

Global Tropics Hazards And Benefits Outlook

10/19/2021

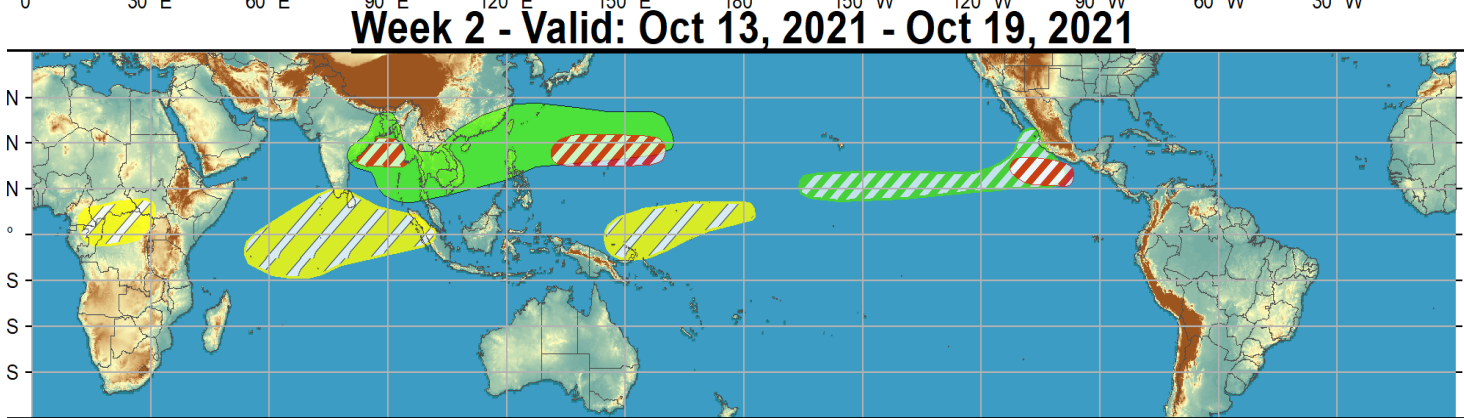
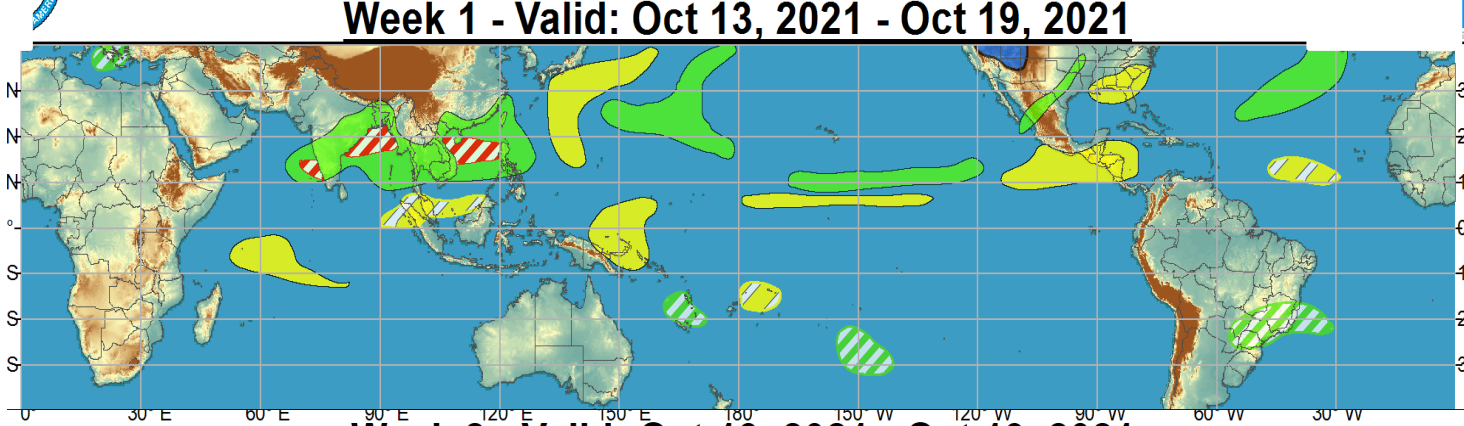
Nick Novella

