

Global Tropics Hazards And Benefits Outlook

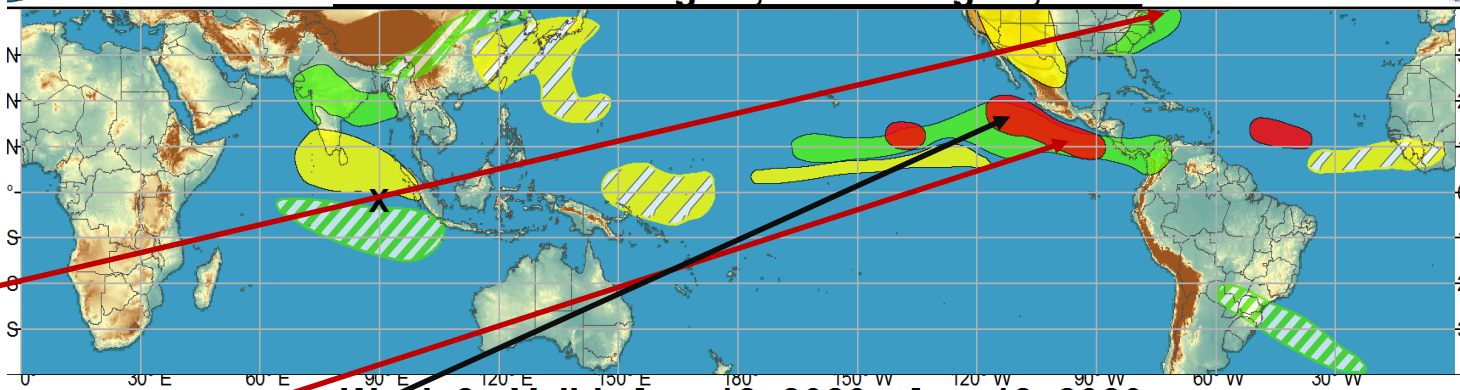
8/18/2020

Kyle MacRitchie

Outline

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

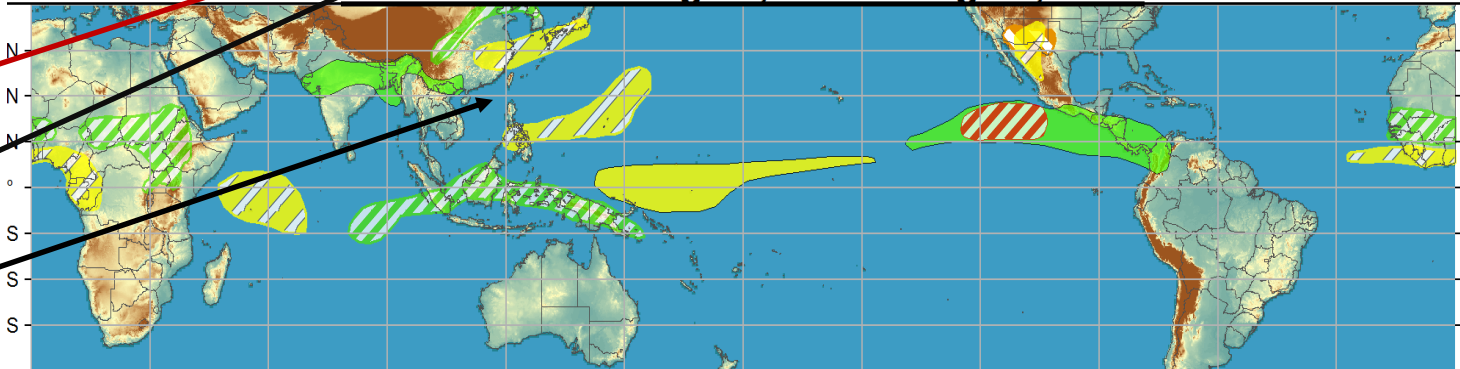
Week 1 - Valid: Aug 12, 2020 - Aug 18, 2020



Outlook Review

TS Kyle formed
~38N/72W,
8/14

Week 2 - Valid: Aug 12, 2020 - Aug 18, 2020



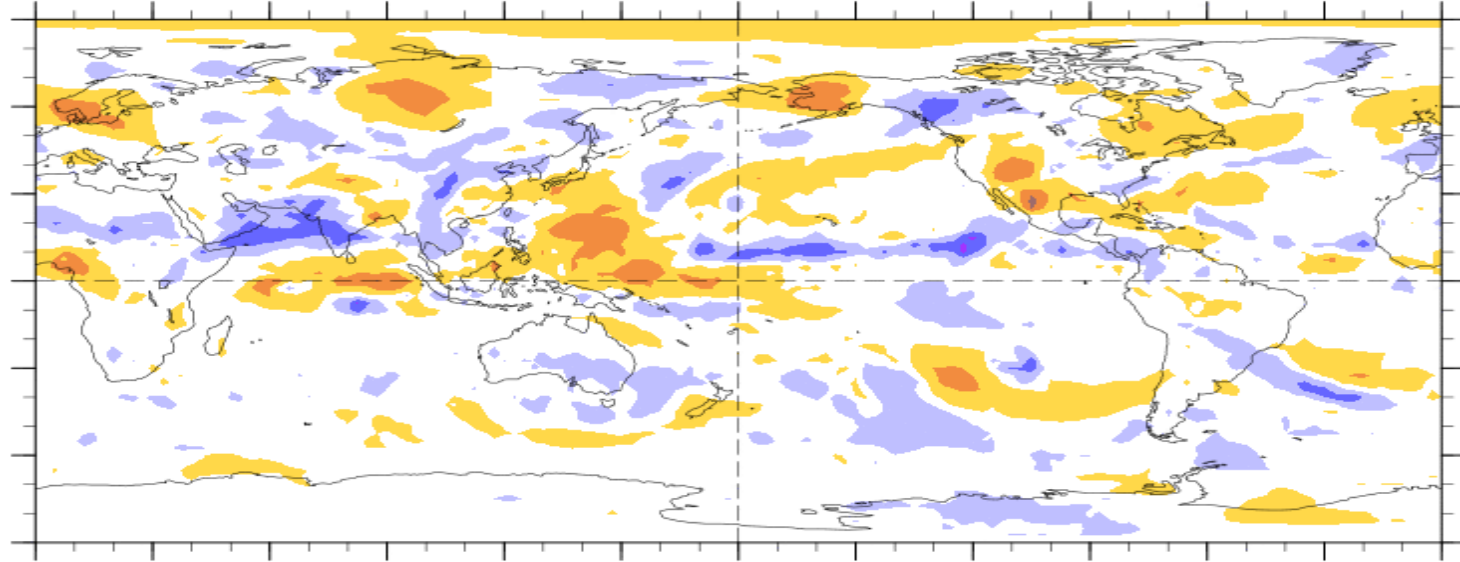
Genevieve, 8/16

Fausto, 8/16

Higos, 8/18

7-Day Average OLR Anomaly

2020/08/10 - 2020/08/16



Cool shading
More
clouds/rain

Warm shading
Less
clouds/rain

Synopsis of Climate Modes

ENSO: (August 13, 2020 Update)

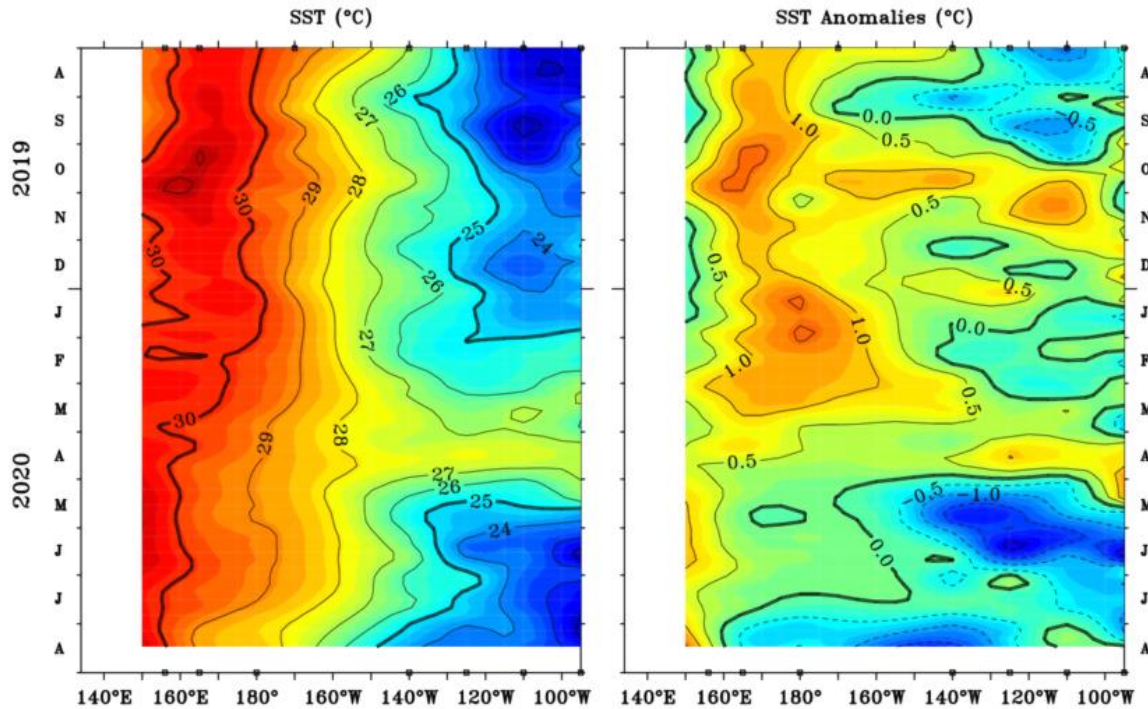
- ENSO Alert System Status: [La Niña Watch](#) (next update **September 10**)
- There is a ~60% chance of La Niña development during Northern Hemisphere fall 2020 and continuing through winter 2020-21 (~55% chance).

MJO and other subseasonal tropical variability:

- The MJO is approaching Africa; substantial event likely during the next two weeks.
- MJO and Kelvin waves are likely to enhance tropical cyclone formation probabilities in the East Pacific and Atlantic.
- The low frequency state in the equatorial Pacific is trending towards La Niña.
- September is climatologically the most active month for TCs in the Atlantic.

