

Global Tropics Hazards And Benefits Outlook

7/16/2019

Dan Harnos

Outline

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

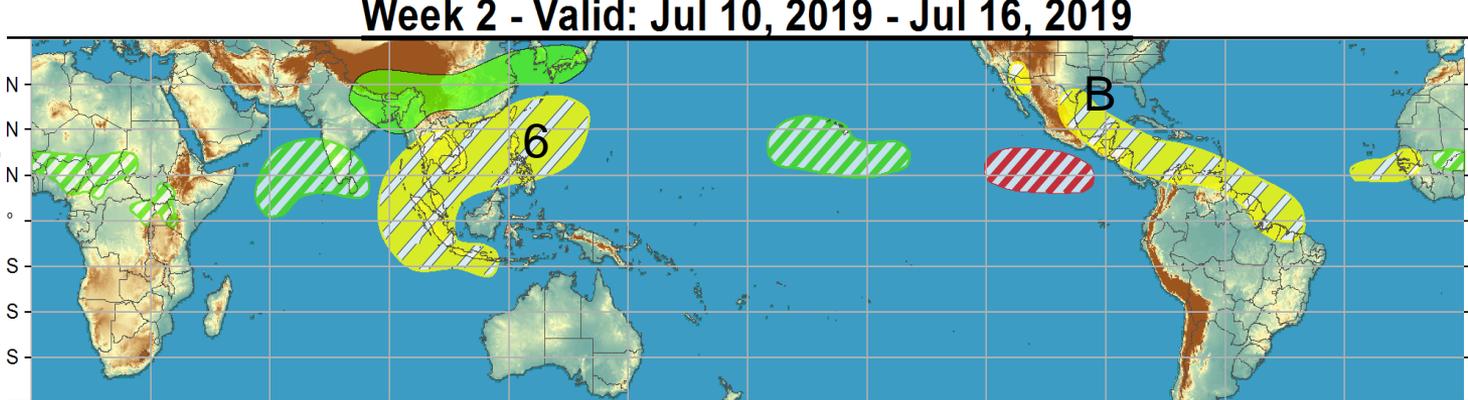
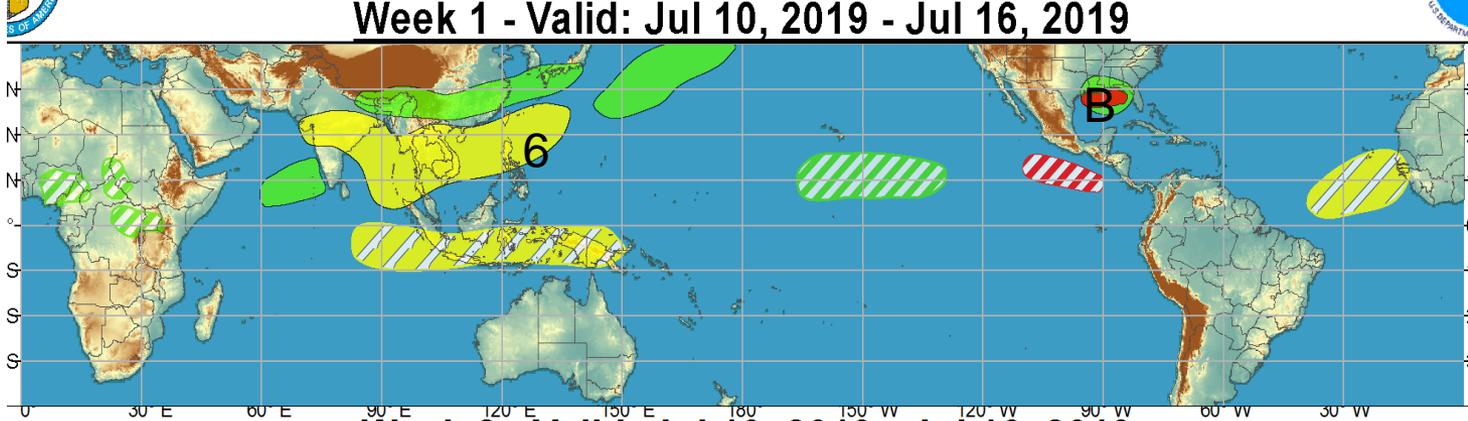
Outlook Review

Hurricane Barry

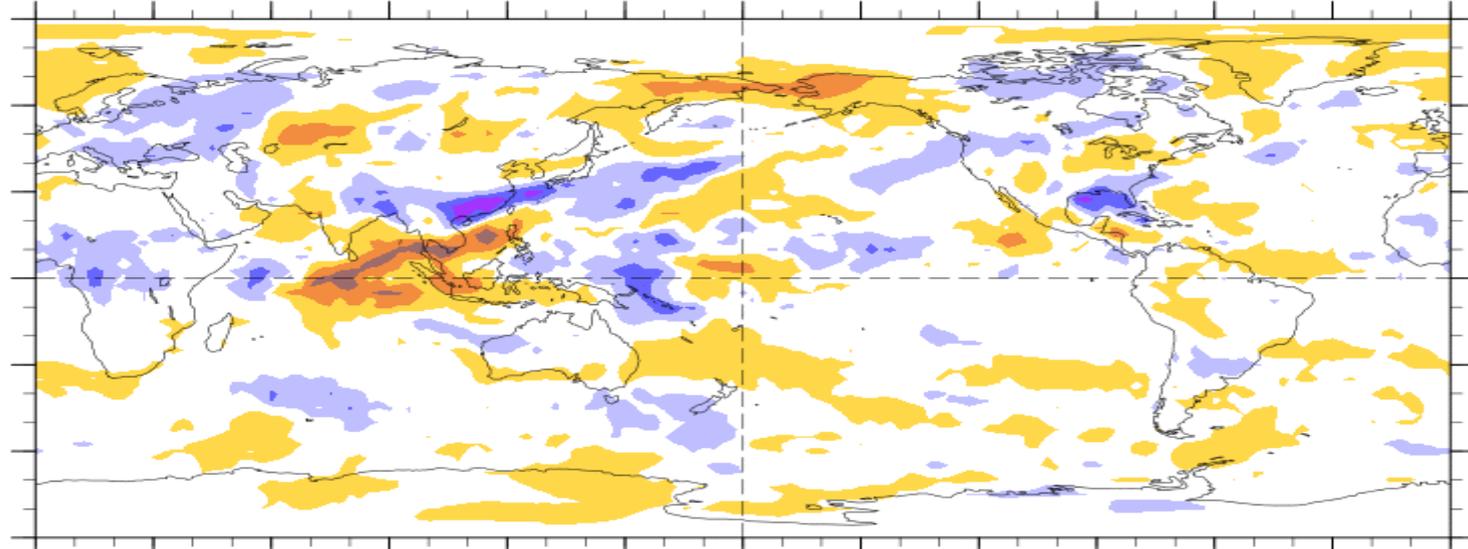
7/11-14
Peak winds: 75 mph

Trop. Depression 6

7/16-present
Peak winds: 34 mph



7-Day Average OLR Anomaly 2019/07/08 - 2019/07/14



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (as of July 11, 2019 – next update on Thursday, August 8th)

- ENSO Alert System Status: [El Niño Advisory](#)
- A transition from El Niño to ENSO-neutral is expected in the next month or two, with ENSO-neutral most likely to continue through Northern Hemisphere fall and winter.

MJO and other subseasonal tropical variability:

- The MJO was incoherent over the past week, as equatorial Rossby wave and Kelvin wave activity helped mask its presence.
- Dynamical models offer mixed takes on whether the MJO will come to dominate the global tropics, or continue to be obscured by other modes of tropical variability. Limited character of the MJO crossing from Africa to the Indian Ocean may be apparent during the next two weeks.

