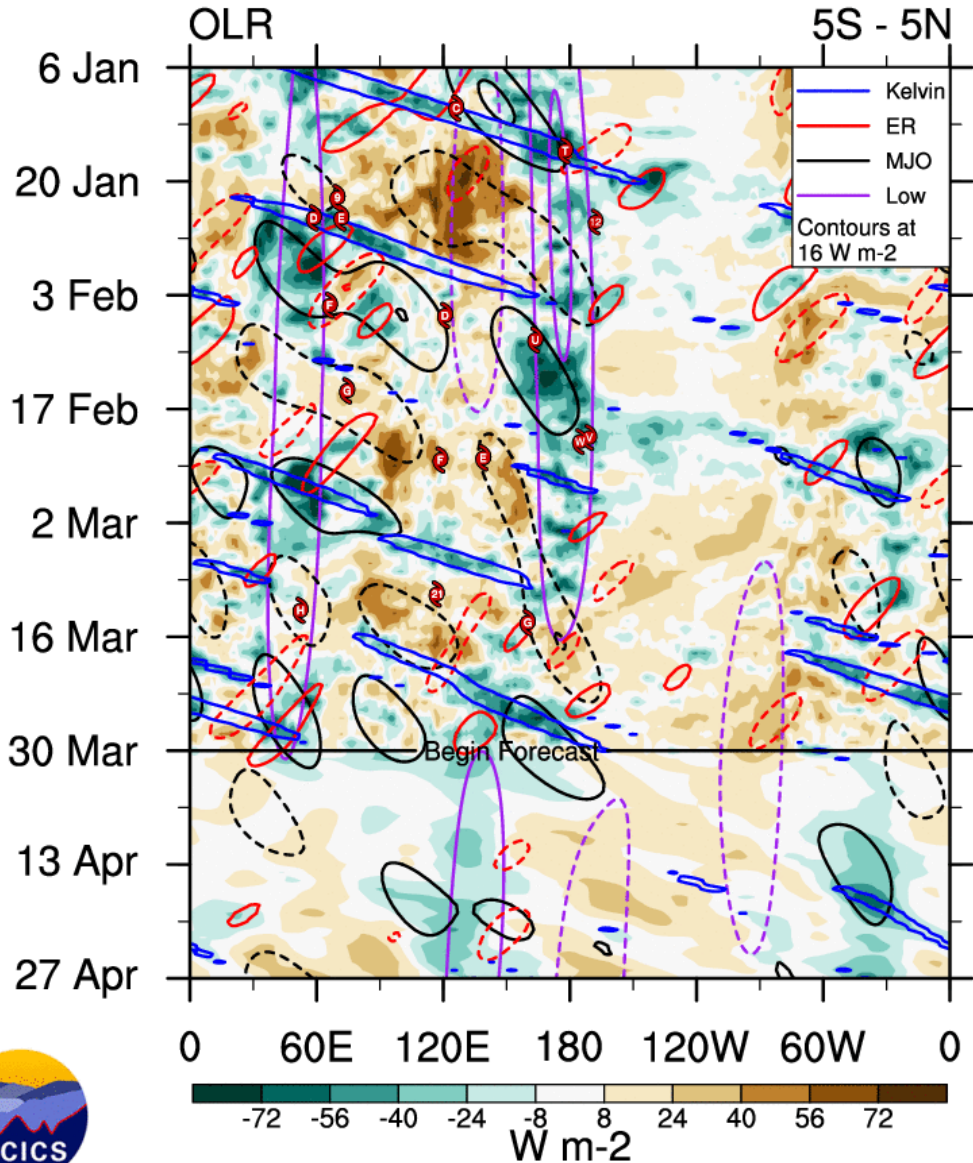
CAVEAT: These panels are representative of robust MJO events.

MJO signal near Date Line
which doesn't last

Rossby wave presence
near 150E

Kelvin wave Near Date
Line.

