

Global Tropics Hazards And Benefits Outlook

8/4/2020

Adam Allgood

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



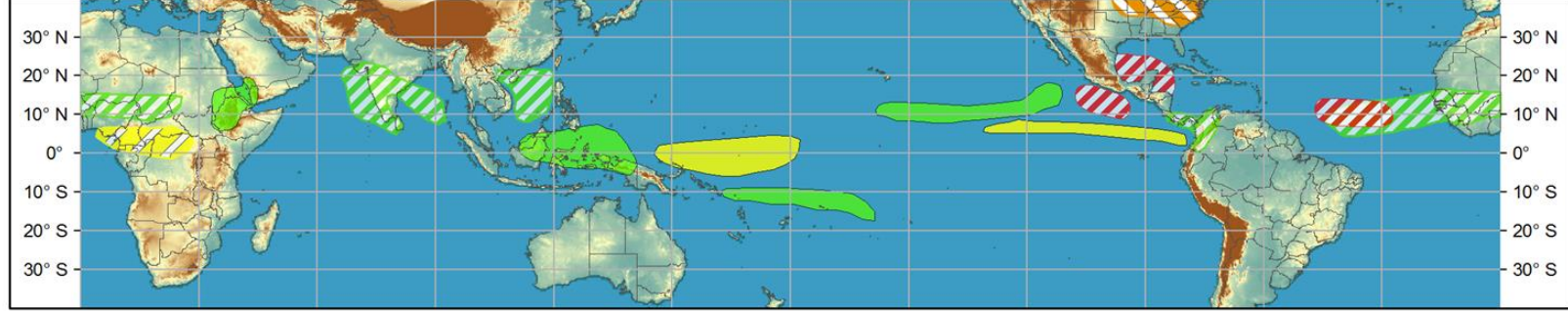
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jul 29, 2020 - Aug 04, 2020

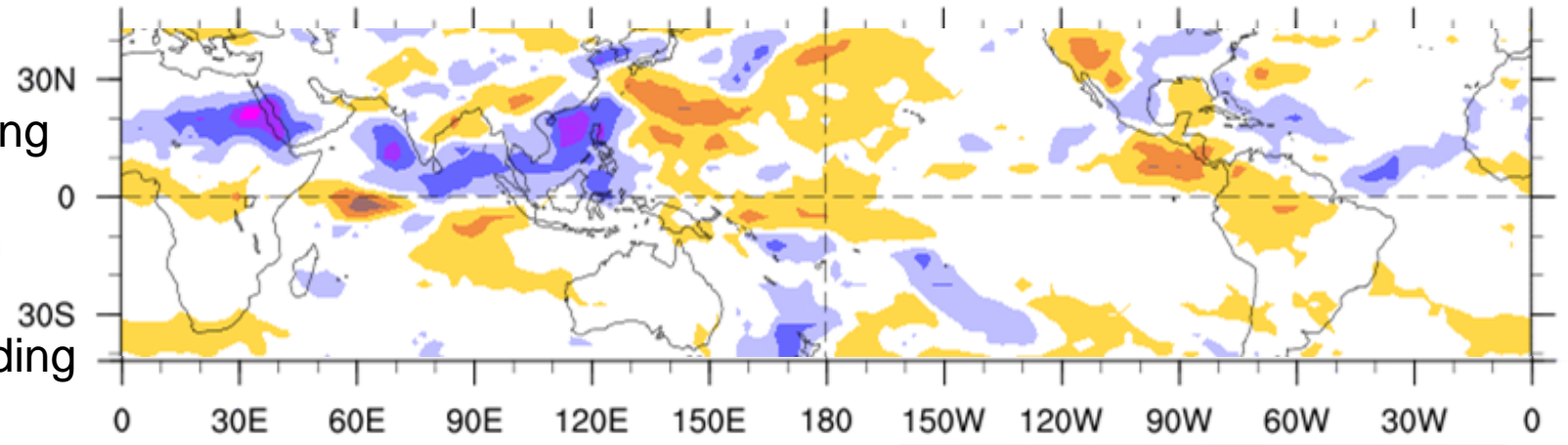


Week 2 - Valid: Jul 29, 2020 - Aug 04, 2020



7-Day Average OLR Anomaly

2020/07/28 - 2020/08/03



Cool shading
More
clouds/rain

Warm shading
Less
clouds/rain

NOAA/PSL

Base Period: 1981-2010



Synopsis of Climate Modes

ENSO: (December 12, 2019 Update)

next update on 13th of Aug.!

- ENSO Alert System Status: [La Niña Watch](#)
- ENSO-neutral is favored to continue through the summer, with a 50-55% chance of La Niña development during Northern Hemisphere fall 2020 and continuing through winter 2020-21 (~50% chance).

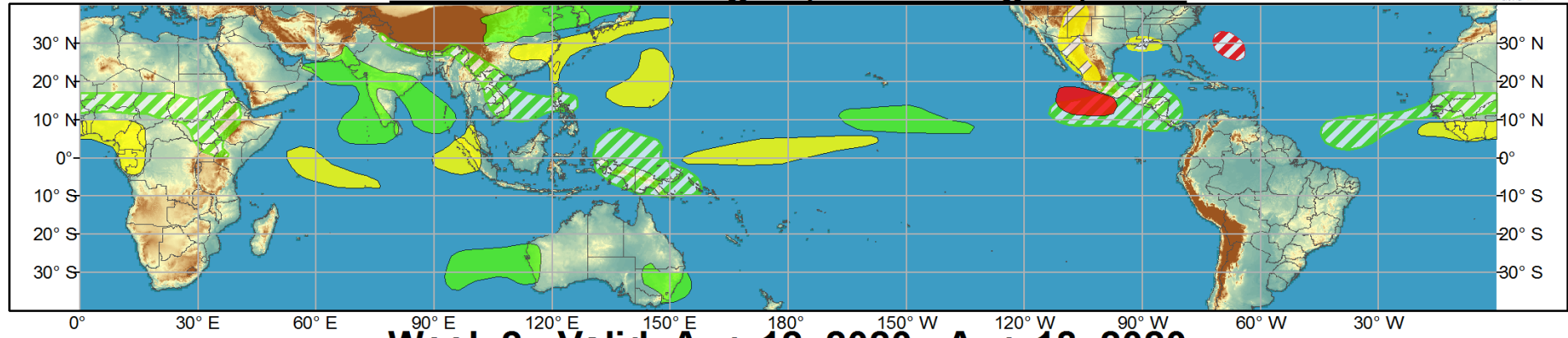
MJO and other subseasonal tropical variability:

- An active MJO pattern continues, with the enhanced phase now over the Maritime Continent.
- In addition to the MJO, robust Rossby wave activity (incl. TS Sinlaku and Typhoon Hagupit) is present over the Maritime Continent, and Kelvin wave activity is anticipated to cross the Pacific.
- The current MJO state, with the suppressed phase over the Western Hemisphere, may help to bring a two-week reduction in Atlantic MDR activity. Kelvin wave activity may increase East Pacific activity by the end of Week-1. Beyond the forecast period, the tropical convective evolution favors renewed Atlantic TC activity.