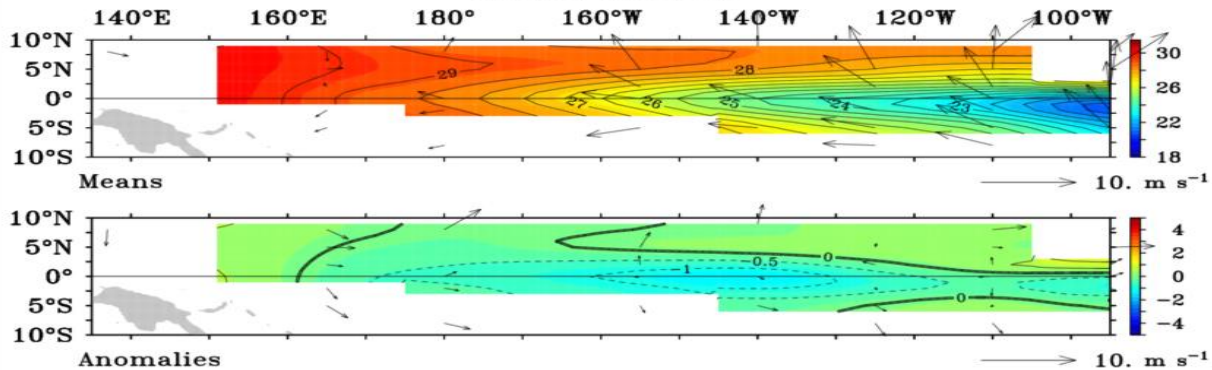
Quick look at ENSO

Five-Day SST 2°S to 2°N Average



TAO/TRITON Five-Day Data Ending On August 17 2020

SST (°C) and Wind

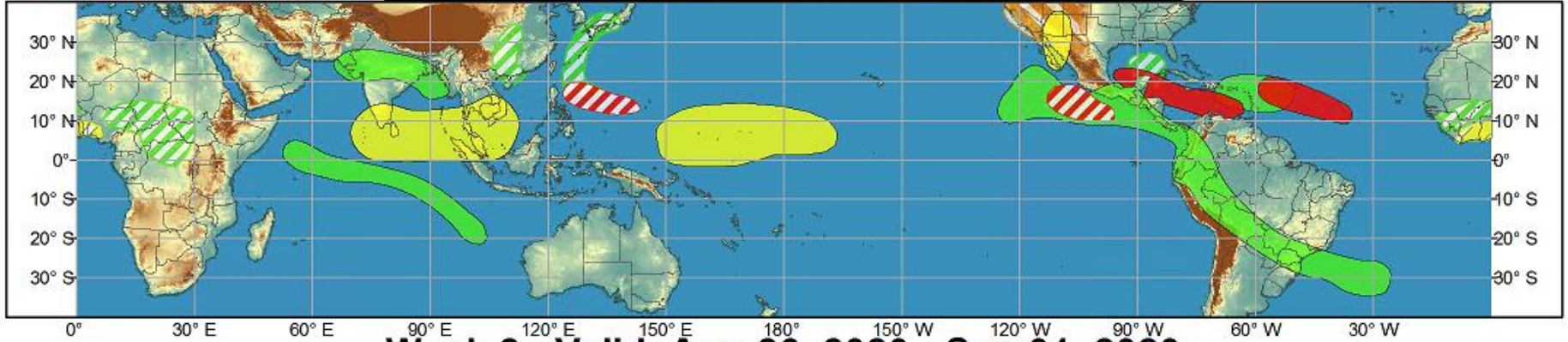




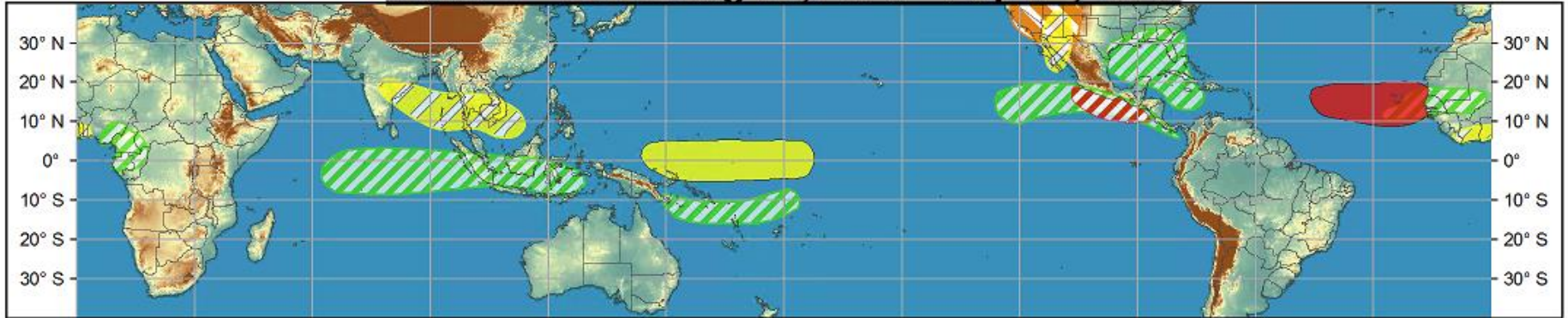
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Aug 19, 2020 - Aug 25, 2020



Week 2 - Valid: Aug 26, 2020 - Sep 01, 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: 08/18/2020

Forecaster: MacRitchie

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

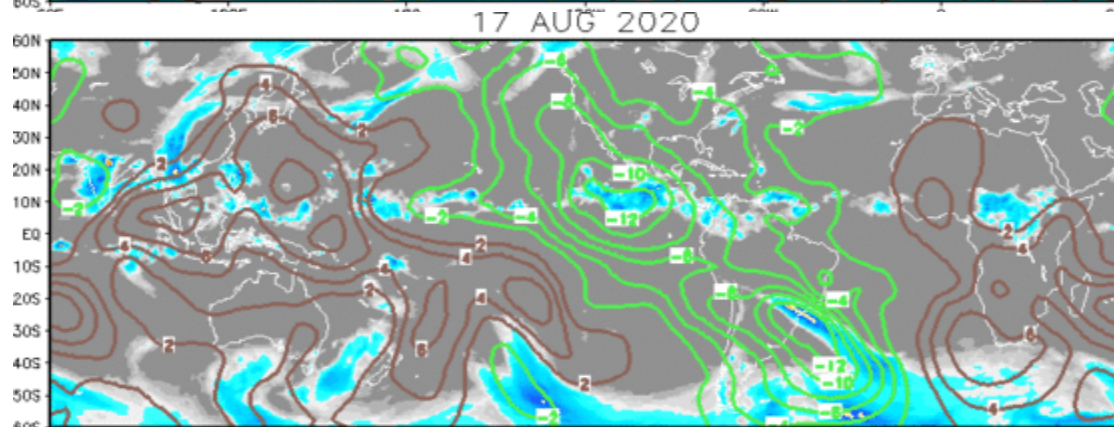
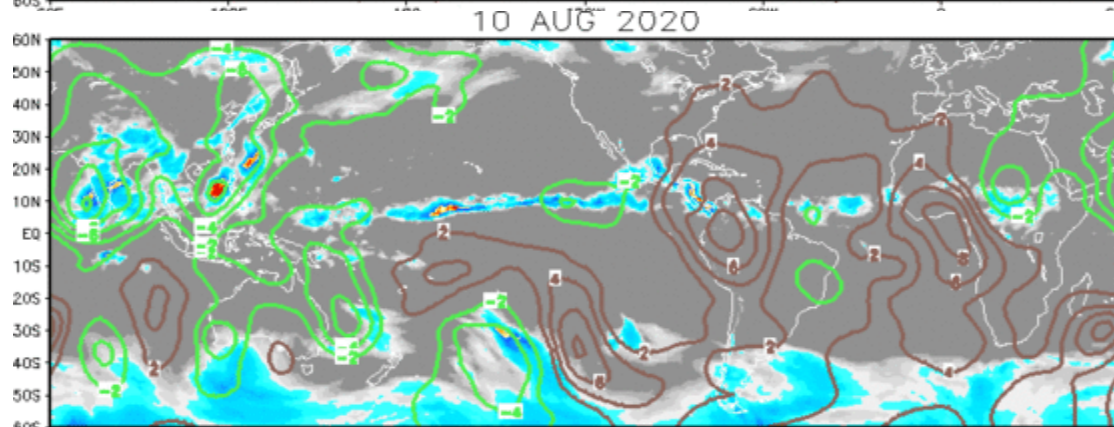
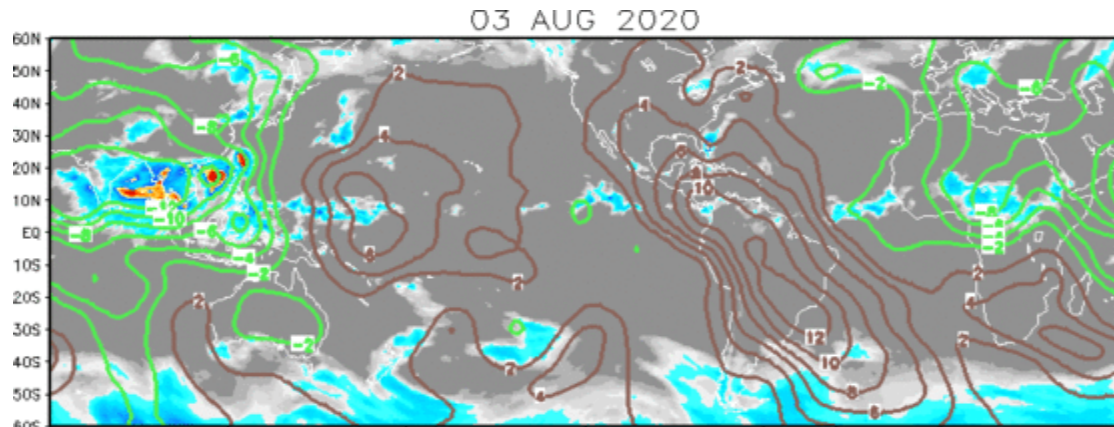
Green: Enhanced Divergence

Brown: Enhanced Convergence

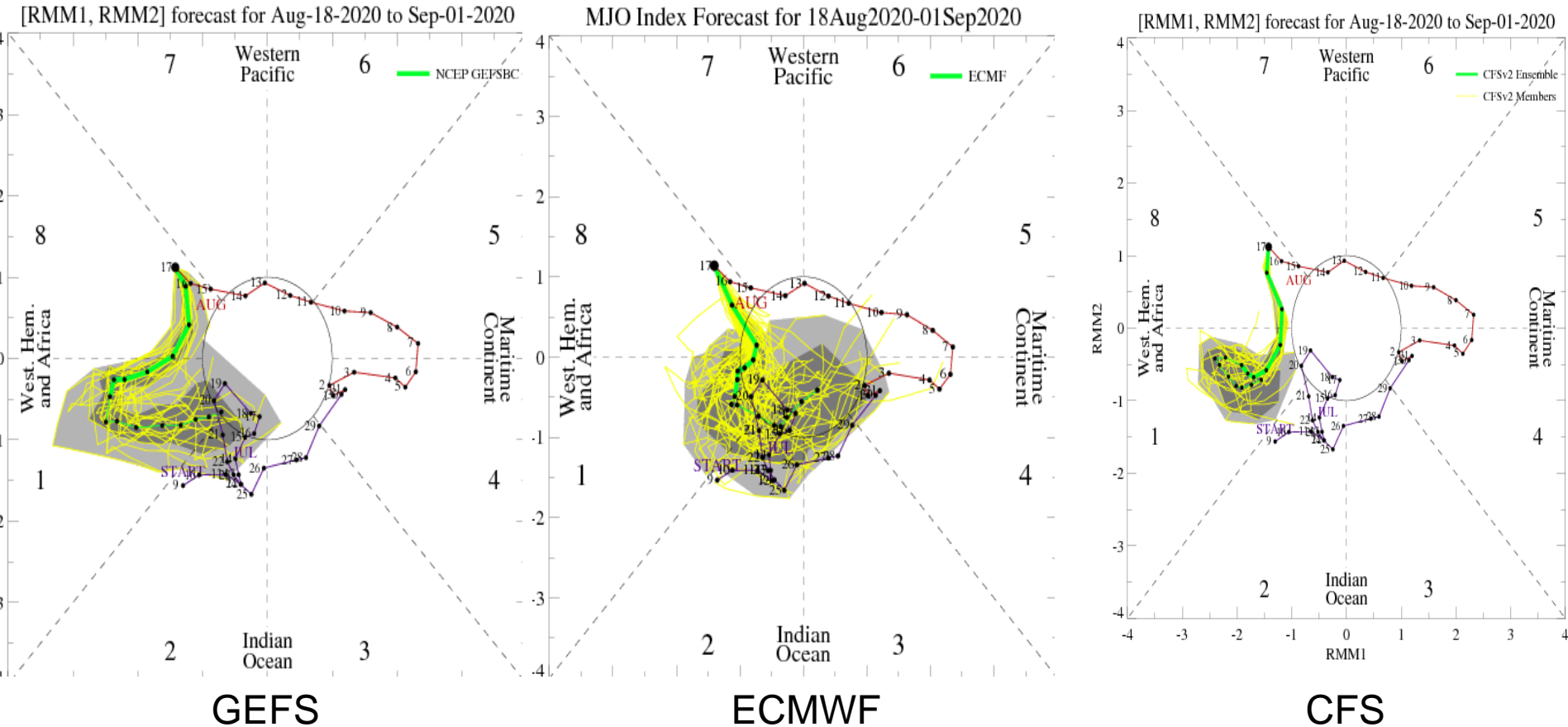
MJO signal is evident with enhanced convection over South/Southeast Asia, associated with enhanced monsoon activity.

MJO eastward propagation is evident.

Continued eastward propagation, enhanced convection over East Pacific.



