

Global Tropics Hazards And Benefits Outlook

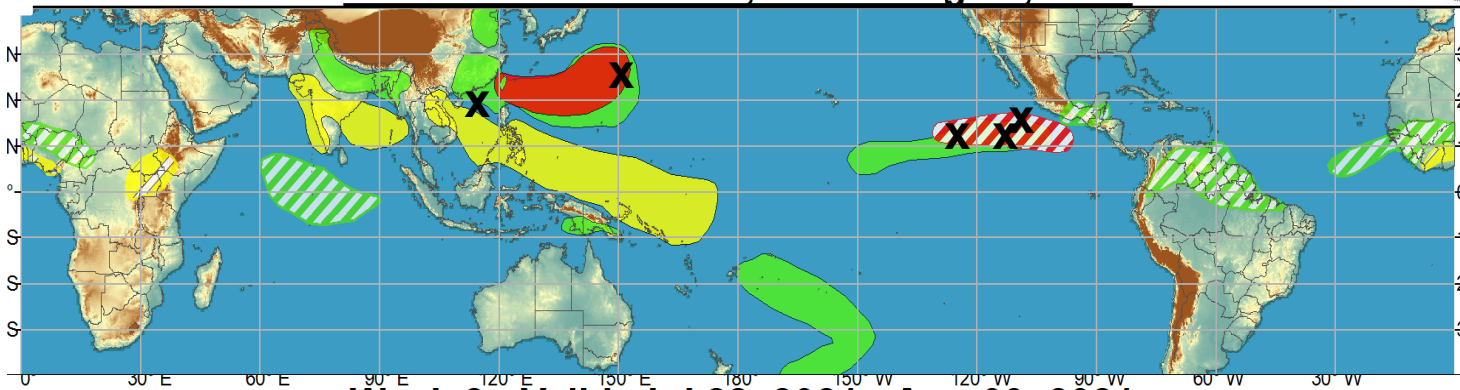
8/3/2021

Nick Novella

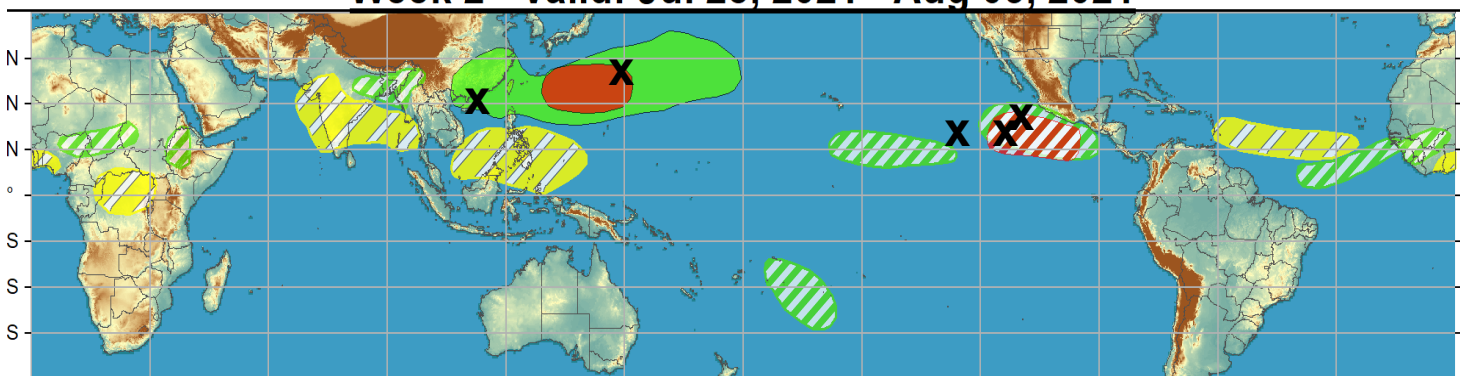
Outline

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

Week 1 - Valid: Jul 28, 2021 - Aug 03, 2021

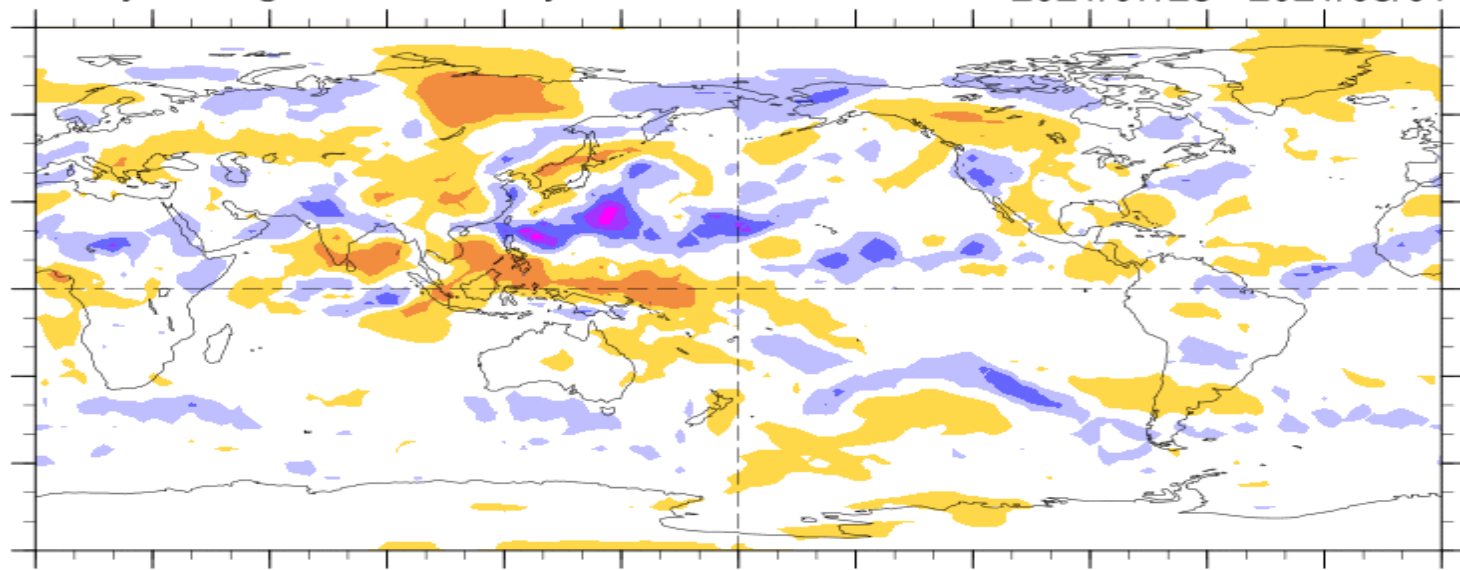


Week 2 - Valid: Jul 28, 2021 - Aug 03, 2021



7-Day Average OLR Anomaly

2021/07/26 - 2021/08/01



Outlook Review

TC's formed since 7/28:

- TD13 (WPAC)
- TD12 (WPAC)
- TD9 (EPAC)
- Hilda (EPAC)
- Ignacio (EPAC)

Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (July 8, 2021 Update)

next update on 12th of Aug.!

- ENSO Alert System Status: [La Niña Watch](#)
- ENSO-neutral is favored through the Northern Hemisphere summer and into the fall (51% chance for the August-October season), with La Niña potentially emerging during the September-November season and lasting through the 2021-22 winter (66% chance during November-January).

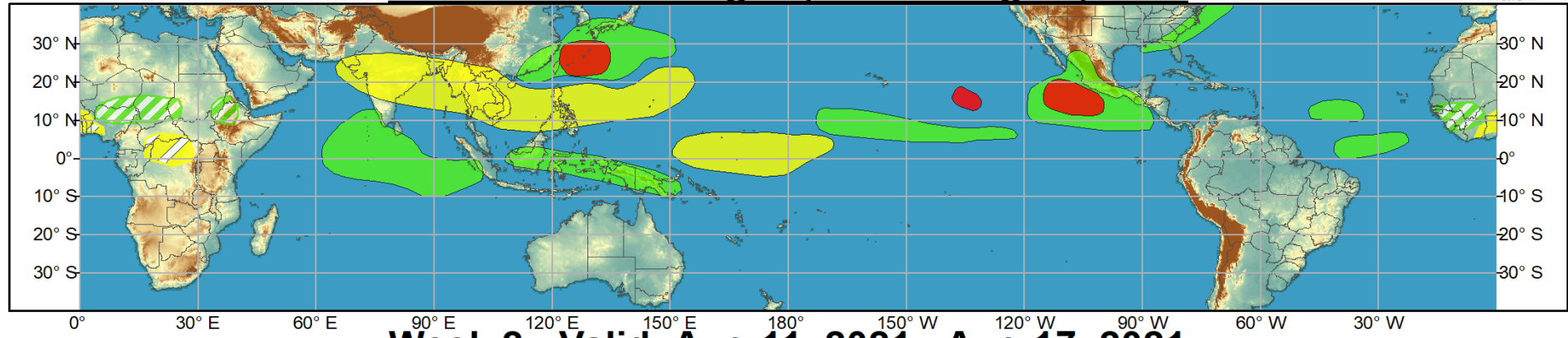
MJO and other subseasonal tropical variability:

- Both atmospheric Kelvin wave and MJO activity are present in the tropics, with the enhanced phase entering the Western Hemisphere during last week.
- RMM forecasts favor the continued eastward propagation of the MJO while a briefly decreasing in amplitude during week-1, followed by a strengthening of the signal over the Western Hemisphere and into the Indian Ocean during week-2.
- The large scale environment is expected to be conducive for continues (weakening) tropical cyclone activity over the East (West) Pacific, with increasing chances for development in the tropical Atlantic during the outlook period.

