

Global Tropics Hazards And Benefits Outlook

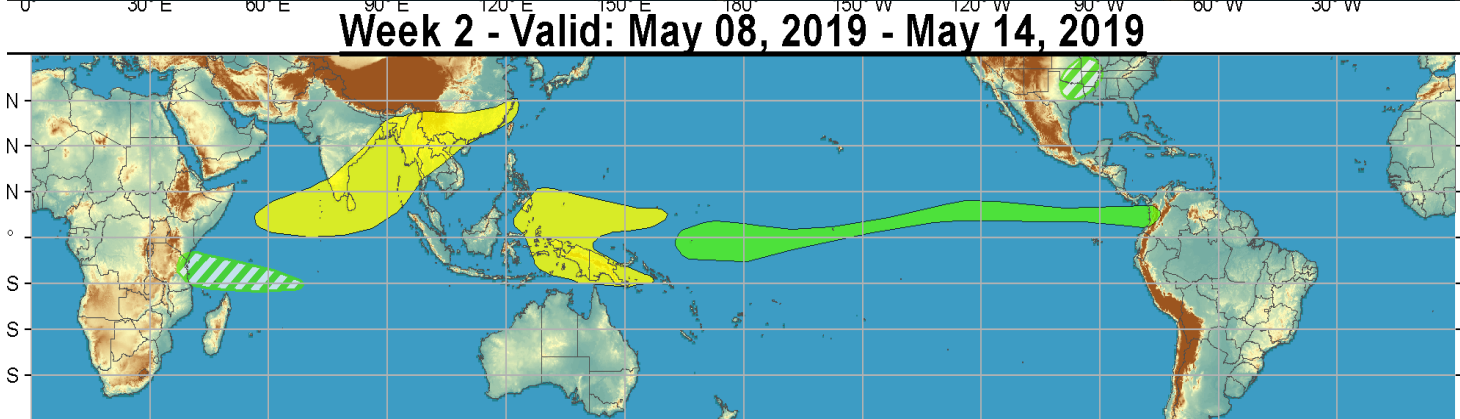
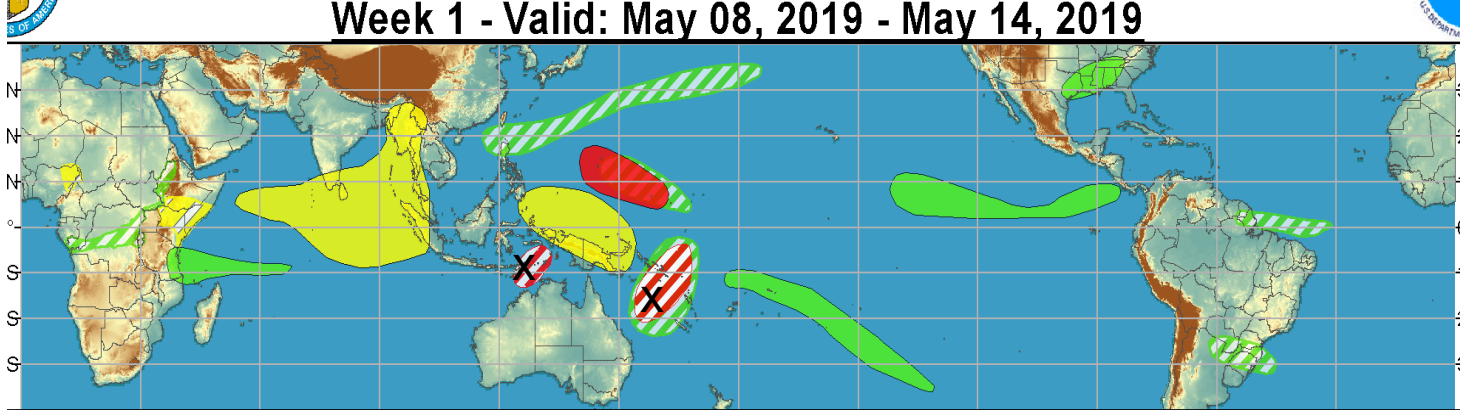
5/14/2019

Brad Pugh & Nick Novella

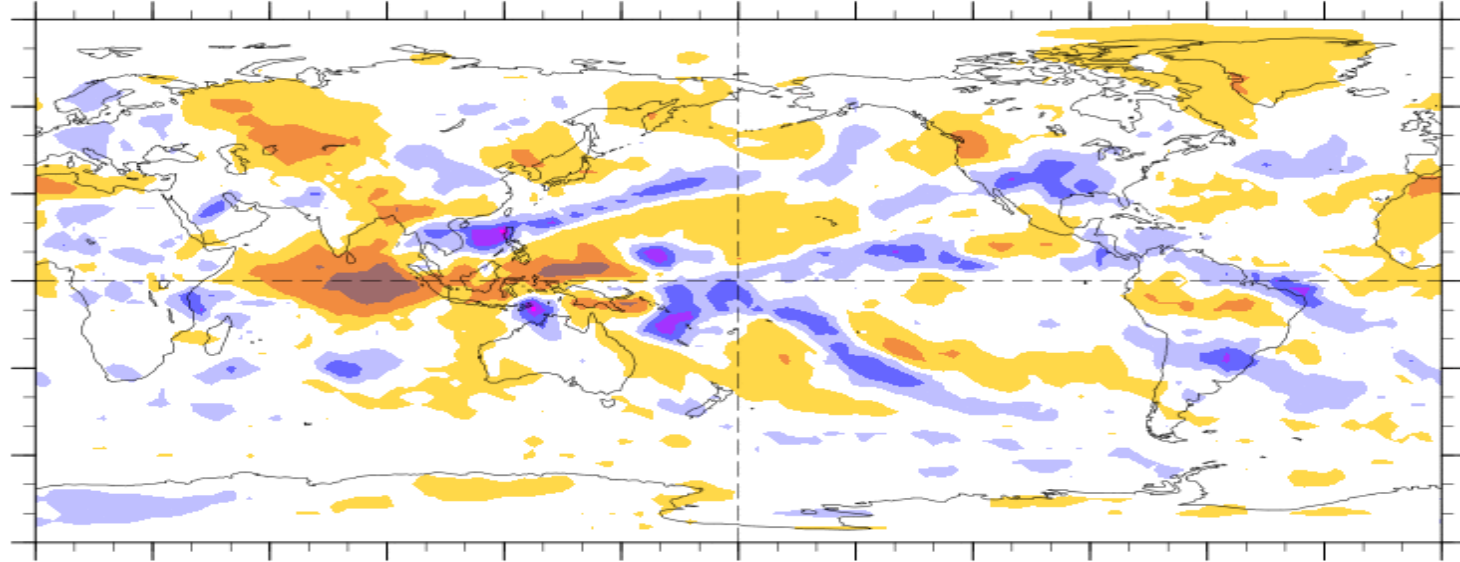
Outline

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

Outlook Review



7-Day Average OLR Anomaly 2019/05/06 - 2019/05/12



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (May 9, 2019 Update)

- ENSO Alert System Status: [El Niño Advisory](#)
- El Niño is likely to continue through the Northern Hemisphere summer 2019 (70% chance) and fall (55-60% chance).

