

Global Tropics Hazards And Benefits Outlook

9/28/2021

Nick Novella

Outline

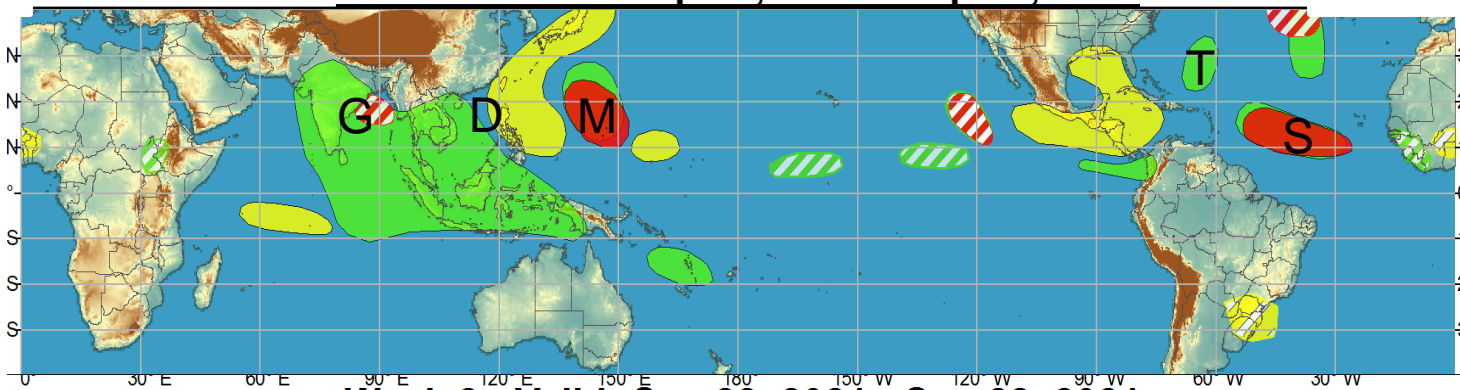
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

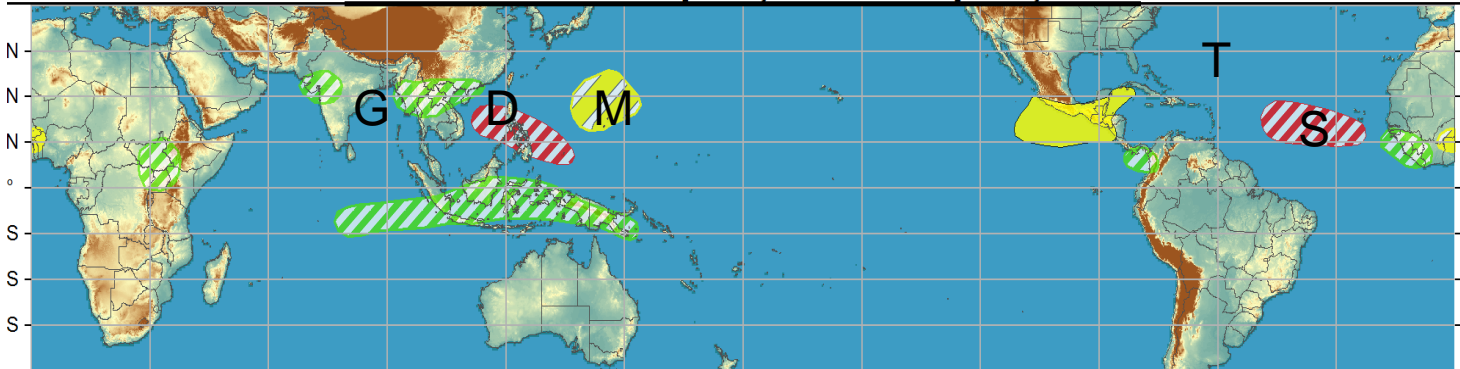
TCs formed since 9/22

- Gulab (9/24)
- Mindulle (9/22)
- Dianmu (9/22)
- Sam (9/23)
- Teresa (9/24)

Week 1 - Valid: Sep 22, 2021 - Sep 28, 2021

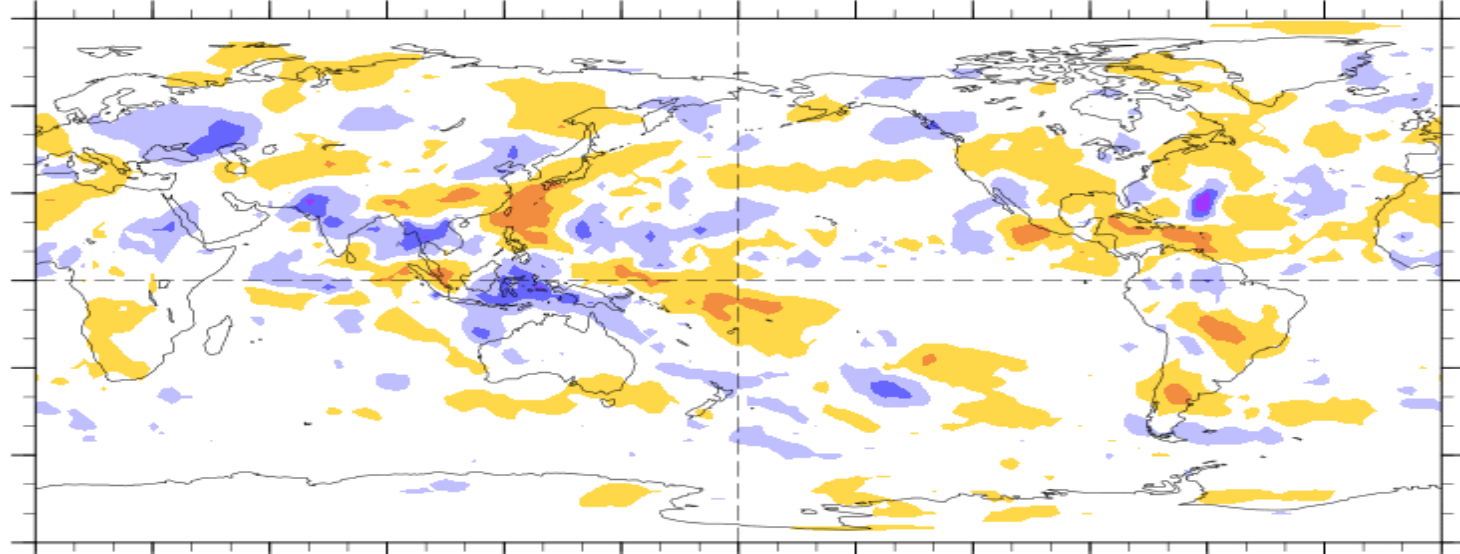


Week 2 - Valid: Sep 22, 2021 - Sep 28, 2021



7-Day Average OLR Anomaly

2021/09/20 - 2021/09/26



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (September 9, 2021 Update)

next update on 14th of Oct.!

- ENSO Alert System Status: [La Niña Watch](#)
- A transition from ENSO-neutral to La Niña is favored in the next couple of months, with a 70-80% chance of La Niña during the Northern Hemisphere winter 2021-22.

MJO and other subseasonal tropical variability:

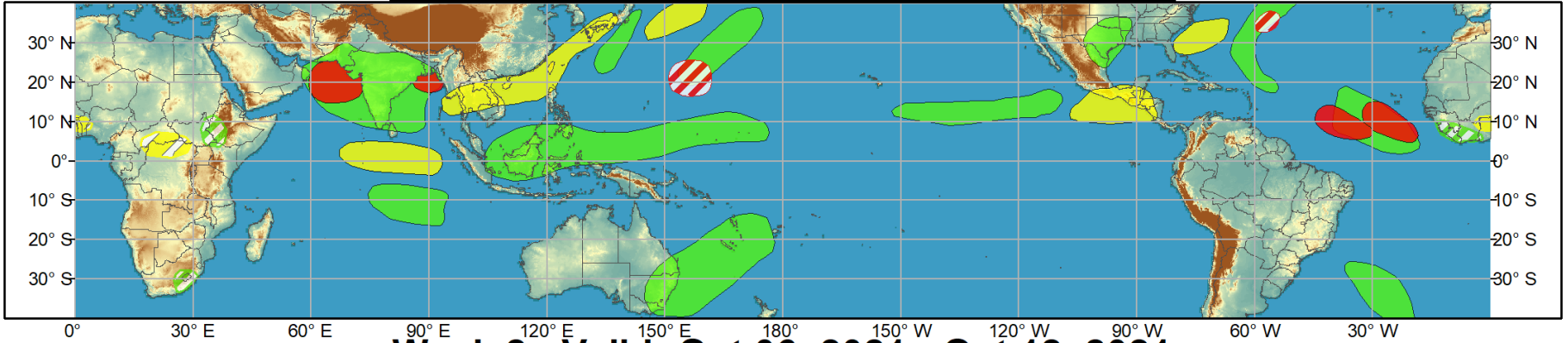
- The RMM index indicates the intraseasonal signal has stalled while weakening over the Maritime Continent during the last week. However, there has been an uptick in amplitude in recent days.
- Dynamical models generally favor the reemergence of the MJO over the Maritime Continent that propagates eastward into the West Pacific during next two weeks. However, much uncertainty remains in the MJO outlook given varying degrees of amplitude in the ensemble guidance and the developing La Nina base state.
- Tropical cyclone activity is favored to continue in the eastern Hemisphere. Additional tropical cyclone development is also likely the East Pacific and the Atlantic during week-1, with decreasing chances heading into the week-2 period.