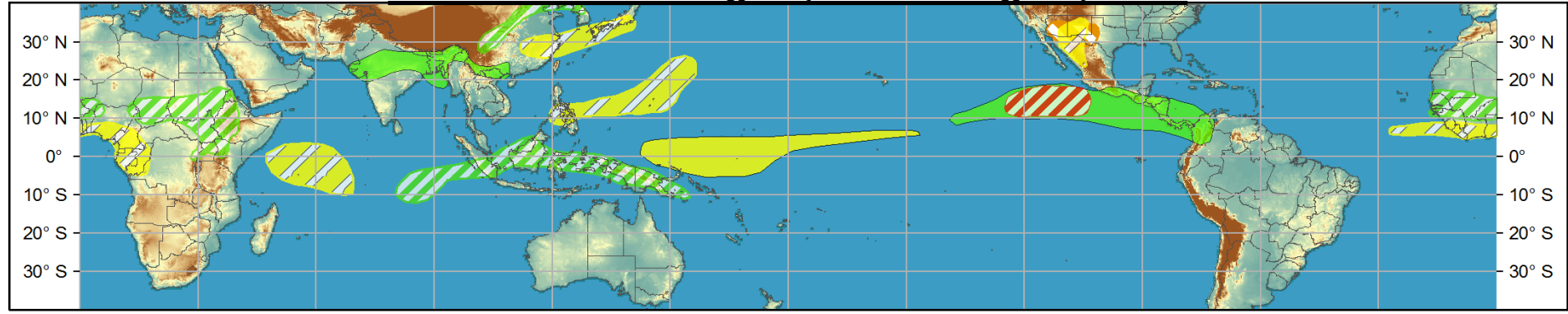


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Aug 05, 2020 - Aug 11, 2020



Week 2 - Valid: Aug 12, 2020 - Aug 18, 2020



Produced: 08/04/2020
Forecaster: Allgood

| 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

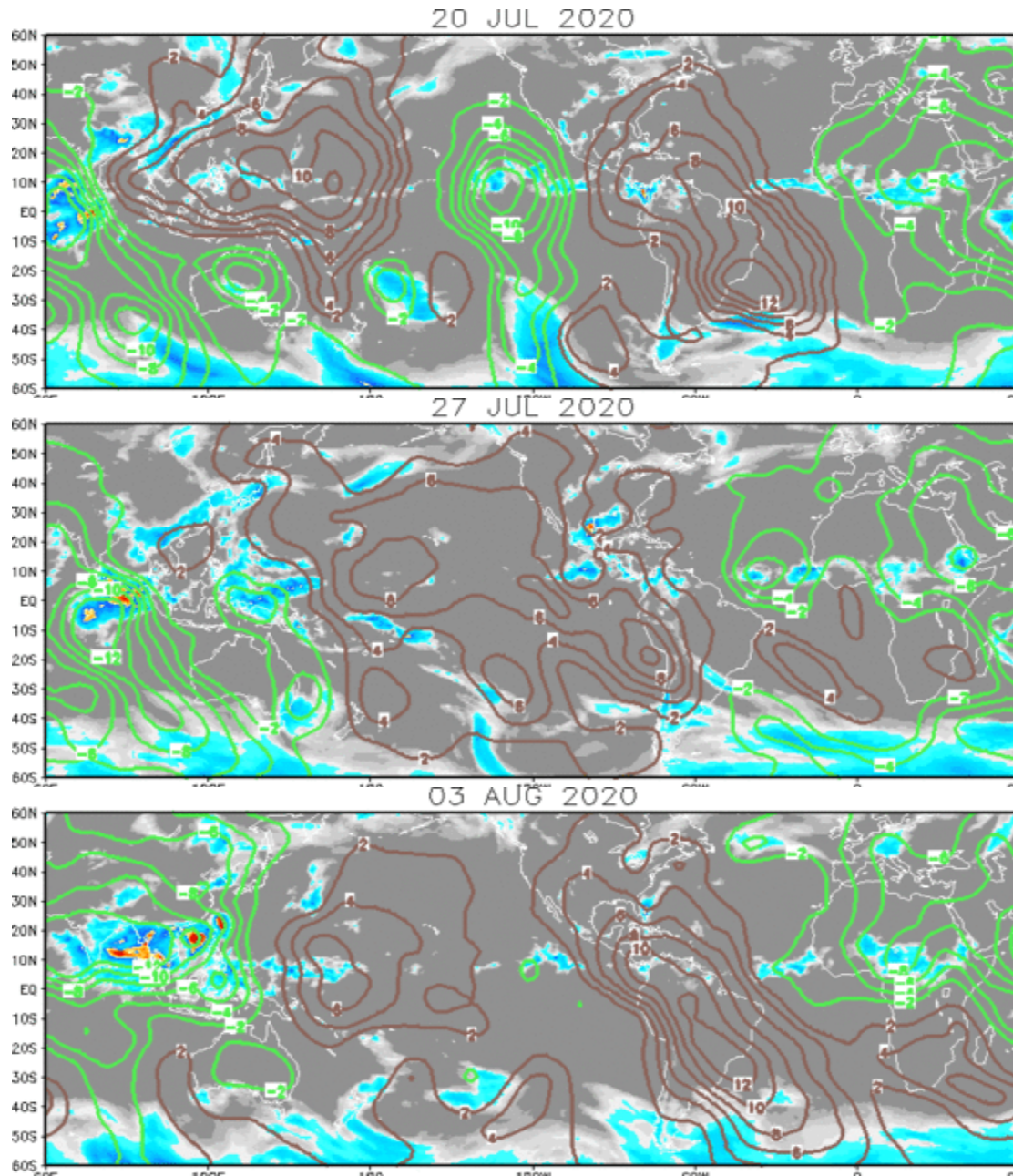
Green: Enhanced Divergence

Brown: Enhanced Convergence

Wave-2 asymmetry as strong Kelvin wave crossed Pacific and lower frequency convection persisted over Africa/IO

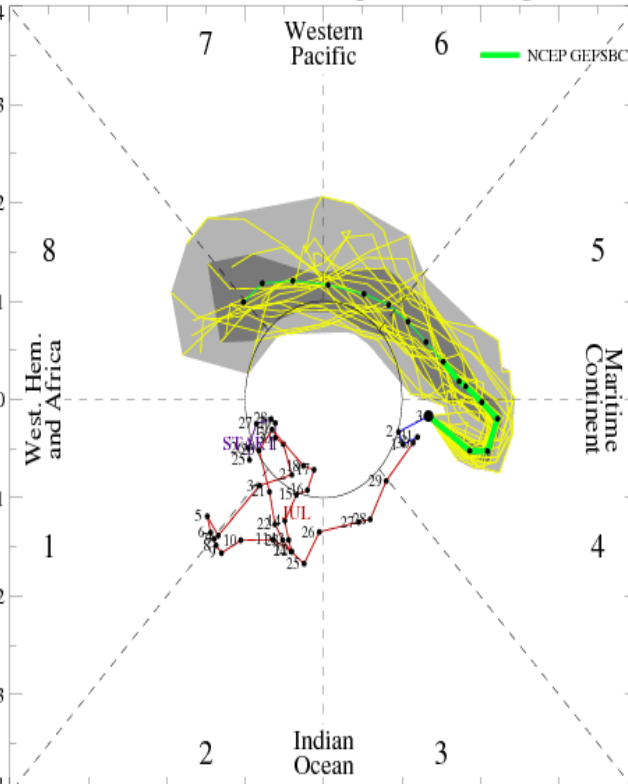
A more Wave-1 MJO-like structure began to emerge as the Kelvin wave returned to the Eastern Hemisphere

Eastward propagation of the signal to the Maritime Continent is evident, with increased South/Southeast Asia Monsoon activity