MJO and other subseasonal tropical variability:

- The MJO continued its eastward propagation over the Pacific Ocean.
- Dynamical models indicate that the MJO is likely to continue shifting east over the Western Hemisphere (Phases 8 and 1) during the next two weeks.
- *The MJO is expected to elevate chances for tropical cyclone development across the East Pacific. A delay in the onset of the Indian Monsoon is expected until MJO re-emerges over Indian Ocean at the beginning of June.*

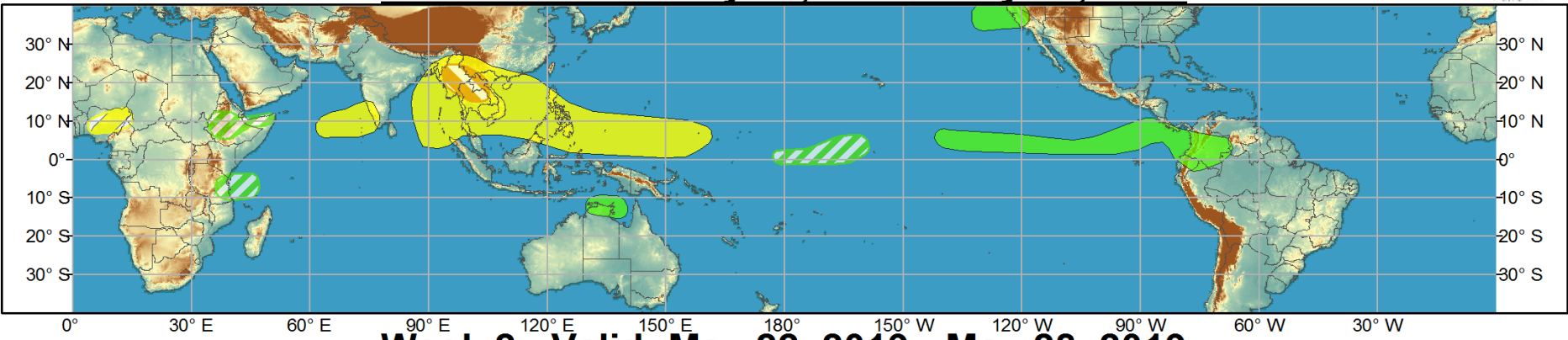
Extratropics:

- Although an amplified mid-latitude trough is the major contributor to a wet pattern over the West the next two weeks, enhanced moisture from the subtropics is consistent with MJO evolution and El Niño.

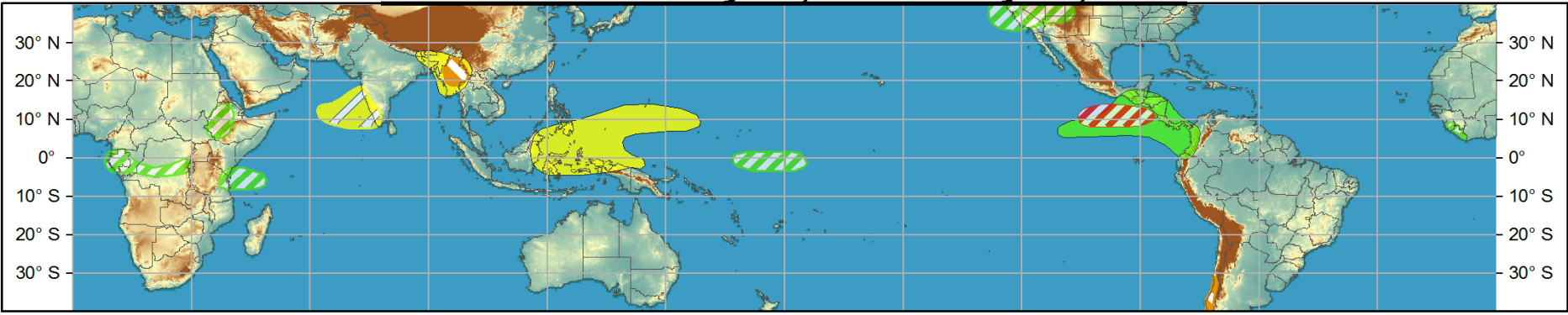


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: May 15, 2019 - May 21, 2019



Week 2 - Valid: May 22, 2019 - May 28, 2019



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.
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- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
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Produced: 05/14/2019
Forecaster: Pugh

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IR Satellite & 200-hpa Velocity Potential Anomalies

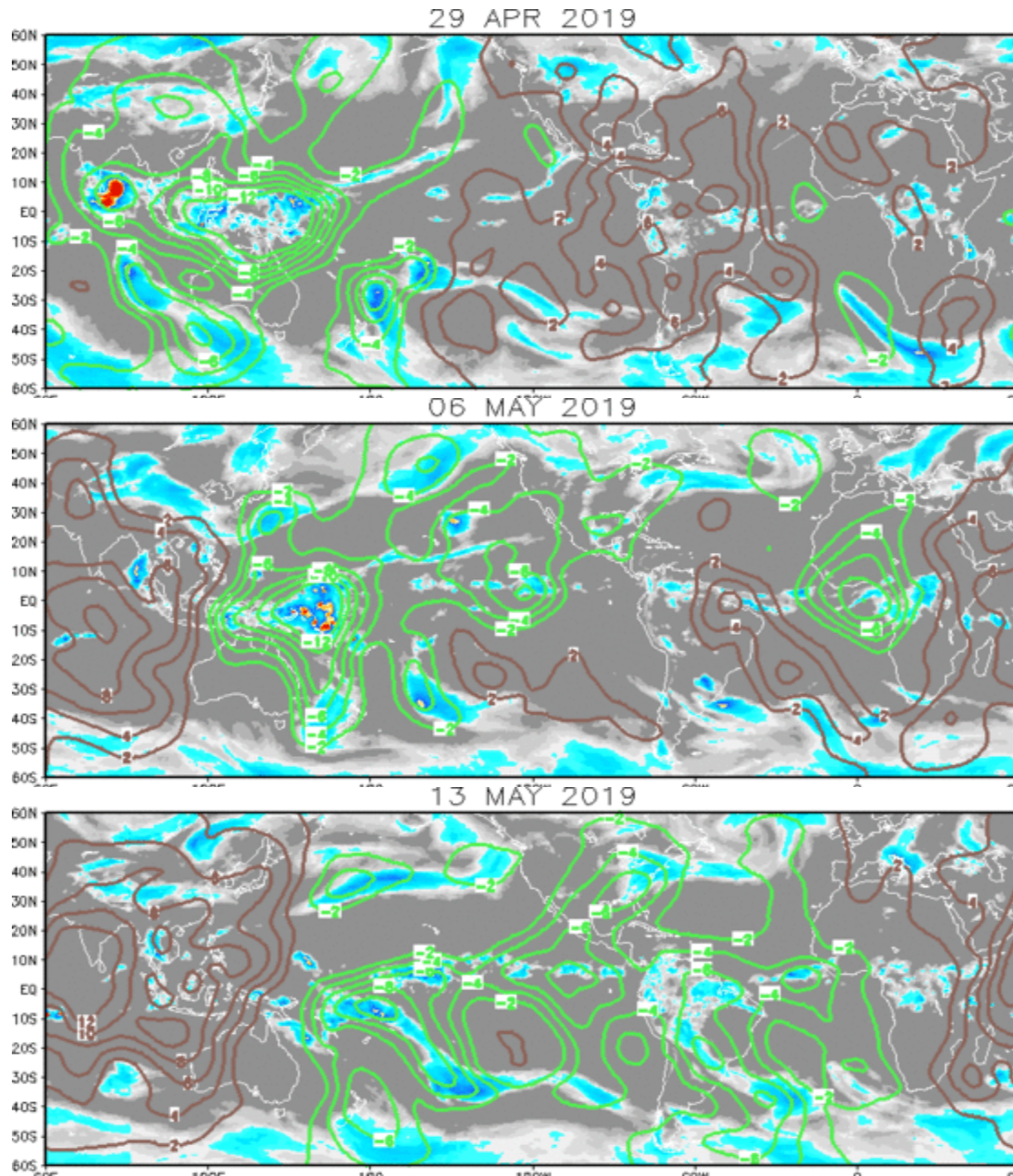
Green: Enhanced Divergence

Brown: Enhanced Convergence

Continued coherent wave-1 pattern indicative of a robust MJO, with enhanced convection from the Indian Ocean through West Pacific.

