

# Global Tropics Hazards And Benefits Outlook

7/20/2021

Nick Novella

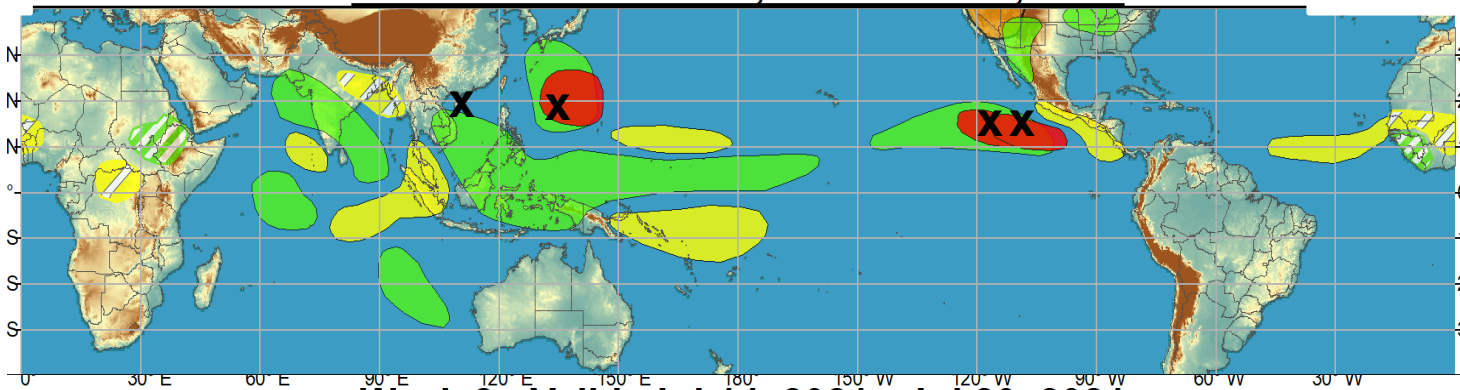
## Outline

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

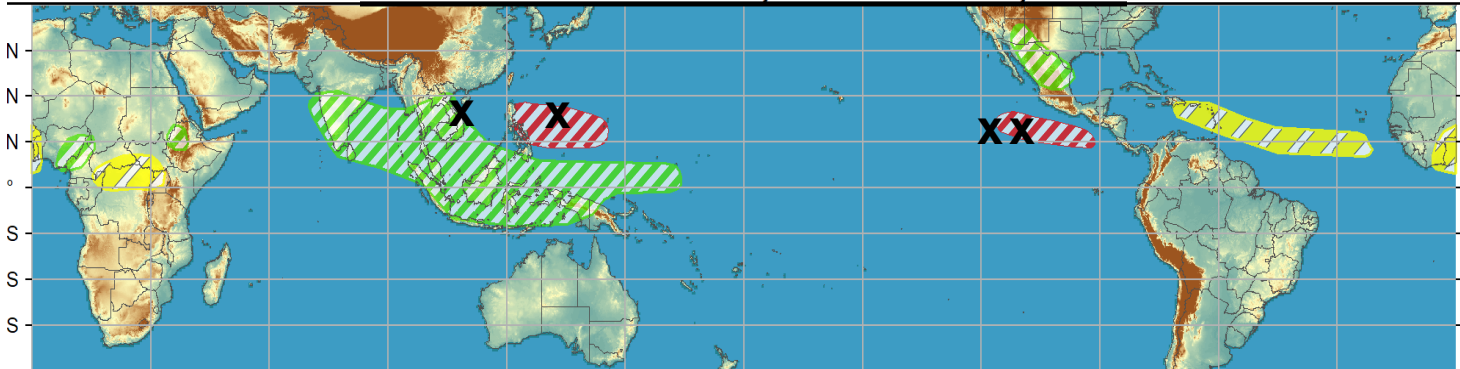
# Outlook Review

Since 7/14:  
 In-fa (WP)  
 Cempaka (WP)  
 Felicia (EP)  
 Guillermo (EP)

**Week 1 - Valid: Jul 14, 2021 - Jul 20, 2021**

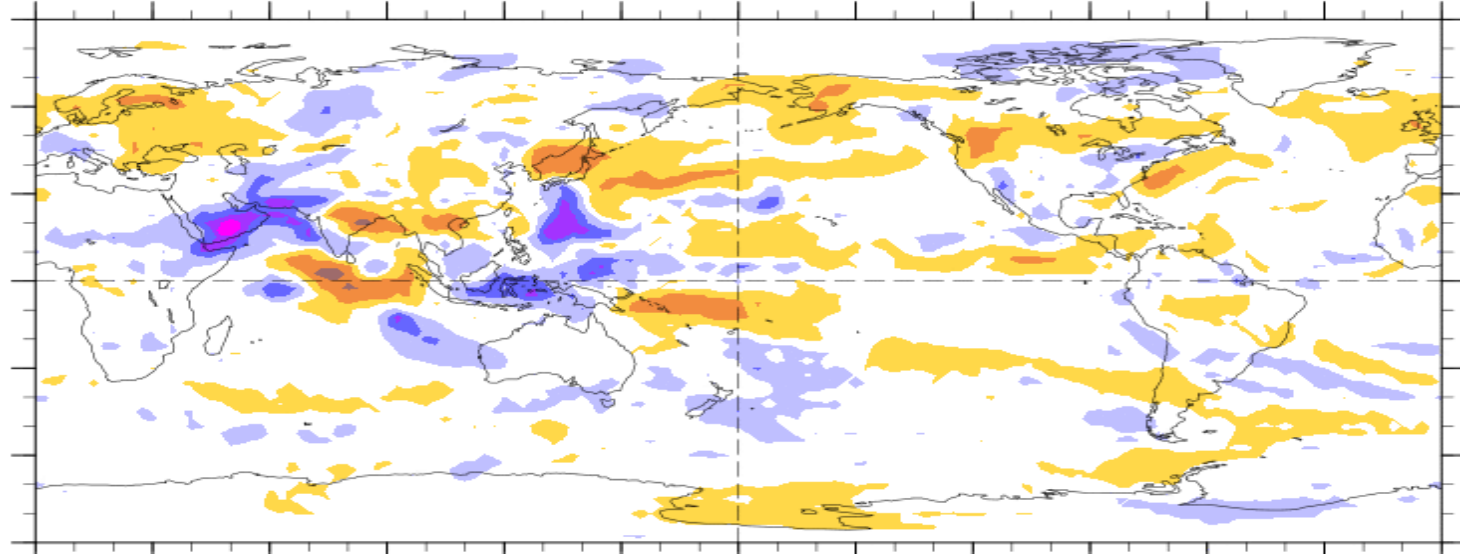


**Week 2 - Valid: Jul 14, 2021 - Jul 20, 2021**



7-Day Average OLR Anomaly

2021/07/12 - 2021/07/18



Cool shading  
 More clouds/rain

Warm shading  
 Less clouds/rain

# Synopsis of Climate Modes

**ENSO: (8 July, 2021 Update)**

*next update on 12<sup>th</sup> of August*

- ENSO Alert System Status: [La Niña Watch](#)
- ENSO-neutral is favored through the Northern Hemisphere summer and into the fall (51% chance for ASO), with La Niña potentially emerging during the SON season and lasting through the winter (66% chance for NDJ).

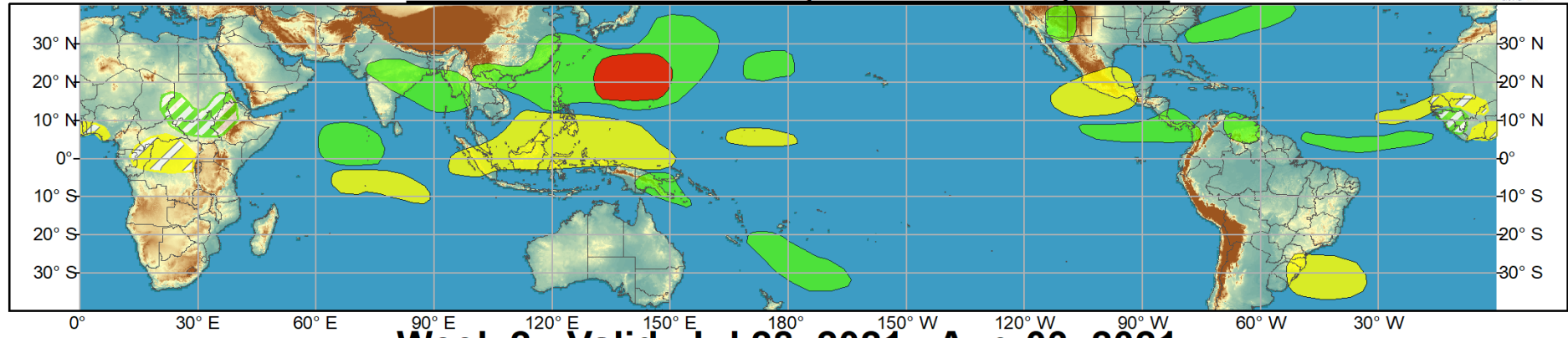
## **MJO and other subseasonal tropical variability:**

- The MJO remains active with the enhanced (suppressed) phase centered over the Maritime Continent (Western Hemisphere).
- Dynamical models favor the MJO to continue propagating eastward across the Maritime Continent and into the West Pacific during the next two weeks. However, there are disagreements in the models regarding how progressive the MJO will be during week-2.
- Additional TC activity is favored across the West Pacific during the next two weeks, and extending into the East Pacific during week-2 as the large-scale circulation becomes more favorable for TC development. TC activity in the Atlantic is favored to remain quiet through the remainder of July.

