

Global Tropics Hazards And Benefits Outlook

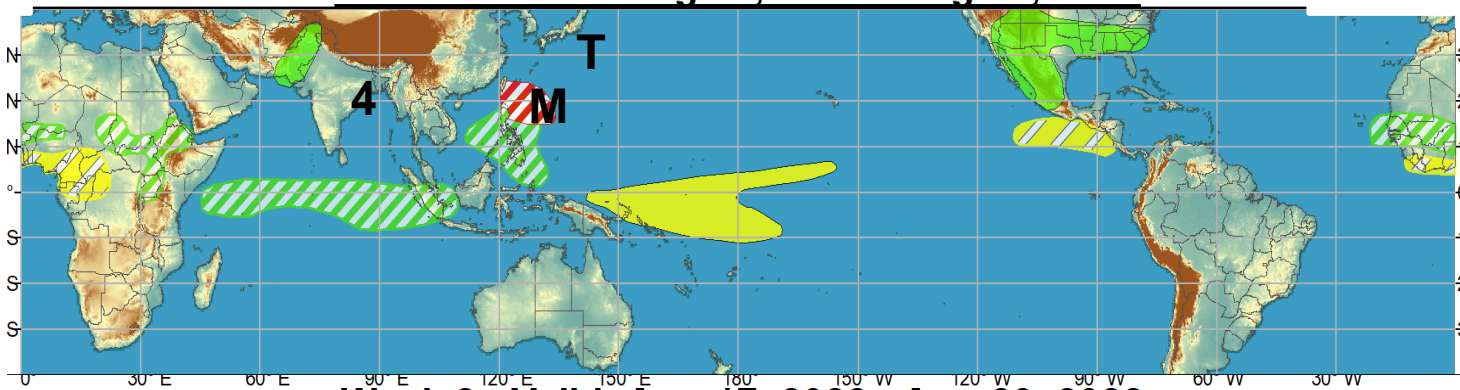
8/23/2022

Tom Collow

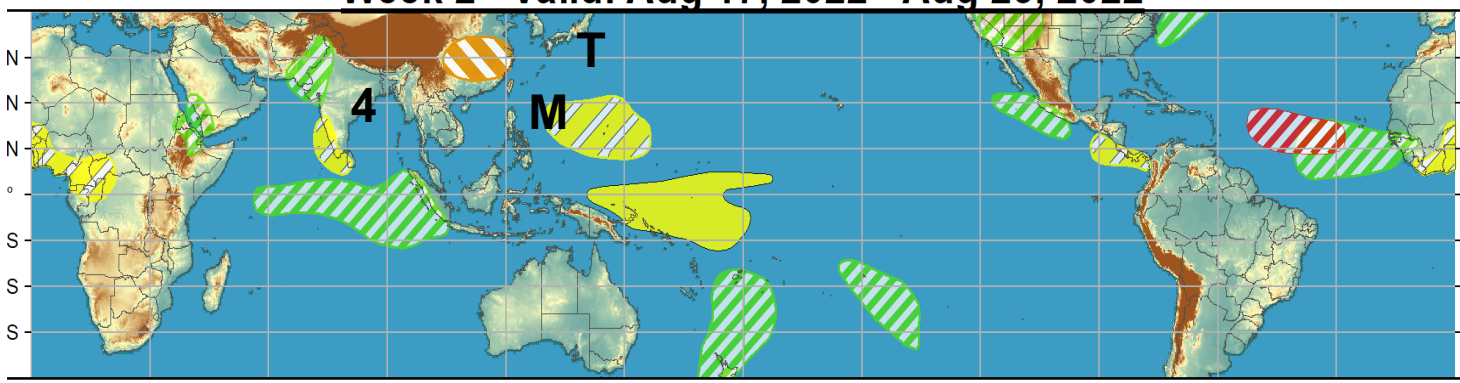
Outline

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 17, 2022 - Aug 23, 2022

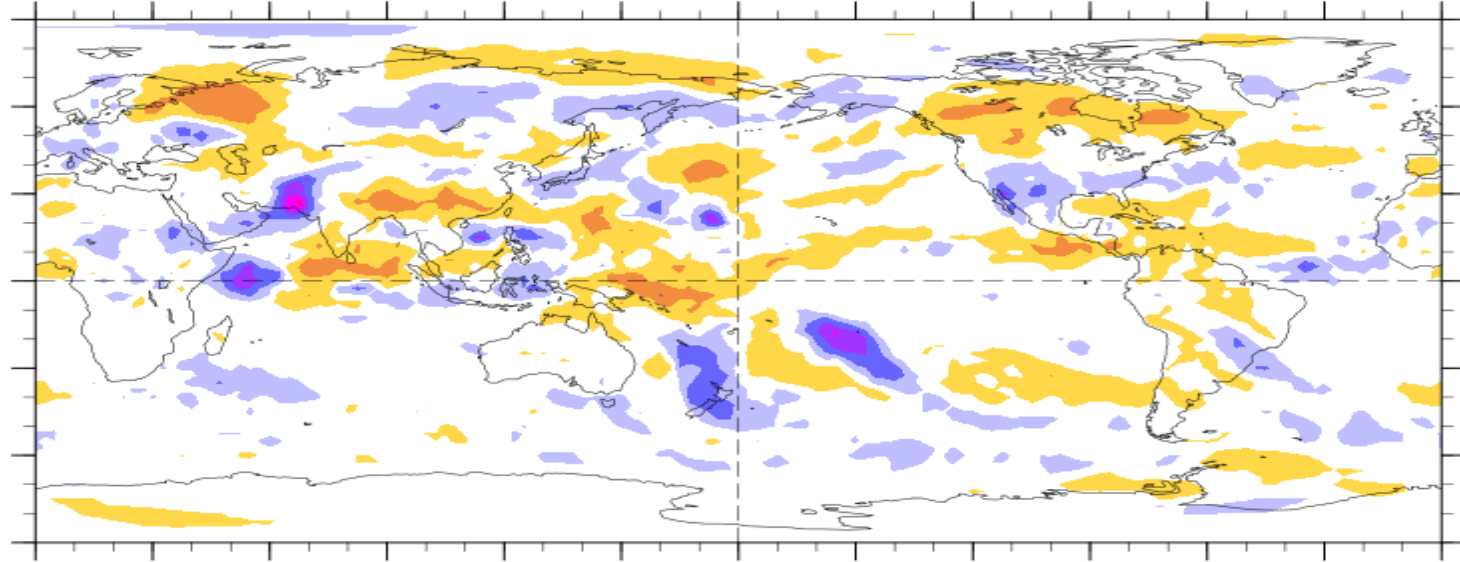


Week 2 - Valid: Aug 17, 2022 - Aug 23, 2022



7-Day Average OLR Anomaly

2022/08/15 - 2022/08/21



Outlook Review

4 = BOB04
(Bay of Bengal; 8/19)

M = Tropical Storm Ma-on
(West Pacific; 8/20)

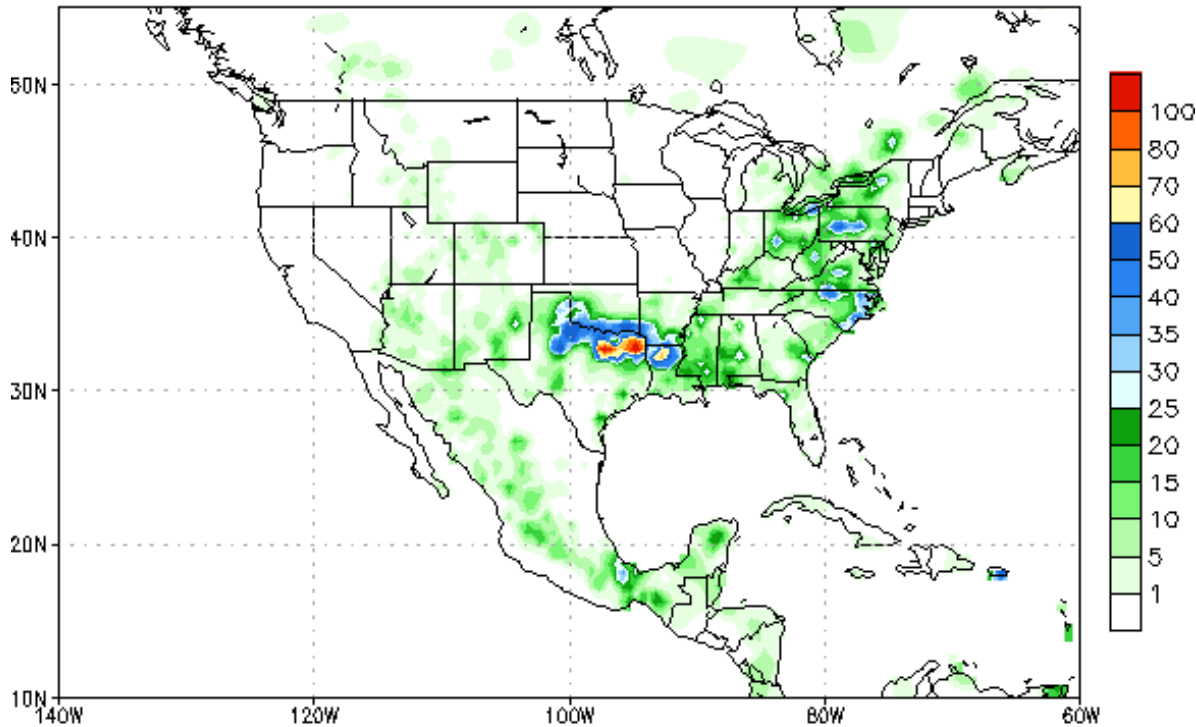
T = Typhoon Tokage
(West Pacific; 8/21)

Cool shading
More clouds/rain

Warm shading
Less clouds/rain

North Texas flooding August 21-22, 2022

1-day Accumulated Prcp (mm) 22AUG2022



Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis

Dallas-Fort Worth International Airport (DFW) had a 24-hr rainfall total of 9.19 inches (highest since 1932)

Some localized amounts up to 15 inches.

