

Global Tropics Hazards And Benefits Outlook

7/14/2020

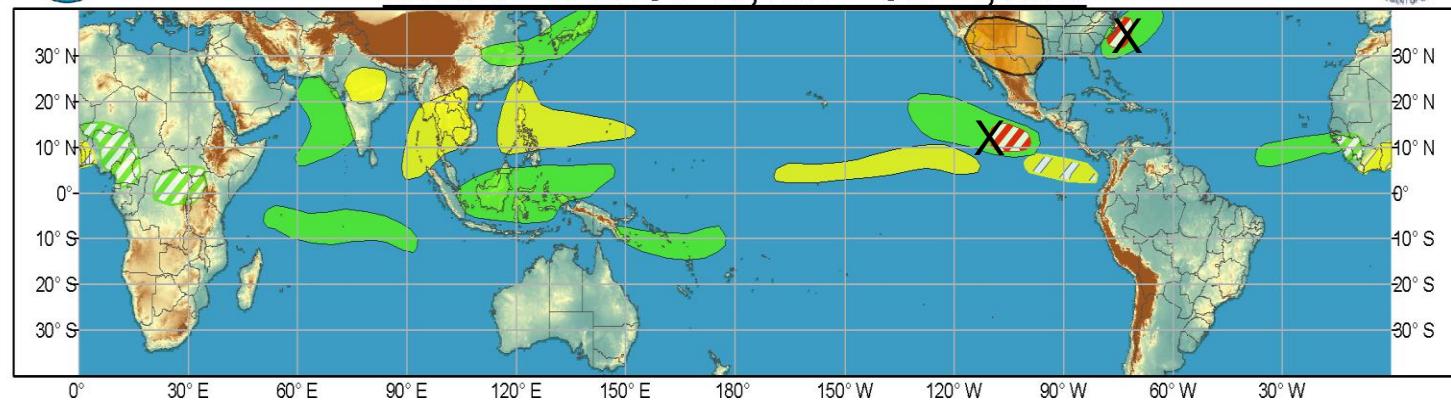
Nick Novella

Outline

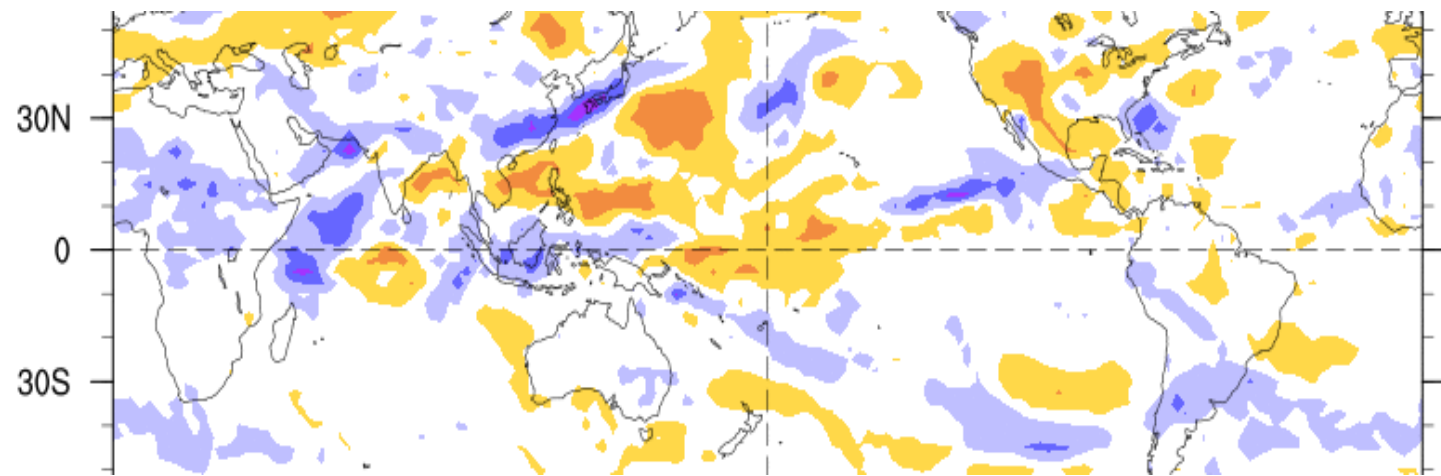
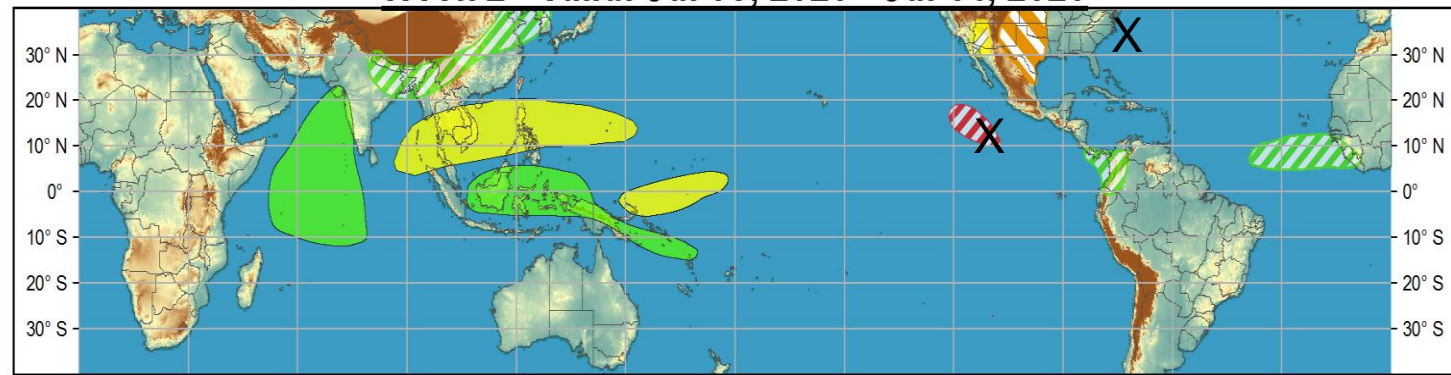
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts



Week 1 - Valid: Jul 08, 2020 - Jul 14, 2020



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



Outlook Review

- Fay (7/9)
- Six-E (7/13)

Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (July 9, 2020 Update)

- ENSO Alert System Status: [La Nina Watch](#)
- ENSO-neutral is favored to continue through the summer, with a 50-55% chance of La Nina development during the Northern Hemisphere fall 2020 and continuing through winter 2020-21.

MJO and other subseasonal tropical variability:

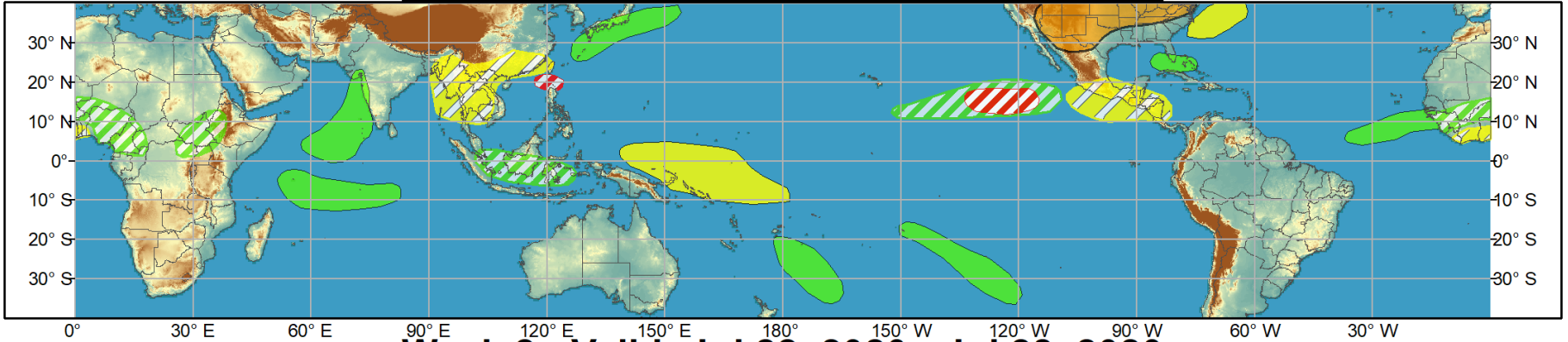
- Velocity potential anomalies have become better organized with a wave-1 pattern.
- Despite this, most dynamical models favor a rapid weakening of the intraseasonal signal during week-1, with ensemble means remaining within the unit circle in RMM space through late July.
- Elevated chances exist for Tropical Cyclone formation over the western and eastern Pacific during week-1, with some signal emerging over the MDR in the Atlantic.