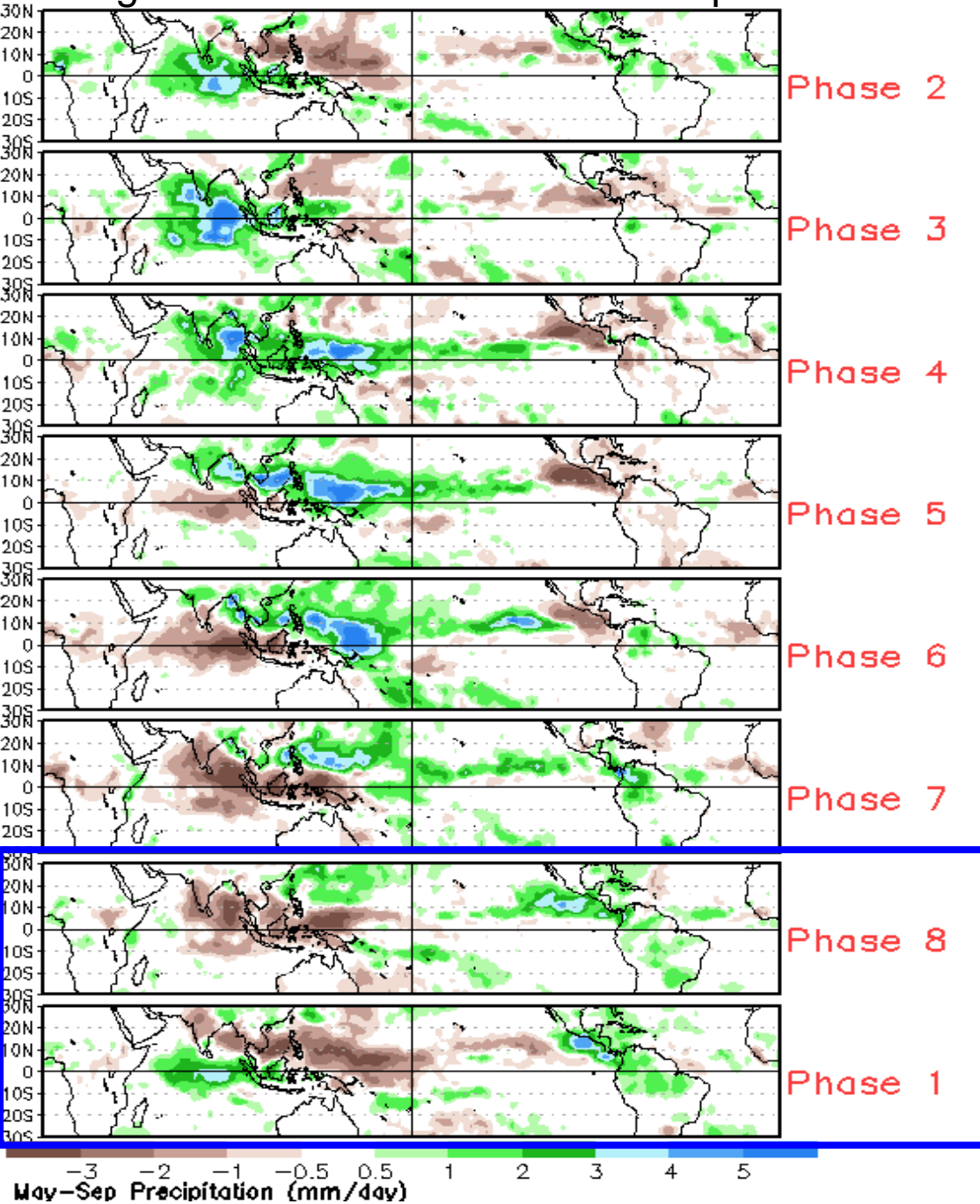
MJO Observation/Forecast



Dynamical models agree on a moderate MJO event during the next two weeks.

There is disagreement regarding the amplitude of the event; the ECMWF is the weakest, on average.

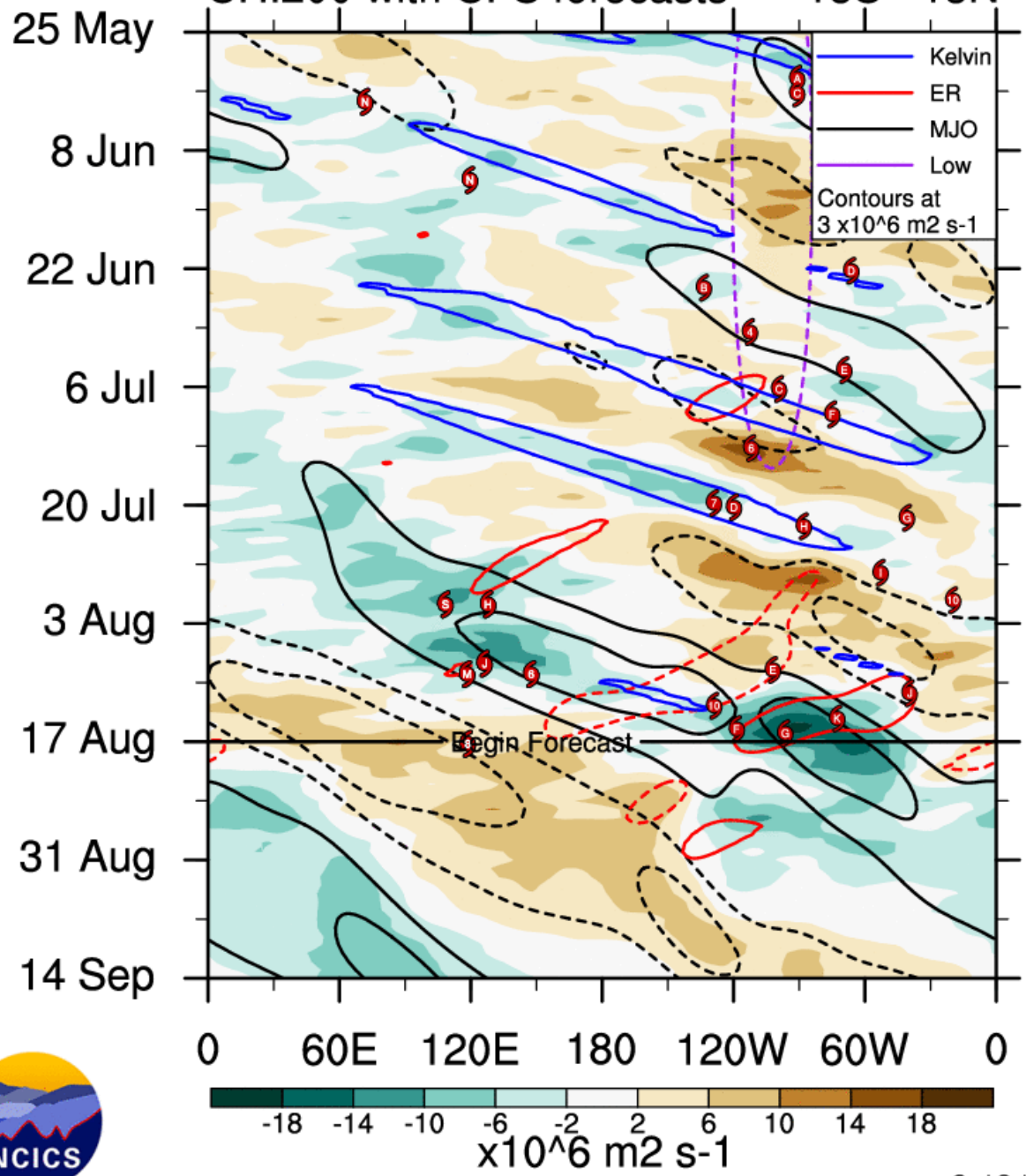
Average Conditions when the MJO is present



Phases 8, 1, and maybe 2 are most likely

CAVEAT: These panels are representative of robust MJO events.

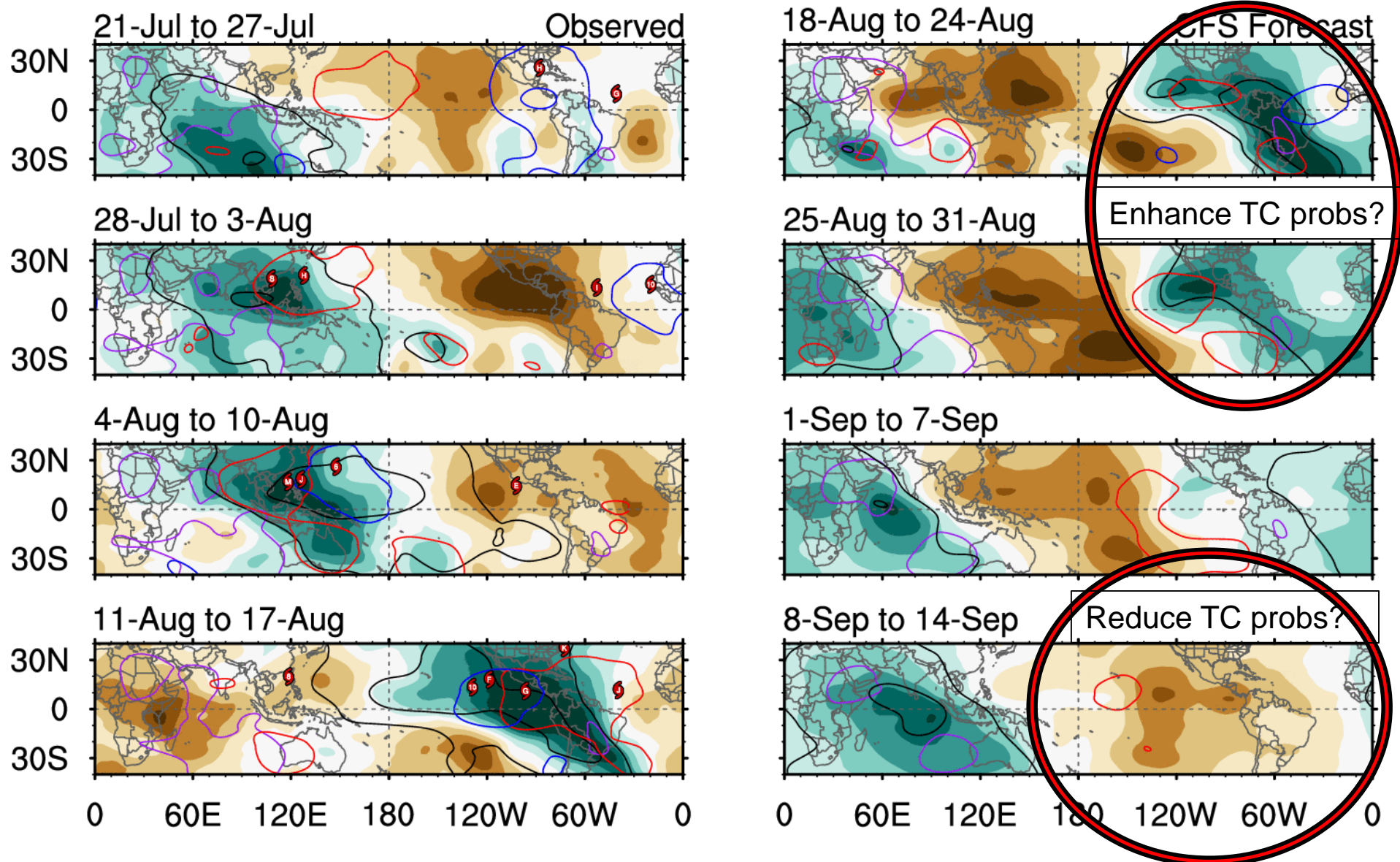
CHI200 with CFS forecasts 15S - 15N



Robust **MJO** signal propagates around the globe.

Kelvin wave activity is over the East Pacific but appears weak on this plot.