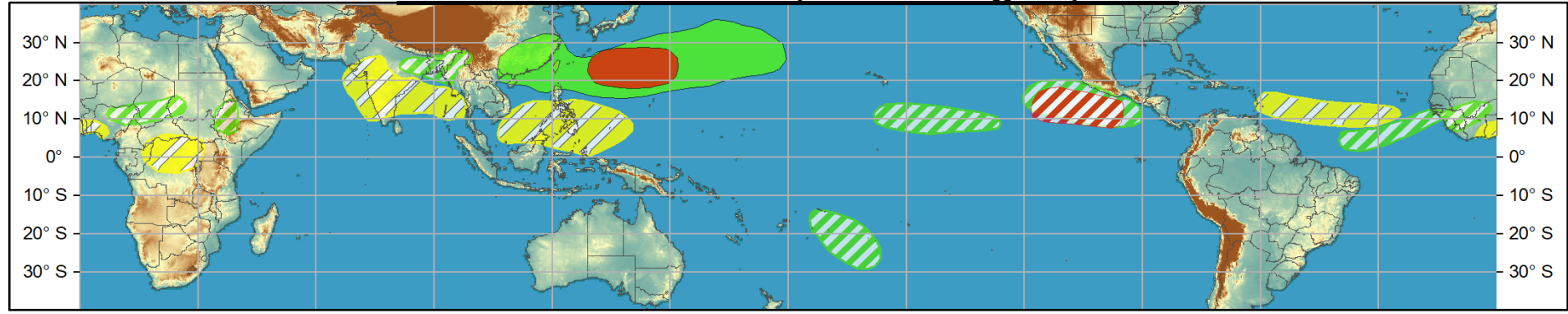


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Jul 21, 2021 - Jul 27, 2021



## Week 2 - Valid: Jul 28, 2021 - Aug 03, 2021



Produced: 07/20/2021  
Forecaster: Novella

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.

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# IR Satellite & 200-hpa Velocity Potential Anomalies

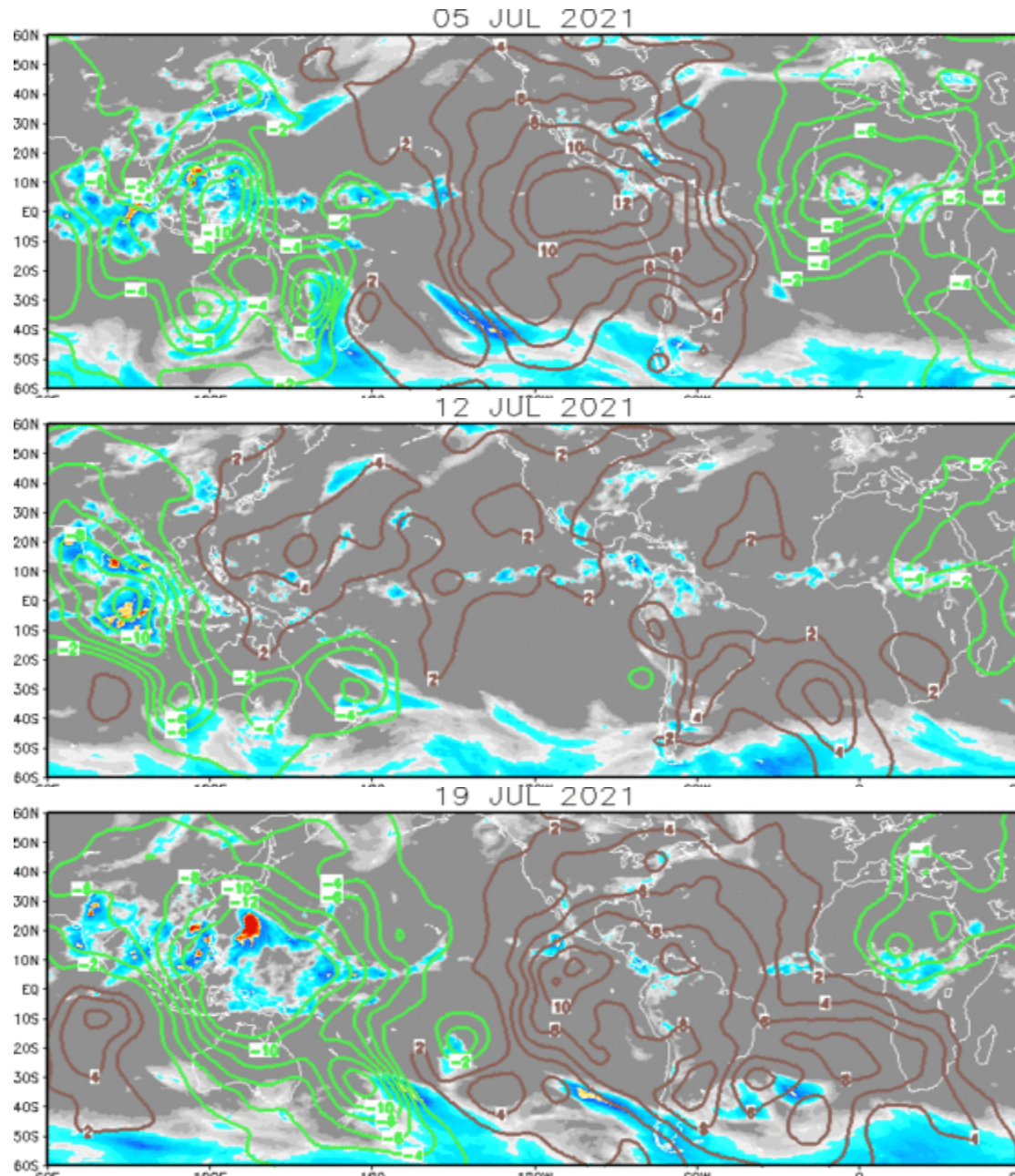
Green: Enhanced Divergence

Brown: Enhanced Convergence

By the beginning of July, a wave-1 pattern emerged which is more consistent with a MJO.

