Weeks 2-3 Global Tropics Hazards Outlook

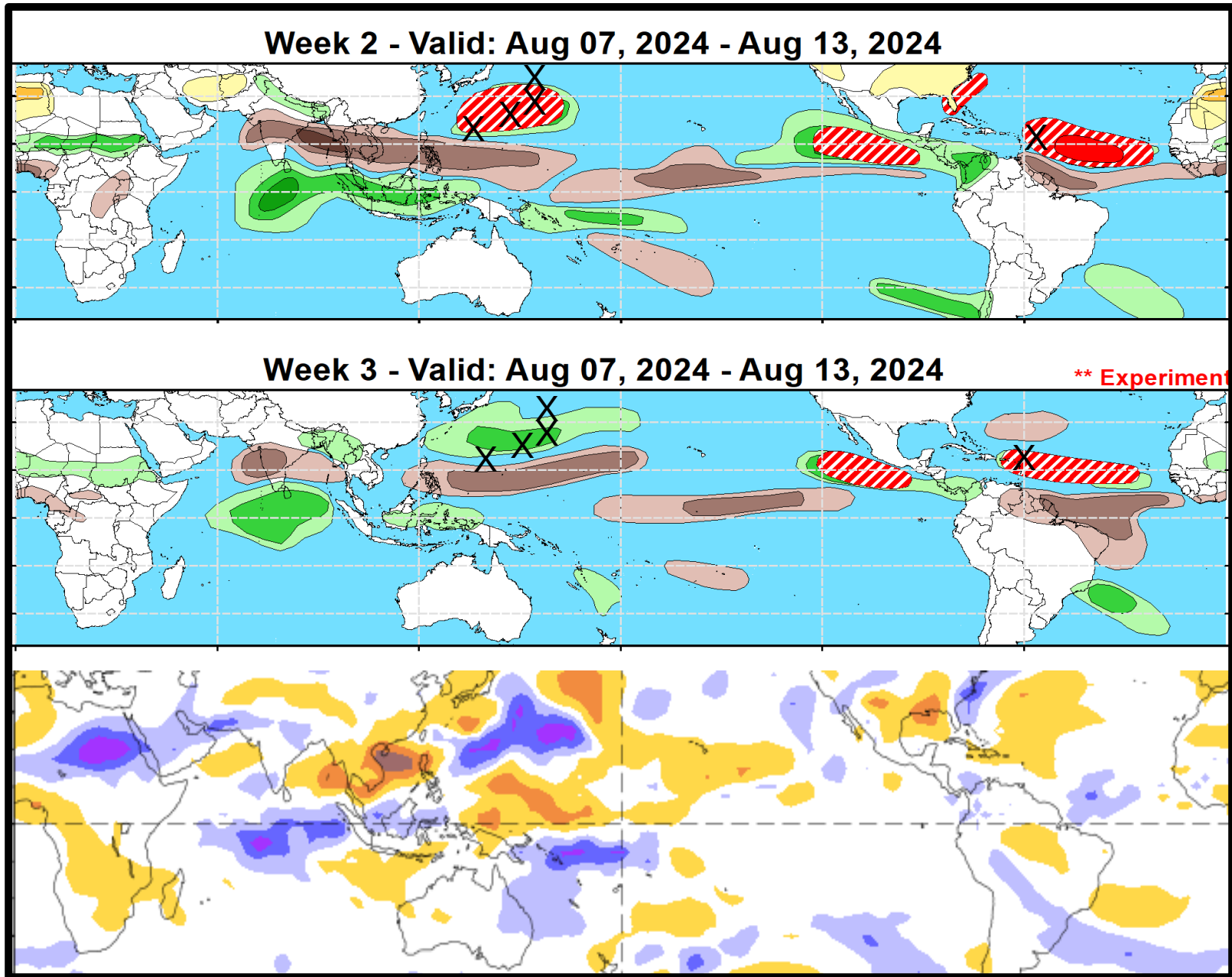
8/13/2024

Nick Novella
NWS / NCEP / Climate Prediction Center

Outlook Review: TC development & anomalous precipitation during the past week

WPAC
- Maria (8/7)
- Son-Tinh (8/12)
- Ampil (8/12)
- Wukong (8/13)

ATL
- Ernesto (8/12)



Synopsis of Climate Modes:

ENSO: (Aug 8, 2024 Update) ***next update on Thursday, Sep 12th***

- ENSO Alert System Status: La Niña Watch

- ENSO-neutral is expected to continue for the next several months, with La Niña favored to emerge during SON (66% chance) and persist into the Northern Hemisphere winter 2024-25 (74% chance during November-January).

MJO and other subseasonal tropical variability:

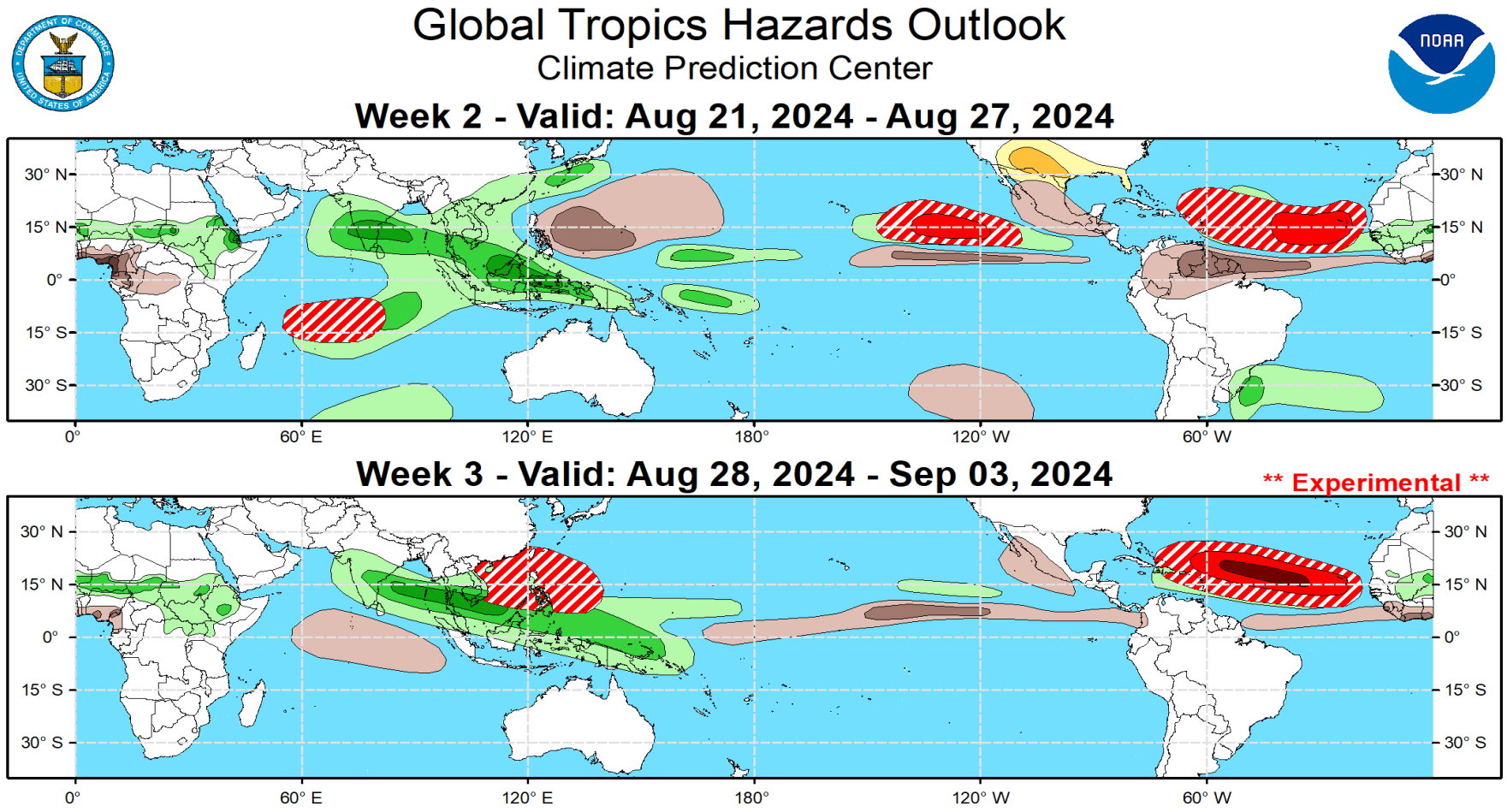
- As previously forecast, RMM observations show renewed MJO activity over the Western Hemisphere during the past week.

- Dynamical models have been consistently advertising a robust Indian Ocean MJO event that propagates eastward into the Maritime Continent during the next several weeks.

- Given these conditions, the large-scale environment is expected to be favorable for additional tropical cyclogenesis across the Atlantic basin, in-line with an increasingly active climatology for late August and early September.

- Conversely, there are decreased chance for tropical cyclone formation in the western Pacific, following a fairly active period since late July.

GTH Outlook:



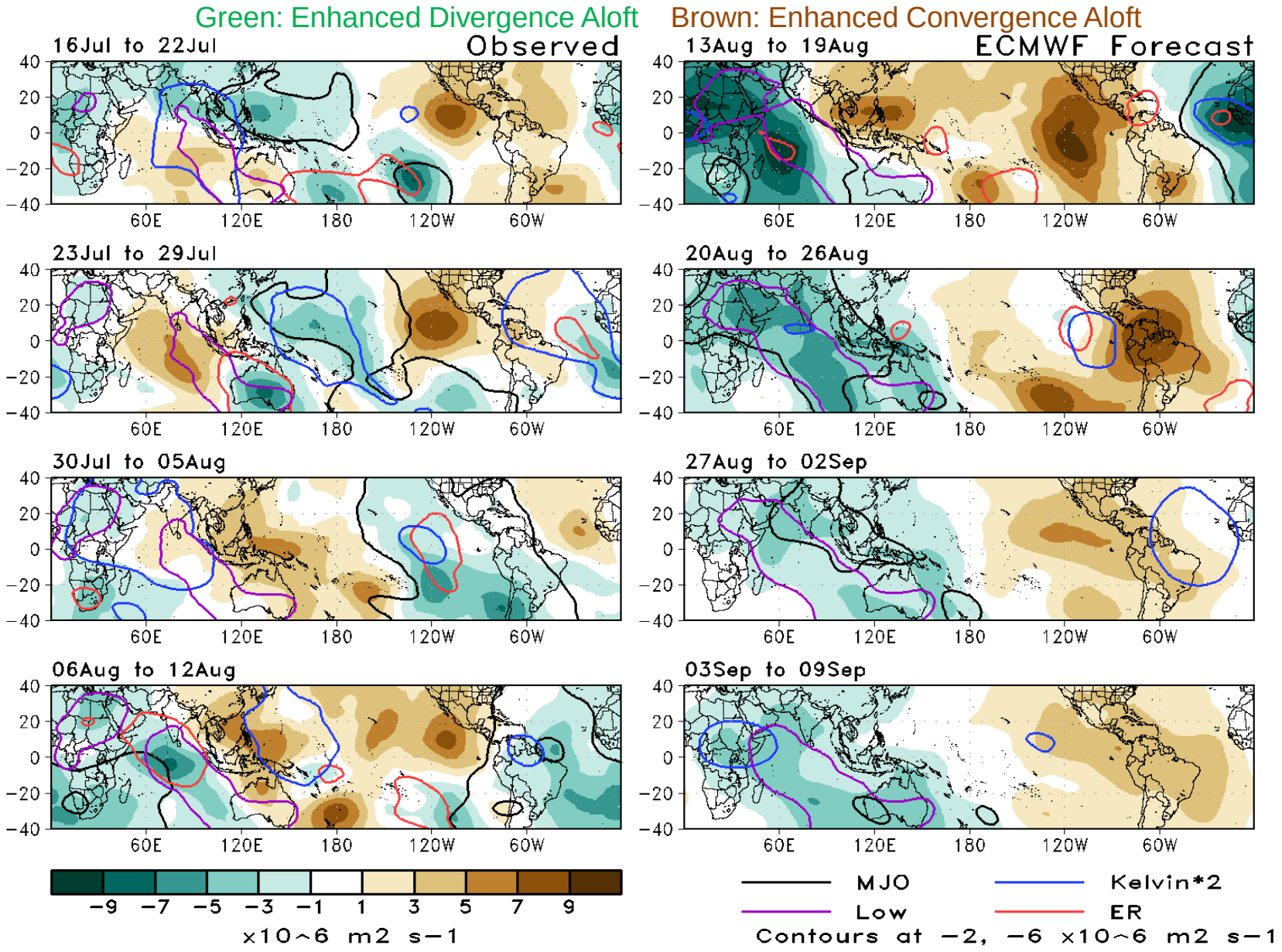
Issued: 08/13/2024

Forecaster: Novella

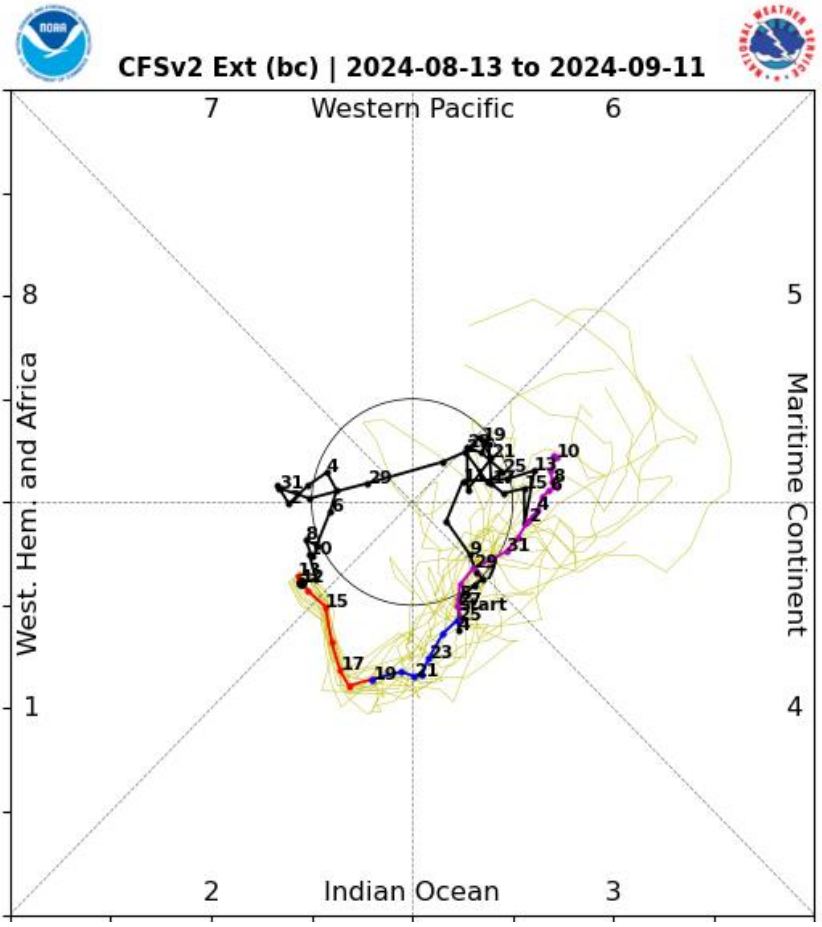
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only.
Consult your local responsible forecast agency.