This rainfall followed an exceptionally dry period across the region since June including a 67 day streak without measurable rainfall (June 4 – August 9; 2nd longest on record).

Synopsis of Climate Modes

ENSO: (August 11, 2022)

next update on Thursday, September 8th

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is favored to continue into the Northern Hemisphere Fall (86% chance), with probabilities decreasing to 60% during Dec-Jan-Feb 2022-23.

MJO and other subseasonal tropical variability:

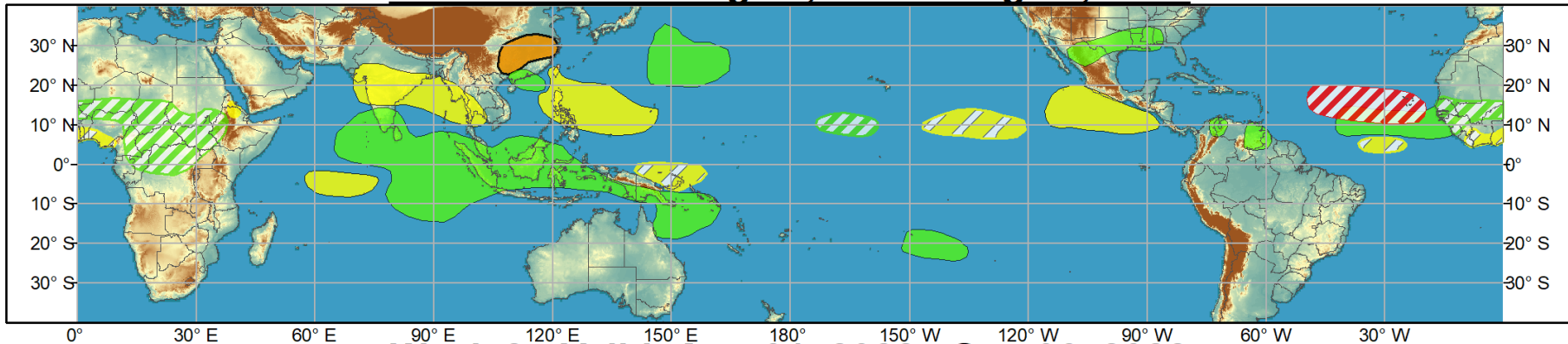
- Increased Convectively Coupled Kelvin Wave activity has led to an increase in convection across Africa, with easterly wave propagation beginning across the Main Development Region of the Atlantic.
- Tropical cyclone (TC) development is increasingly likely over the Atlantic Basin during the next 2 weeks as the peak of hurricane season approaches.
- The MJO is forecast to amplify across the Indian Ocean during the next week, with uncertainty into how far east the signal propagates, as well as its amplitude, given the well established La Niña base state.
- TC formation chances are forecast to decrease over the Western and Eastern Pacific Basins in the near-term but may begin to increase again during week-2.



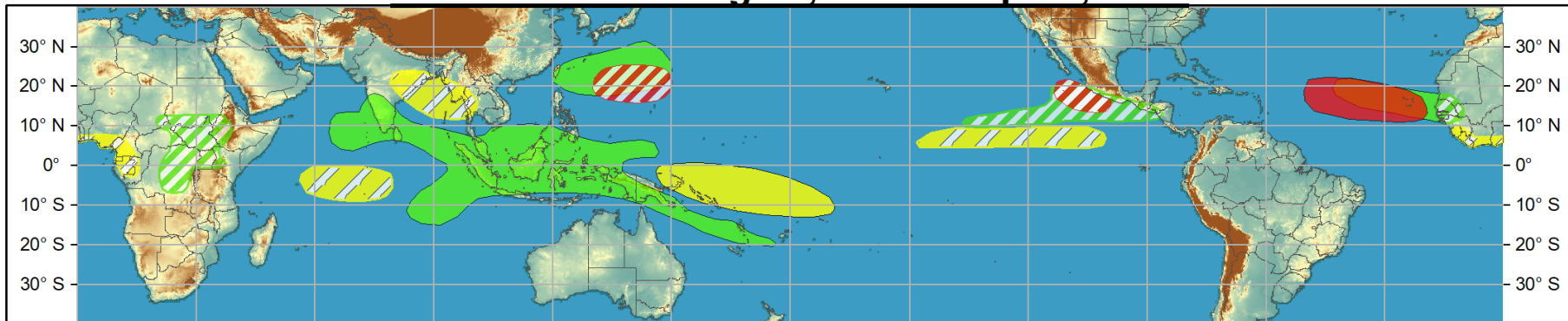
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Aug 24, 2022 - Aug 30, 2022



Week 2 - Valid: Aug 31, 2022 - Sep 06, 2022



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: 08/23/2022

Forecaster: Collow

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

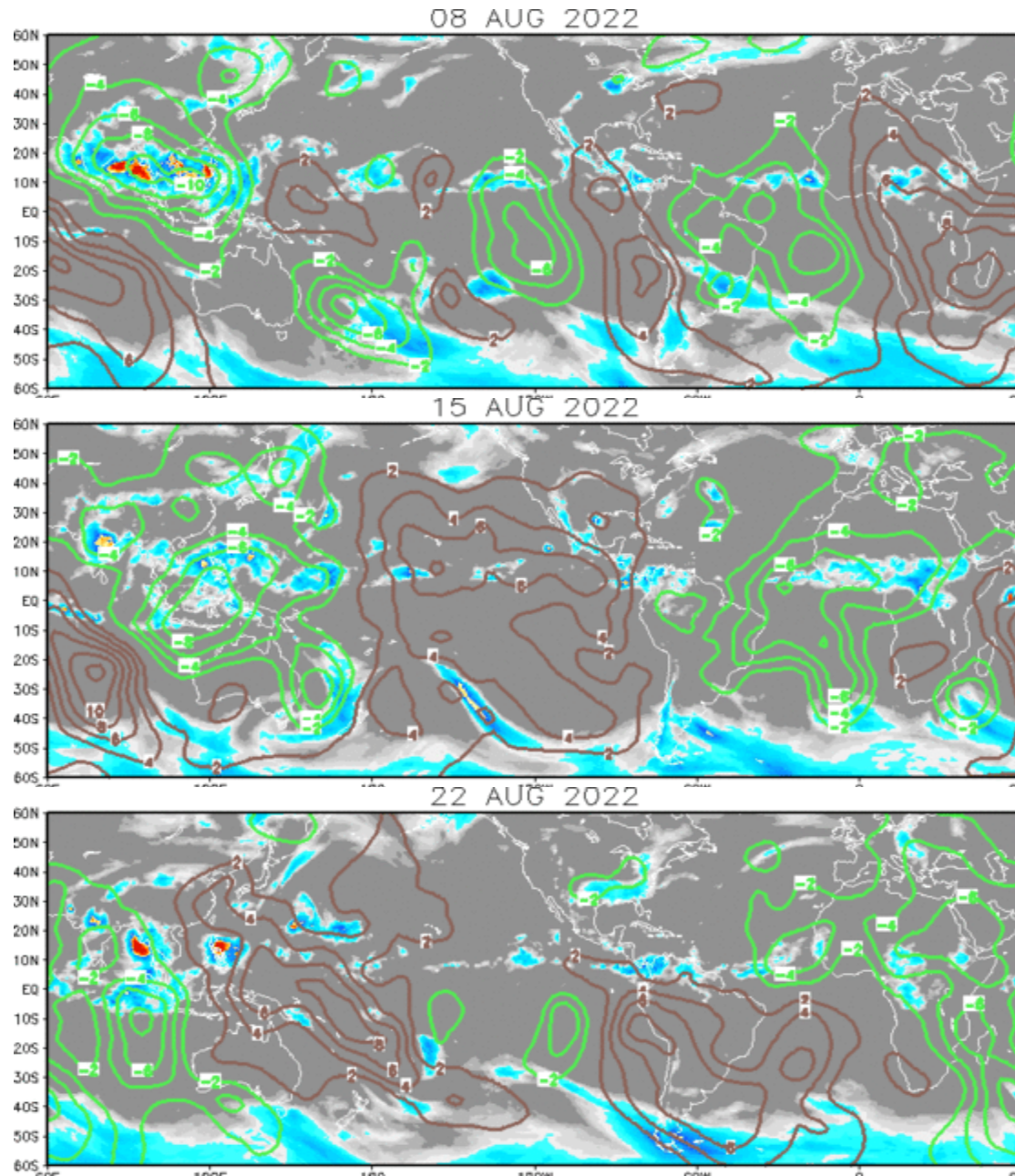
Green: Enhanced Divergence

Brown: Enhanced Convergence

Pattern has become much less defined with increasing anomalous divergence aloft over the Pacific and Atlantic. Enhanced convection remains entrenched over the Indian Ocean.