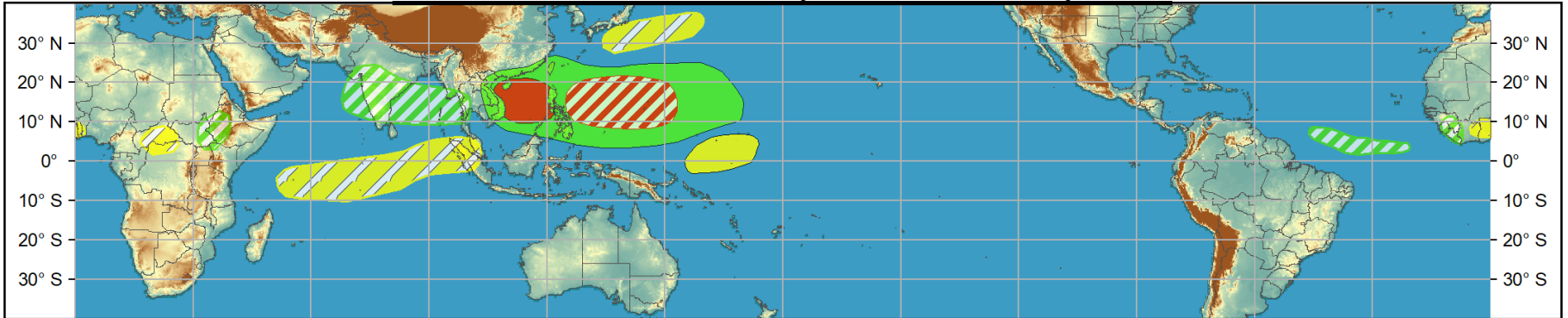
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Sep 29, 2021 - Oct 05, 2021



Week 2 - Valid: Oct 06, 2021 - Oct 12, 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.
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Produced: 09/28/2021
Forecaster: Novella

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

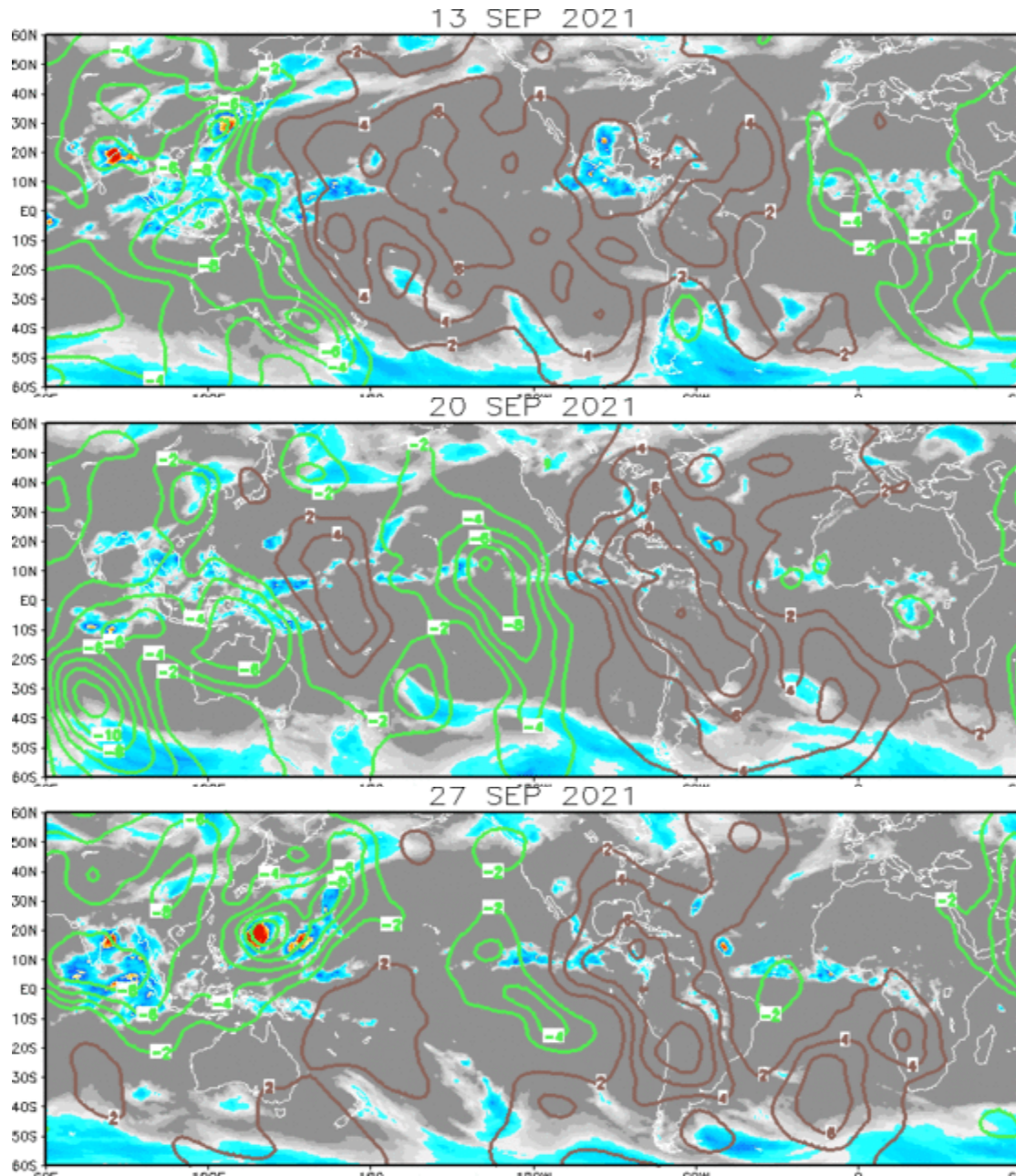
Green: Enhanced Divergence

Brown: Enhanced Convergence

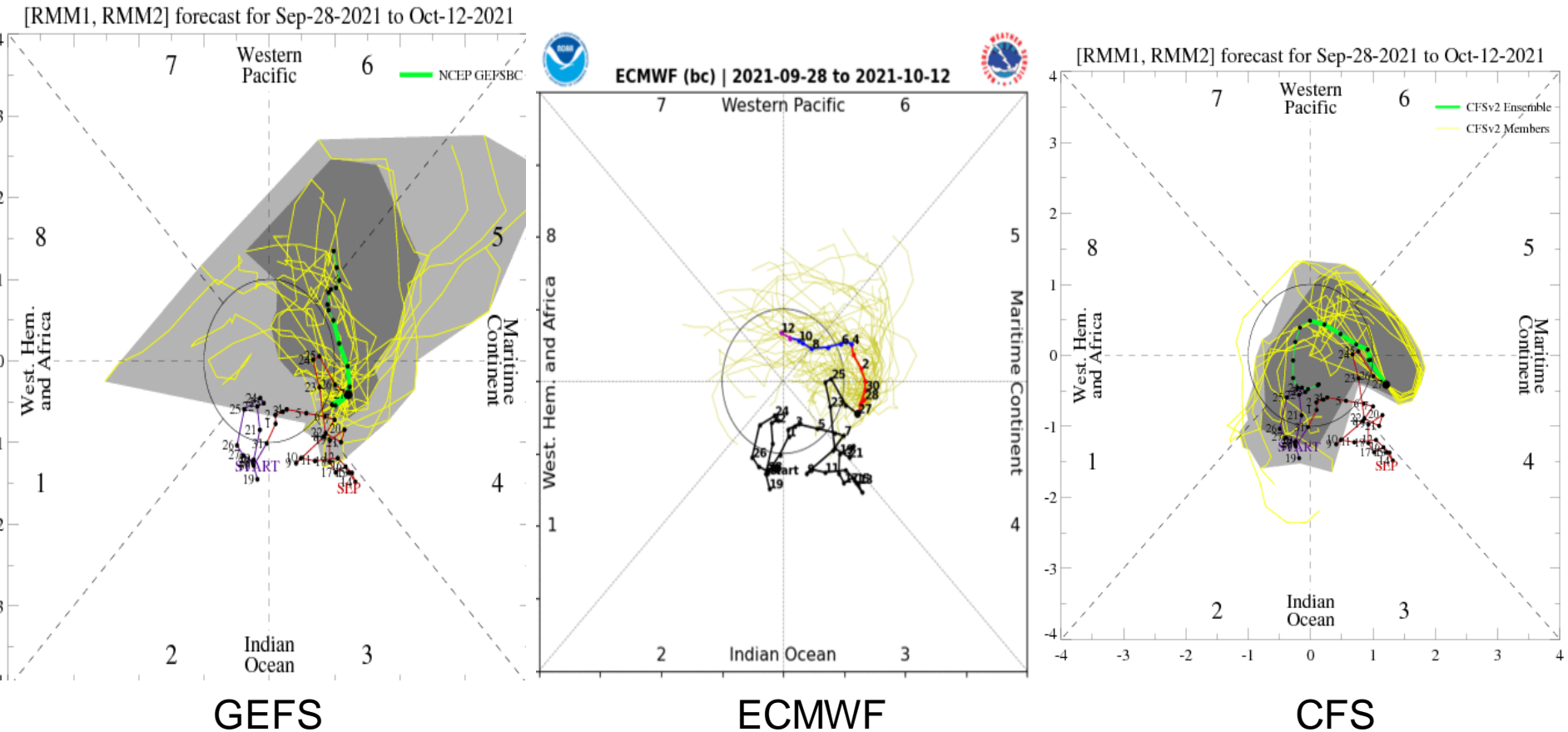
The upper-level pattern became more organized with a wave-1 pattern by mid-September.