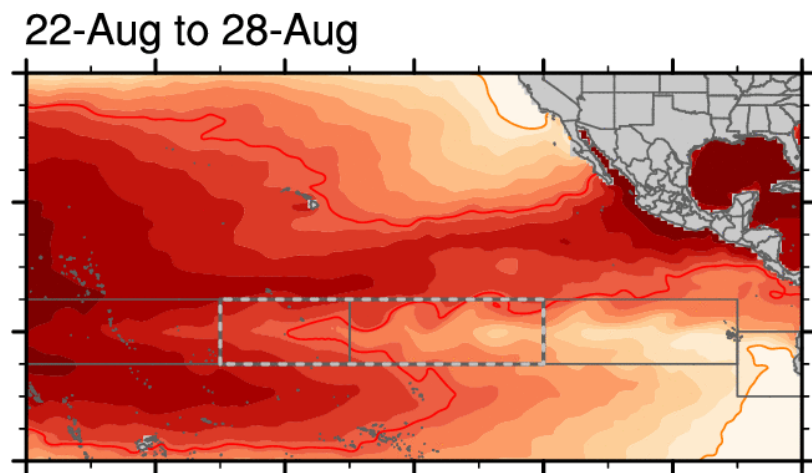
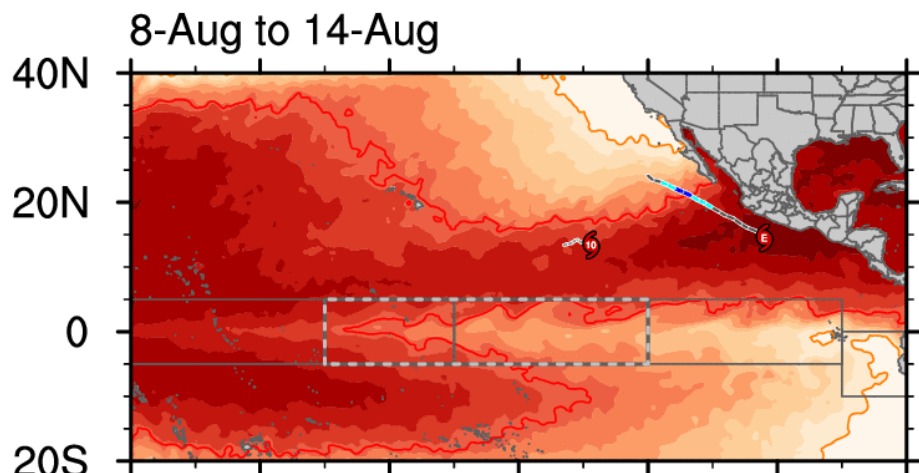
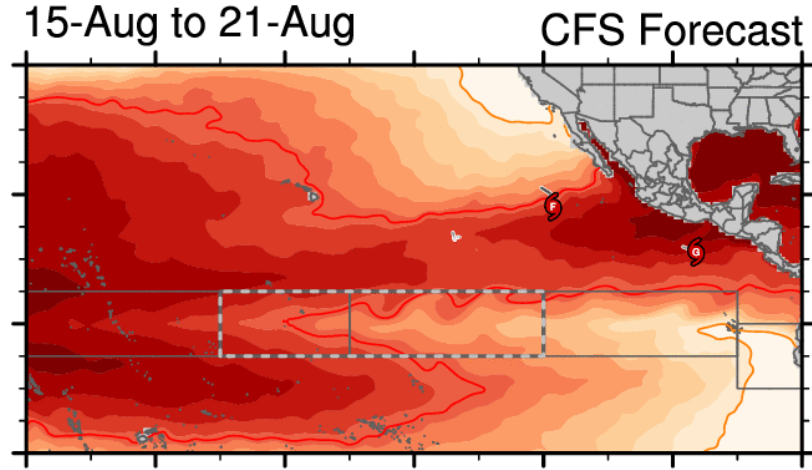
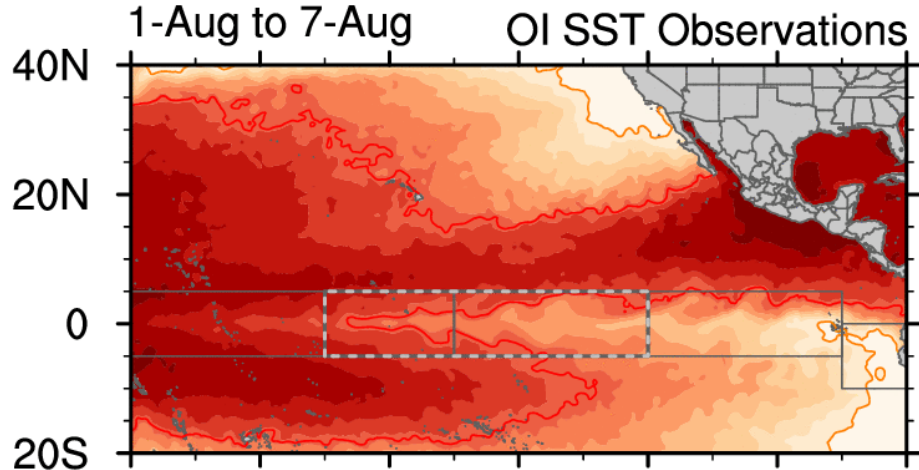


7-day CHI200 with CFS forecasts

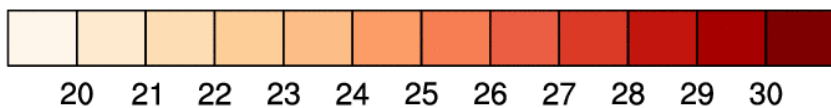


- MJO
- Kelvin x2
- Low
- ER

Contours at -2, -6 x10^6 m2 s-1



160E 180 160W 140W 120W 100W 80W 160E 180 160W 140W 120W 100W 80W

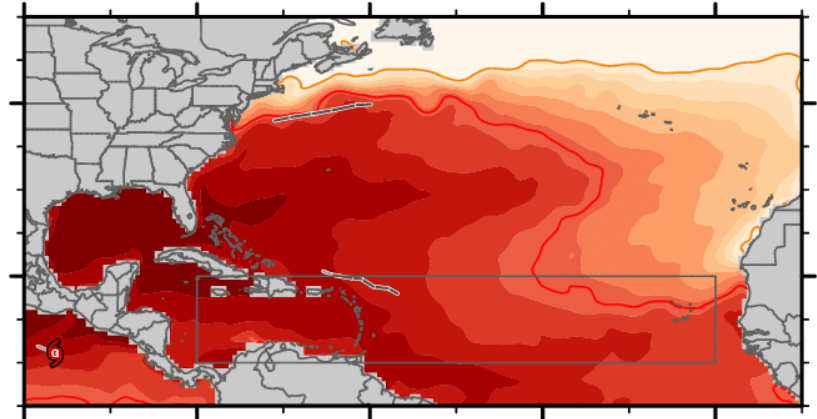
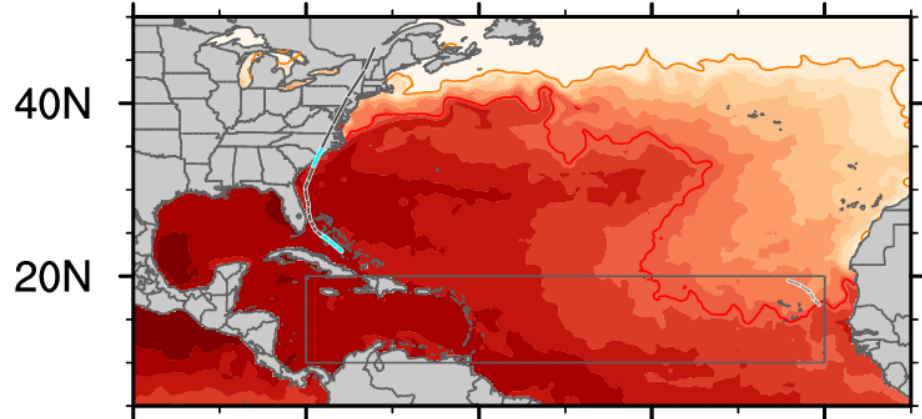


7-day TOTAL



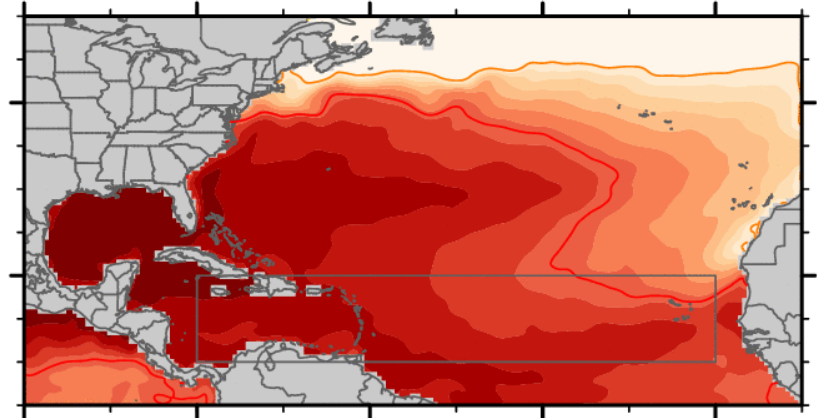
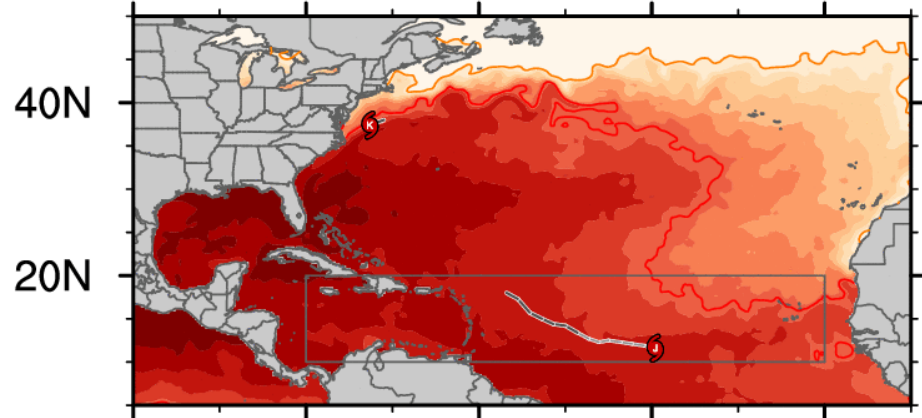
1-Aug to 7-Aug OI SST Observations