Outline

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

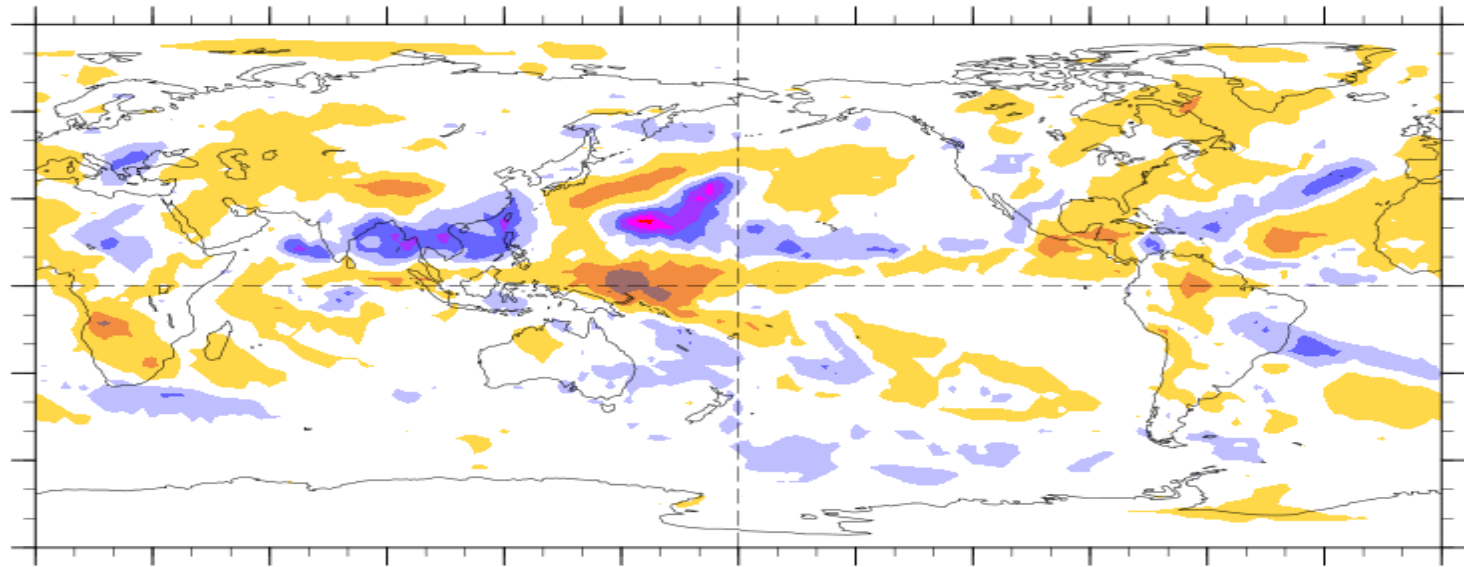
Outlook Review

No TCs formed
since Wed 10/13



7-Day Average OLR Anomaly

2021/10/11 - 2021/10/17



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (September 9, 2021 Update)

next update on 11th of Nov.

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña conditions have developed and are expected to continue with an 87% chance of La Niña in December 2021 - February 2022.

MJO and other subseasonal tropical variability:

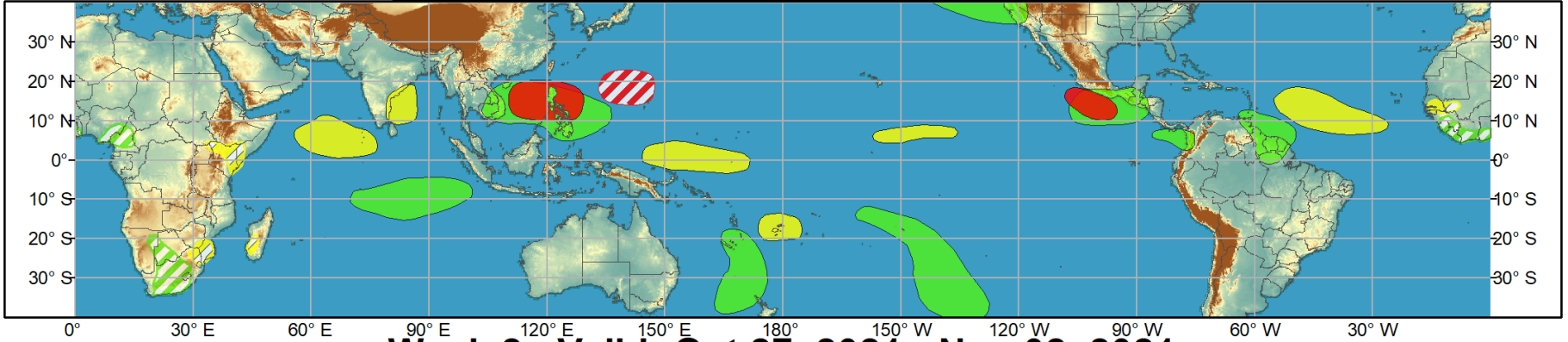
- The RMM index shows the MJO weakened substantially during the last week, tied to destructive interference with the developing La Niña.
- RMM forecasts point to the reemergence of the intraseasonal signal over the Western Hemisphere, with some uncertainty in regards to its amplitude.
- This transition of the MJO favors tropical cyclone formation across the East Pacific on the near term, with increasingly favorable conditions for development over the Caribbean/Atlantic during late October and early November.



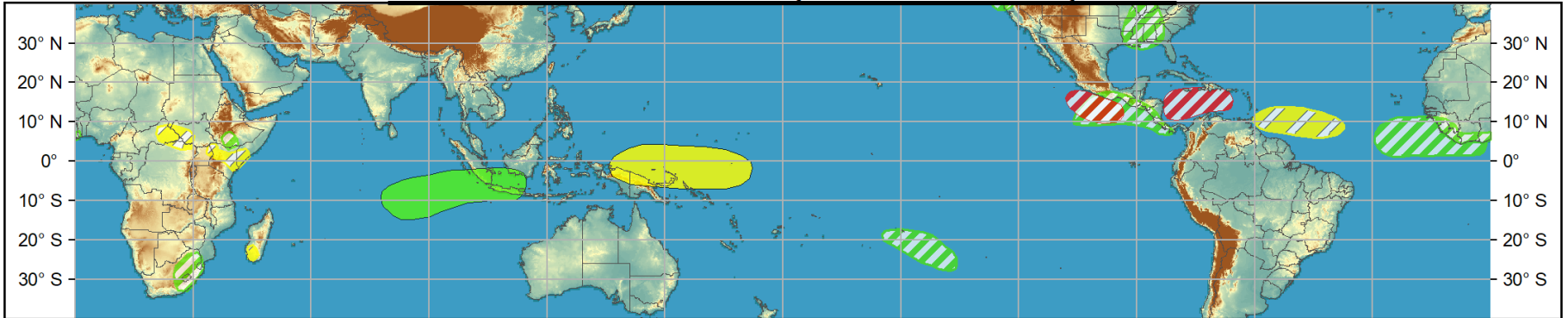
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Oct 20, 2021 - Oct 26, 2021



Week 2 - Valid: Oct 27, 2021 - Nov 02, 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: 10/19/2021