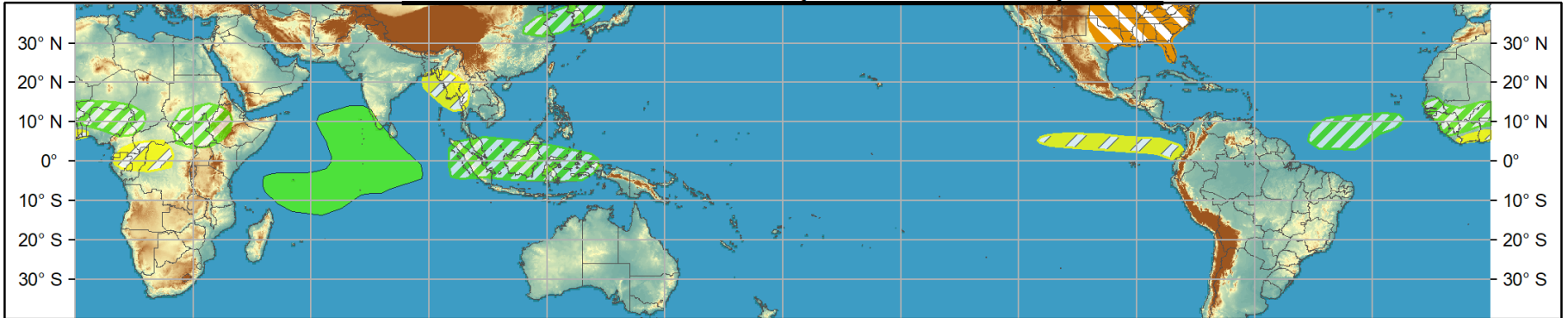
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jul 15, 2020 - Jul 21, 2020



Week 2 - Valid: Jul 22, 2020 - Jul 28, 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: 07/14/2020

Forecaster: Novella

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

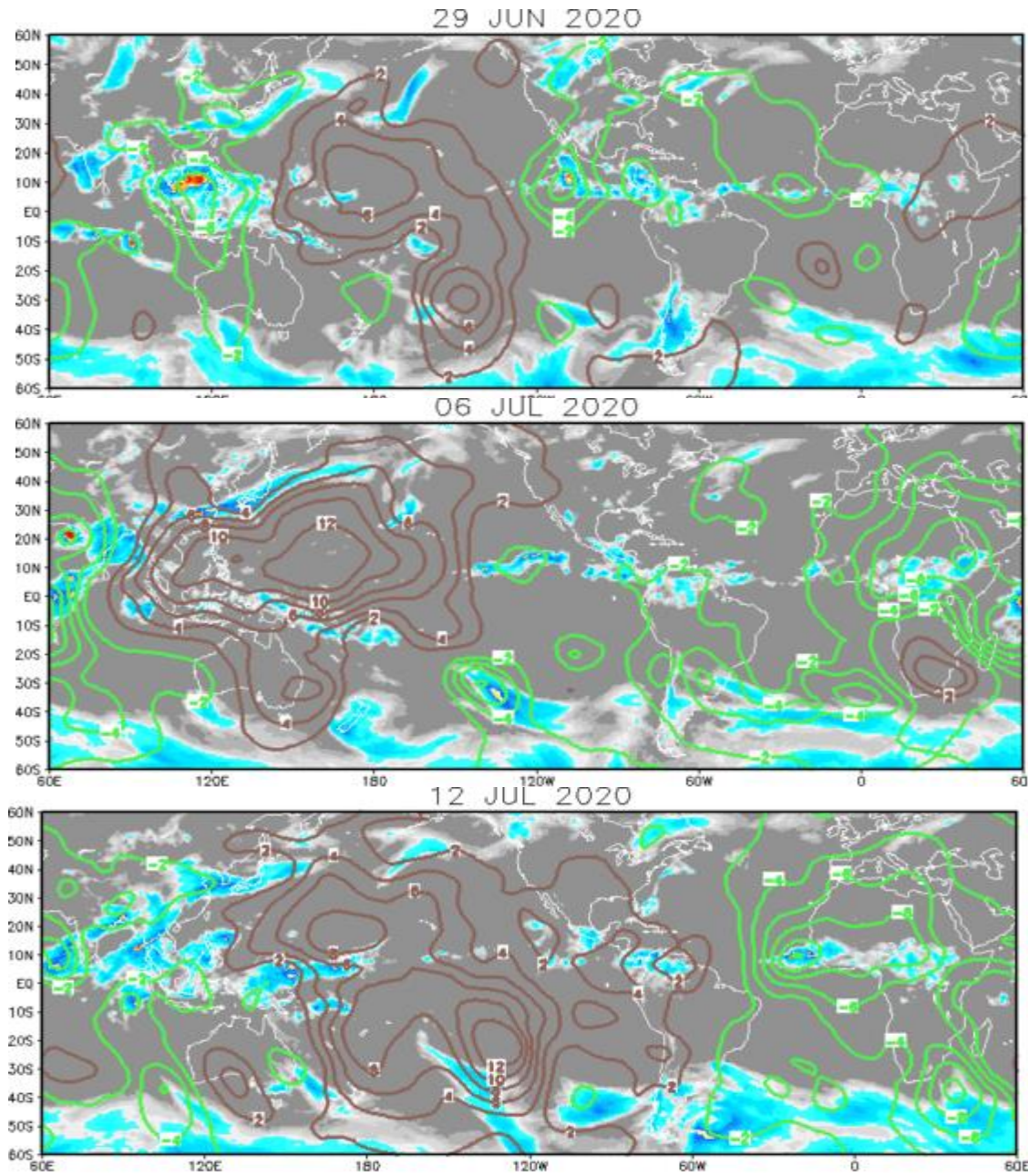
Green: Enhanced Divergence

Brown: Enhanced Convergence

Continued eastward progression of both features, but the Indian Ocean center remains more slowly evolving relative to the Kelvin wave.

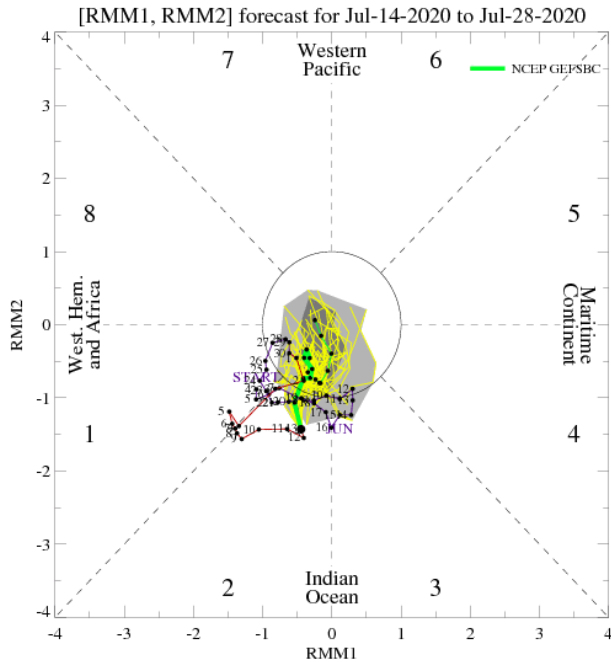
Enhanced convection shifted westward over Africa / Indian Ocean with suppressed envelope expanding across Pacific.

Return to more wave-1 pattern, with eastward propagation of the convective/suppressed envelope.