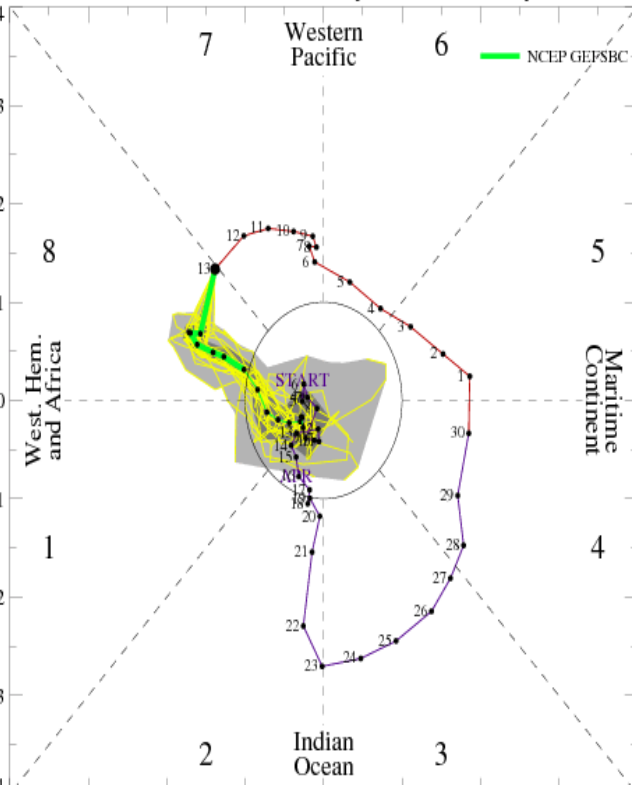
Shift to somewhat more of a wave-2 pattern, with a Rossby wave over Africa partially to blame for the split.

Constructive interference between the MJO and El Niño resulted in a coherent pattern spatially with large anomalies.