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

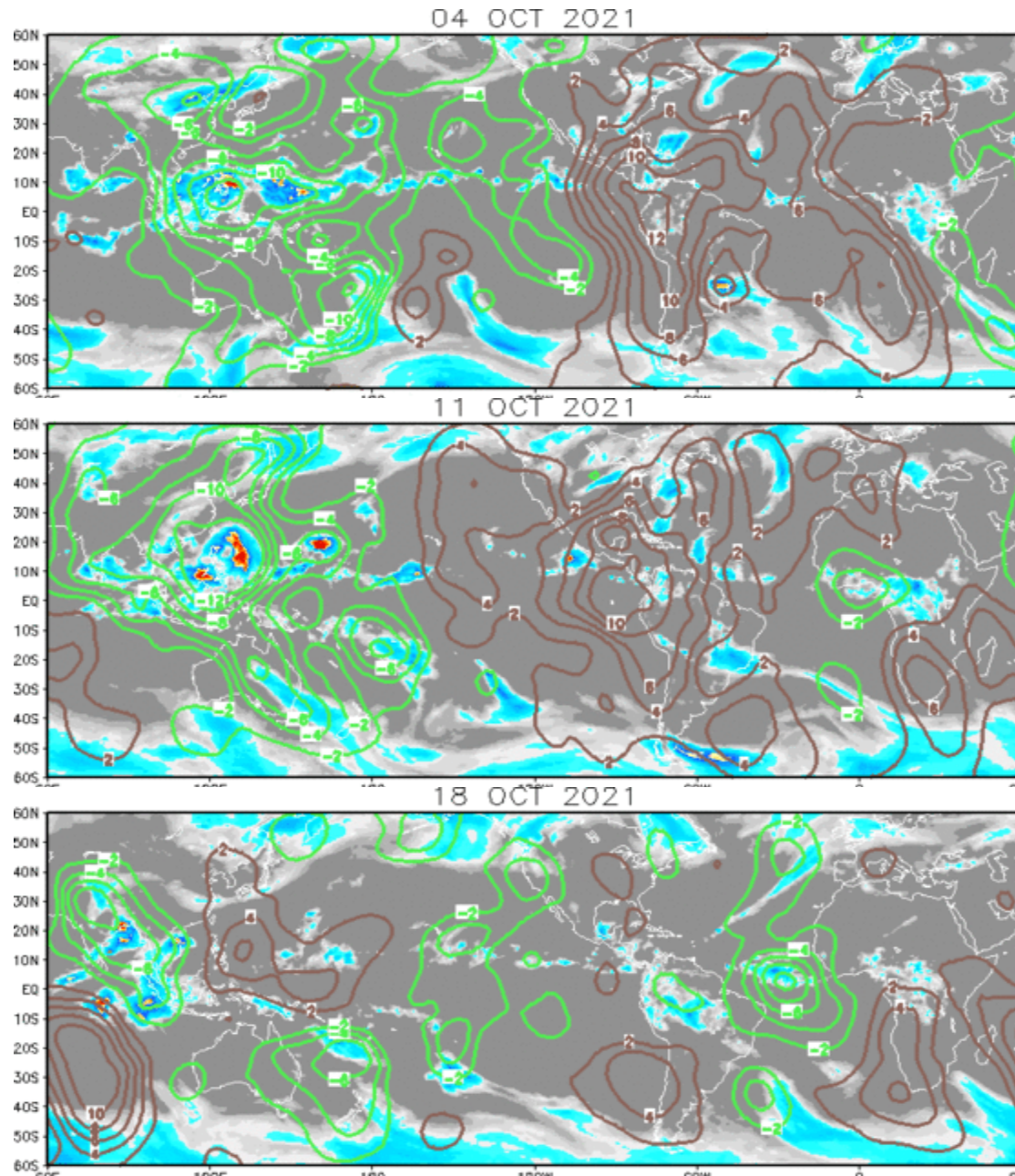
Green: Enhanced Divergence

Brown: Enhanced Convergence

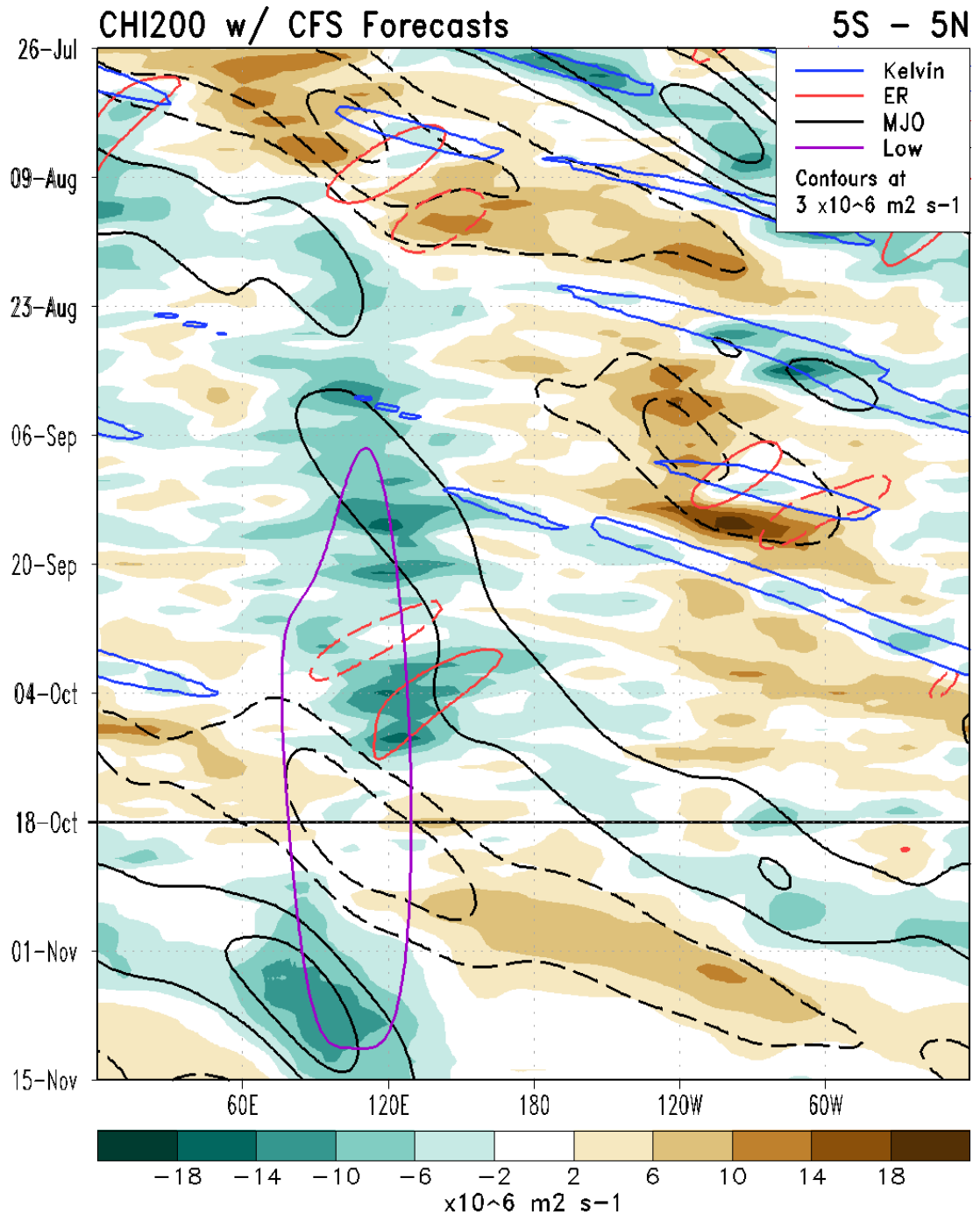
A more coherent wave-1 pattern became established in early Oct, with a Kelvin wave over the East Pacific.

The wave-1 pattern persists with limited propagation. The Kelvin wave formerly over the East Pacific is now near the Prime Meridian.

The wave-1 pattern has since devolved likely due to destructive interference over the Pacific. Enhanced conditions observed east of the Date Line.