Pattern became less coherent, with the low frequency signal remaining fairly stable, and a Kelvin wave seen across the central Pacific.

A poorly organized pattern, with another Kelvin wave approaching the eastern Pacific.



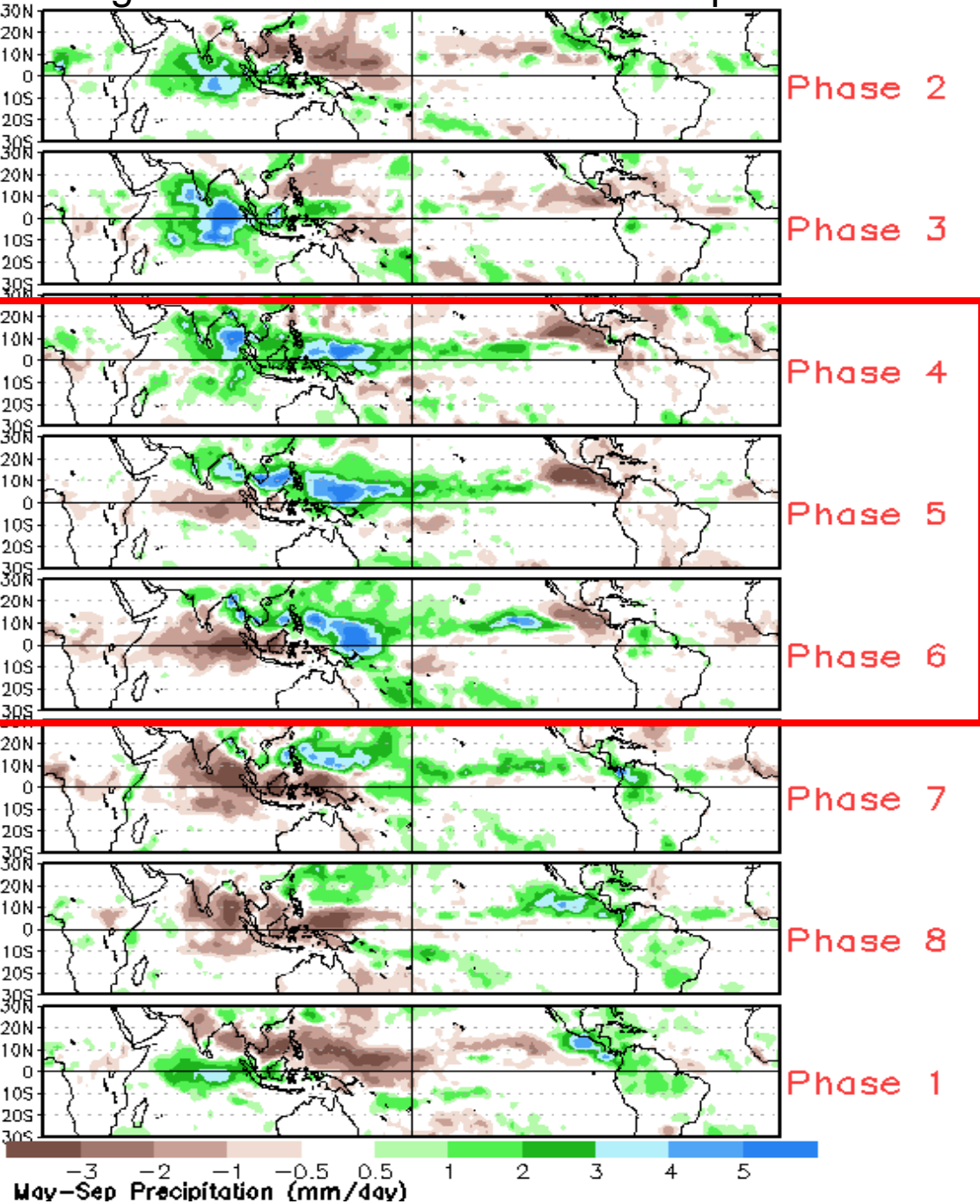
MJO Observation/Forecast



Ensemble means suggest a more coherent MJO signal emerging over the Maritime Continent with eastward propagation into the West Pacific, but large spread remains in regards to its amplitude.

Consistent with the developing La Nina, enhanced trades observed throughout the equatorial Pacific are expected to make eastward propagation of the intraseasonal signal difficult.

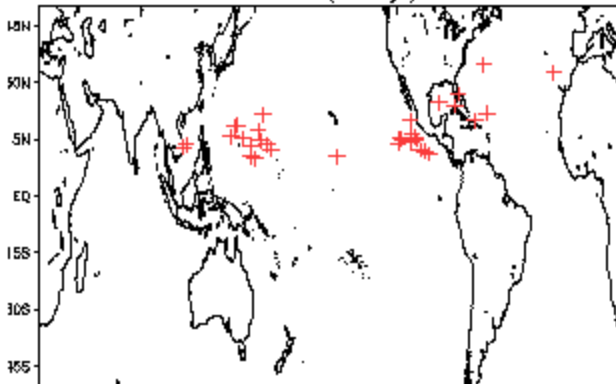
Average Conditions when the MJO is present



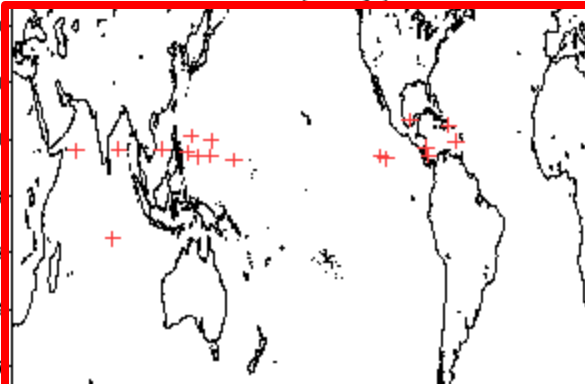
CAVEAT: These panels are representative of robust MJO events.