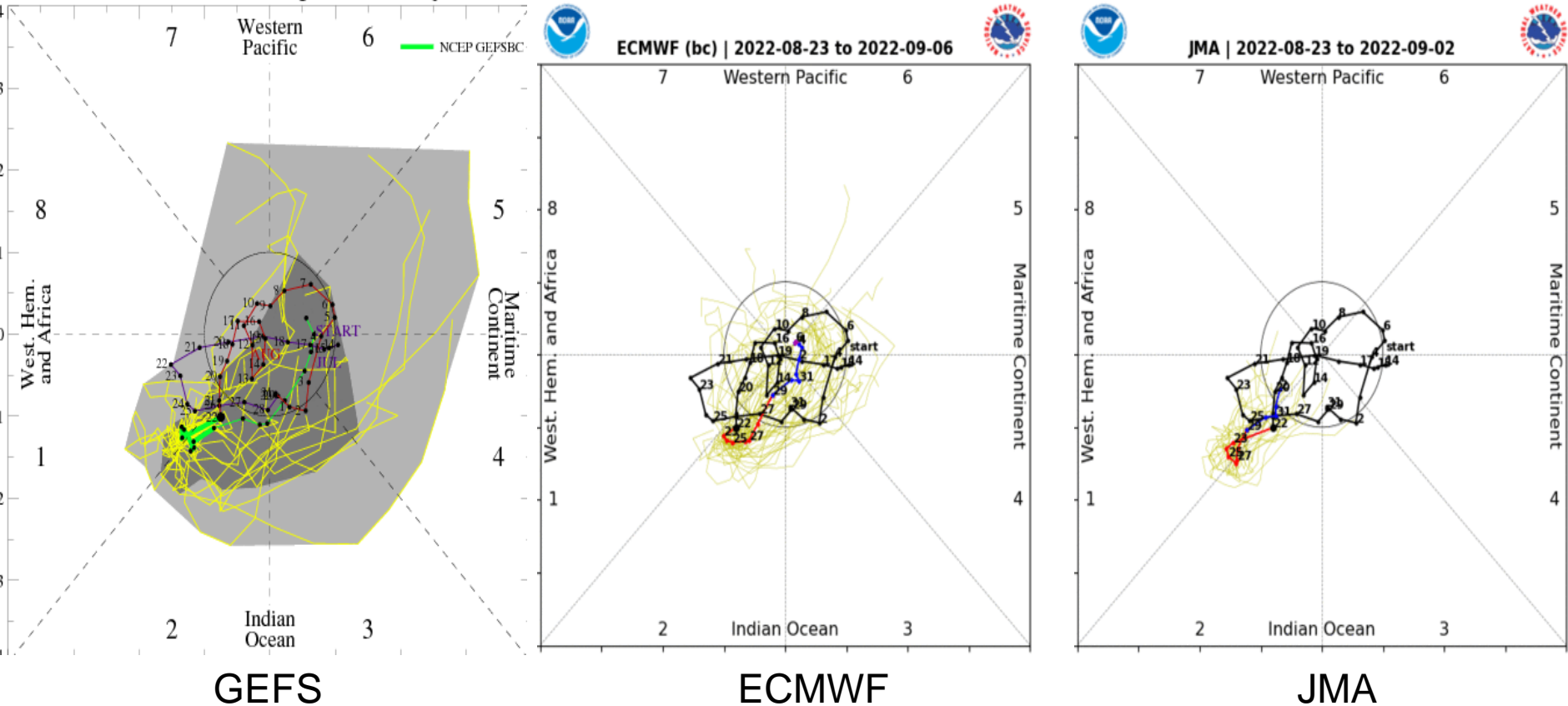
La Nina continues to dominate over the Pacific and Maritime Continent. A Kelvin Wave has recently led to upper-level divergence across Africa.

Anomalous upper-level divergence continues across Africa and the Indian Ocean, with upper-level convergence (suppressed convection) expanding across the West Pacific.



MJO Observation/Forecast

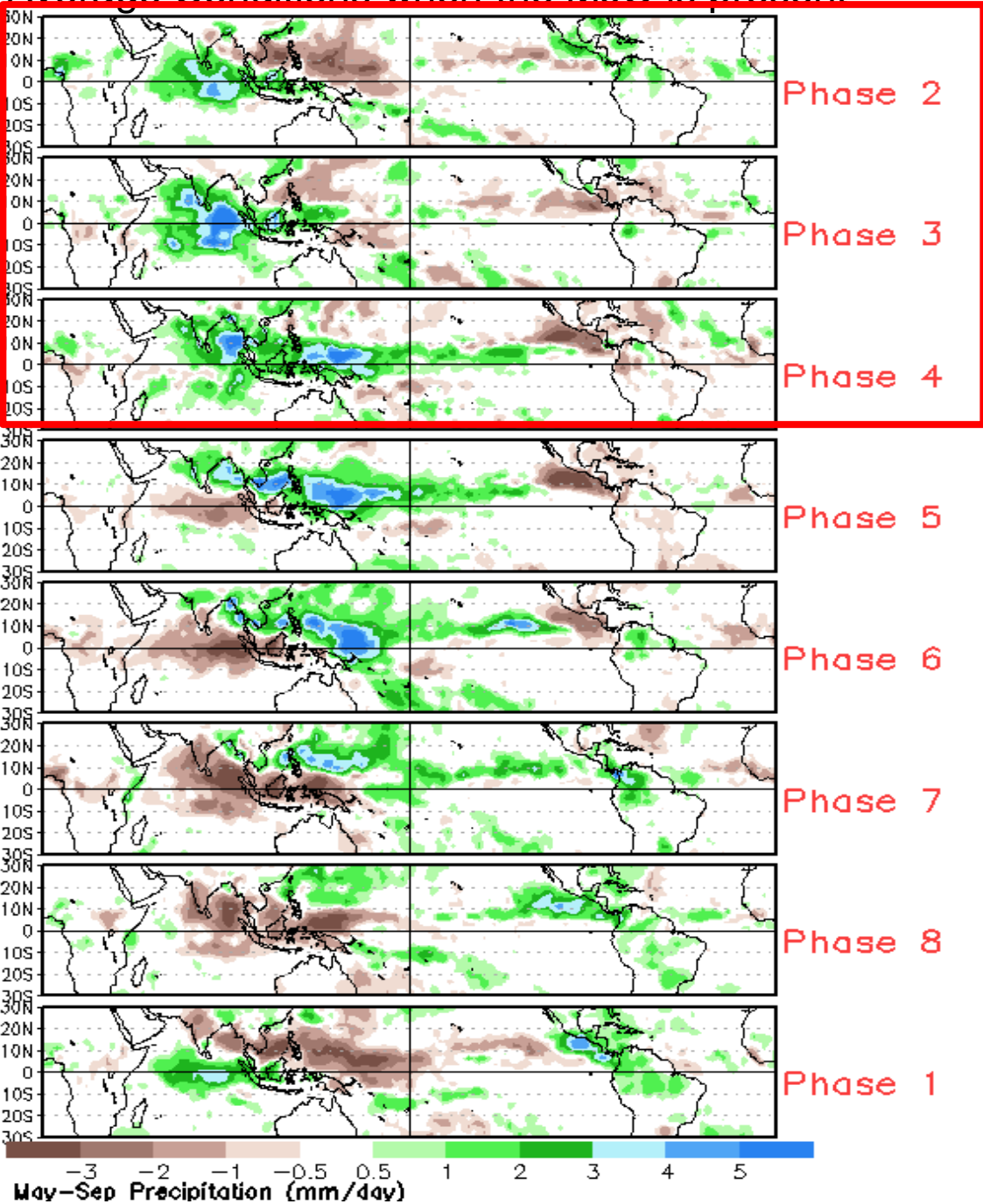
[RMM1, RMM2] forecast for Aug-23-2022 to Sep-06-2022



The MJO signal is forecast to amplify across the Indian Ocean during the next week.

Some eastward propagation of the signal toward the Maritime Continent is forecast in the next 2 weeks, with the GEFS being the most amplified of the guidance, and the JMA ensemble being the weakest.

Average Conditions when the MJO is present



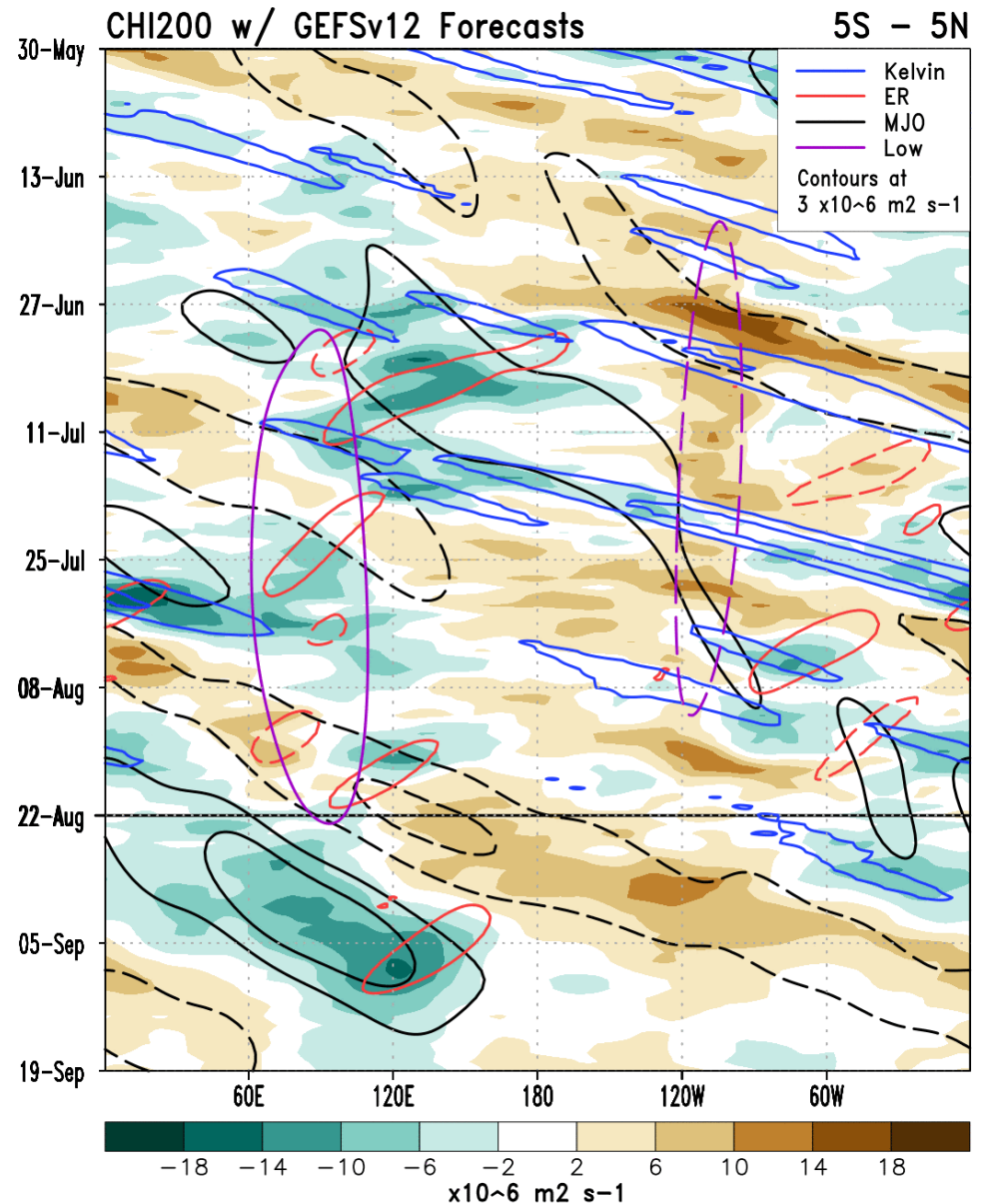
CAVEAT: These panels are representative of robust MJO events.