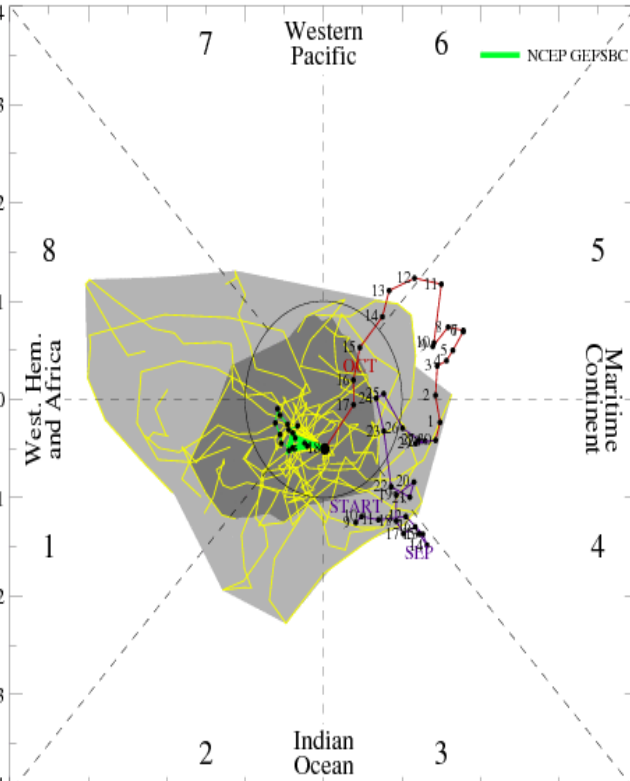


MJO activity is coming through the filtering east of the the Date Line, as the suppressed phase destructively interferes with the **low frequency** signal over the Maritime Continent.

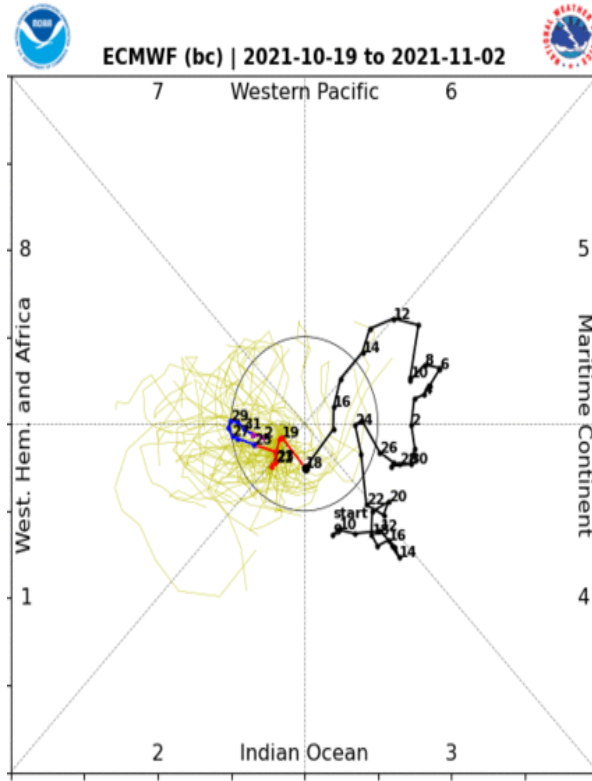


MJO Observation/Forecast

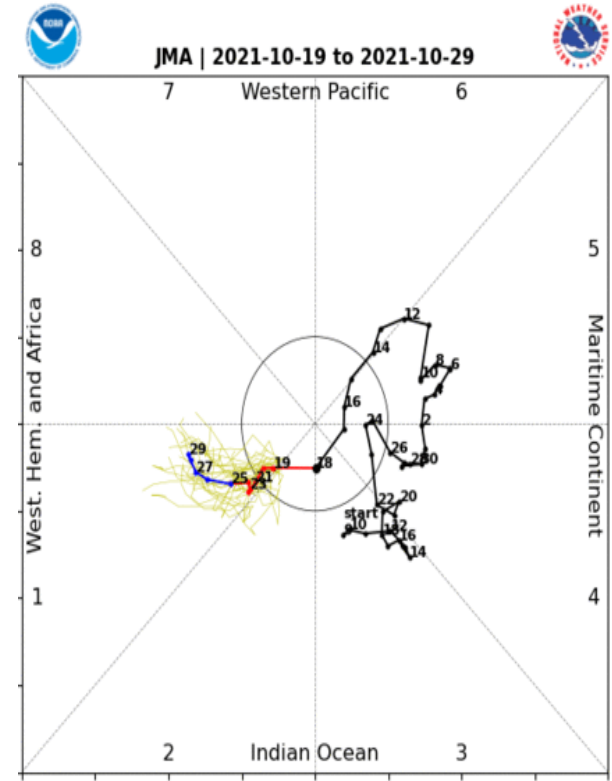
[RMM1, RMM2] forecast for Oct-19-2021 to Nov-02-2021