October Tropical Storm Formation by MJO phase

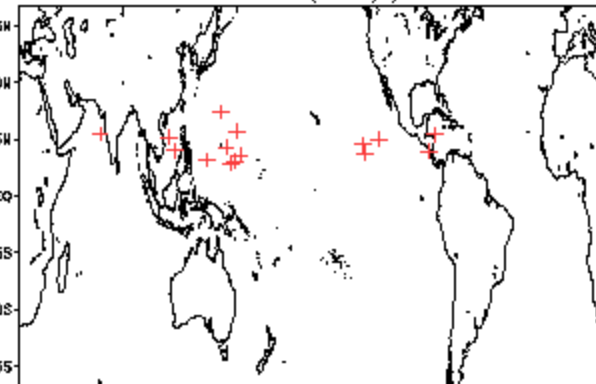
Phase 1 (94 days) 34 storms



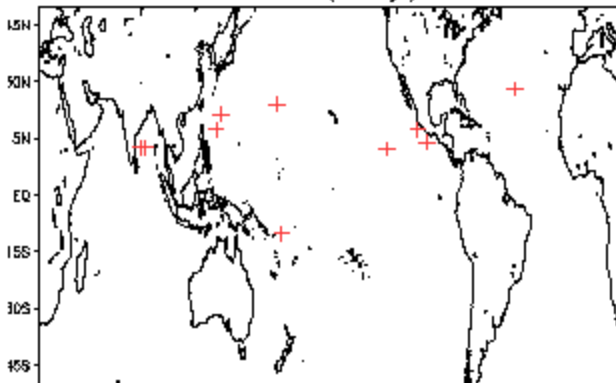
Phase 4 (85 days) 18 storms



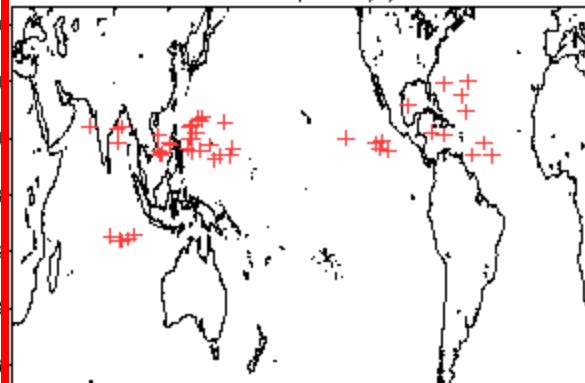
Phase 7 (48 days) 16 storms



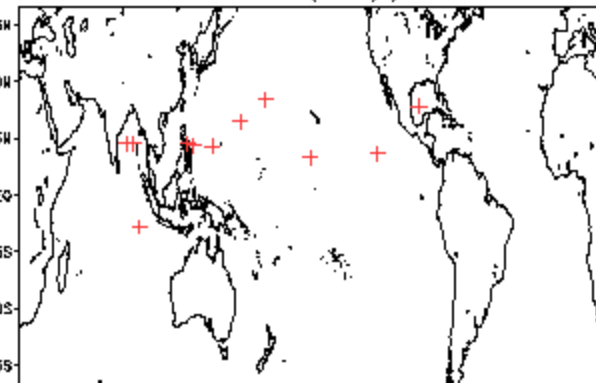
Phase 2 (75 days) 11 storms



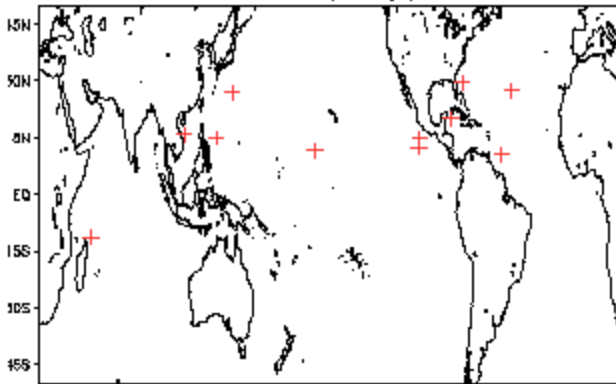
Phase 5 (133 days) 48 storms



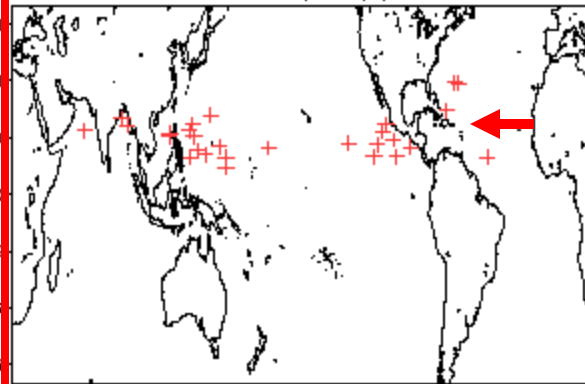
Phase 8 (66 days) 12 storms



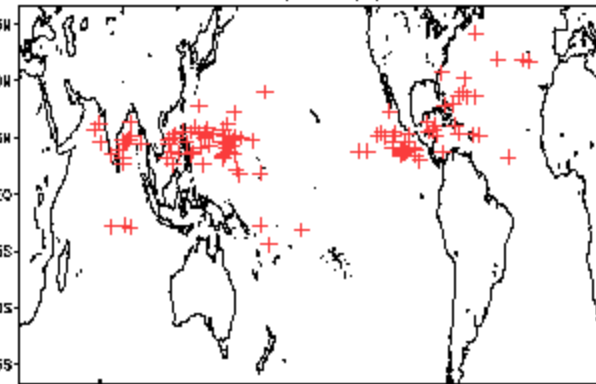
Phase 3 (41 days) 12 storms

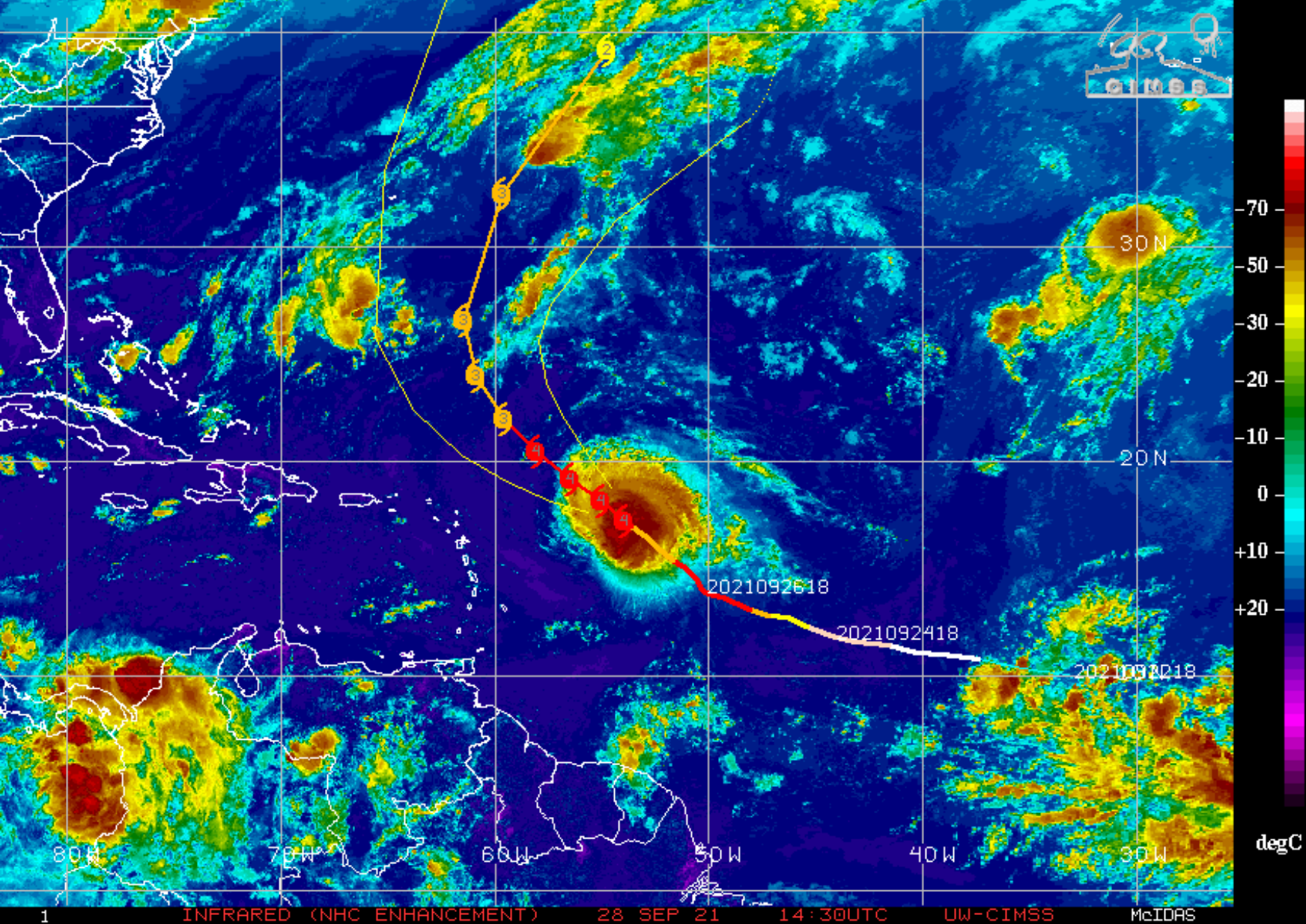


Phase 6 (78 days) 30 storms

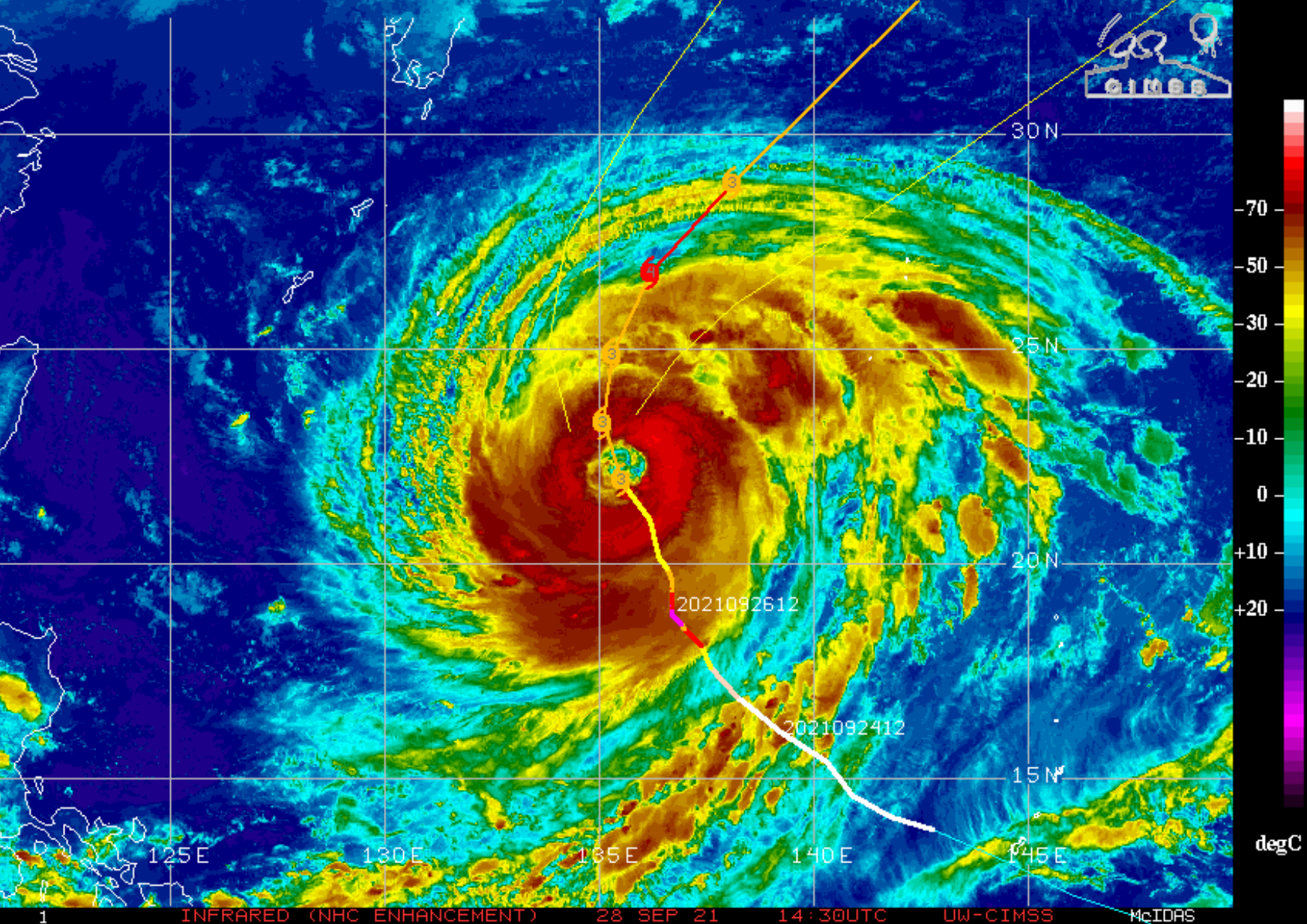


Null (422 days) 119 storms





- Low/NAve
 - Tropical Depr
 - Tropical Strm
 - Category 1
 - Category 2
 - Category 3
 - Category 4
 - Category 5
