

Global Tropics Hazards And Benefits Outlook

6/29/2021

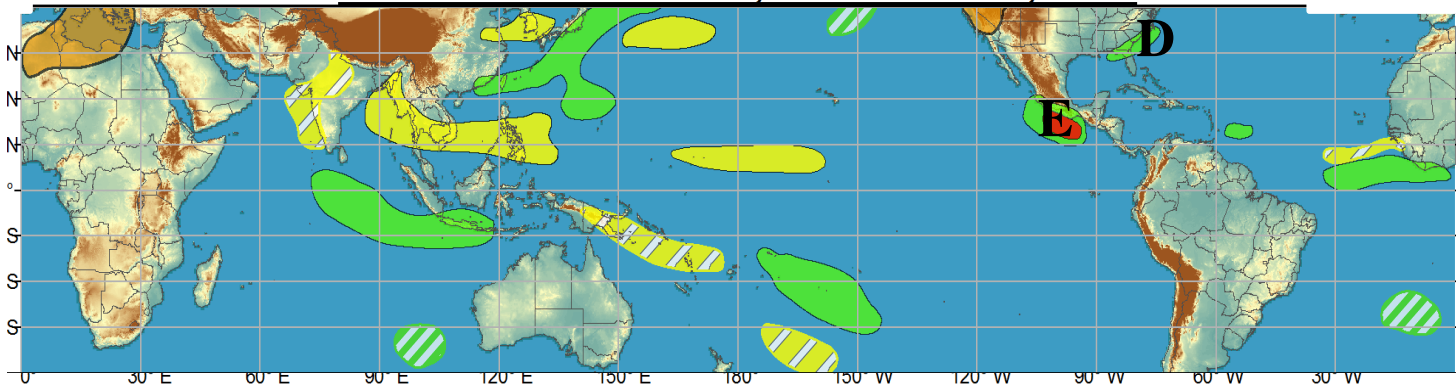
Dan Harnos (on behalf of Matt Rosencrans)

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: Jun 23, 2021 - Jun 29, 2021

Outlook Review



Hurr. Enrique

6/25-present

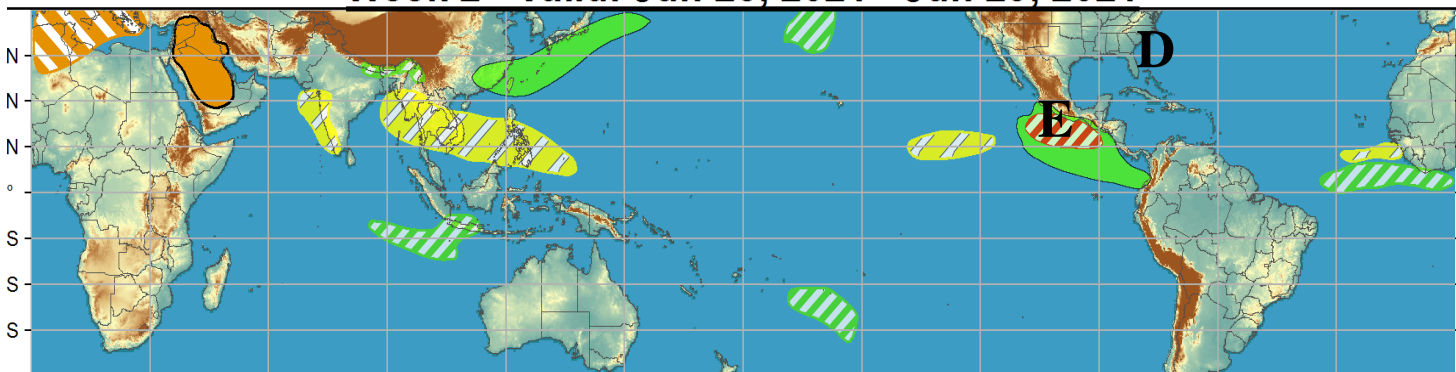
Peak wind: 80 kts

TS Danny

6/28-6/29

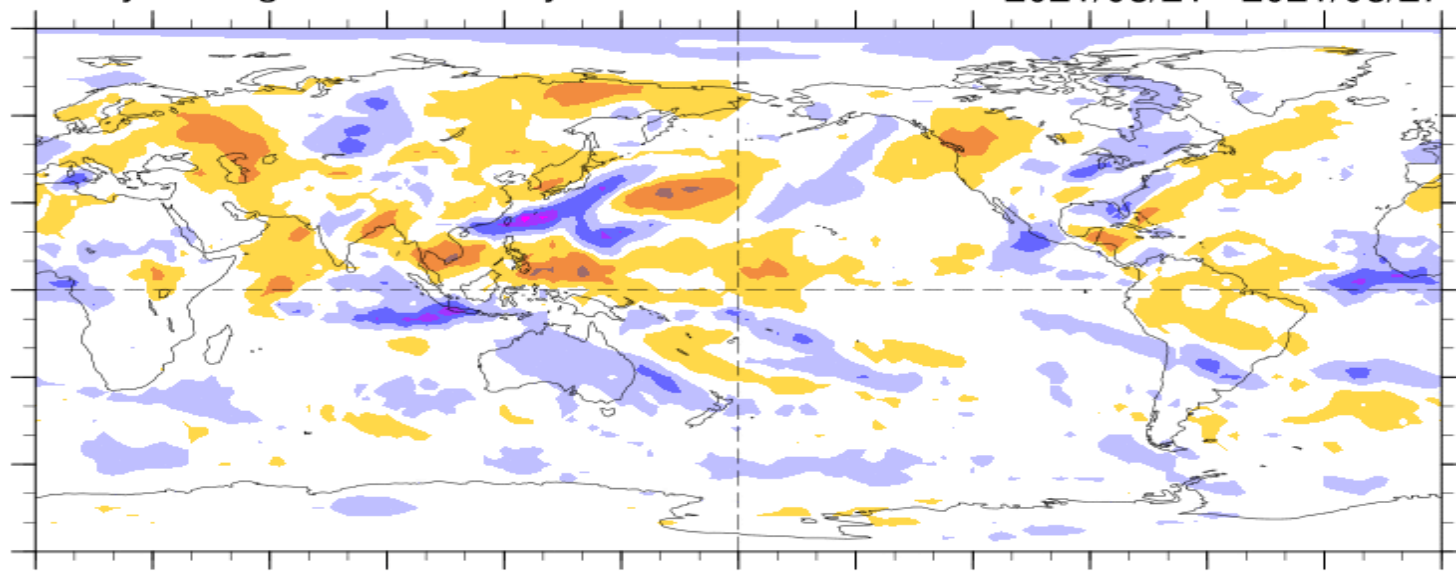
Peak wind: 35 kts

Week 2 - Valid: Jun 23, 2021 - Jun 29, 2021



7-Day Average OLR Anomaly

2021/06/21 - 2021/06/27



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (10 June, 2021 Update)

next update on 8th of July

- ENSO Alert System Status: Not Active
- ENSO-neutral conditions are favored through the Northern Hemisphere summer (78% chance for the June-August season) and fall (50% chance for the September-November season).