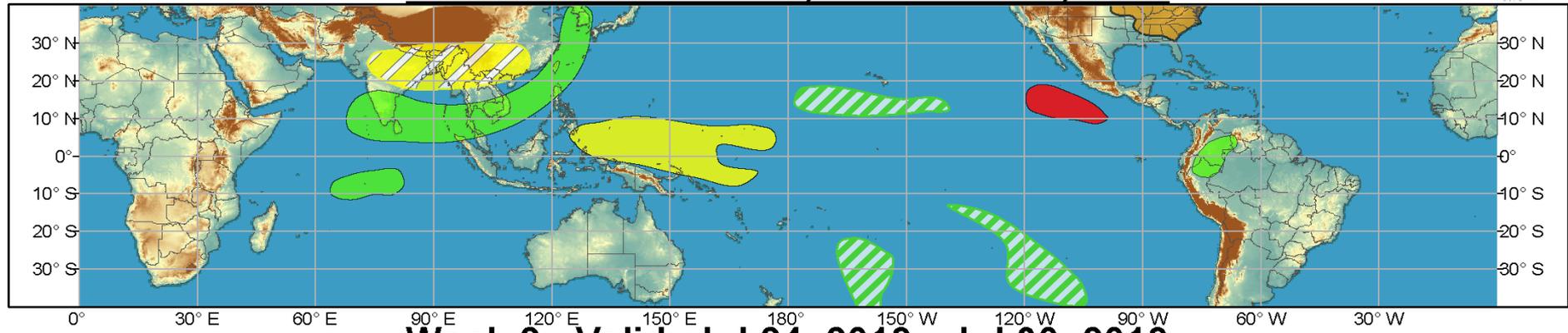
Extratropics:

- Tropical influences on the extratropics are unlikely outside of tropical cyclone influences during the next two weeks. If tropical cyclone activity picks up off the southwestern coast of Mexico as models suggest during Week-2 the chances of a moisture surge into the southwestern U.S. would increase during early August.

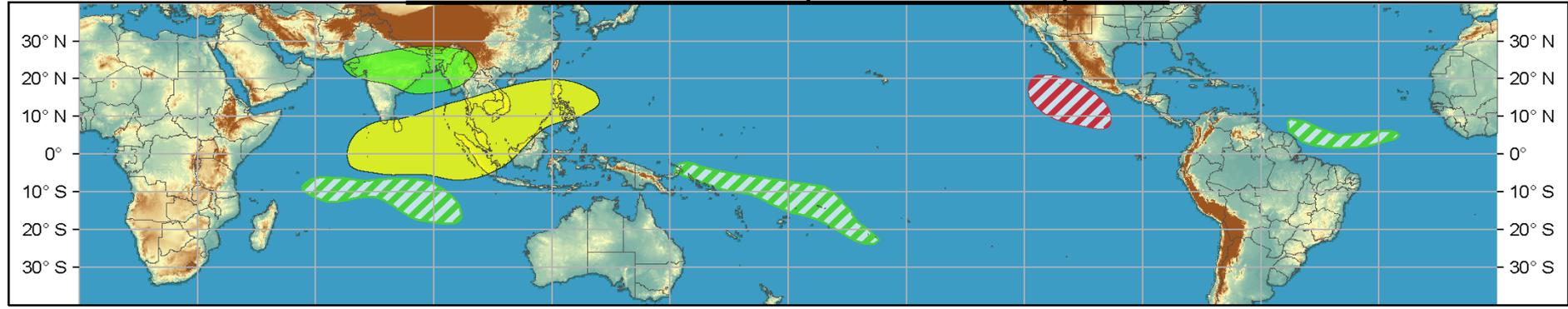


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jul 17, 2019 - Jul 23, 2019



Week 2 - Valid: Jul 24, 2019 - Jul 30, 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: 07/16/2019

Forecaster: D.Harnos

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IR Satellite & 200-hpa Velocity Potential Anomalies