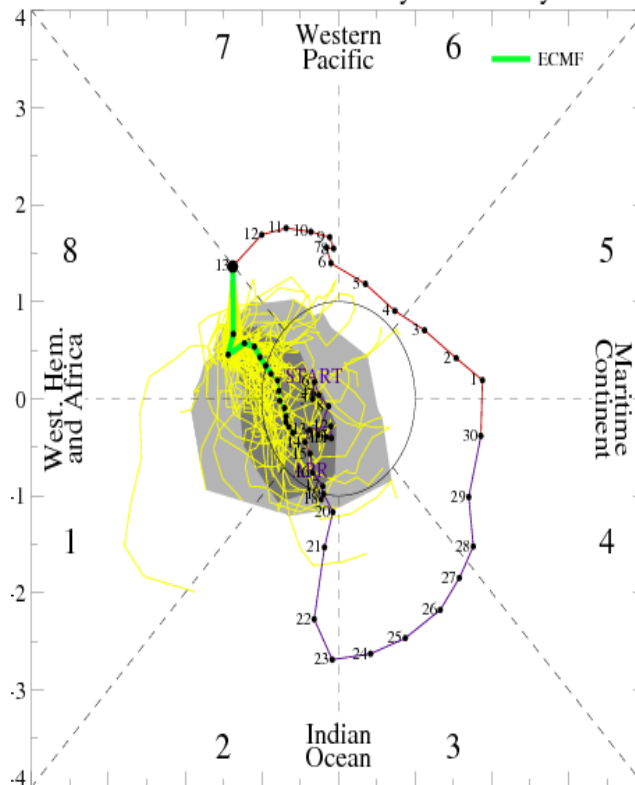
MJO Observation/Forecast

[RMM1, RMM2] forecast for May-14-2019 to May-28-2019



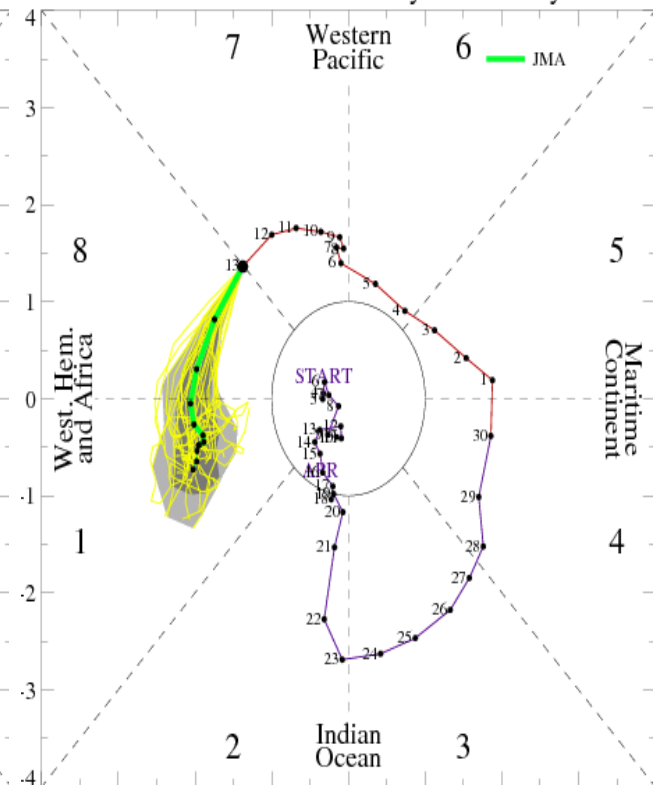
GEFS

MJO Index Forecast for 14May2019-28May2019



ECMWF

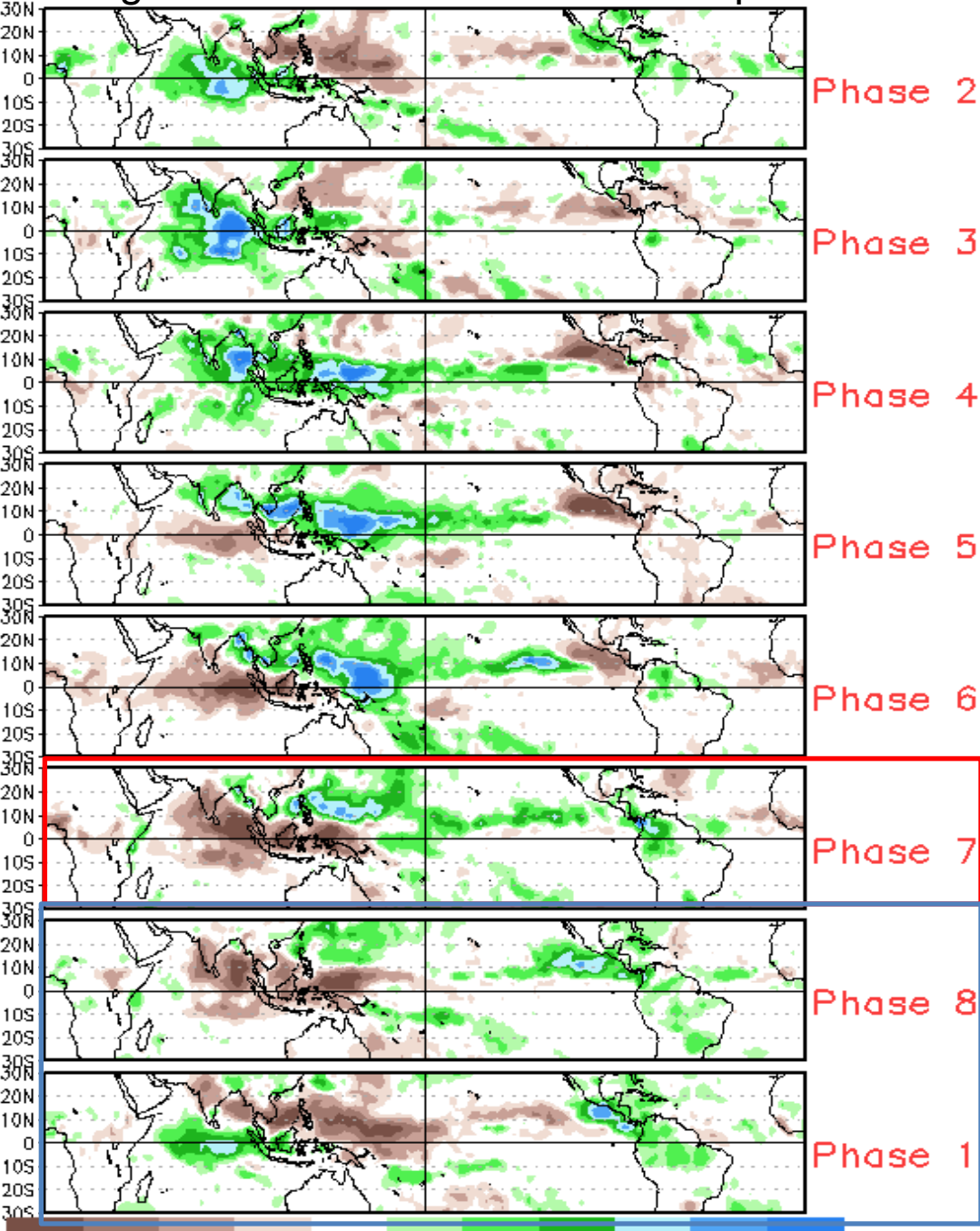
MJO Index Forecast for 14May2019-22May2019



JMA

The GEFS and ECMWF models indicate continued eastward propagation of the MJO during the next two weeks albeit with a decrease in amplitude.