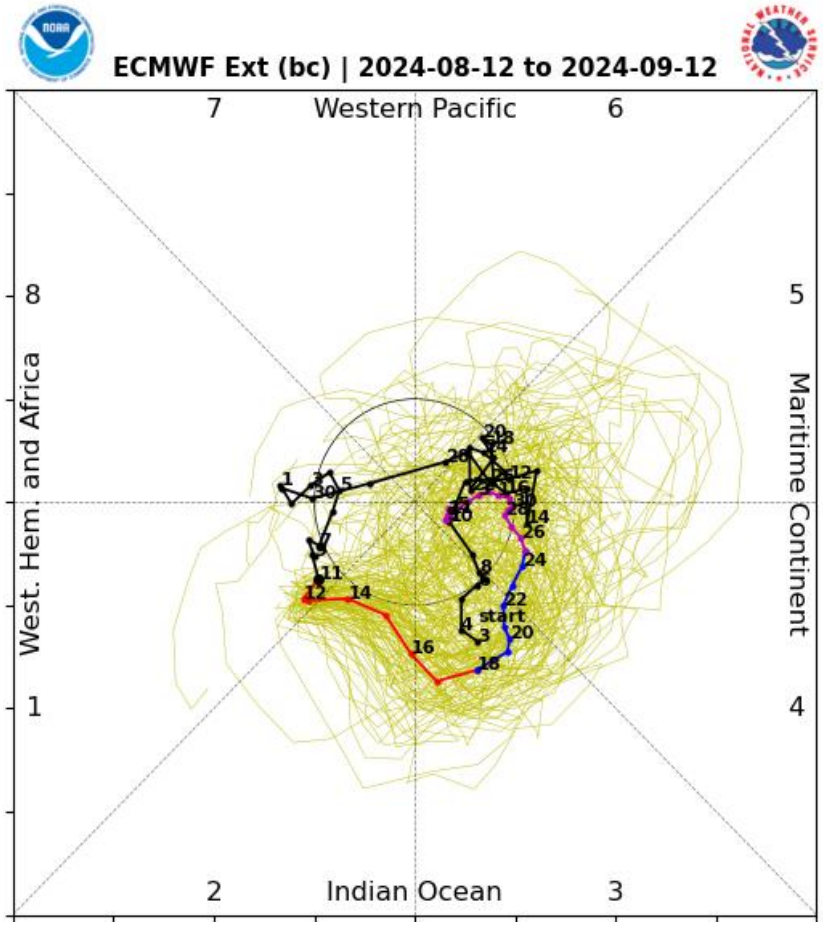
200-hPa Velocity Potential Anomaly Maps:

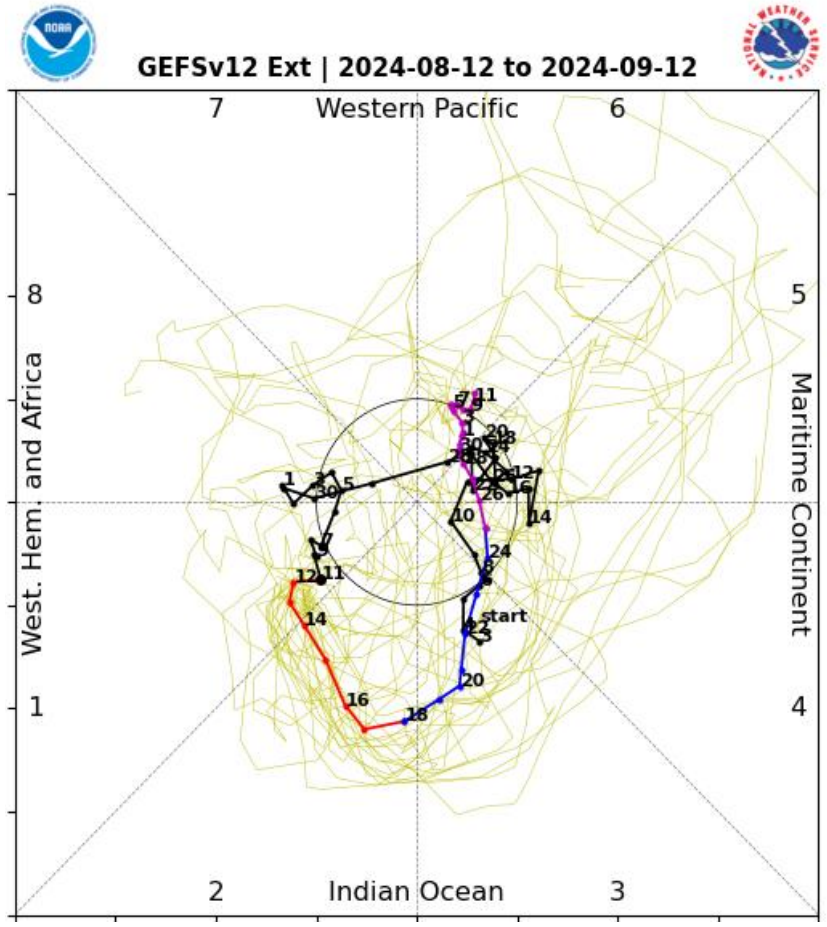
- The VP fields have become more coherent during the past week, but still feature modes of higher frequency variability.
- By week-1, there is very good agreement in the models favoring a more canonical wave-1 MJO pattern, with continued Kelvin and Rossby wave activity to further enhance the convective environment over Africa.
- This may then promote more vigorous, and moisture rich easterly waves exiting into the Main Development Region.



RMM Index Observations & Forecasts:

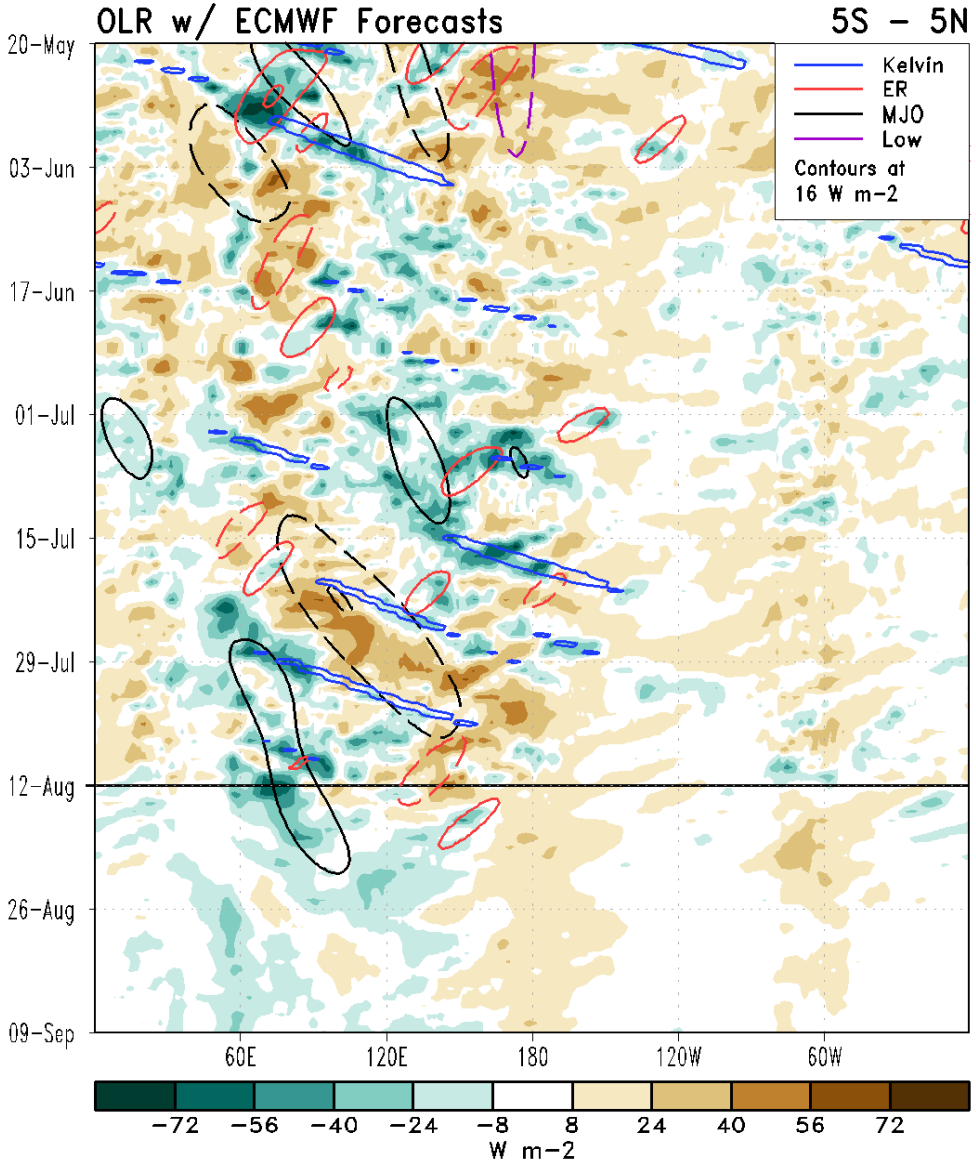


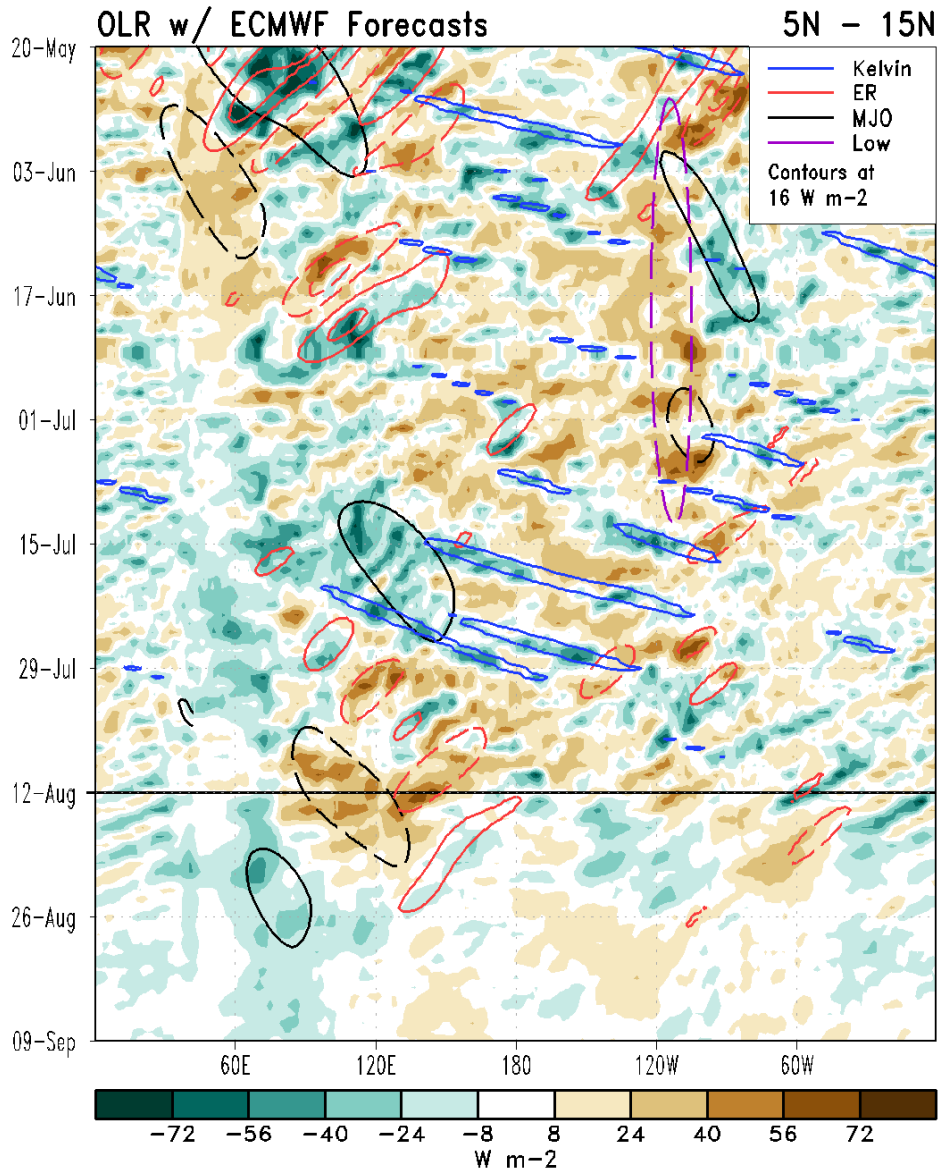


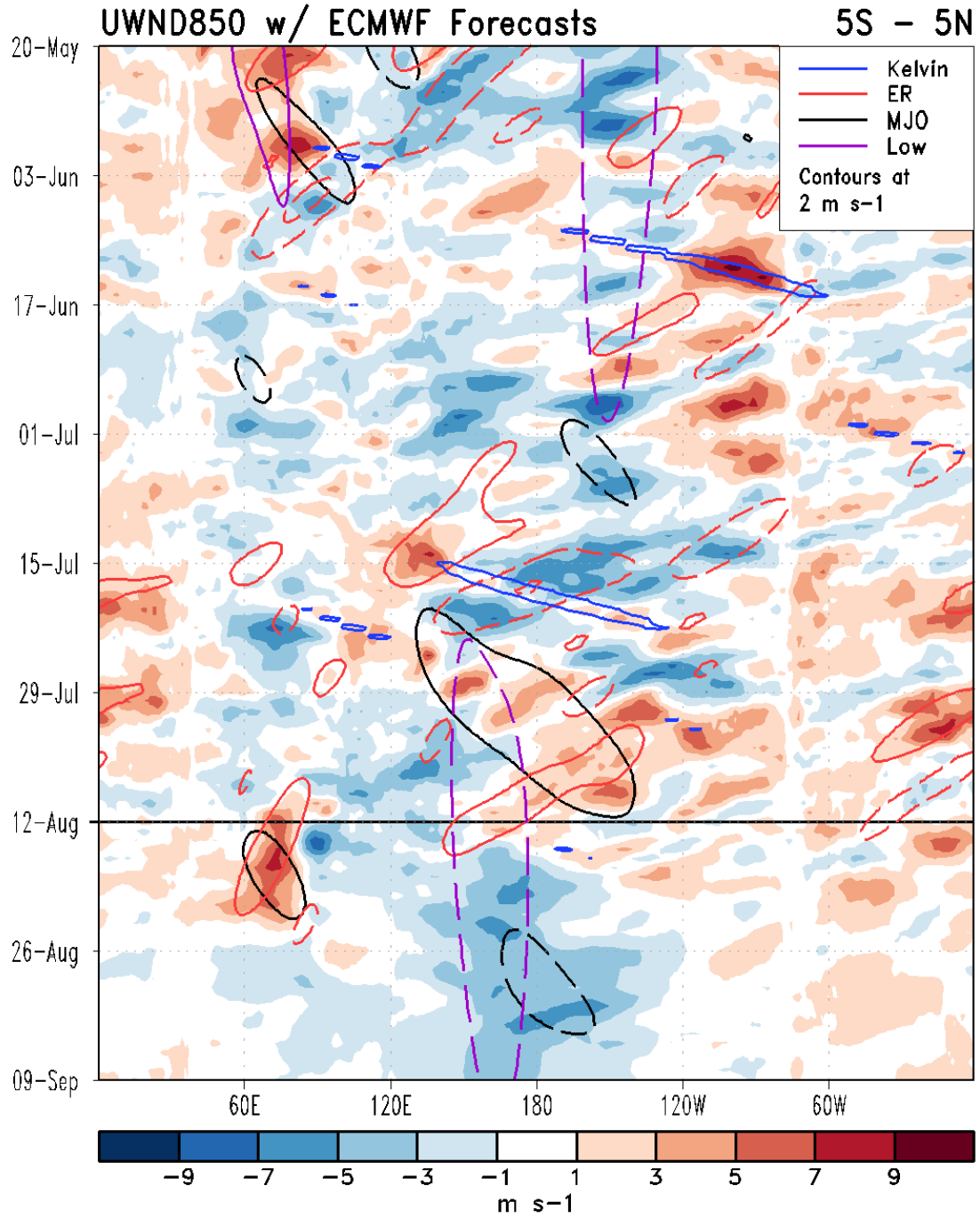


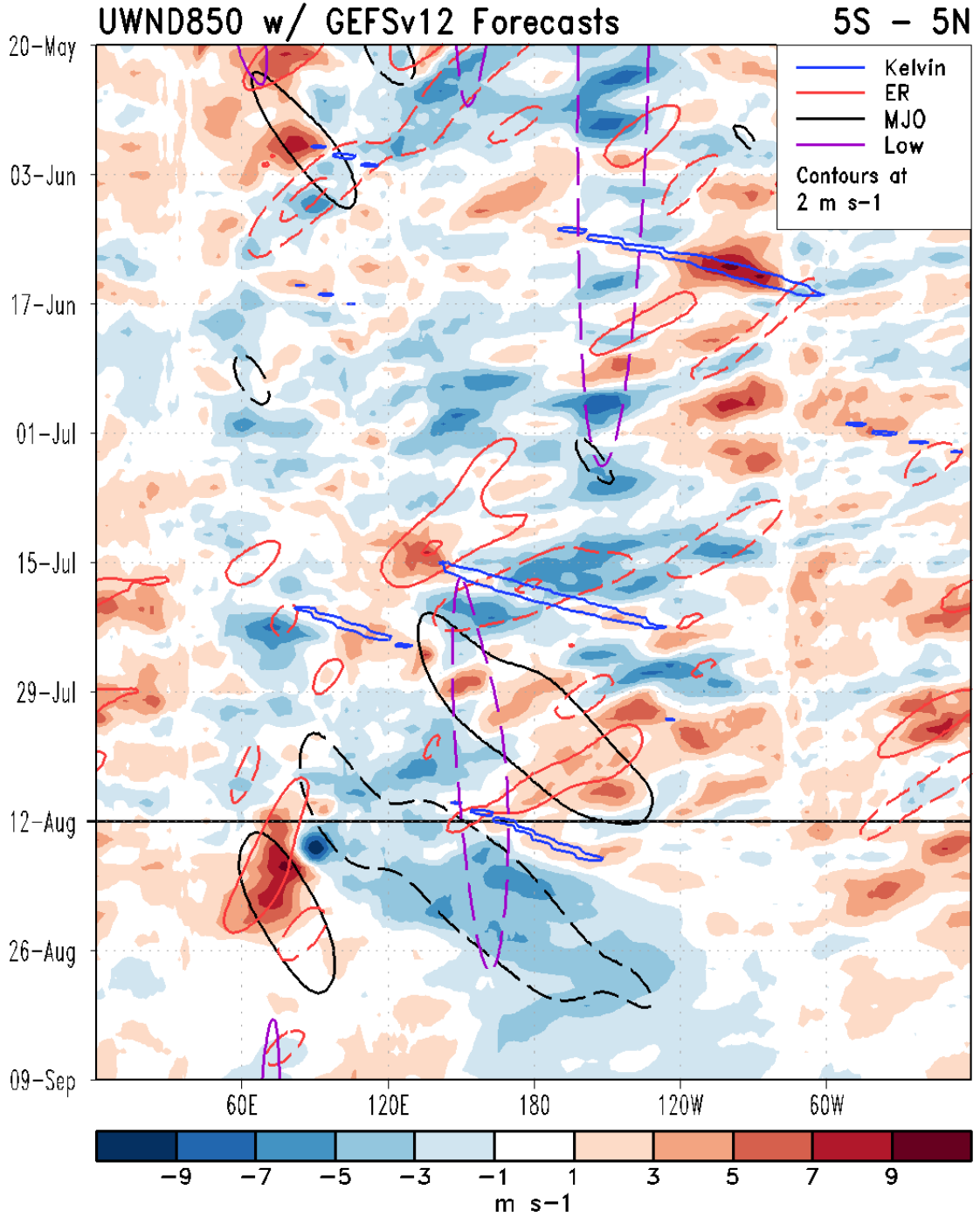
- Consistent with the velocity potential forecasts, good agreement exists in the RMM forecasts depicting an amplifying MJO signal over the Indian Ocean with continued eastward propagation into the Maritime Continent by late August
- Although the signal weakens as it approaches the Maritime Continent, there are several ensemble members favoring a higher amplitude event heading into September.

Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:

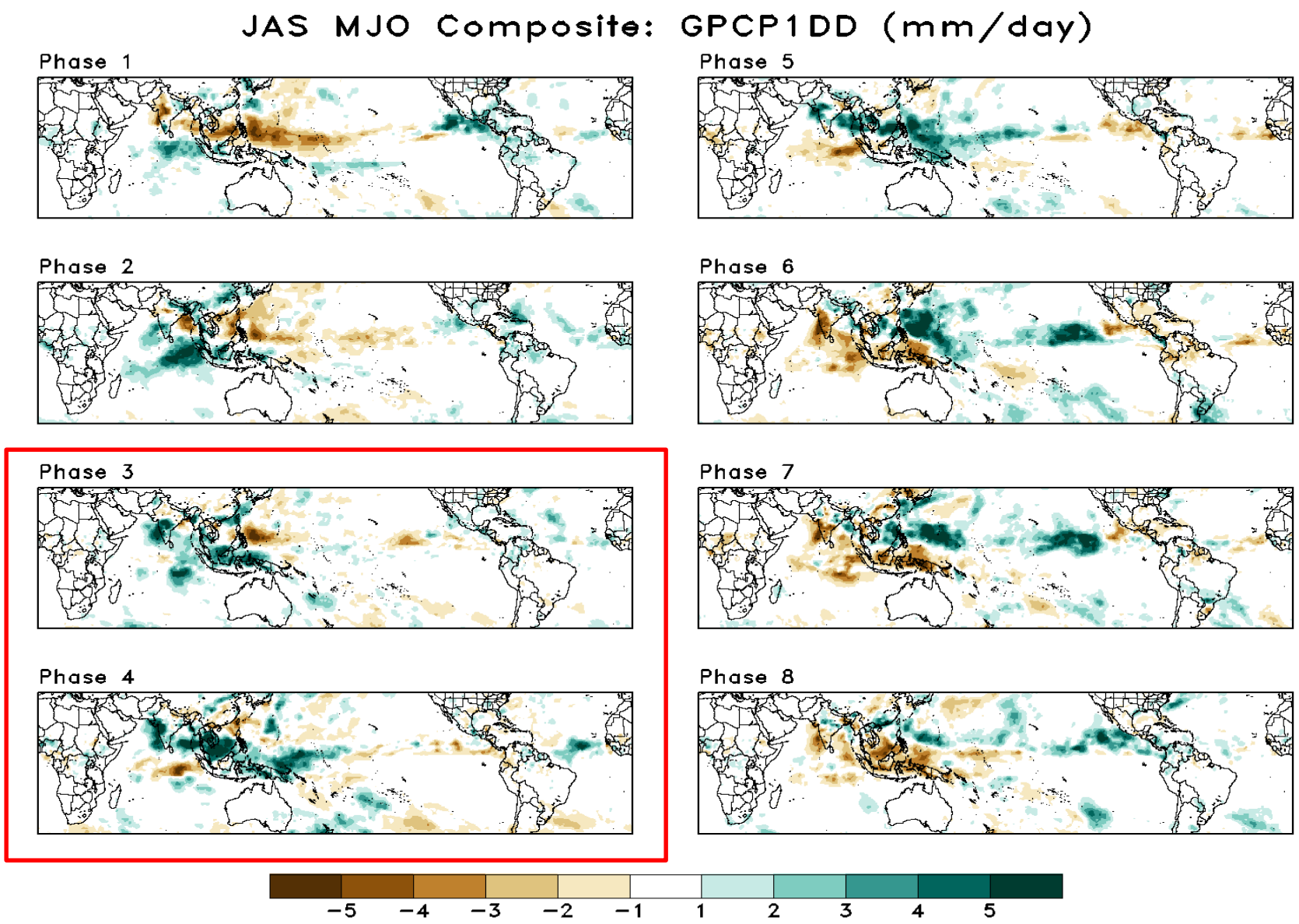




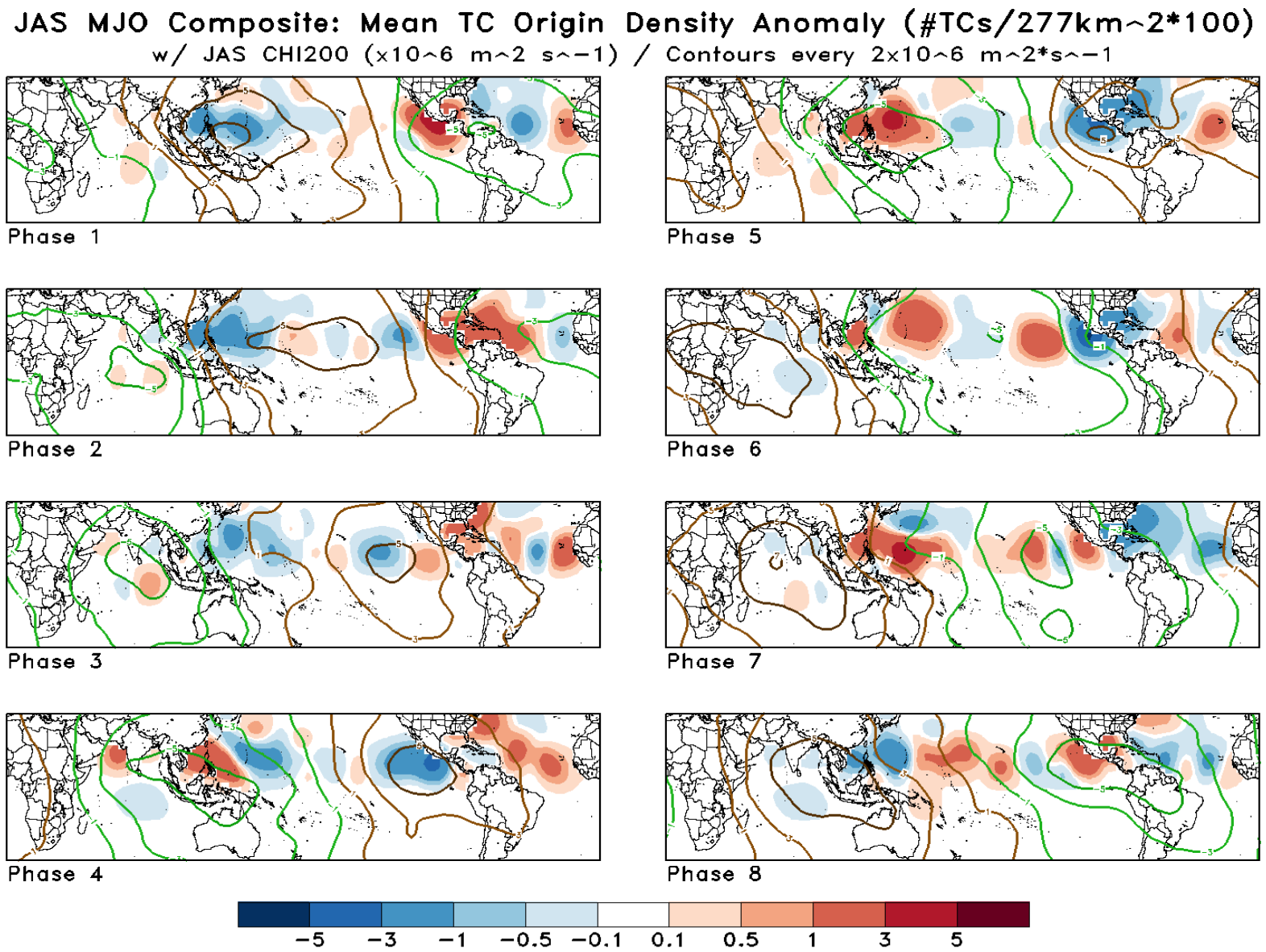

UWND850 w/ ECMWF Forecasts
5S - 5N
20-May
03-Jun
17-Jun
01-Jul
15-Jul
29-Jul
12-Aug
26-Aug
09-Sep
Kelvin
ER
MJO
Low
Contours at
2 m s-1
60E
120E
180
120W
60W
-9 -7 -5 -3 -1 1 3 5 7 9
m s-1