MJO and other subseasonal tropical variability:

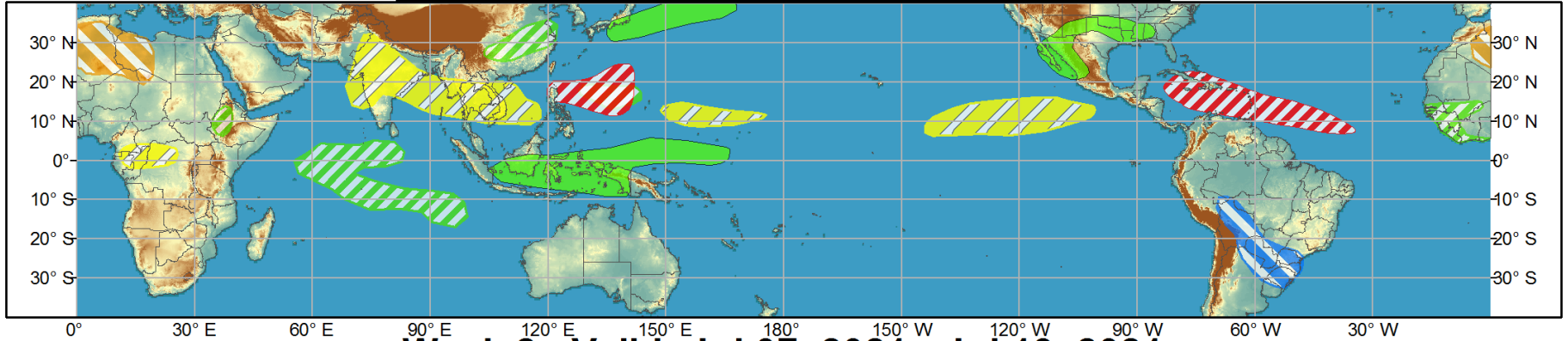
- MJO indices are picking up on circulations associated with the African Monsoon, with model guidance showing this feature progressing eastward to the Indian Ocean during the next two weeks.
- Atmospheric Kelvin wave activity is presently over the Central Pacific and Atlantic, further decreasing clarity among the competing intraseasonal signals.
- The Kelvin wave presently over the Pacific could increase tropical cyclone formation chances over the central Atlantic during early July, while the MJO is likely to increase cyclogenesis chances over the West Pacific as mid-July approaches.



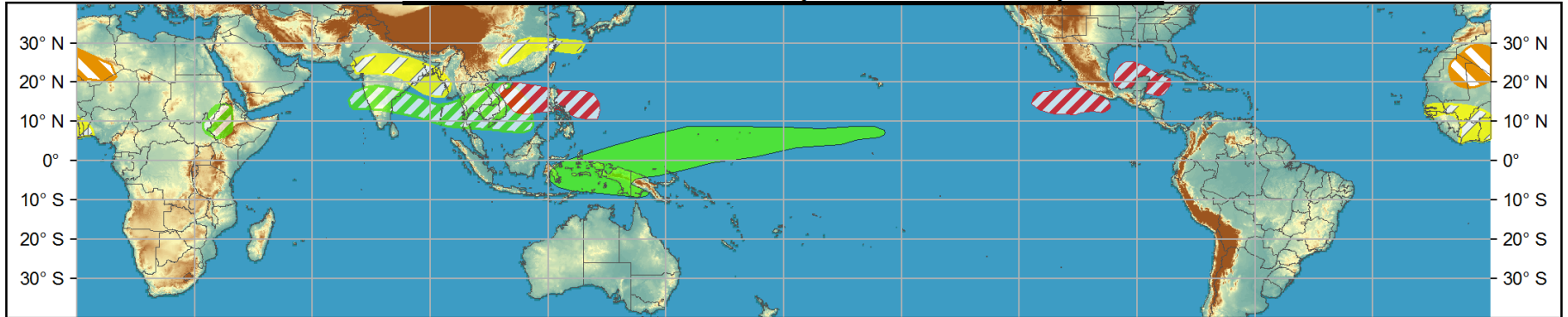
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jun 30, 2021 - Jul 06, 2021



Week 2 - Valid: Jul 07, 2021 - Jul 13, 2021



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: 06/29/2021

Forecaster: Rosencrans

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

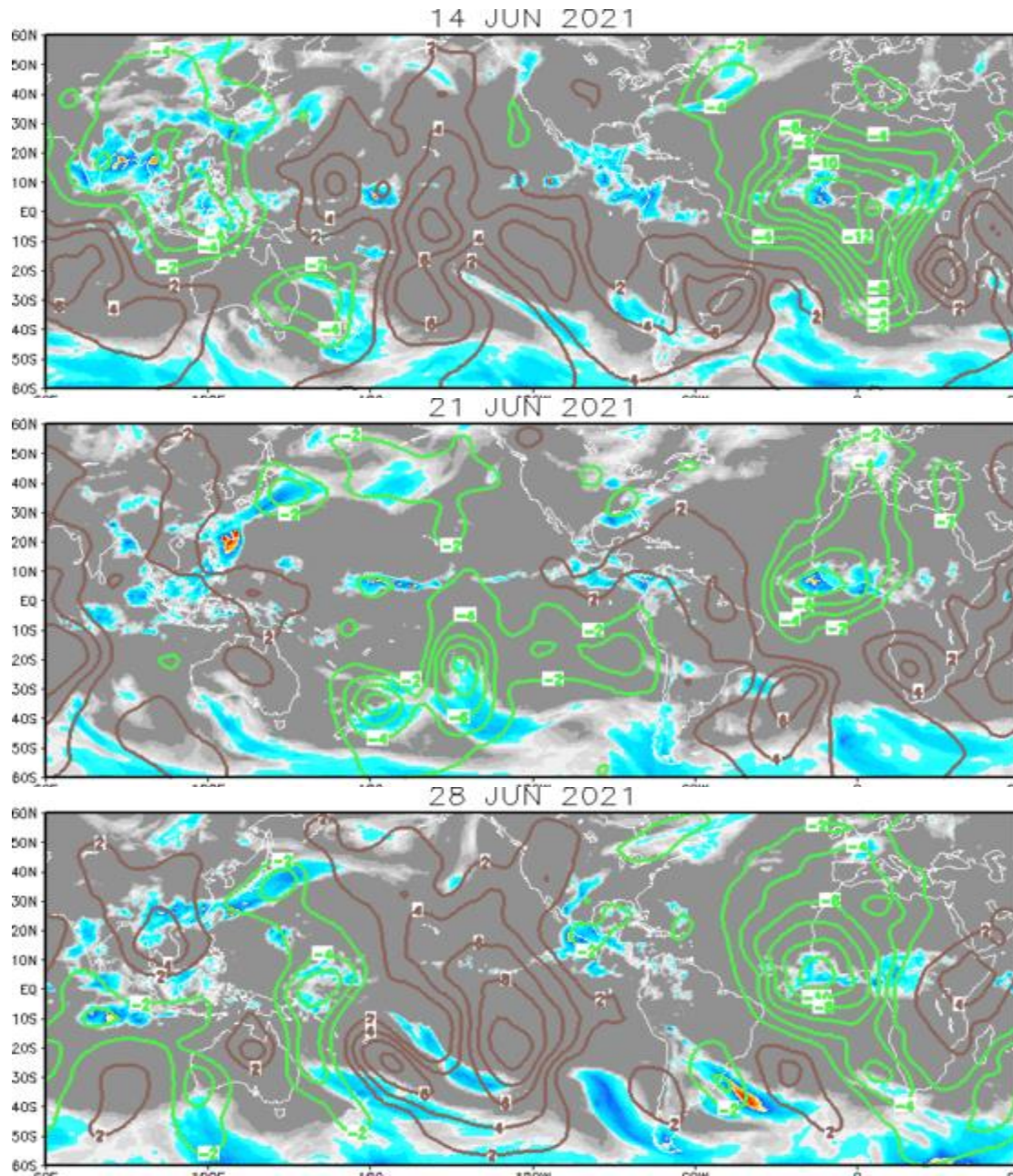
Green: Enhanced Divergence

Brown: Enhanced Convergence

Two centers of intraseasonal activity, with one across West Africa and the other Southeast Asia.

Some eastward progression of the signal originally over Southeast Asia. Most pronounced though is the decay of equatorial signals, outside of the persistent West Africa center.