Average Conditions when the MJO is present

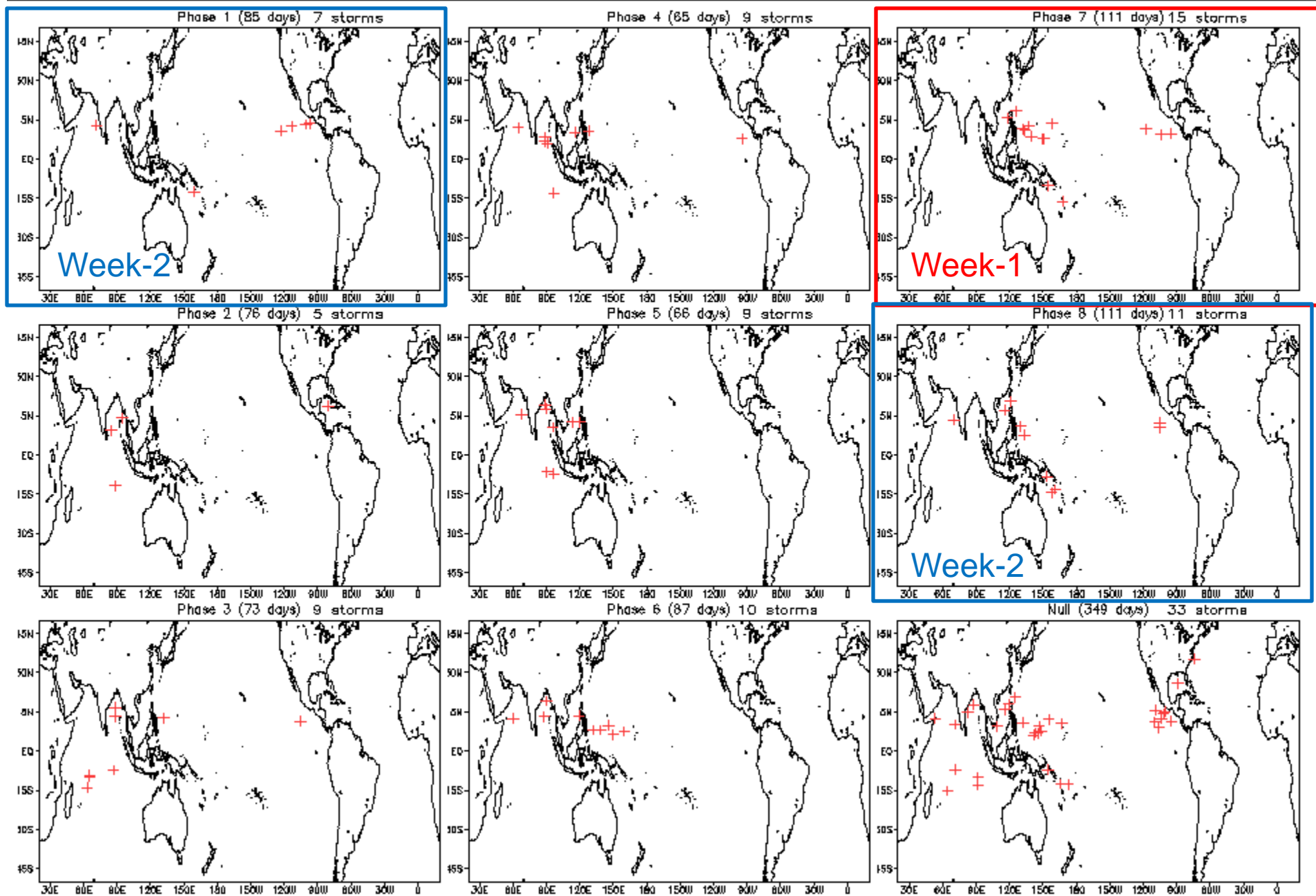


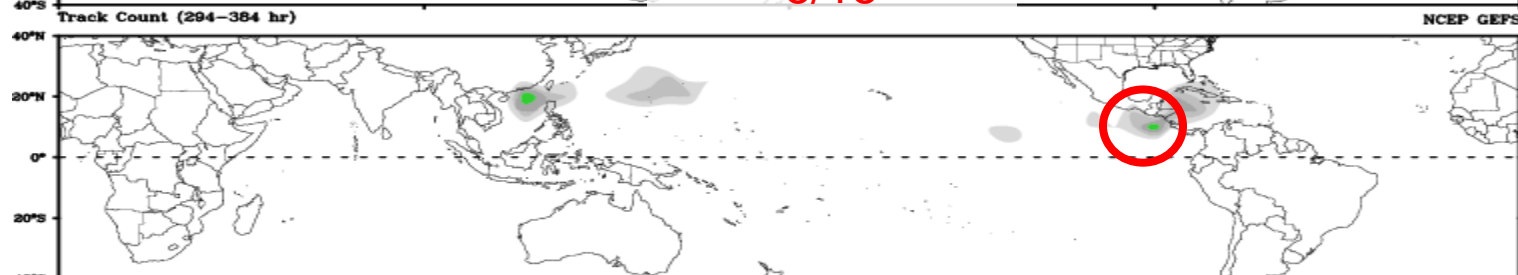
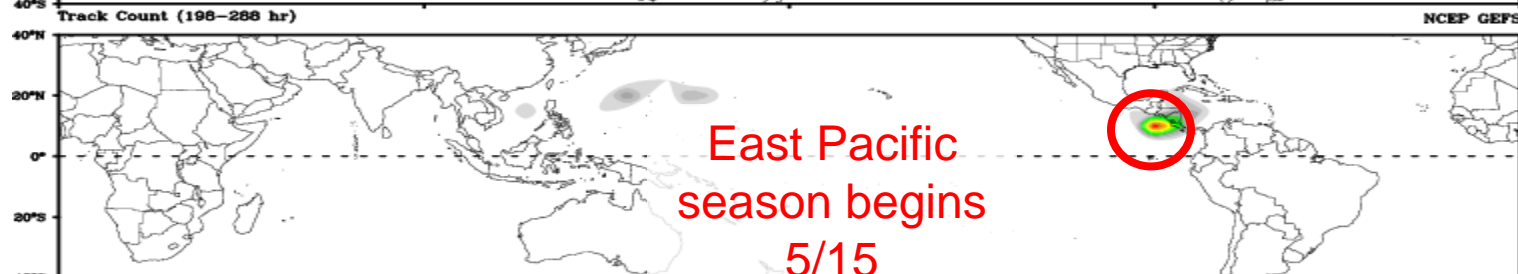
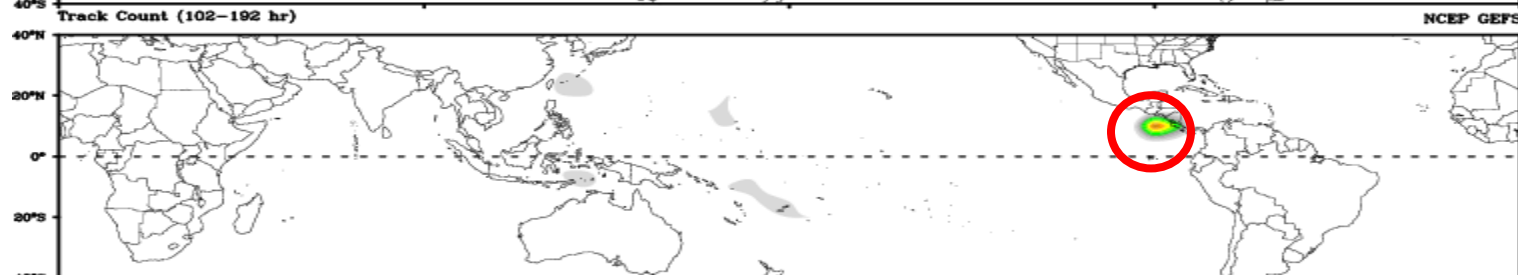
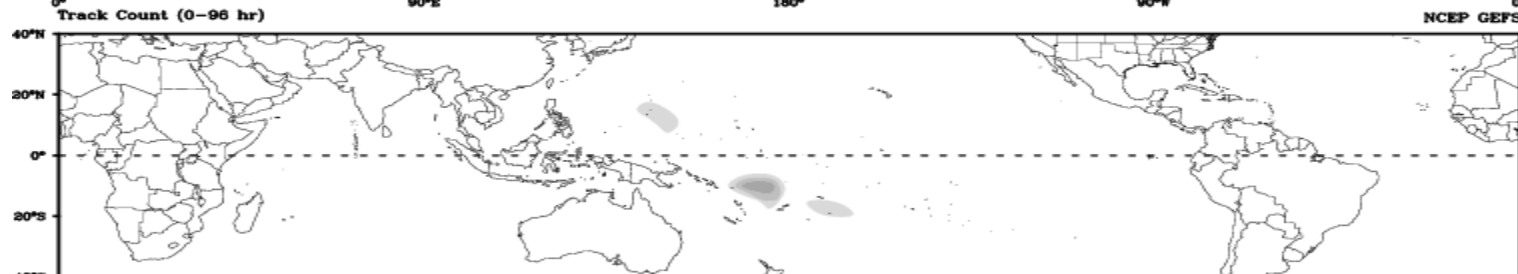
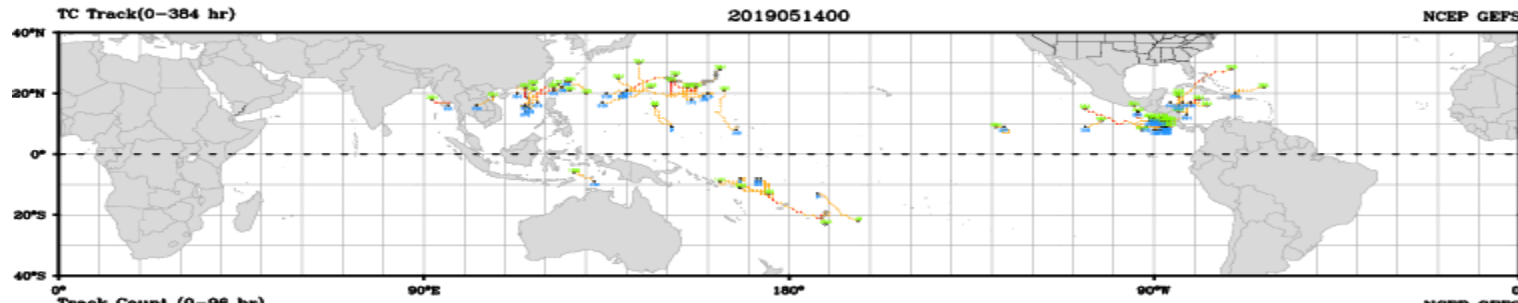
Week-1: Phase 7

Week-2: Phases 8/1

CAVEAT: These panels are representative of robust MJO events.