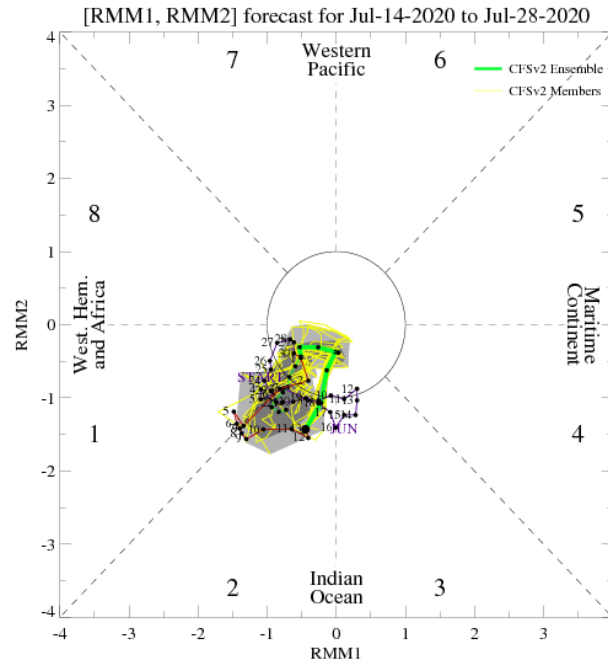


MJO Observation/Forecast

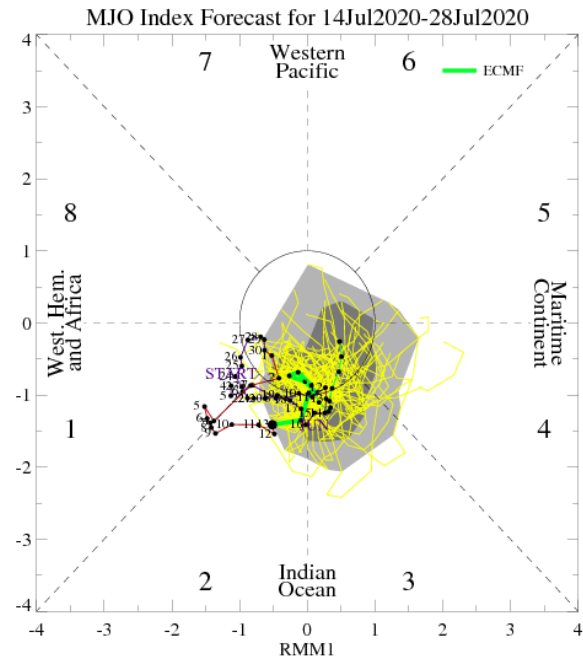
GEFS



CFS



ECMWF

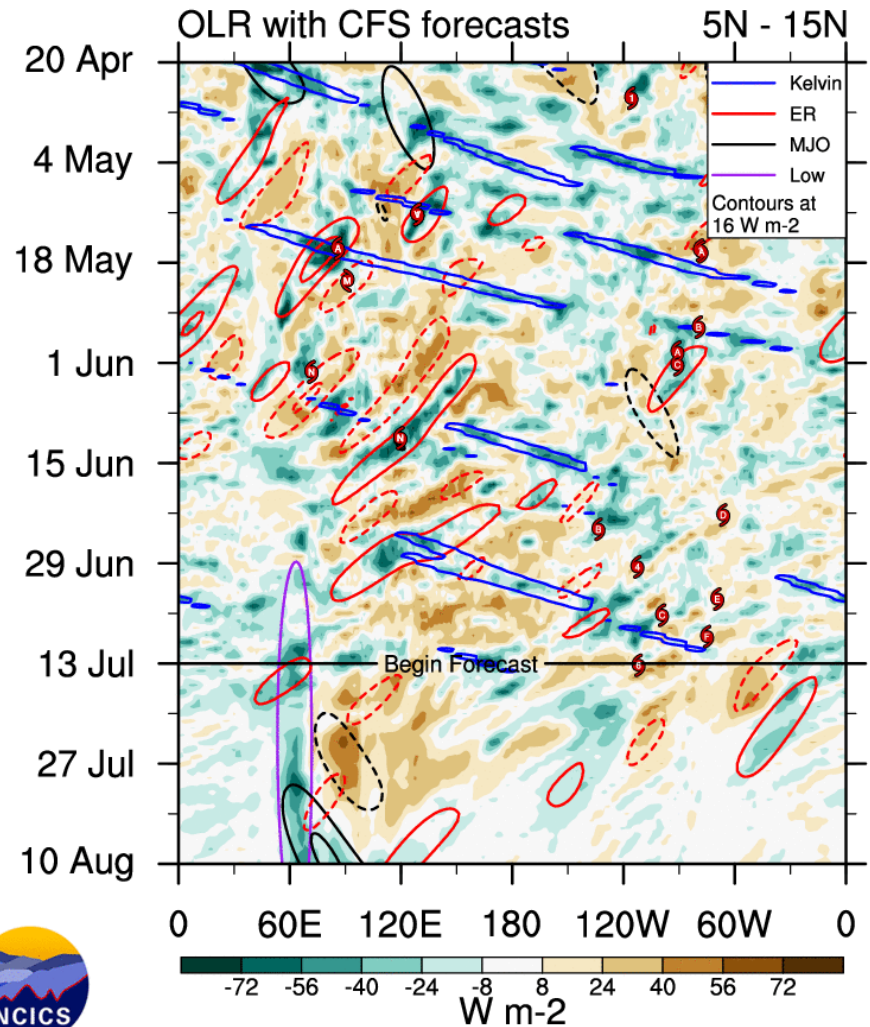


Dynamical models indicate a rapid weakening of the intraseasonal signal during the next several days, with diverging solutions for the remainder of the outlook period.

A **Kelvin wave** is seen crossing the Pacific and Atlantic helping to aid TC formation in the OLR field.

Rossby wave activity evident over the Indian Ocean since late June.

A **Low frequency** component continues to be observed since June with enhanced convection centered over the western Indian Ocean.



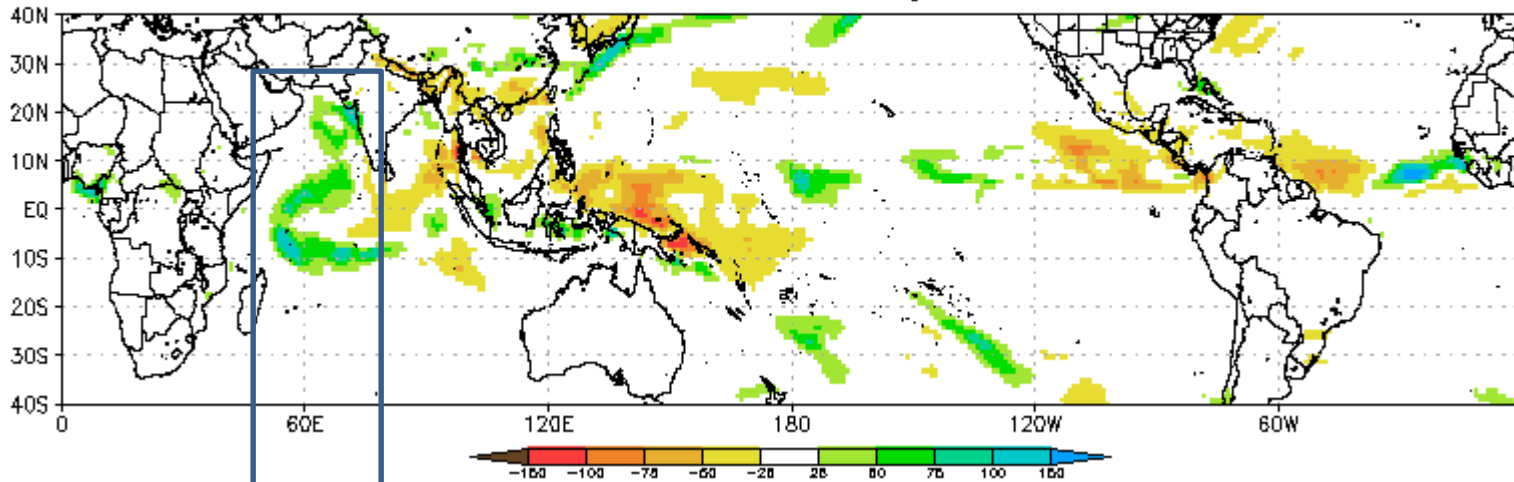
Tue 2020-07-14 15:15 UTC

Carl Schreck
carl_schreck@ncsu.edu

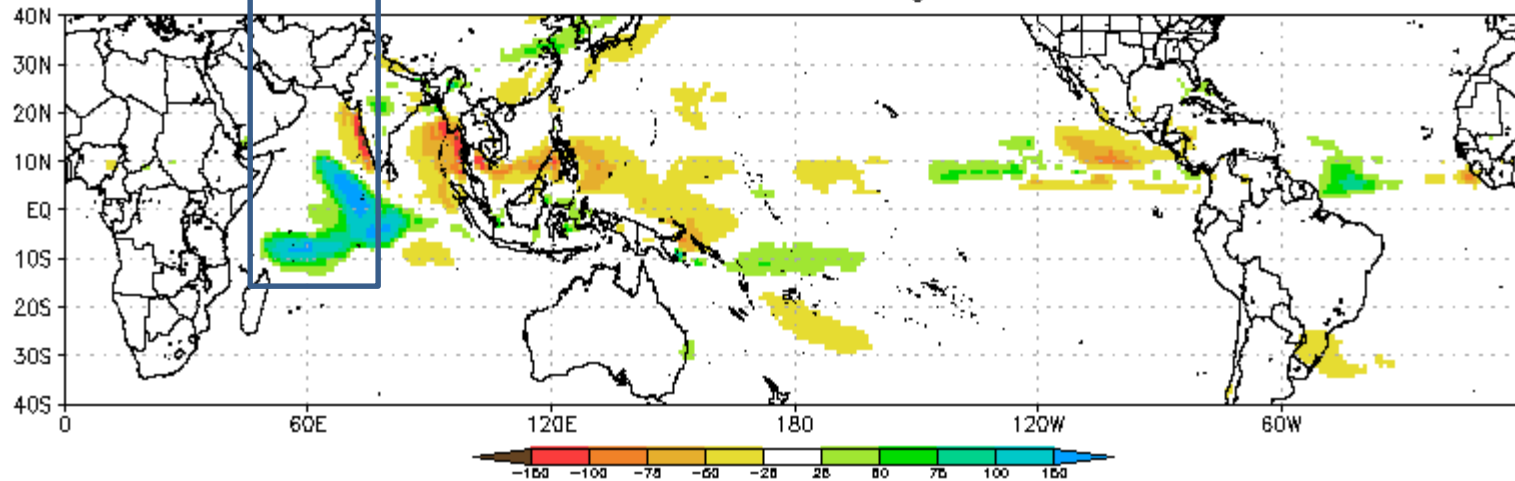
Green: Enhanced precipitation

Brown: Suppressed precipitation

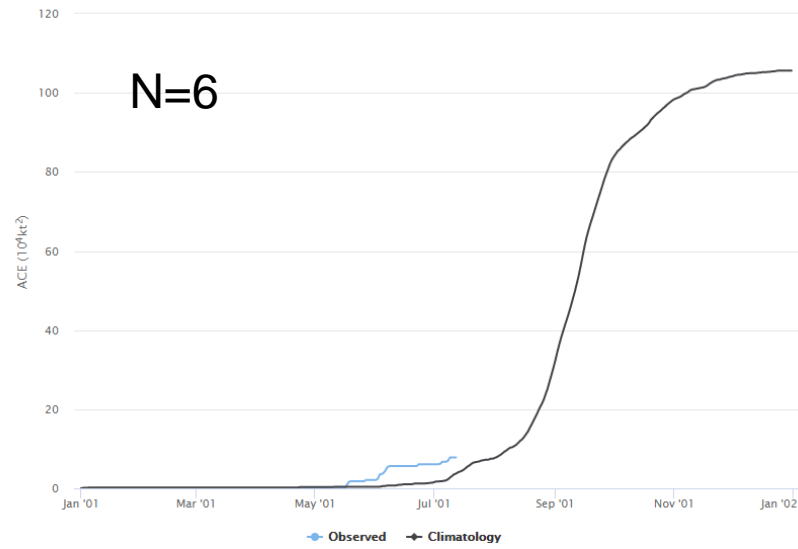
CFS Precipitation Anomalies (mm) Issued 13Jul2020
Week-1 Forecast Ending 21Jul2020