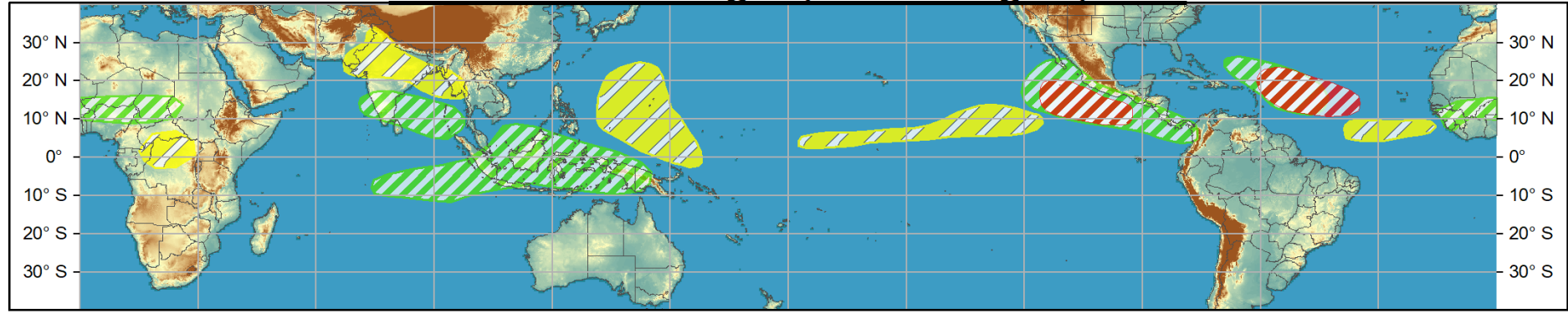


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Aug 04, 2021 - Aug 10, 2021



Week 2 - Valid: Aug 11, 2021 - Aug 17, 2021



Produced: 08/03/2021
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.

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

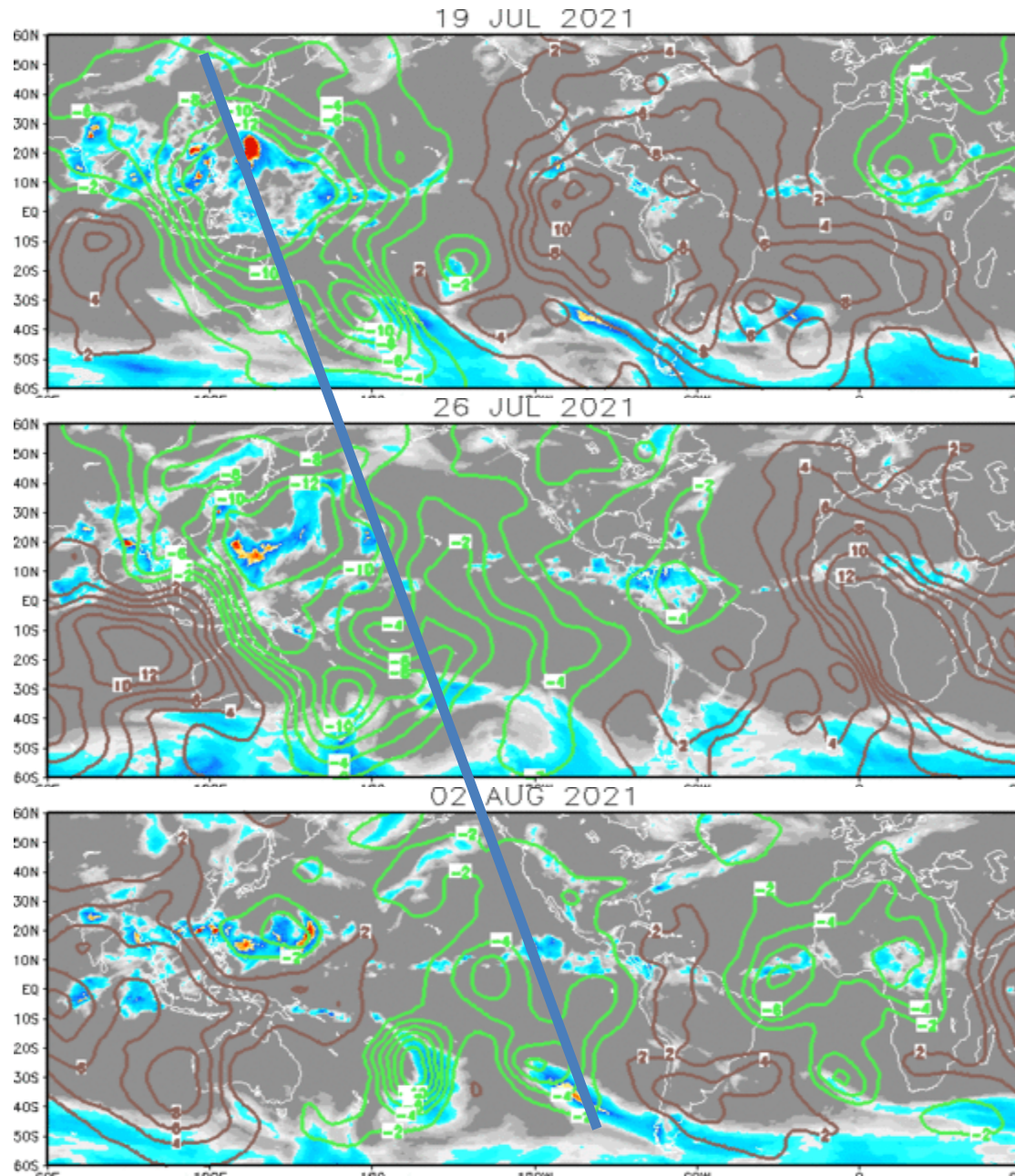
Green: Enhanced Divergence

Brown: Enhanced Convergence

Well organized MJO crossing the Maritime Continent, with monsoonal interactions and tropical cyclones resulting in areas of copious rainfall.

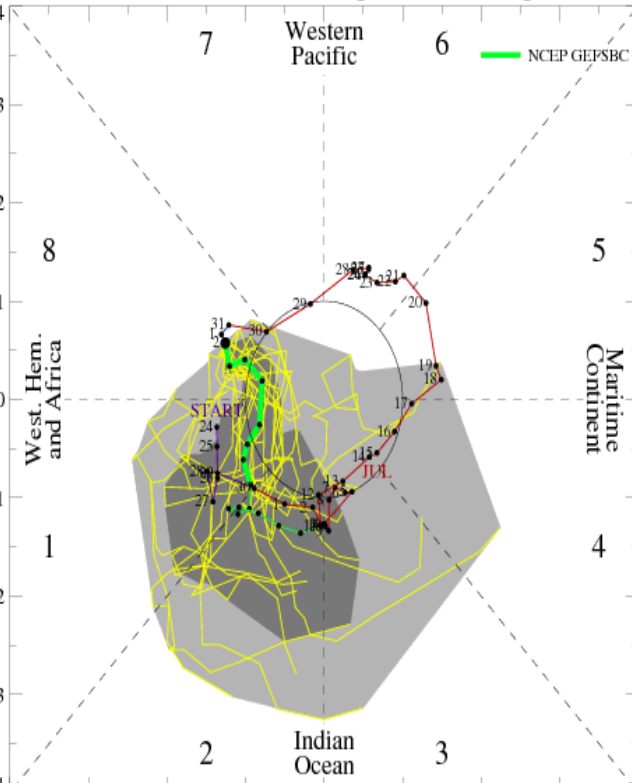
As the MJO moved to the Pacific, the enhanced phase became more elongated as a Kelvin wave over the East Pacific begins to separate from the main envelope.

This Kelvin wave detached (now near the Prime Meridian) from the main envelope has entered the Western Hemisphere with suppressed conditions also shifting eastward with time.

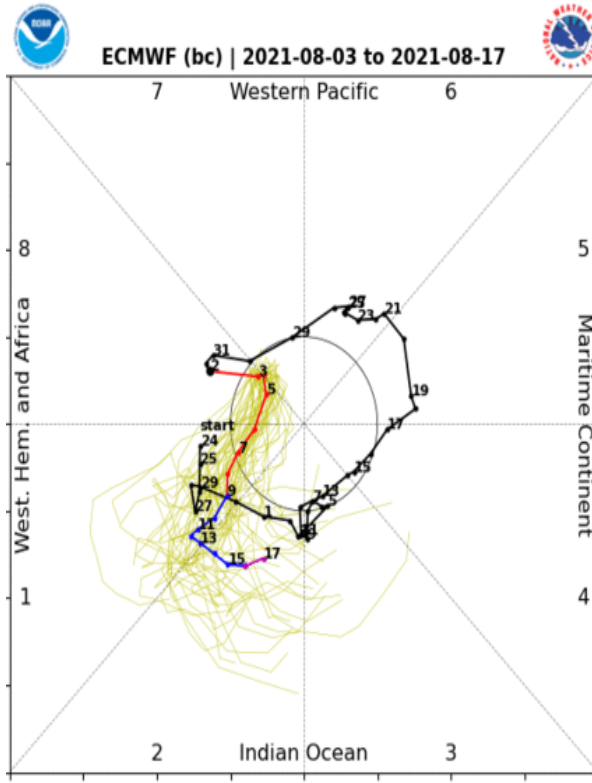


MJO Observation/Forecast

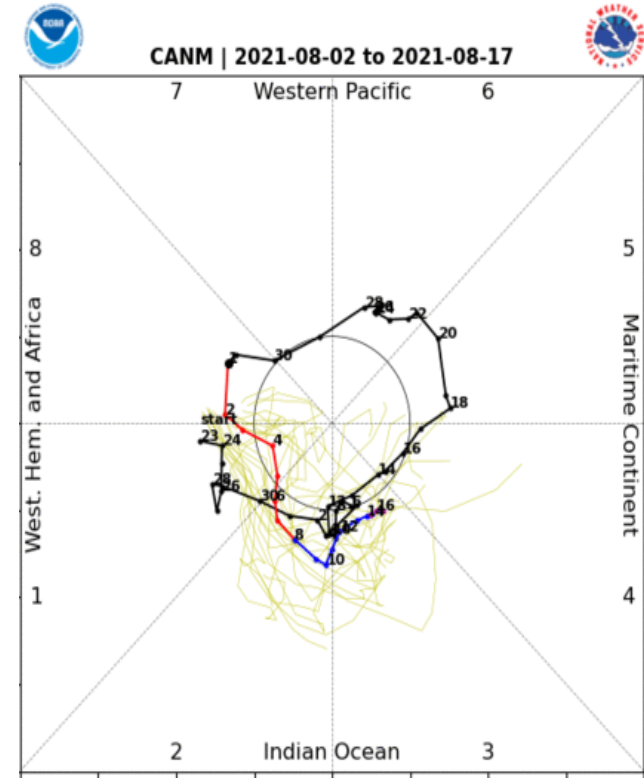
[RMM1, RMM2] forecast for Aug-03-2021 to Aug-17-2021