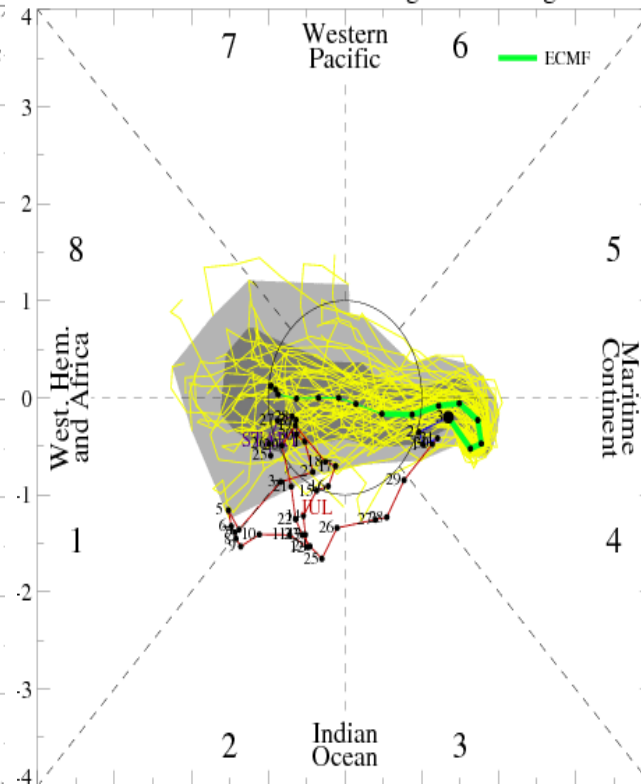
MJO Observation/Forecast

[RMM1, RMM2] forecast for Aug-04-2020 to Aug-18-2020



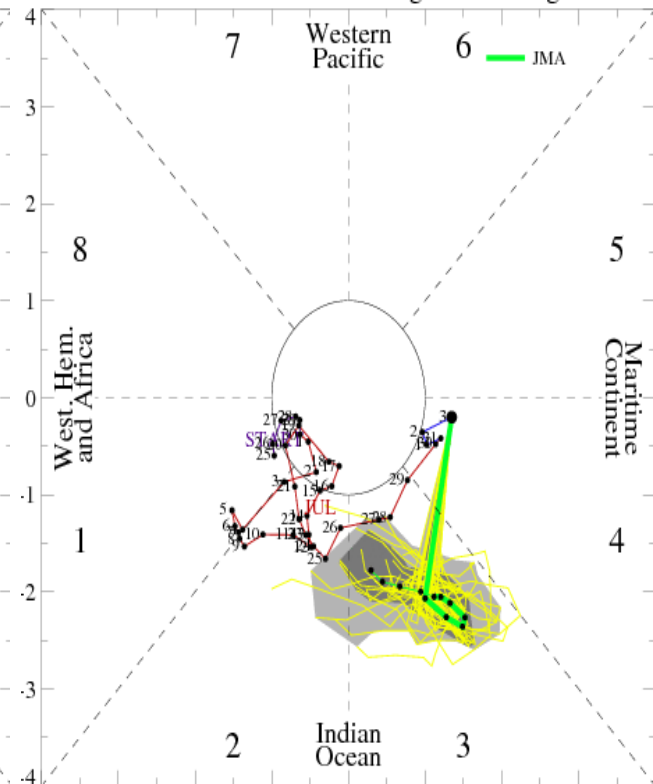
GEFS

MJO Index Forecast for 04Aug2020-18Aug2020



ECMWF

MJO Index Forecast for 04Aug2020-12Aug2020

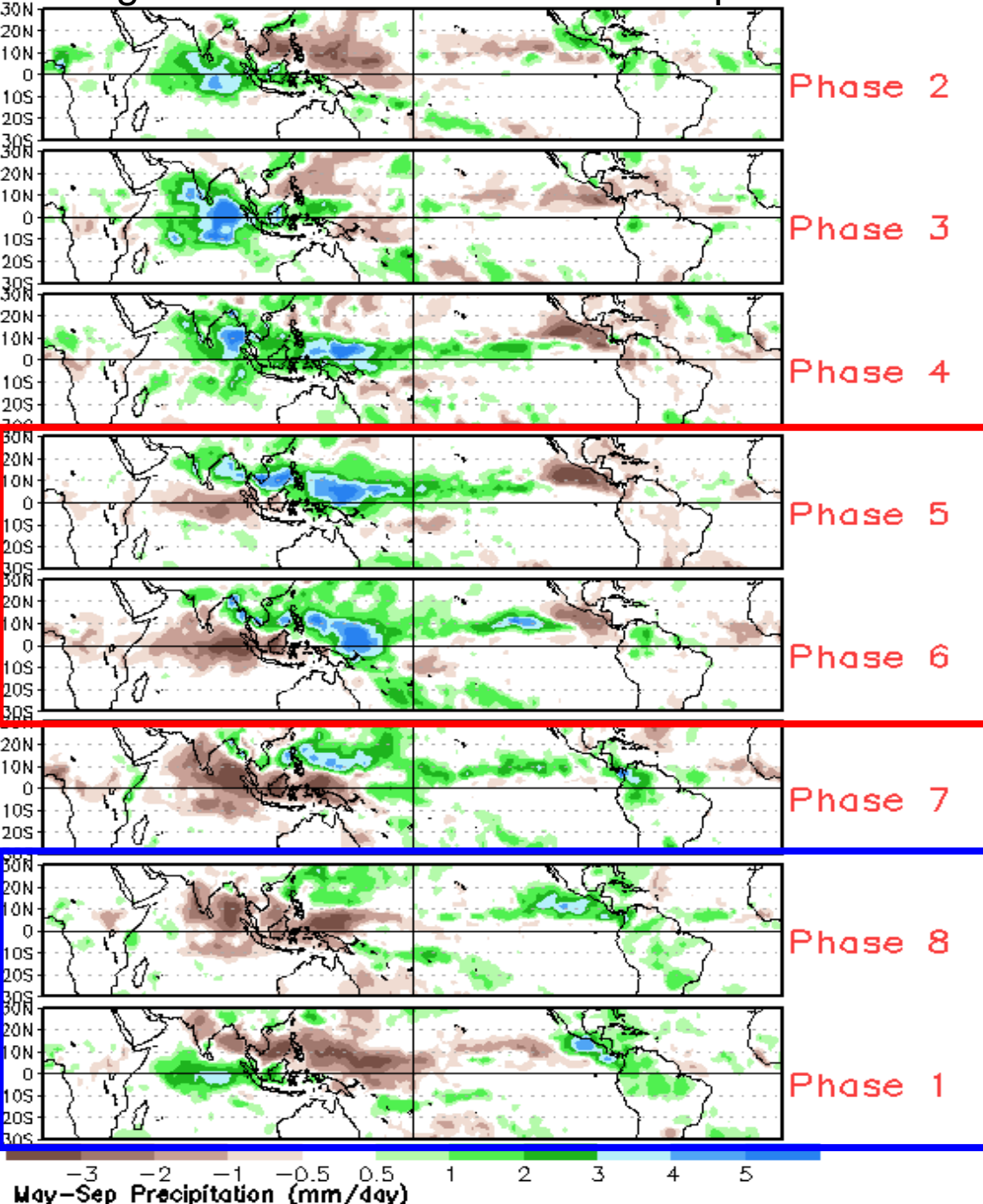


JMA

GEFS shows fairly consistent westward propagation of a fast signal, likely keying in on Kelvin wave activity. Notably the operational GFS develops an East Pacific TC over the weekend.

The ECMWF shows a faster, weaker progression, with amplification over the Western Hemisphere by Week-2. Also seems KW related, with the low frequency state causing more interference.

Average Conditions when the MJO is present



GEFS solution

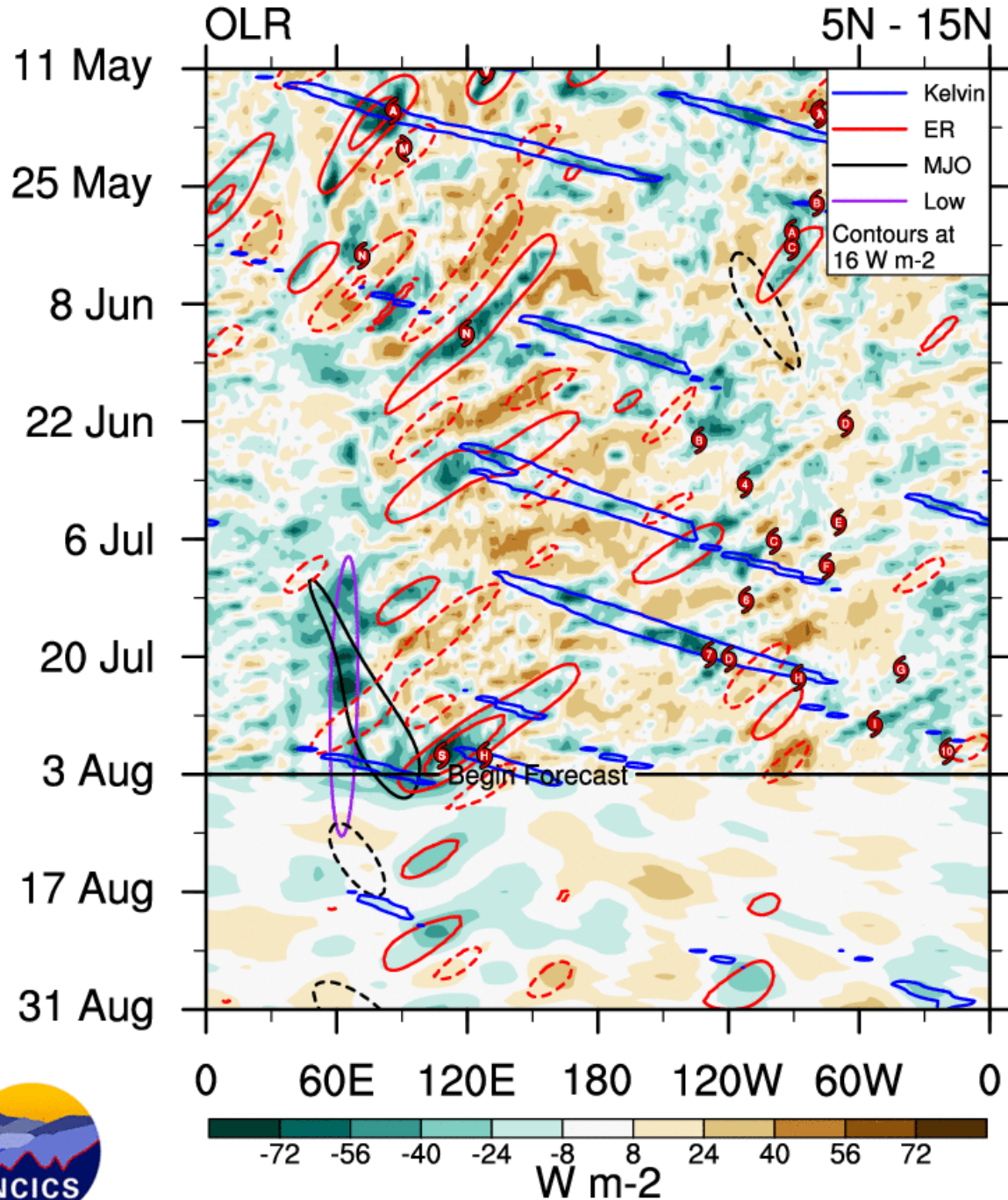
ECMWF Week-2

CAVEAT: These panels are representative of robust MJO events.

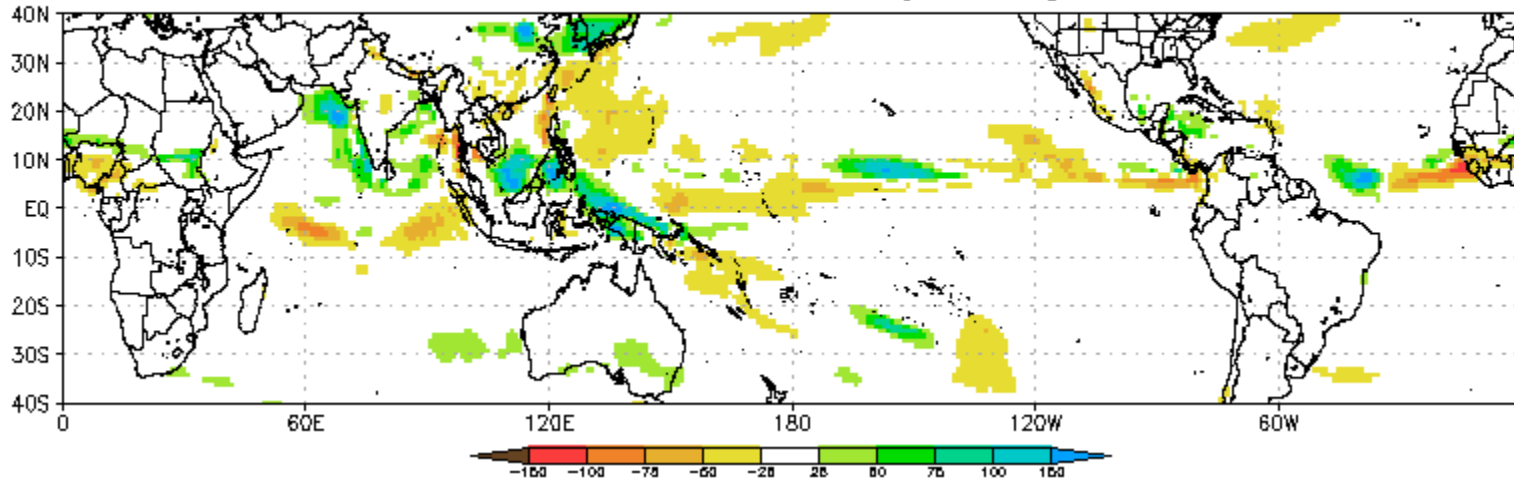
MJO has become apparent in the filtering.