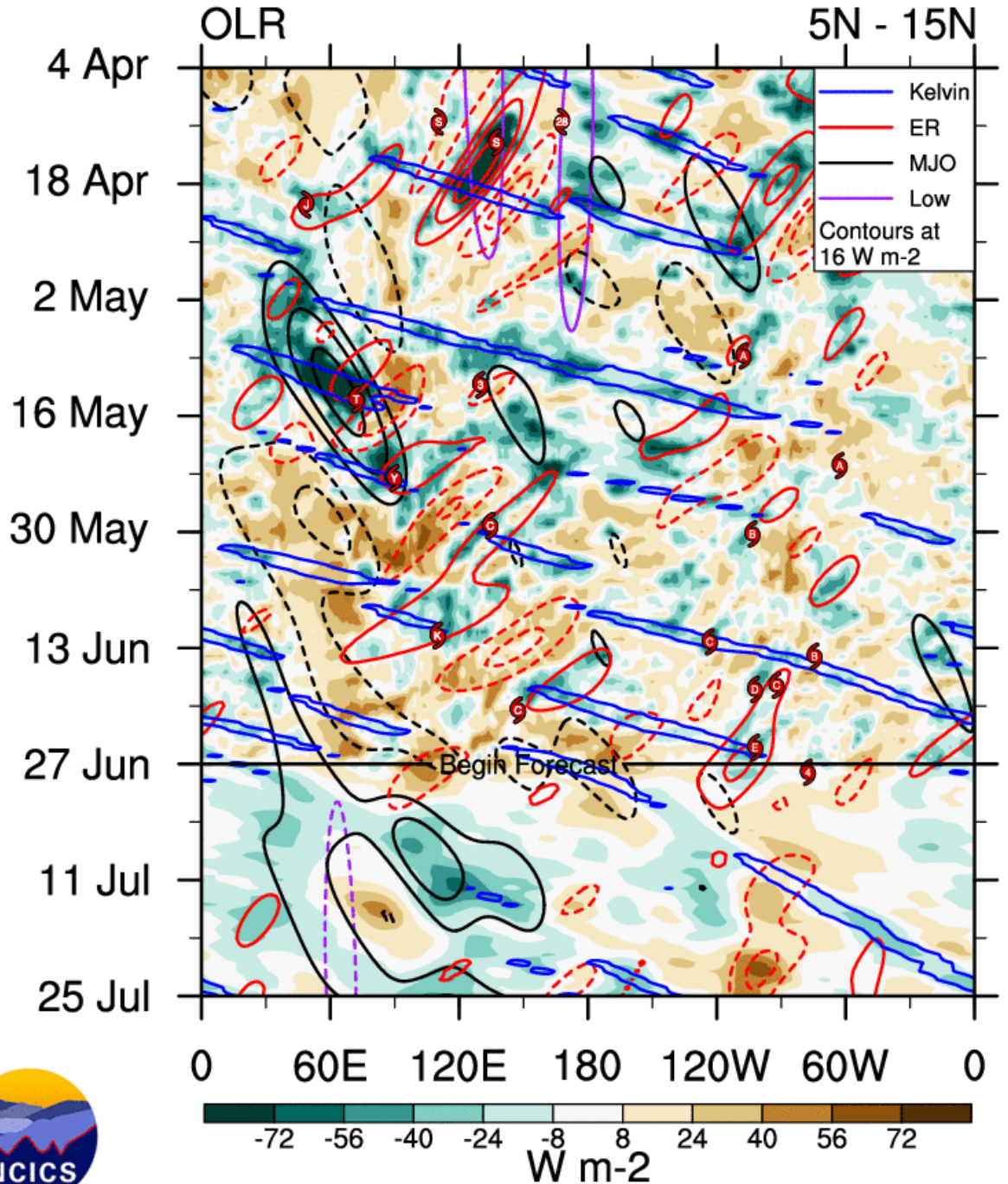
A wave-2 pattern continues, with the growth of the West Africa signal and a Kelvin wave present over the Pacific.



Kelvin wave activity is currently analyzed near 180° with signs of at least one other feature near the Prime Meridian.

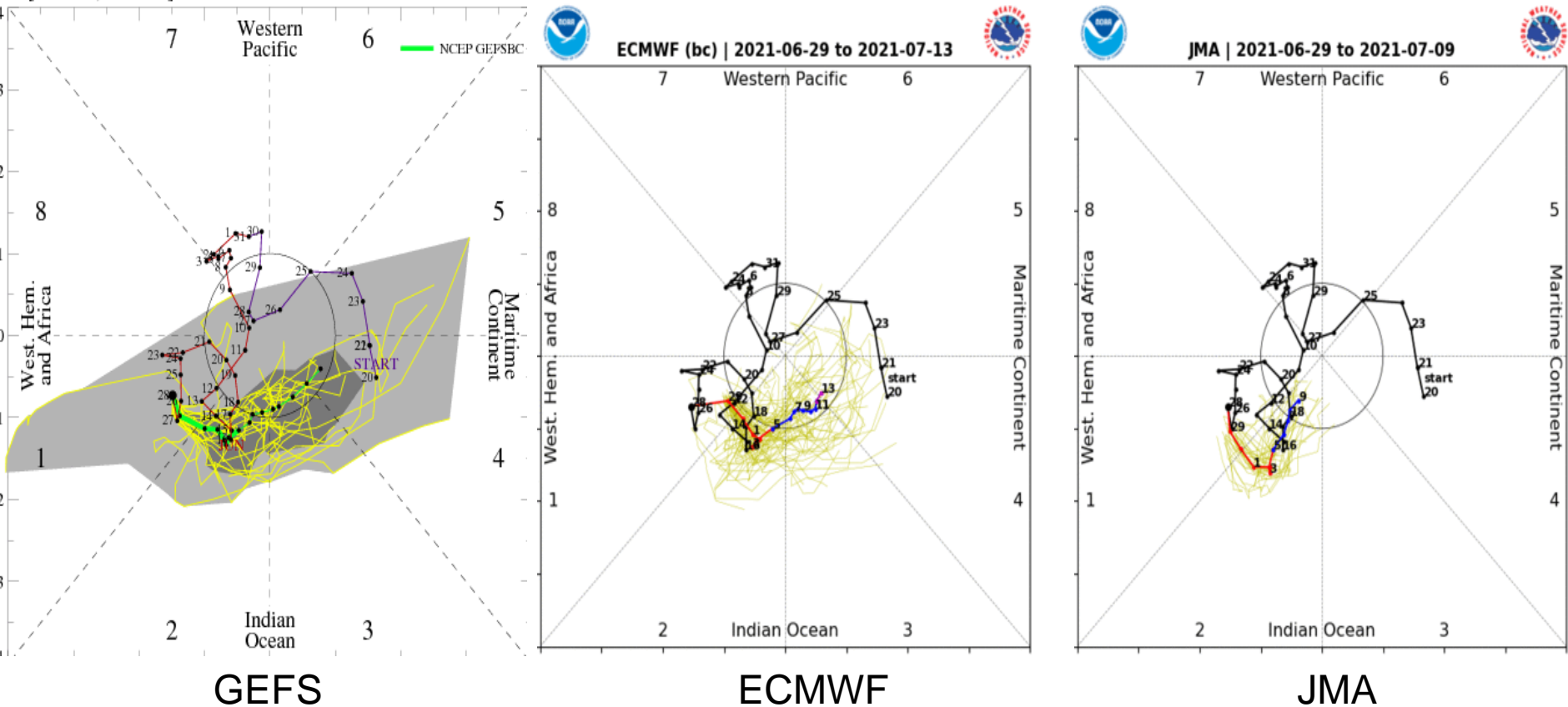
A **MJO** signal has emerged over Africa with limited eastward progression the past two weeks. Forecasts anticipate a more rapid progression during the first half of July.

Rossby wave activity continues over the East Pacific in support of Tropical Storm Dolores and Enrique during June. Over the past week easterly waves entering the Atlantic from Africa are also projecting onto this band.