GEFS



ECMWF

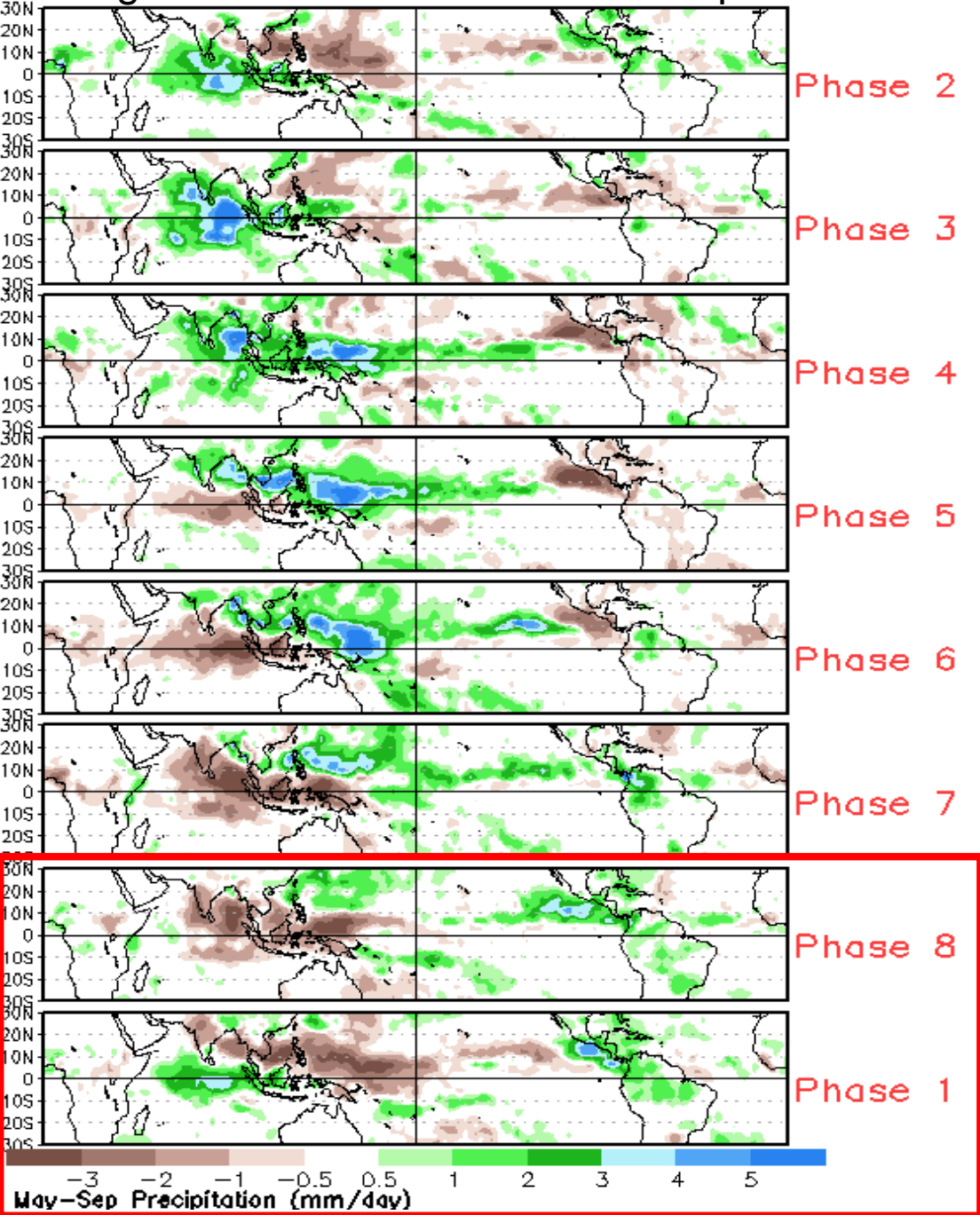


CAN

All models generally show the continued eastward propagation of the MJO that weakens in amplitude during week-1 before restrengthening over Africa and the Indian Ocean during week-2.

Intraseasonal events entering the Indian Ocean tend to result in a period of favorability for TC genesis across the tropical Atlantic.

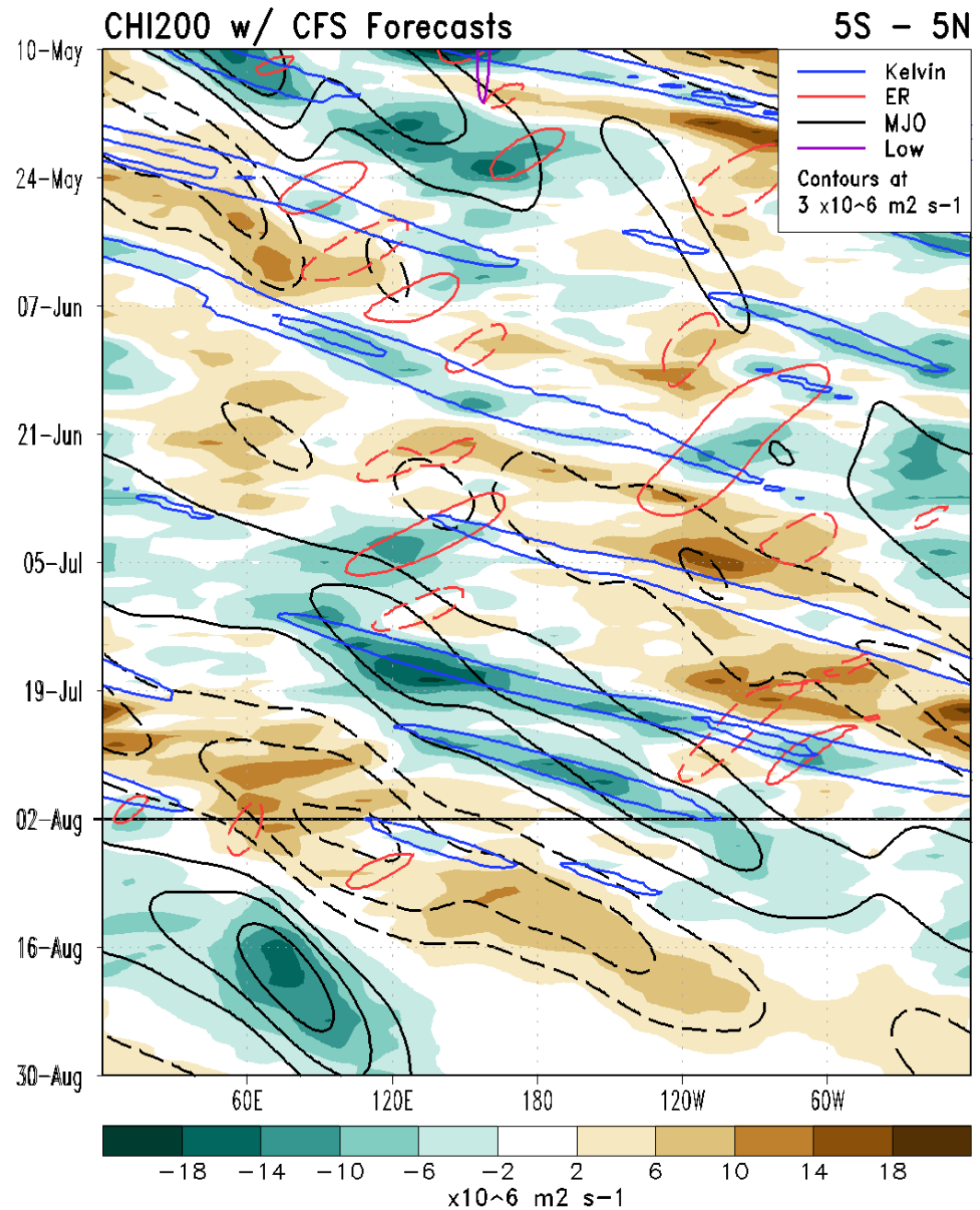
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

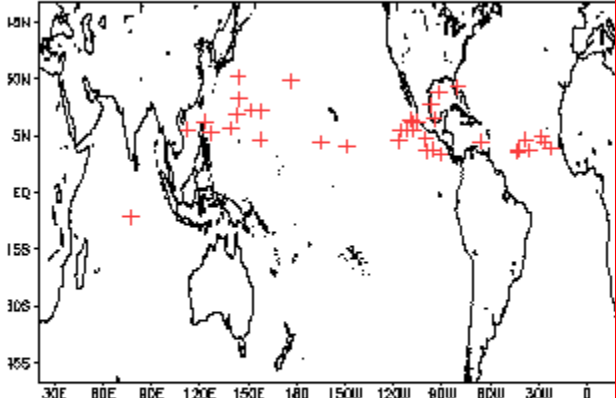
MJO activity continues to come through the filtering in the VP field, with a notable enhancement over the Indian Ocean later in the period.