Rossby wave presence over the Maritime Continent/far West Pacific helped generate two TCs.

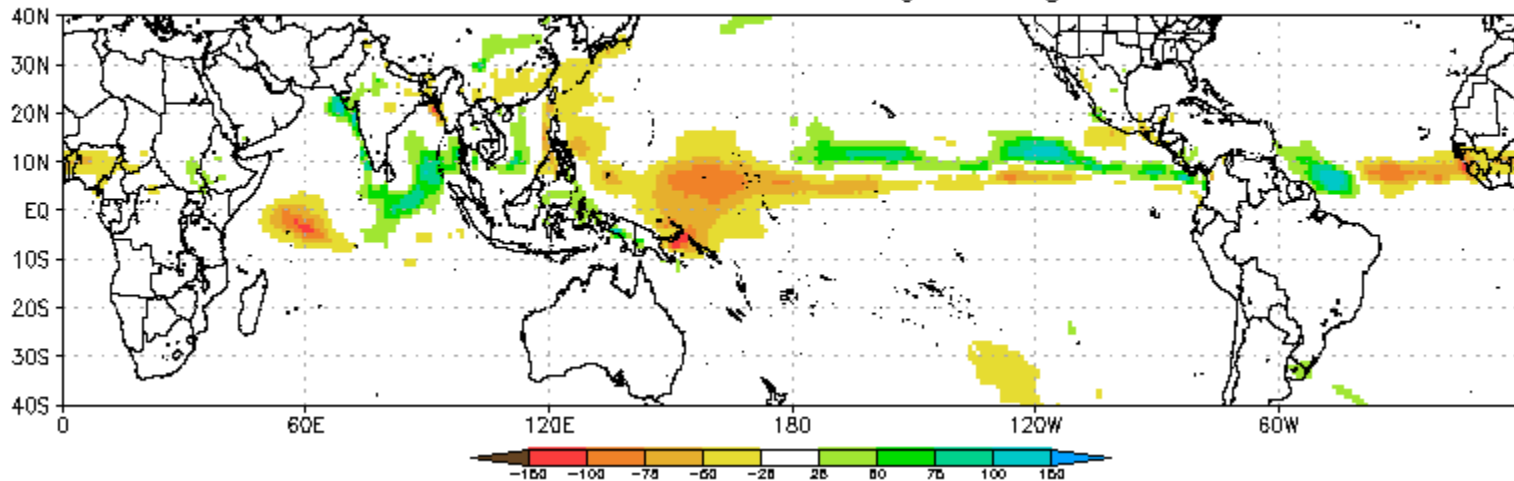
Kelvin wave activity is possible across the Pacific



CFS Precipitation Anomalies (mm) Issued 03Aug2020
Week-1 Forecast Ending 11Aug2020



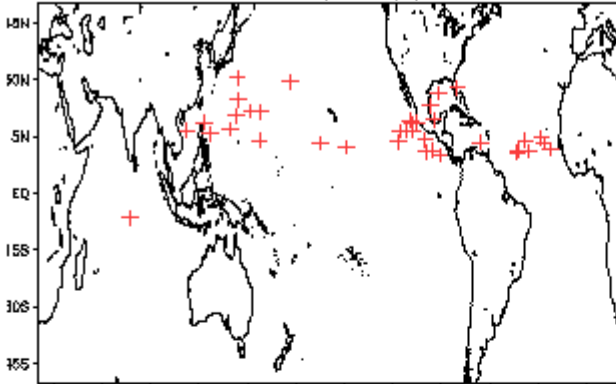
CFS Precipitation Anomalies (mm) Issued 03Aug2020
Week-2 Forecast Ending 18Aug2020



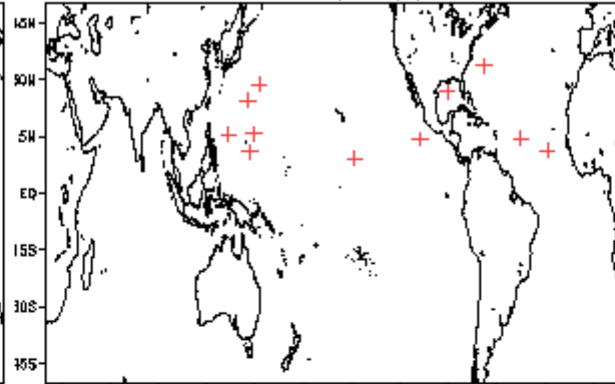
CFS maintains suppressed north of New Guinea, but has more precip crossing the central Pacific.