MJO activity is beginning to come through the upper-level velocity potential filtering over the eastern Indian Ocean.

Although, the GEFS depicts a robust MJO propagation during the next 2 weeks, the other dynamical models are considerably weaker.

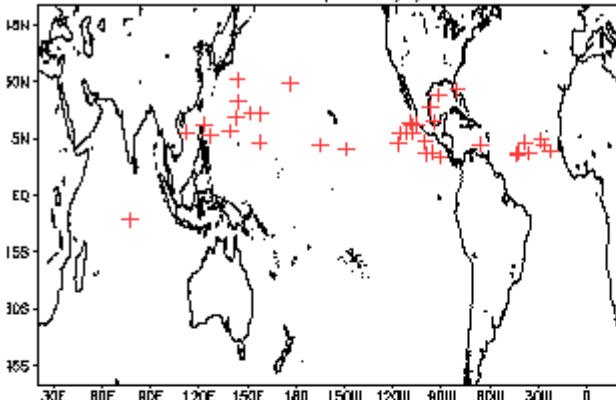
Kelvin wave activity had led to an increase in convection across Africa

Low frequency contours depict ENSO cold conditions.

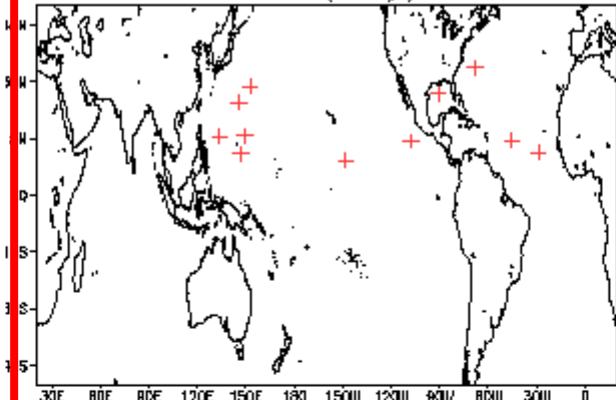


August Tropical Storm Formation by MJO phase

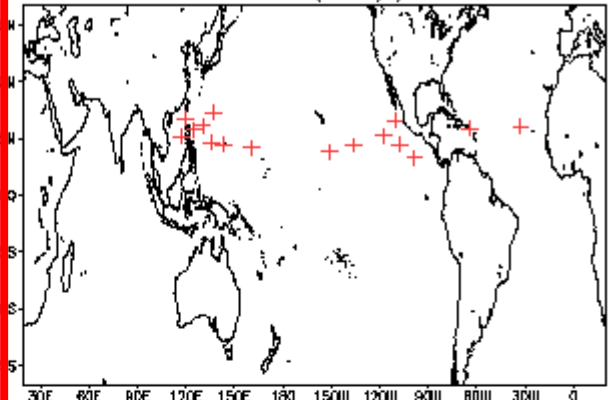
Phase 1 (101 days) 38 storms



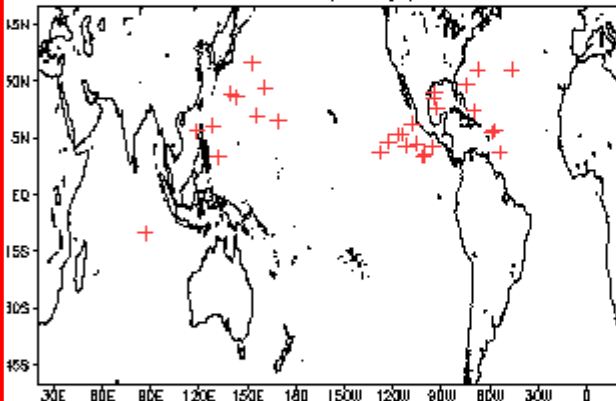
Phase 4 (40 days) 12 storms



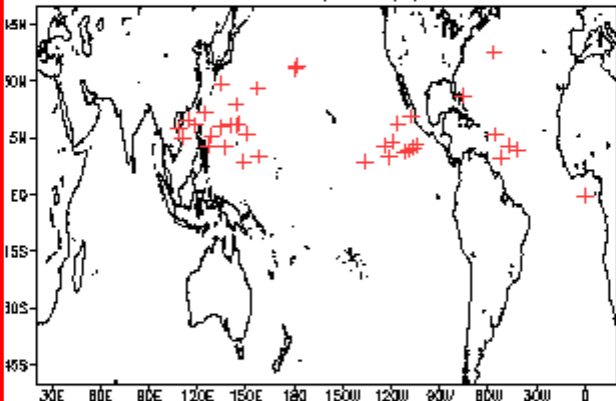
Phase 7 (43 days) 17 storms



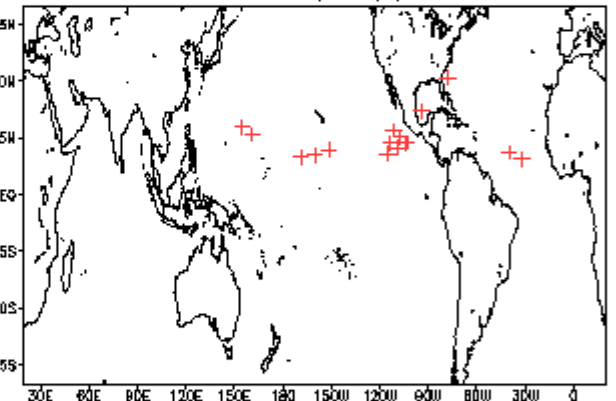
Phase 2 (79 days) 31 storms



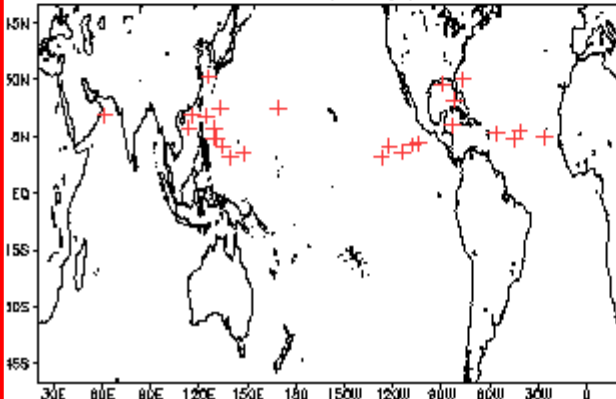
Phase 5 (117 days) 40 storms



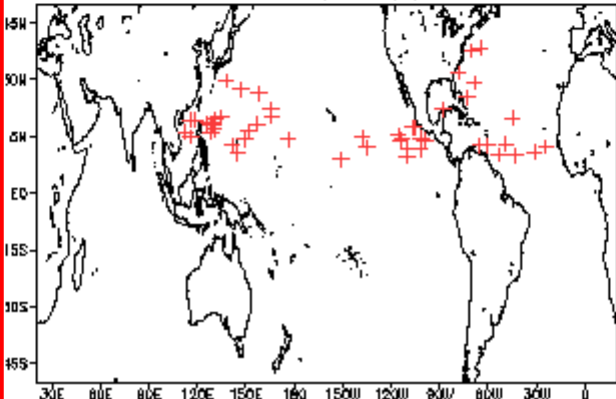
Phase 8 (25 days) 17 storms



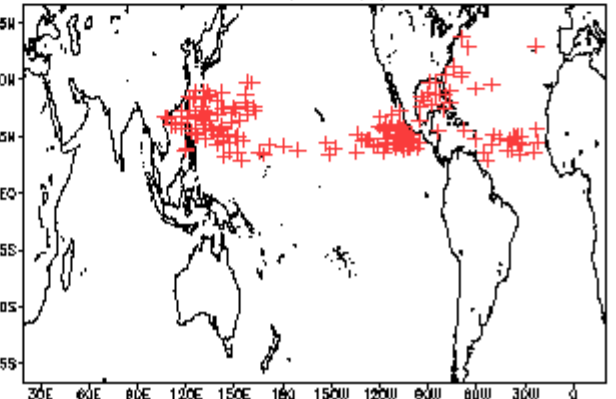
Phase 3 (51 days) 27 storms



Phase 6 (101 days) 50 storms

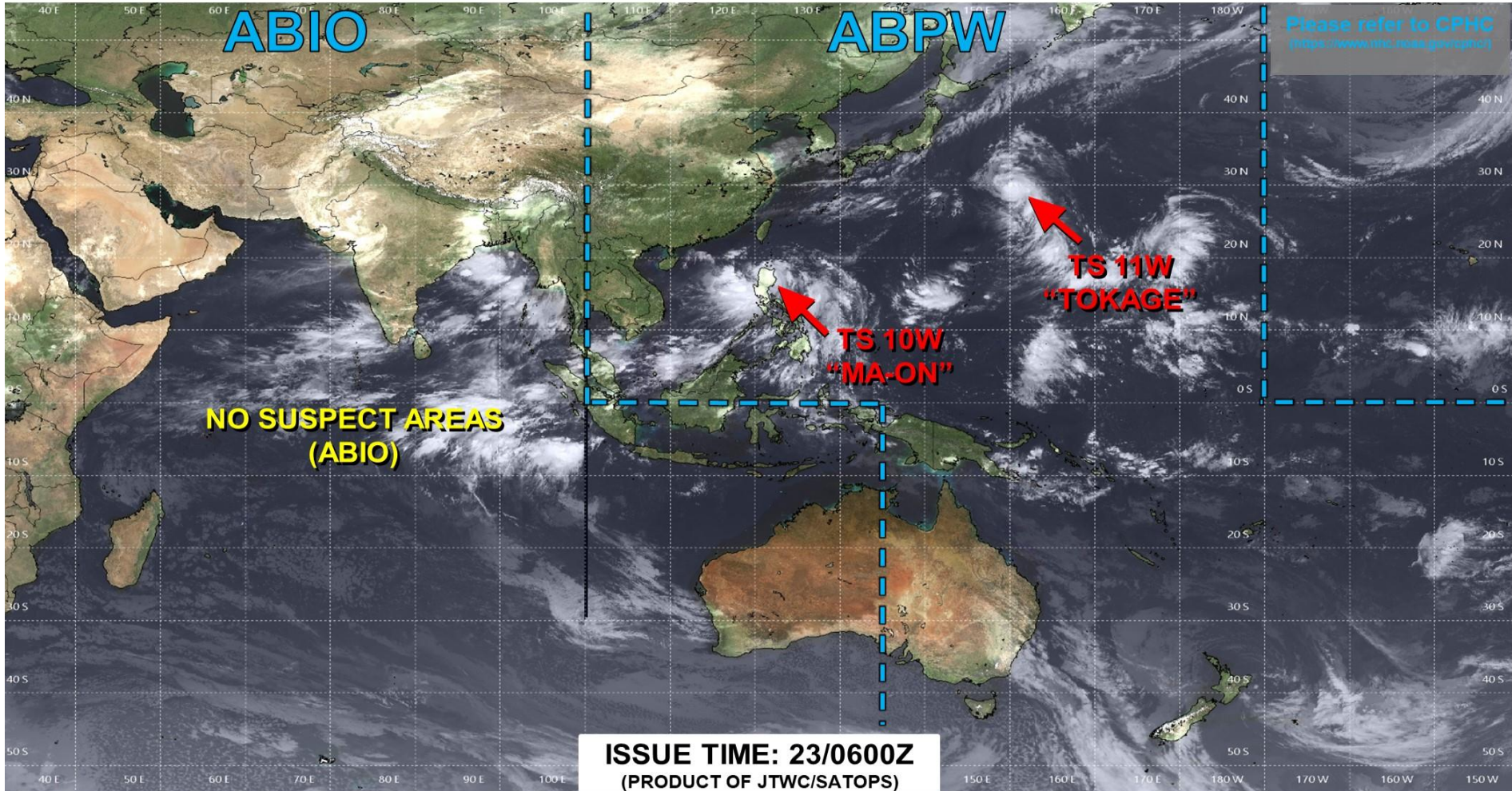


Null (466 days) 189 storms





JOINT TYPHOON WARNING CENTER