Kelvin wave activity crossing the Pacific contributed to TC formation in the East Pacific.

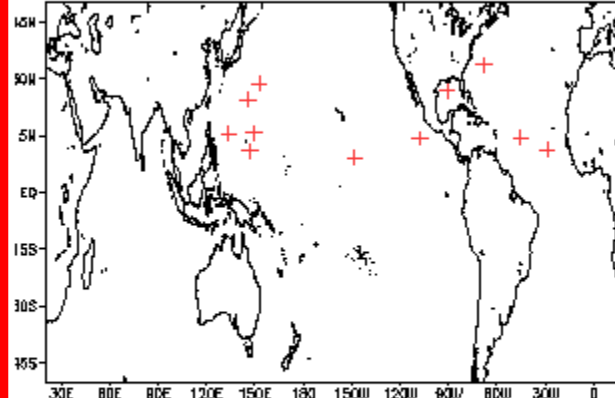


August Tropical Storm Formation by MJO phase

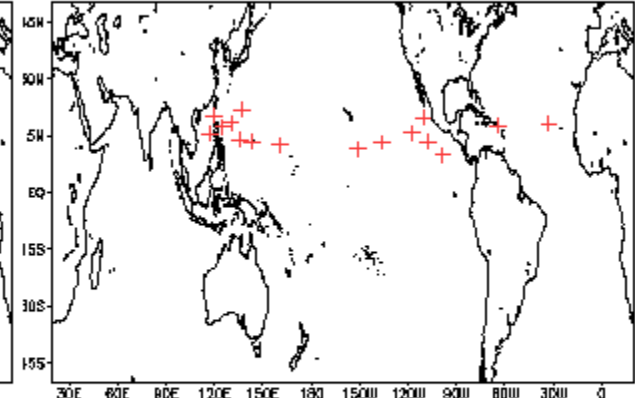
Phase 1 (101 days) 38 storms



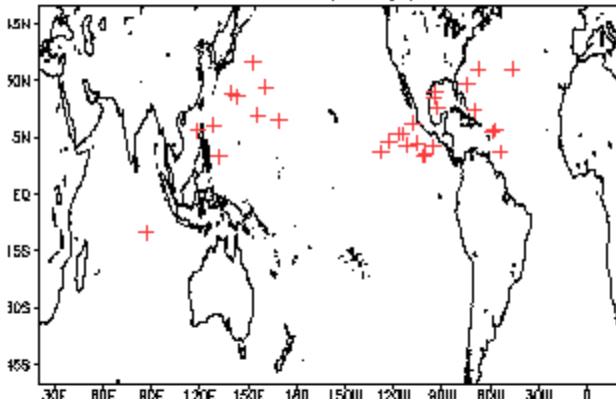
Phase 4 (40 days) 12 storms



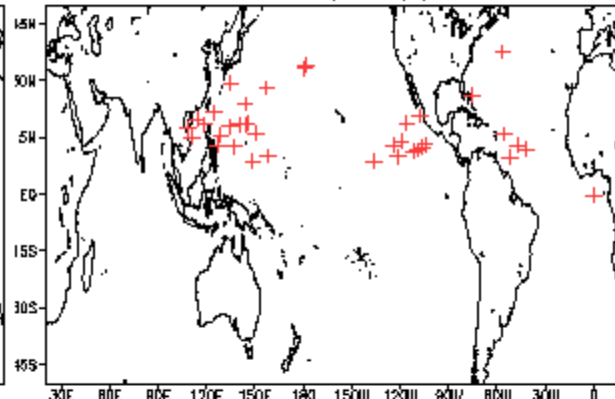
Phase 7 (43 days) 17 storms



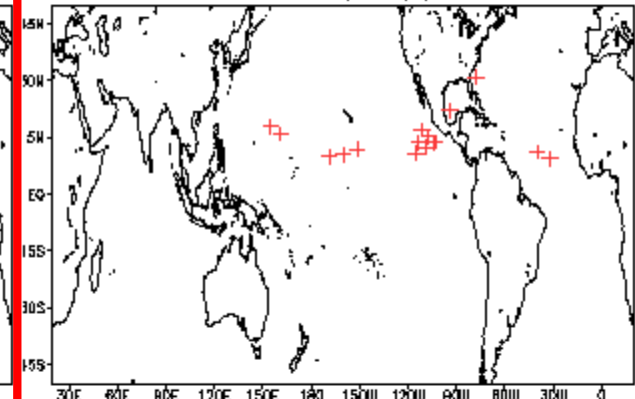
Phase 2 (79 days) 31 storms



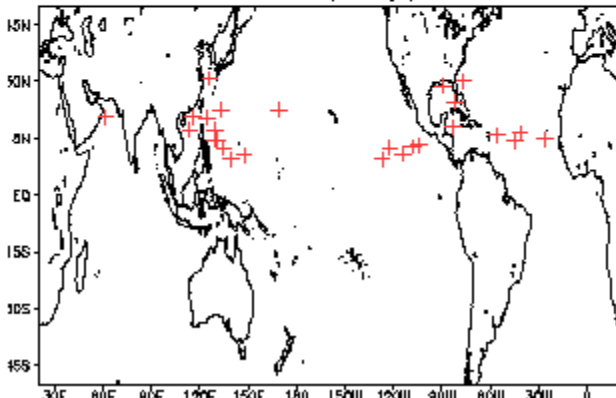
Phase 5 (117 days) 40 storms



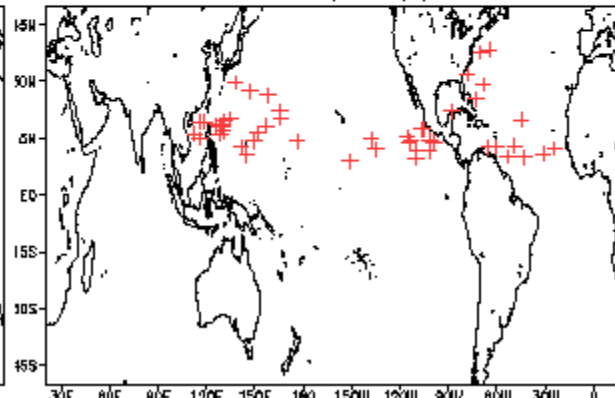
Phase 8 (25 days) 17 storms



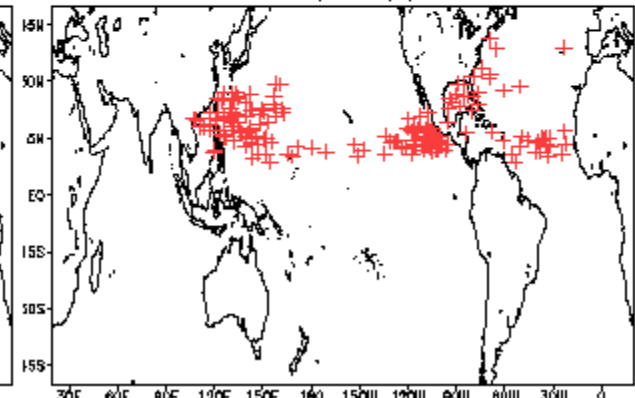
Phase 3 (51 days) 27 storms

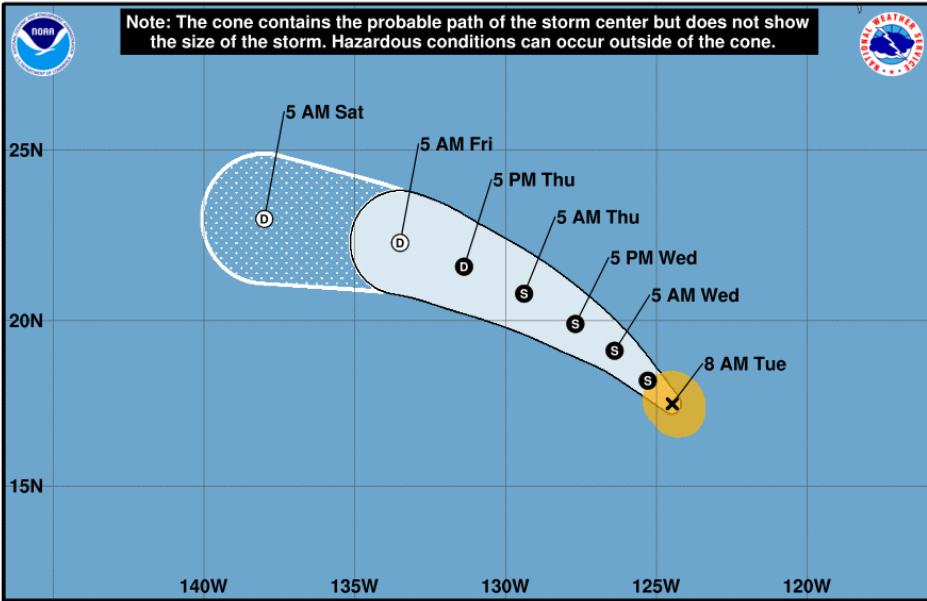


Phase 6 (101 days) 50 storms



Null (466 days) 189 storms



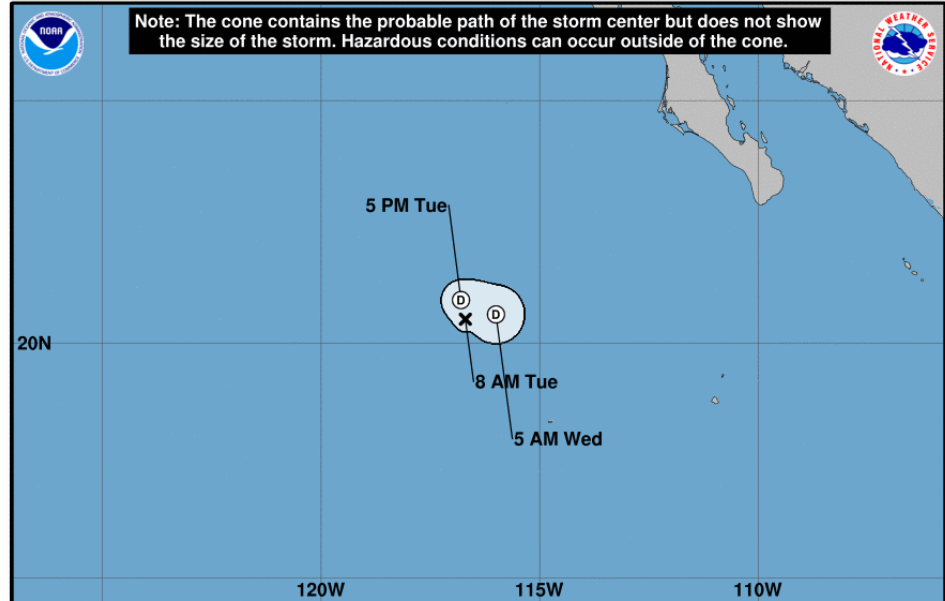


Tropical Storm Hilda
 Tuesday August 03, 2021
 8 AM PDT Advisory 16
 NWS National Hurricane Center