Low frequency near Date
Line; has weakened

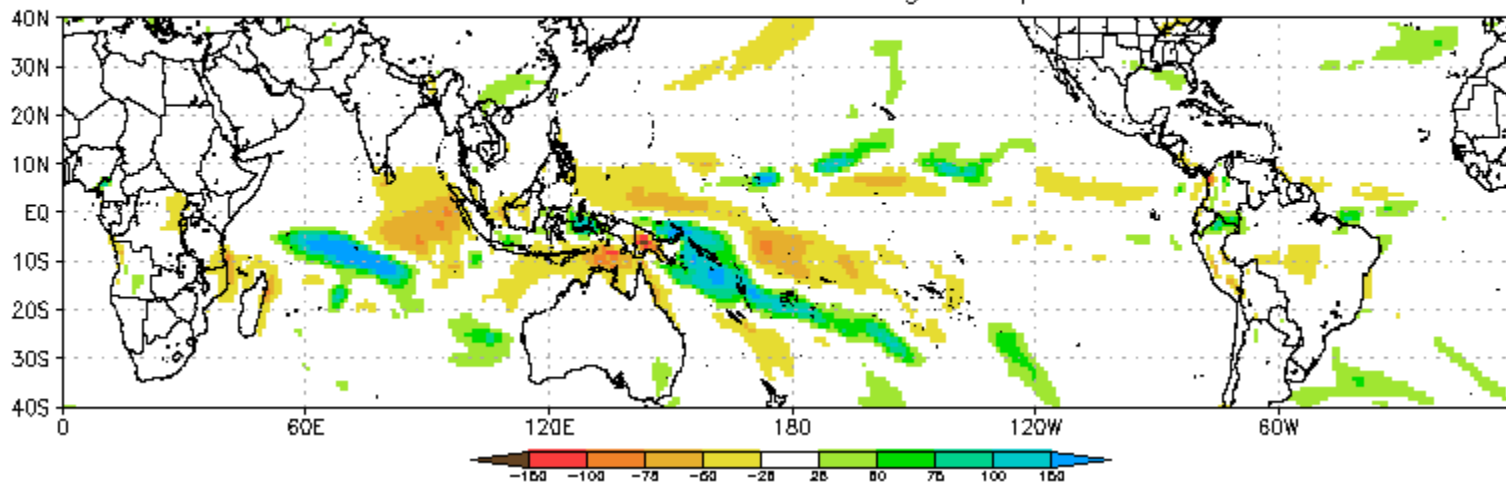


ncics.org/mjo

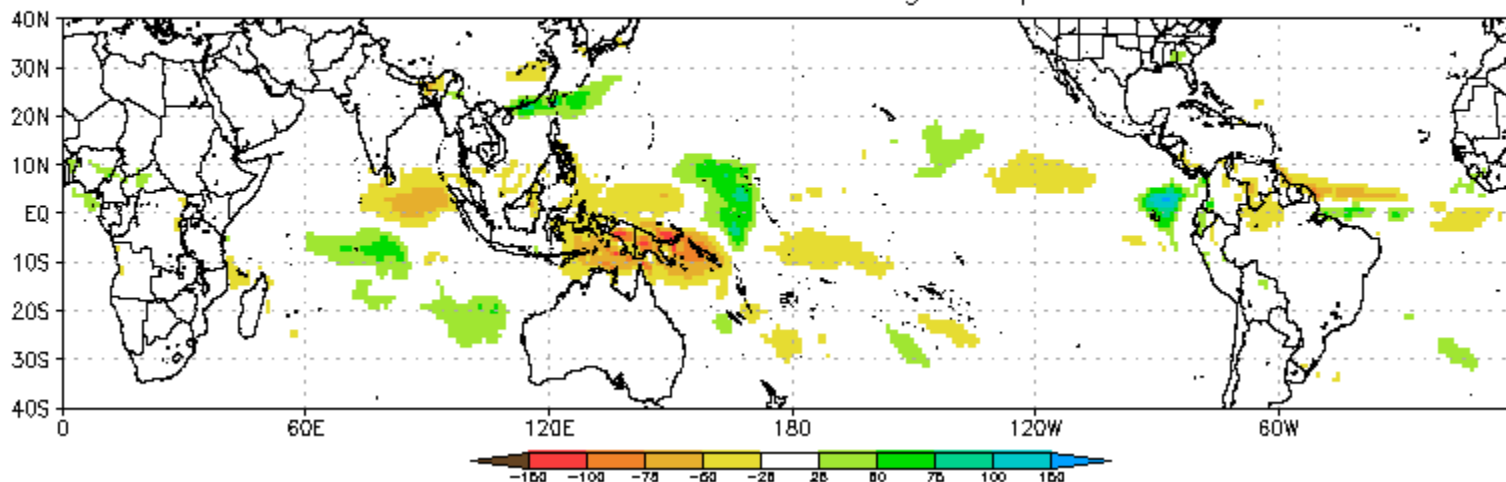
Tue 2020-03-31 1511 UTC

Carl Schreck
carl_schreck@ncsu.edu

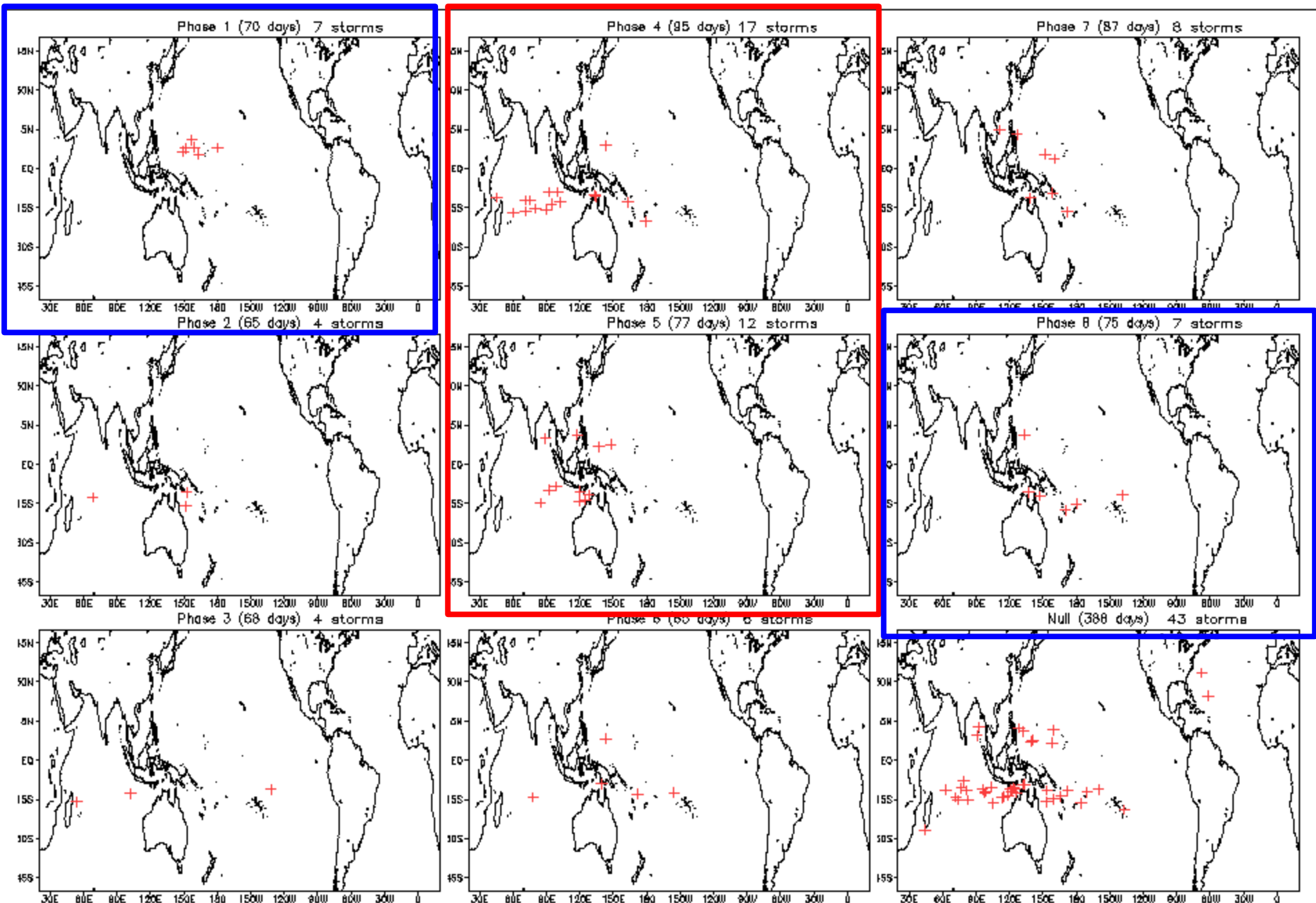
CFS Precipitation Anomalies (mm) Issued 30Mar2020
Week-1 Forecast Ending 07Apr2020



CFS Precipitation Anomalies (mm) Issued 30Mar2020
Week-2 Forecast Ending 14Apr2020



April Tropical Storm Formation by MJO phase





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



No new tropical cyclones are expected during the next five days.