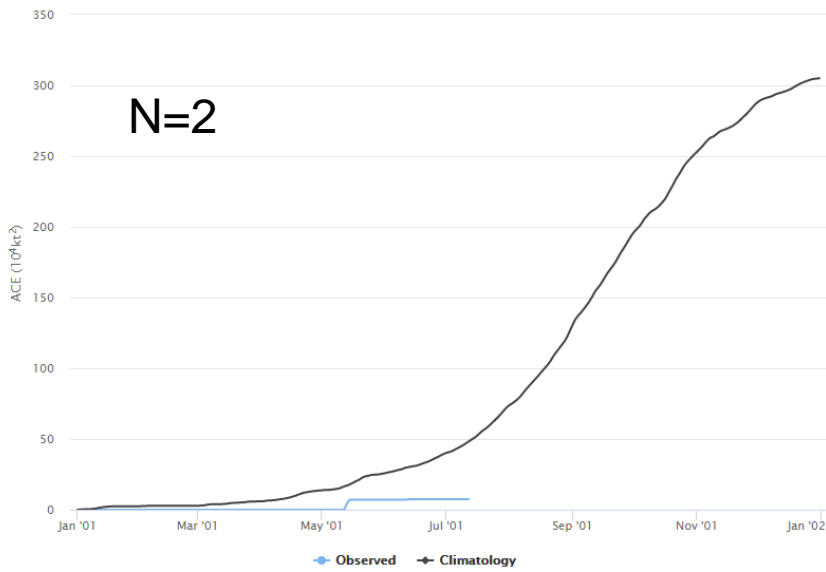
CFS Precipitation Anomalies (mm) Issued 13Jul2020
Week-2 Forecast Ending 28Jul2020



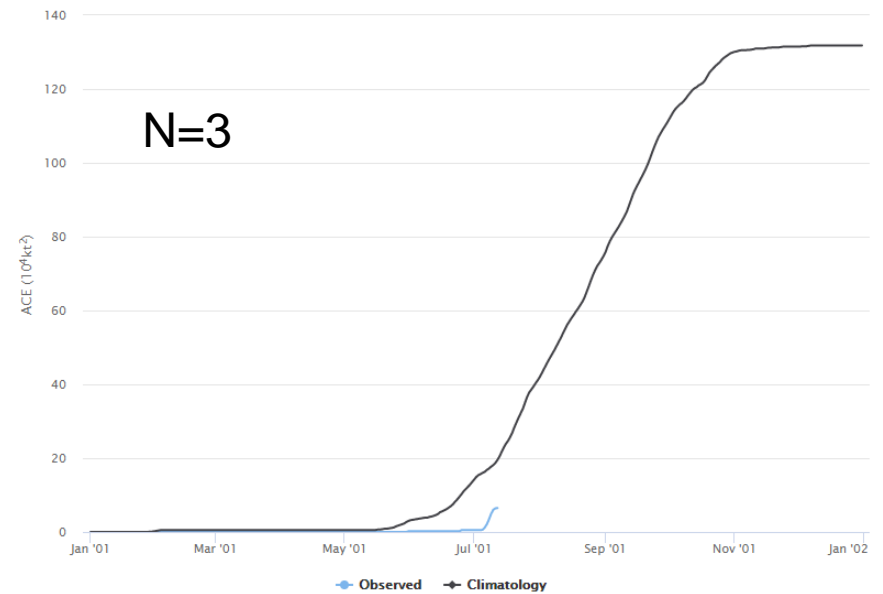
Current Season North Atlantic Ocean ACE (1981-2010 Climo)



Current Season Northwest Pacific Ocean ACE (1981-2010 Climo)

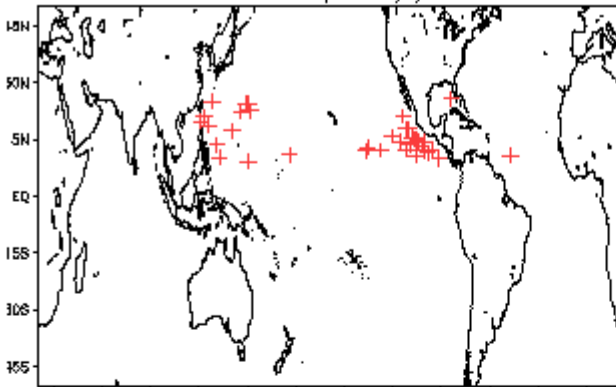


Current Season Northeast Pacific Ocean ACE (1981-2010 Climo)