Current information: x
 Center location 17.5 N 124.5 W
 Maximum sustained wind 70 mph
 Movement NW at 8 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



Tropical Depression Ignacio
 Tuesday August 03, 2021
 8 AM PDT Advisory 8
 NWS National Hurricane Center

Current information: x
 Center location 20.5 N 116.7 W
 Maximum sustained wind 35 mph
 Movement NNW at 6 mph

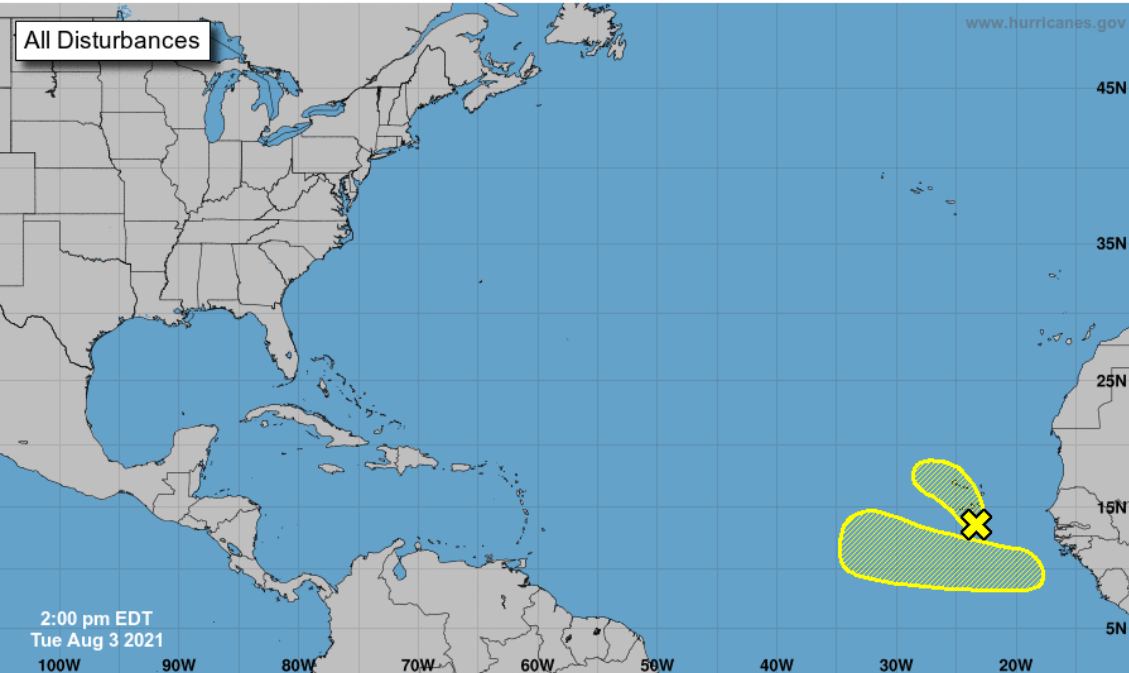
Forecast positions:
 ● Tropical Cyclone ○ Post/Potential TC
 Sustained winds: D < 39 mph
 S 39-73 mph H 74-110 mph M > 110 mph

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



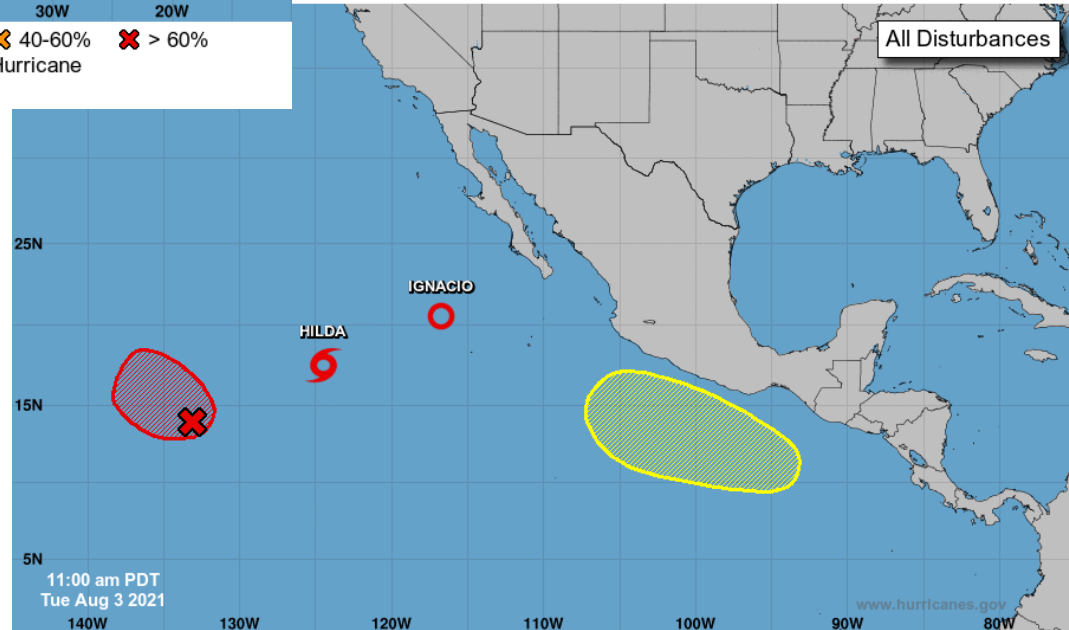
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

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

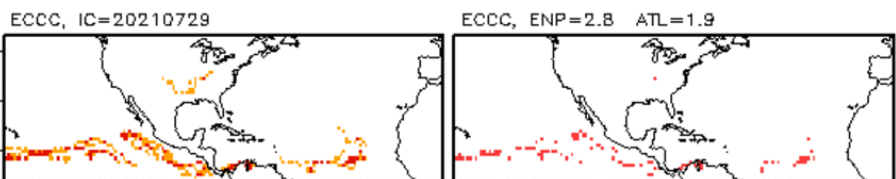
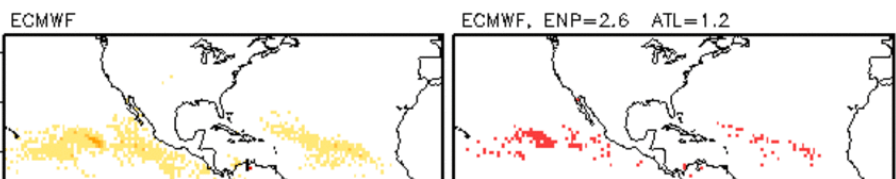
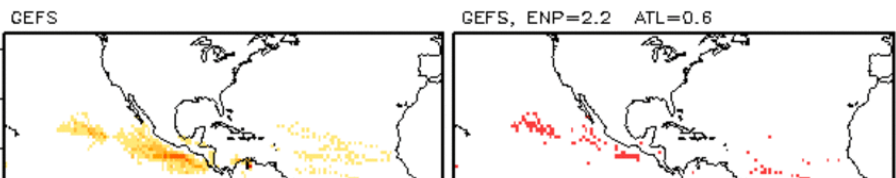
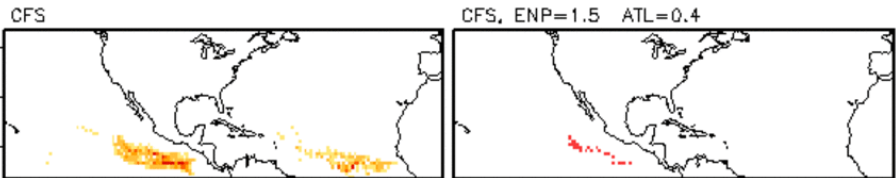
Post-Tropical Cyclone or Remnants