15-Aug to 21-Aug CFS Forecast



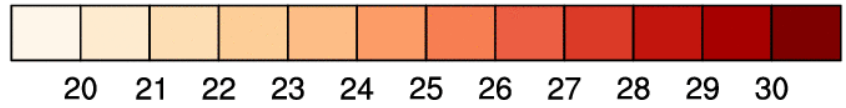
8-Aug to 14-Aug

22-Aug to 28-Aug



100W 80W 60W 40W 20W

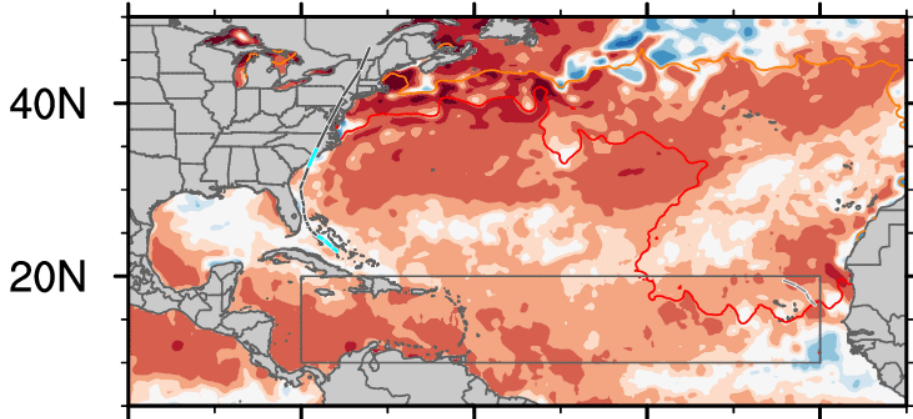
100W 80W 60W 40W 20W N



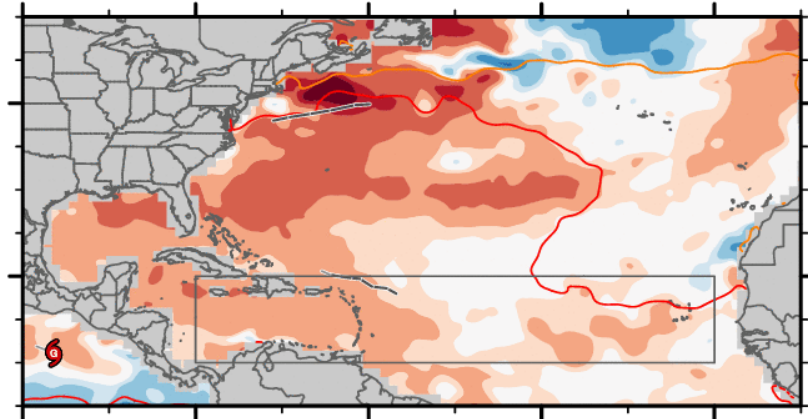
7-day TOTAL



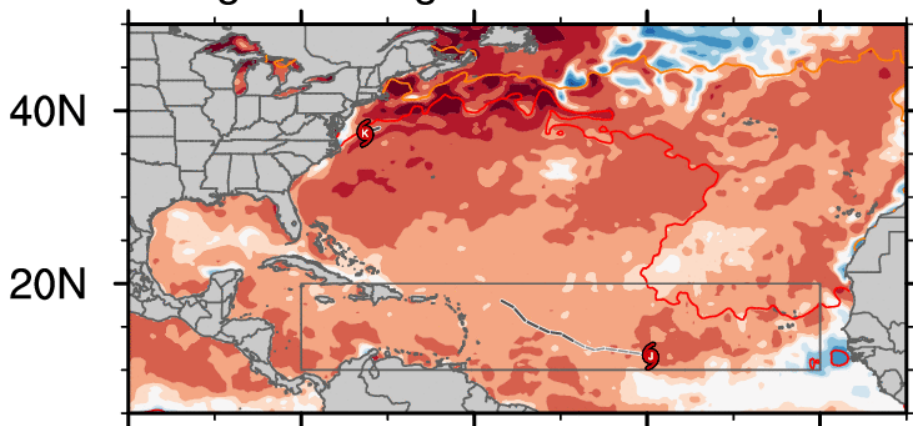
1-Aug to 7-Aug OI SST Observations



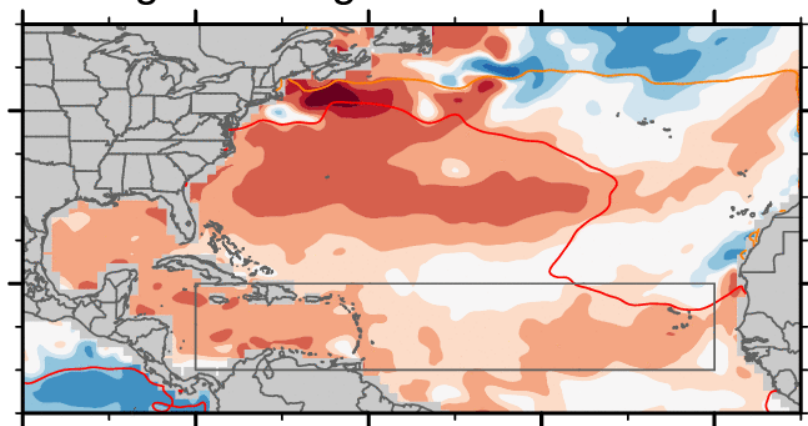
15-Aug to 21-Aug CFS Forecast



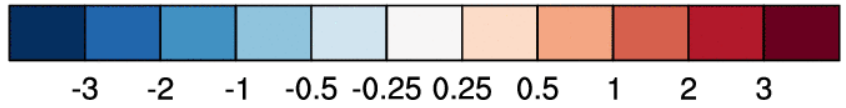
8-Aug to 14-Aug



22-Aug to 28-Aug



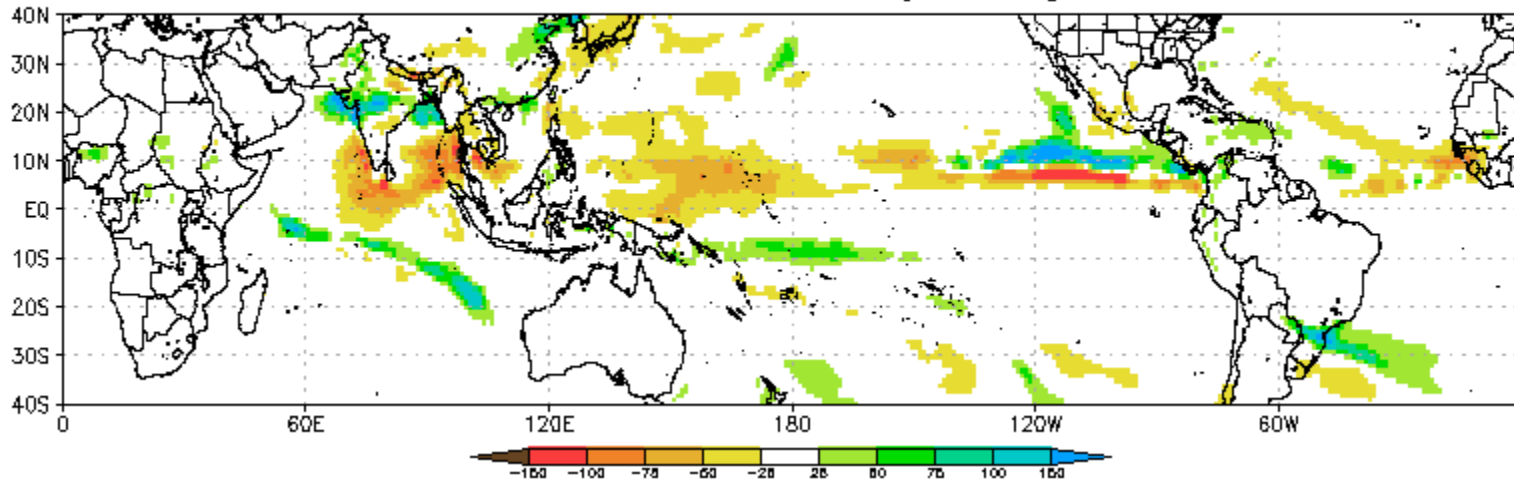
100W 80W 60W 40W 20W 100W 80W 60W 40W 20W



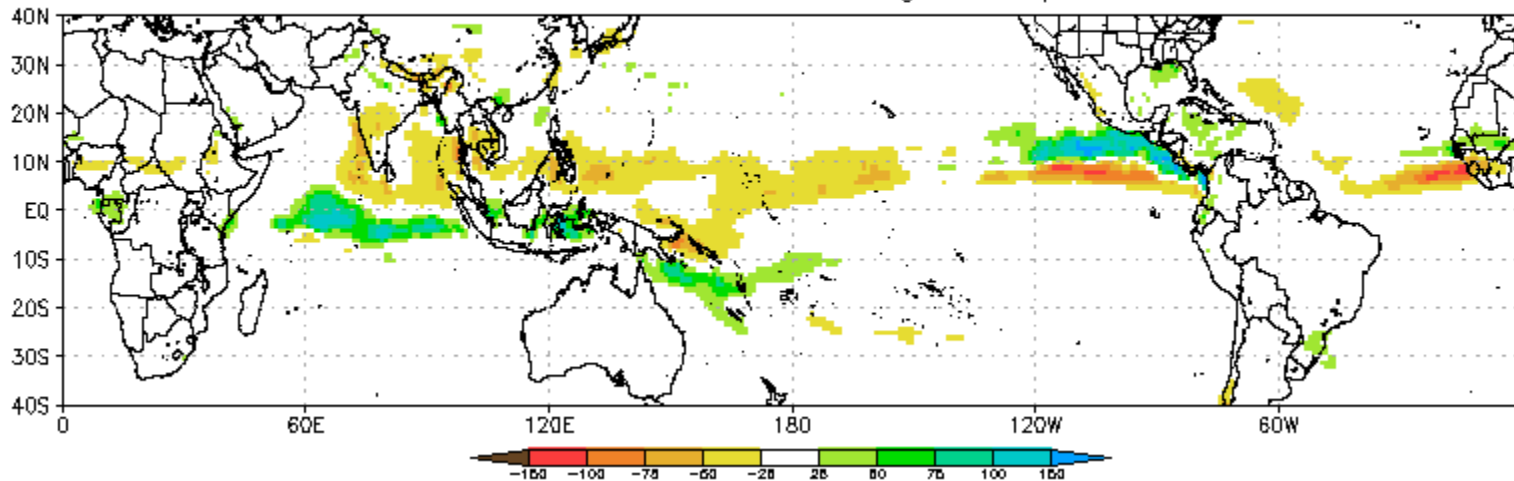
7-day ANOM



CFS Precipitation Anomalies (mm) Issued 17Aug2020
Week-1 Forecast Ending 25Aug2020

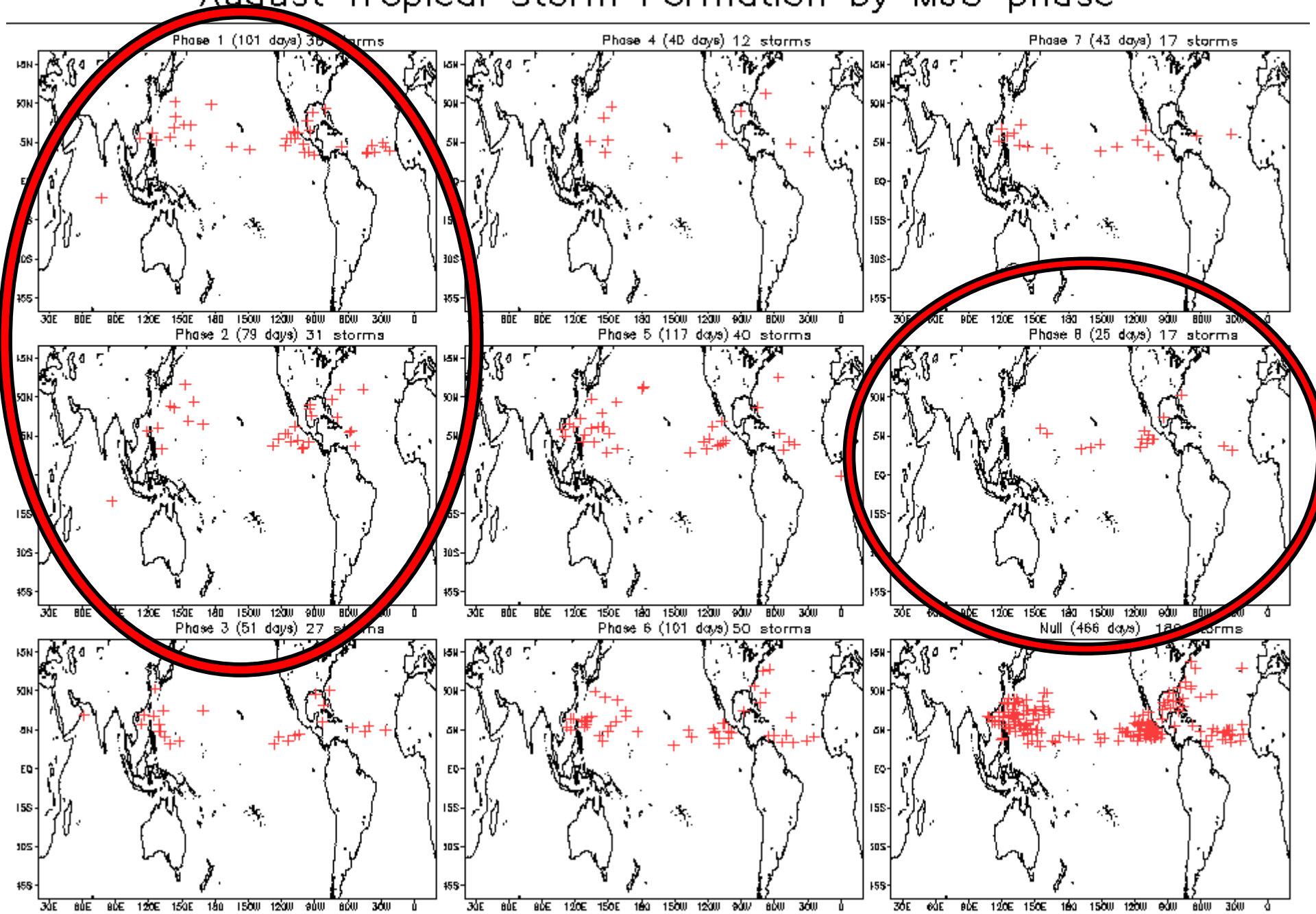


CFS Precipitation Anomalies (mm) Issued 17Aug2020
Week-2 Forecast Ending 01Sep2020



CFS maintains suppressed north of New Guinea, but has more precip crossing the central Pacific.