7:00 pm EST
Sat Nov 30 2019

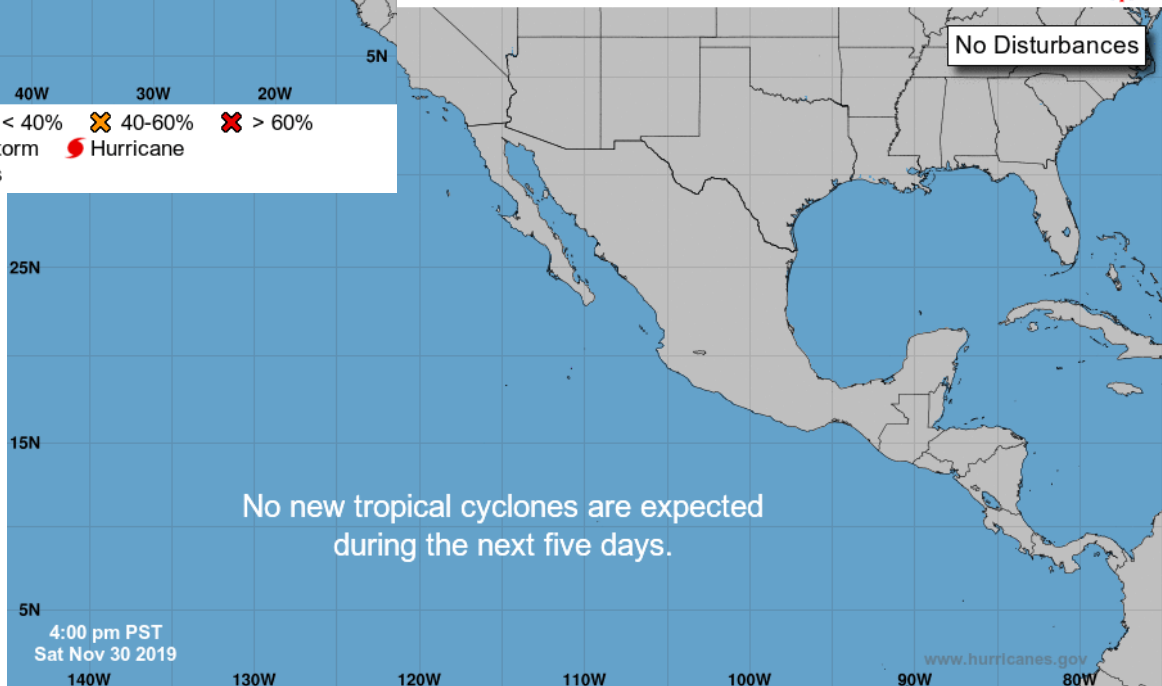
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



No new tropical cyclones are expected during the next five days.