MJO Observation/Forecast

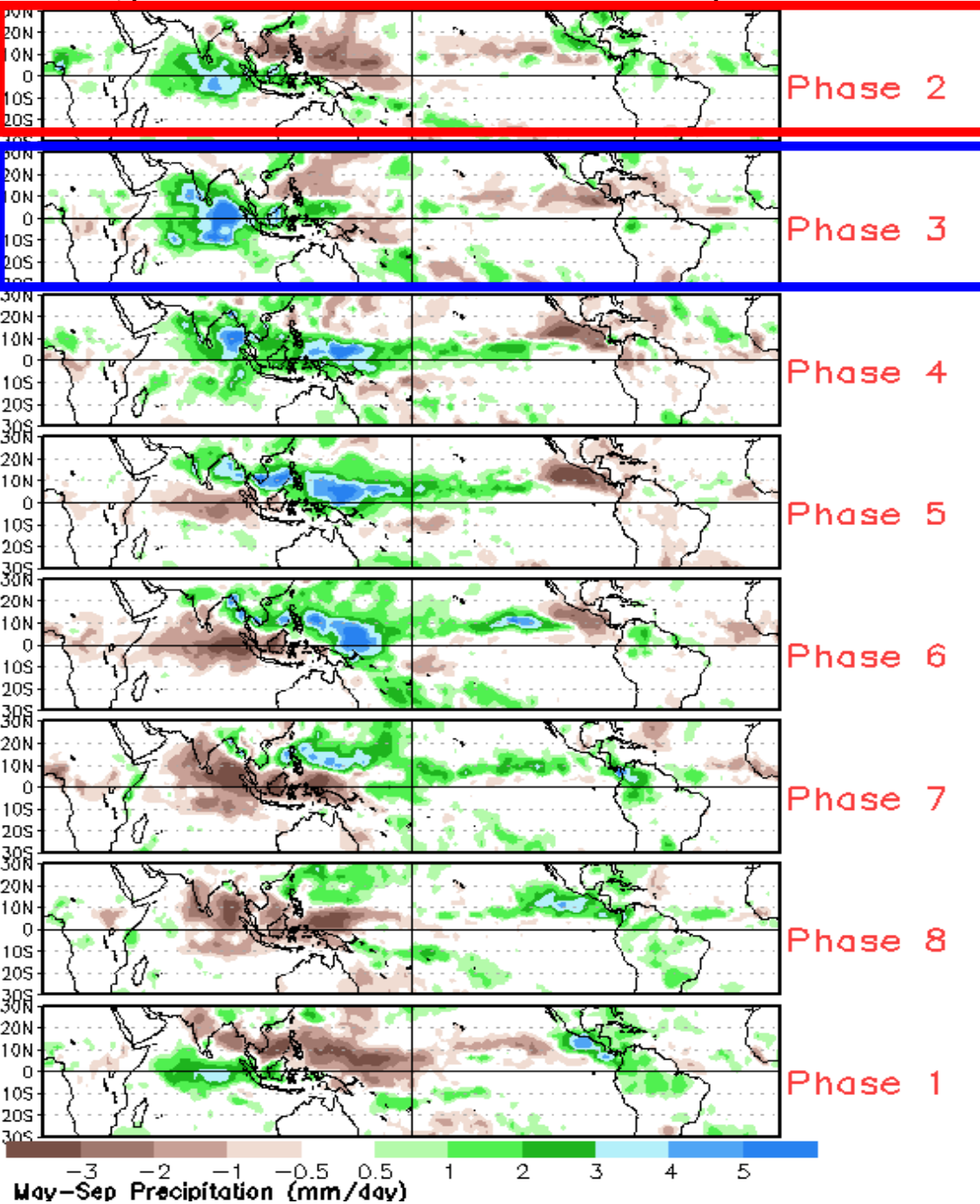
[RMM1, RMM2] forecast for Jun-29-2021 to Jul-13-2021



GEFS/ECMWF: Progression of the MJO across the Indian Ocean during the next two weeks, with some reduction in amplitude during Week-2 which could just be differences in how fast the MJO is among individual ensemble members.

JMA: The intraseasonal signal progresses eastward the next week before decaying across the western Indian Ocean.

Average Conditions when the MJO is present



Week-1: Phase 2

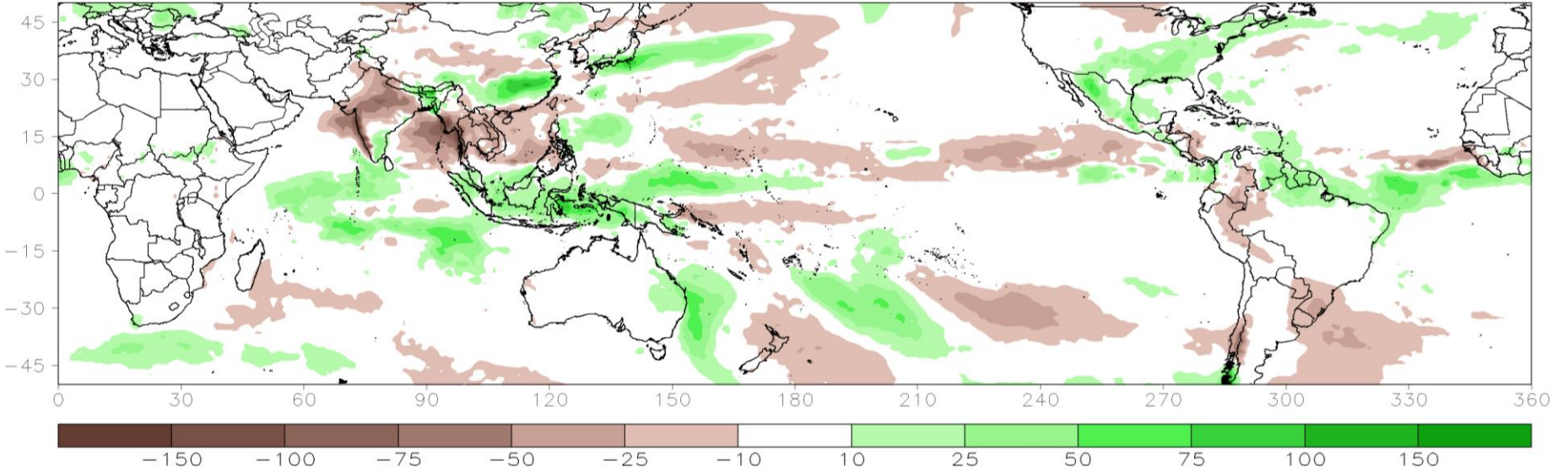
Week-2: Phase 3

CAVEAT: These panels are representative of robust MJO events.

CONS 00z: Week1 Total Rainfall Anomaly (mm)

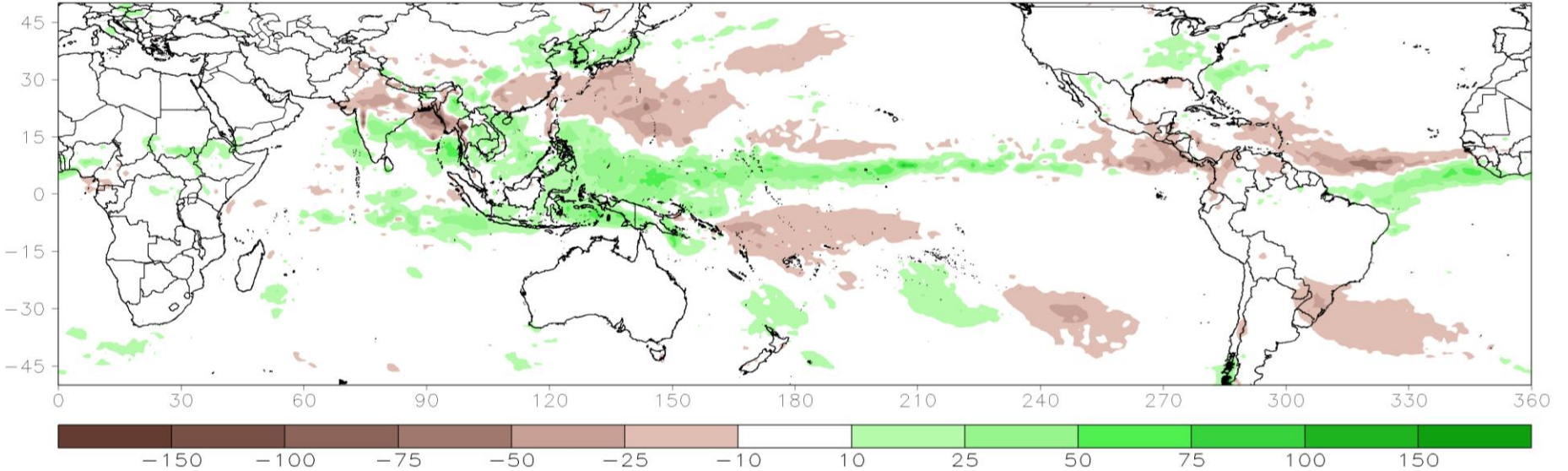
CFS, GEFS, ECMWF, Canadian blend

Valid: 30Jun2021-06Jul2021



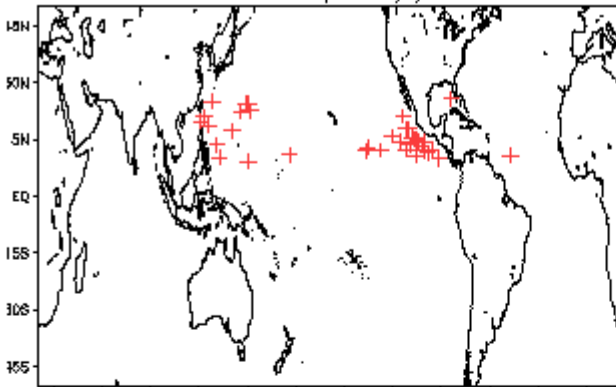
CONS 00z: Week2 Total Rainfall Anomaly (mm)