August Tropical Storm Formation by MJO phase

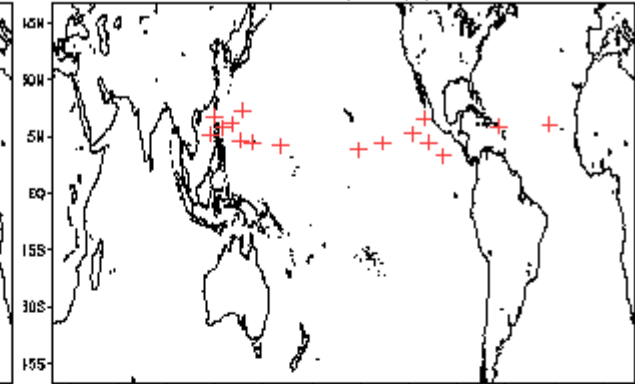
Phase 1 (101 days) 38 storms



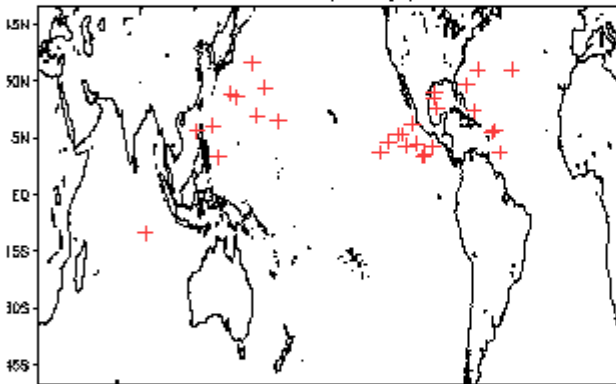
Phase 4 (40 days) 12 storms



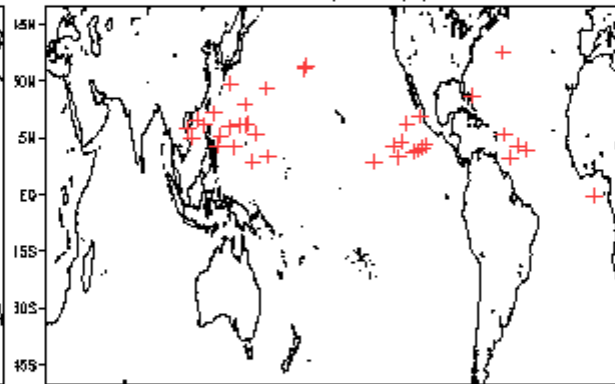
Phase 7 (43 days) 17 storms



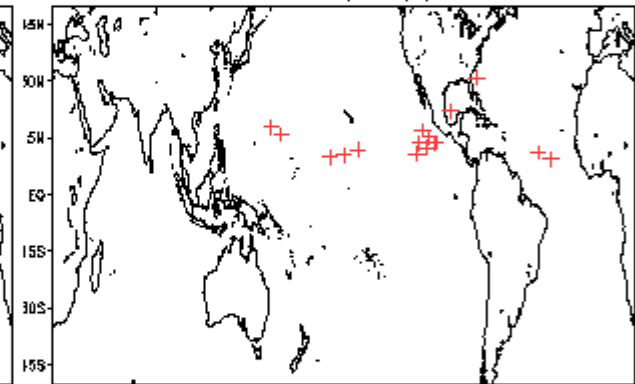
Phase 2 (79 days) 31 storms



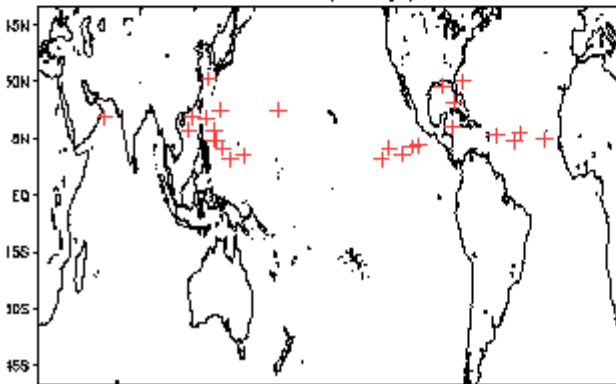
Phase 5 (117 days) 40 storms



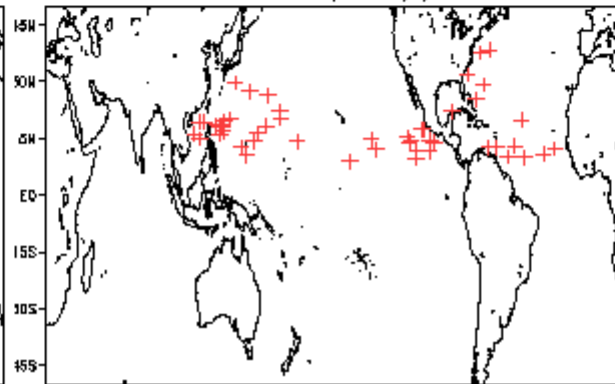
Phase 8 (25 days) 17 storms



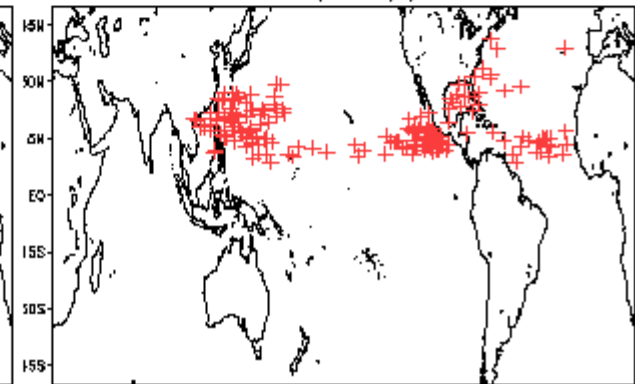
Phase 3 (51 days) 27 storms



Phase 6 (101 days) 50 storms



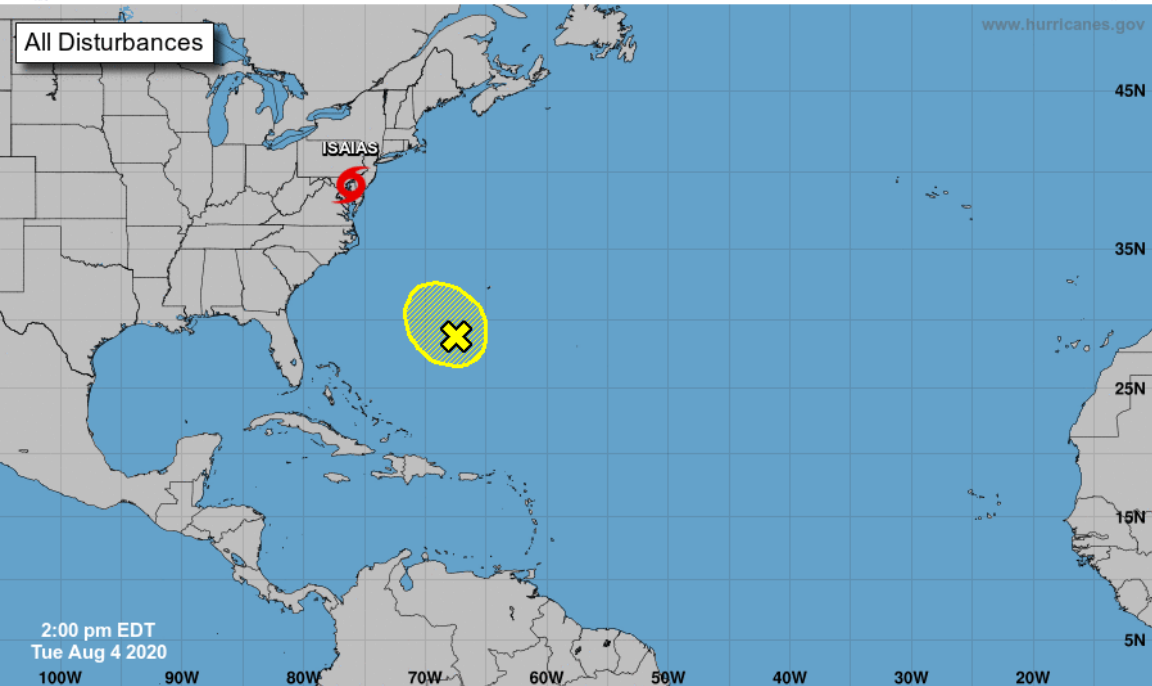
Null (466 days) 189 storms





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



2:00 pm EDT
Tue Aug 4 2020

100W 90W 80W 70W 60W 50W 40W 30W 20W

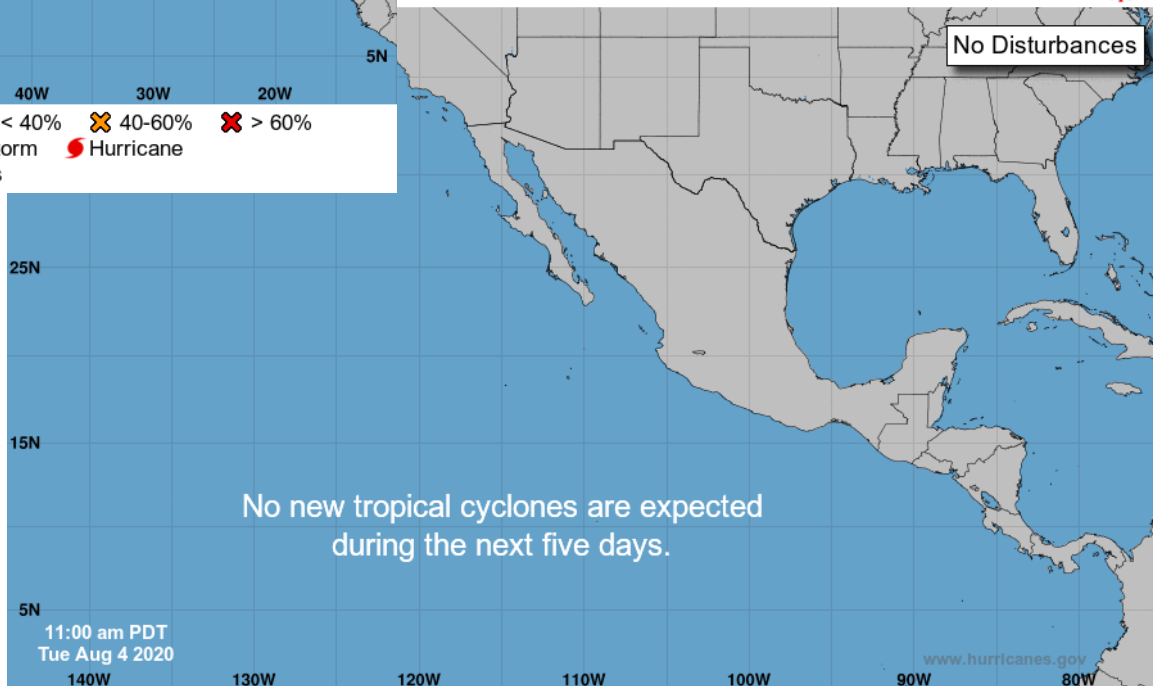
Current Disturbances and Five-Day Cyclone Formation Chance: X < 40% X 40-60% X > 60%

Tropical or Sub-Tropical Cyclone: ○ Depression ◐ Storm ◑ Hurricane

⊗ Post-Tropical Cyclone or Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



No Disturbances

No new tropical cyclones are expected during the next five days.