Storm Track Density Distribution, IC=20210802

Week 1 Forecast: 0804-0810

TRACK DENSITY

FILTERED

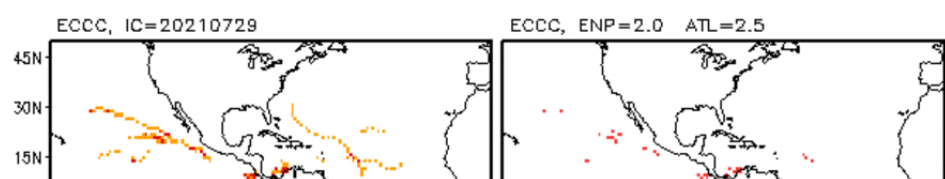
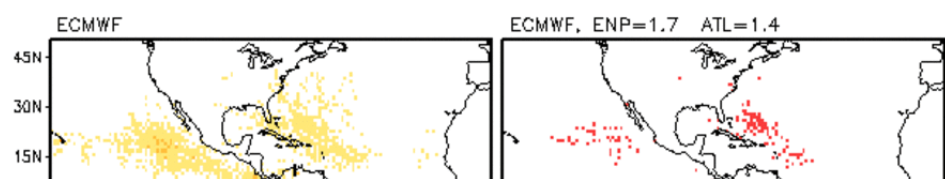
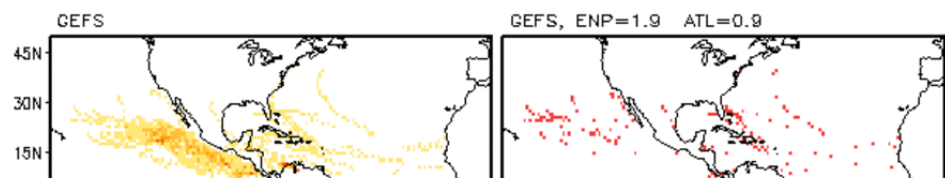
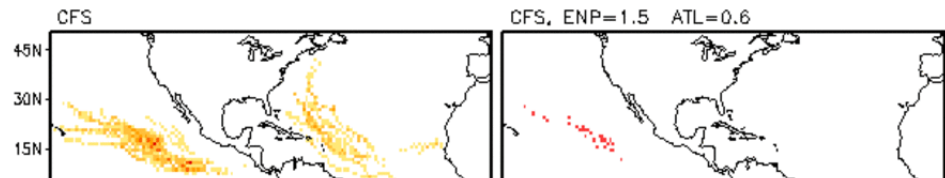


Storm Track Density Distribution, IC=20210802

Week 2 Forecast: 0811-0817

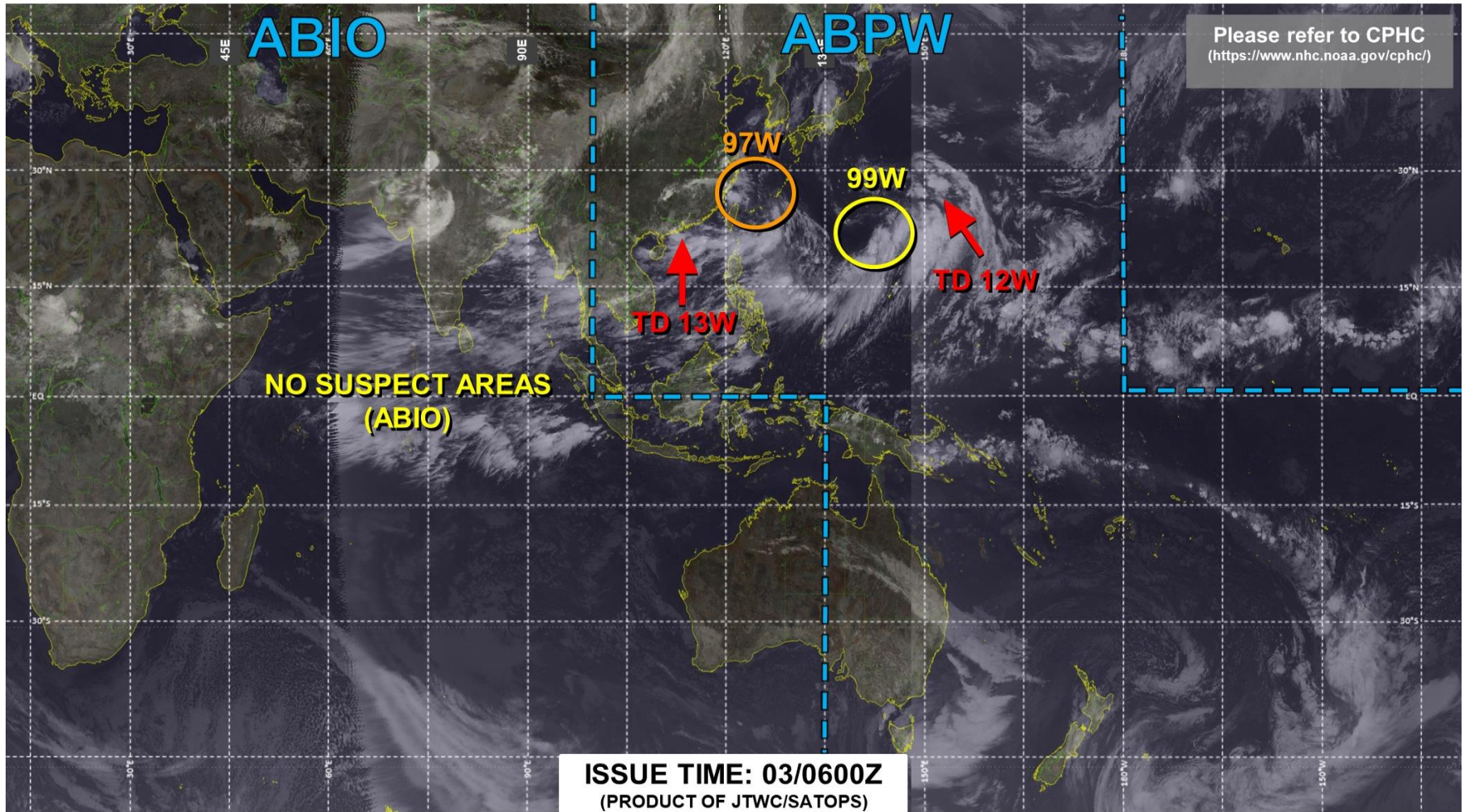
TRACK DENSITY

FILTERED





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 label color denotes tropical transition probability



Tropical Cyclone (Reference Warning)

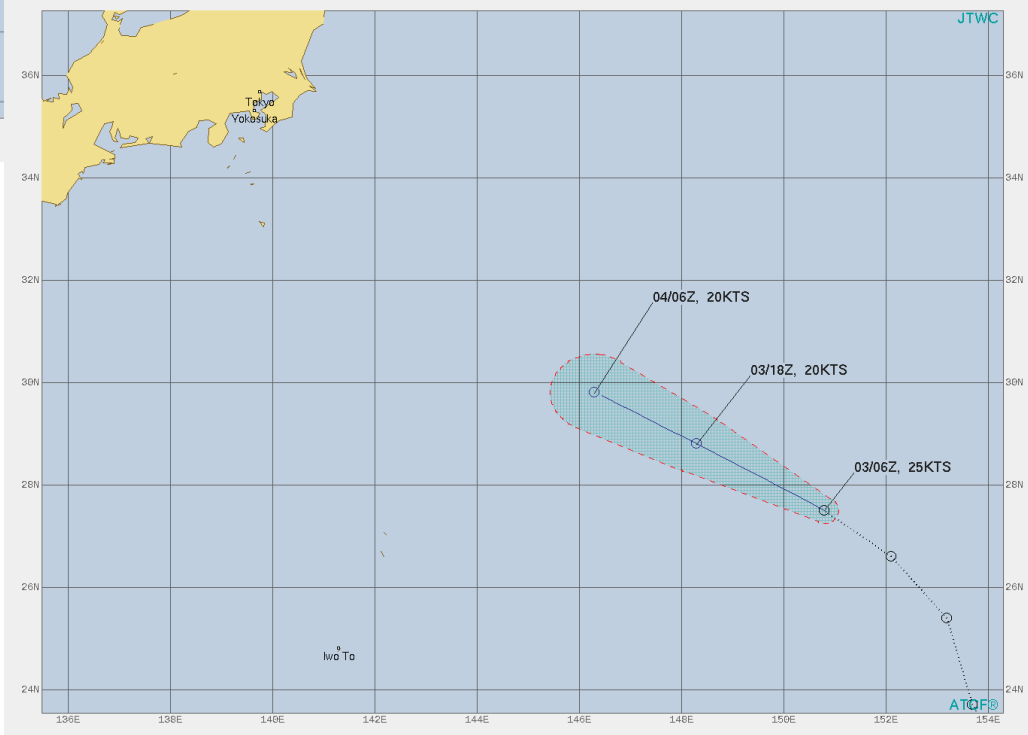


TROPICAL DEPRESSION 19W (THIRTEEN) WARNING #4
 WTRF03Z P01W 031500
 031500Z POSIT: NEAR 21.1N 114.3E
 MOVING 150 DEGREES TRUE AT 06 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 10 FEET
 03/12Z, WINDS 030 KTS, GUSTS TO 040 KTS
 04/00Z, WINDS 035 KTS, GUSTS TO 045 KTS
 04/12Z, WINDS 040 KTS, GUSTS TO 050 KTS
 05/00Z, WINDS 040 KTS, GUSTS TO 050 KTS
 05/12Z, WINDS 035 KTS, GUSTS TO 045 KTS
 06/12Z, WINDS 035 KTS, GUSTS TO 045 KTS
 07/12Z, WINDS 040 KTS, GUSTS TO 050 KTS
 08/12Z, WINDS 040 KTS, GUSTS TO 050 KTS