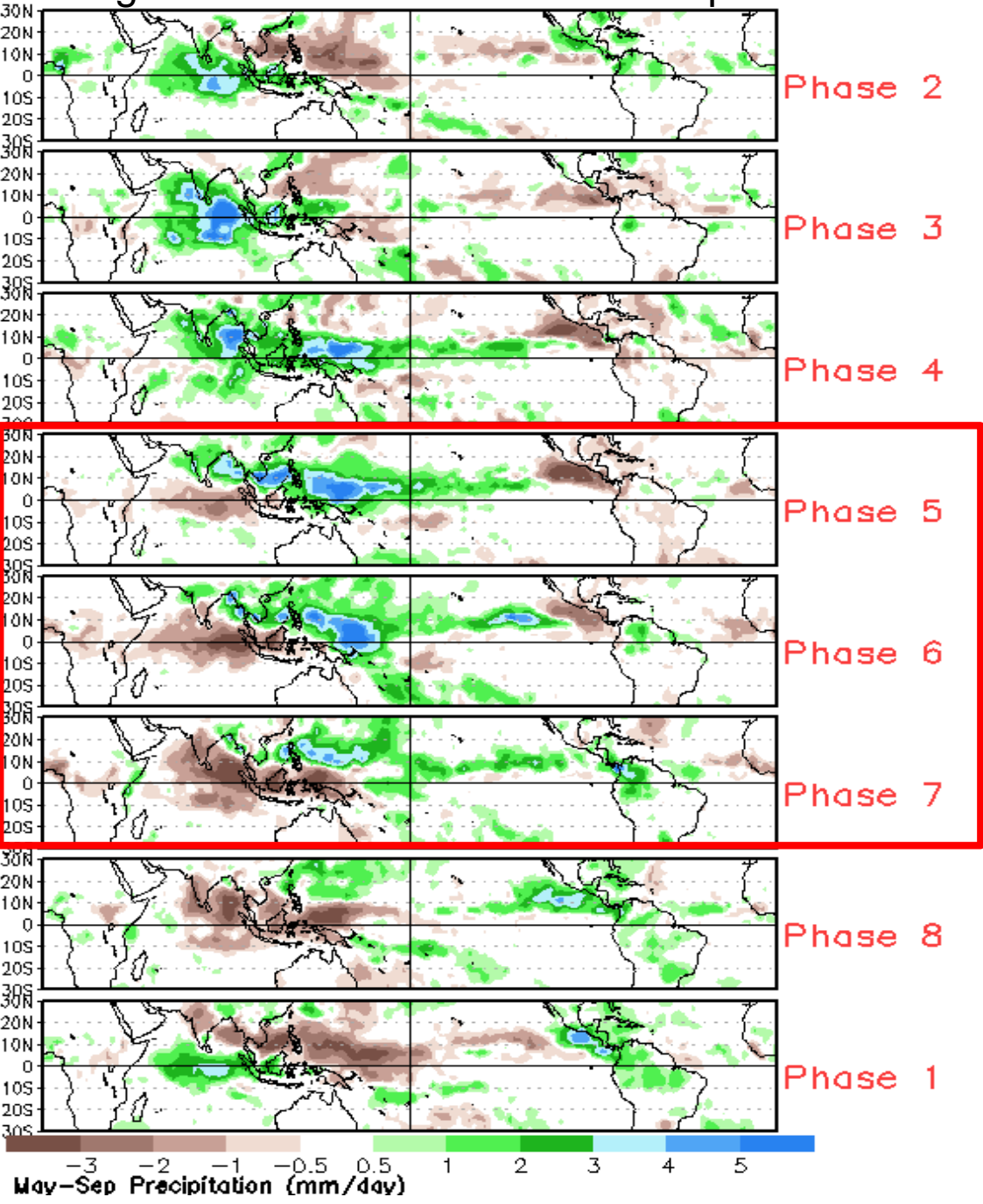
Enhanced conditions persist over the Indian Ocean, with weaker suppressed conditions over the Americas likely tied to the passage of a Kelvin Wave.

Enhanced phase shifted east to the Maritime Continent with suppressed conditions strengthening over the Americas during the last week.





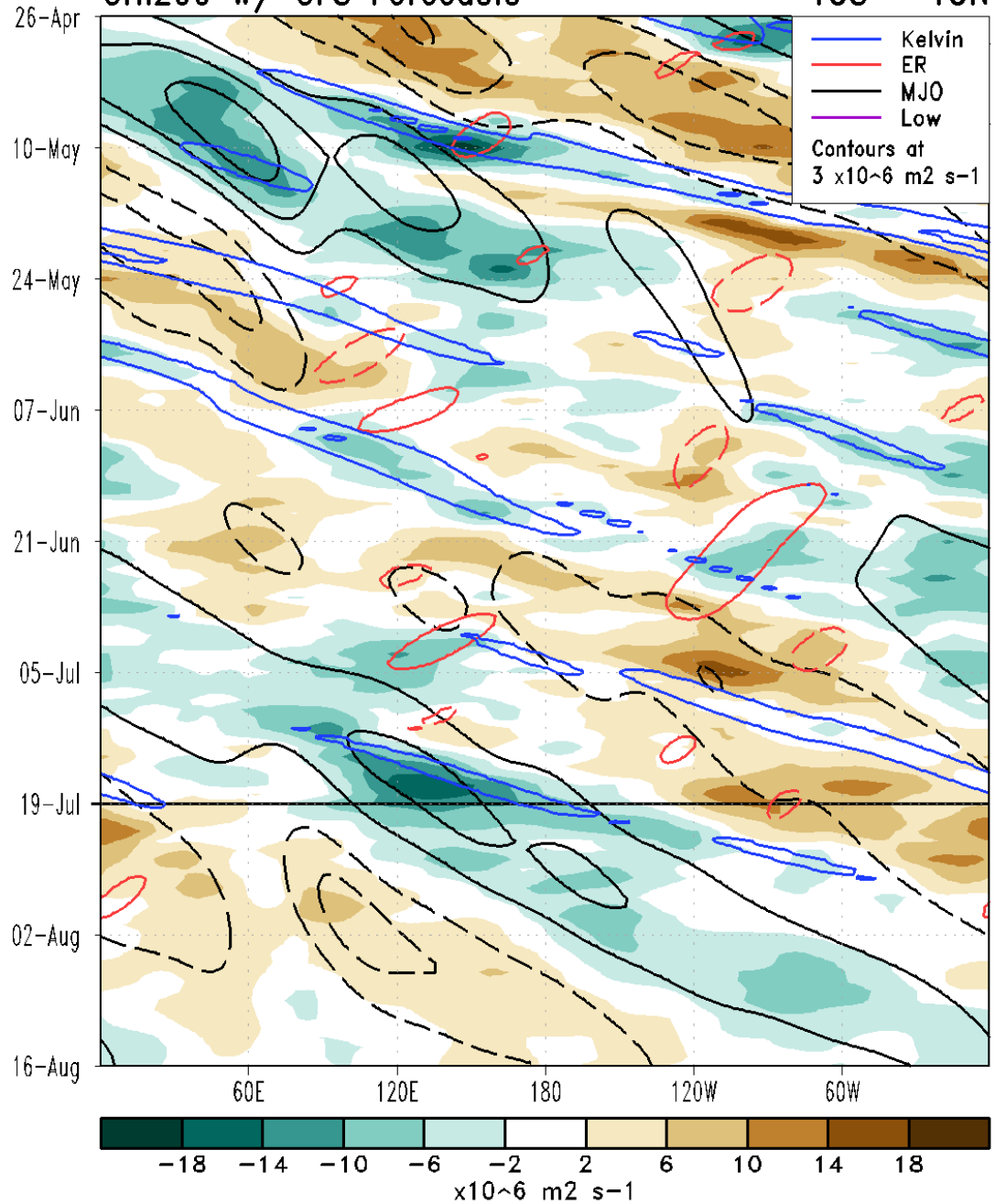
# Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

# CHI200 w/ CFS Forecasts

15S - 15N



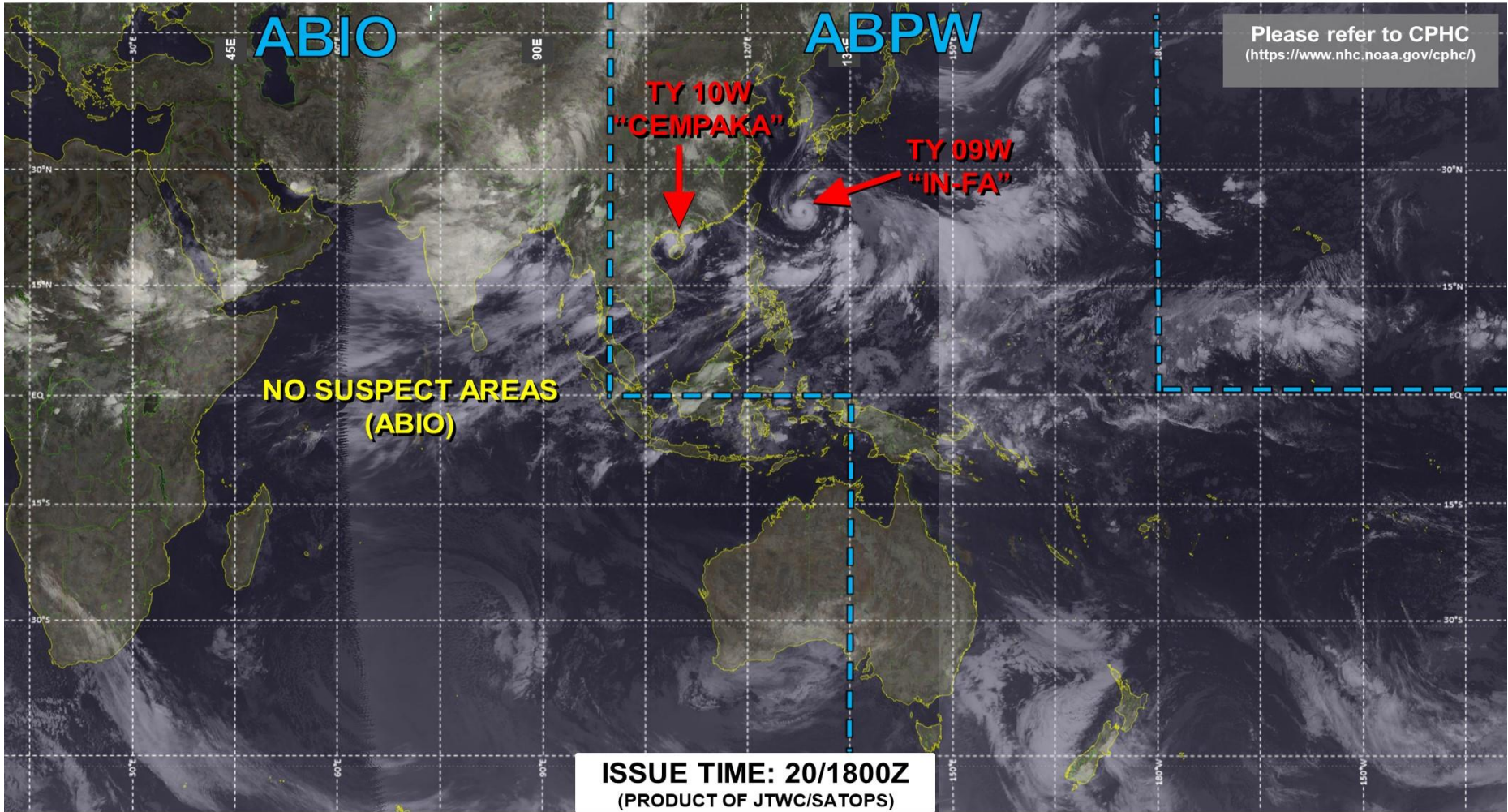
**MJO** activity is coming through the filtering in the VP field.