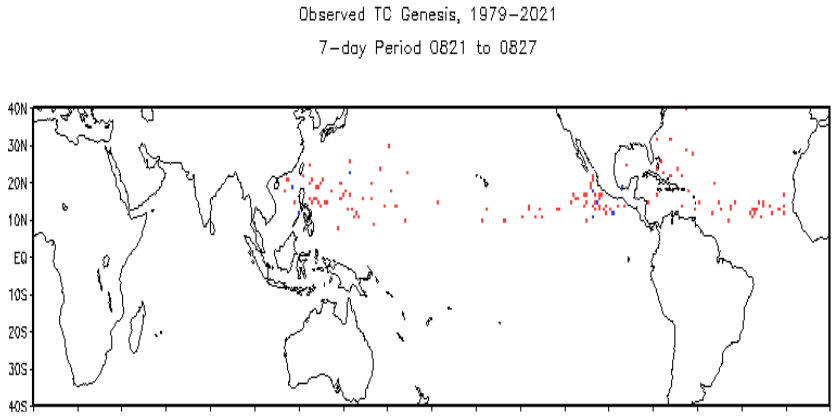

UWND850 w/ GEFSv12 Forecasts
5S - 5N
20-May
03-Jun
17-Jun
01-Jul
15-Jul
29-Jul
12-Aug
26-Aug
09-Sep
Kelvin
ER
MJO
Low
Contours at
2 m s-1
60E
120E
180
120W
60W
-9 -7 -5 -3 -1 1 3 5 7 9
m s-1

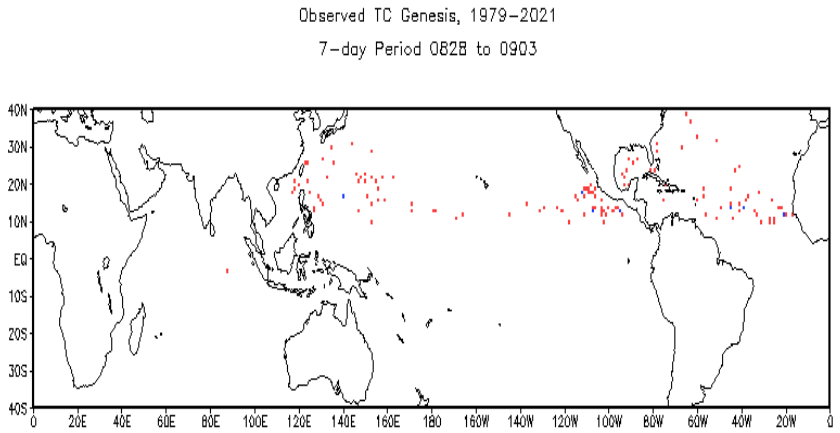
Historical Precipitation Anomalies By MJO Phase:



Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

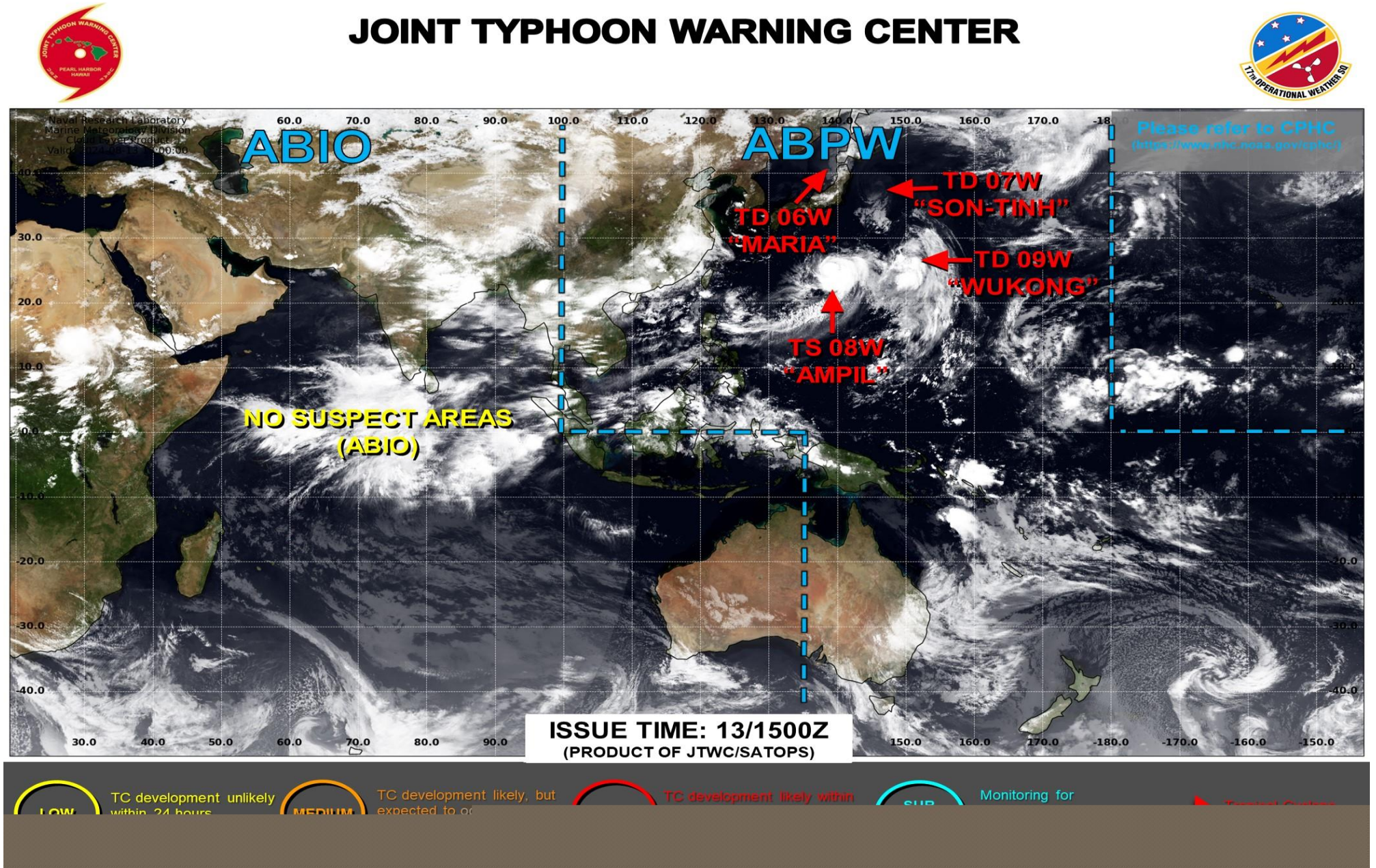


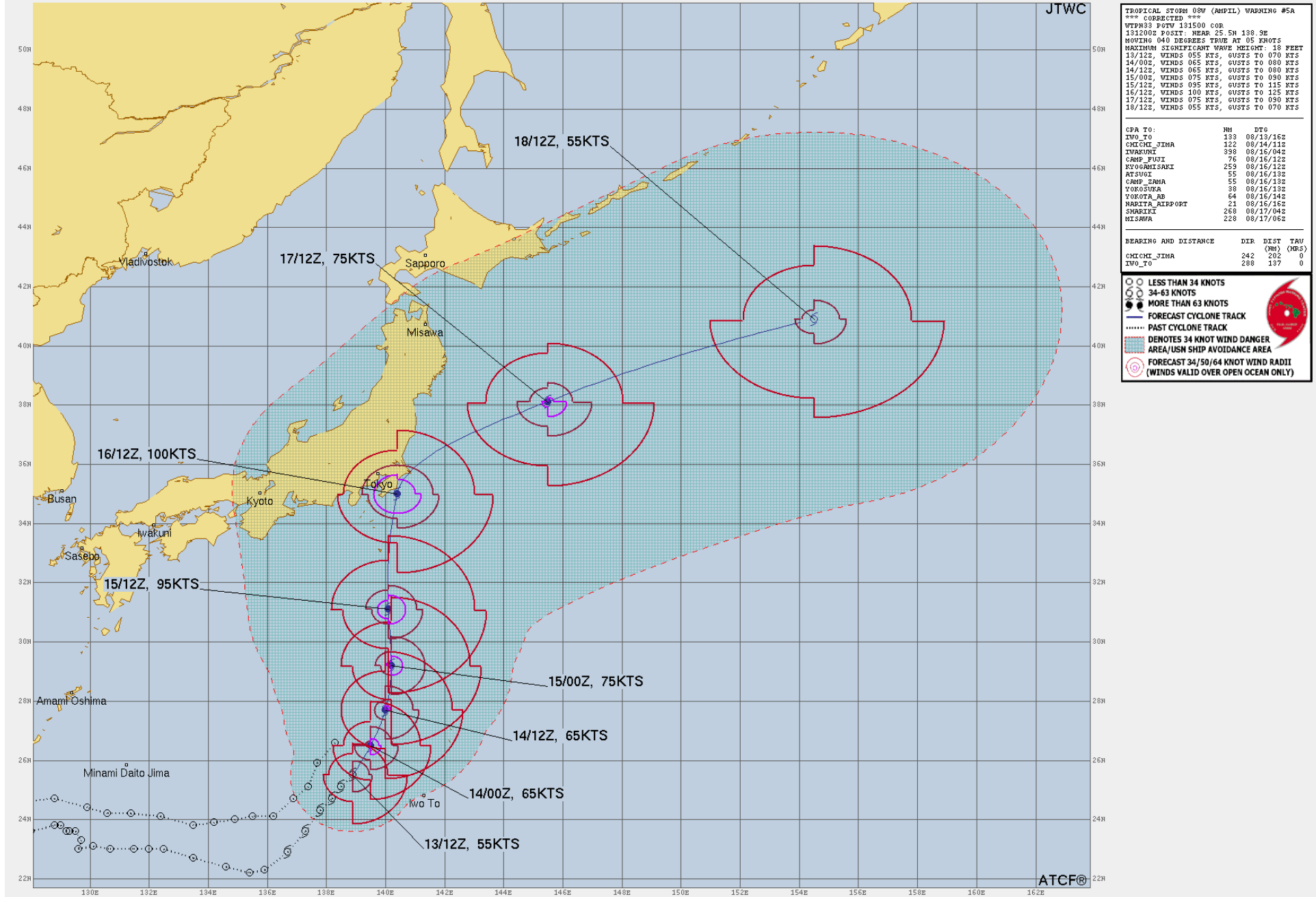




Experimental

Tropical Cyclone Monitoring/Forecast: JTWC





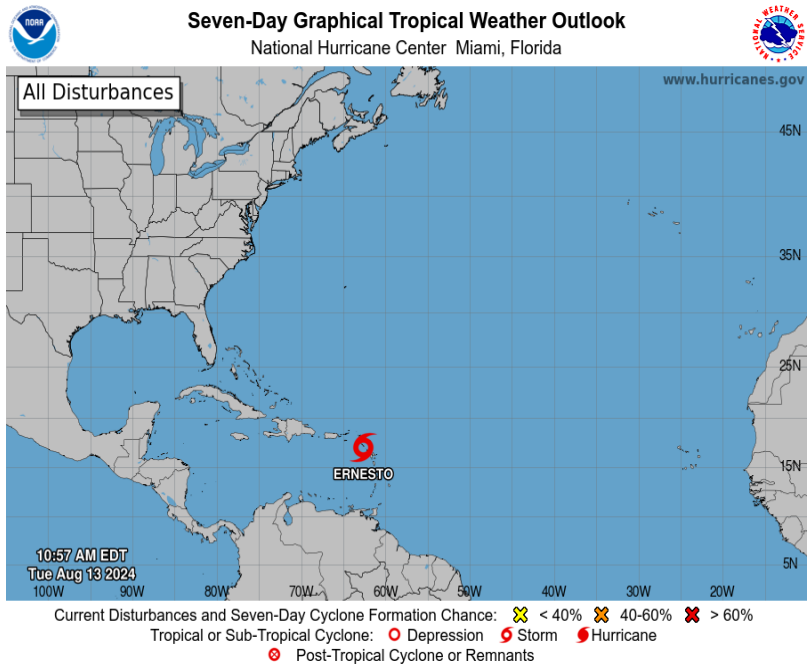
TROPICAL STORM 08W (AMPIL) WARNING #5A
*** CORRECTED ***
WTPN33 PGTW 131500 COR
1312000Z POSIT: NEAR 25.5N 138.9E
MOVING 040 DEGREES TRUE AT 05 KNOTS
MAXIMUM SIGNIFICANT WAVE HEIGHT: 18 FEET
13/12Z, WINDS 055 KTS, GUSTS TO 070 KTS
14/00Z, WINDS 065 KTS, GUSTS TO 080 KTS
14/12Z, WINDS 065 KTS, GUSTS TO 080 KTS
15/00Z, WINDS 075 KTS, GUSTS TO 090 KTS
15/12Z, WINDS 095 KTS, GUSTS TO 115 KTS
16/12Z, WINDS 100 KTS, GUSTS TO 125 KTS
17/12Z, WINDS 075 KTS, GUSTS TO 090 KTS
18/12Z, WINDS 055 KTS, GUSTS TO 070 KTS