4:00 pm PST
Sat Nov 30 2019

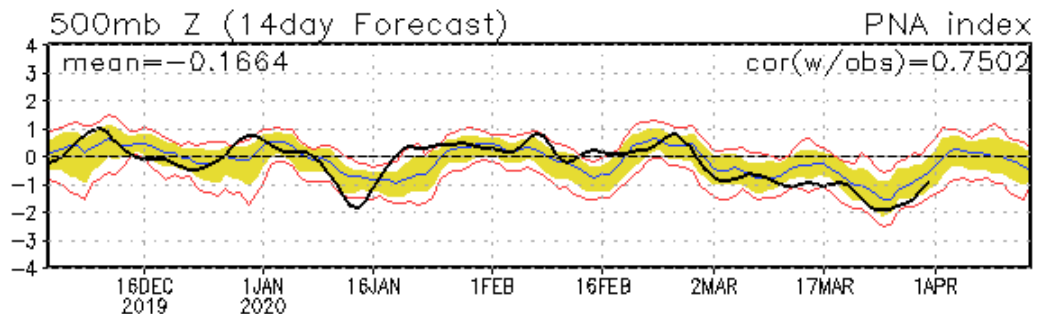
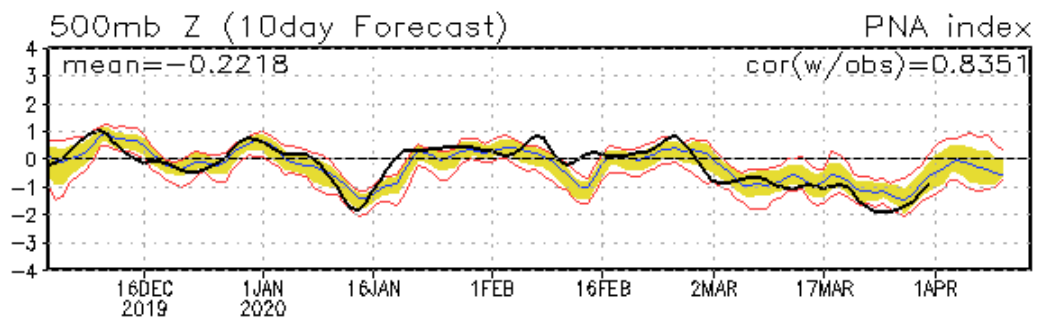
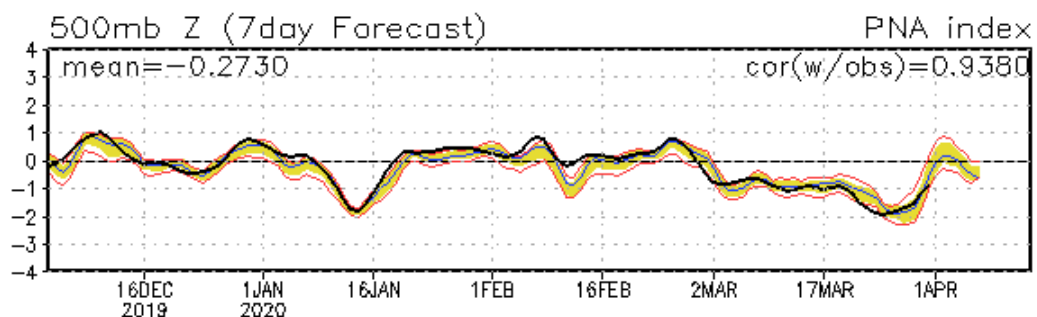
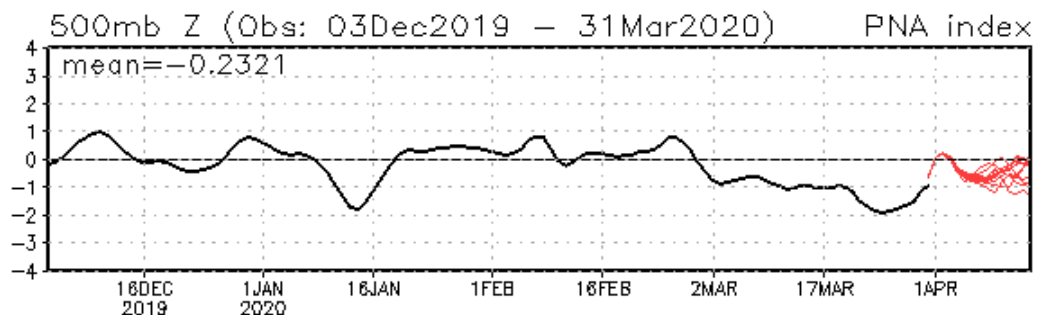