**Kelvin wave** activity over may also aid in TC formation in East Pacific later in July.





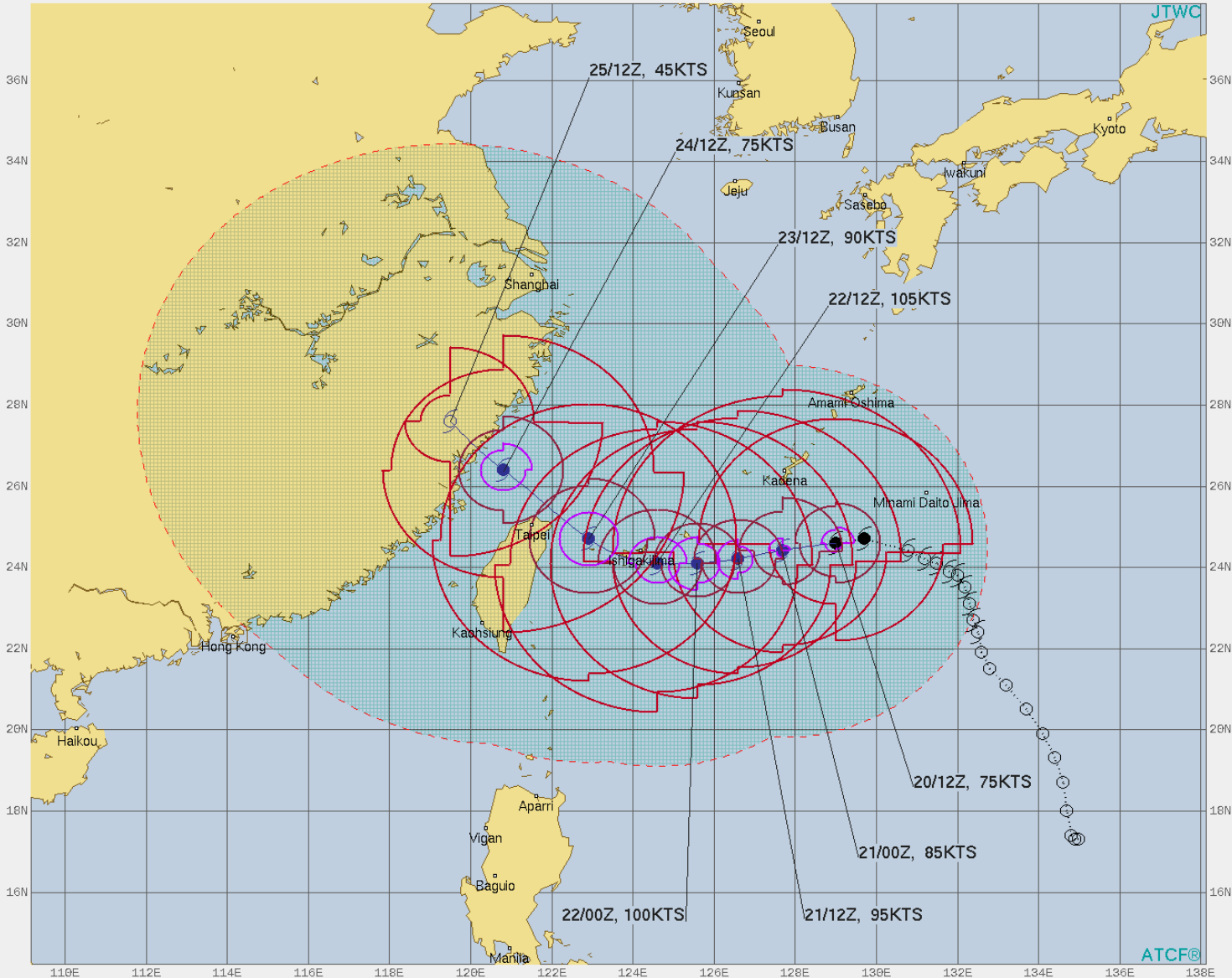
# JOINT TYPHOON WARNING CENTER



Please refer to CPHC  
(<https://www.nhc.noaa.gov/cphc/>)

**ISSUE TIME: 20/1800Z**  
(PRODUCT OF JTWC/SATOPS)

 <b>LOW</b> TC development unlikely within 24 hours	 <b>MEDIUM</b> TC development likely, but expected to occur beyond 24 hours	 <b>HIGH</b> TC development likely within 24 hours (Reference TCFA)	 <b>SUB TROPICAL</b> Monitoring for potential transition to TC. Invest label color denotes tropical transition probability	 Tropical Cyclone (Reference Warning)
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**TYPHOON 09W (IN-FA) WARNING #18**  
 WTPN31 PGTW 201500  
 201200Z POSIT: NEAR 24.6N 129.0E  
 MOVING 260 DEGREES TRUE AT 06 KNOTS  
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 36 FEET  
 20/12Z, WINDS 075 KTS, GUSTS TO 090 KTS  
 21/00Z, WINDS 085 KTS, GUSTS TO 105 KTS  
 21/12Z, WINDS 095 KTS, GUSTS TO 115 KTS  
 22/00Z, WINDS 100 KTS, GUSTS TO 125 KTS  
 22/12Z, WINDS 105 KTS, GUSTS TO 130 KTS  
 23/12Z, WINDS 090 KTS, GUSTS TO 110 KTS  
 24/12Z, WINDS 075 KTS, GUSTS TO 090 KTS  
 25/12Z, WINDS 045 KTS, GUSTS TO 055 KTS