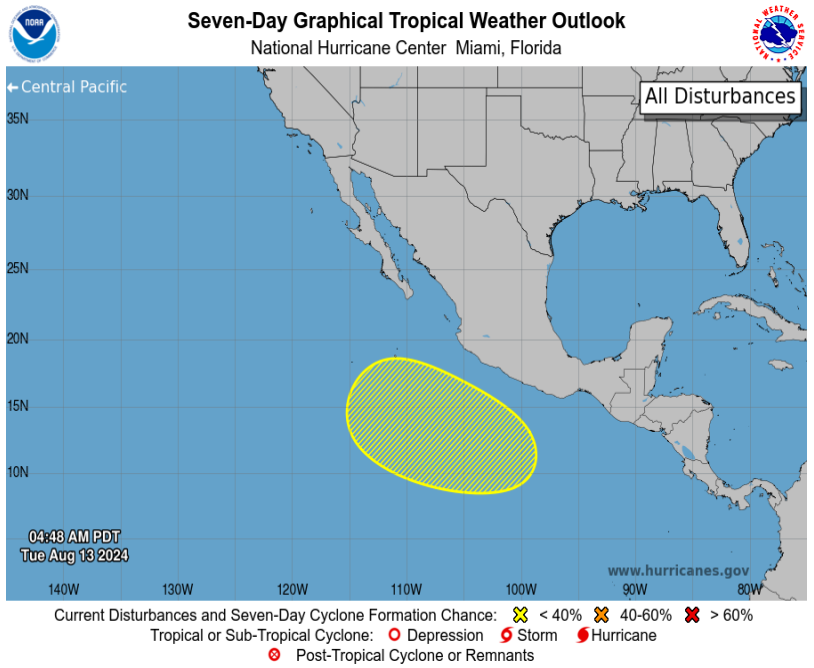
CPA TO:	NM	DTG
IWO_TO	133	08/13/16Z
CHICHI_JIMA	122	08/14/11Z
IWAKUNI	398	08/16/04Z
CAMP_FUJI	76	08/16/12Z
KYOGAMISAKI	259	08/16/12Z
ATSUGI	55	08/16/13Z
CAMP_ZAMA	55	08/16/13Z
YOKOSUKA	38	08/16/13Z
YOKOTA_AB	64	08/16/14Z
NARITA_AIRPORT	21	08/16/16Z
SHARIKI	268	08/17/04Z
MISAWA	228	08/17/06Z

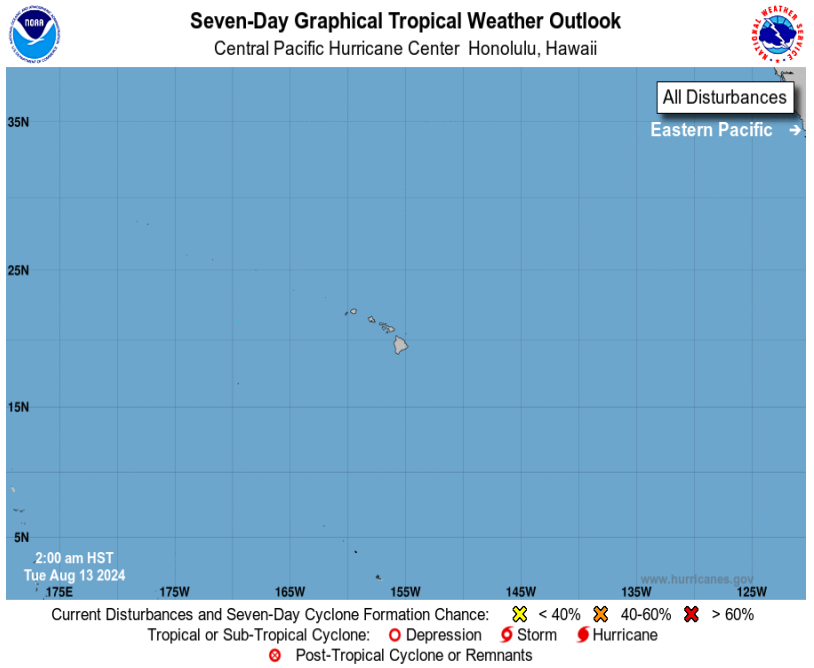
BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
CHICHI_JIMA	242	202	0
IWO_TO	288	137	0

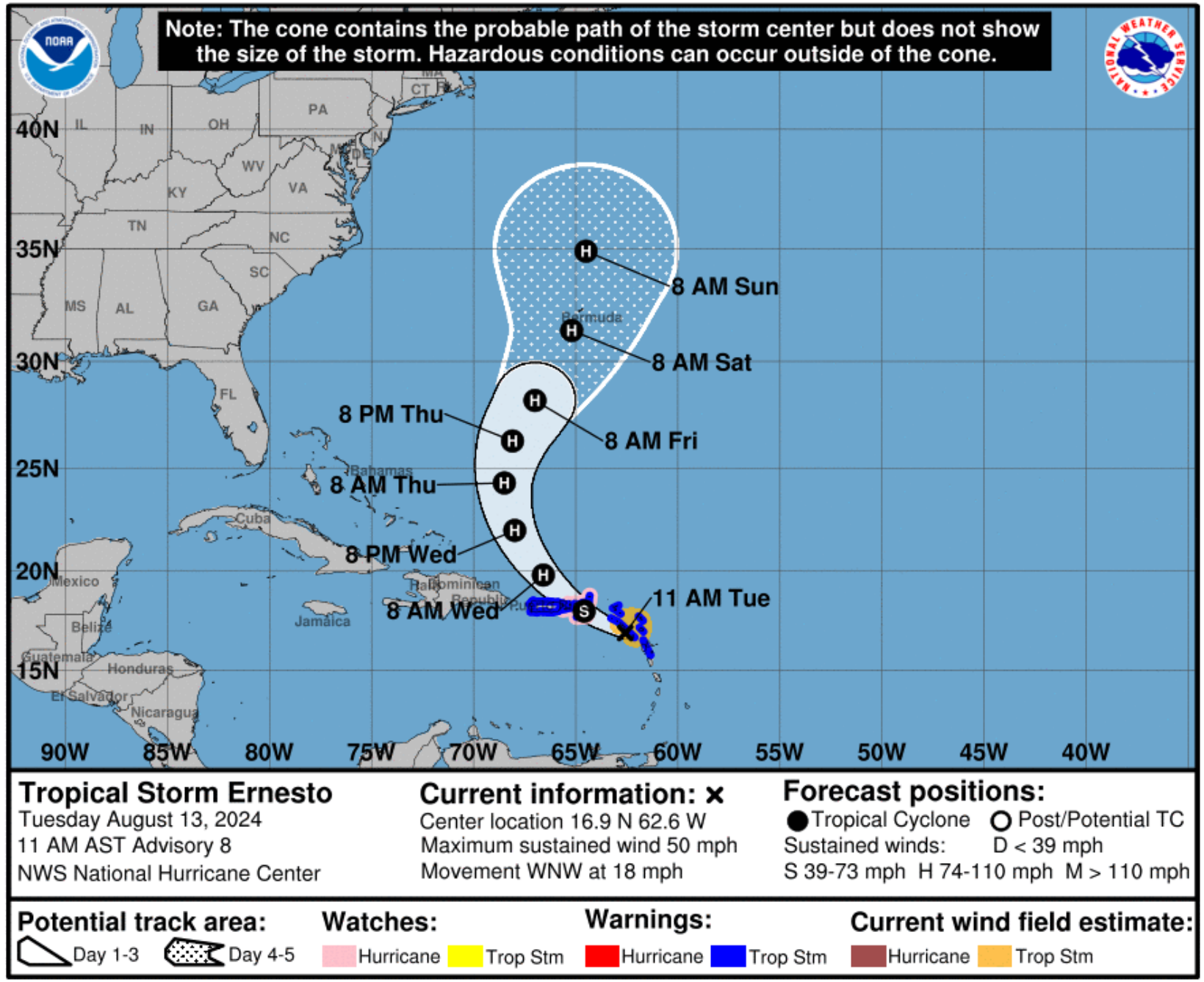
LESS THAN 34 KNOTS
34-63 KNOTS
MORE THAN 63 KNOTS
FORECAST CYCLONE TRACK
PAST CYCLONE TRACK
DENOTES 34 KNOT WIND DANGER AREA/USN SHIP AVOIDANCE AREA
FORECAST 34/50/64 KNOT WIND RADII (WINDS VALID OVER OPEN OCEAN ONLY)

Tropical Cyclone Monitoring/Forecast: NHC / CPHC









Tropical Storm Ernesto

Tuesday August 13, 2024
11 AM AST Advisory 8
NWS National Hurricane Center

Current information: ×
Center location 16.9 N 62.6 W
Maximum sustained wind 50 mph
Movement WNW at 18 mph