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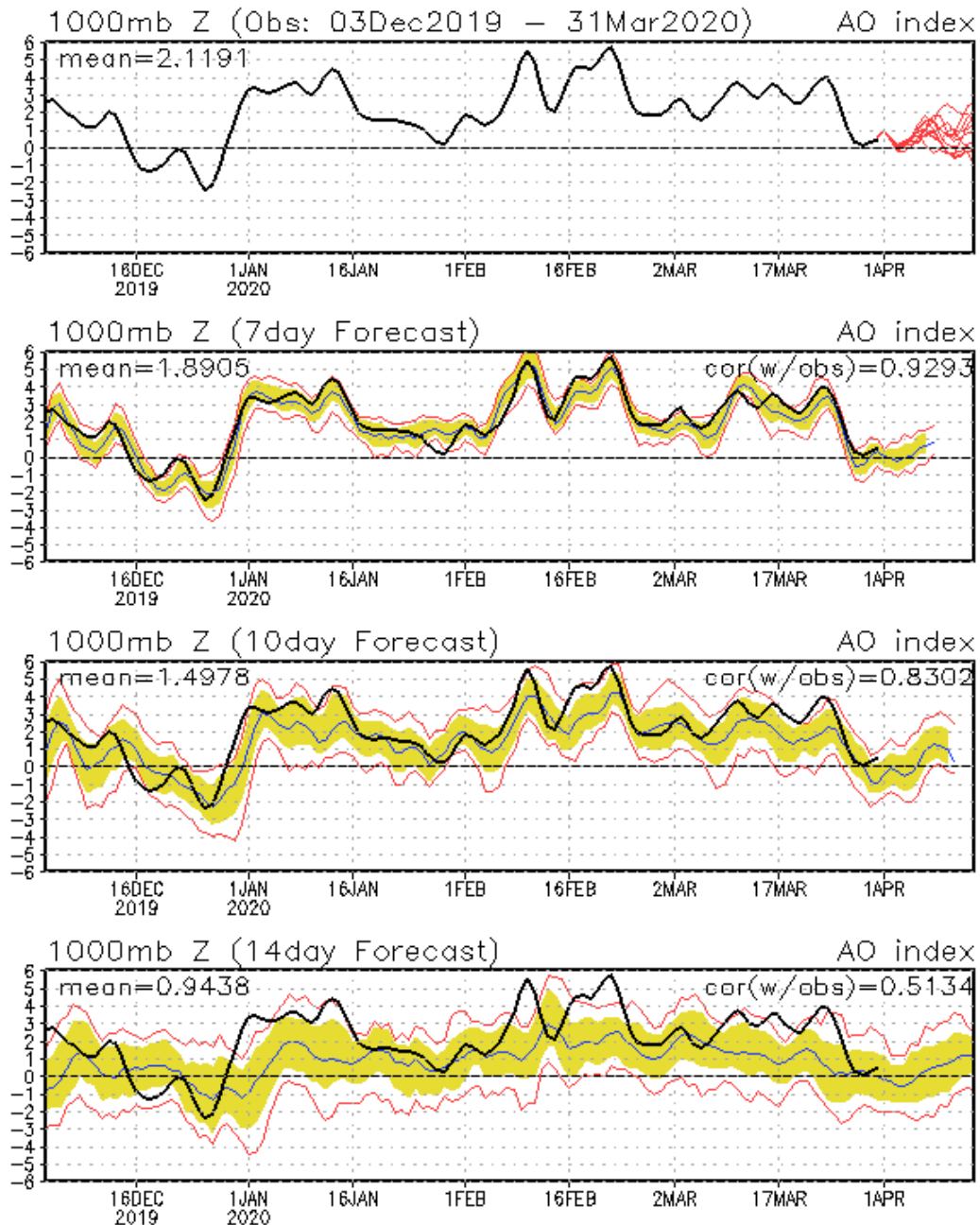
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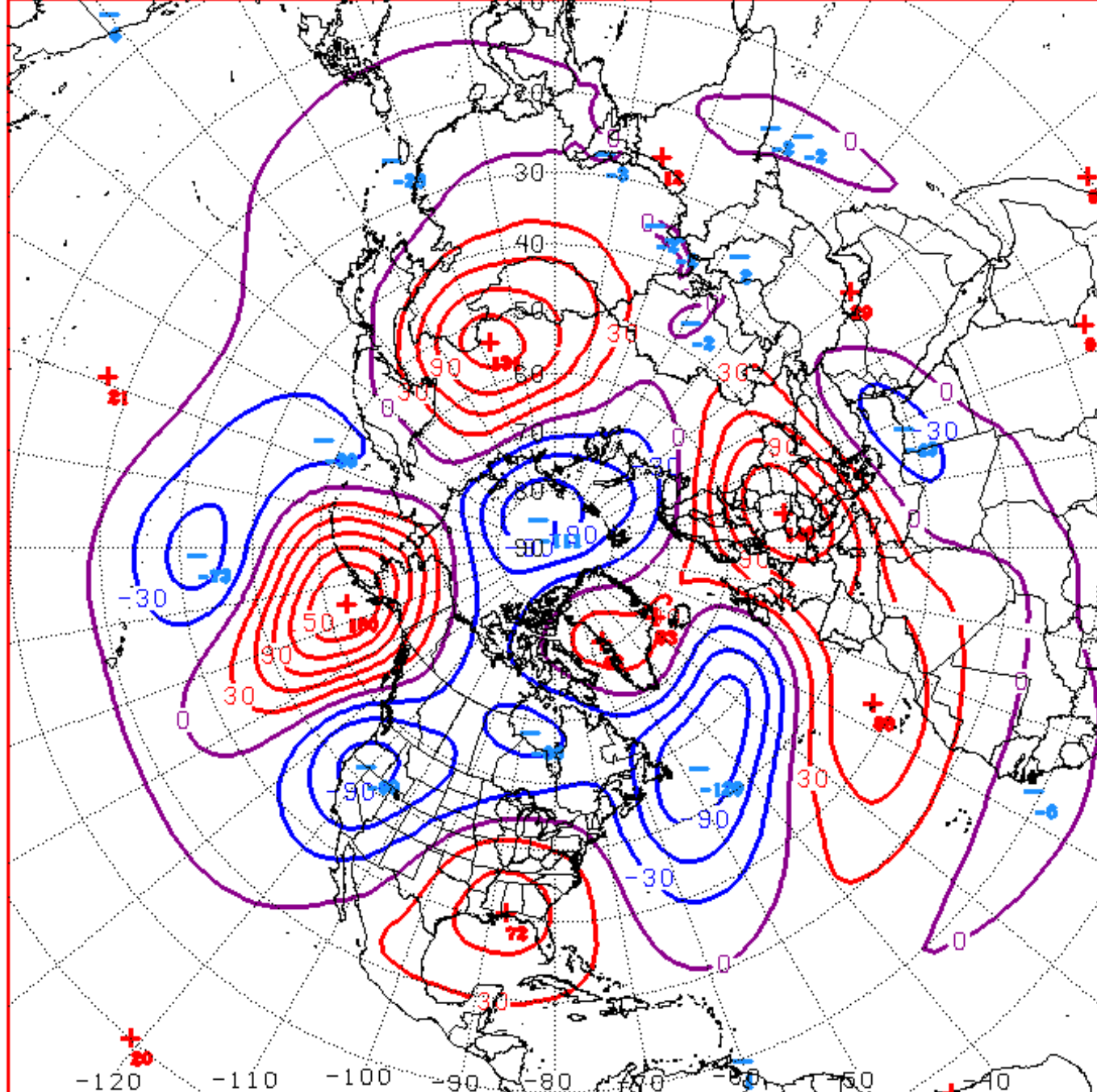
Connections to U.S. Impacts