May Tropical Storm Formation by MJO phase





Days 1-4

Days 5-8

Days 9-12

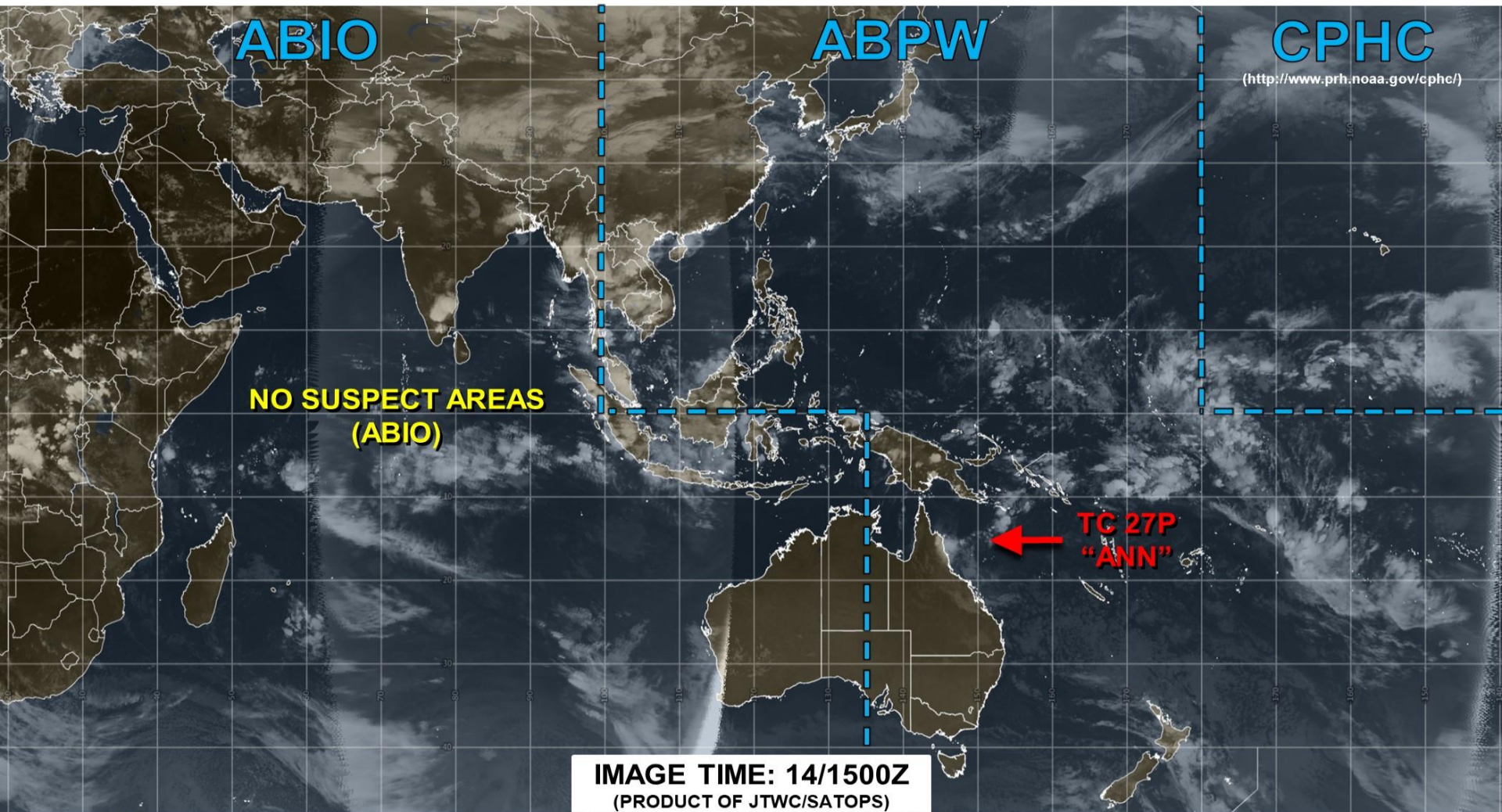
Days 13-16

East Pacific
season begins
5/15





JOINT TYPHOON WARNING CENTER



ABIO

ABPW

CPHC
(<http://www.prh.noaa.gov/cphc/>)

**NO SUSPECT AREAS
(ABIO)**

**TC 27P
"ANN"**

IMAGE TIME: 14/1500Z
(PRODUCT OF JTWC/SATOPS)

LOW

TC development unlikely within 24 hours

MEDIUM

TC development likely, but expected to occur beyond 24 hours

HIGH

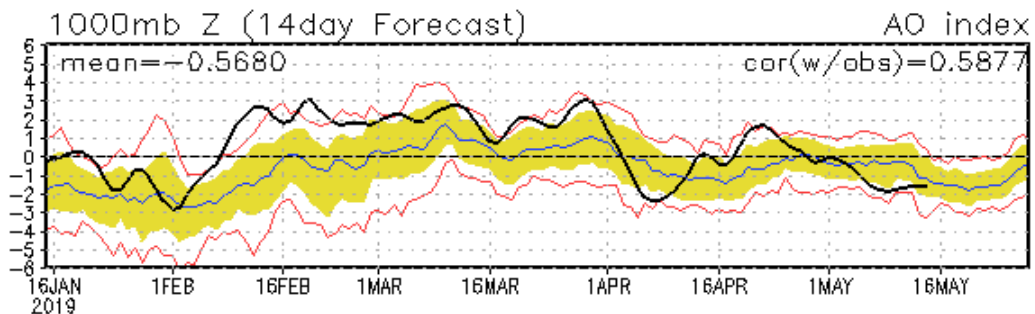
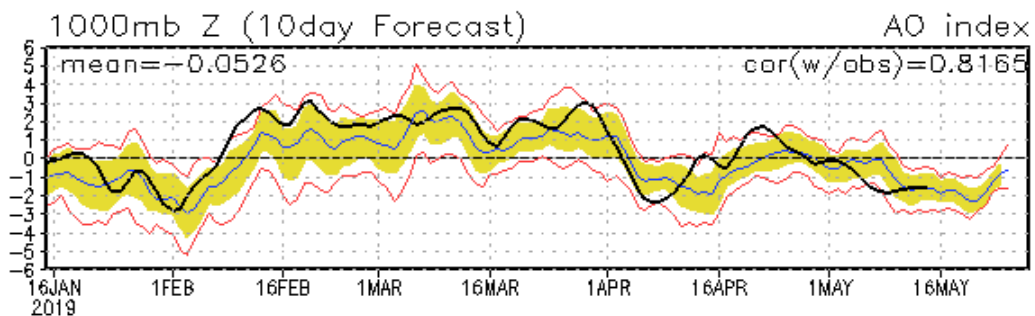
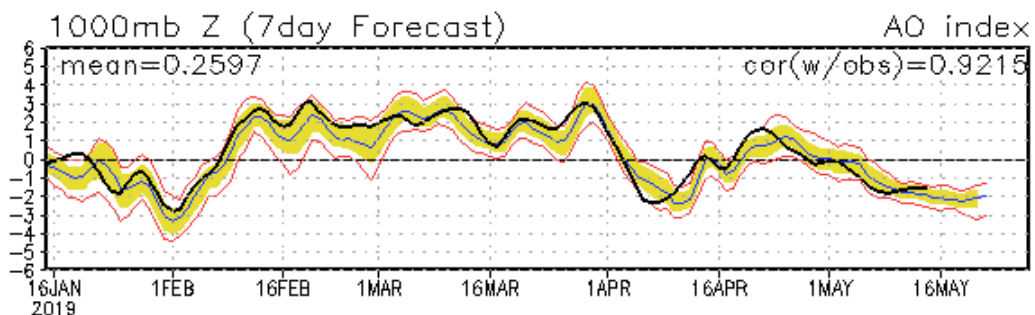
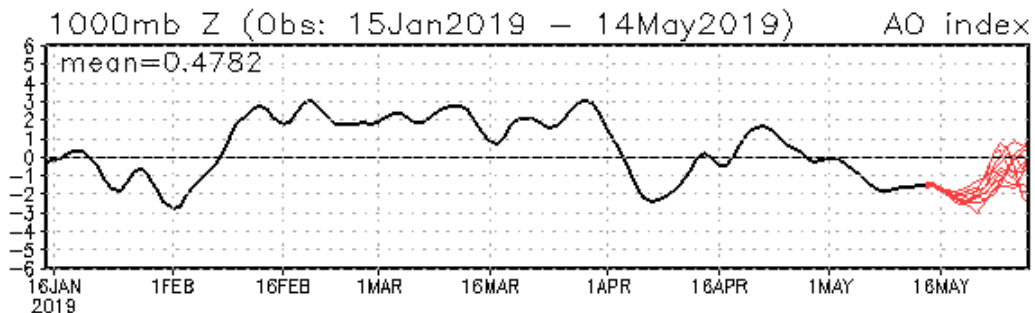
TC development likely within 24 hours (Reference TCFA)