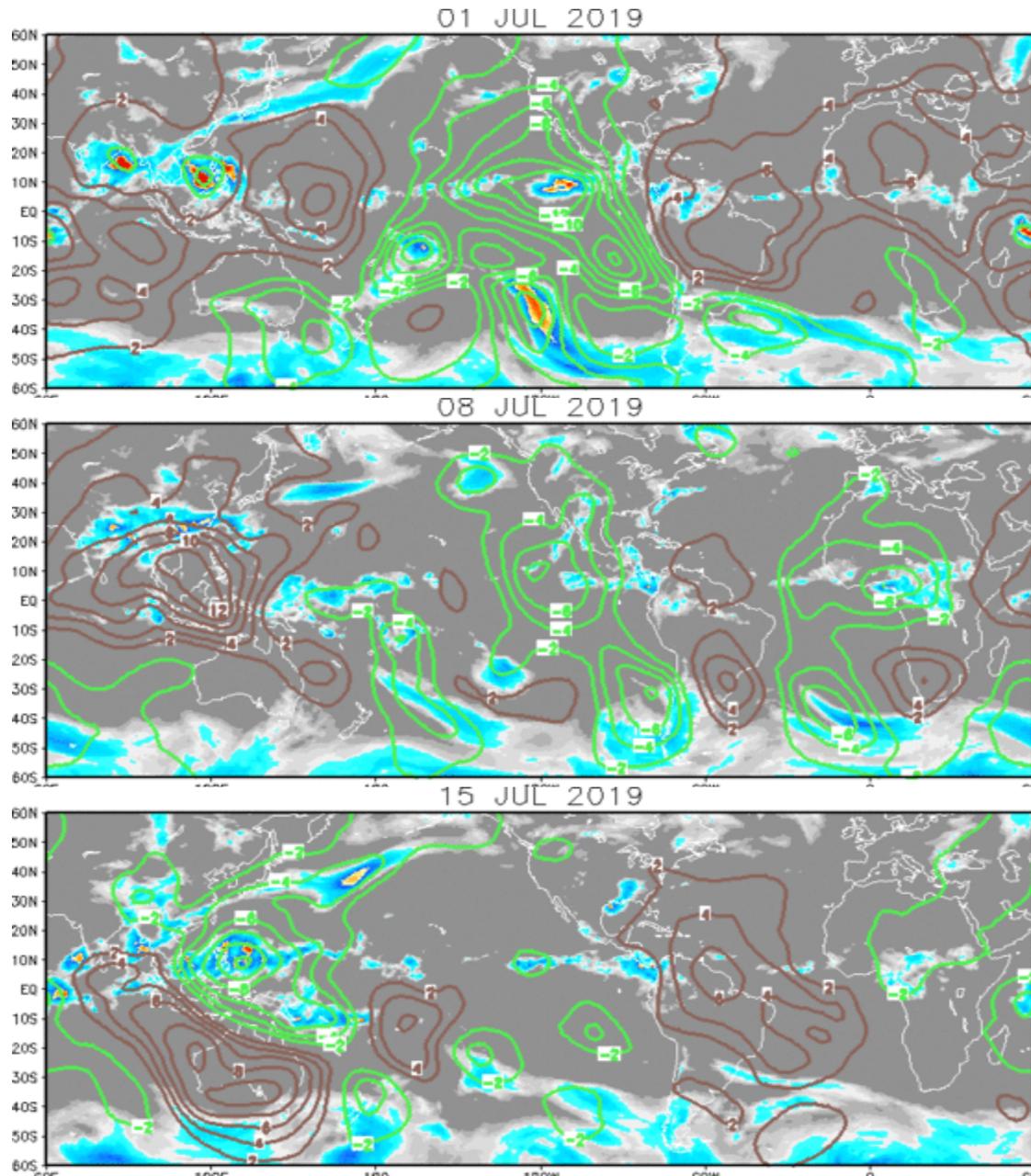
Green: Enhanced Divergence

Brown: Enhanced Convergence

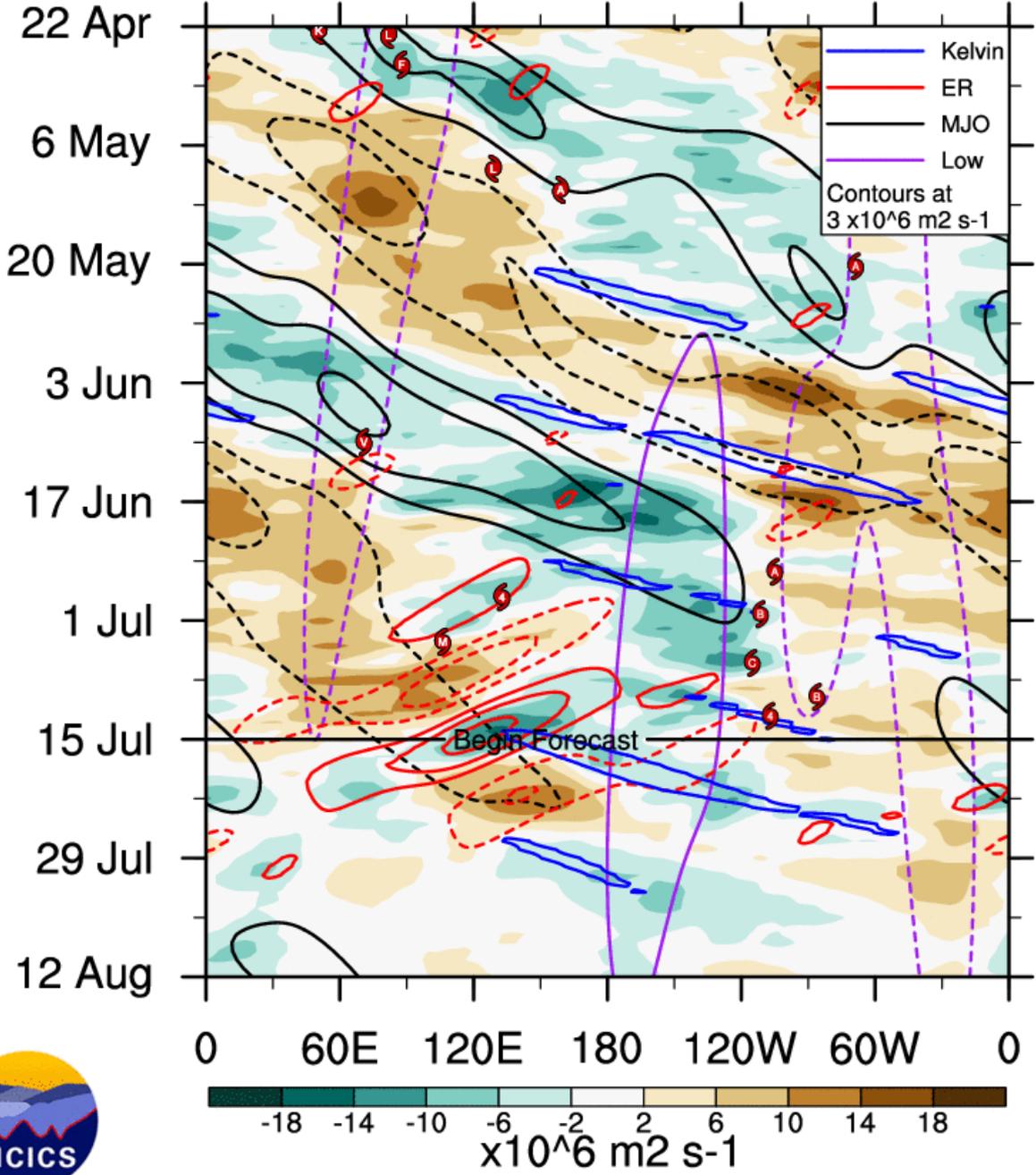
A wave-1 pattern was apparent, consistent with the MJO being focused east of the Date Line.

The MJO shifted eastward over the Western Hemisphere, but exhibited signs of weakening as seen in its a less robust footprint.

The most recent analysis is highly mixed, featuring Rossby wave activity in the West Pacific, Kelvin wave activity in the East Pacific, and remains of the MJO over Africa.



CHI200 with CFS forecasts 5N - 15N

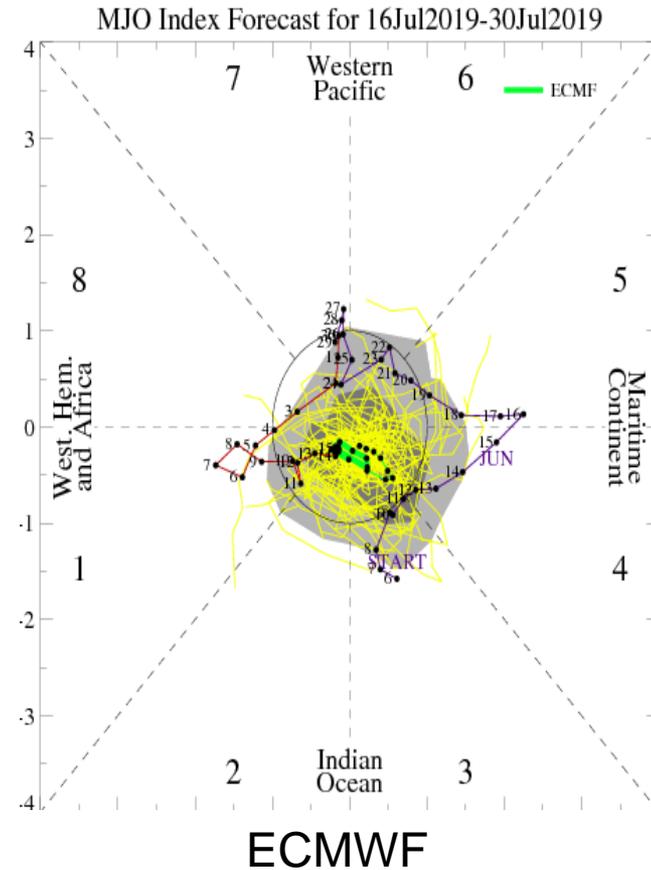
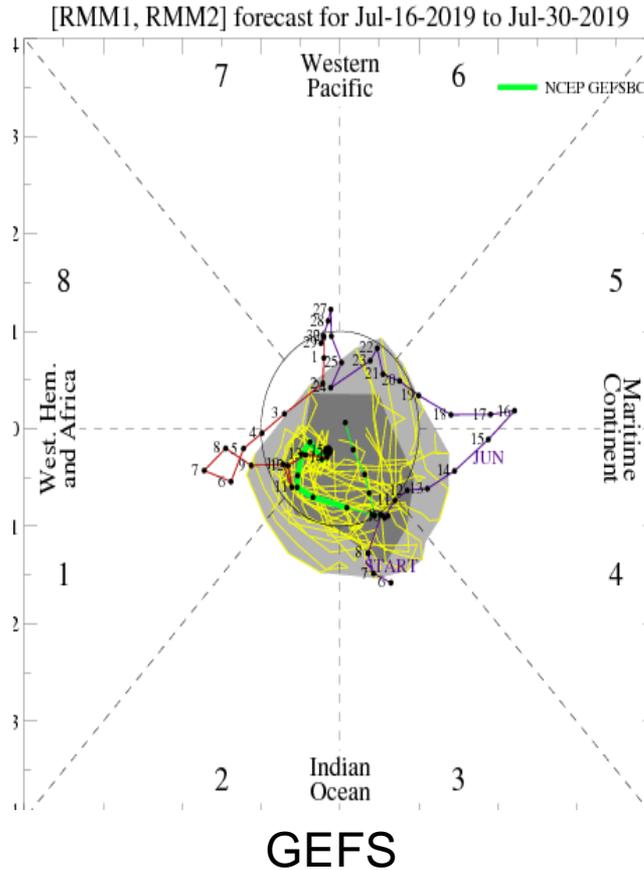


Very busy pattern!