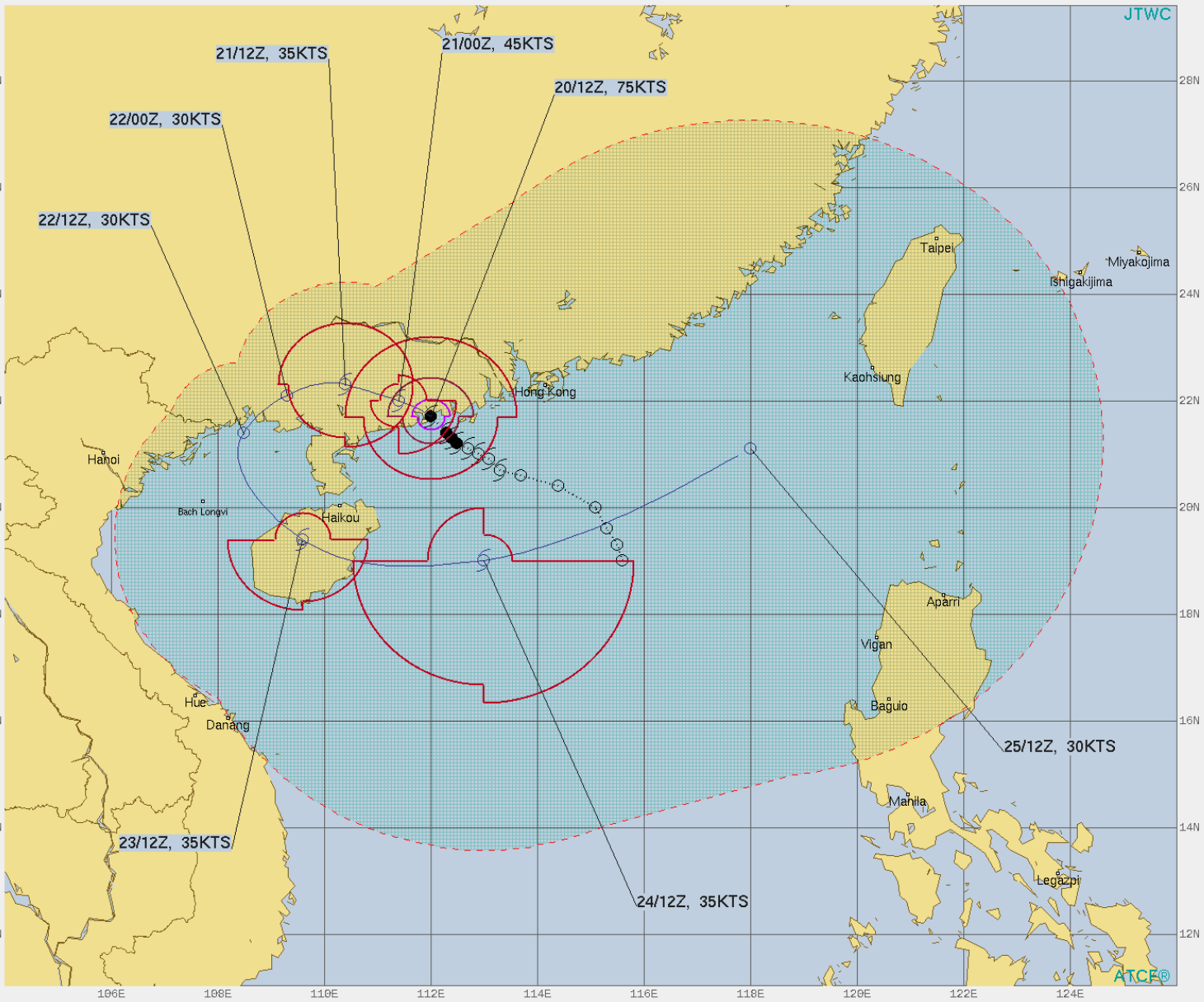
OPA TO:	NM	DTG
KADENA_AB	119	07/20/21Z
KAOHSIUNG	187	07/23/17Z
TAIPEI	30	07/23/23Z
SHANGHAI	240	07/25/12Z

BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
KADENA_AB	149	126	0
OKIDAITO_JIMA	273	120	0
MINAMIDAITO_JIMA	239	139	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)



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**TYPHOON 10W (CEMPAKA) WARNING #9**  
 WTPN32 PGTW 201500  
 201200Z POSIT: NEAR 21.7N 112.0E  
 MOVING 315 DEGREES TRUE AT 04 KNOTS  
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 26 FEET  
 20/12Z, WINDS 075 KTS, GUSTS TO 090 KTS  
 21/00Z, WINDS 045 KTS, GUSTS TO 055 KTS  
 21/12Z, WINDS 035 KTS, GUSTS TO 045 KTS  
 22/00Z, WINDS 030 KTS, GUSTS TO 040 KTS  
 22/12Z, WINDS 030 KTS, GUSTS TO 040 KTS  
 23/12Z, WINDS 035 KTS, GUSTS TO 045 KTS  
 24/12Z, WINDS 035 KTS, GUSTS TO 045 KTS  
 25/12Z, WINDS 030 KTS, GUSTS TO 040 KTS

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CPA TO:	NM	DTG
HANOI	140	07/22/17Z
DA NANG	214	07/23/15Z
SUBIC_BAY	390	07/25/07Z
CLARK_AB	380	07/25/09Z
KAOHSIUNG	157	07/25/12Z
TAIPEI	308	07/25/12Z

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BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
HANOI	062	343	0
HONG_KONG	254	128	0

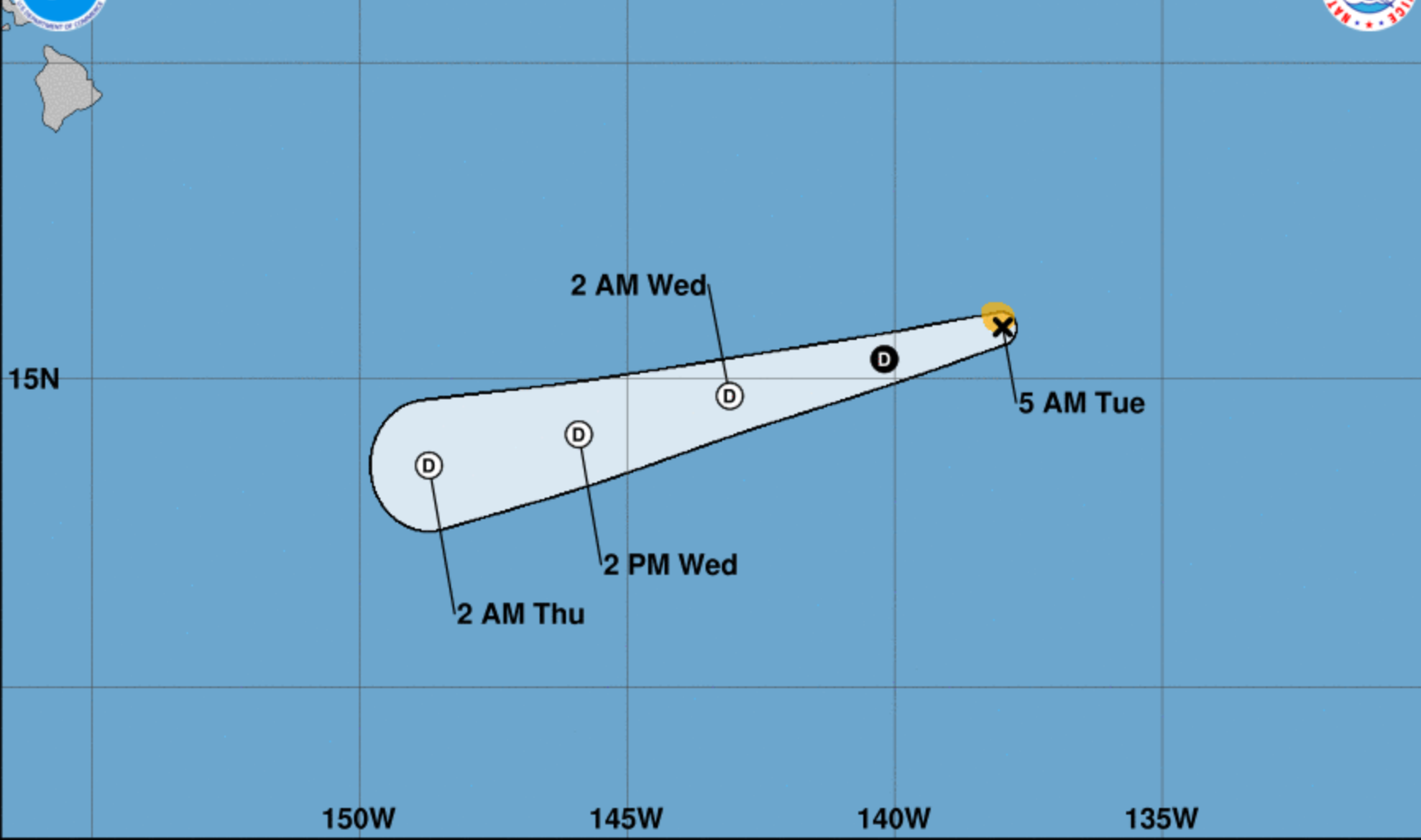
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○ ○ ○ ○ ○ LESS THAN 34 KNOTS  
 ○ ○ ○ ○ ○ 34-63 KNOTS  
 ● ● ● ● ● MORE THAN 63 KNOTS  
 ———— FORECAST CYCLONE TRACK  
 - - - - - PAST CYCLONE TRACK  
 ■ ■ ■ ■ ■ DENOTES 34 KNOT WIND DANGER AREA/USN SHIP AVOIDANCE AREA  
 ○ ○ ○ ○ ○ FORECAST 34/50/64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



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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.