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

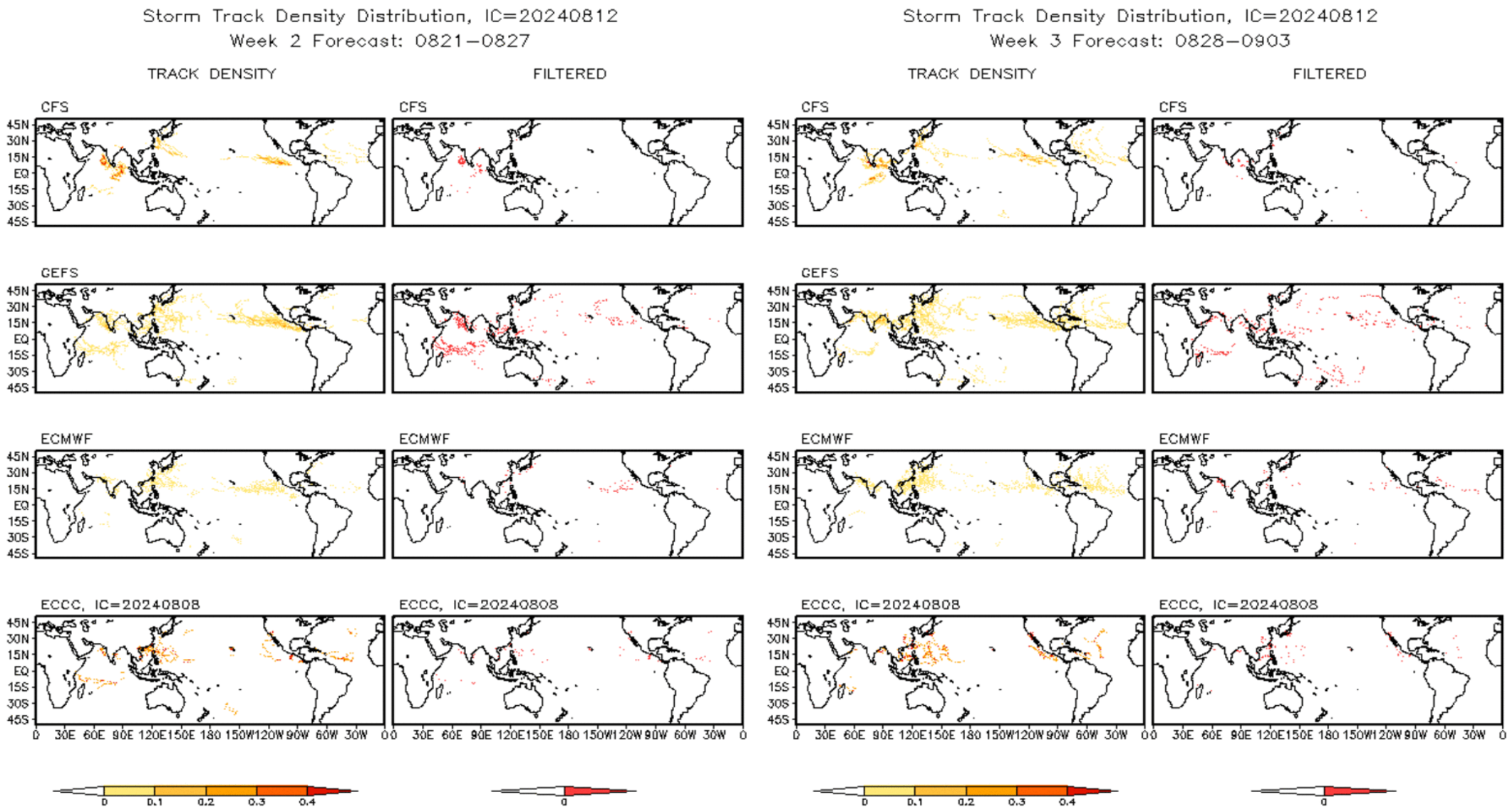
Potential track area: Day 1-3, Day 4-5

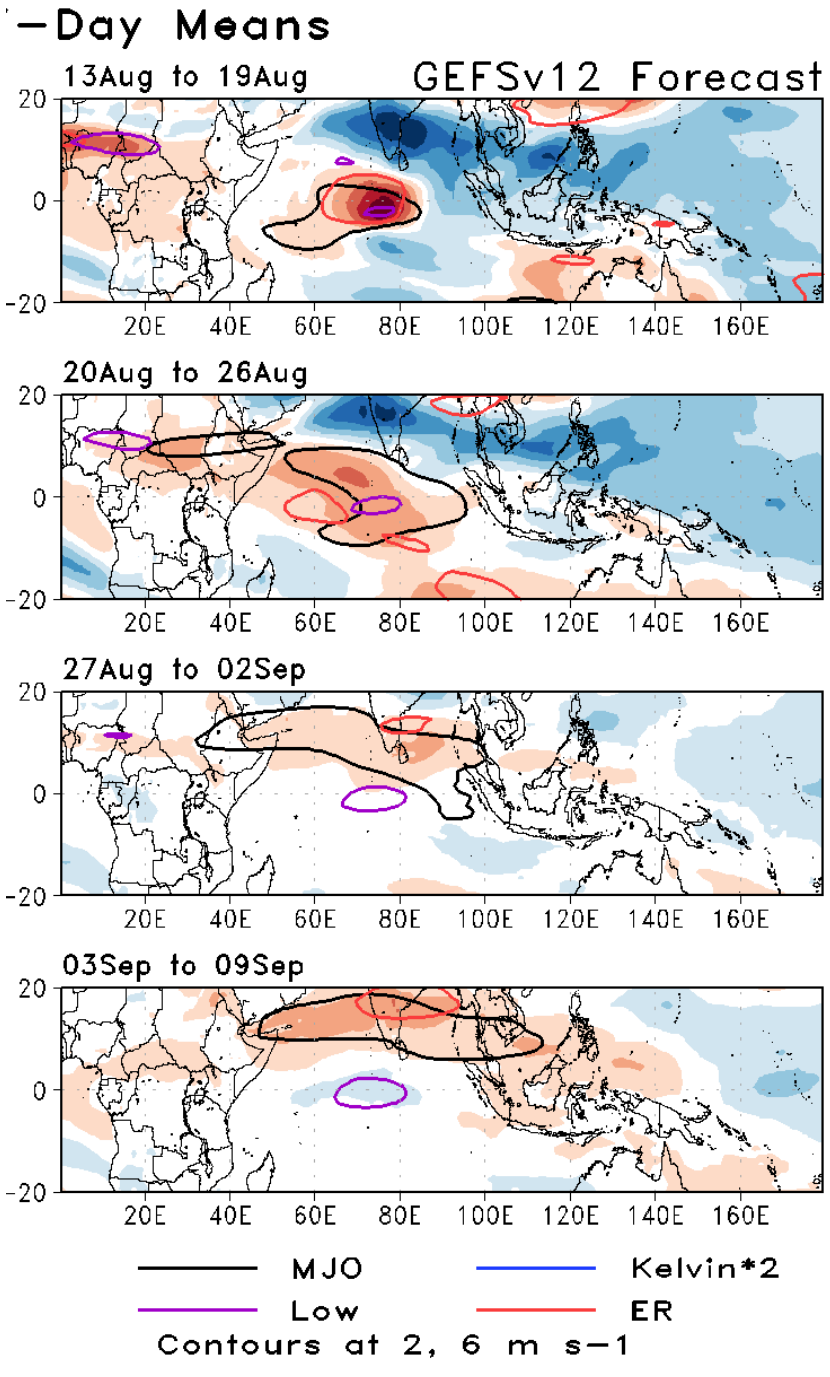
Watches: Hurricane, Trop Stm

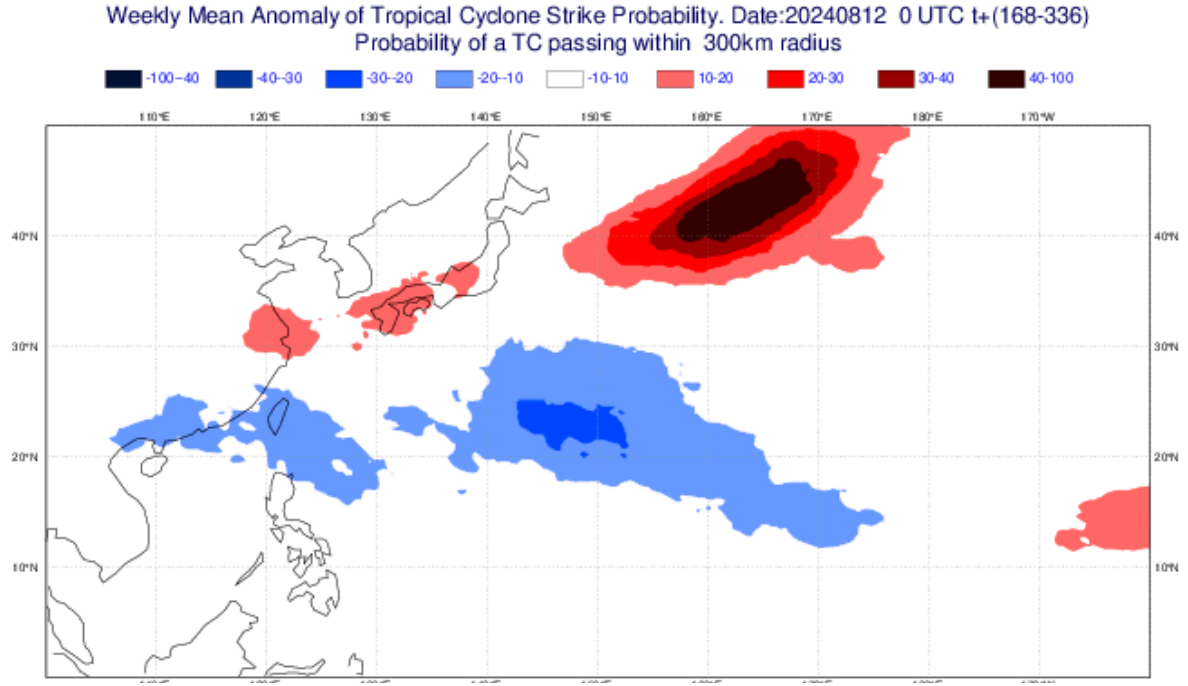
Warnings: Hurricane, Trop Stm

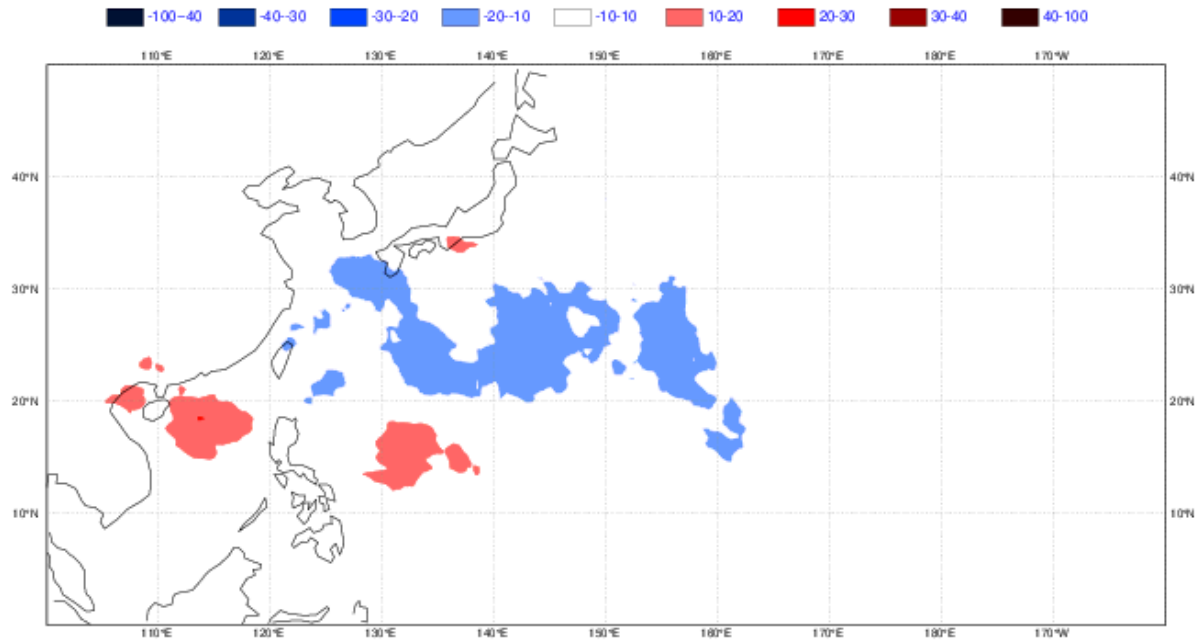
Current wind field estimate: Hurricane, Trop Stm

Multi-Model TC Track Densities: Weeks 2+3

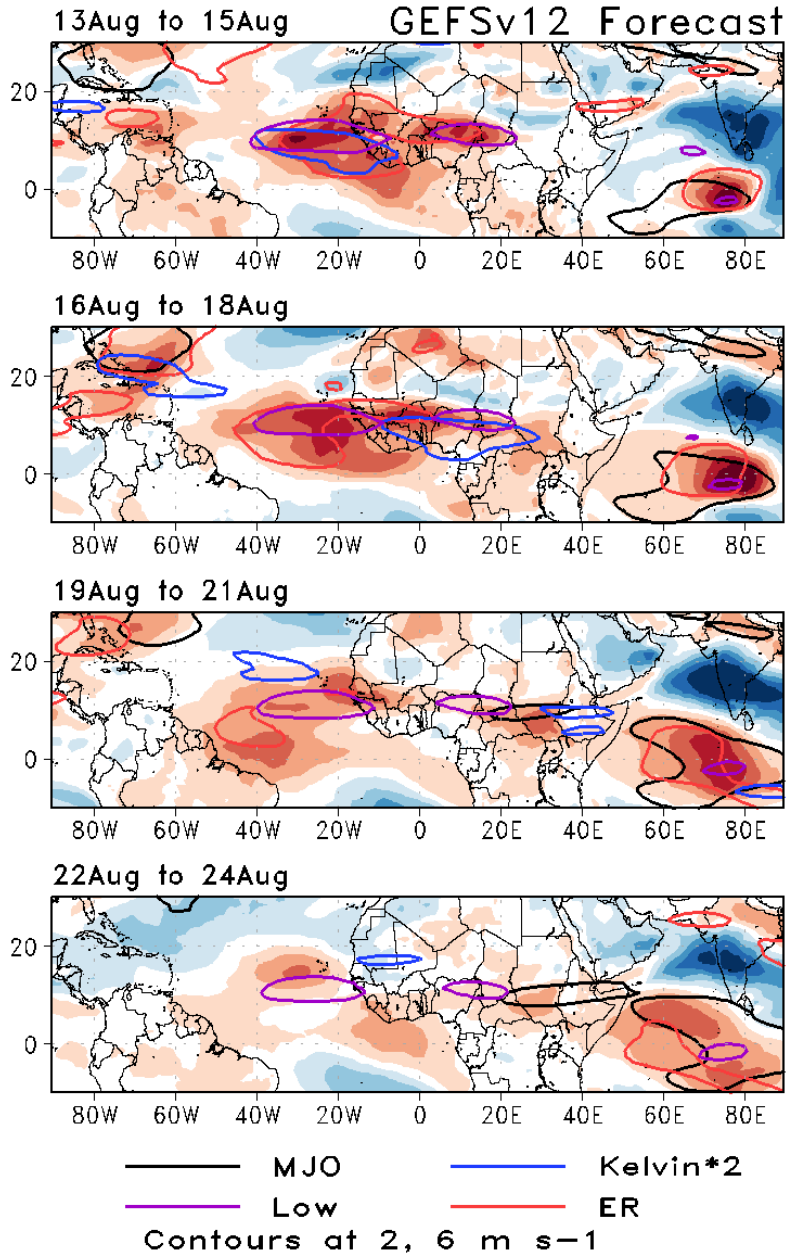


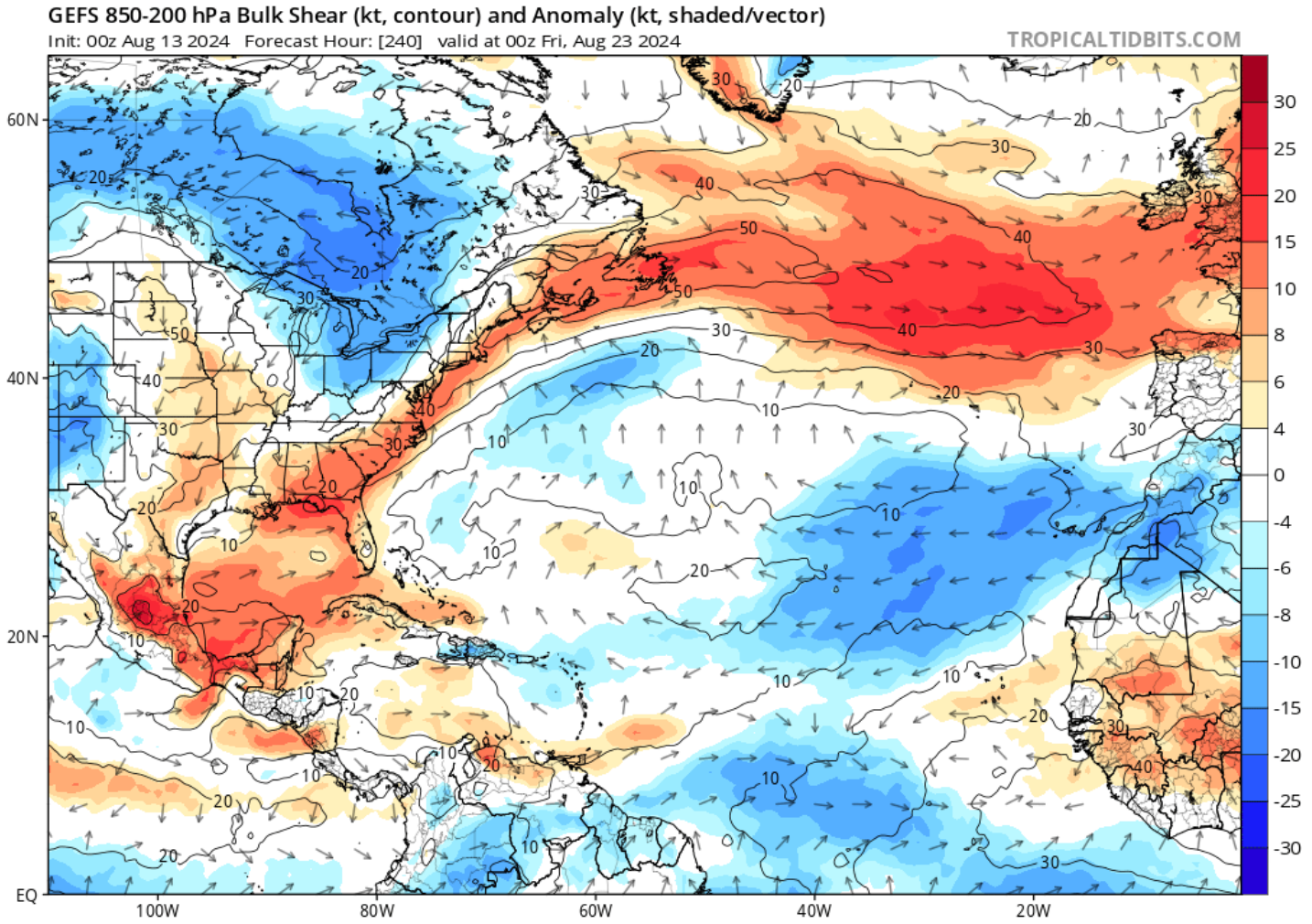

-Day Means
13Aug to 19Aug
GEFSv12 Forecast
20Aug to 26Aug
27Aug to 02Sep
03Sep to 09Sep
20
0
-20
20E 40E 60E 80E 100E 120E 140E 160E
MJO
Kelvin*2
Low
ER
Contours at 2, 6 m s-1