- Enhanced (suppressed) **MJO** envelope over Africa (the Maritime Continent).
- Widespread **Rossby** wave activity from the Indian Ocean through Pacific.
- Two **Kelvin** waves are also apparent over the Central Pacific and Western Hemisphere.



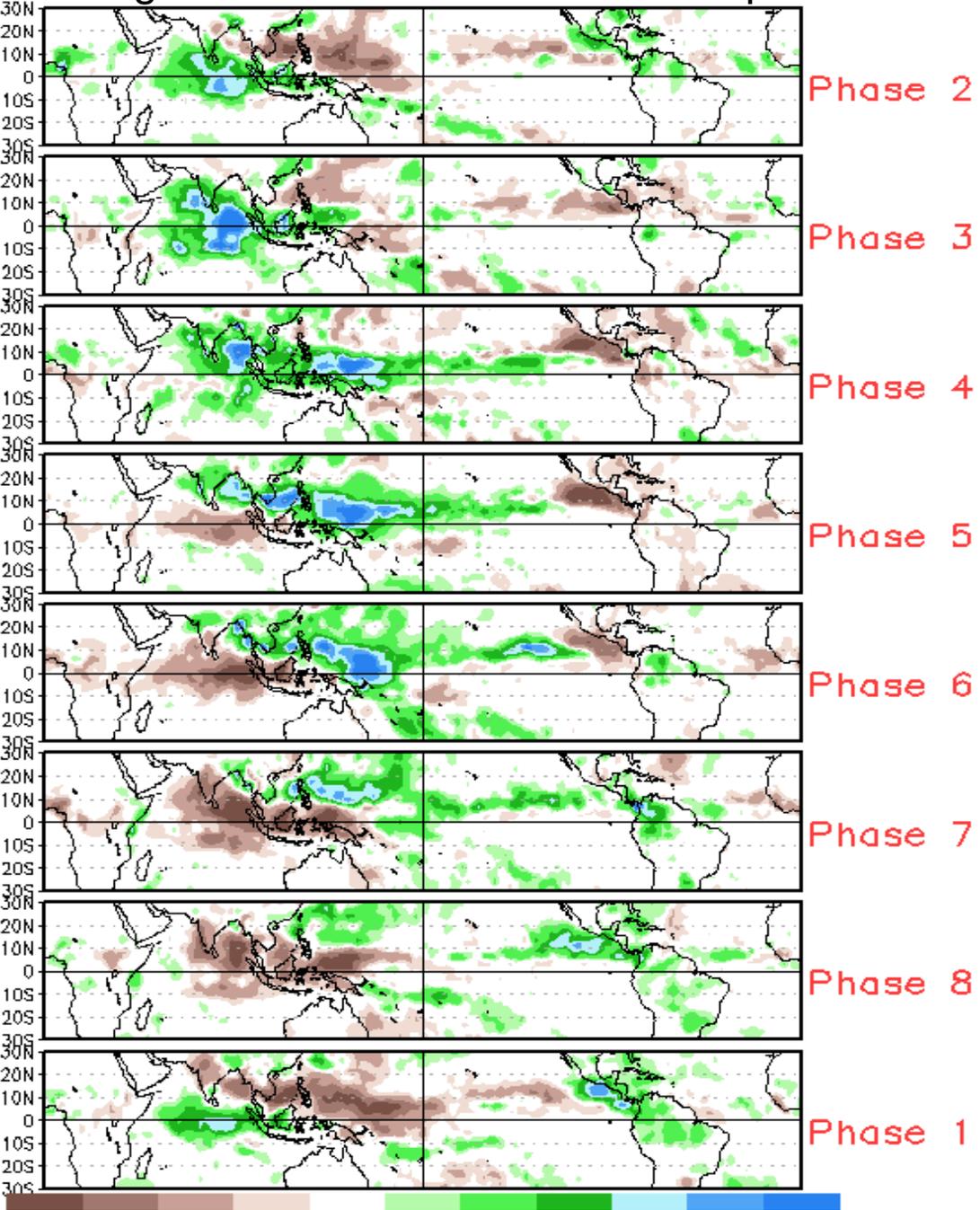
MJO Observation/Forecast



Variability occurs in how much the eastward propagating MJO envelope is highlighted (JMA the most, ECMWF the least, GEFS in the middle) relative to other modes of tropical variability.

That said, consensus is that the MJO should remain on the weaker side.

Average Conditions when the MJO is present

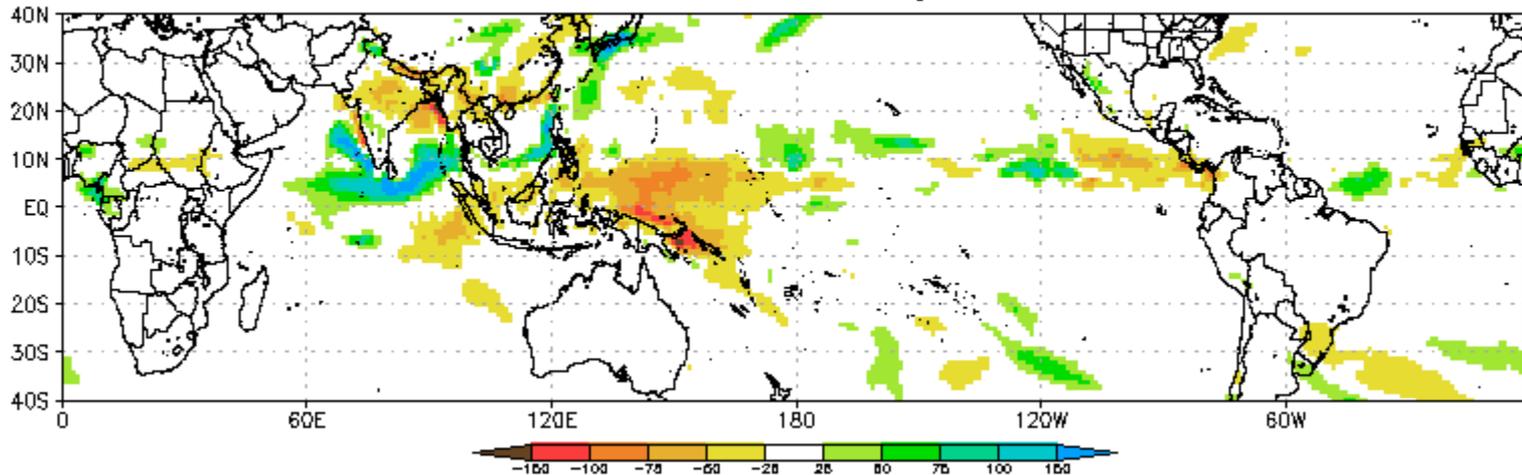


If MJO does happen to be stronger, Phases 1-3 would be favored during the next two weeks.