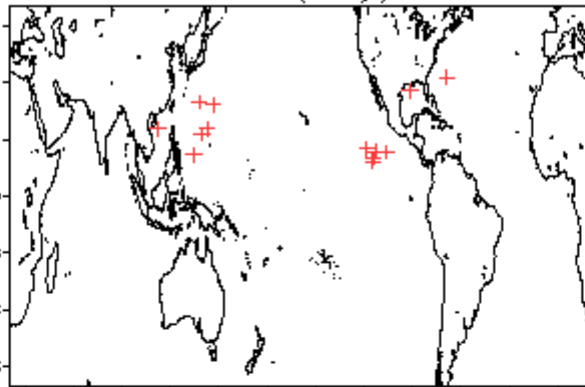


July Tropical Storm Formation by MJO phase

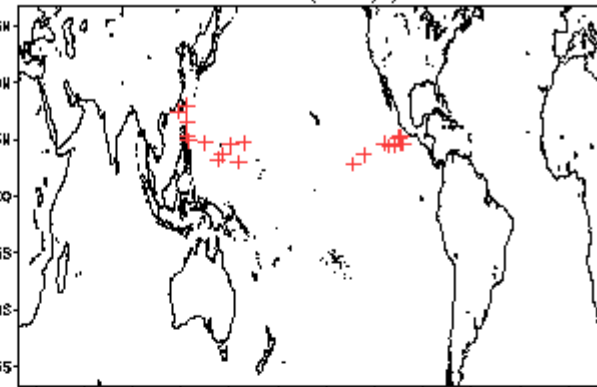
Phase 1 (144 days) 37 storms



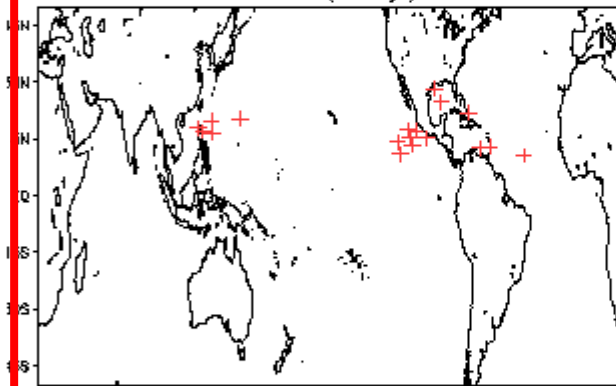
Phase 4 (40 days) 14 storms



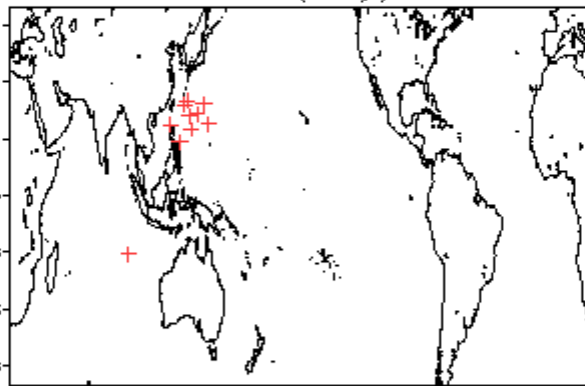
Phase 7 (87 days) 21 storms



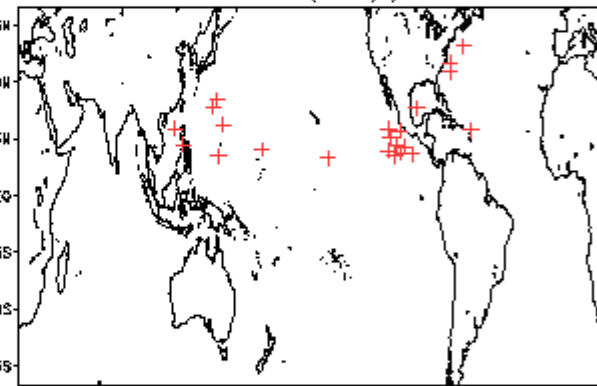
Phase 2 (74 days) 20 storms



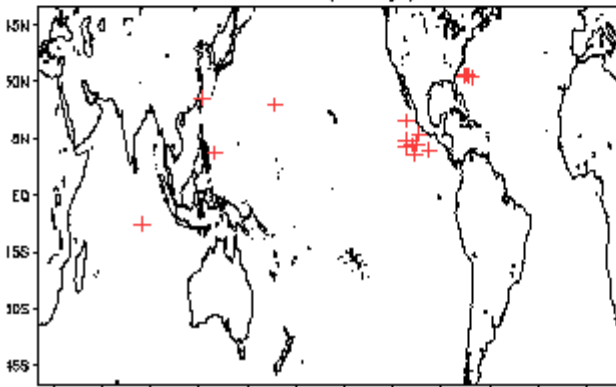
Phase 5 (63 days) 11 storms



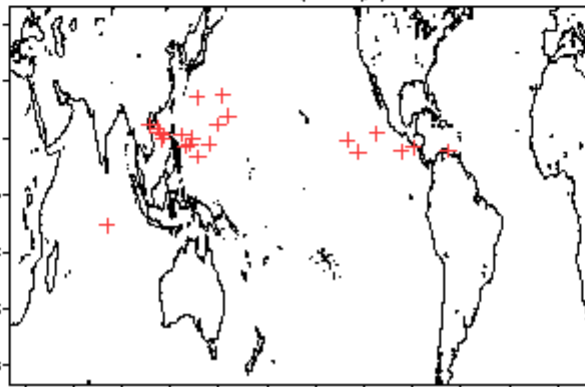
Phase 8 (61 days) 24 storms



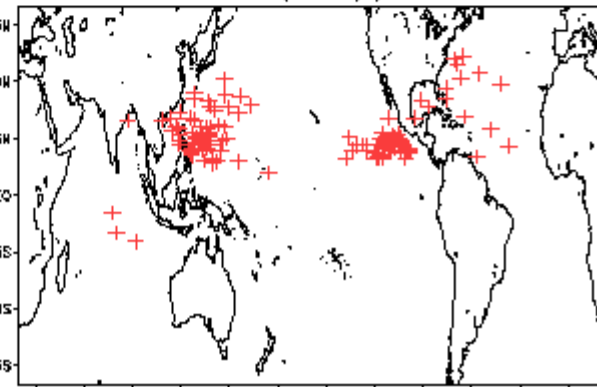
Phase 3 (49 days) 17 storms



Phase 6 (60 days) 23 storms



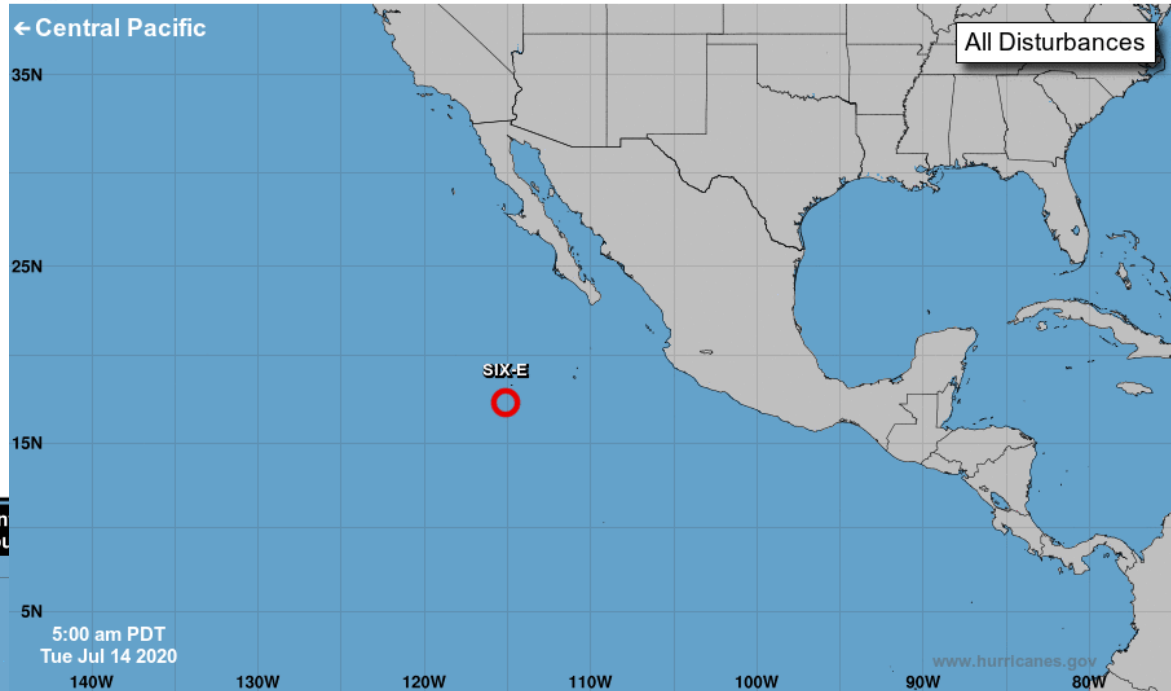
Null (480 days) 130 storms





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



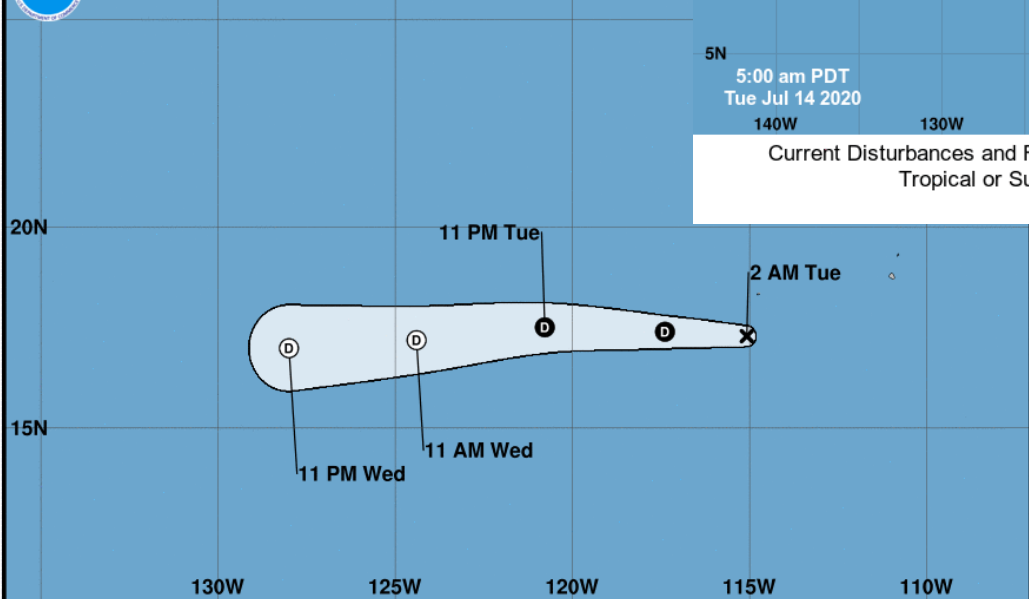
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants



Note: The cone contains the probable path of the storm center the size of the storm. Hazardous conditions can occur outside the cone.



Tropical Depression Six-E
Tuesday July 14, 2020
2 AM PDT Advisory 3
NWS National Hurricane Center

Current information: x
Center location 17.3 N 115.1 W
Maximum sustained wind 30 mph
Movement W at 16 mph

Forecast positions:
● Tropical Cyclone ○ Post/Potential TC
Sustained winds: D < 39 mph
S 39-73 mph H 74-110 mph M > 110 mph