LOW

TC development unlikely within 24 hours

MEDIUM

TC development likely, but expected to occur beyond 24 hours

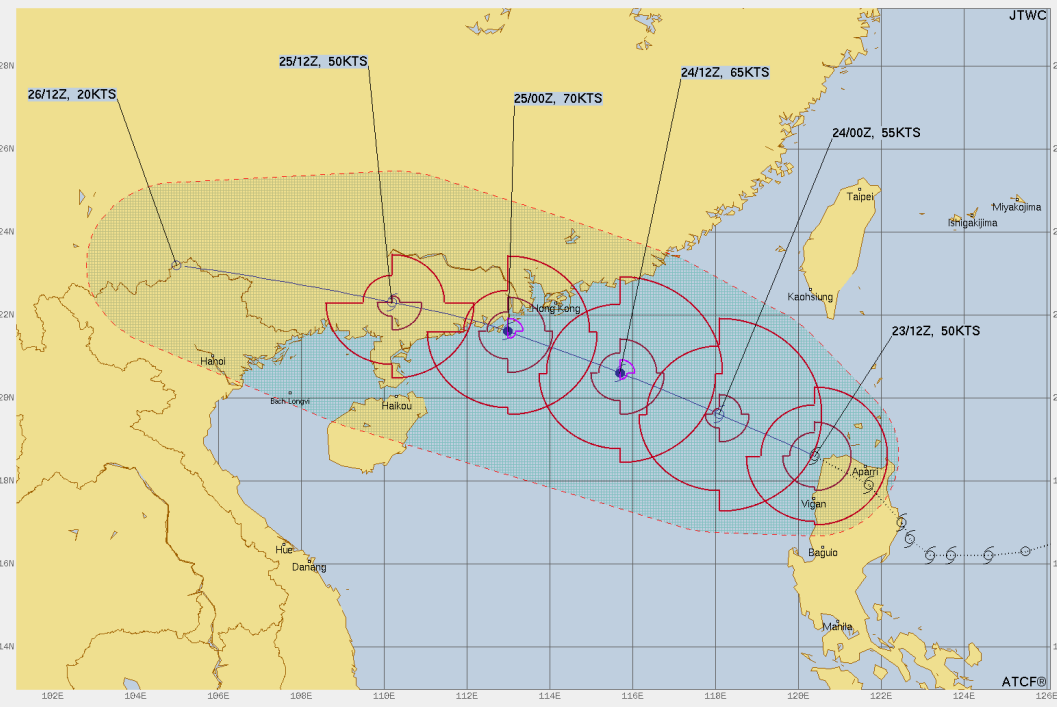
HIGH

TC development likely within 24 hours (Reference TCFA)

SUB TROPICAL

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

 Tropical Cyclone (Reference Warning)

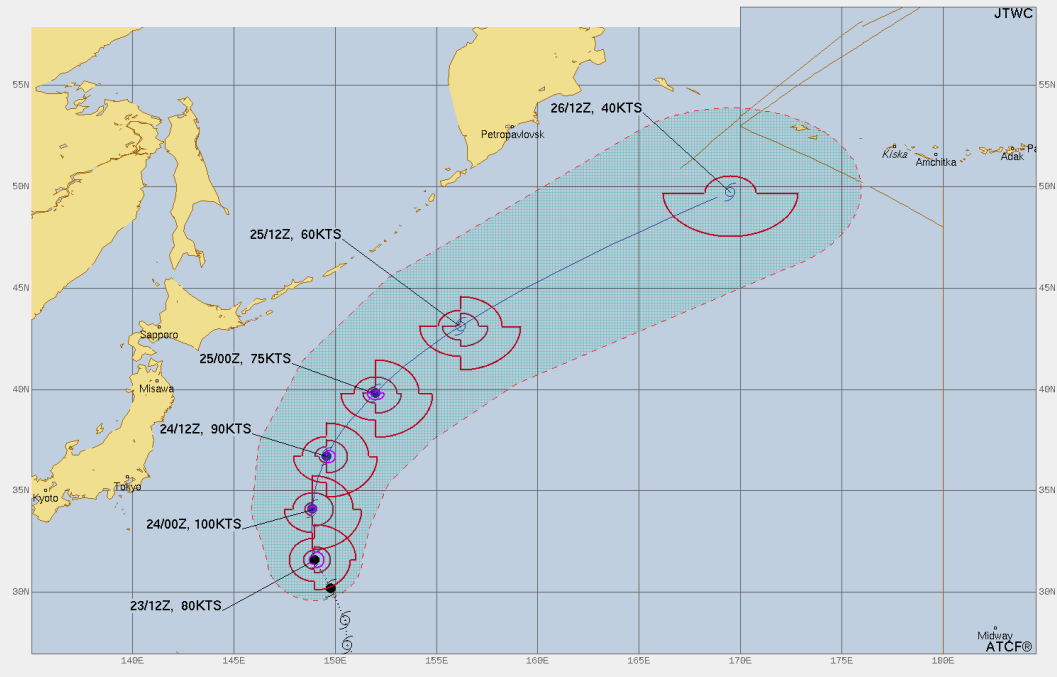


TROPICAL STORM LOW (MA-ON) WARNING #8
 WTPN21 PGTW 231500
 231200Z POSIT: NEAR 18.6N 120.4E
 MOVING 300 DEGREES TRUE AT 14 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 20 FEET
 23/12Z, WINDS 050 KTS, GUSTS TO 865 KTS
 24/00Z, WINDS 055 KTS, GUSTS TO 870 KTS
 24/12Z, WINDS 065 KTS, GUSTS TO 880 KTS
 25/00Z, WINDS 070 KTS, GUSTS TO 885 KTS
 25/12Z, WINDS 050 KTS, GUSTS TO 865 KTS
 26/12Z, WINDS 020 KTS, GUSTS TO 650 KTS

OPA TO:	NM	DTG
KAOHSIUNG	214	06/23/202
TAIPEI	378	06/23/202
HONG_KONG	63	06/24/212
HA_NANG	382	06/25/142
HANOI	123	06/25/062

BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
CLARK_AB	357	204	0
MANILA	352	242	0
TAIPEI	188	395	0
SUBIC_BAY	088	228	0
KAOHSIUNG	179	240	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)