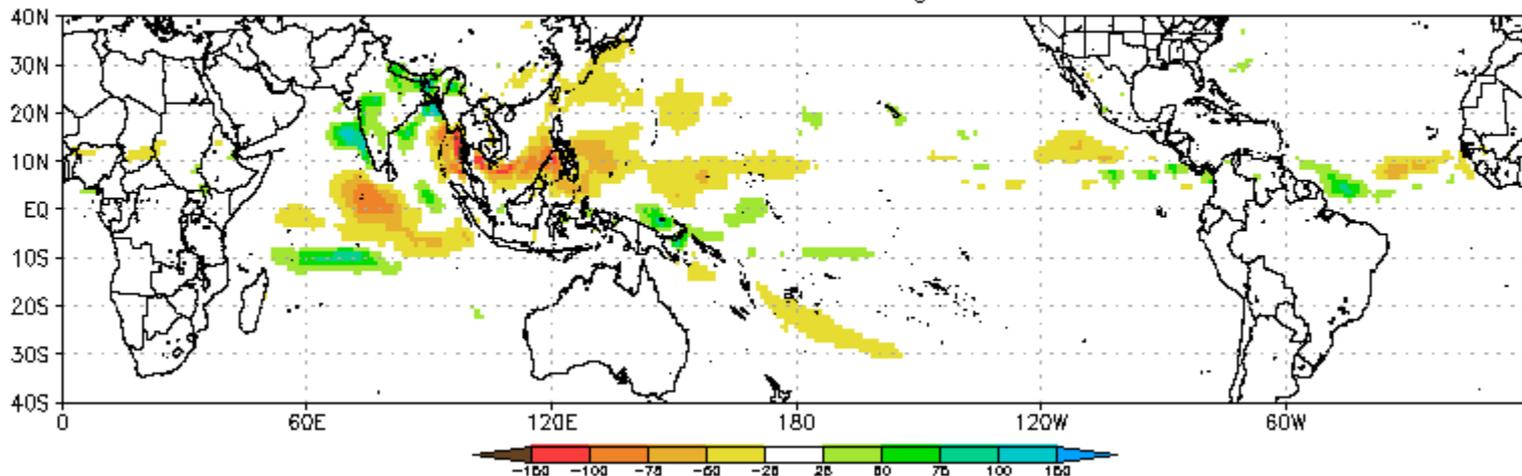
- Increasing rainfall over the Indian Ocean.
- Wet early, before transitioning to a drier East Pacific.
- Dryness shifting northward over the West Pacific.

CAVEAT: These panels are representative of robust MJO events.

CFS Precipitation Anomalies (mm) Issued 15Jul2019
Week-1 Forecast Ending 23Jul2019



CFS Precipitation Anomalies (mm) Issued 15Jul2019
Week-2 Forecast Ending 30Jul2019



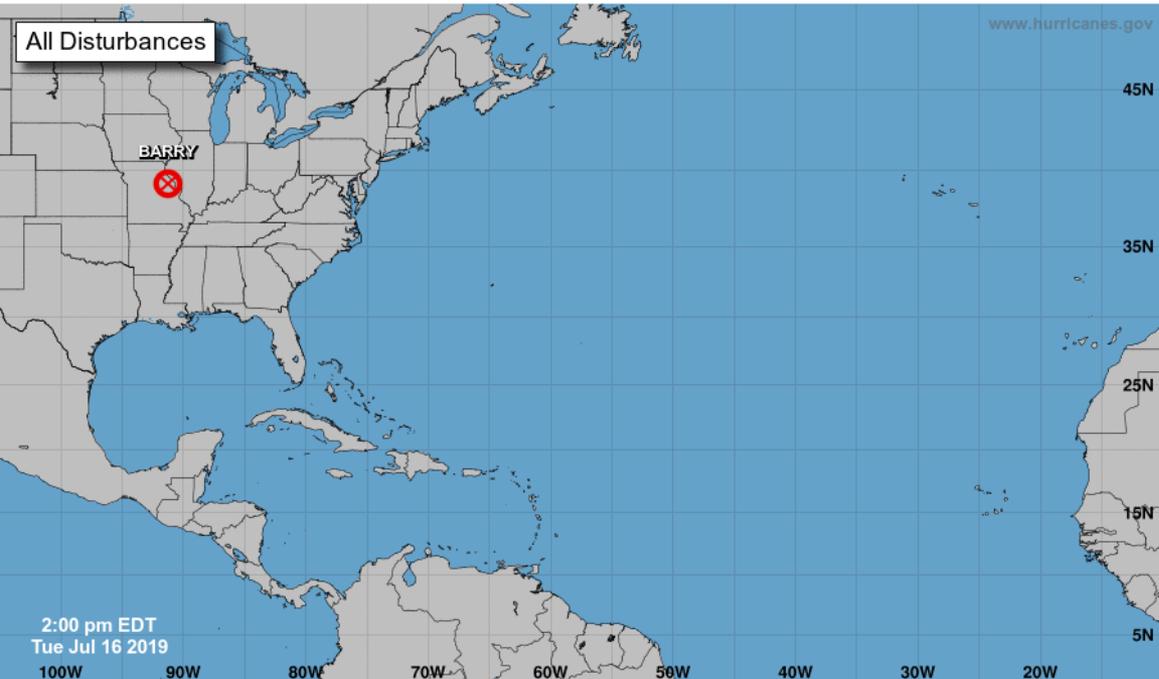
(From prior slide, if MJO were in Phases 1-3)

- Increasing rainfall over the Indian Ocean.
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- Dryness shifting northward over the West Pacific.



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



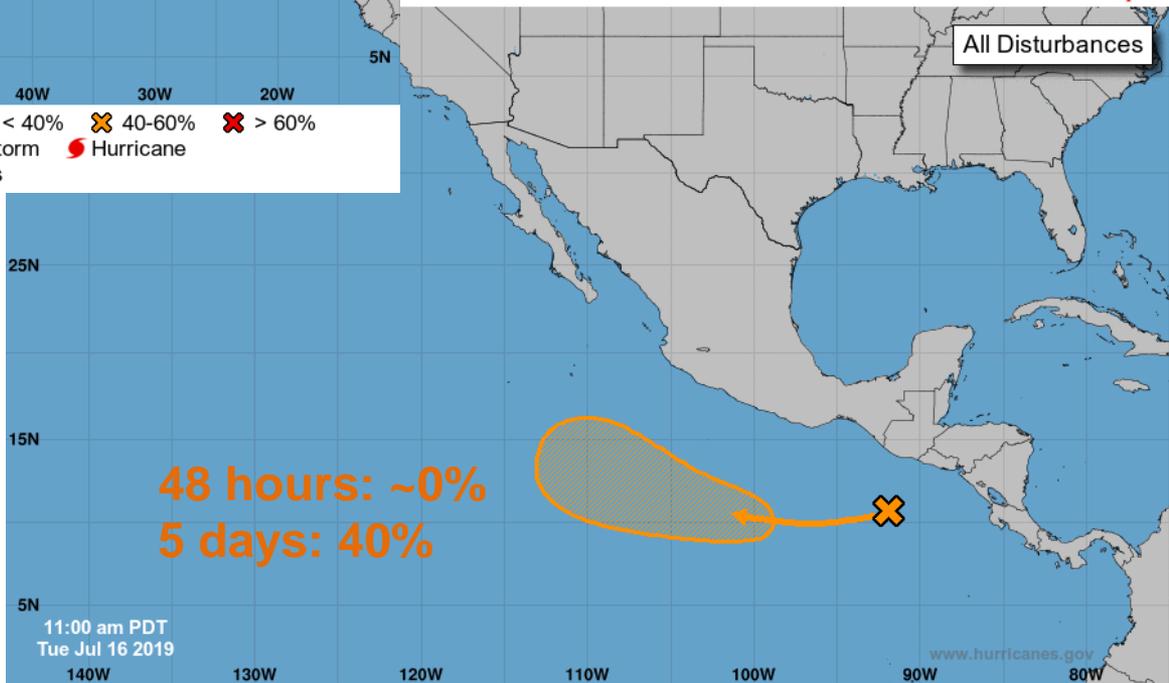
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Graphical Tropical Weather Outlook