Valid: 07Jul2021-13Jul2021

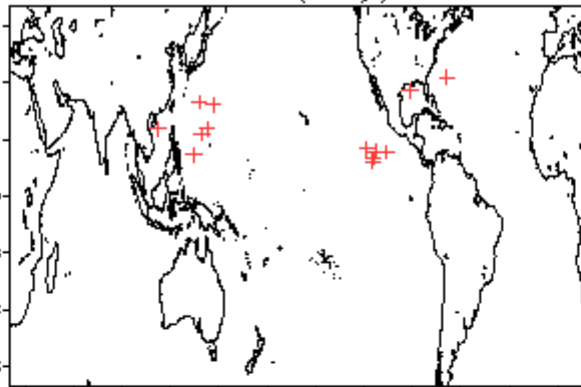


July Tropical Storm Formation by MJO phase

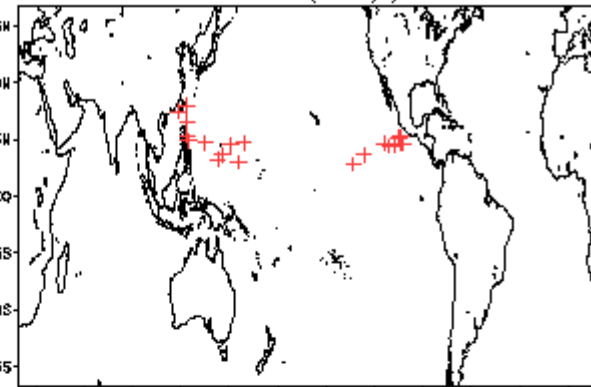
Phase 1 (144 days) 37 storms



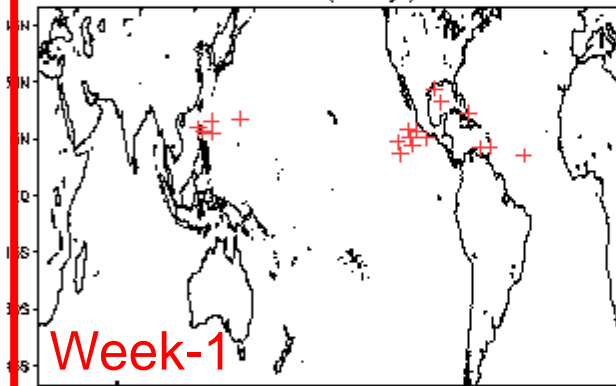
Phase 4 (40 days) 14 storms



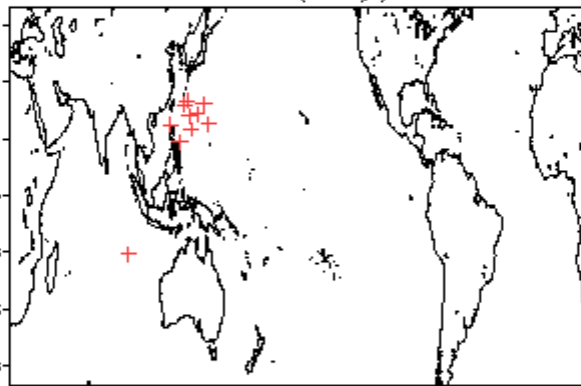
Phase 7 (87 days) 21 storms



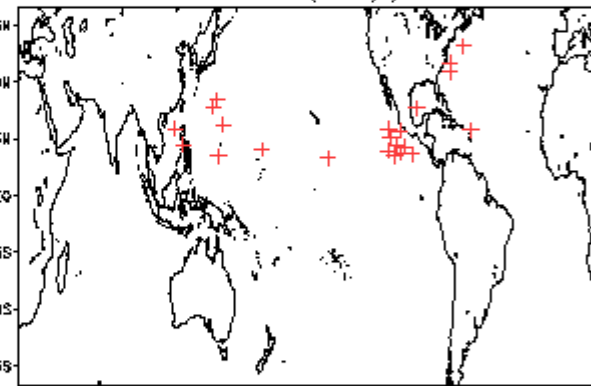
Phase 2 (74 days) 20 storms



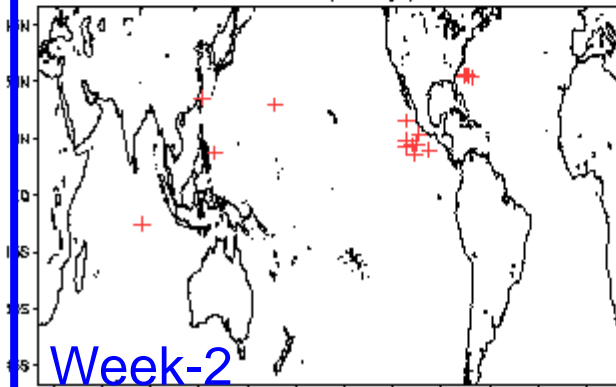
Phase 5 (63 days) 11 storms



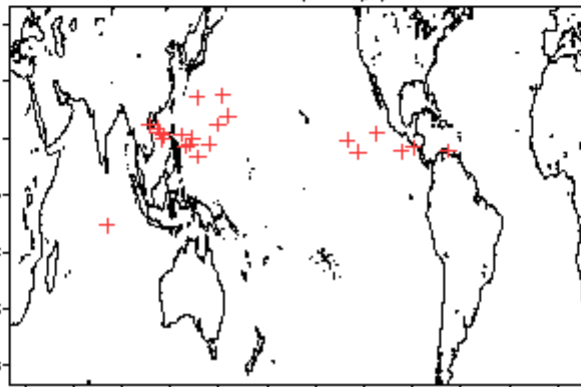
Phase 8 (61 days) 24 storms



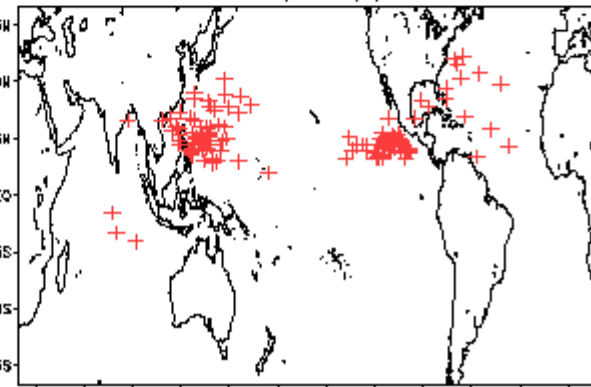
Phase 3 (49 days) 17 storms



Phase 6 (60 days) 23 storms



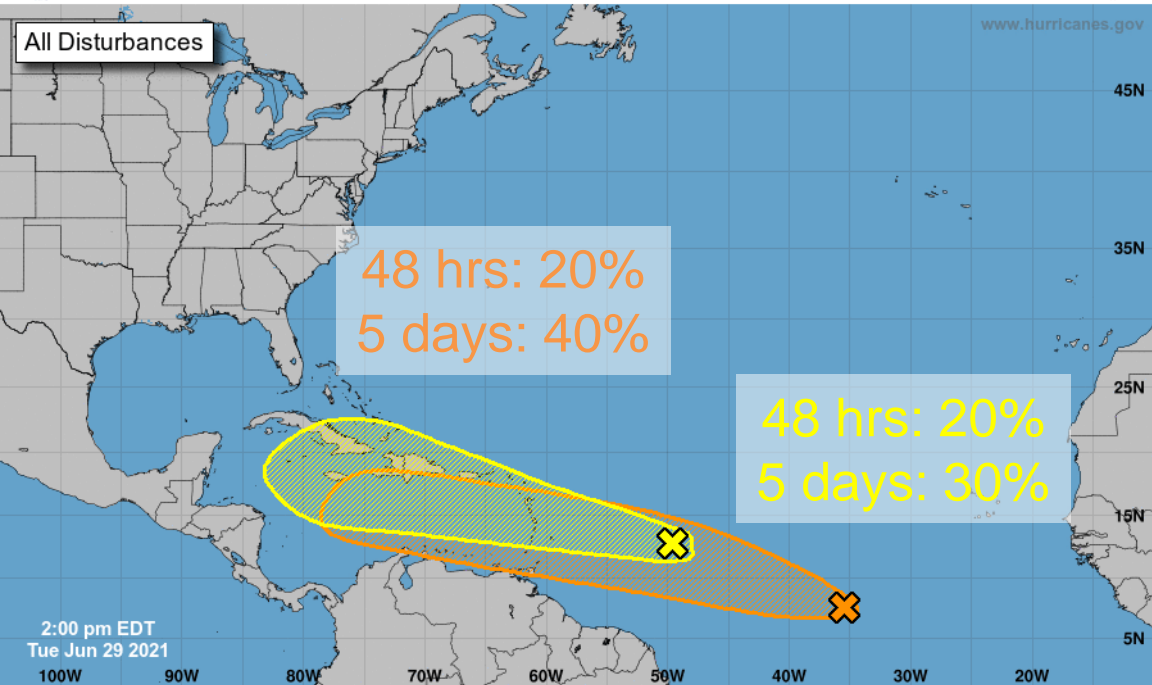
Null (480 days) 130 storms





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



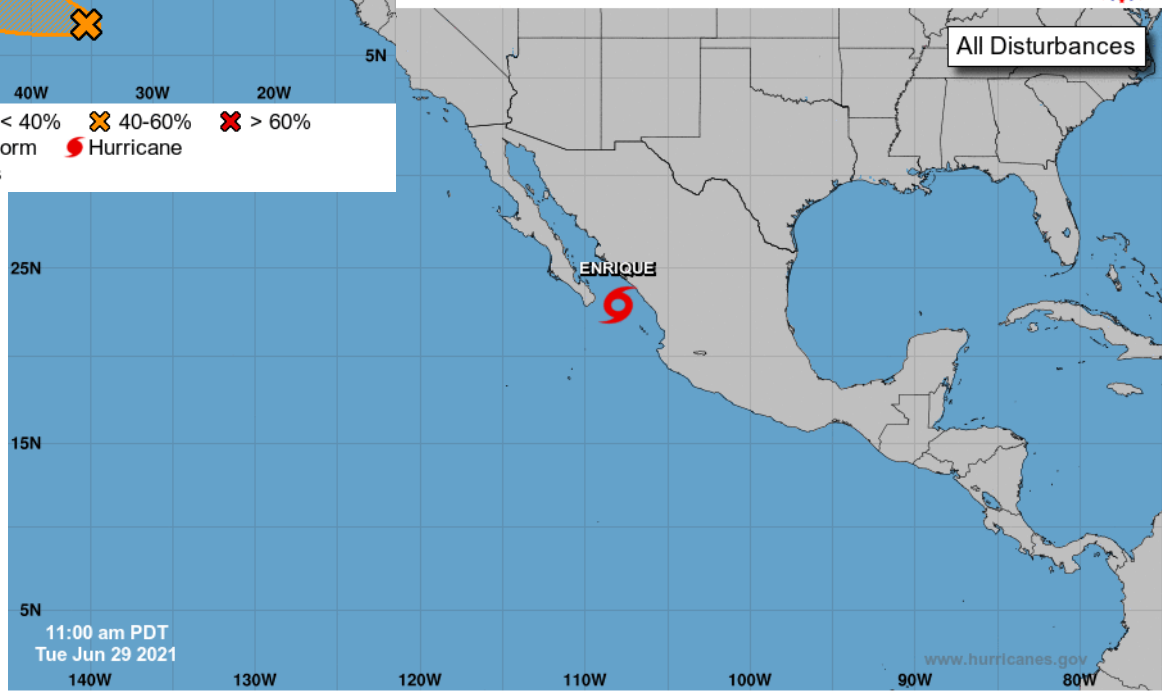
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

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



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 Enrique
 Tuesday June 29, 2021
 12 PM MDT Intermediate Advisory 18A
 NWS National Hurricane Center

Current information: x