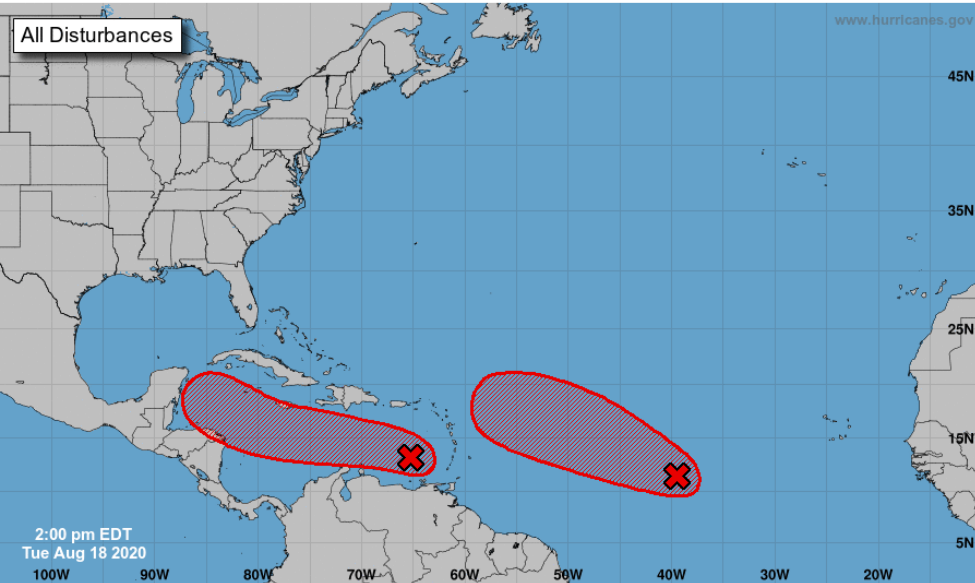
August Tropical Storm Formation by MJO phase





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



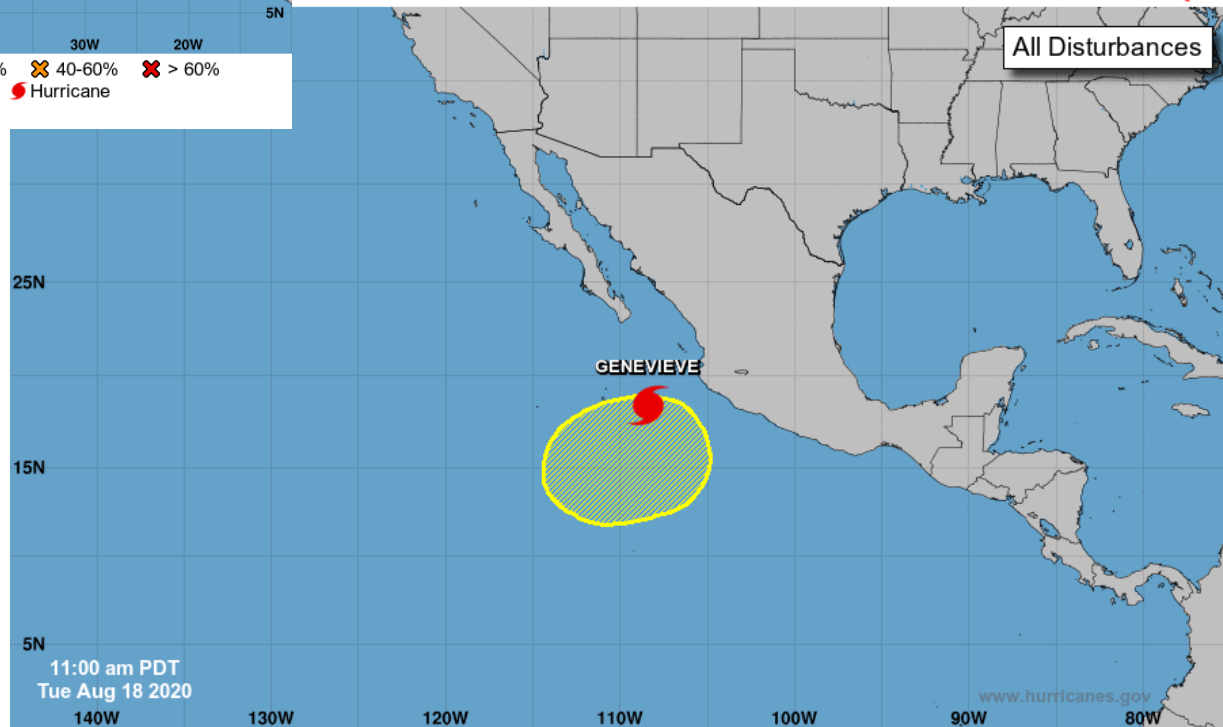
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

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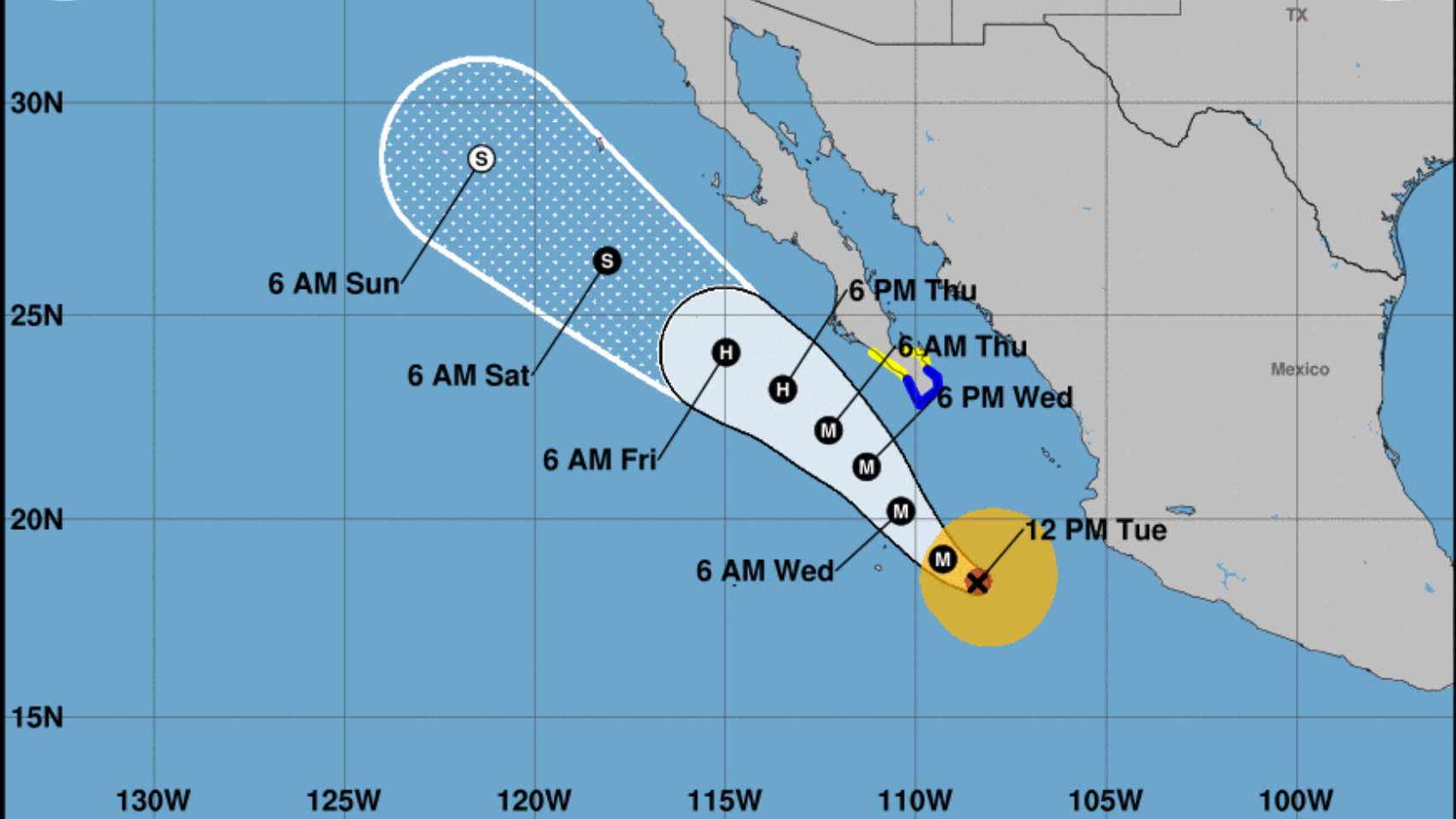
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Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Hurricane Genevieve
 Tuesday August 18, 2020
 12 PM MDT Intermediate Advisory 9A
 NWS National Hurricane Center

Current information: x
 Center location 18.4 N 108.4 W
 Maximum sustained wind 130 mph
 Movement NW at 14 mph

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

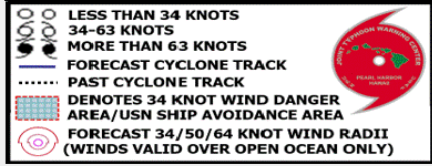
Potential track area:	Watches:	Warnings:	Current wind extent:
Day 1-3 Day 4-5	Hurricane Trop Stm	Hurricane Trop Stm	Hurricane Trop Stm