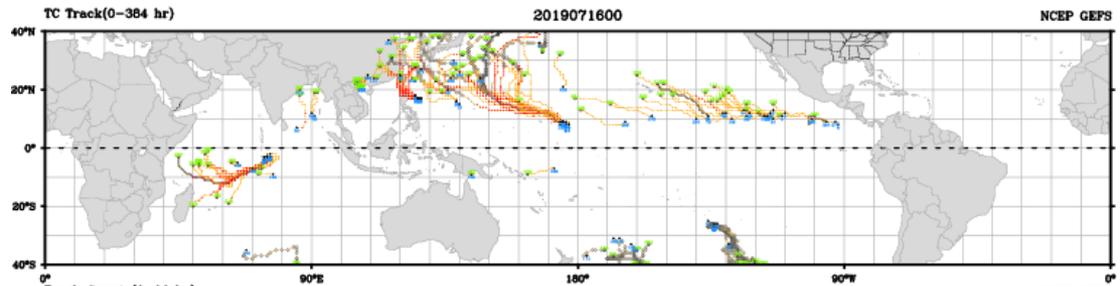
National Hurricane Center Miami, Florida



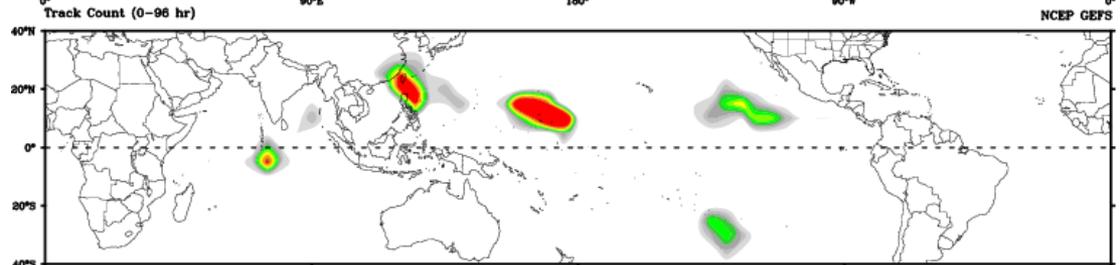
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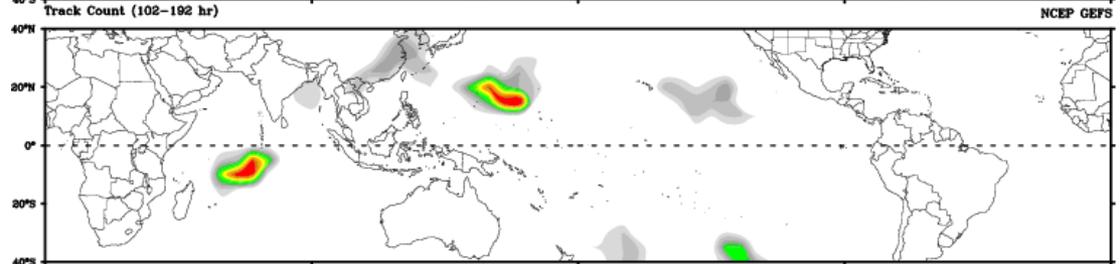
Post-Tropical Cyclone or Remnants



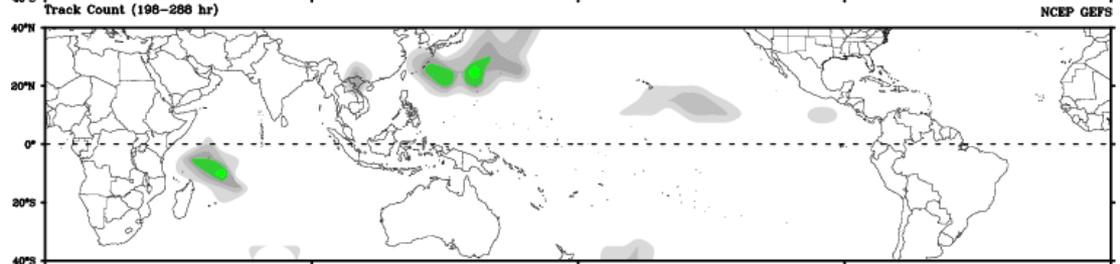
Days 1-4



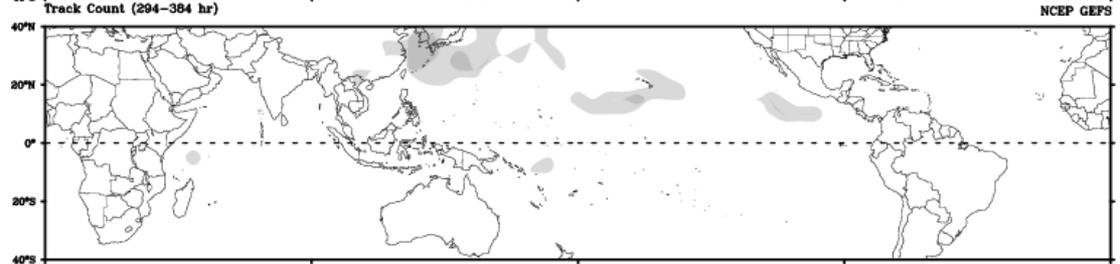
Day 5-8



Day 9-12

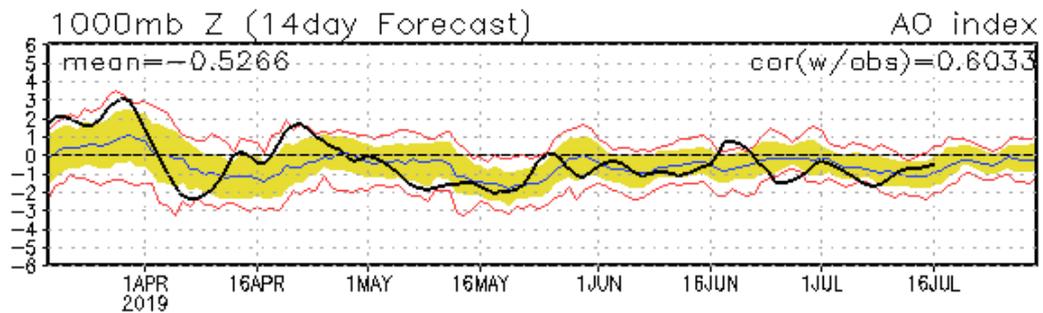
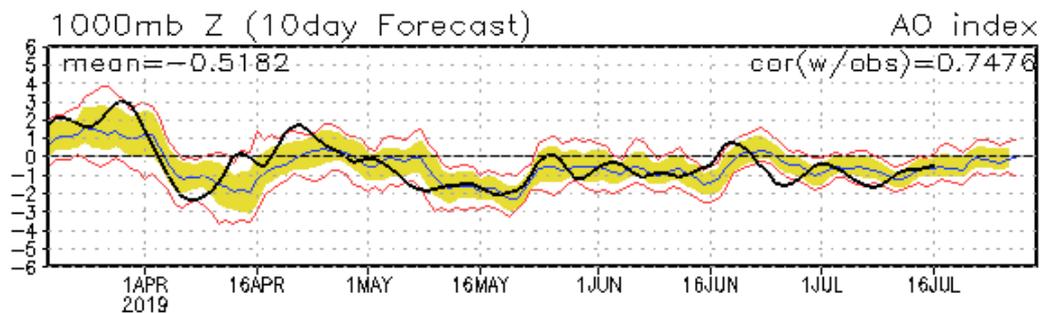
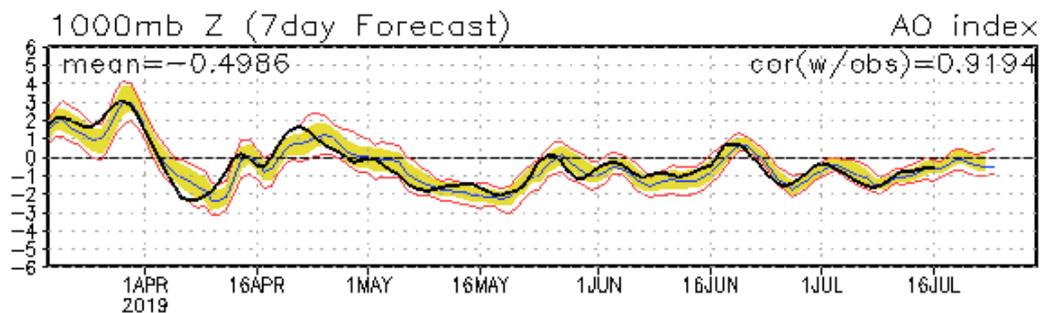
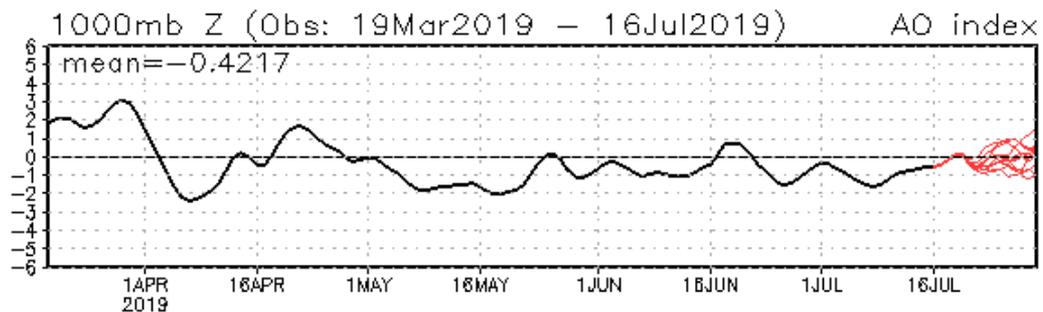