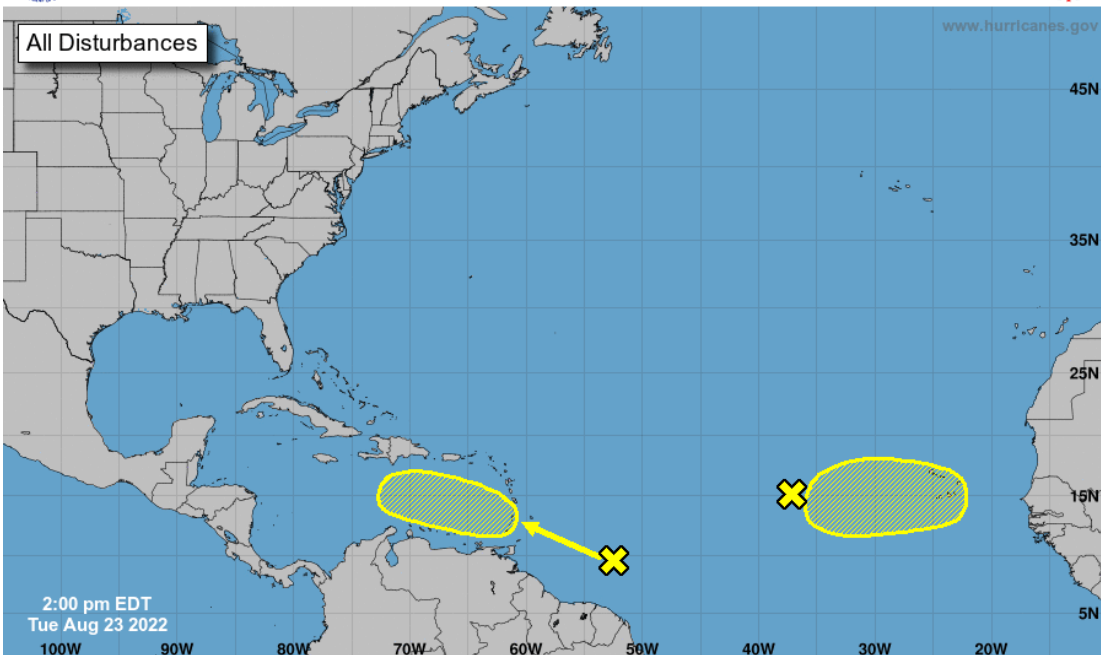
TYPHOON 11W (TOKAGE) WARNING #6
 WTPN32 PGTW 231500
 231200Z POSIT: NEAR 31.6N 149.0E
 MOVING 335 DEGREES TRUE AT 16 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 28 FEET
 23/12Z, WINDS 060 KTS, GUSTS TO 100 KTS
 24/00Z, WINDS 100 KTS, GUSTS TO 125 KTS
 24/12Z, WINDS 090 KTS, GUSTS TO 110 KTS
 25/00Z, WINDS 075 KTS, GUSTS TO 090 KTS
 25/12Z, WINDS 060 KTS, GUSTS TO 875 KTS
 26/12Z, WINDS 040 KTS, GUSTS TO 050 KTS

○ 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
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Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



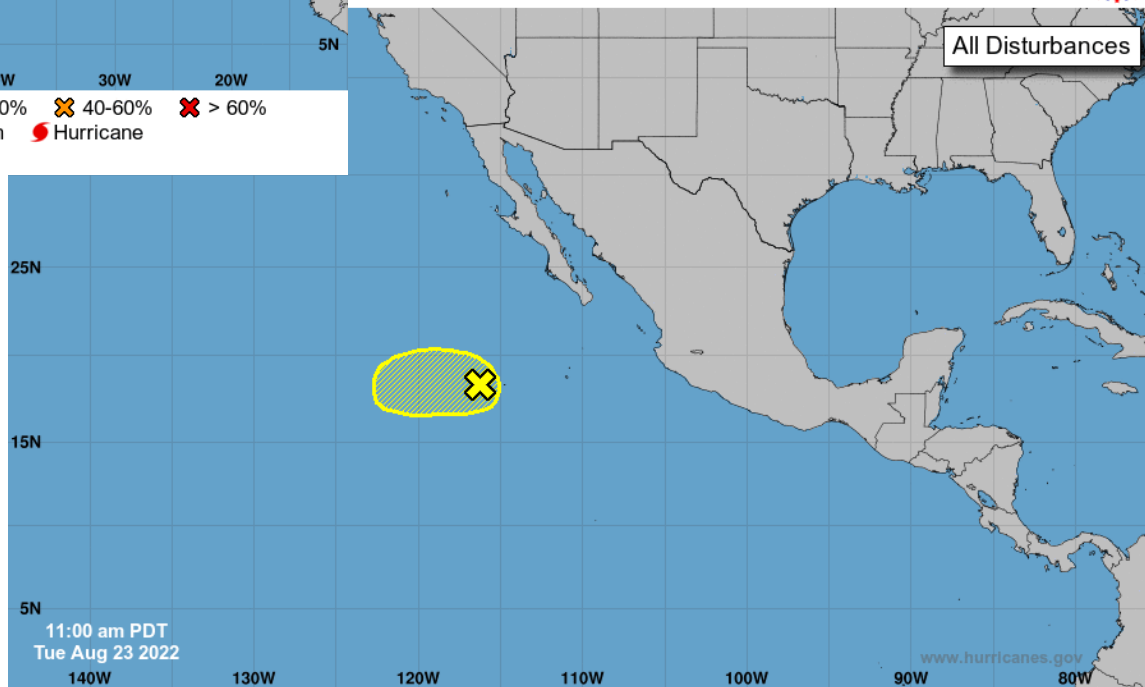
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



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

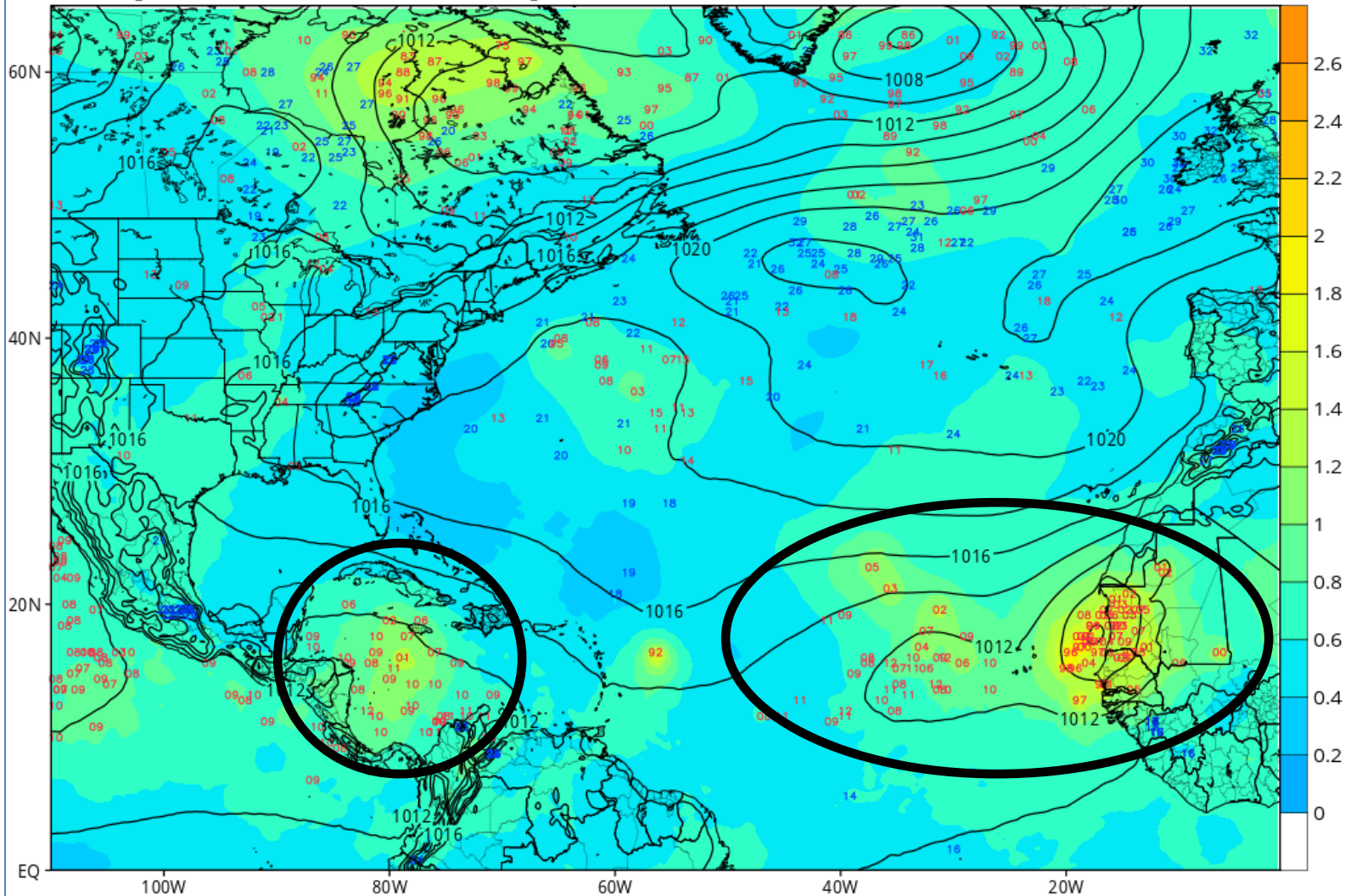
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Post-Tropical Cyclone or Remnants

EPS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | Highs: blue), & Normalized Spread (σ)