Potential track area: Day 1-3 Day 4-5

Watches: Hurricane Trop Stm

Warnings: Hurricane Trop Stm

Current wind extent: Hurricane Trop Stm



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



www.hurricanes.gov

No Disturbances

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

8:00 am EDT
Tue Jul 14 2020

100W 90W 80W 70W 60W 50W 40W 30W 20W

45N

35N

25N

15N

5N

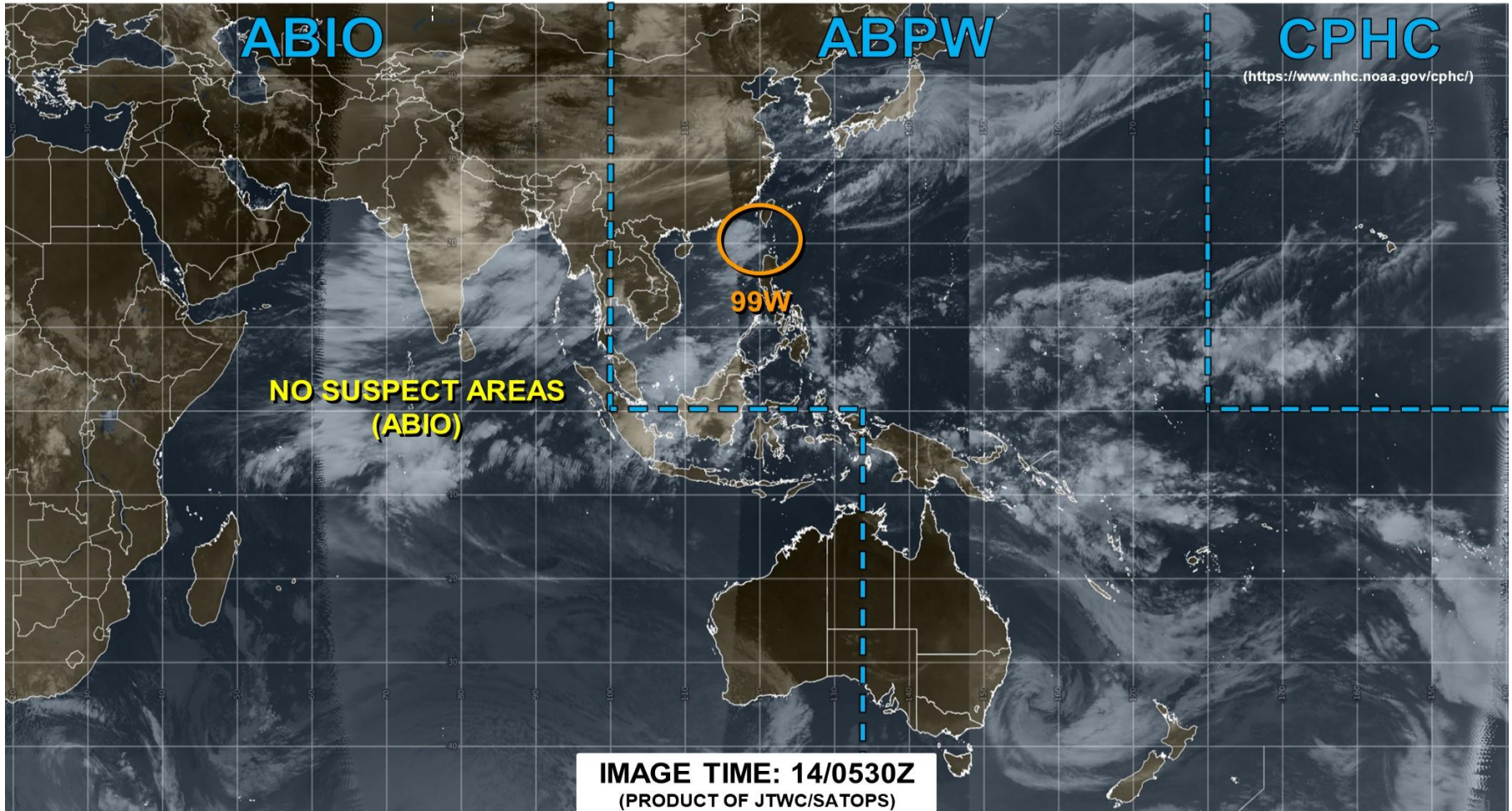
Current Disturbances and Five-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%

Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane

 Post-Tropical Cyclone or Remnants



JOINT TYPHOON WARNING CENTER



TC development unlikely within 24 hours



TC development likely, but expected to occur beyond 24 hours



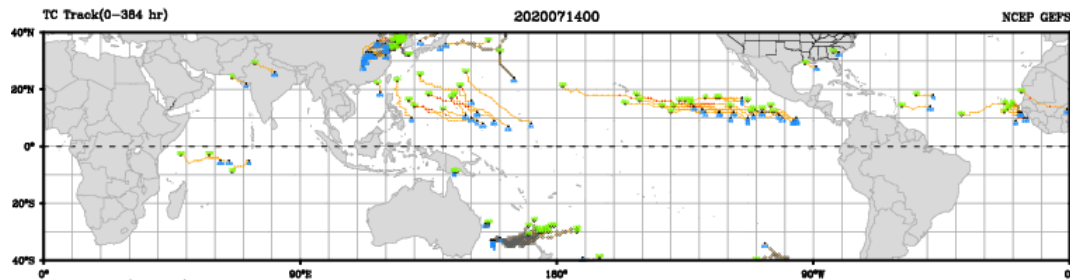
TC development likely within 24 hours (Reference TCFA)



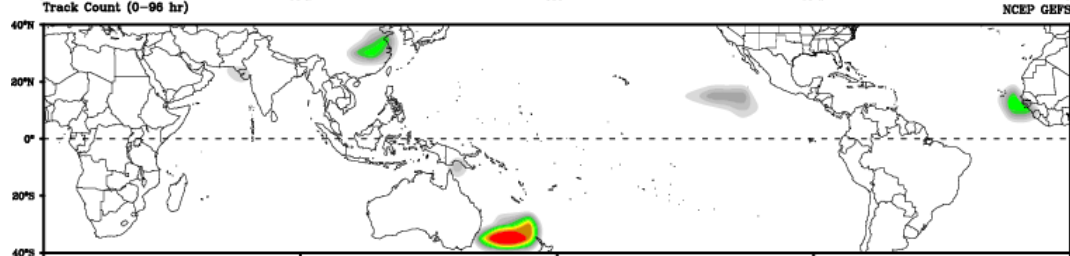
Monitoring for potential transition to TC. Invest color denotes tropical transition probability



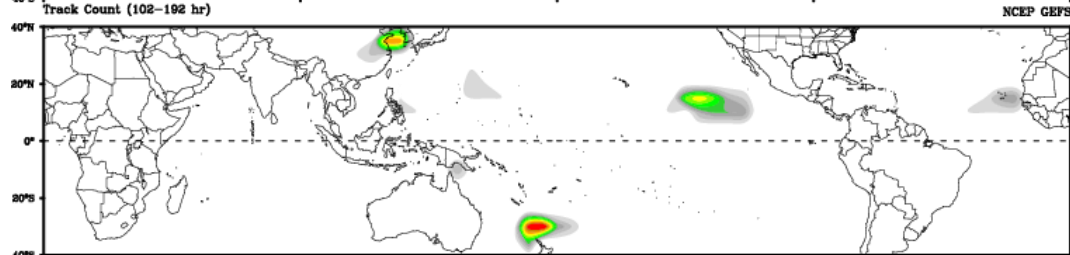
CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)



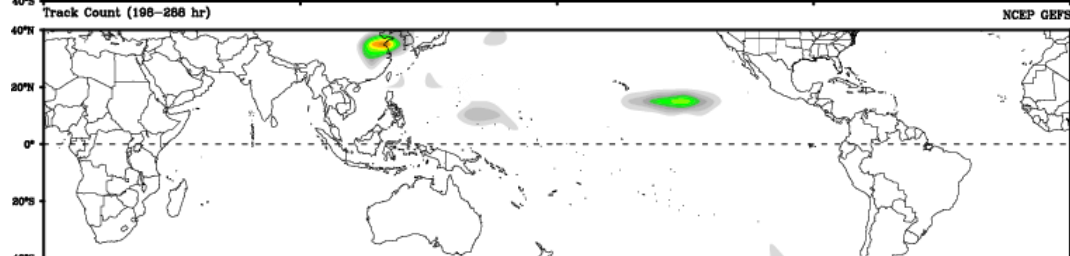
Days 1-4



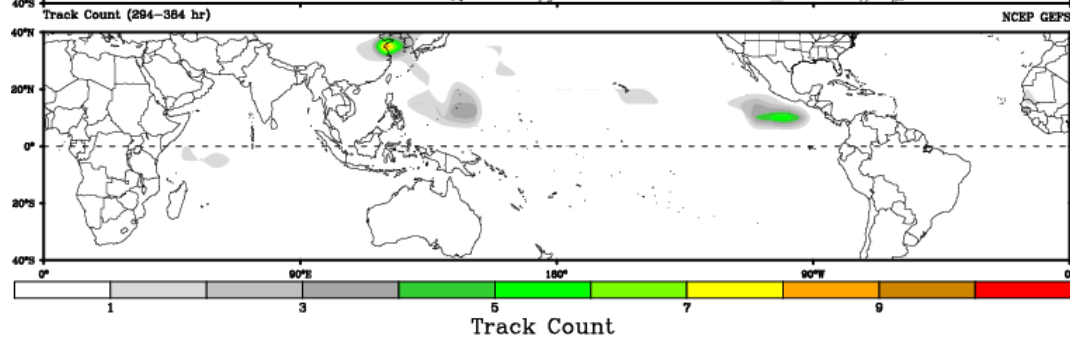
Day 5-8



Day 9-12



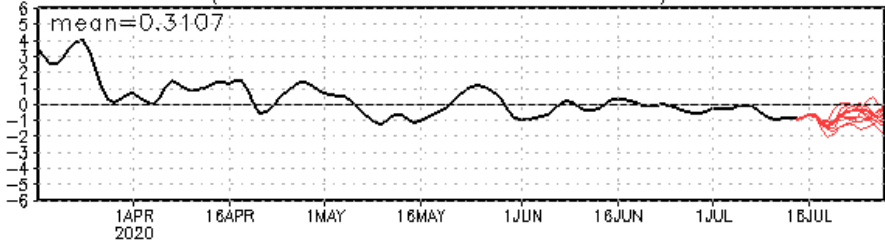
Day 13-15



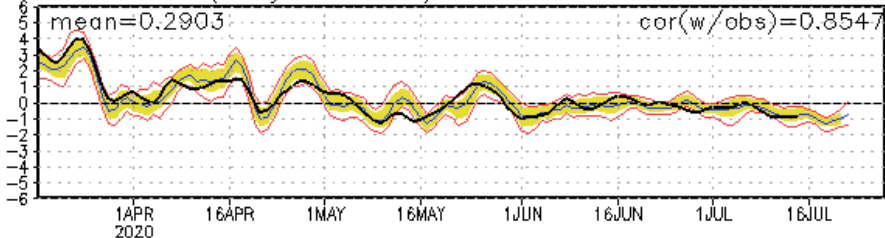
Connections to U.S. Impacts

AO: Observed & ENSM forecasts

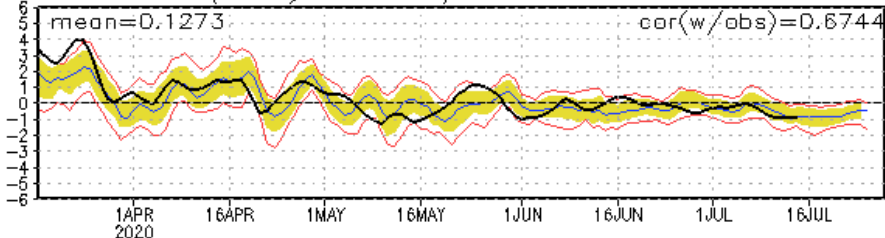
1000mb Z (Obs: 17Mar2020 – 14Jul2020) AO index