- I** - Invest Area
 - L** - Tropical Depression
 - S** - Tropical Storm
 - H** - Hurricane/Typhoon (w/ category)



1 INFRARED (NHC ENHANCEMENT)

28 SEP 21

14:30UTC

UW-CIMSS

McIDAS

degC

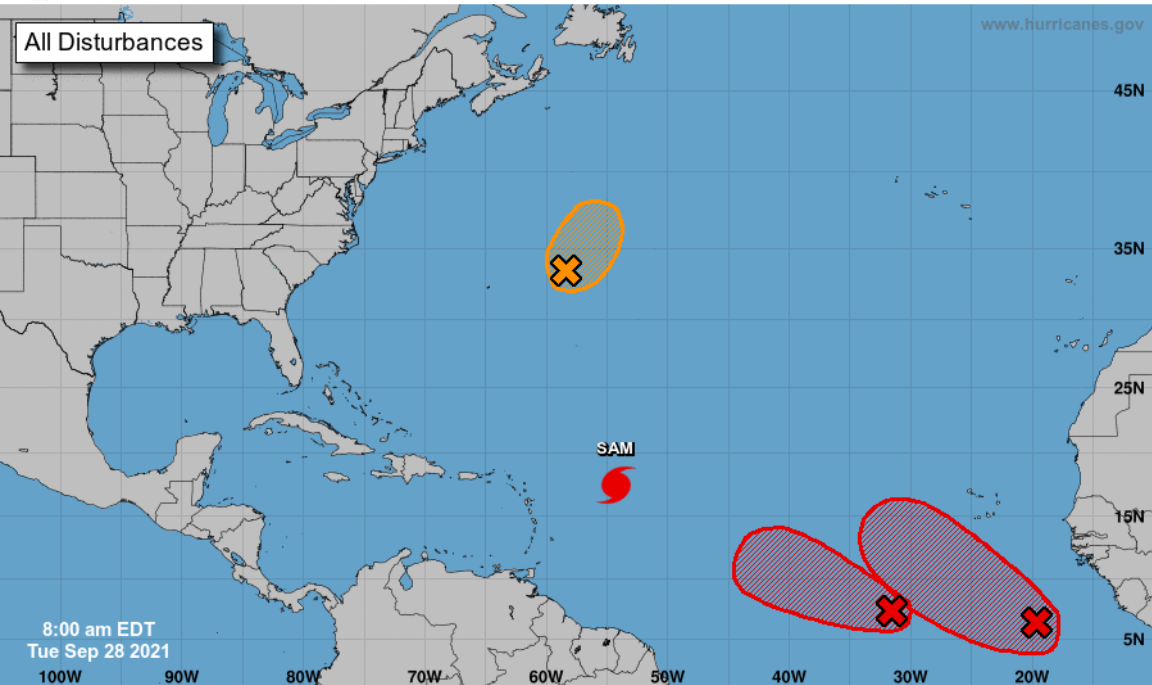
- LDH/NAVE
- Tropical Depr
- Tropical Strm
- Category 1
- Category 2
- Category 3
- Category 4
- Category 5

- I** - Invest Area
- L** - Tropical Depression
- S** - Tropical Storm
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Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



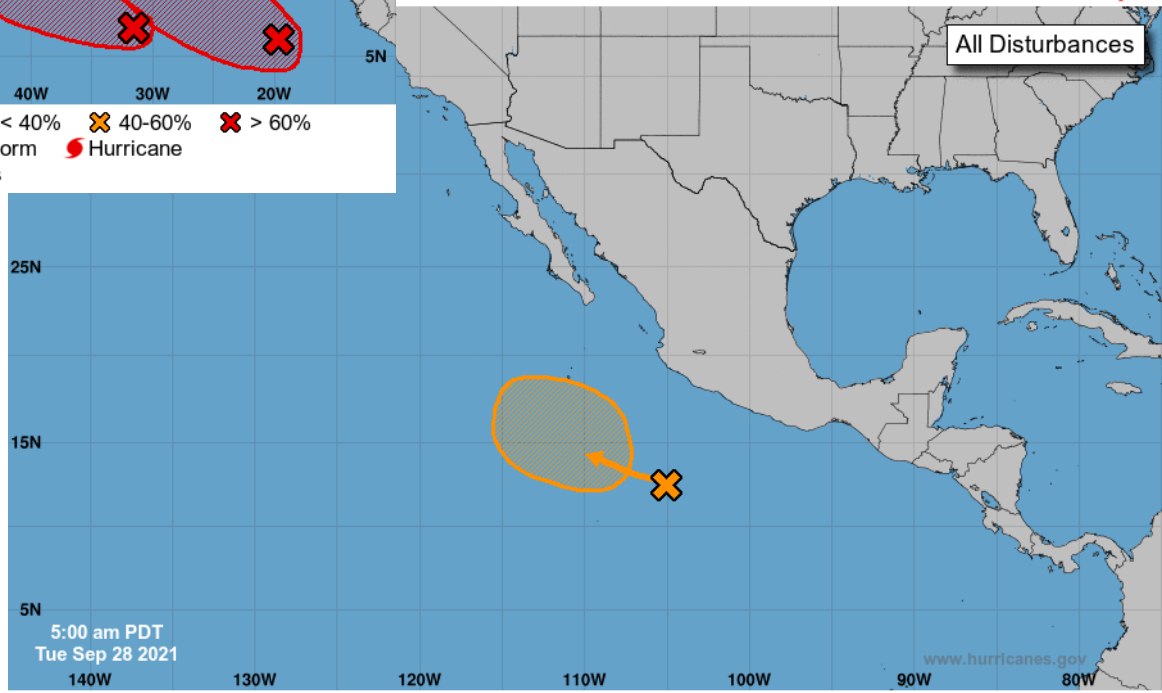
8:00 am EDT
Tue Sep 28 2021

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

Current Disturbances and Five-Day Cyclone Formation Chance:
 Tropical or Sub-Tropical Cyclone: ○ Depression ○ Storm ○ Hurricane
 Post-Tropical Cyclone or Remnants: ⊗