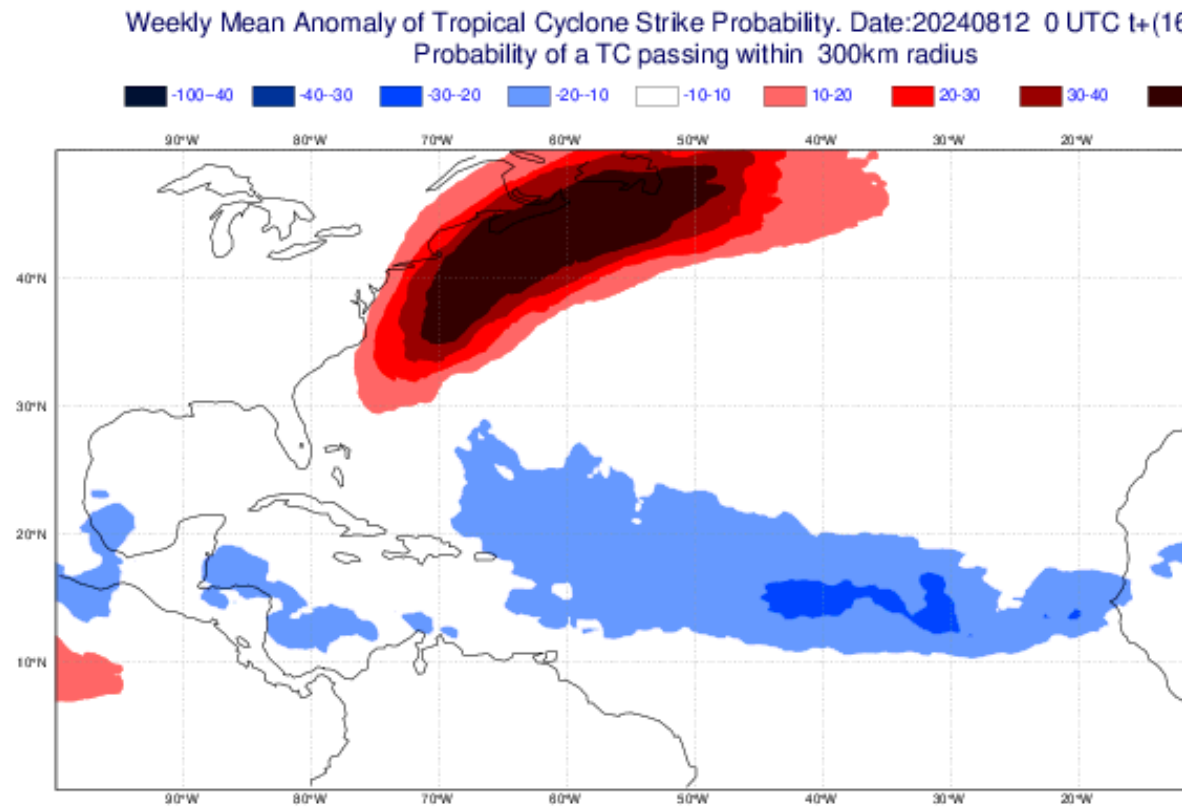

Weekly Mean Anomaly of Tropical Cyclone Strike Probability. Date:20240812 0 UTC t+(168-336)
Probability of a TC passing within 300km radius
-100-40
-40-30
-30-20
-20--10
-10-10
10-20
20-30
30-40
40-100

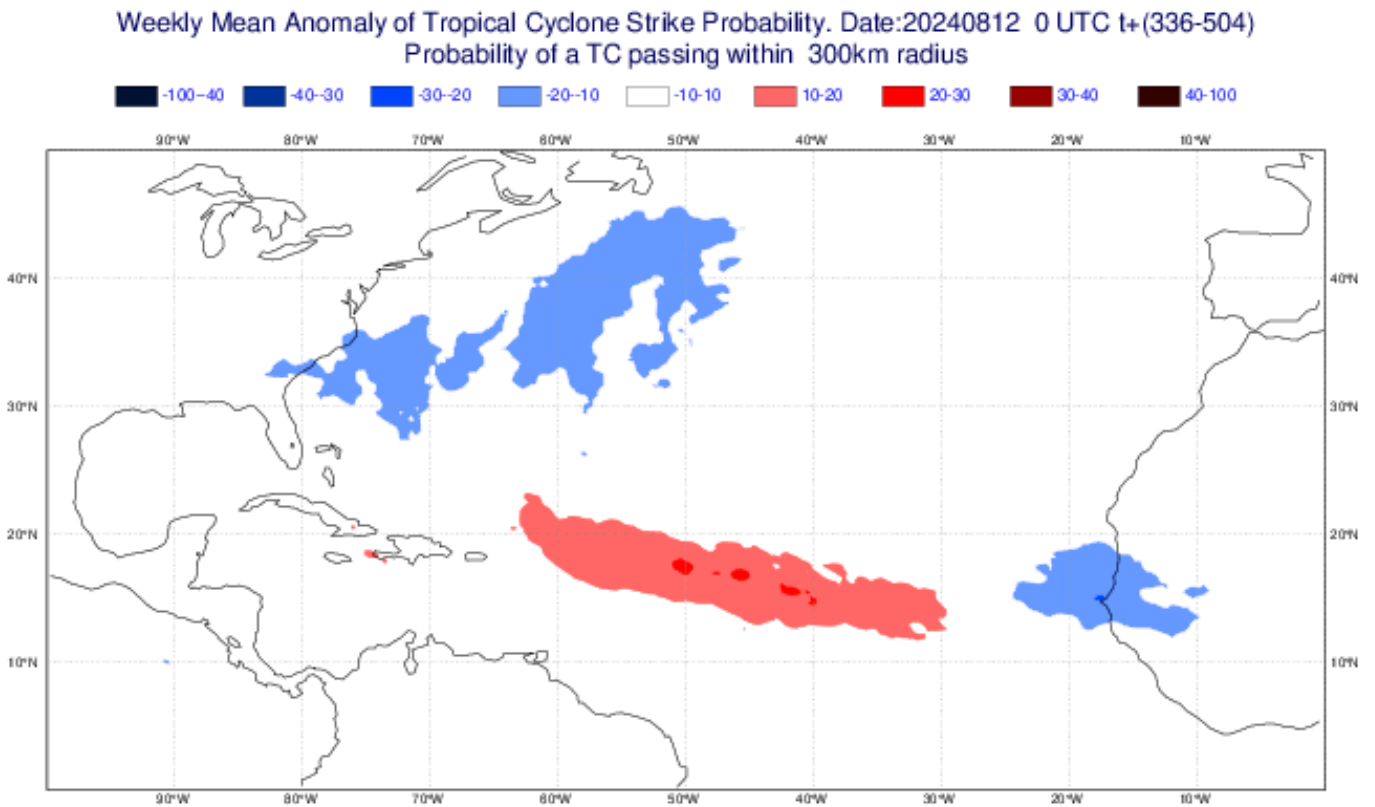

Weekly Mean Anomaly of Tropical Cyclone Strike Probability. Date:20240812 0 UTC t+(336-504)
Probability of a TC passing within 300km radius
-100-40
-40-30
-30-20
-20--10
-10-10
10-20
20-30
30-40
40-100

3-Day Means


13Aug to 15Aug
GEFSv12 Forecast
16Aug to 18Aug
19Aug to 21Aug
22Aug to 24Aug
20
0
80W 60W 40W 20W 0 20E 40E 60E 80E
MJO
Kelvin*2
Low
ER
Contours at 2, 6 m s-1


GEFS 850-200 hPa Bulk Shear (kt, contour) and Anomaly (kt, shaded/vector)
Init: 00z Aug 13 2024 Forecast Hour: [240] valid at 00z Fri, Aug 23 2024
TROPICALTIDBITS.COM
60N
40N
20N
EQ
100W 80W 60W 40W 20W
30 25 20 15 10 8 6 4 0 -4 -6 -8 -10 -15 -20 -25 -30


Weekly Mean Anomaly of Tropical Cyclone Strike Probability. Date:20240812 0 UTC t+(16
Probability of a TC passing within 300km radius
-100-40
-40-30
-30-20
-20--10
-10-10
10-20
20-30
30-40


Weekly Mean Anomaly of Tropical Cyclone Strike Probability. Date:20240812 0 UTC t+(336-504)
Probability of a TC passing within 300km radius
-100-40
-40-30
-30-20
-20--10
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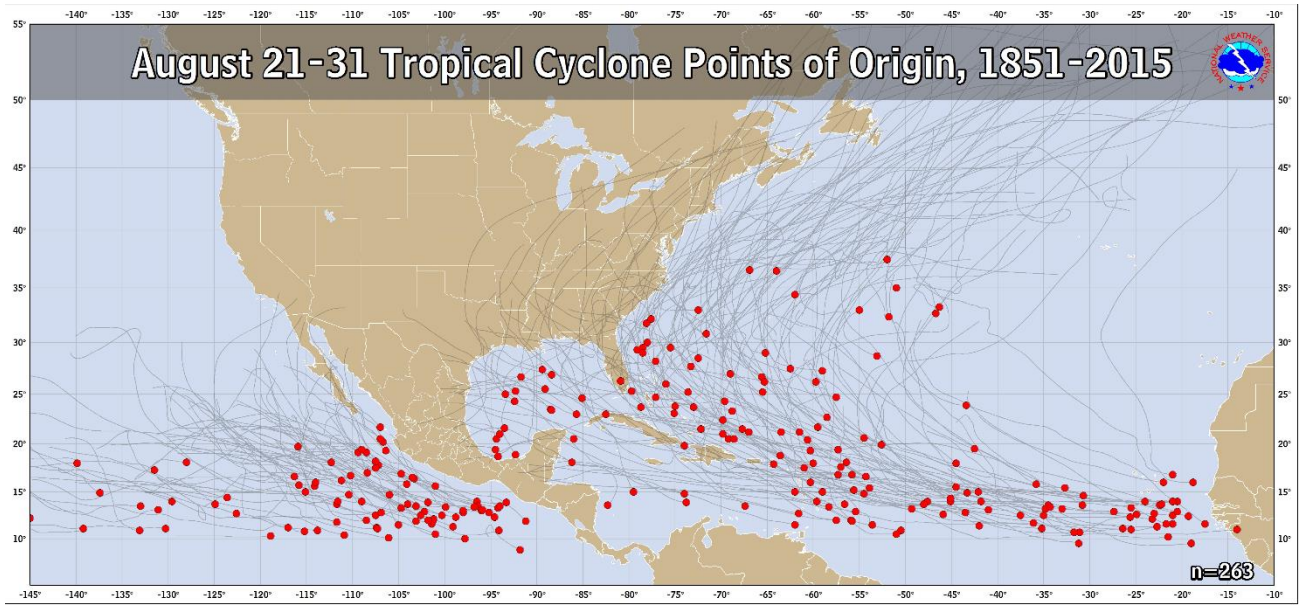
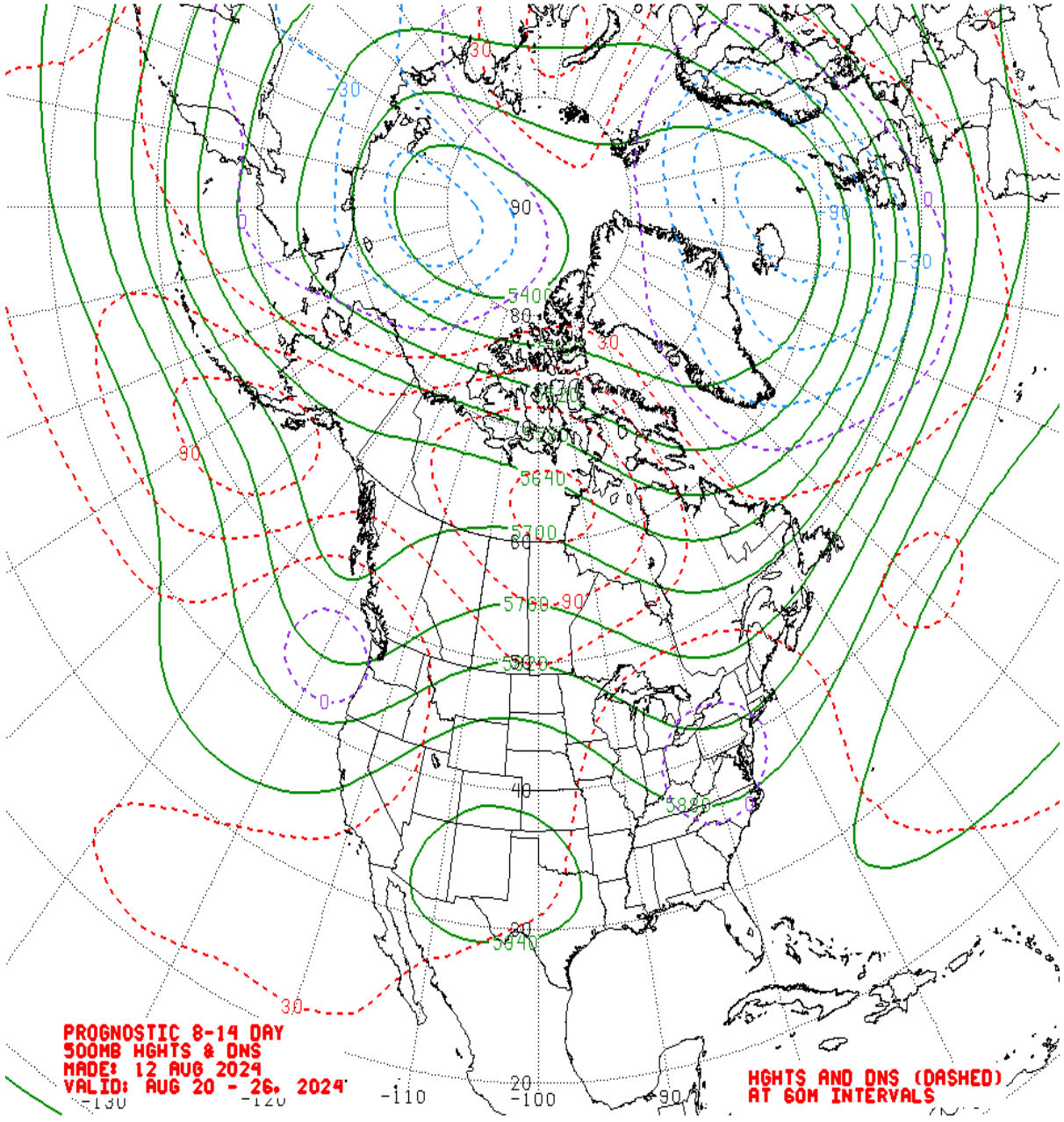
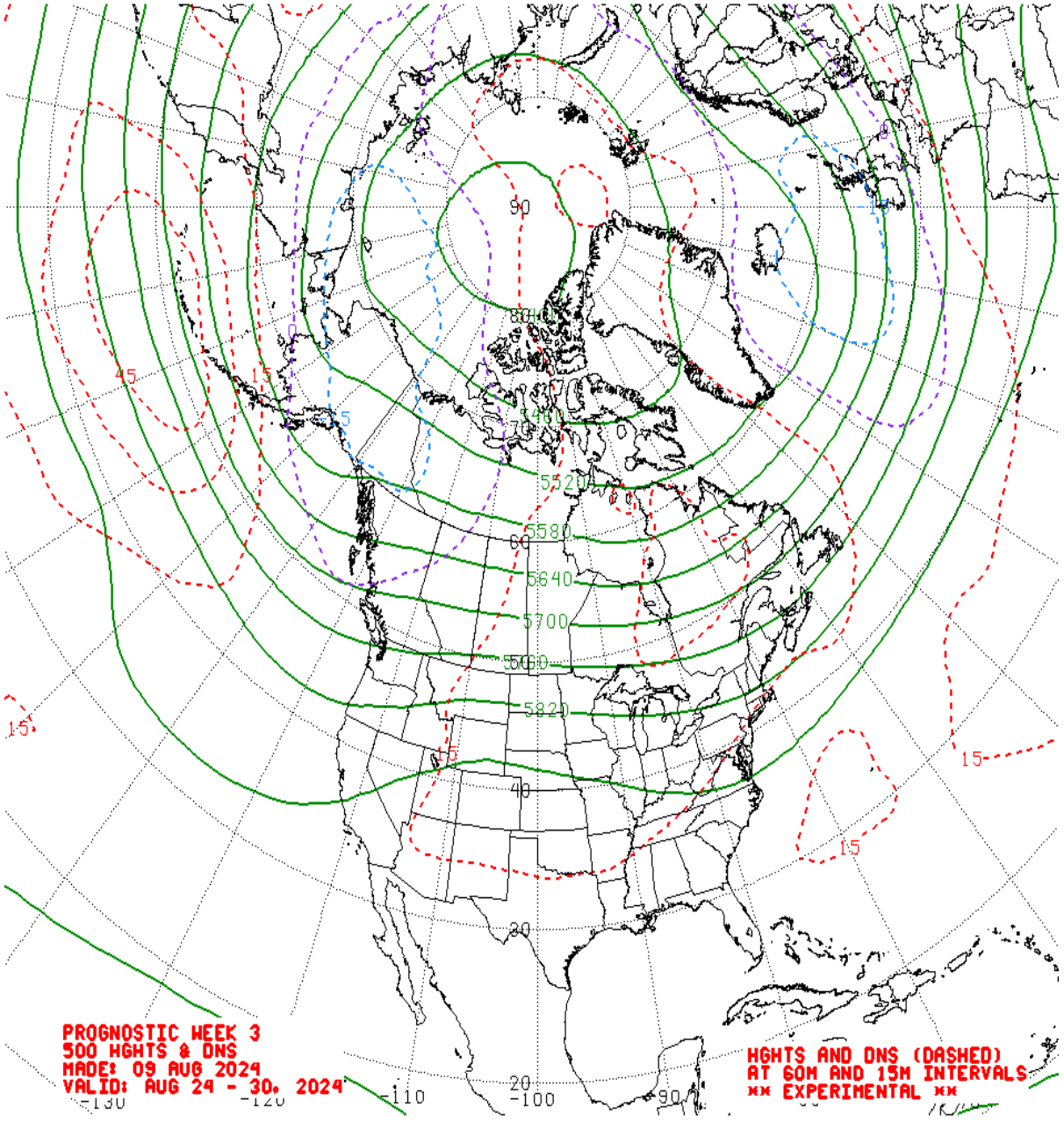
20-30
30-40
40-100