CPA TO:	NM	DTG
KAOHSIUNG	140	06/06/13Z
TAIPEI	94	06/07/02Z
SHANGHAI	176	06/06/07Z
KAOHSIUNG	266	06/06/11Z
CAMP_KENGIN	373	06/06/12Z
CHINWAE	380	06/06/12Z
CHINWAE	395	06/06/12Z
QIANGJU_AB	343	06/06/12Z
KUNSHAN_AB	385	06/06/12Z
PUSAN	386	06/06/12Z
SASEBO	335	06/06/12Z

BEARING AND DISTANCE	DIR	DIST	TAU
	(NM)	(HRS)	
HONG_KONG	176	72	0
KAOHSIUNG	256	346	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)

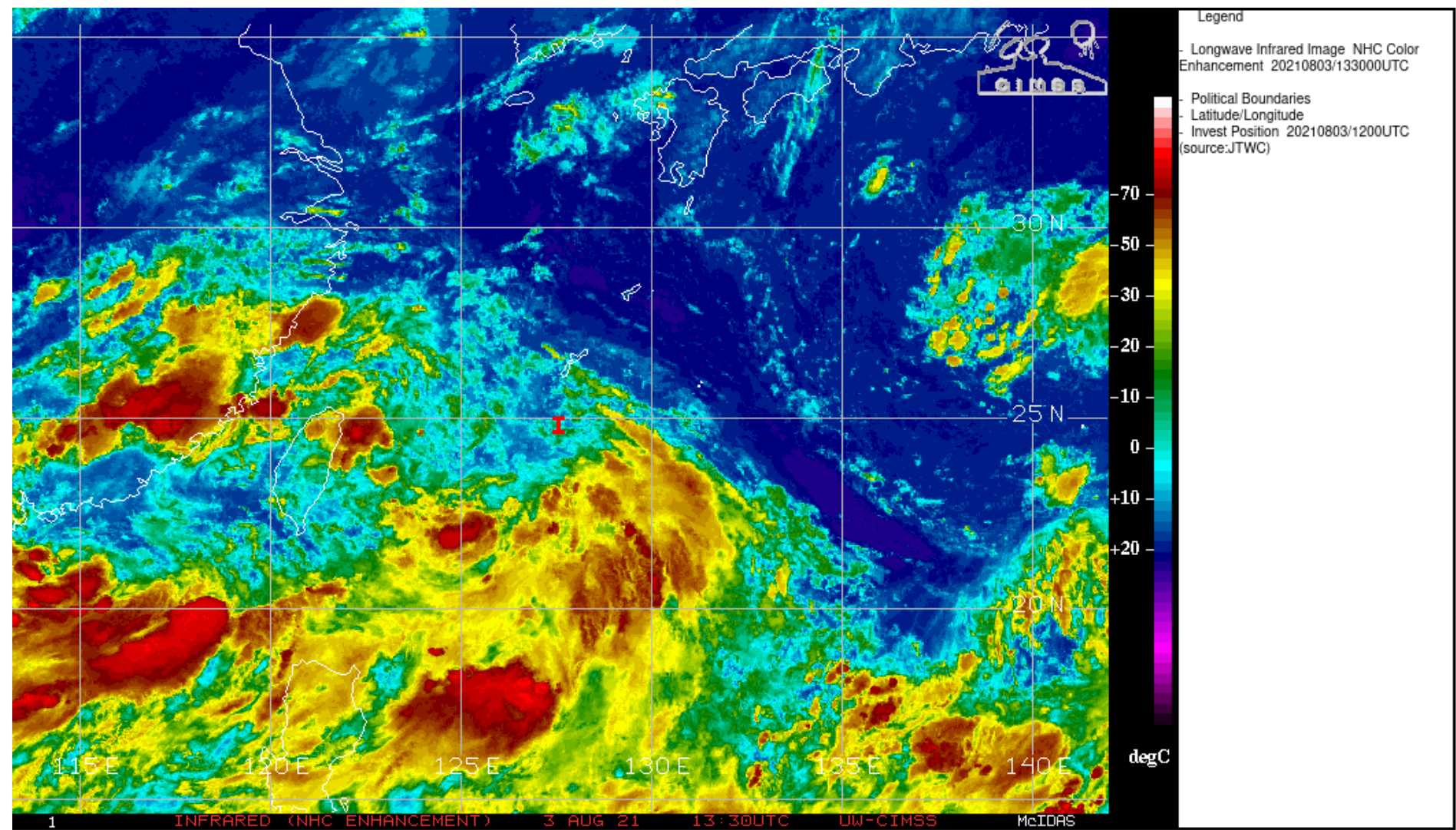


TROPICAL DEPRESSION 12W (TWELVE) WARNING #5
 *** FINAL WARNING ***
 WTRF03Z P01W 030900
 030900Z POSIT: NEAR 27.5N 150.8E
 MOVING 310 DEGREES TRUE AT 15 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 10 FEET
 03/06Z, WINDS 025 KTS, GUSTS TO 035 KTS
 03/18Z, WINDS 020 KTS, GUSTS TO 030 KTS
 04/06Z, WINDS 020 KTS, GUSTS TO 030 KTS

CPA TO:	NM	DTG
CHICHI_JIMA	270	08/04/06Z

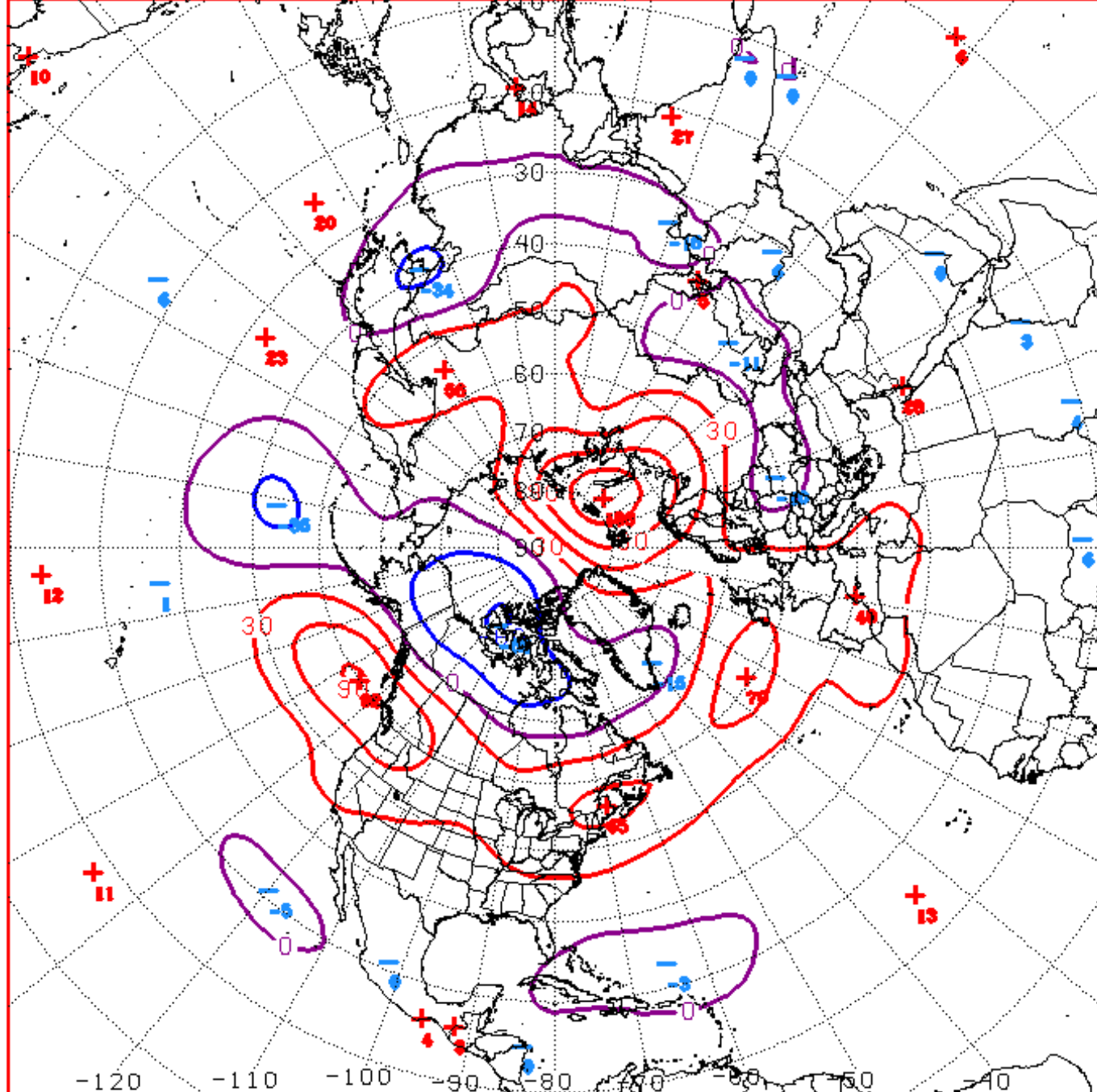
BEARING AND DISTANCE	DIR	DIST	TAU
	(NM)	(HRS)	
MINAMI_TORI_SHIMA	320	263	0

- 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)