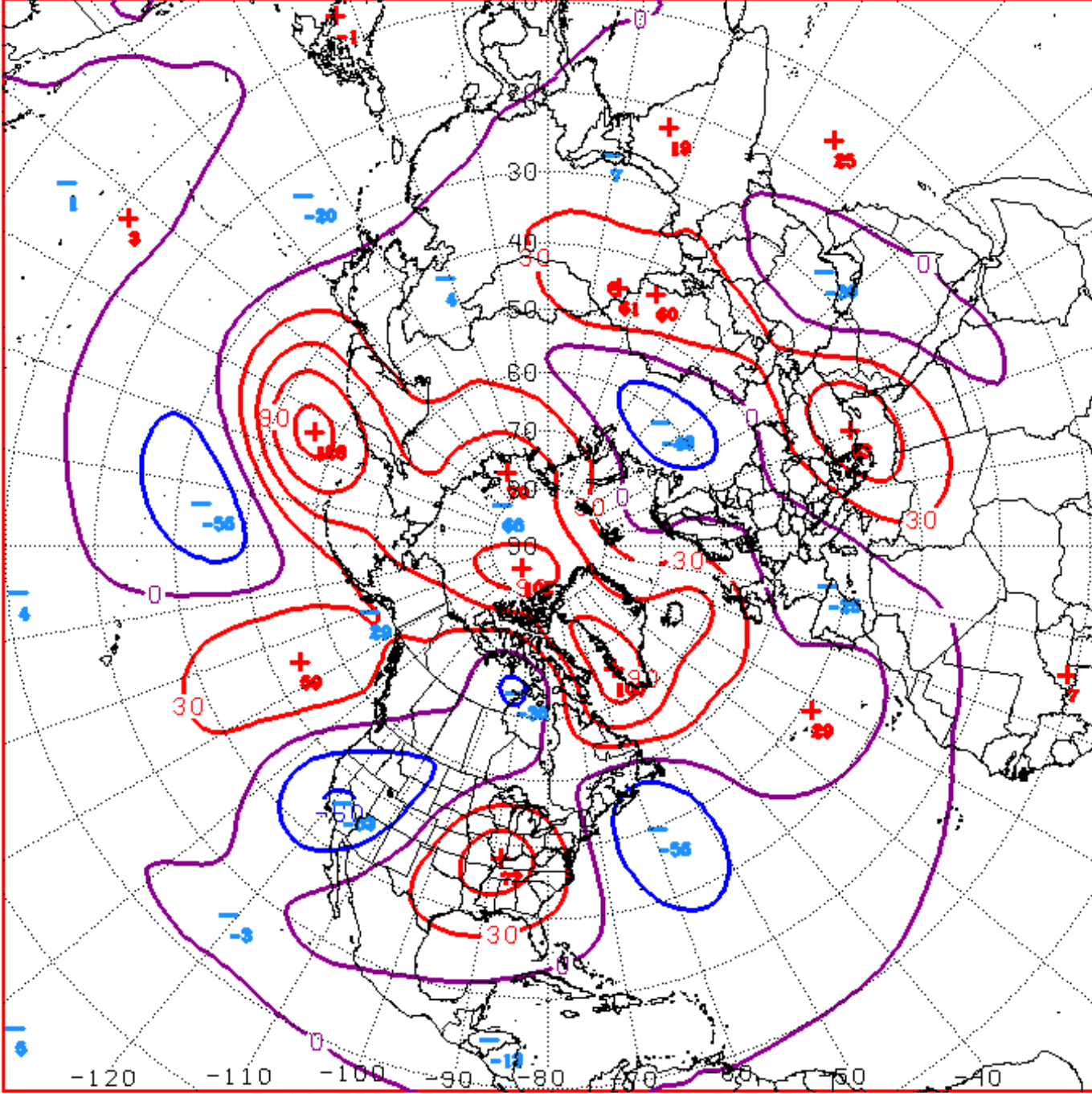


Tropical Cyclone (Reference Warning)