**Tropical Storm Felicia**  
 Tuesday July 20, 2021  
 5 AM HST Advisory 26  
 NWS National Hurricane Center

**Current information: x**  
 Center location 15.8 N 138.0 W  
 Maximum sustained wind 40 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:**



**Watches:**



**Warnings:**

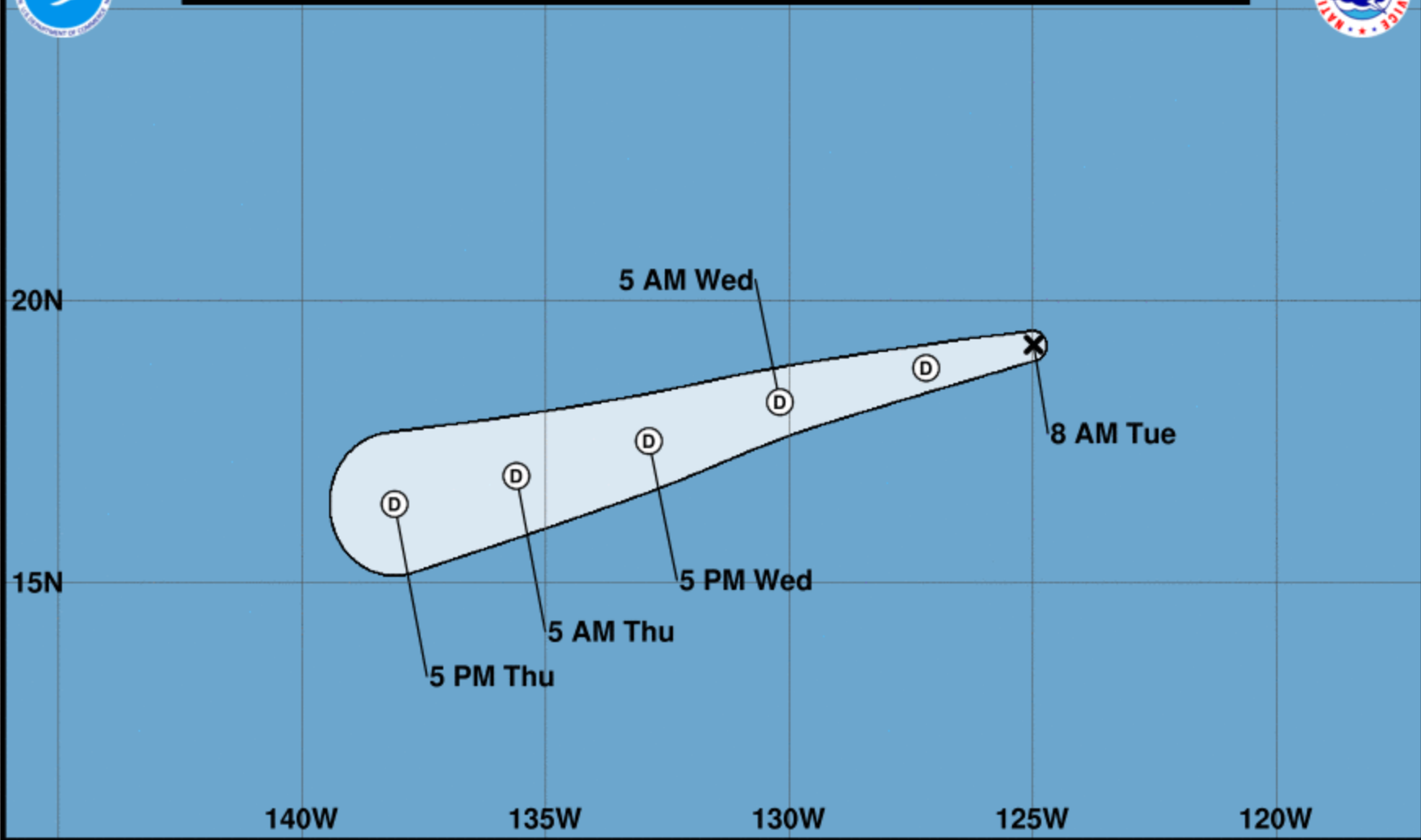


**Current wind extent:**





**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.**



**Tropical Depression Guillermo**  
 Tuesday July 20, 2021  
 8 AM PDT Advisory 13  
 NWS National Hurricane Center

**Current information: x**  
 Center location 19.2 N 125.0 W  
 Maximum sustained wind 35 mph  
 Movement W at 17 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:**