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



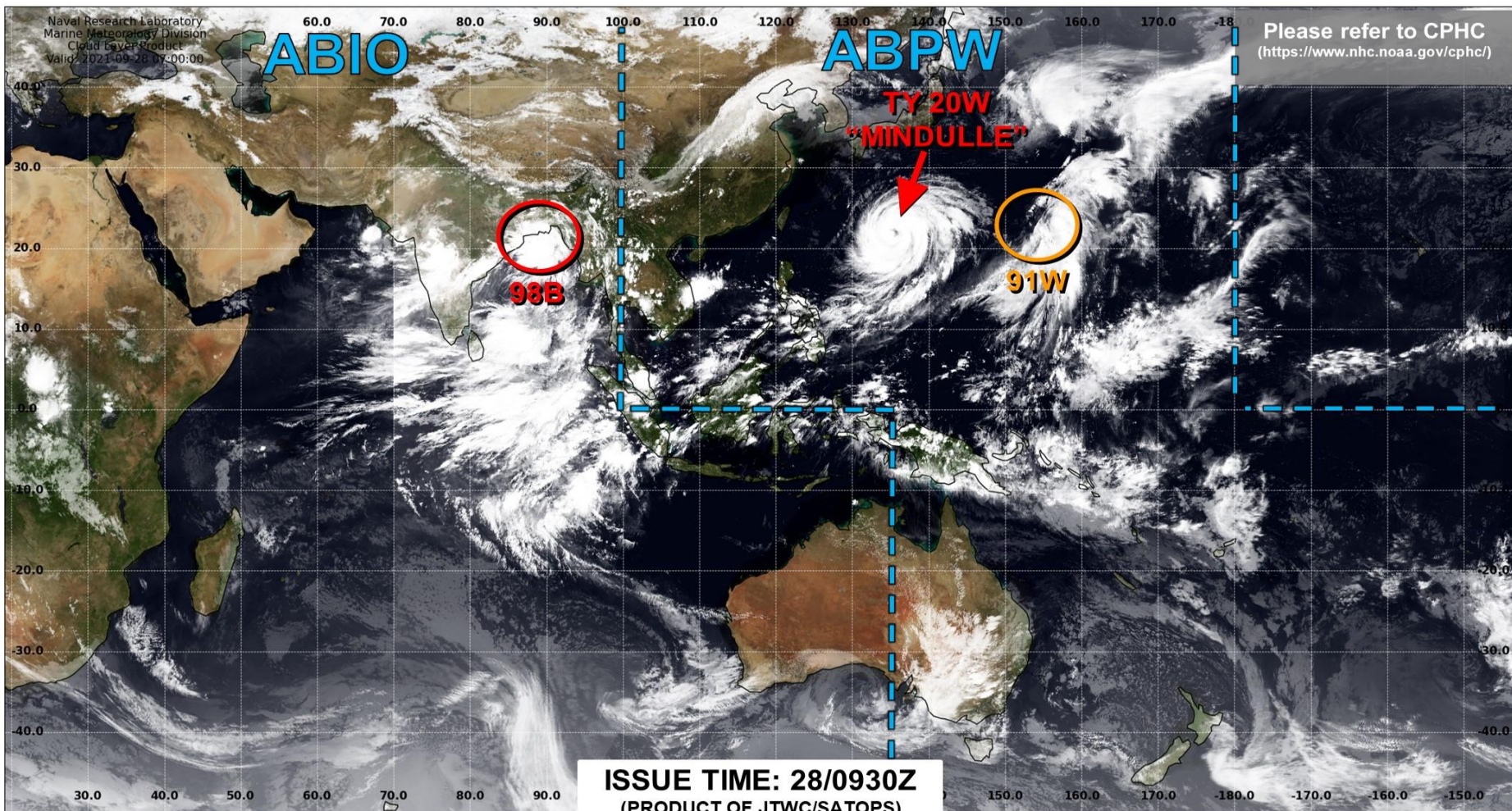
5:00 am PDT
Tue Sep 28 2021

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

Current Disturbances and Five-Day Cyclone Formation Chance:
 Tropical or Sub-Tropical Cyclone: ○ Depression ○ Storm ○ Hurricane
 Post-Tropical Cyclone or Remnants: ⊗



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)



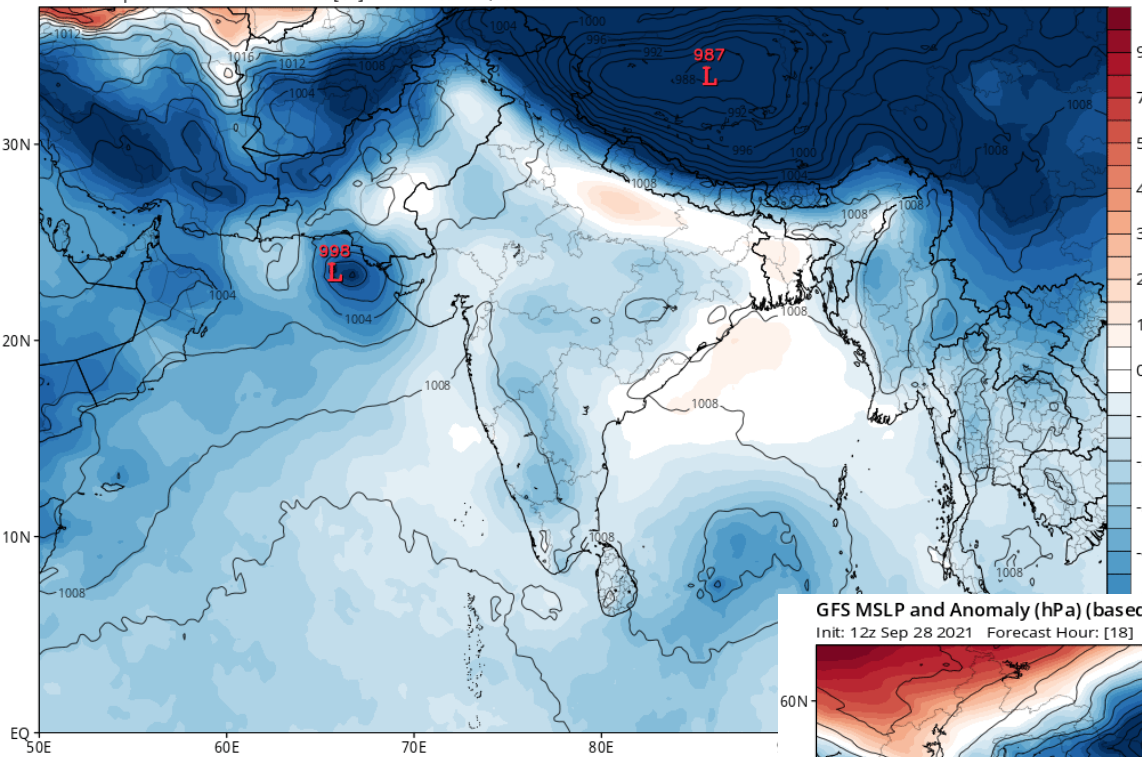
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability



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

Init: 00z Sep 28 2021 Forecast Hour: [90] valid at 18z Fri, Oct 01 2021

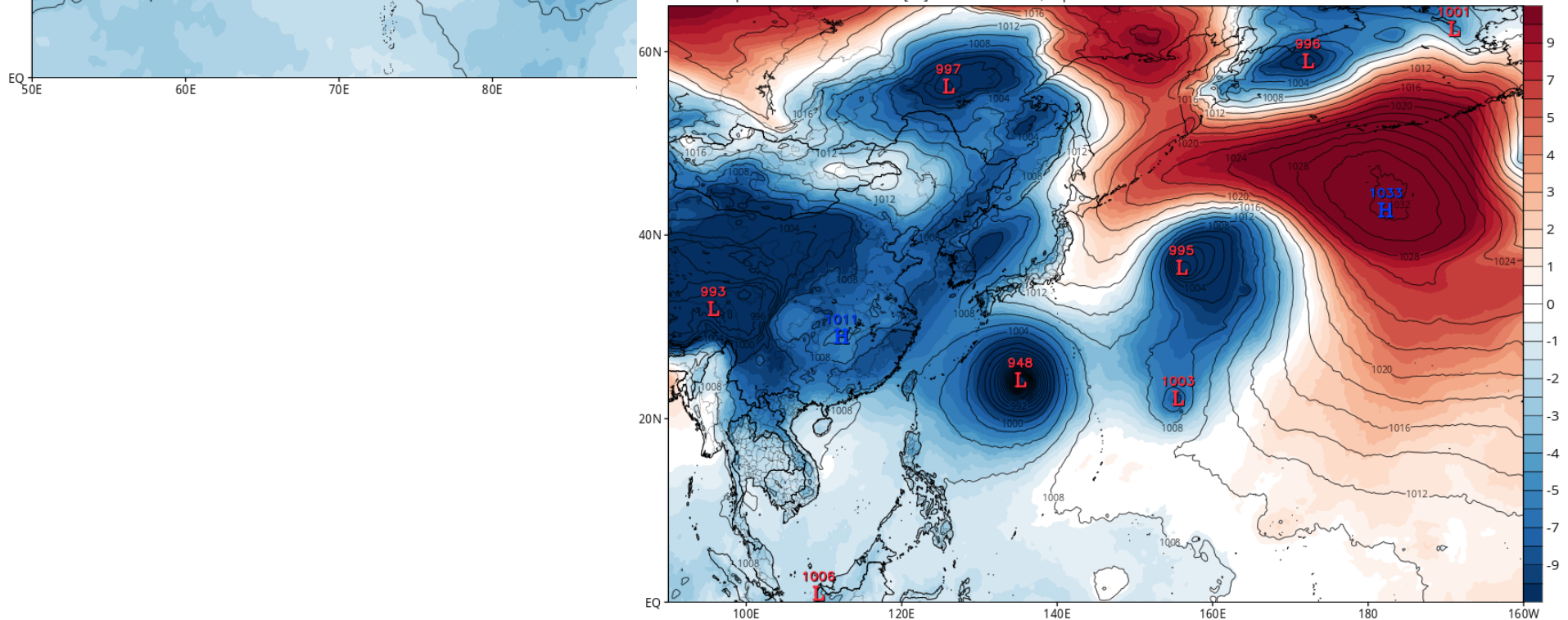
TROPICALTIDBITS.COM



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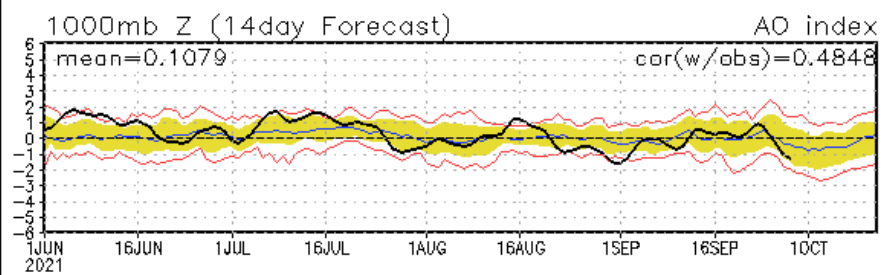
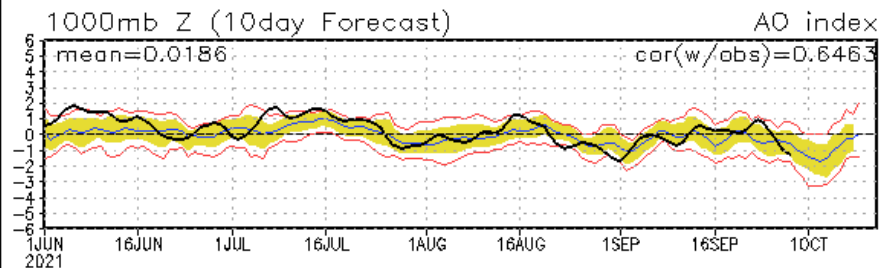
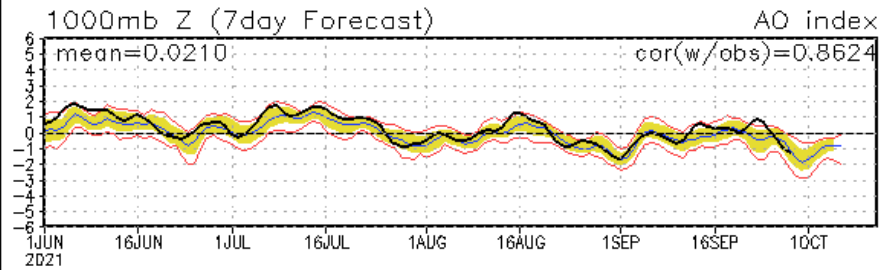
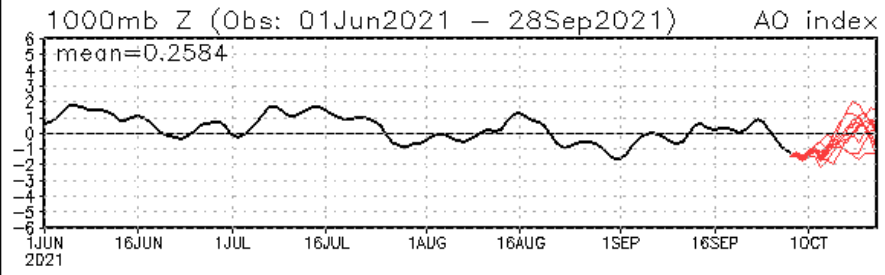
Init: 12z Sep 28 2021 Forecast Hour: [18] valid at 06z Wed, Sep 29 2021

TROPICALTIDBITS.COM

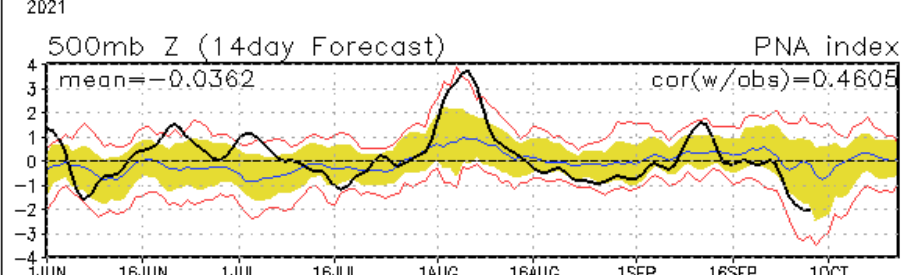
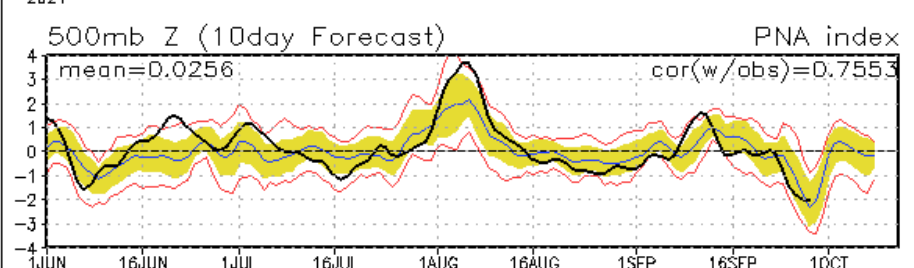
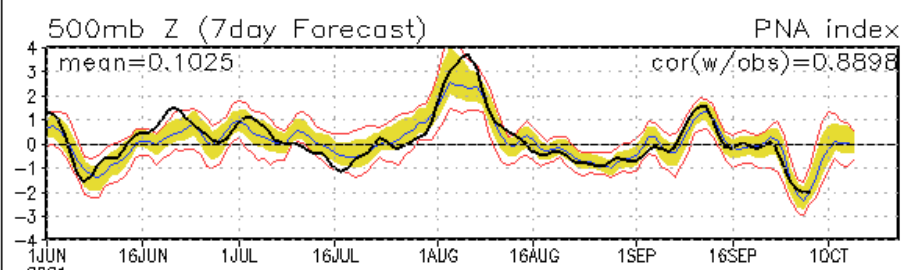
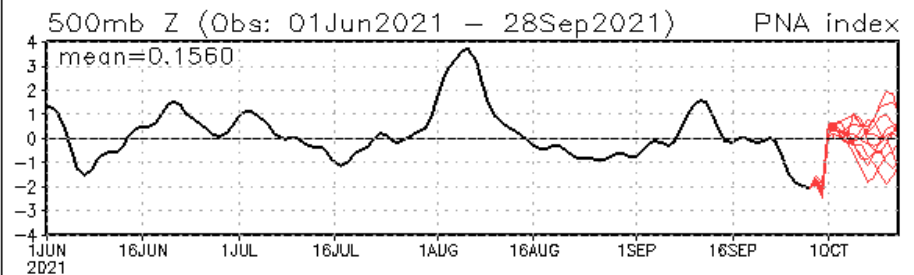