GEFS



ECMWF

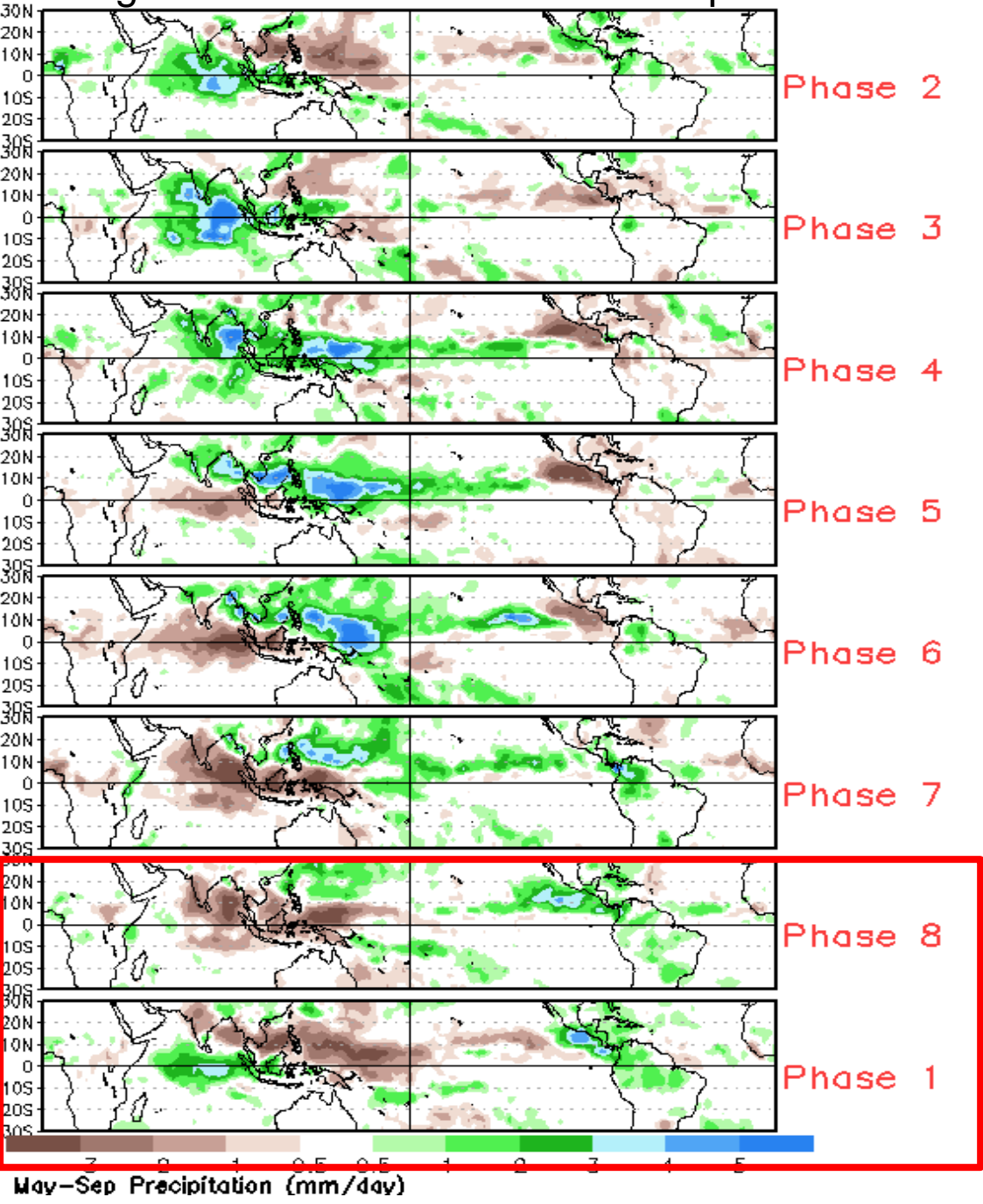


JMA

There is fair agreement in the models which show the intraseasonal signal gaining amplitude over the Western Hemisphere during the next two weeks, with several ensemble members depicting a high amplitude event. Note that, due to the building La Nina, points in RMM space are likely skewed towards the right (phases 4 and 5).