PNA: Observed & ENSM forecasts



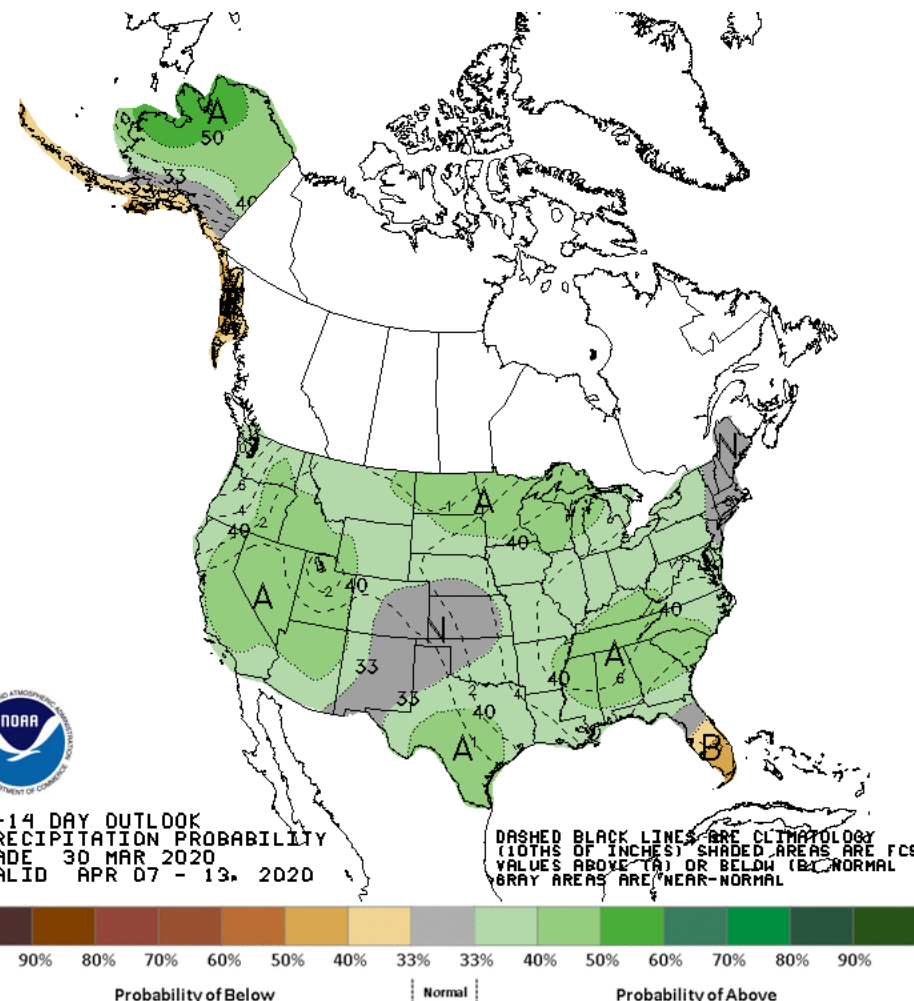
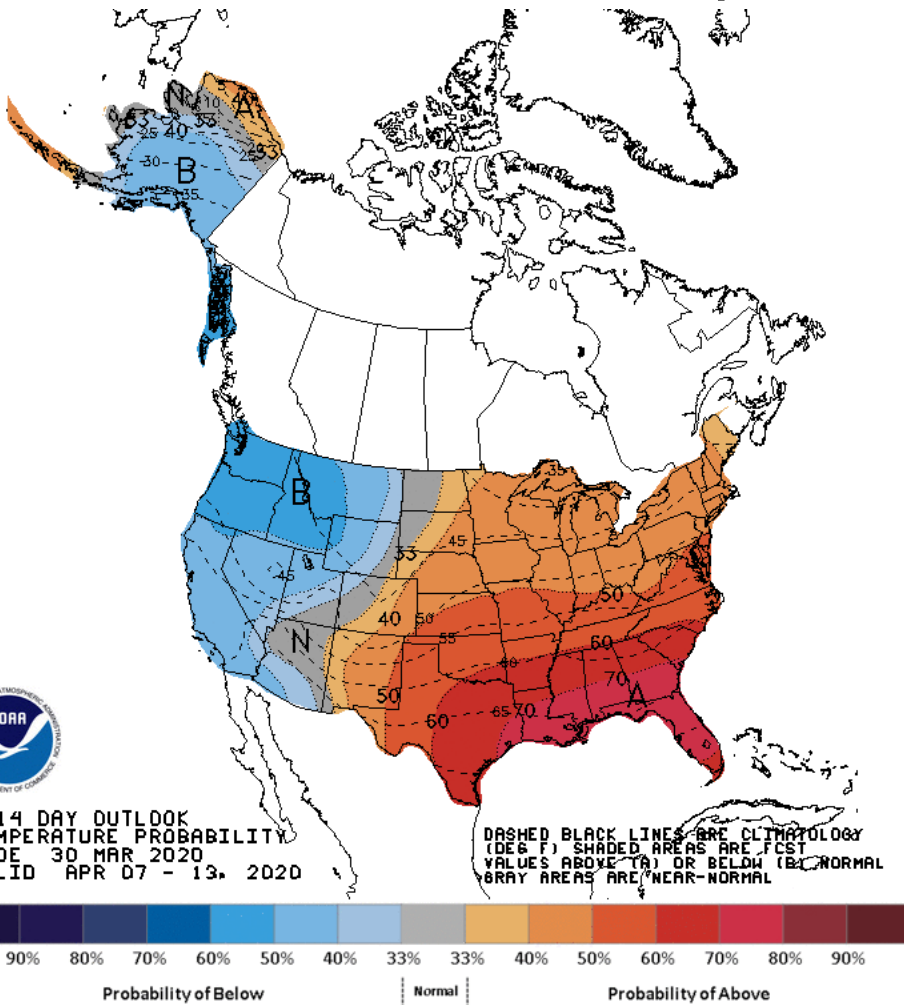
AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE MAR 31 2020 1318 UTC CNTD APR 11 2020