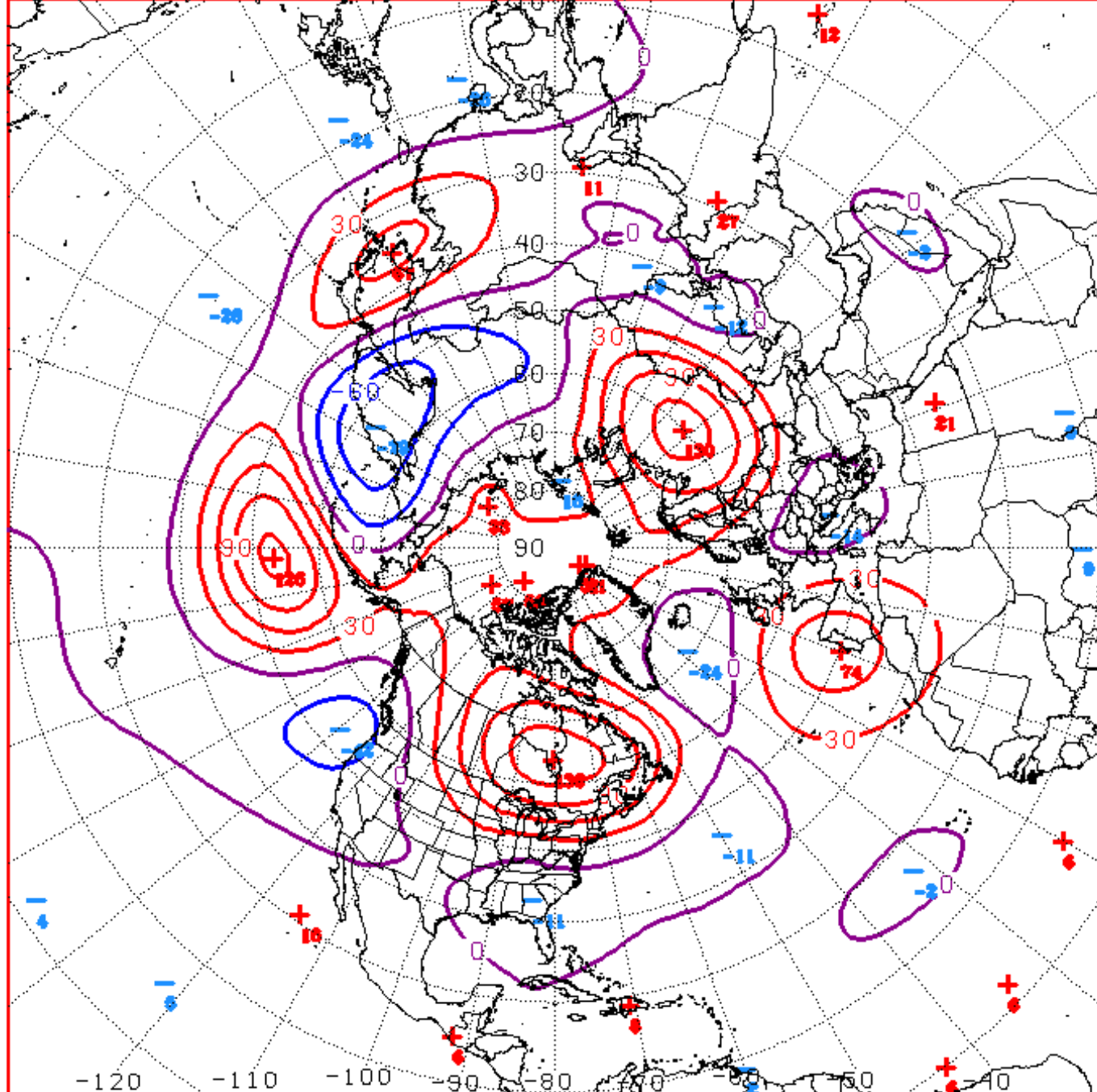
Connections to U.S. Impacts

AO: Observed & ENSM forecasts



PNA: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE SEP 28 2021 1357 UTC CNTD OCT 09 2021

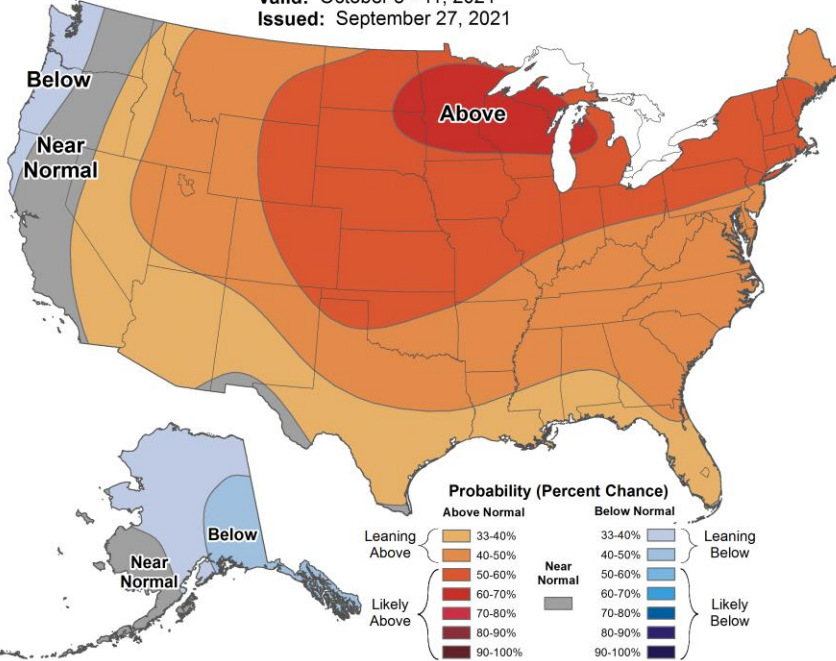
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



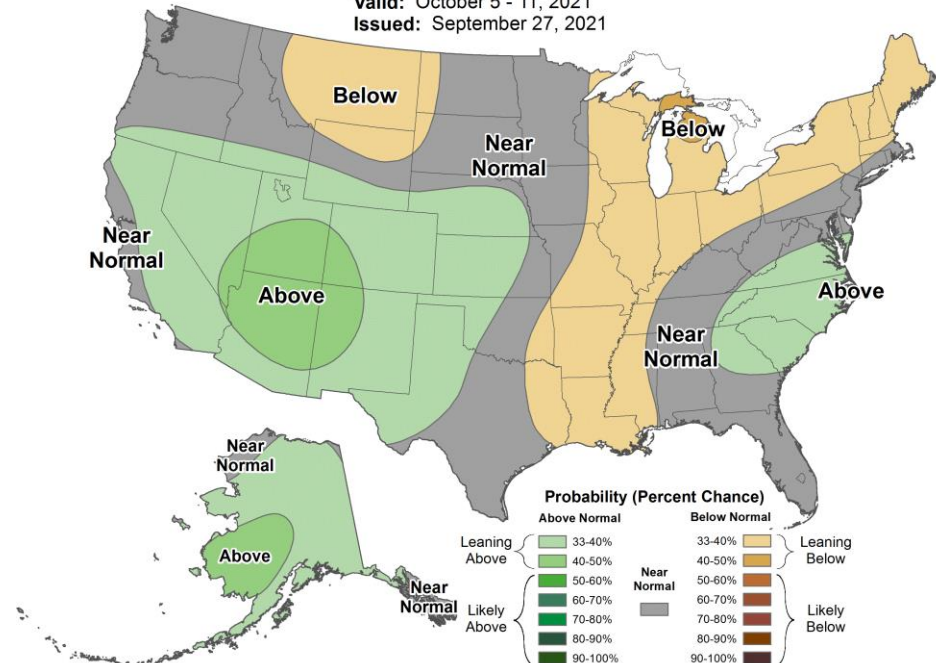
Valid: October 5 - 11, 2021
 Issued: September 27, 2021



8-14 Day Precipitation Outlook



Valid: October 5 - 11, 2021
 Issued: September 27, 2021

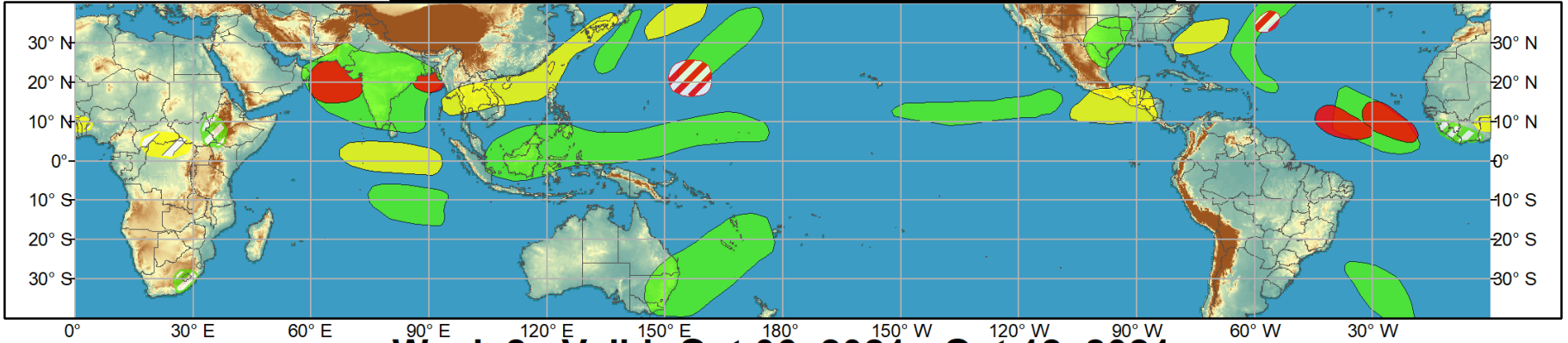




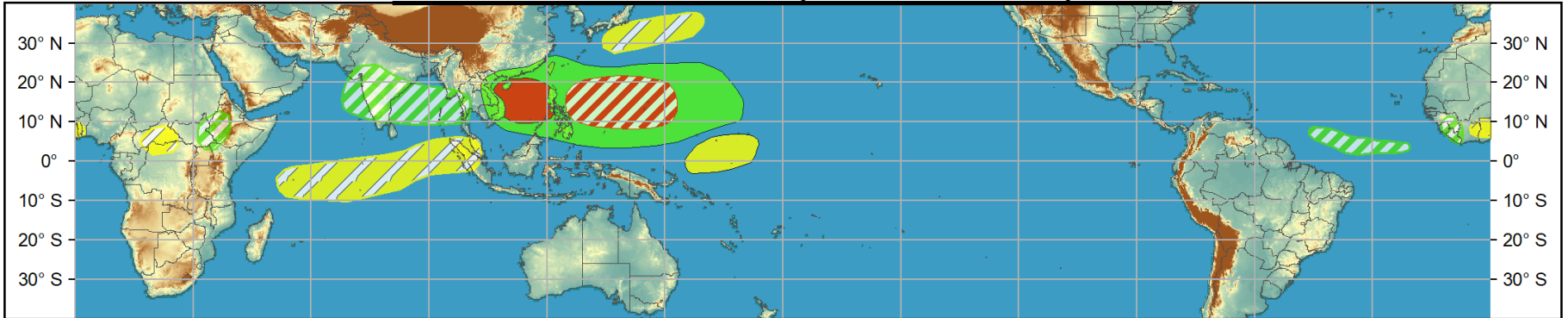
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