11:00 am PDT
Tue Aug 4 2020

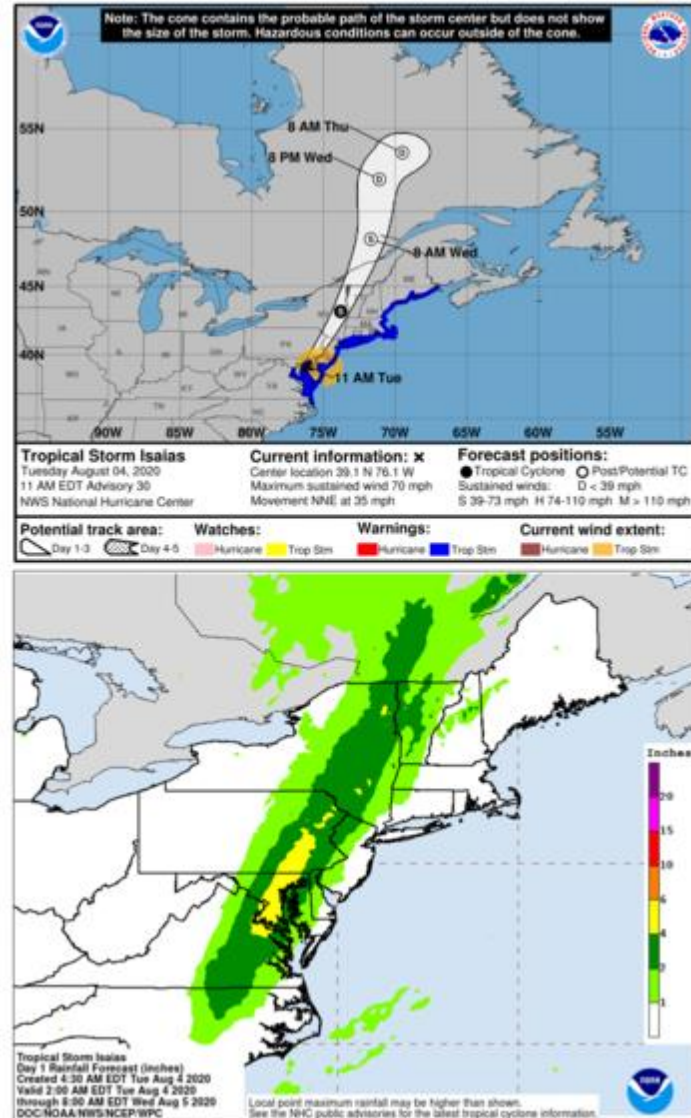
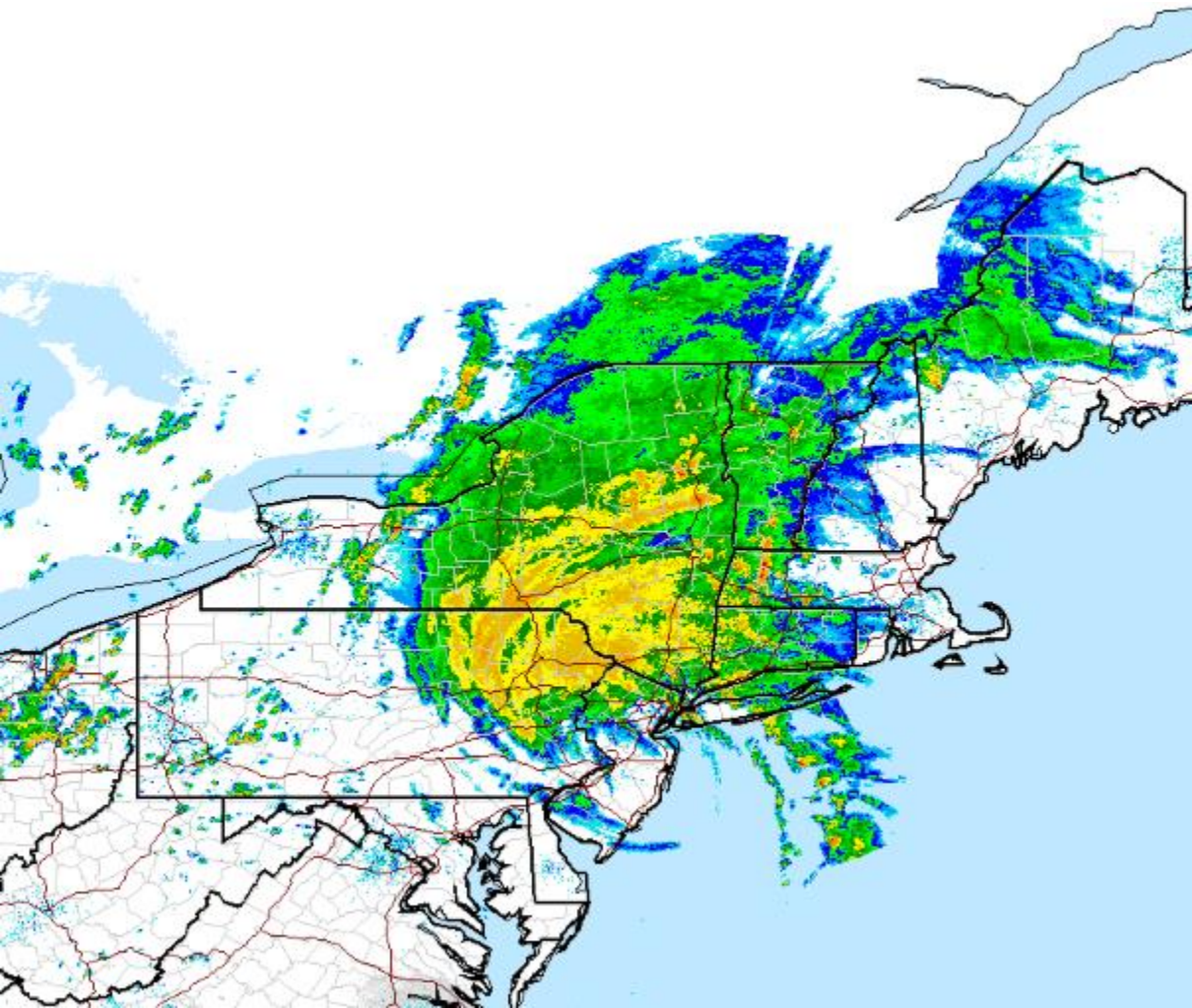
140W 130W 120W 110W 100W 90W 80W

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

Tropical or Sub-Tropical Cyclone: ○ Depression ◐ Storm ◑ Hurricane

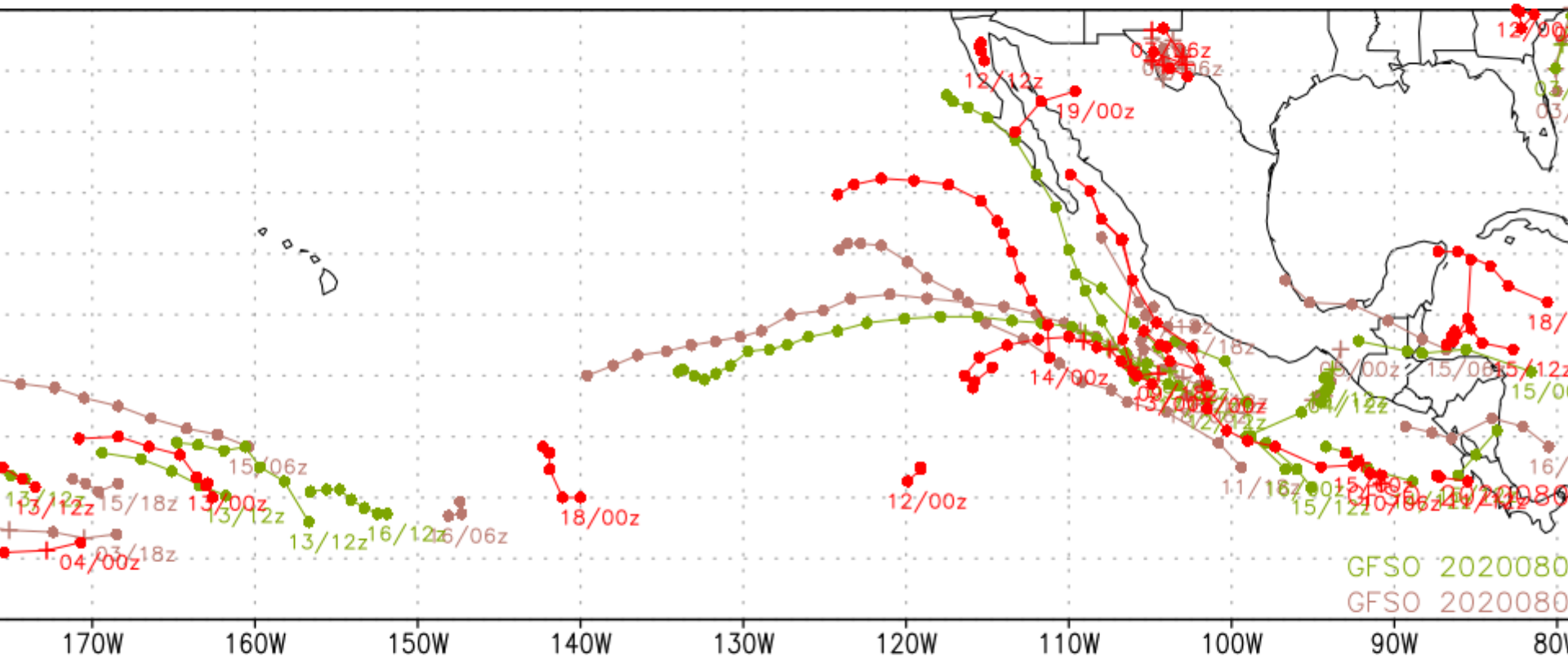
⊗ Post-Tropical Cyclone or Remnants

Hurricane Isaias



Model Forecast Storm Tracks

Forecasts from 2020080400 and the previous 24 hours



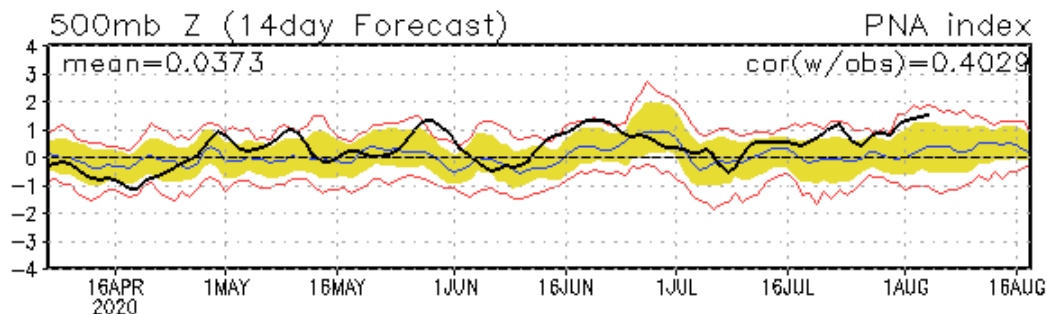
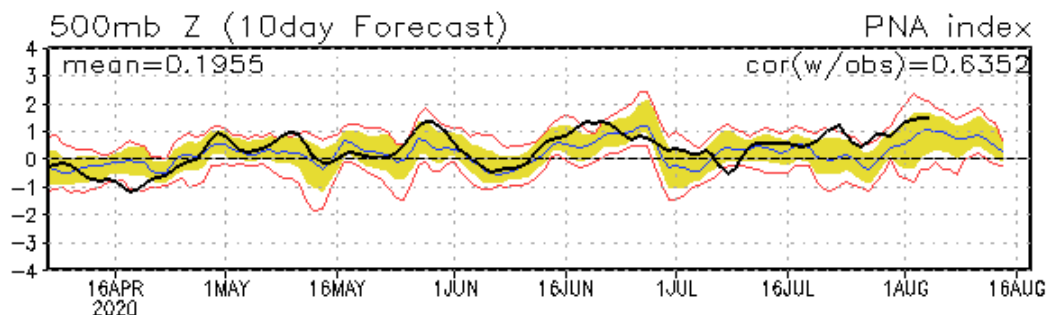
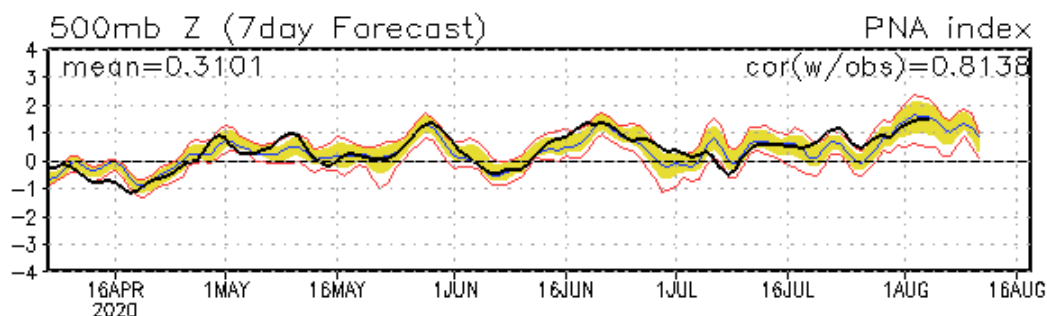
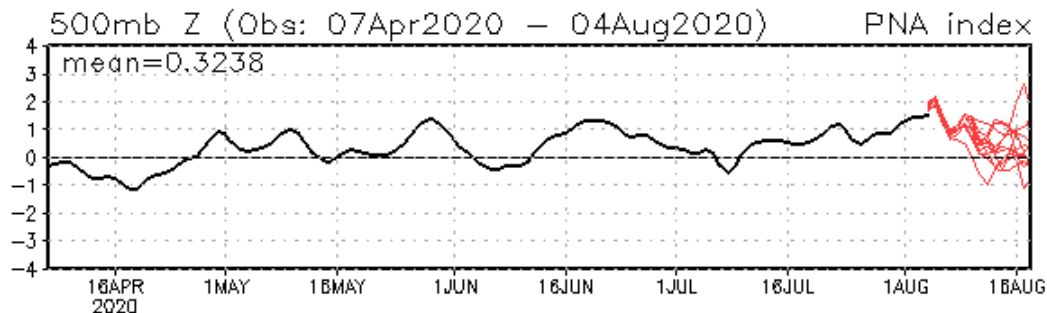
GFSO 2020080400
 GFSO 2020080300