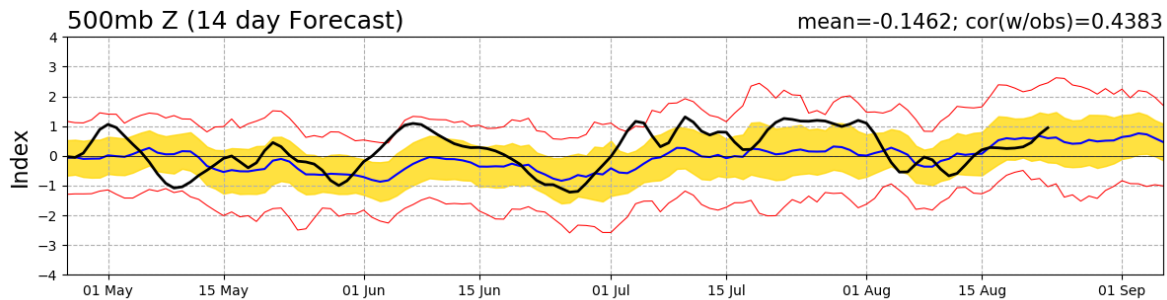
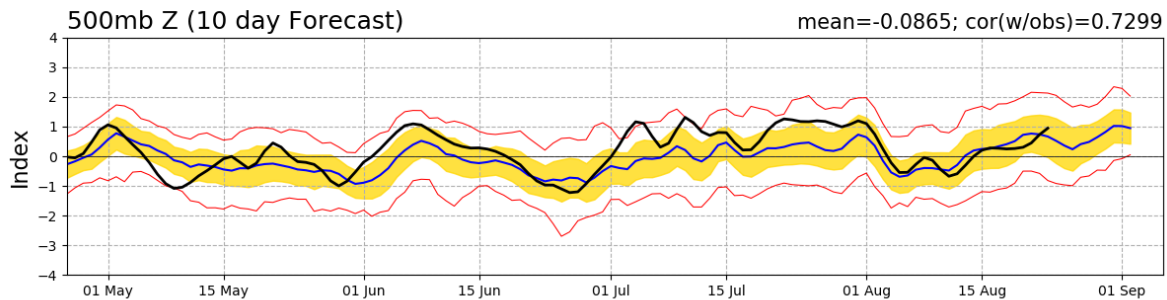
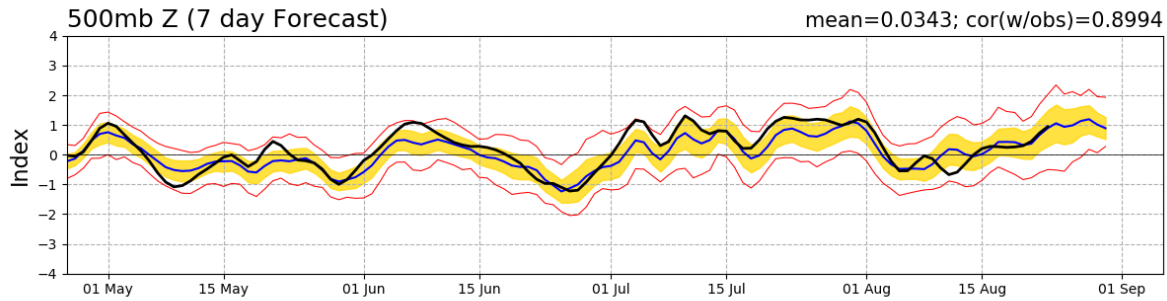
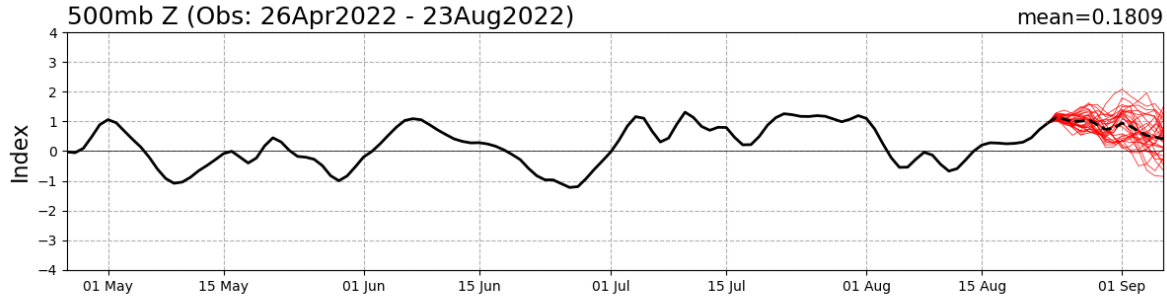
Init: 00z Aug 23 2022 Forecast Hour: [180] valid at 12z Tue, Aug 30 2022

TROPICALTIDBITS.COM

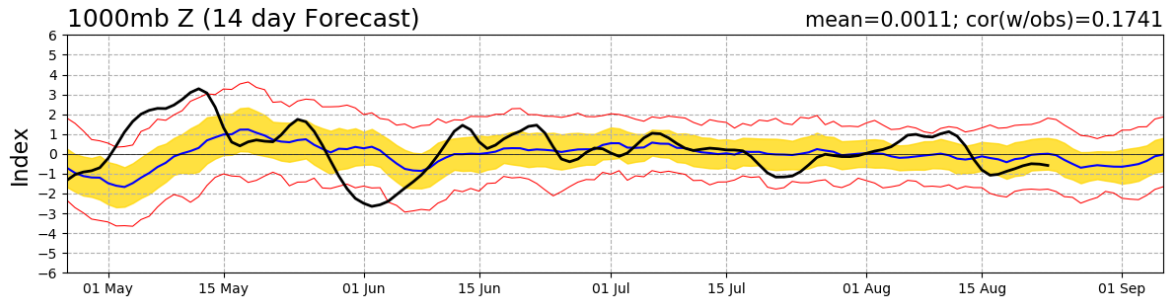
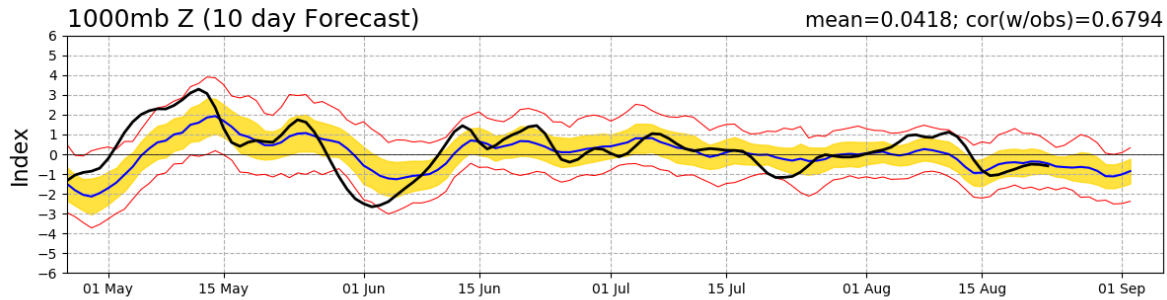
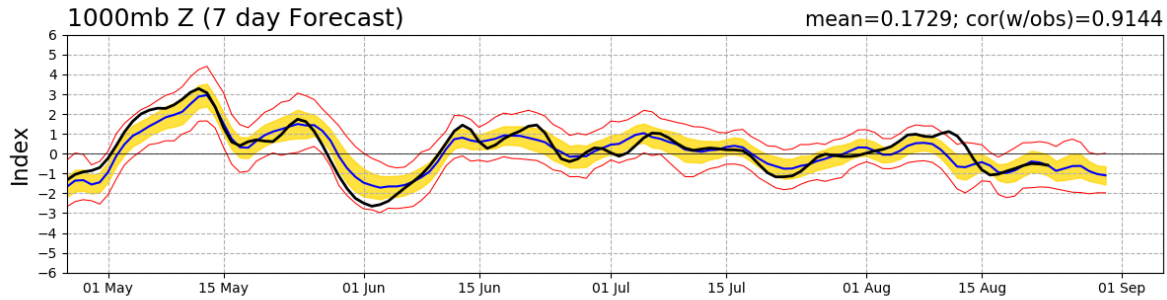
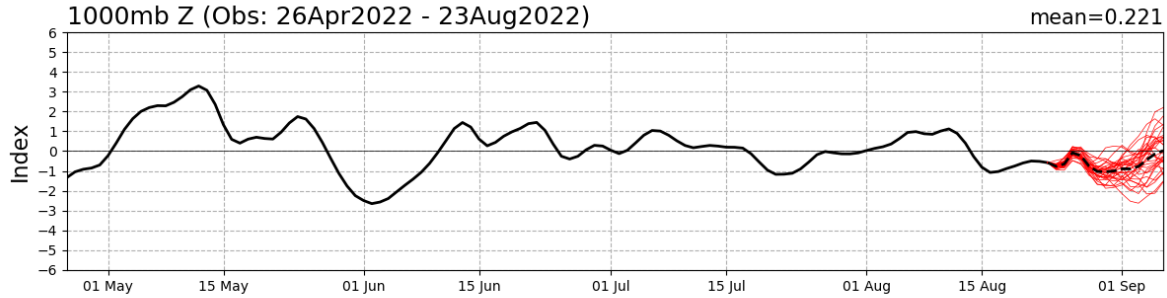