Week 2 – Temperature and Precipitation

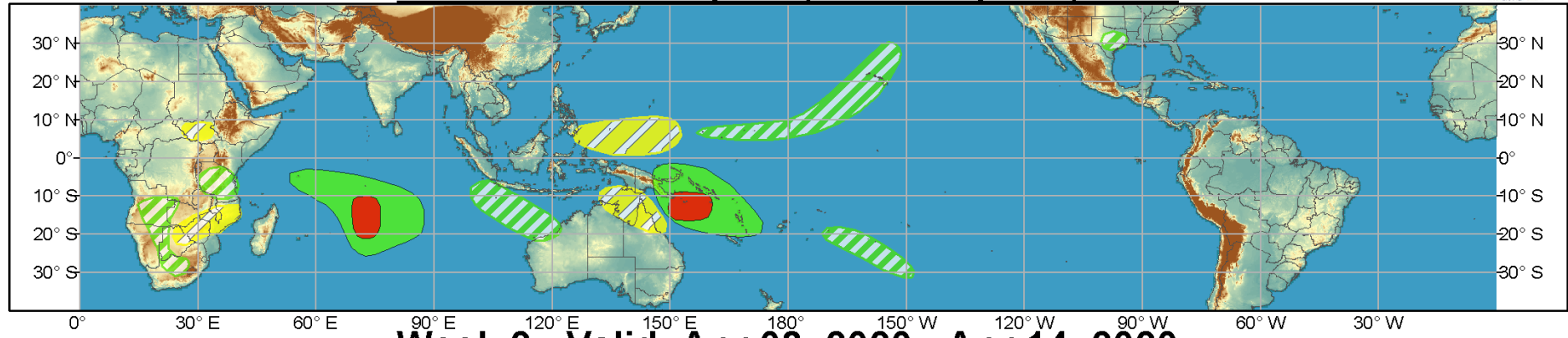


Relatively cool & wet west of Divide; warm and wet east of Divide. Cool/wet for much of Alaska.

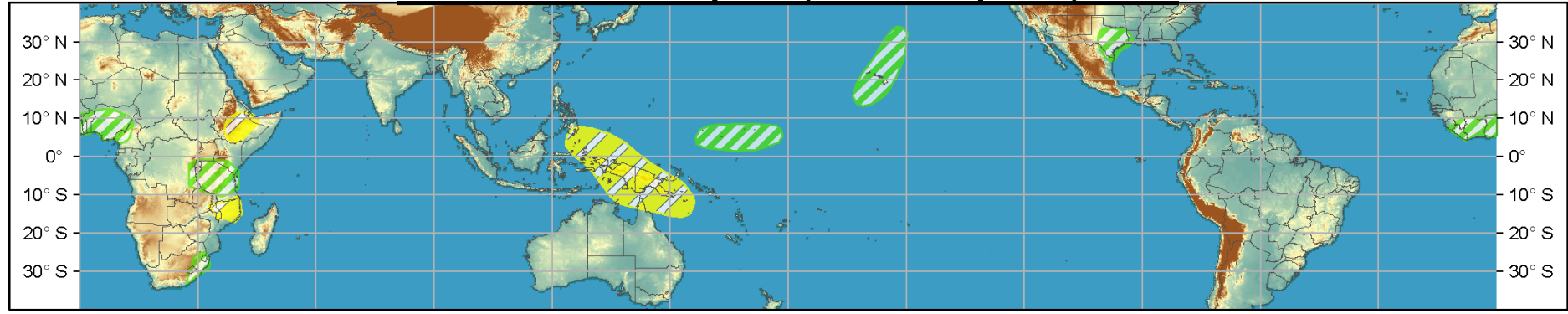


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