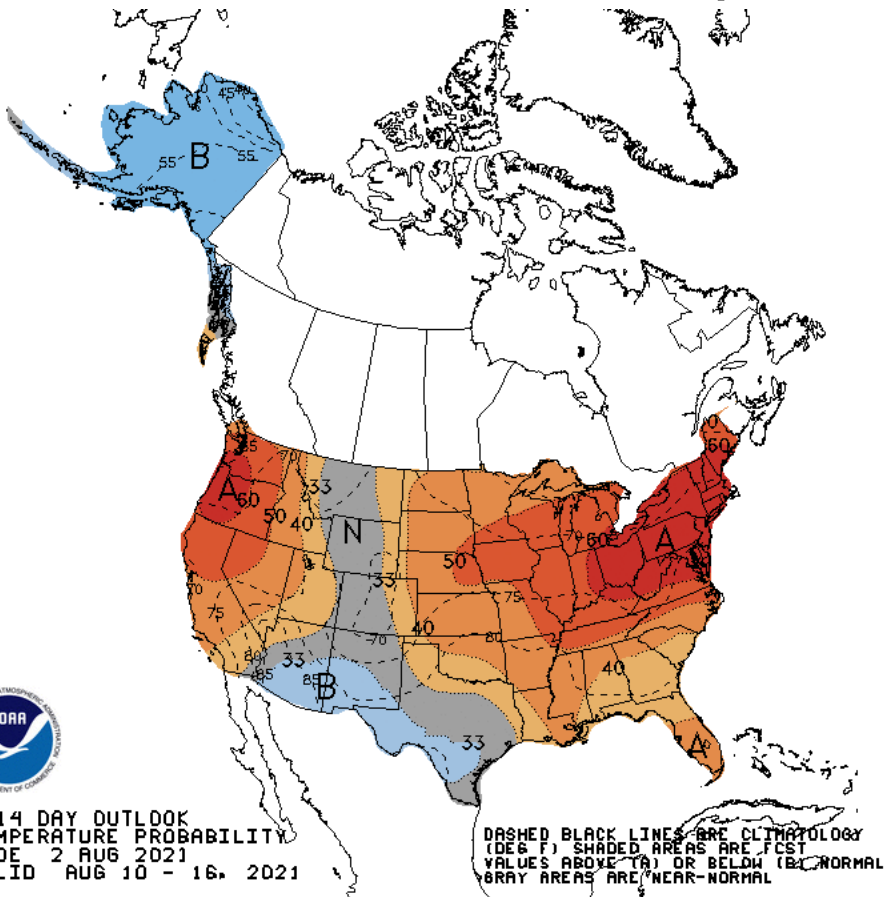
- LDN/NoVE
 - Tropical Depr
 - Tropical Strm
 - Category 1
 - Category 2
 - Category 3
 - Category 4
 - Category 5
- I** - Invest Area
 - L** - Tropical Depression
 - 6** - Tropical Storm
 - 9** - Hurricane/Typhoon (w/ category)

Connections to U.S. Impacts



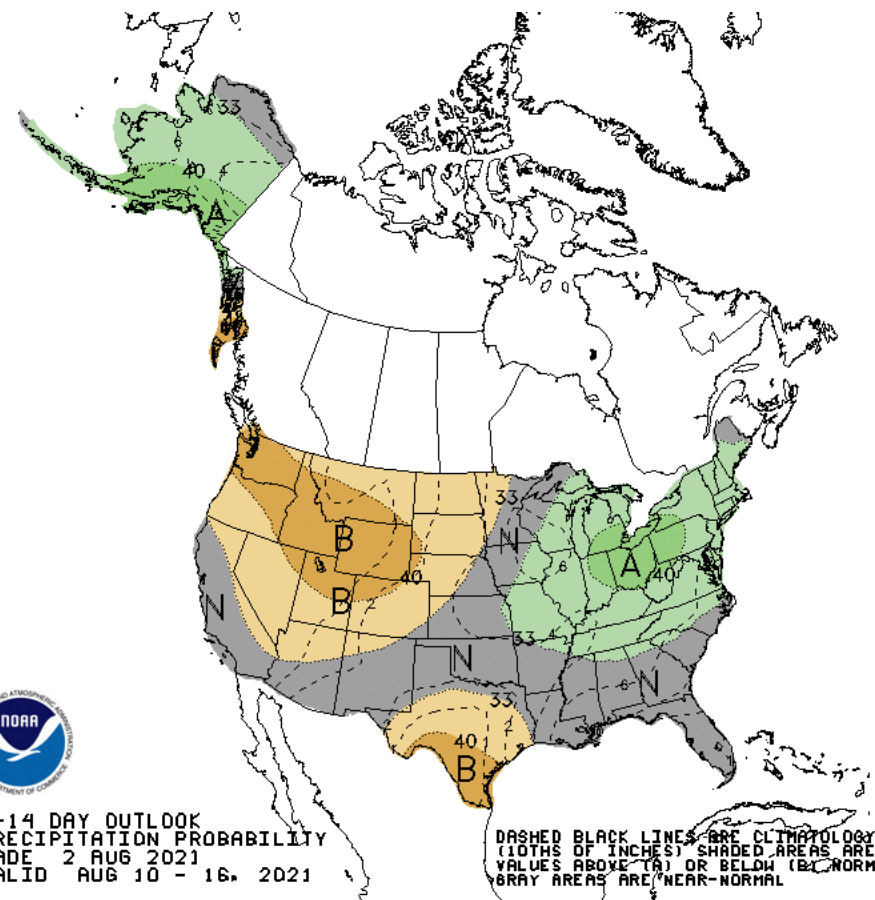
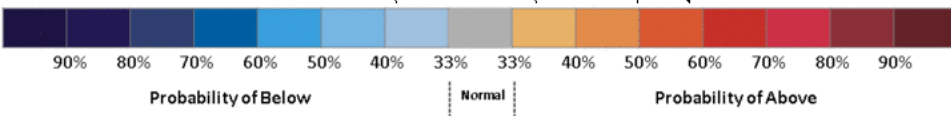
D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE AUG 03 2021 1359 UTC CNTD AUG 14 2021

Week 2 – Temperature and Precipitation



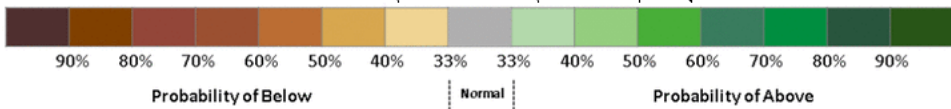
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 2 AUG 2021
VALID AUG 10 - 16, 2021

DASHED BLACK LINES ARE CLIMATOLOGY (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 2 AUG 2021
VALID AUG 10 - 16, 2021

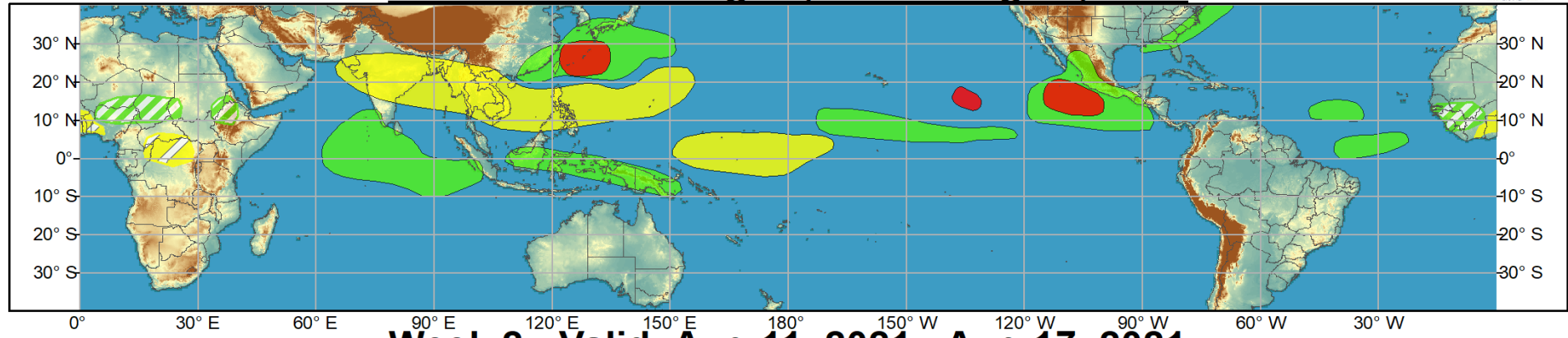
DASHED BLACK LINES ARE CLIMATOLOGY (10THS OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.



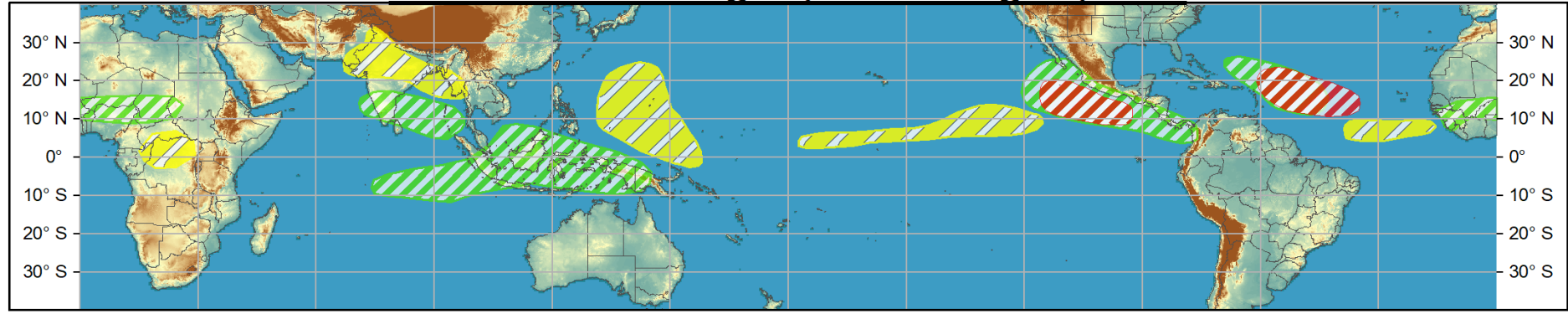


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