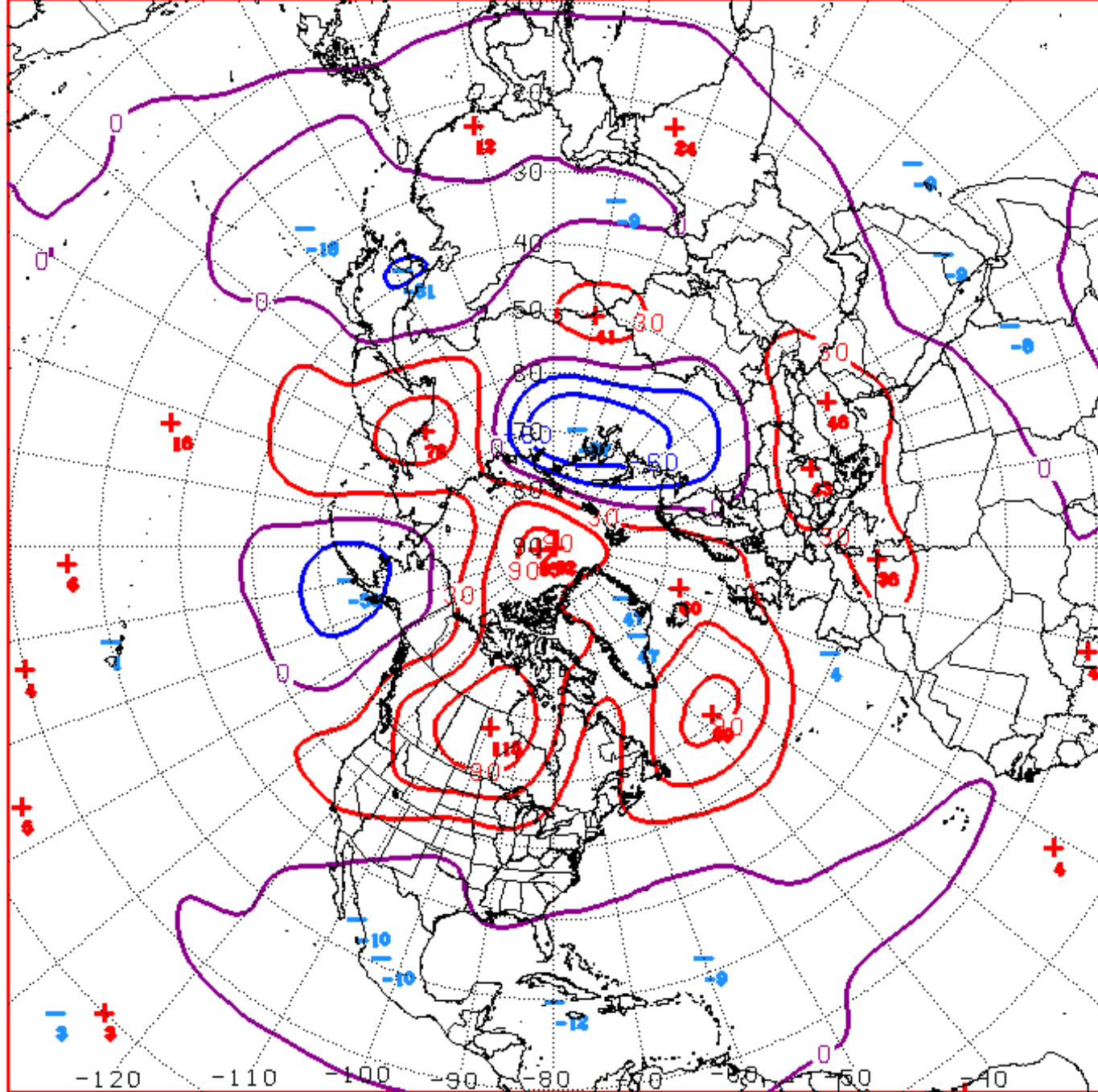
Connections to U.S. Impacts

PNA Index: Observed & GEFS Forecasts



AO Index: Observed & GEFS Forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE AUG 23 2022 1352 UTC CNTD SEP 03 2022

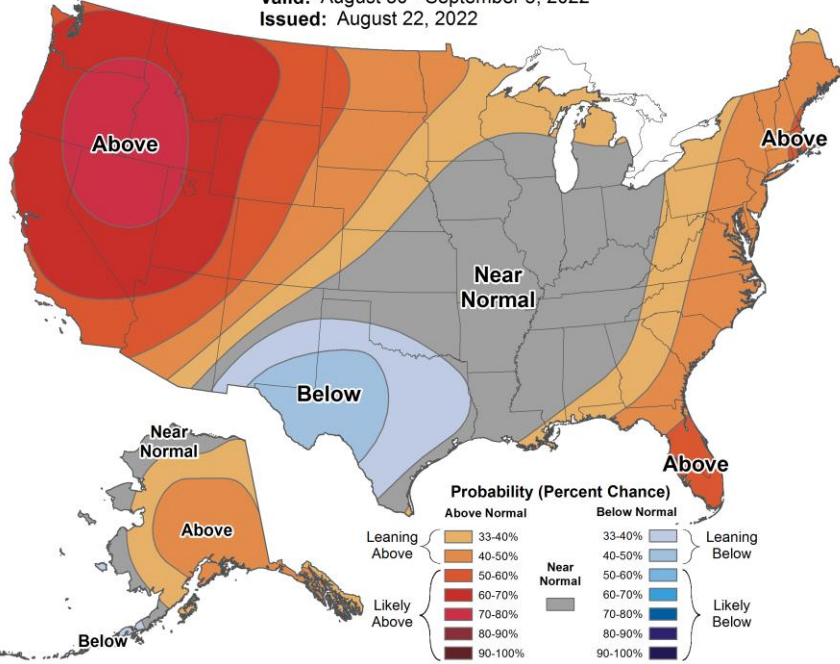
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



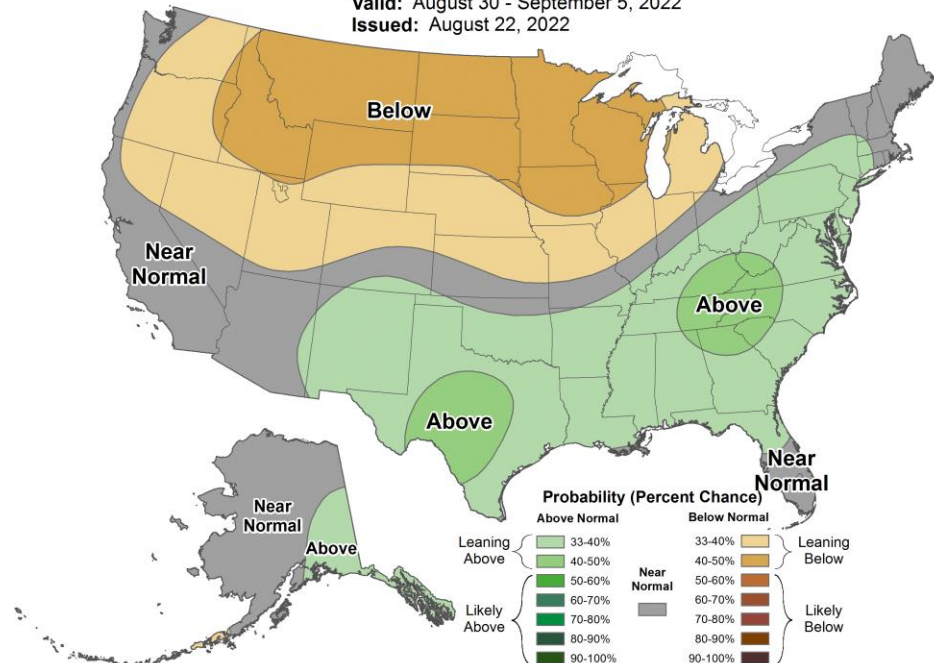
Valid: August 30 - September 5, 2022
Issued: August 22, 2022



8-14 Day Precipitation Outlook



Valid: August 30 - September 5, 2022
Issued: August 22, 2022



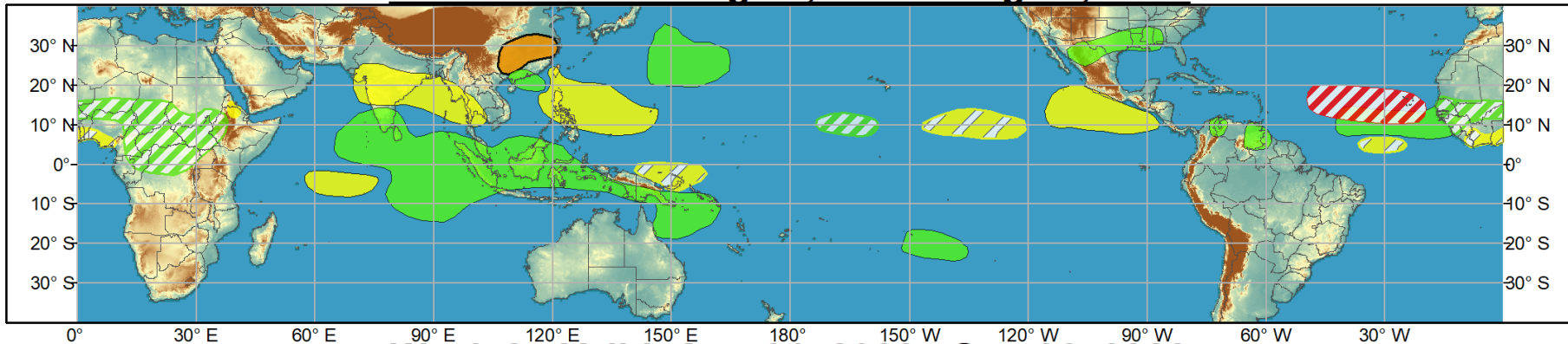
Since we are in an amplified, stable pattern today's outlooks are likely to be similar.



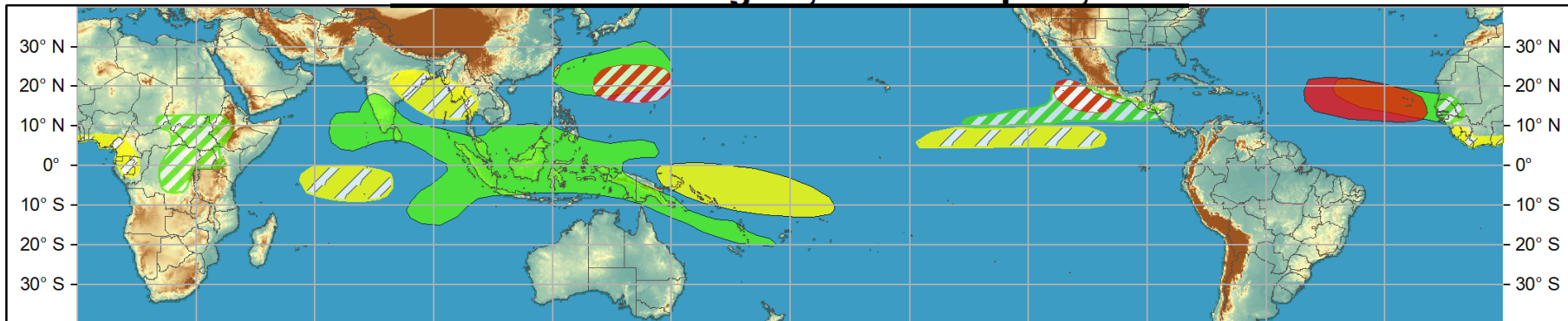
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- Below-normal temperatures**



- Development of a tropical cyclone (tropical depression - TD, or greater strength).
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