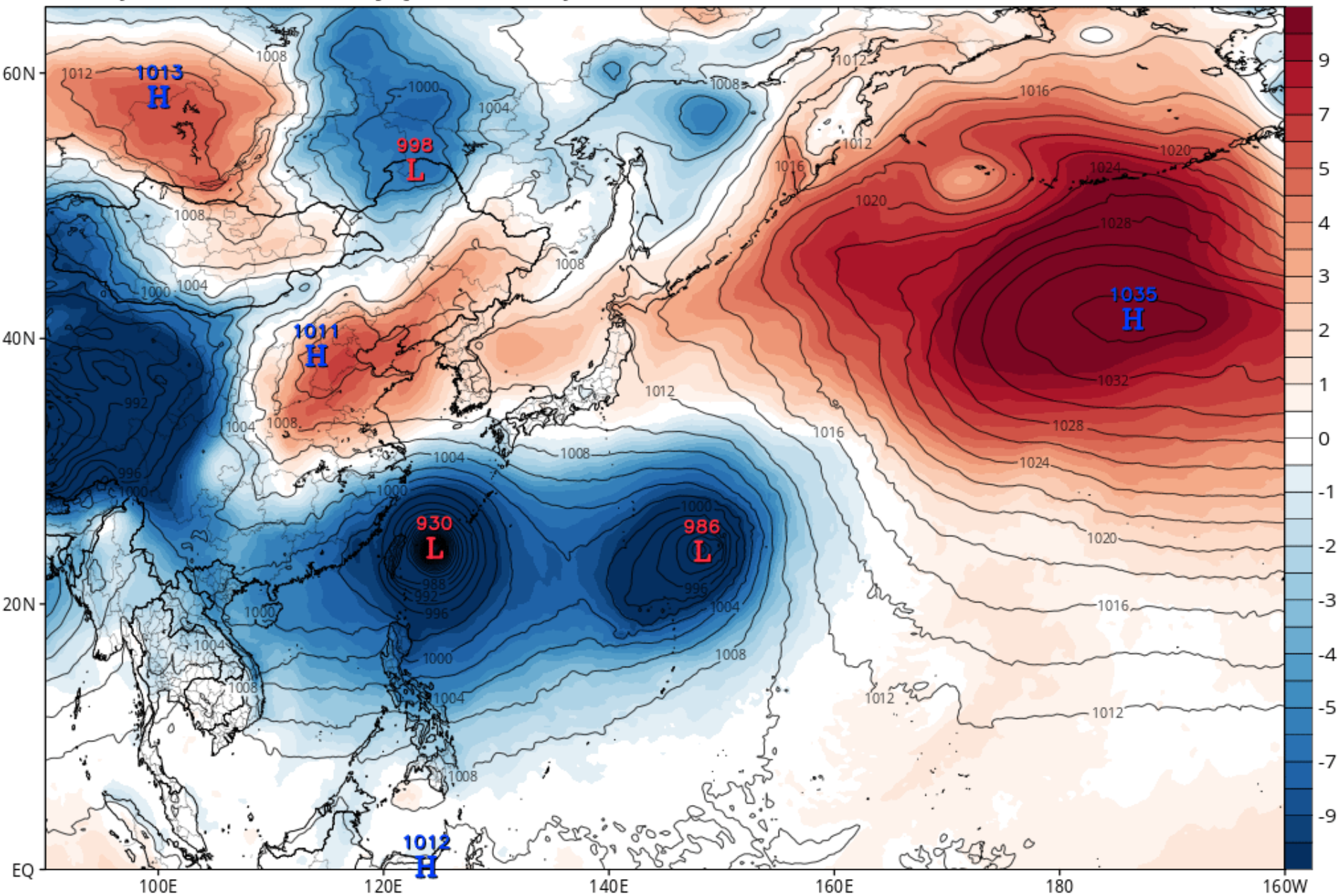
**Current wind extent:**



# GFS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

Init: 12z Jul 20 2021 Forecast Hour: [60] valid at 00z Fri, Jul 23 2021

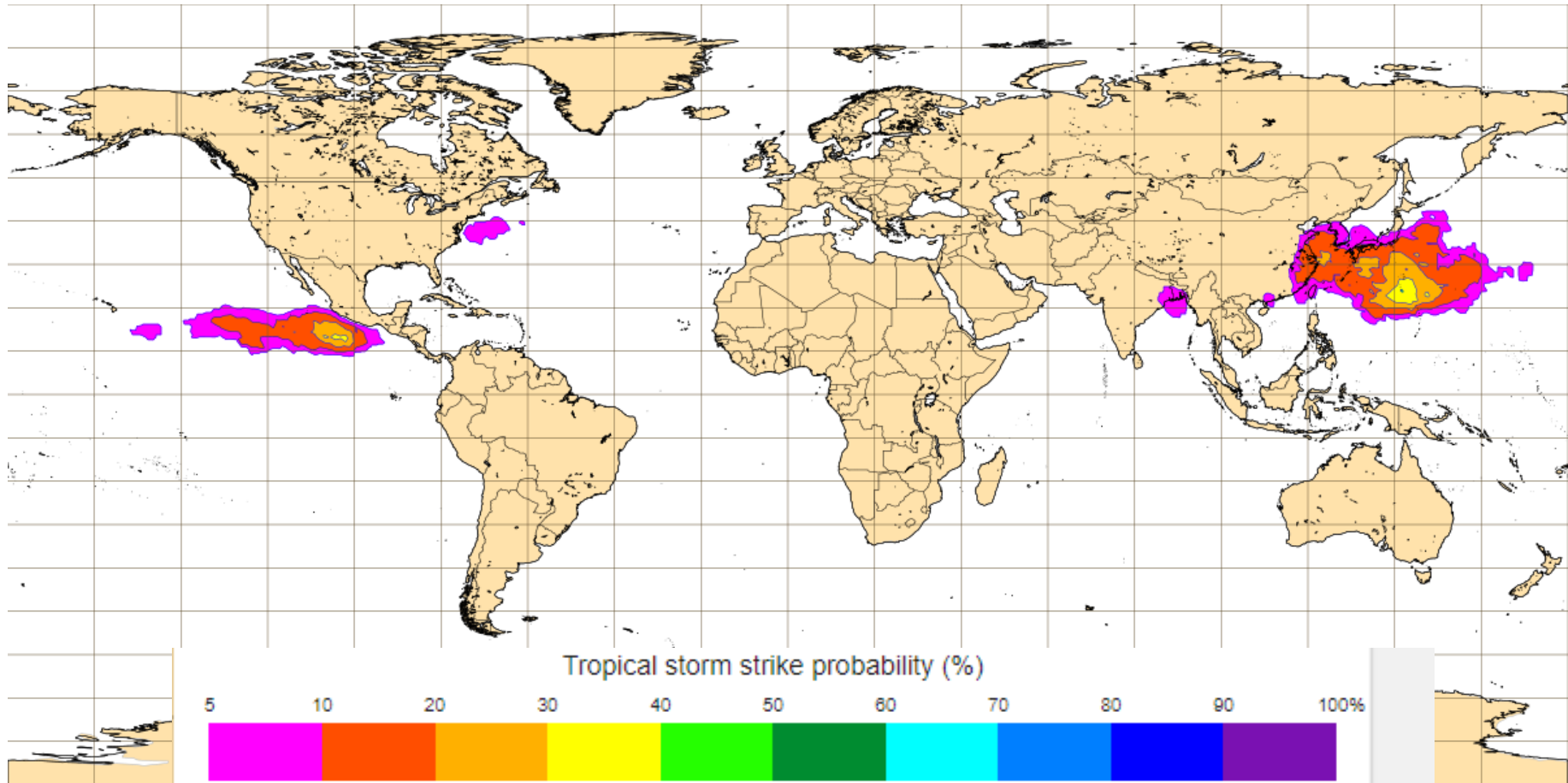
TROPICALTIDBITS.COM



# ECMWF TC Prob Tool

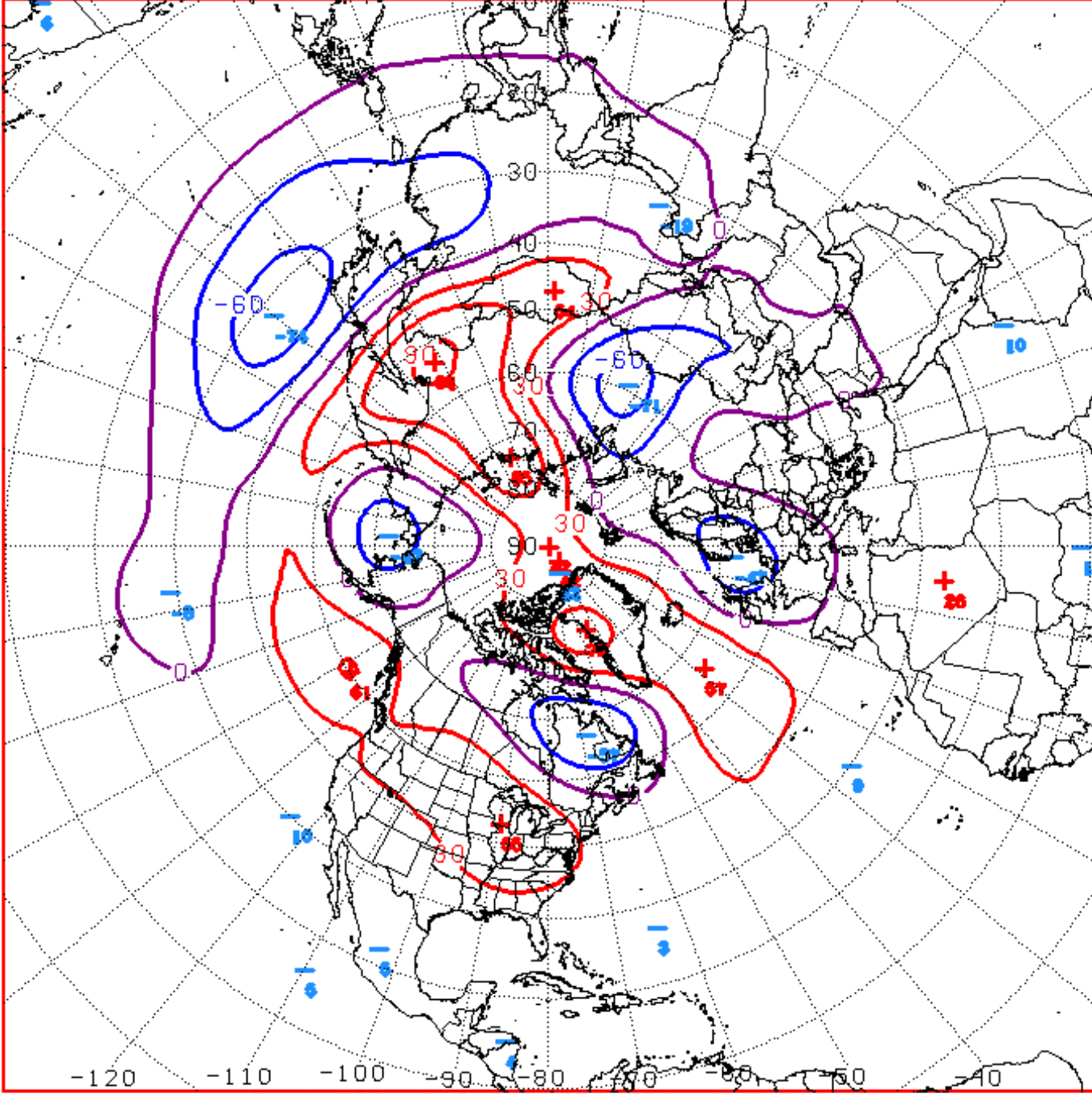
Init: 20 July

Valid 31 July



# Connections to U.S. Impacts

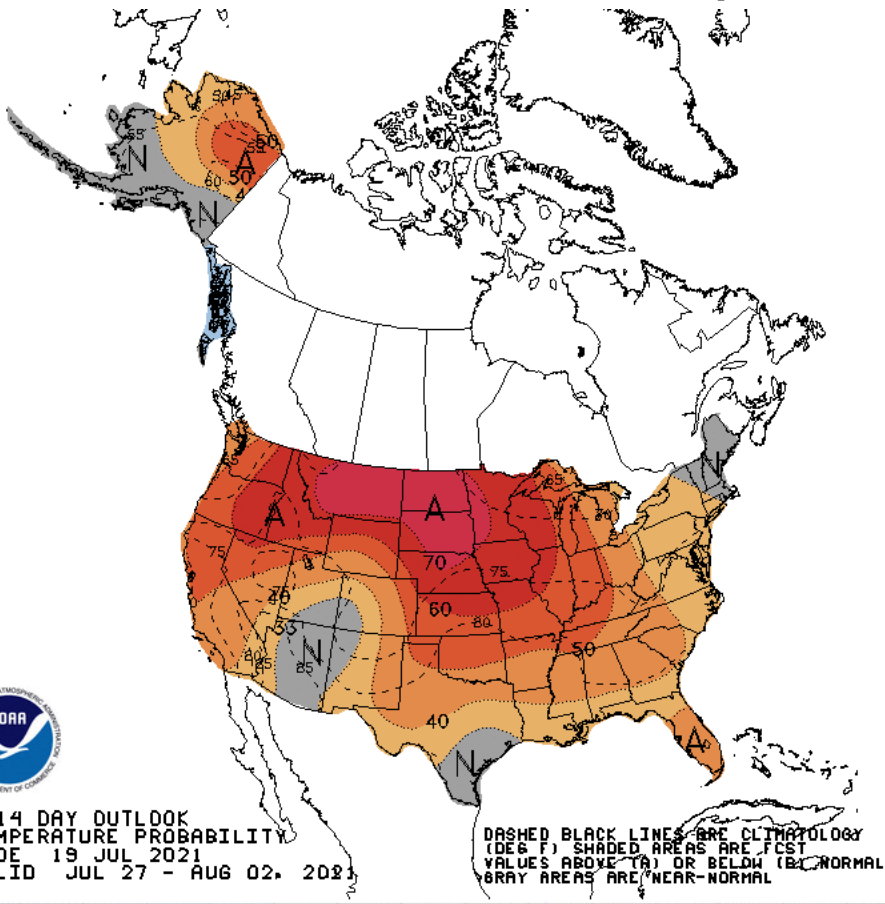




-120 -110 -100 -90 -80 -70 -60 -50

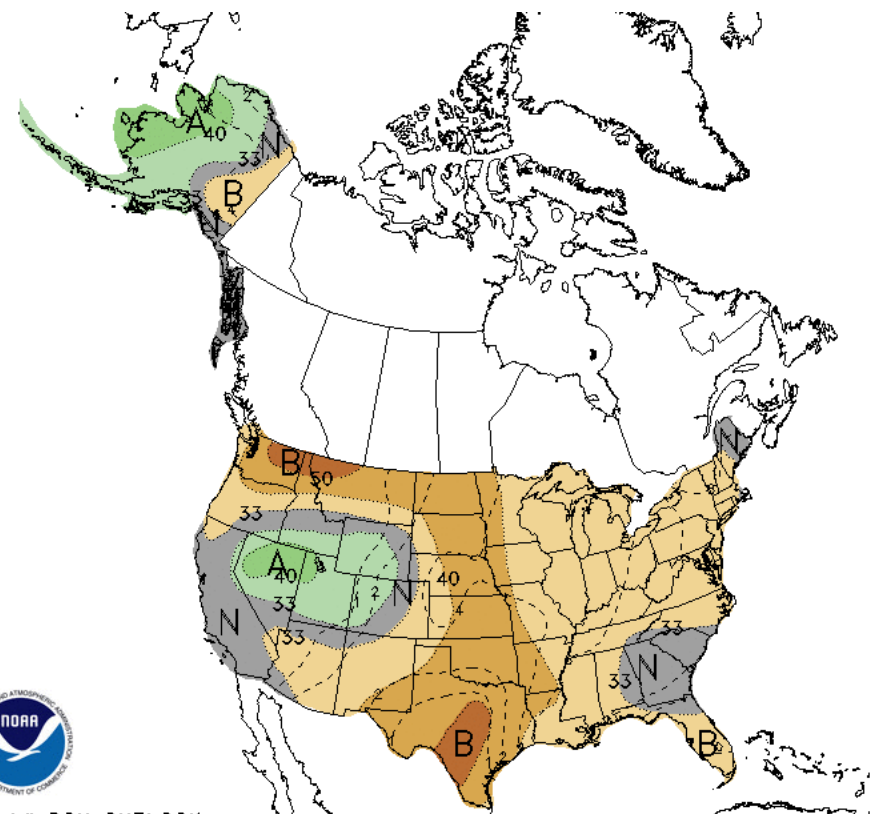
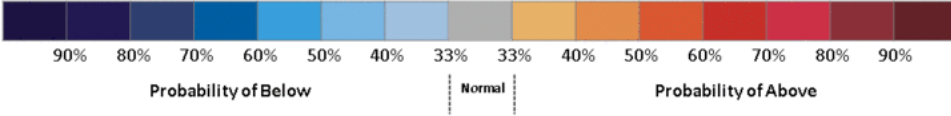
D+11 500 MB ANOMALIES FROM ALZ ENSM  
CPC MAP MADE JUL 20 2021 1401 UTC CNTD JUL 31 2021