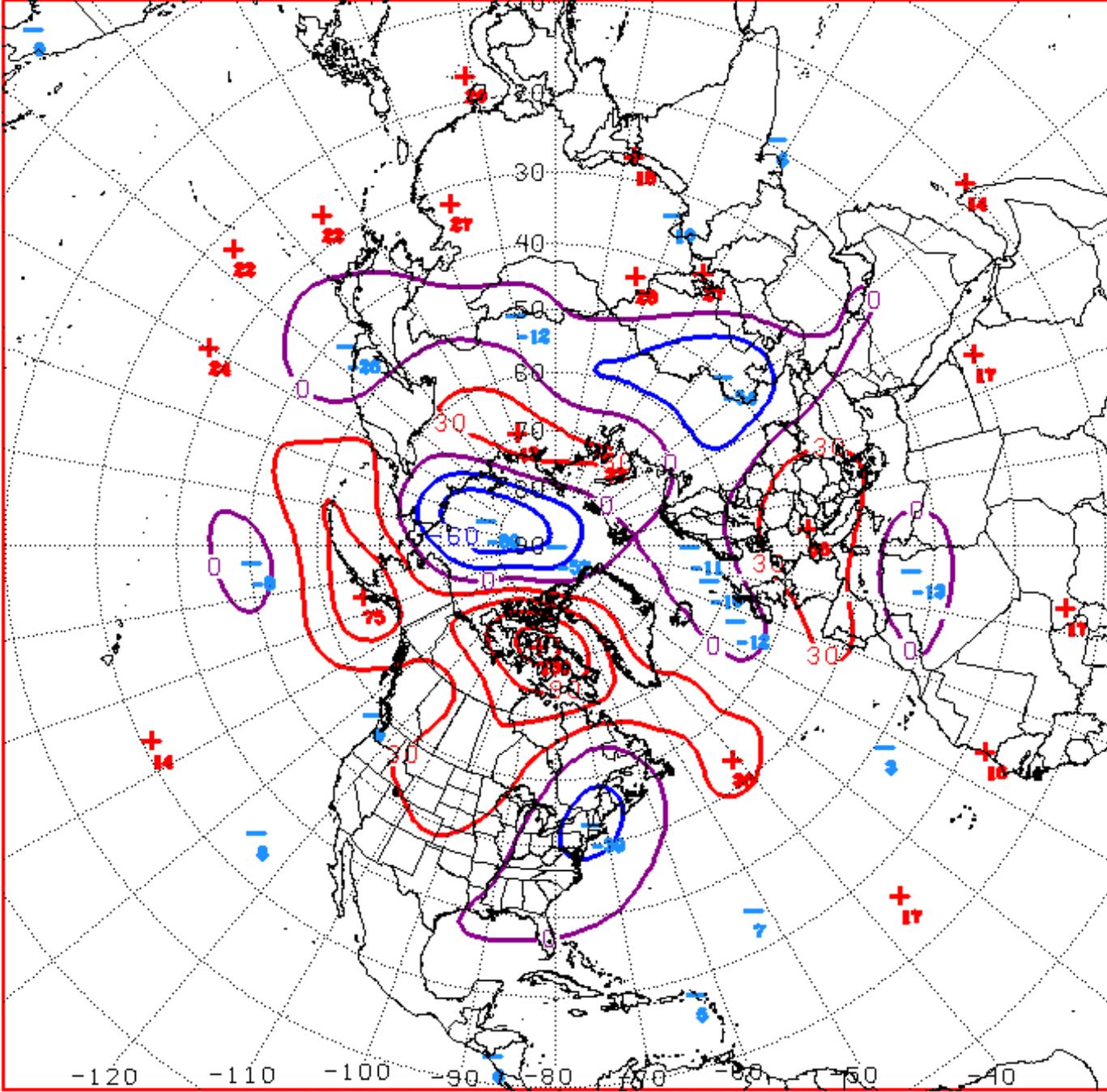
Day 13-15



Connections to U.S. Impacts

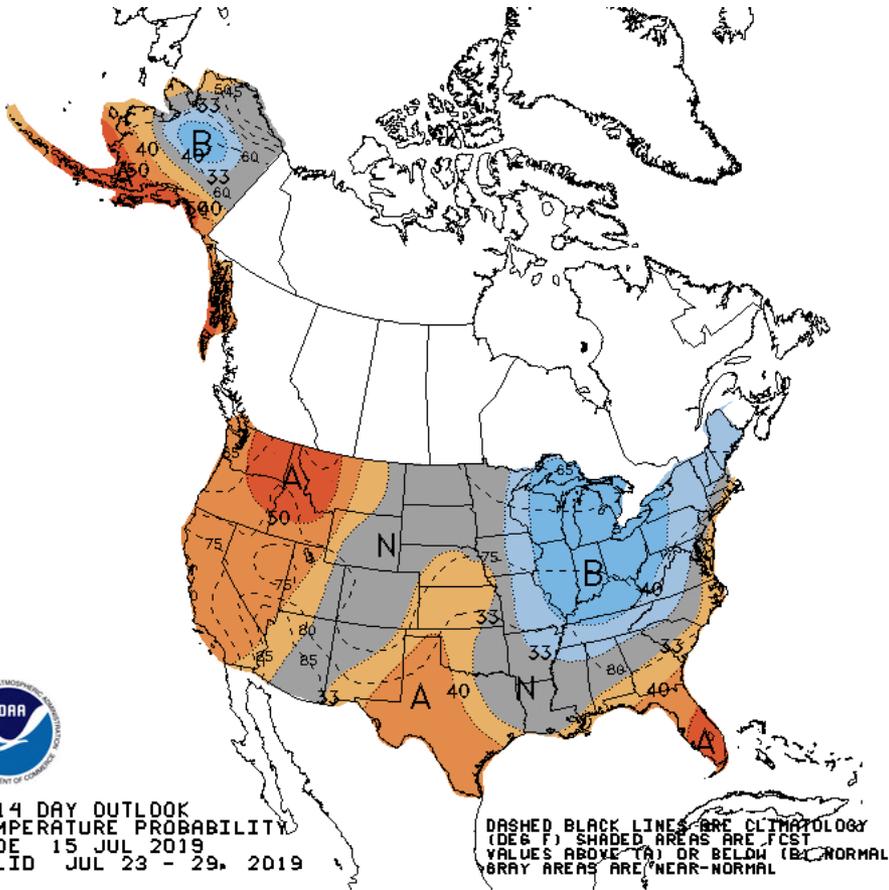
AO: Observed & ENSM forecasts





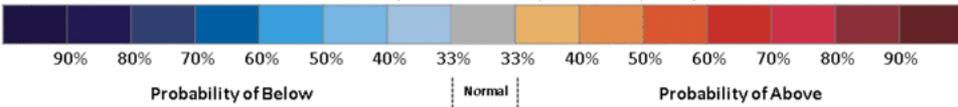
D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE JUL 16 2019 1044 UTC CNTD JUL 27 2019