JTWC


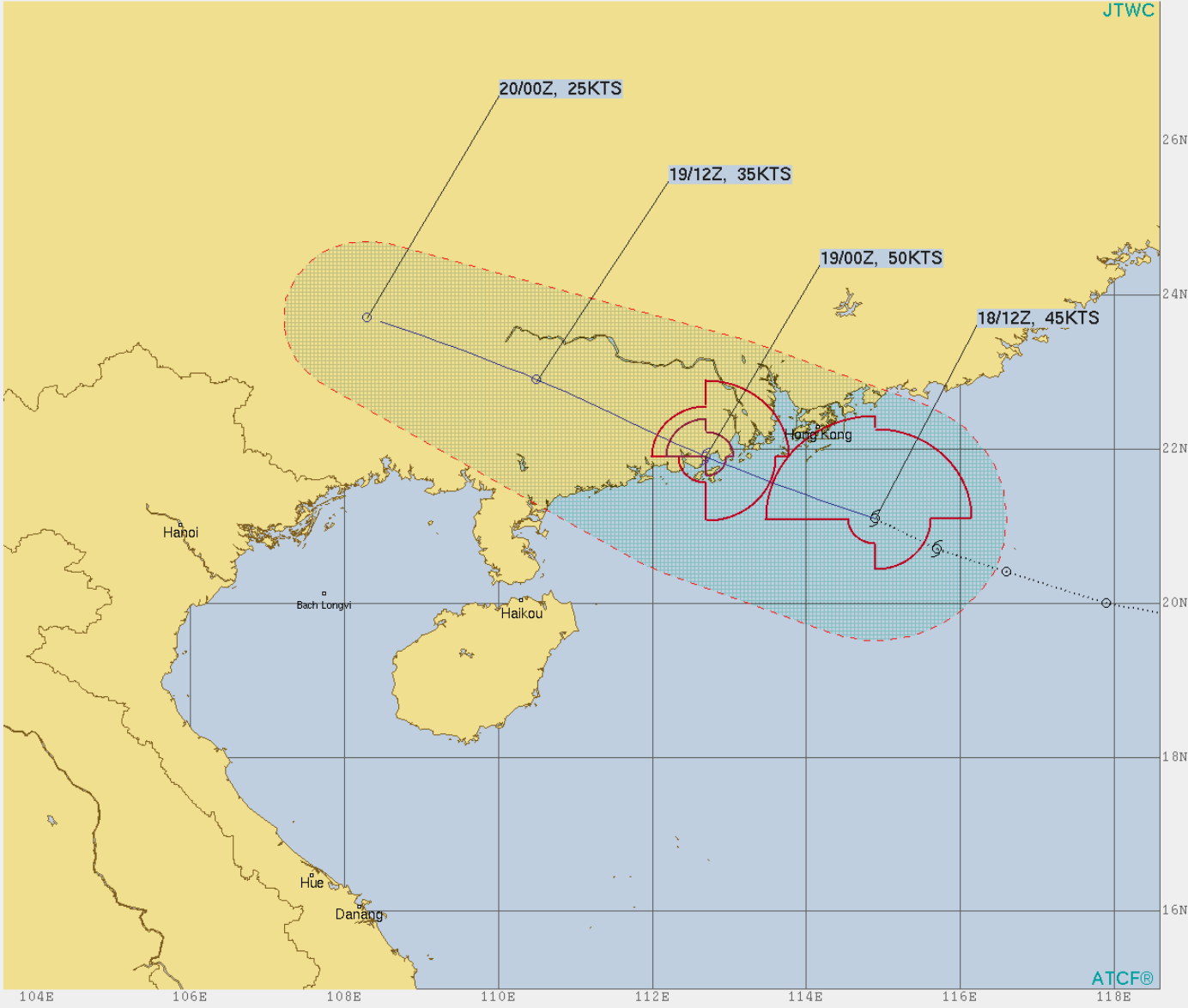
TROPICAL STORM 08W (HIGOS) WARNING #4
 WTPN31 PGTW 181500
 181200Z POSIT: NEAR 21.1N 114.9E
 MOVING 300 DEGREES TRUE AT 08 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 18 FEET
 18/12Z, WINDS 045 KTS, GUSTS TO 055 KTS
 19/00Z, WINDS 050 KTS, GUSTS TO 065 KTS
 19/12Z, WINDS 030 KTS, GUSTS TO 040 KTS
 20/00Z, WINDS 020 KTS, GUSTS TO 030 KTS

CPA TO:	NM	DTG
HONG KONG	54	18/17Z
HANOI	210	20/00Z

BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
HONG KONG	151	82	0
HAOHSIUNG	254	314	0



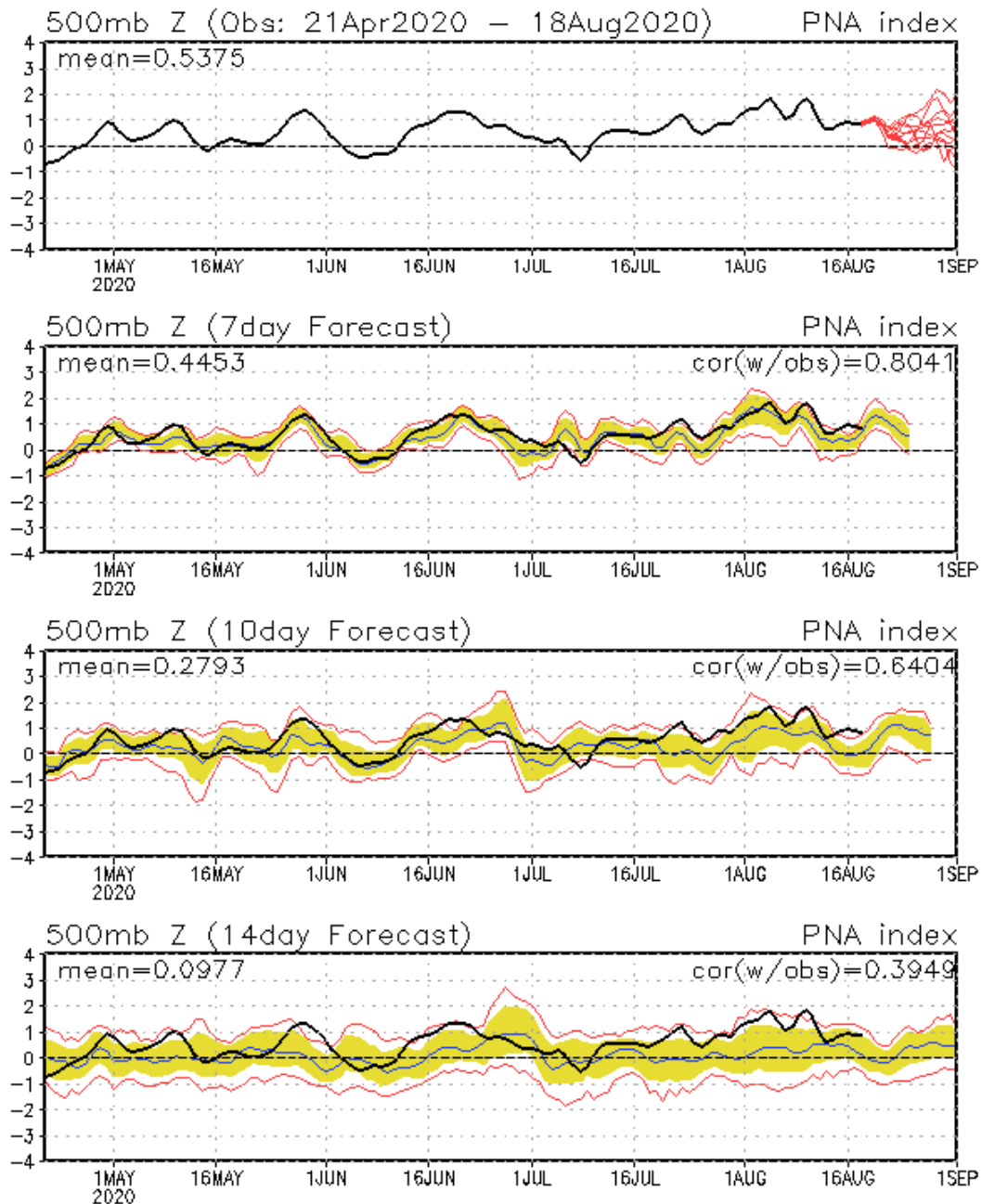
- LESS THAN 34 KNOTS
- 34-63 KNOTS
- MORE THAN 63 KNOTS
- FORECAST CYCLONE TRACK
- PAST CYCLONE TRACK
- DENOTES 34 KNOT WIND DANGER AREA/USN SHIP AVOIDANCE AREA
- FORECAST 34/50/64 KNOT WIND RADII (WINDS VALID OVER OPEN OCEAN ONLY)