 Center location 22.9 N 108.0 W
 Maximum sustained wind 40 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: | Watches: | Warnings: | Current wind extent: |
| Day 1-3 Day 4-5 | Hurricane Trop Stm | Hurricane Trop Stm | Hurricane Trop Stm |



JOINT TYPHOON WARNING CENTER



Naval Research Laboratory
Marine Meteorology Division
Cloud Cover Product
Valid: 29/15:00-30/00:00

ABIO

ABPW

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

95W

NO SUSPECT AREAS (ABIO)

ISSUE TIME: 29/1530Z
(PRODUCT OF JTWC/SATOPS)

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)

Storm Track Density Distribution, IC=20210628
Week 1 Forecast: 0630-0706

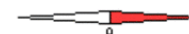
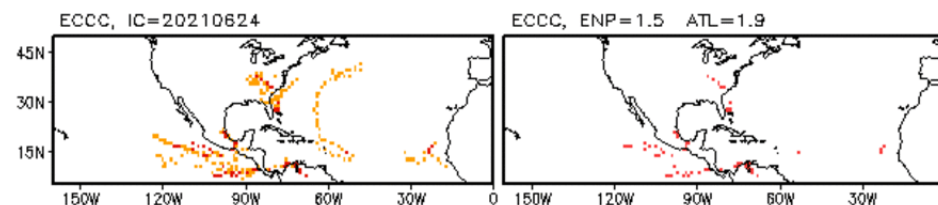
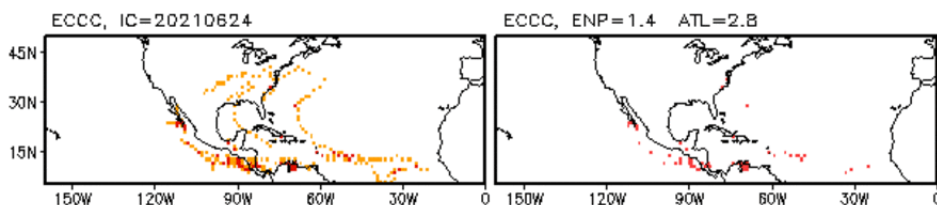
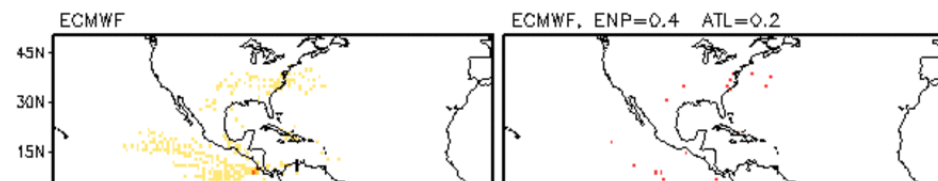
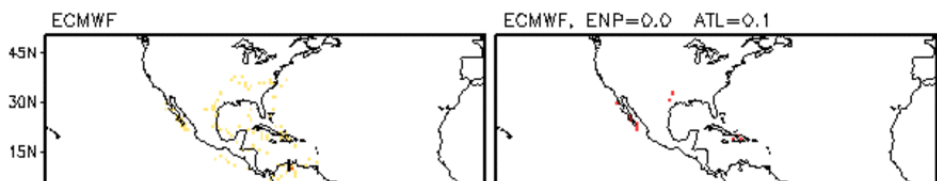
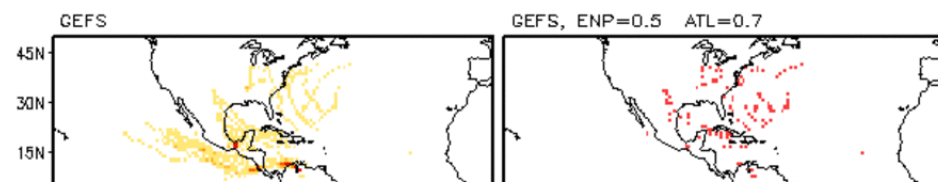
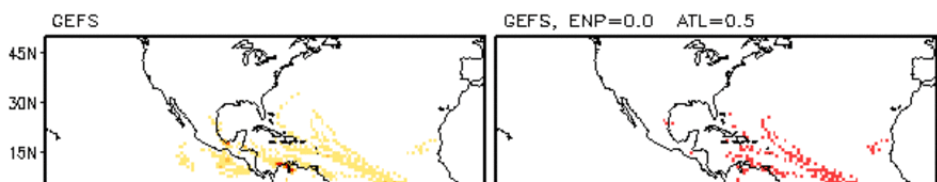
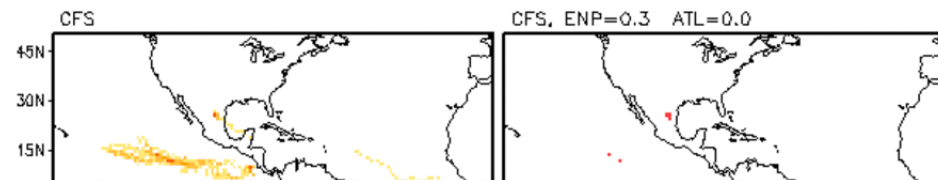
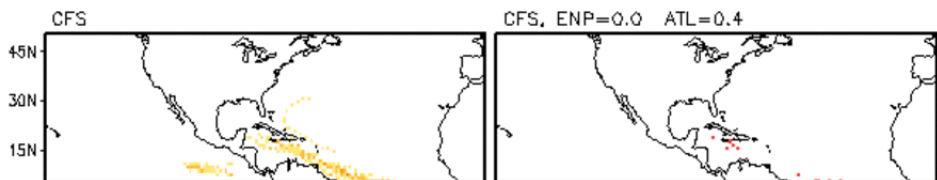
Storm Track Density Distribution, IC=20210628
Week 2 Forecast: 0707-0713