Week 2 – Temperature and Precipitation

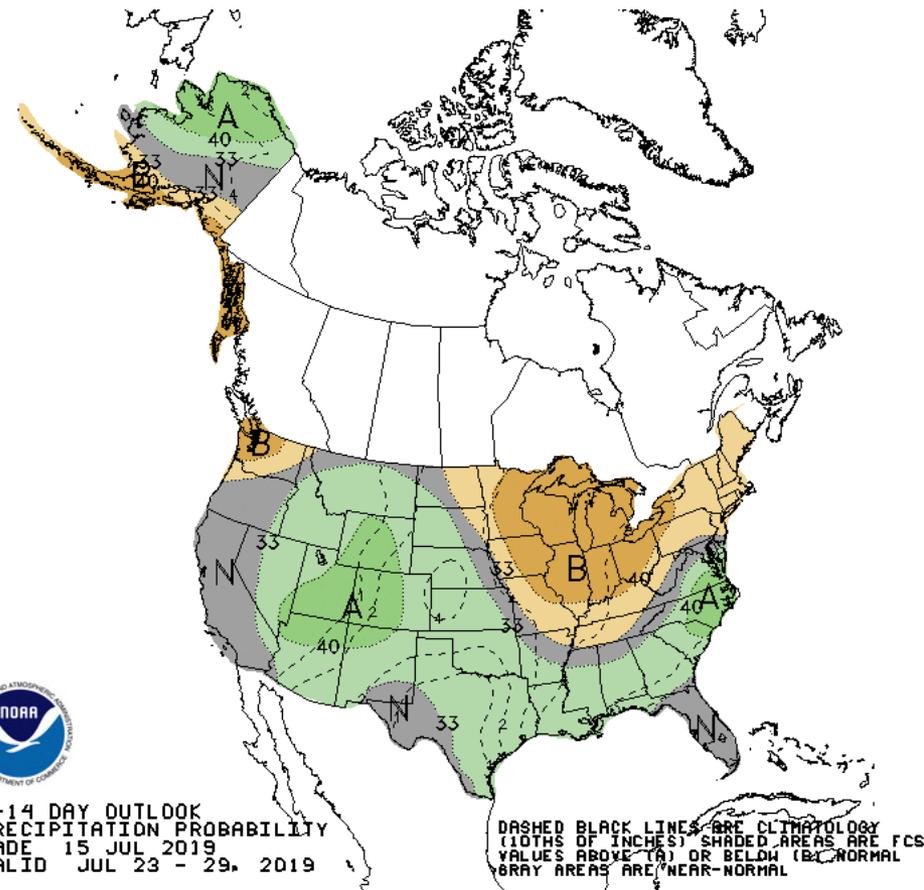


8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 15 JUL 2019
VALID JUL 23 - 29, 2019

DASHED BLACK LINES ARE CLIMATOLOGY (DEG F). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.

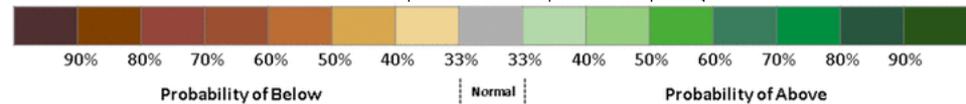


Possible changes today:
Temperatures likely cooler in East
Precipitation likely wetter along Gulf



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 15 JUL 2019
VALID JUL 23 - 29, 2019

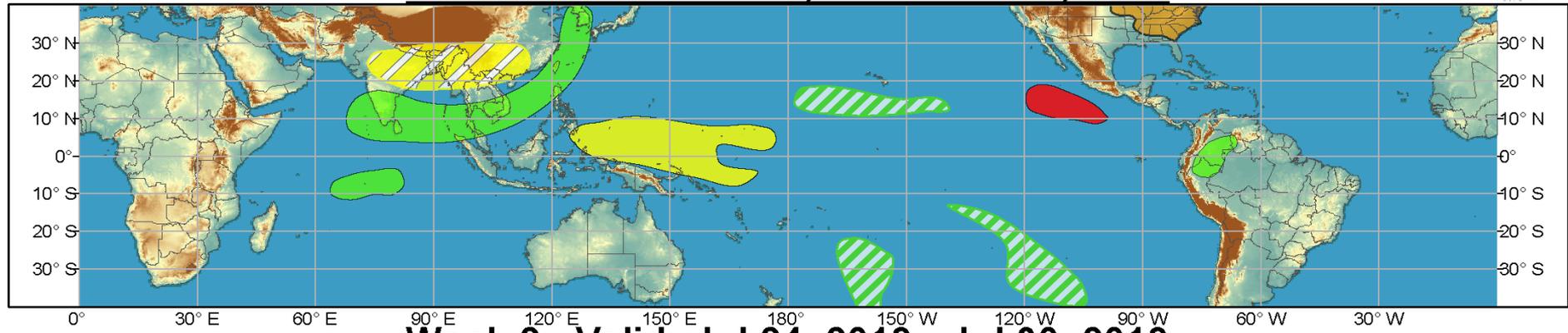
DASHED BLACK LINES ARE CLIMATOLOGY (10THS OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.



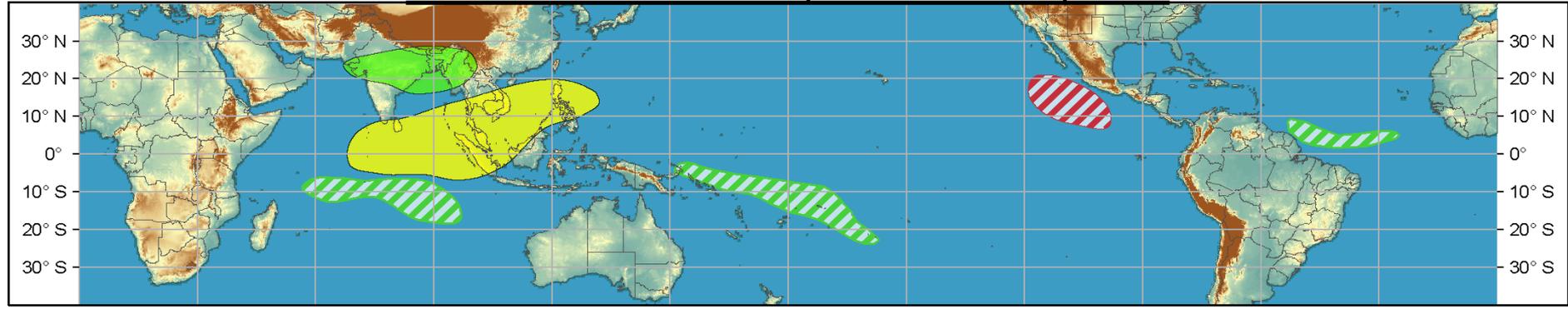


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