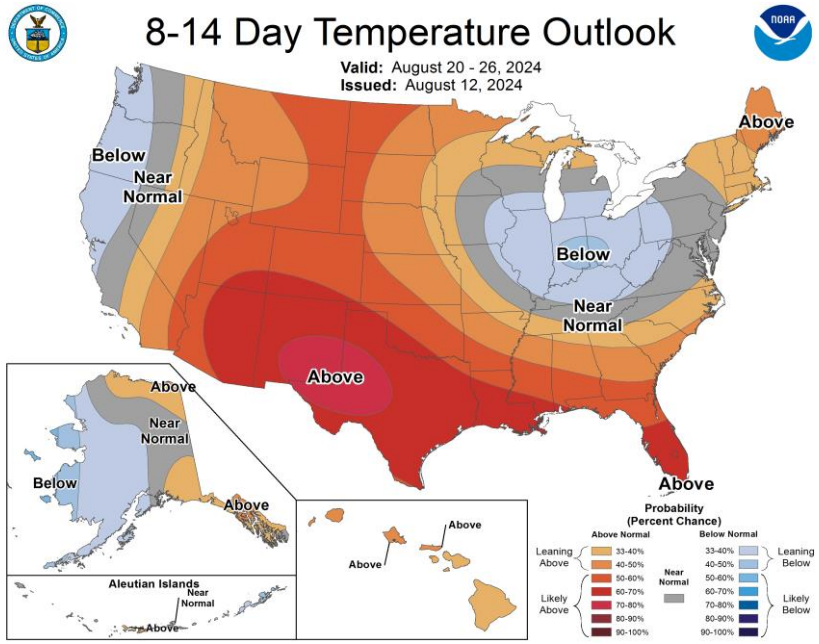

August 21-31 Tropical Cyclone Points of Origin, 1851-2015
n=263

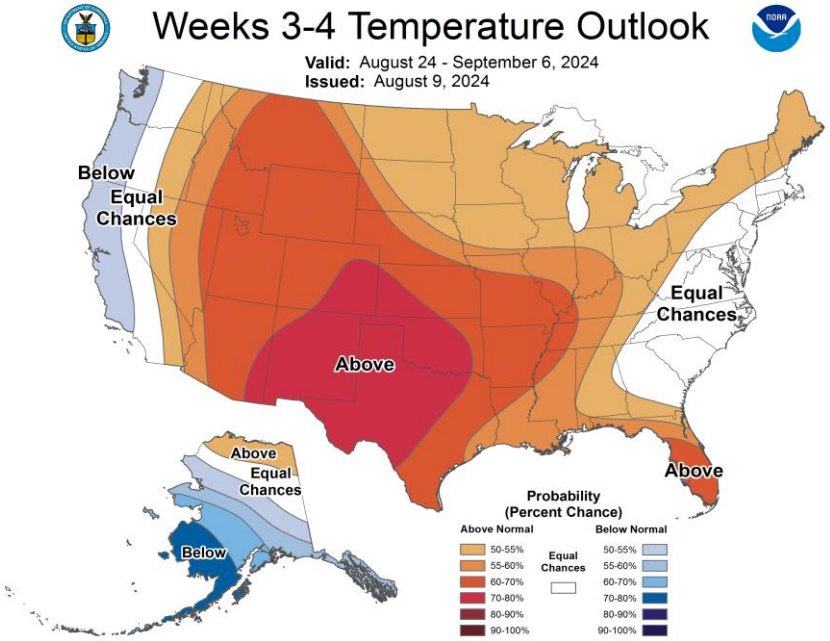
Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3

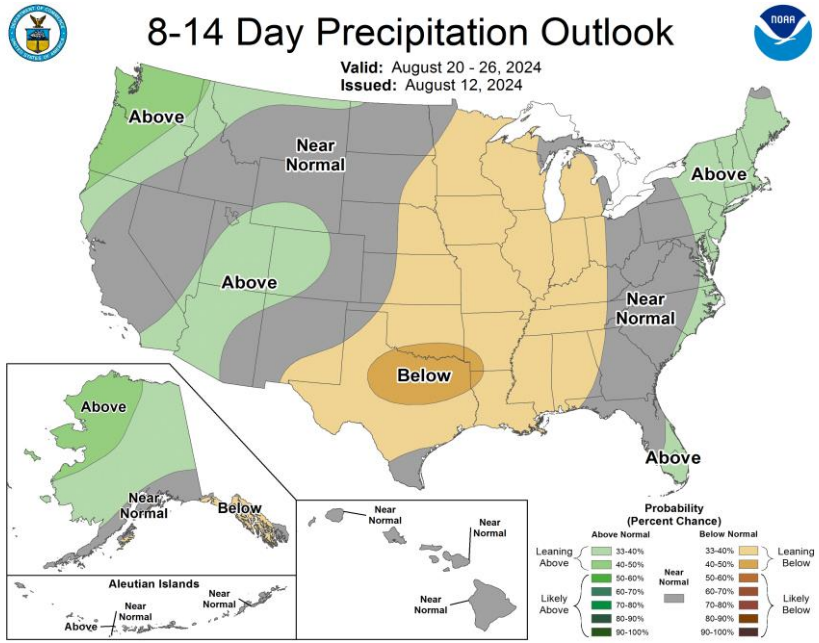


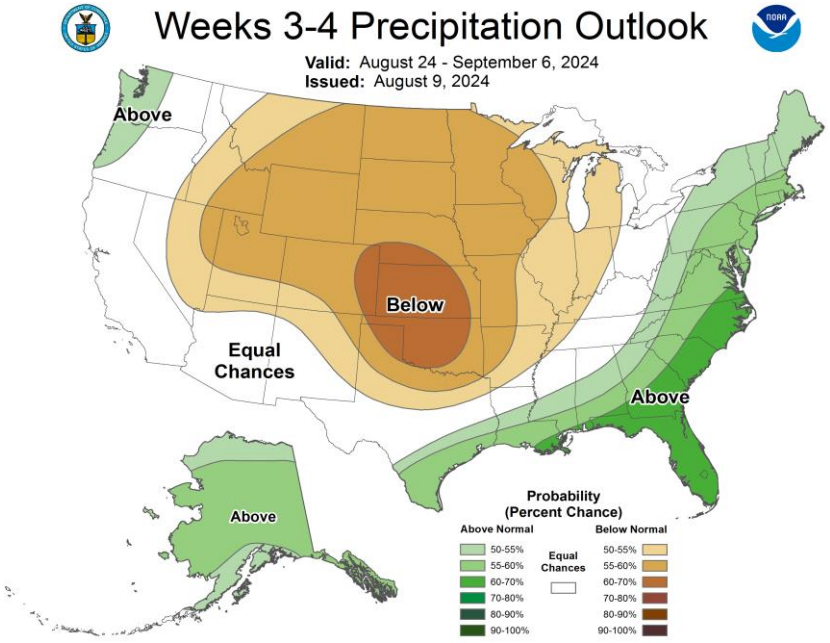


Official Temperature & Precipitation Forecasts:





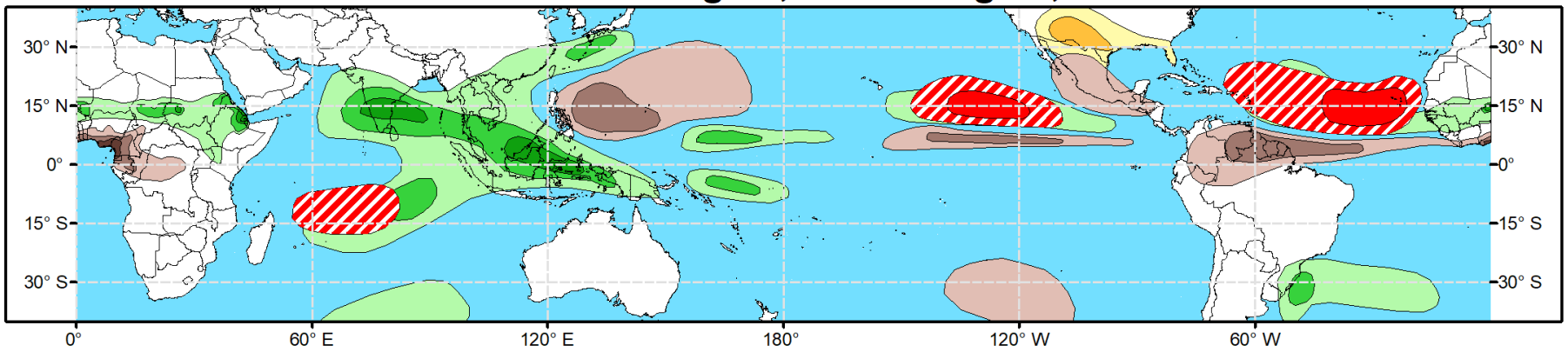




Global Tropics Hazards Outlook

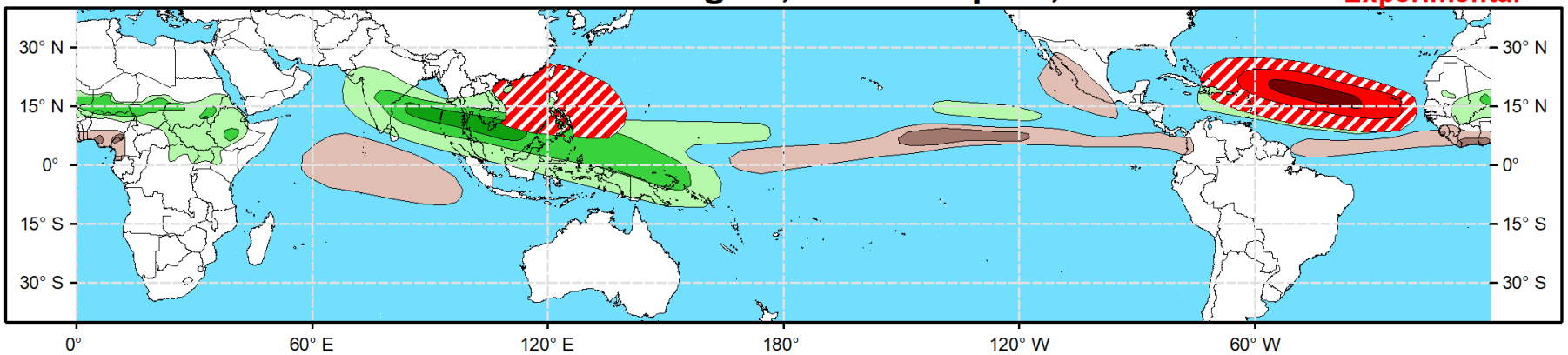
Climate Prediction Center

Week 2 - Valid: Aug 21, 2024 - Aug 27, 2024



Week 3 - Valid: Aug 28, 2024 - Sep 03, 2024

** Experimental **



Tropical Cyclone (TC) Formation Probability

>20% >40% >60%

Tropical Depression (TD) or greater strength

Above-Average Rainfall Probability

>50% >65% >80%

Weekly total rainfall in the Upper third of the historical range

Below-Average Rainfall Probability

>50% >65% >80%

Weekly total rainfall in the Lower third of the historical range

Above-Average Temperatures Probability

>50% >65% >80%

7-day max temperatures in the Upper third of the historical range

Below-Average Temperatures Probability

>50% >65% >80%

7-day min temperatures in the Lower third of the historical range

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