TRACK DENSITY

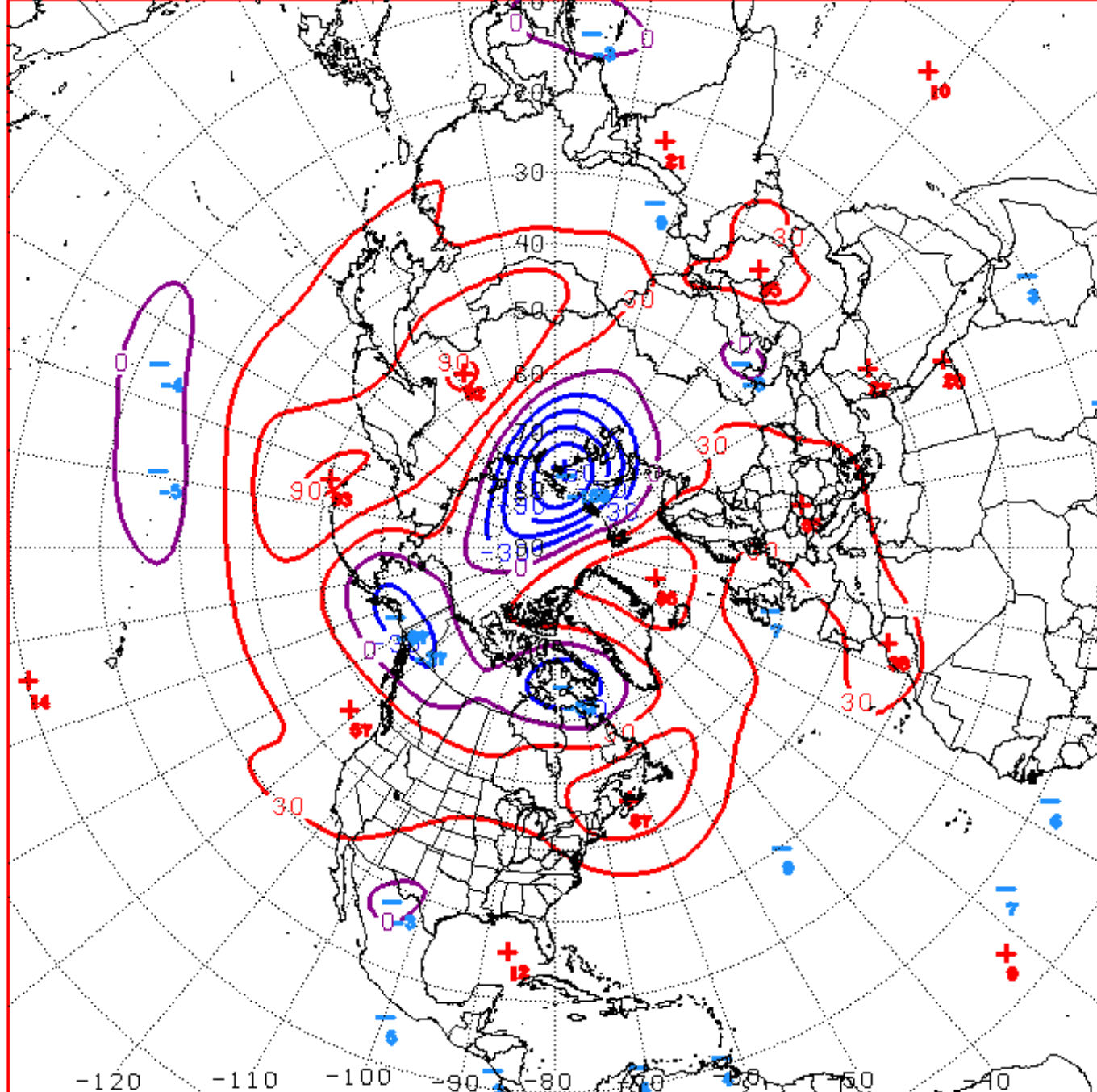
FILTERED

TRACK DENSITY

FILTERED

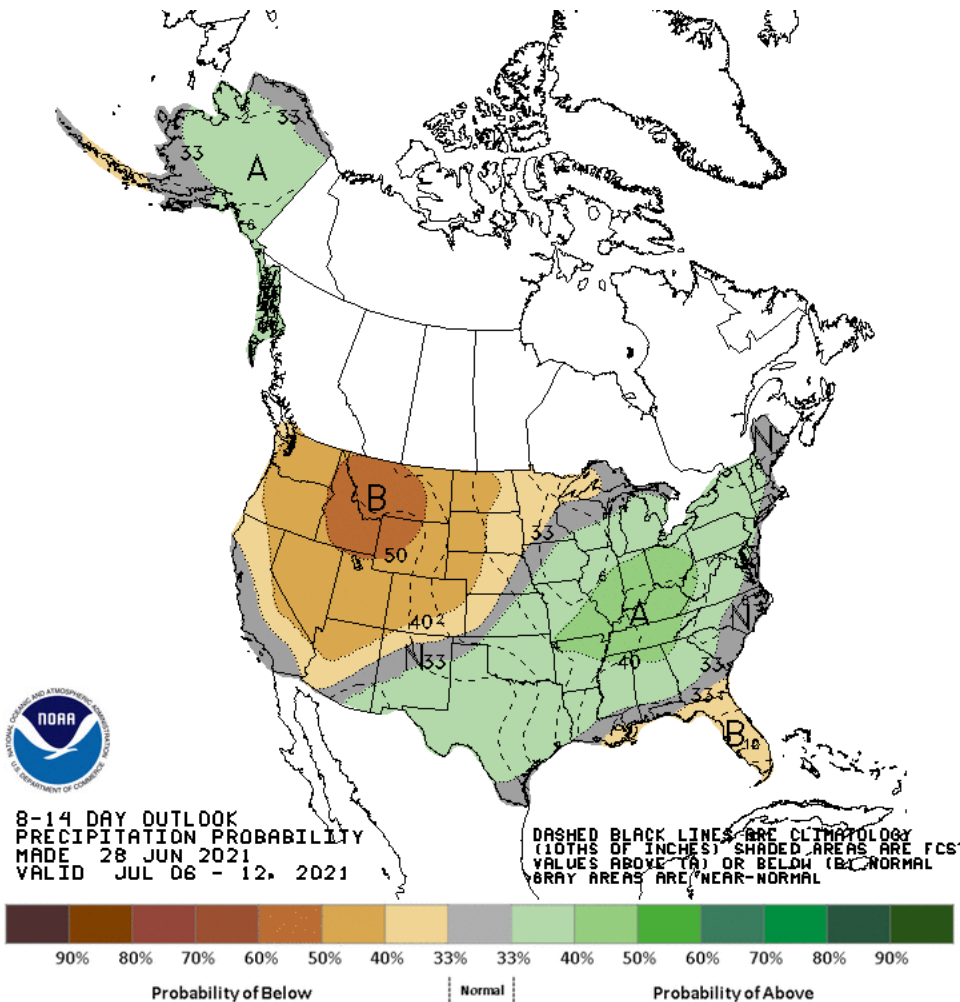
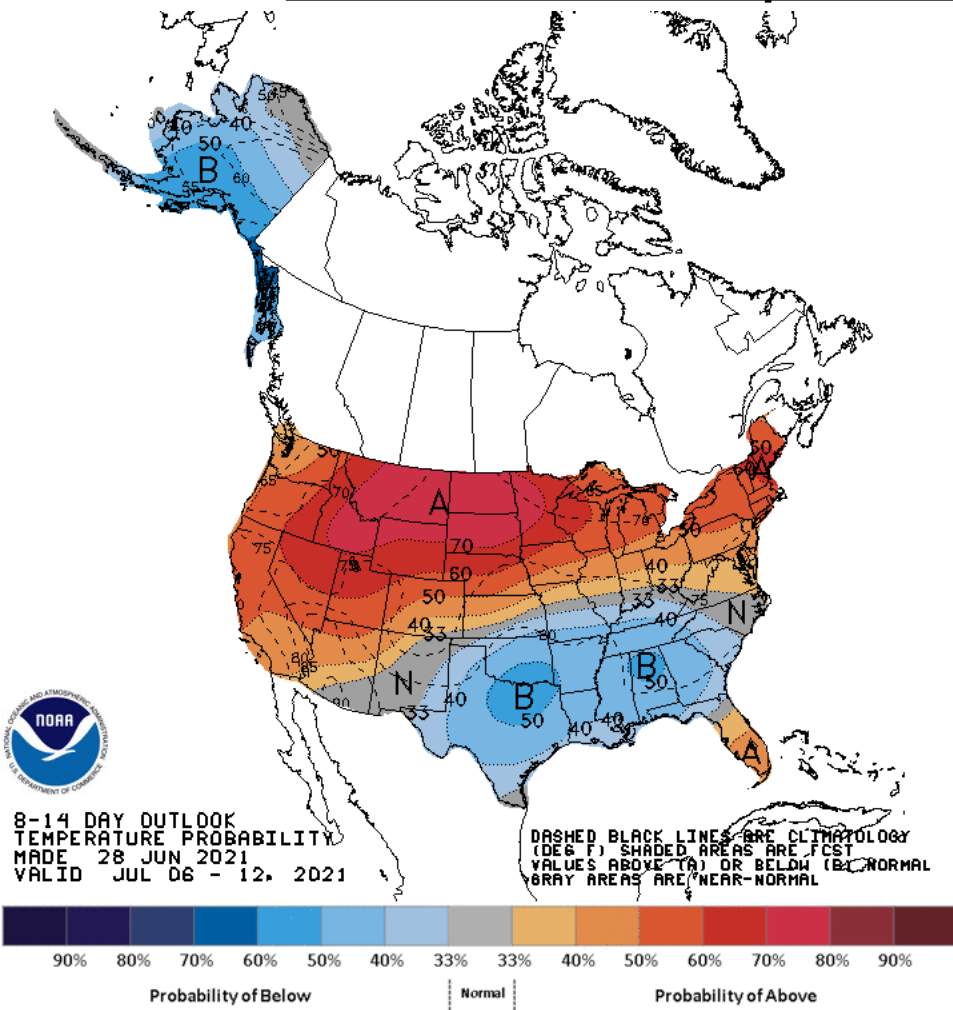


Connections to U.S. Impacts



D+11 500 MB ANOMALIES FROM 00Z ECMM