Connections to U.S. Impacts

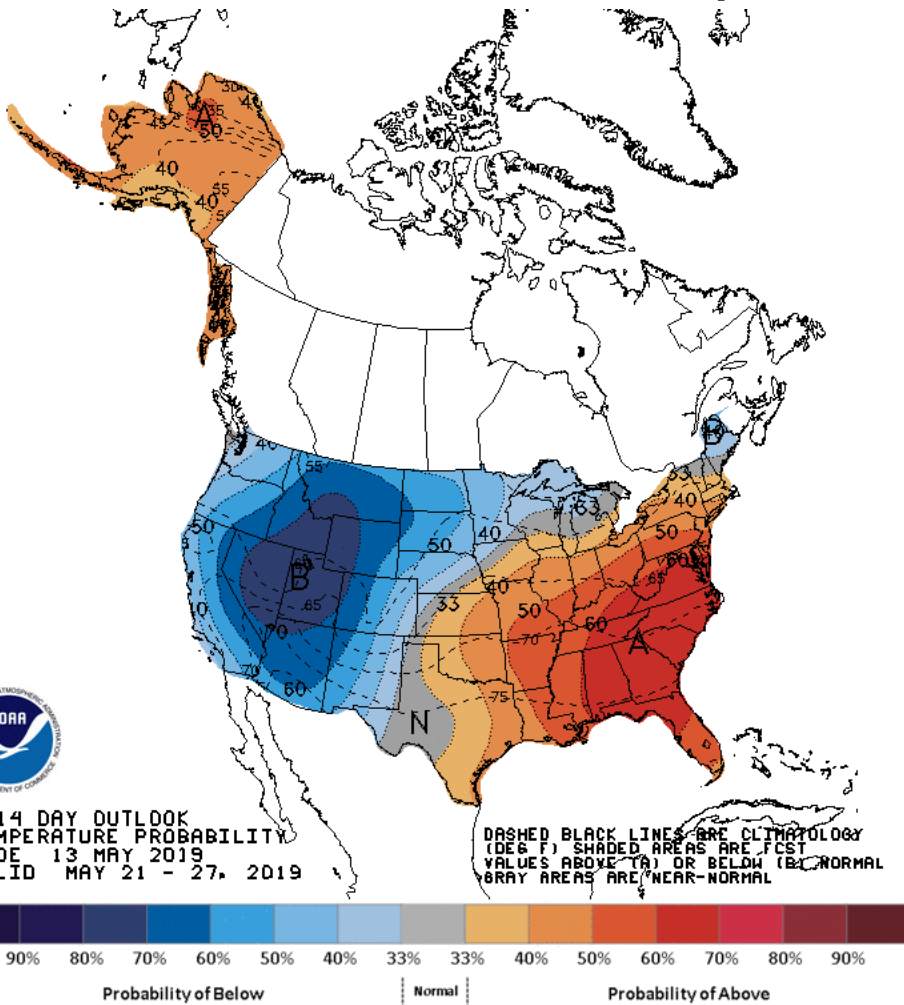
AO: Observed & ENSM forecasts



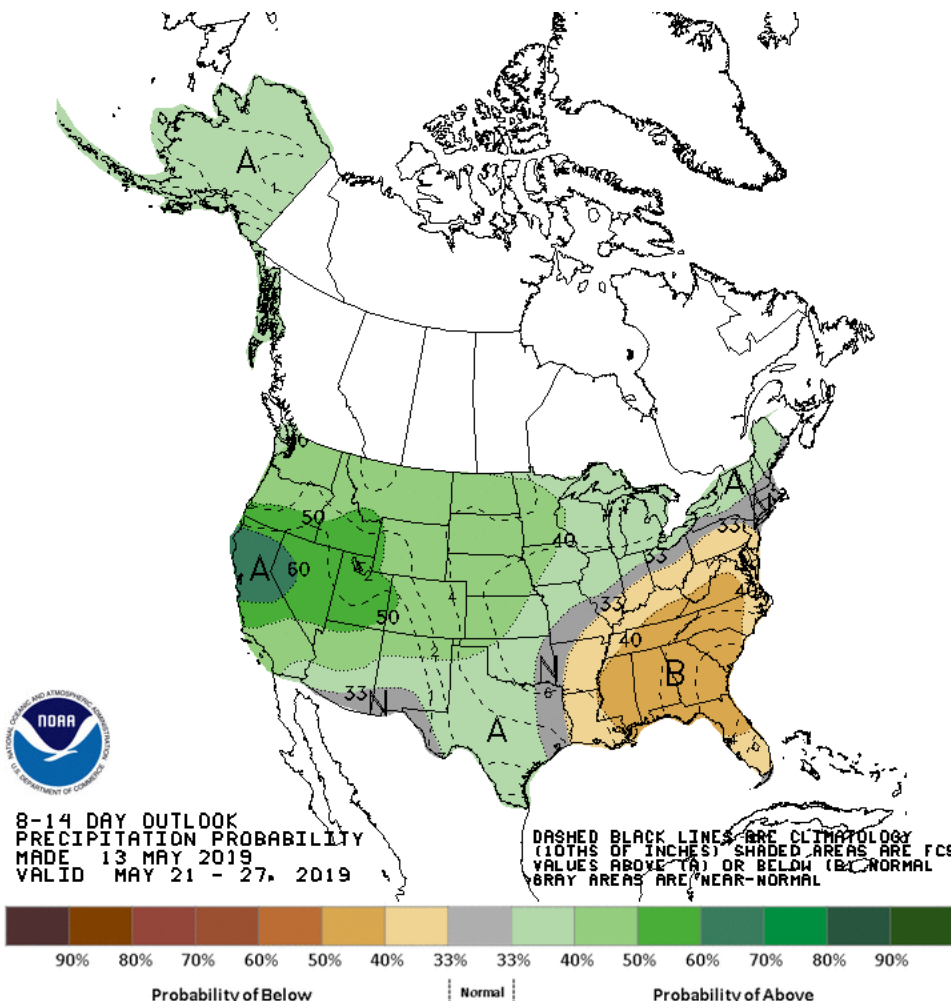


D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE MAY 14 2019 1324 UTC CNTD MAY 25 2019

Week 2 – Temperature and Precipitation



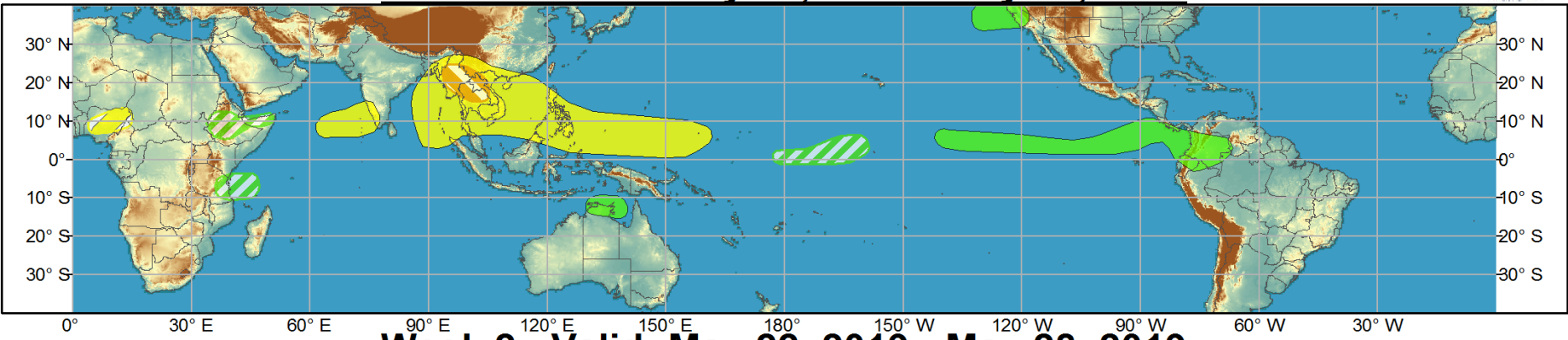
Relatively cool, wet pattern persists through week-2 across the West, while summer-like heat arrives across the Southeast



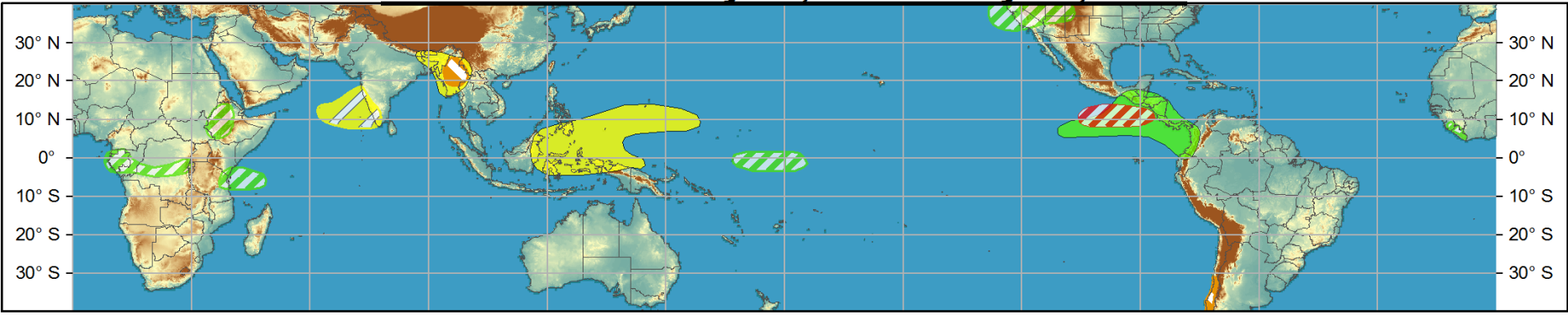


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