# Week 2 – Temperature and Precipitation



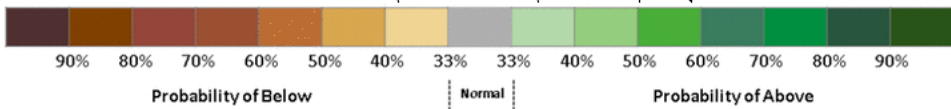
8-14 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 19 JUL 2021  
VALID JUL 27 - AUG 02, 2021

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



8-14 DAY OUTLOOK  
PRECIPITATION PROBABILITY  
MADE 19 JUL 2021  
VALID JUL 27 - AUG 02, 2021

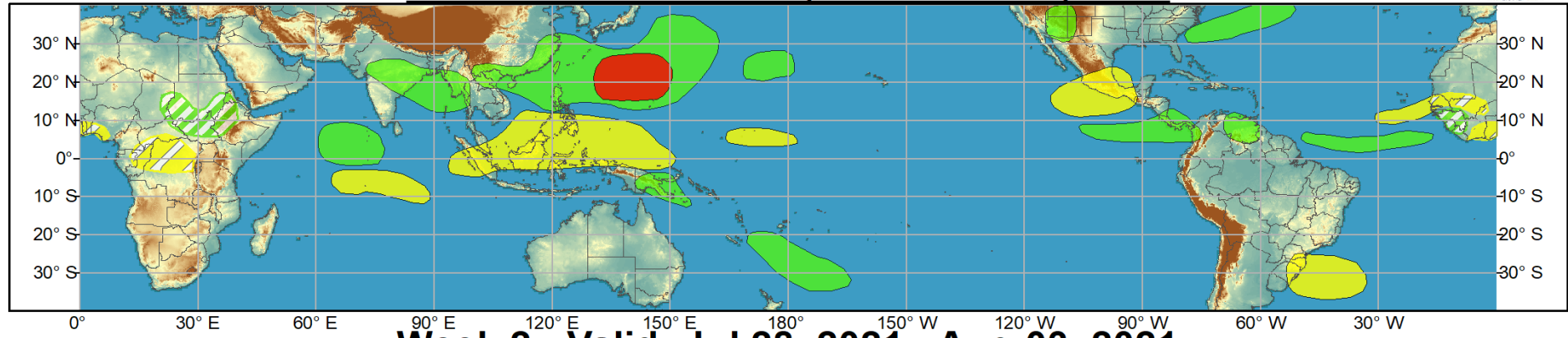
DASHED BLACK LINES ARE CLIMATE  
NORMALS (TENTHS OF INCHES). SHADED AREAS ARE FCST  
VALUES ABOVE (A) OR BELOW (B) NORMAL  
GRAY AREAS ARE NEAR-NORMAL



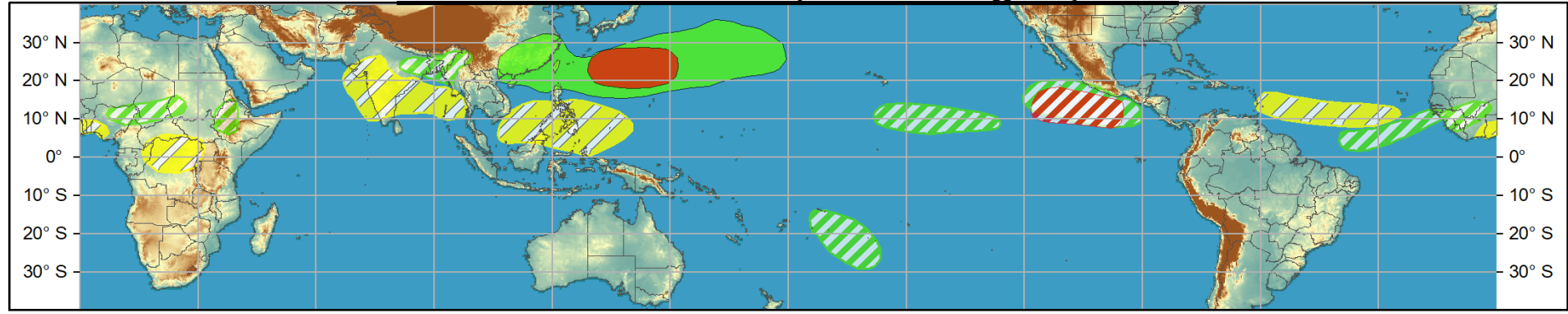


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