 CPC MAP MADE JUN 29 2021 0953 UTC CNTD JUL 10 2021

Week 2 – Temperature and Precipitation



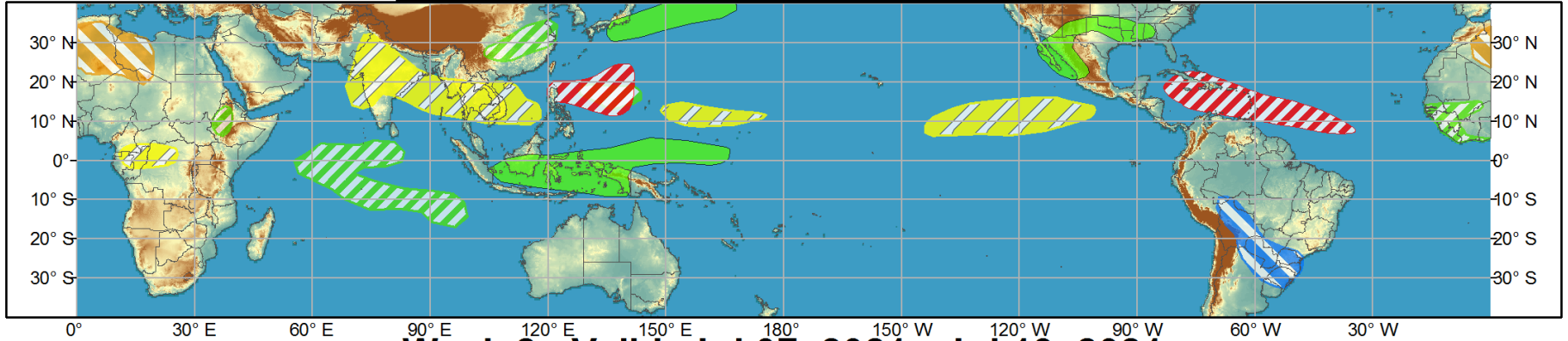
Limited changes anticipated from yesterday.



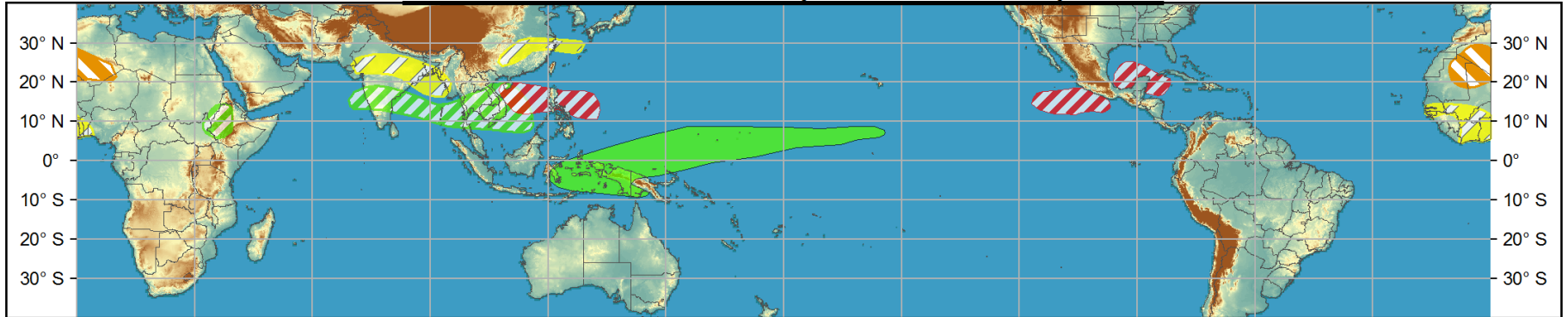
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