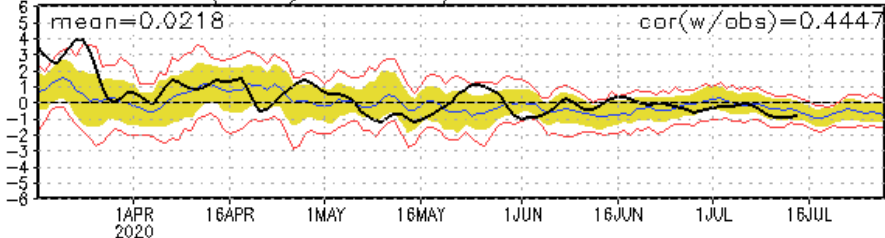
1000mb Z (7day Forecast) AO index



1000mb Z (10day Forecast) AO index

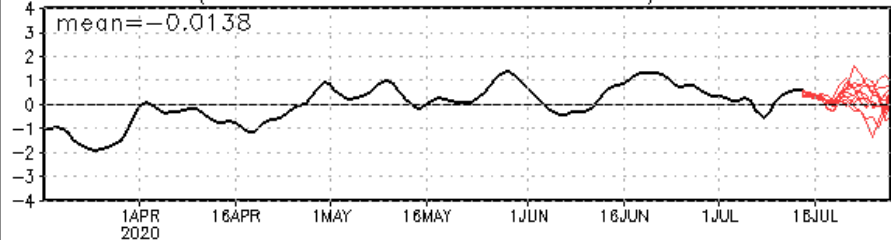


1000mb Z (14day Forecast) AO index

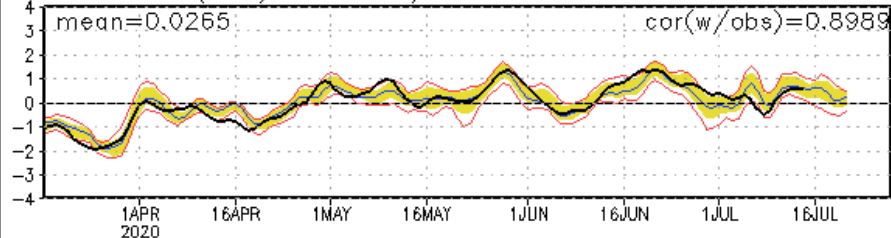


PNA: Observed & ENSM forecasts

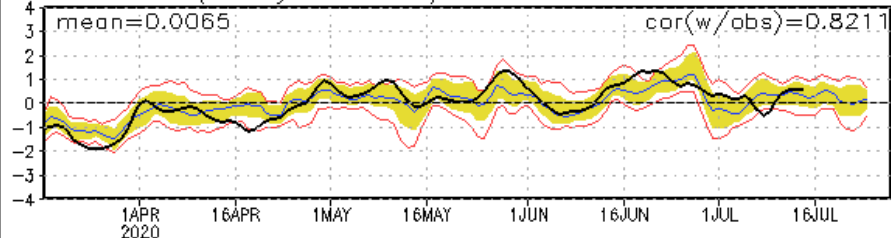
500mb Z (Obs: 17Mar2020 – 14Jul2020) PNA index