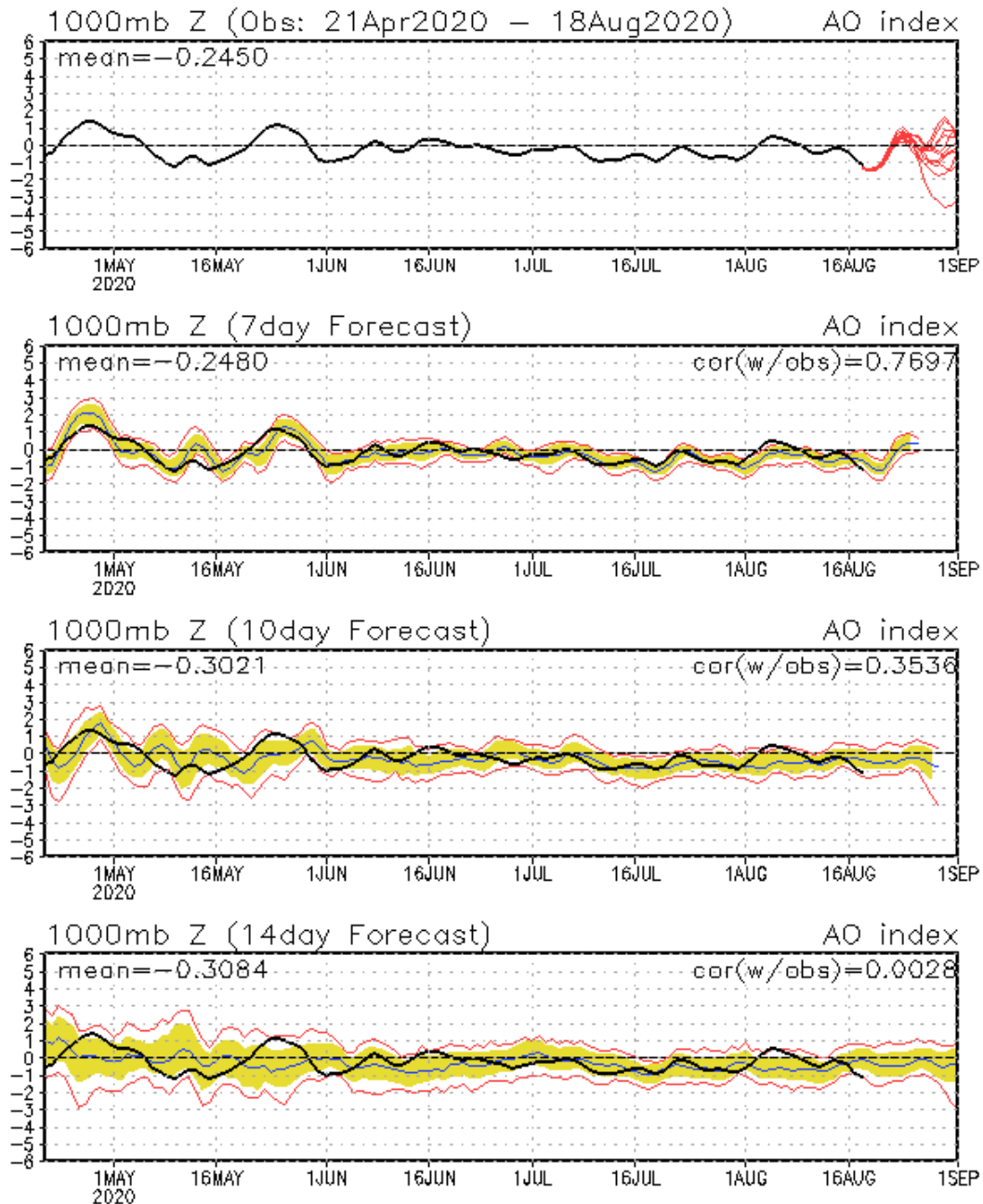
ATCF®

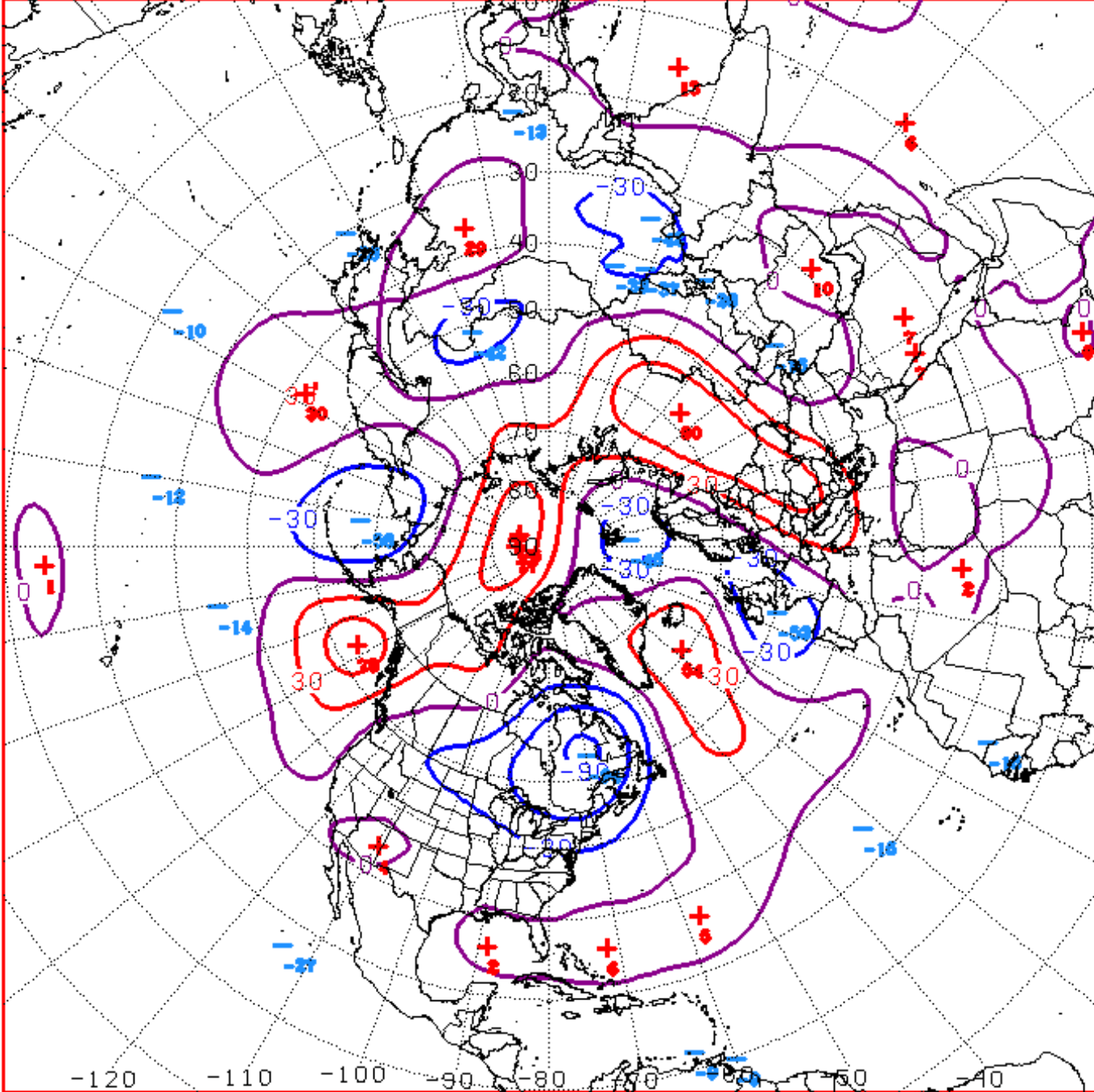
Connections to U.S. Impacts

PNA: Observed & ENSM forecasts



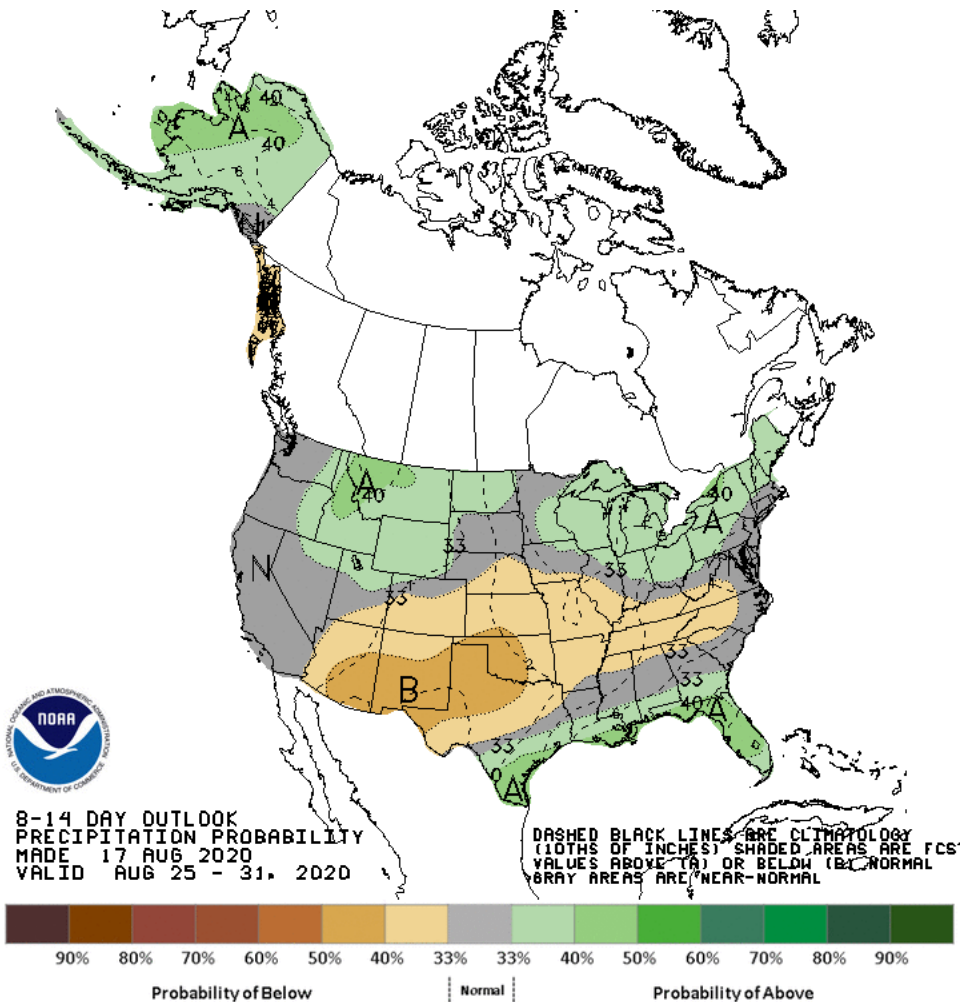
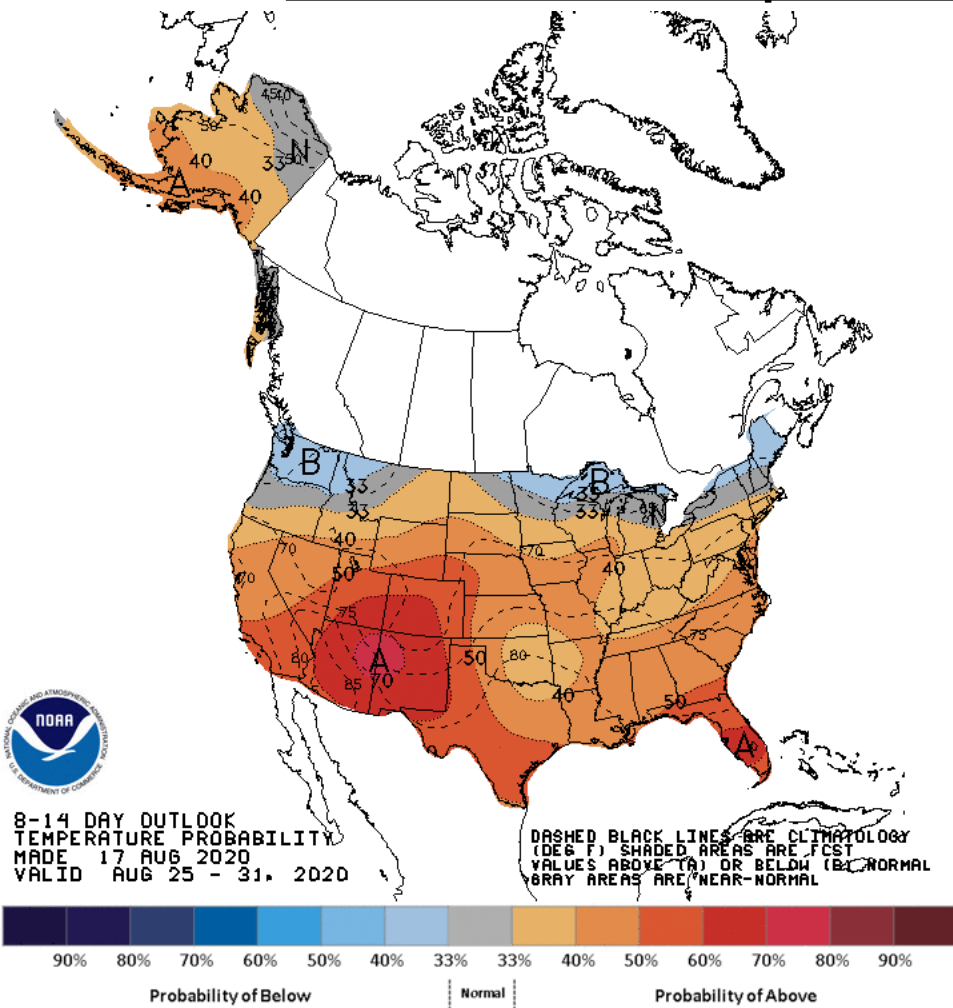
AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE AUG 18 2020 1252 UTC CNTD AUG 29 2020

Week 2 – Temperature and Precipitation



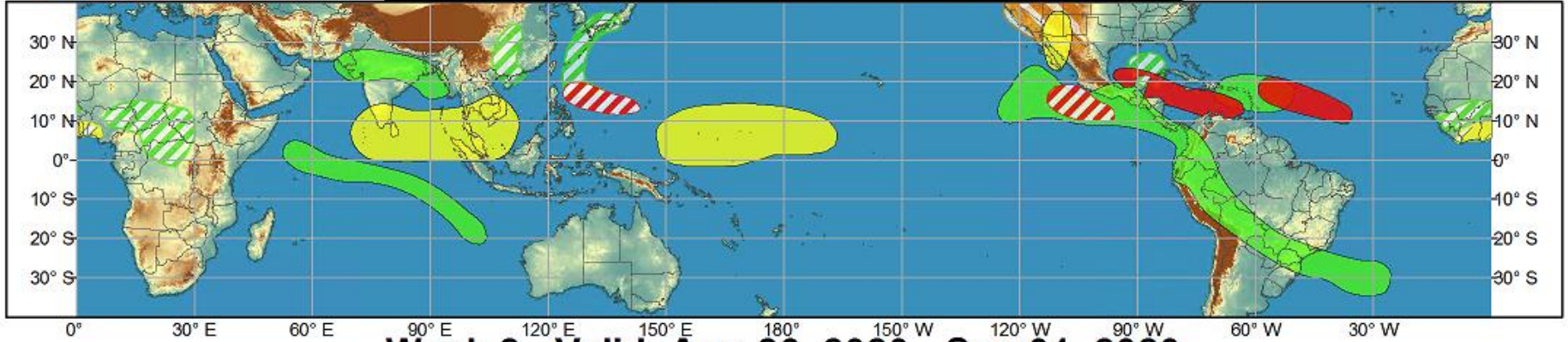
Since we are in an amplified, stable pattern today's outlooks are likely to be similar.



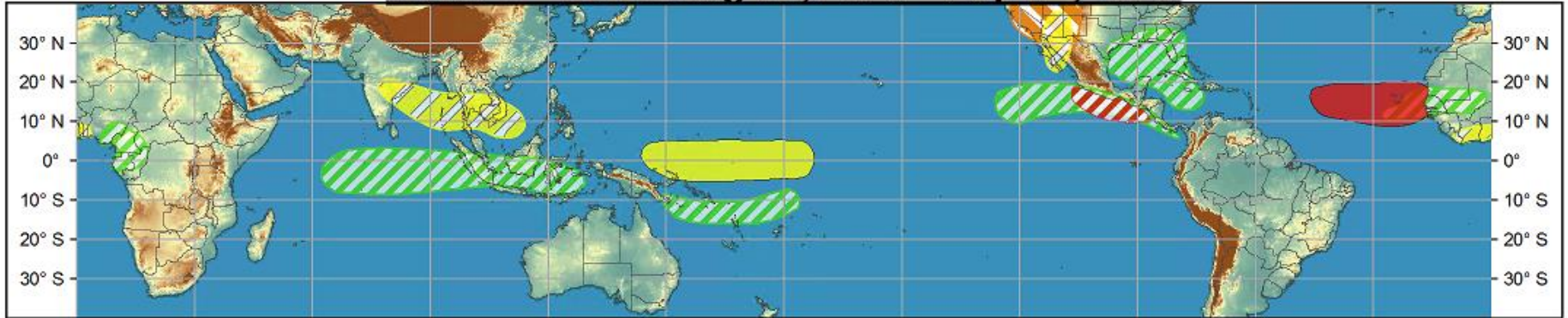
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