Indicates a position at 00 or 12 UTC
 Indicates a position at 06 or 18 UTC
 (dd/hhZ) is first time storm was able to be tracked in model

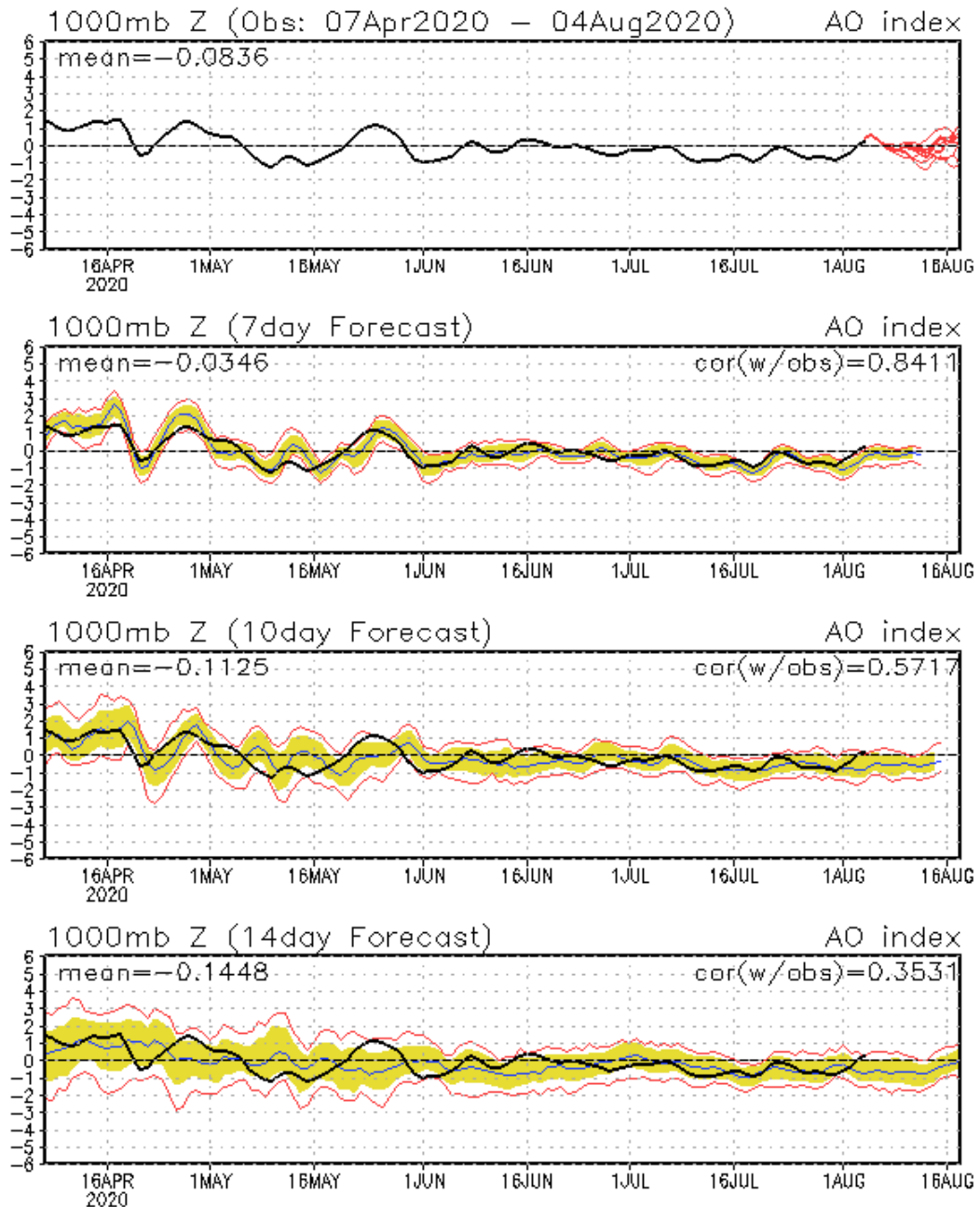
NOAA/

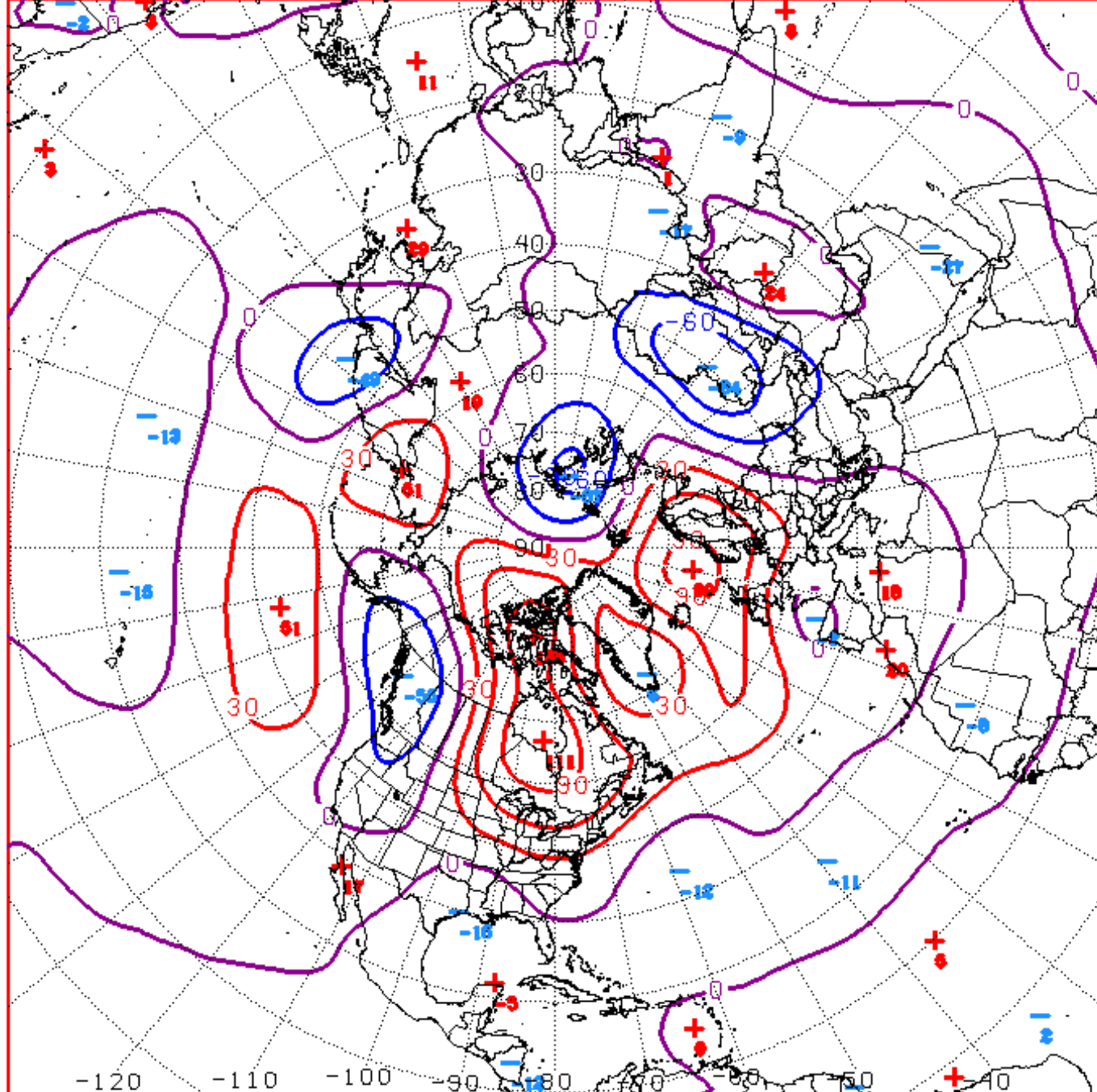
Connections to U.S. Impacts

PNA: Observed & ENSM forecasts



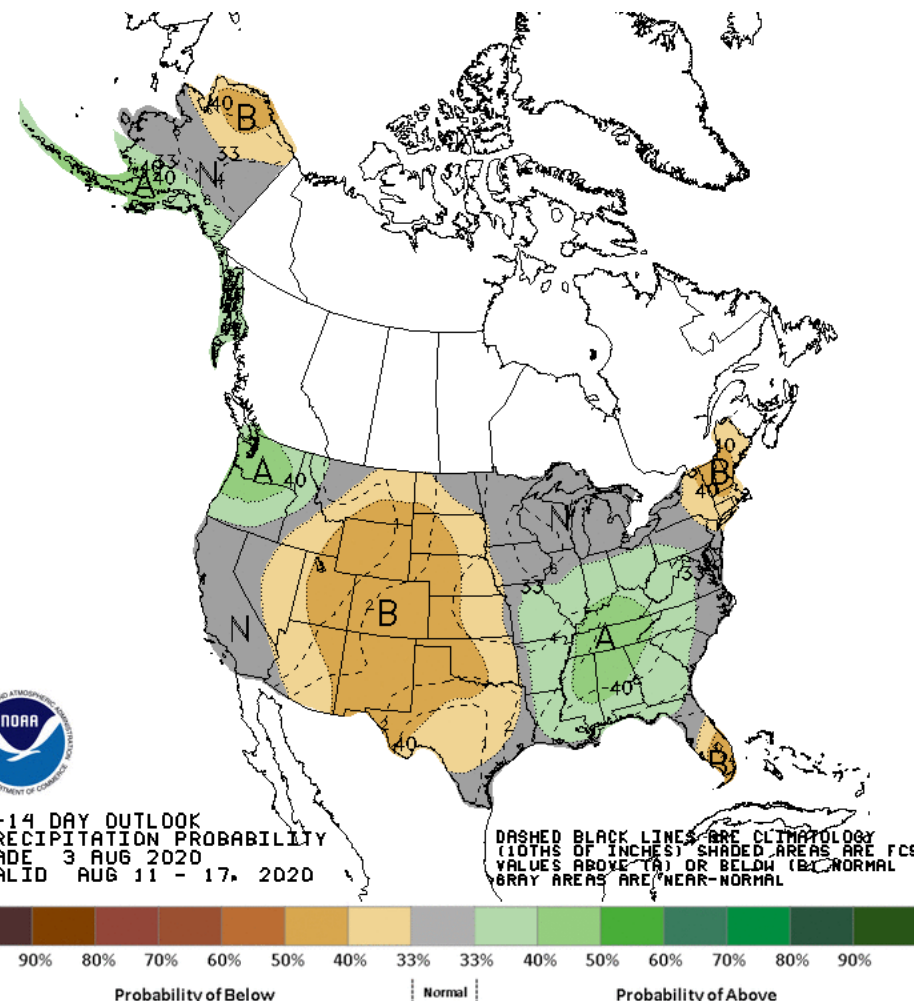
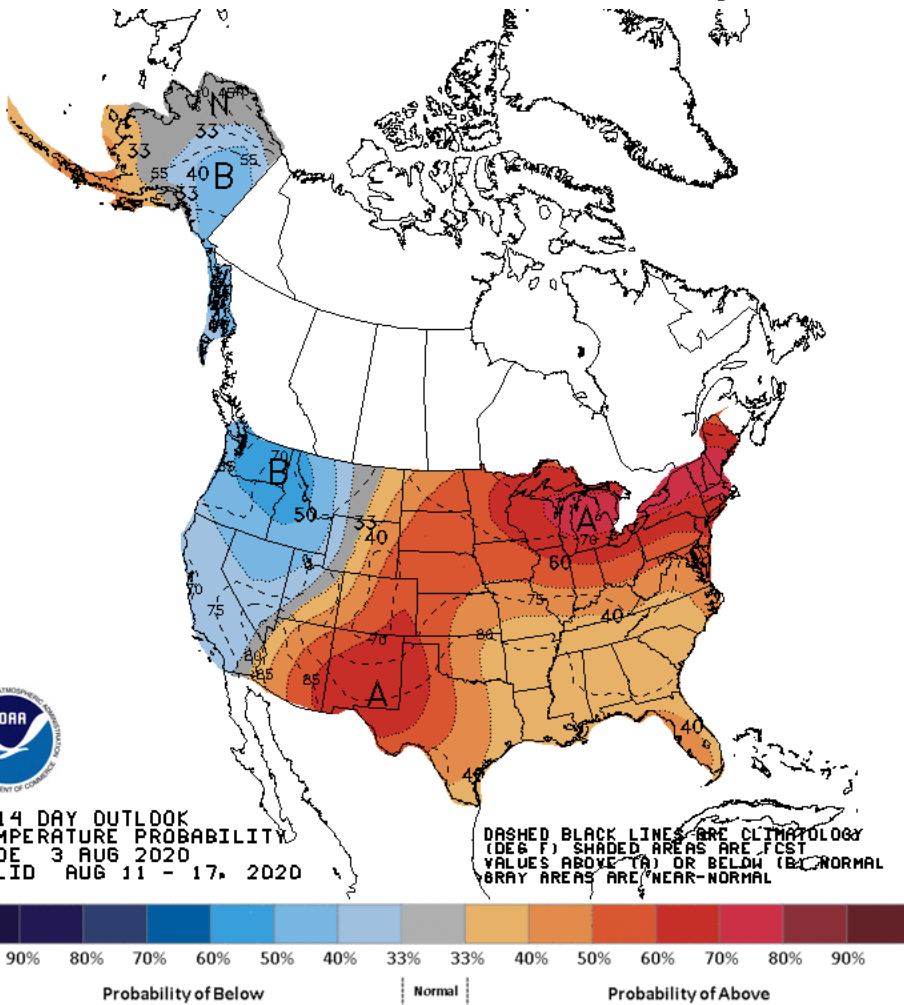
AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE AUG 04 2020 1257 UTC CNTD AUG 15 2020

Week 2 – Temperature and Precipitation

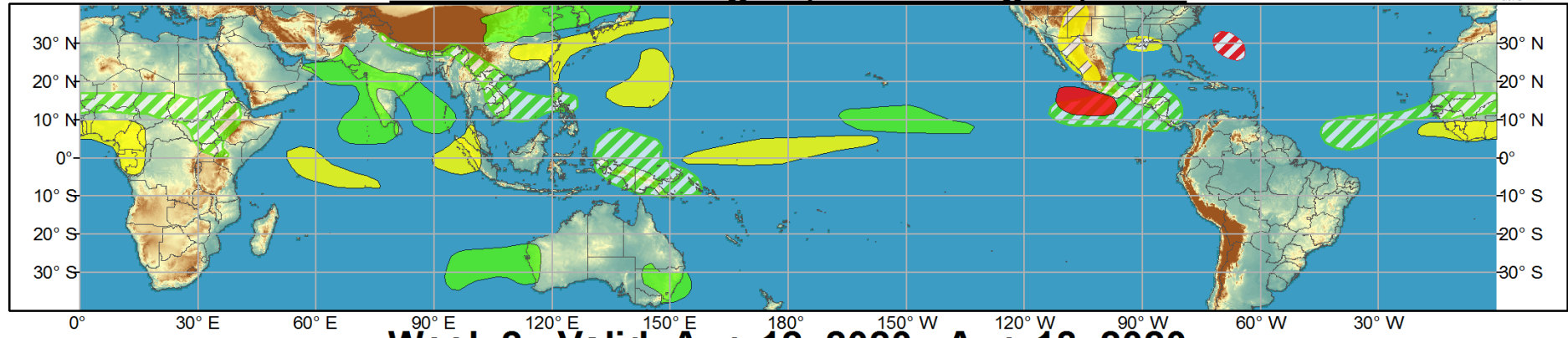


Since we are in an amplified, stable pattern today's outlooks are likely to be similar.

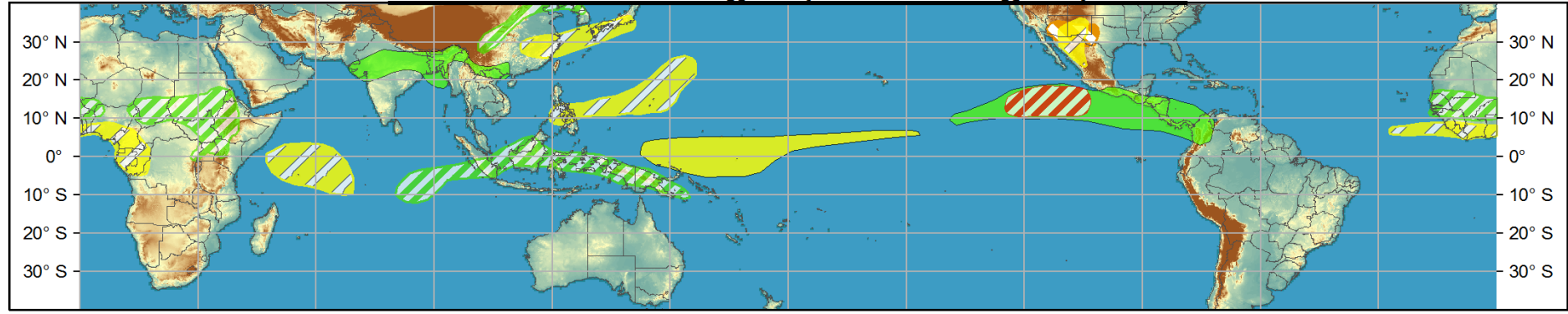


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