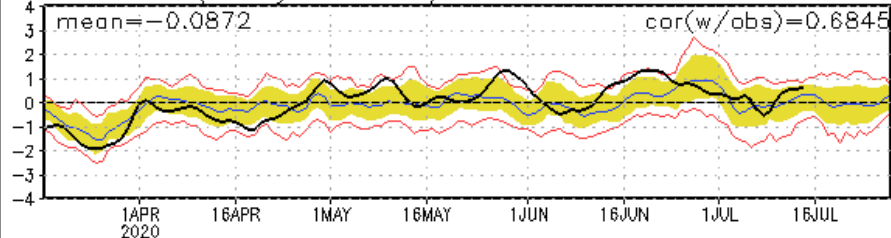
500mb Z (7day Forecast) PNA index

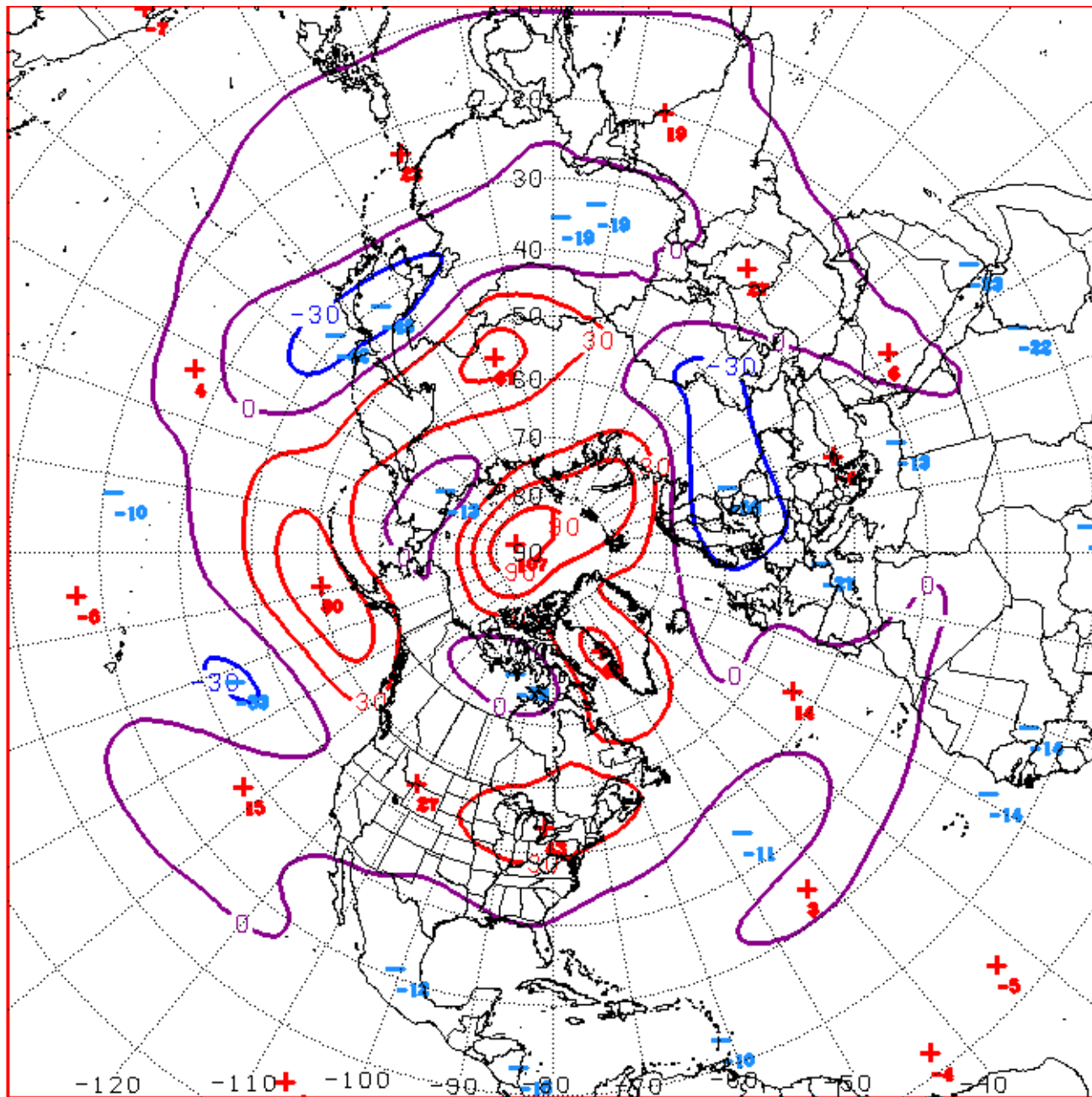


500mb Z (10day Forecast) PNA index



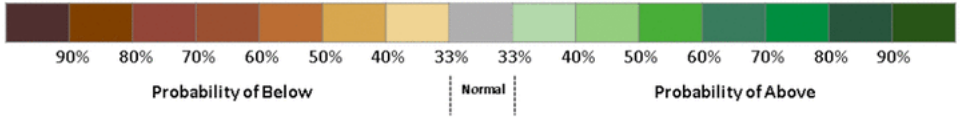
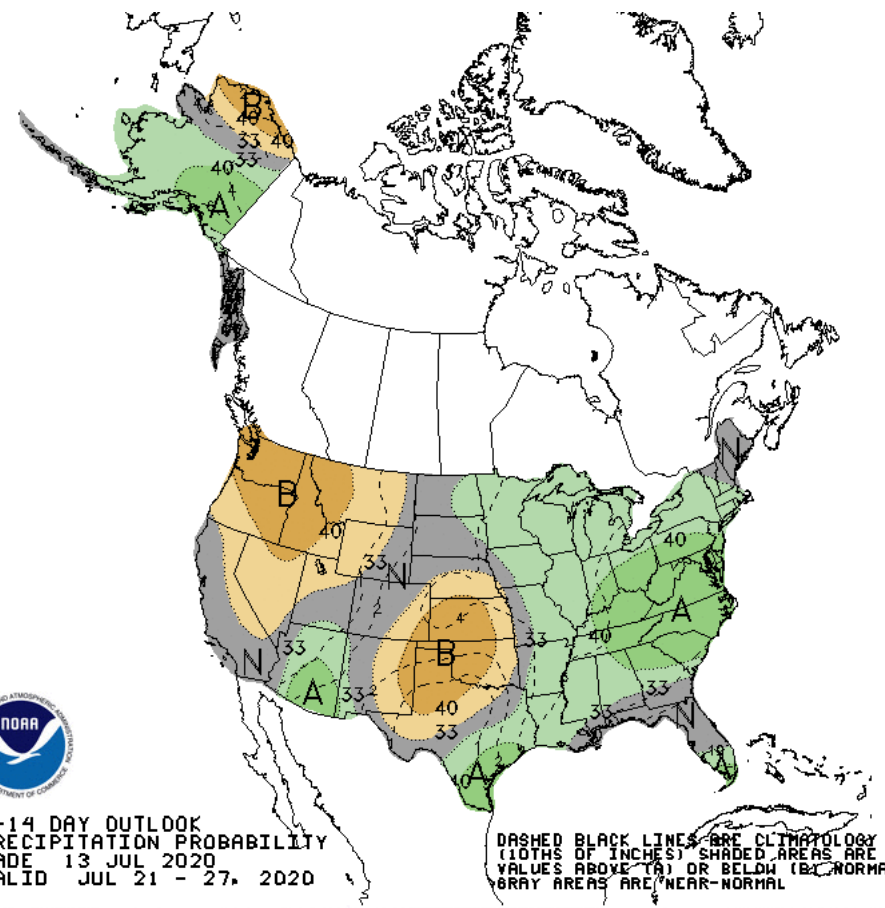
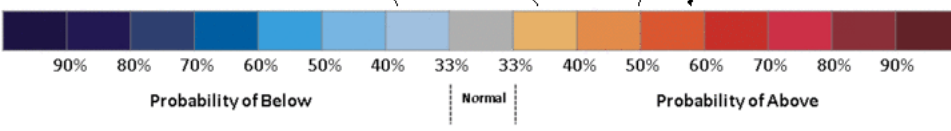
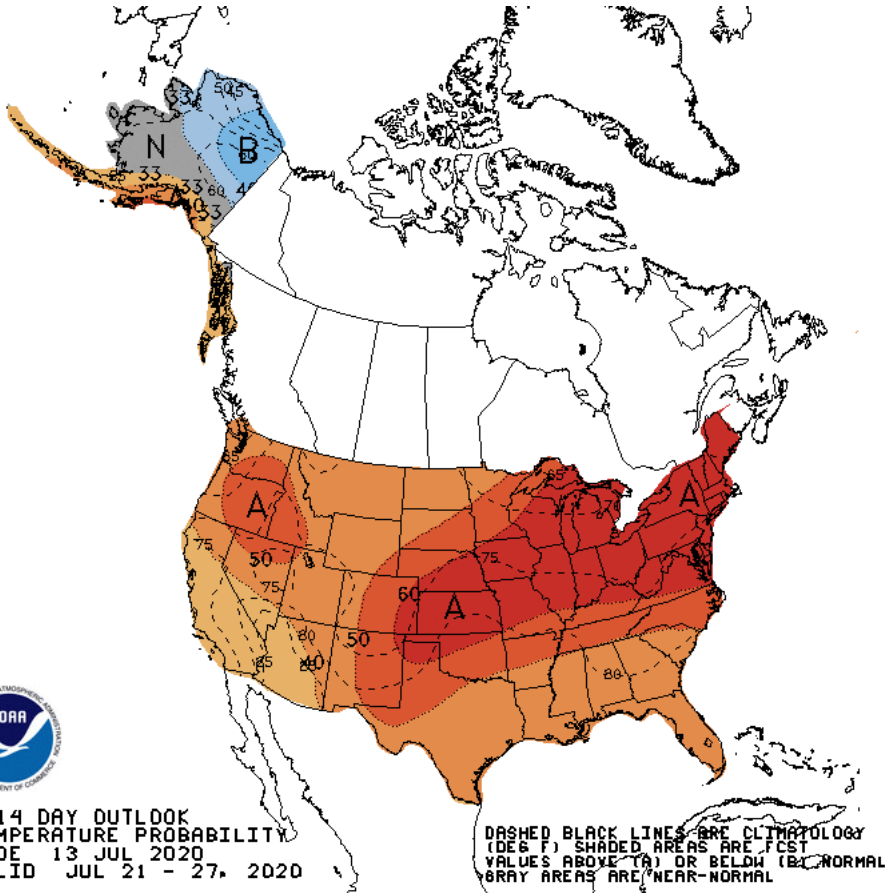
500mb Z (14day Forecast) PNA index





D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE JUL 14 2020 1246 UTC CNTD JUL 25 2020

Week 2 – Temperature and Precipitation



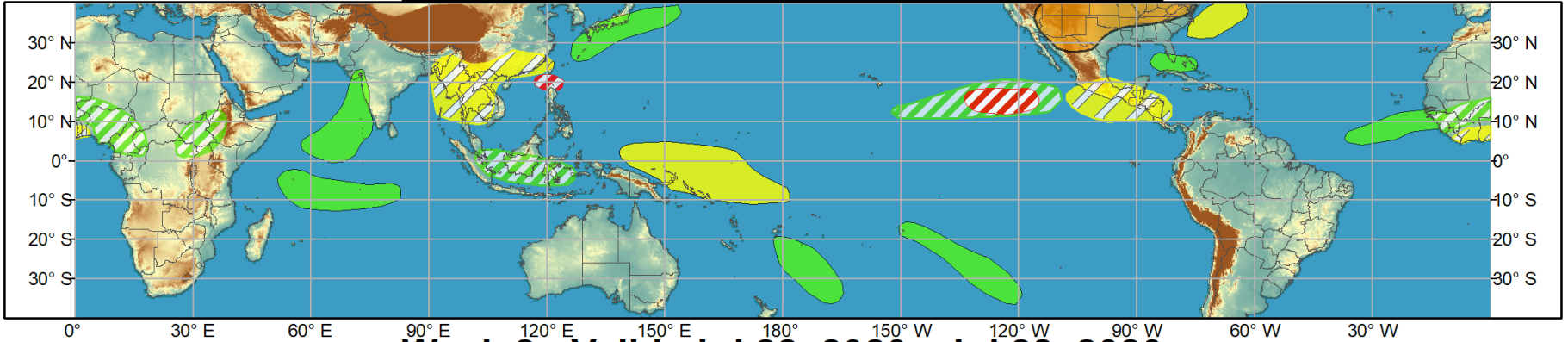
Continued warmer conditions expected across much of CONUS.



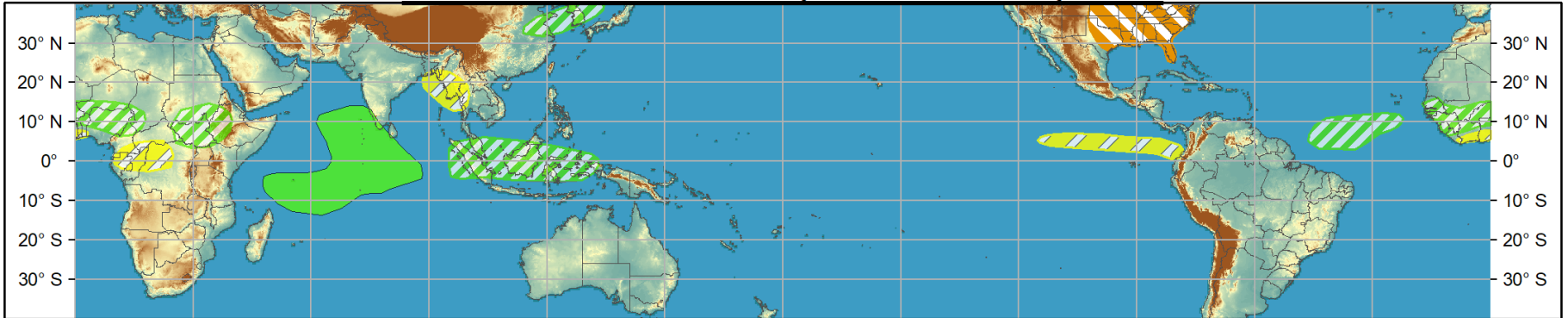
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