Decreasing RMM1 values (x-axis) in the forecast appears to be driven by the development of anomalous low-level westerlies favored in the models over the eastern Pacific and Caribbean, implicative of increased tropical cyclone potential.

Average Conditions when the MJO is present

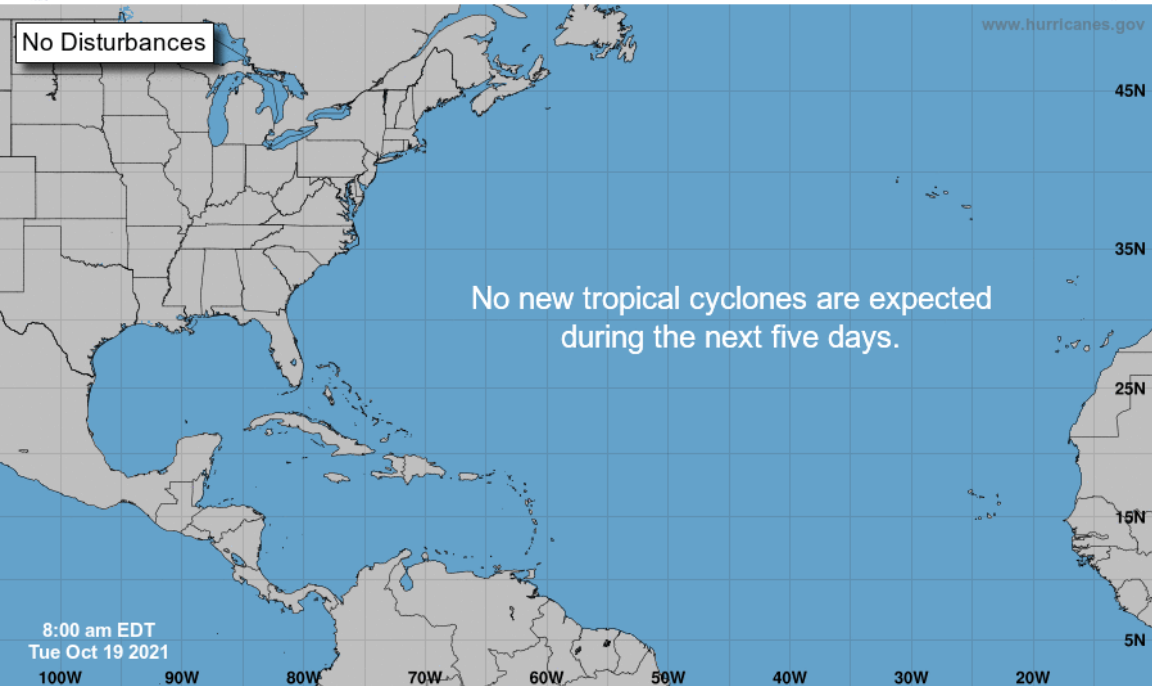


CAVEAT: These panels are representative of robust MJO events.



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



8:00 am EDT
Tue Oct 19 2021

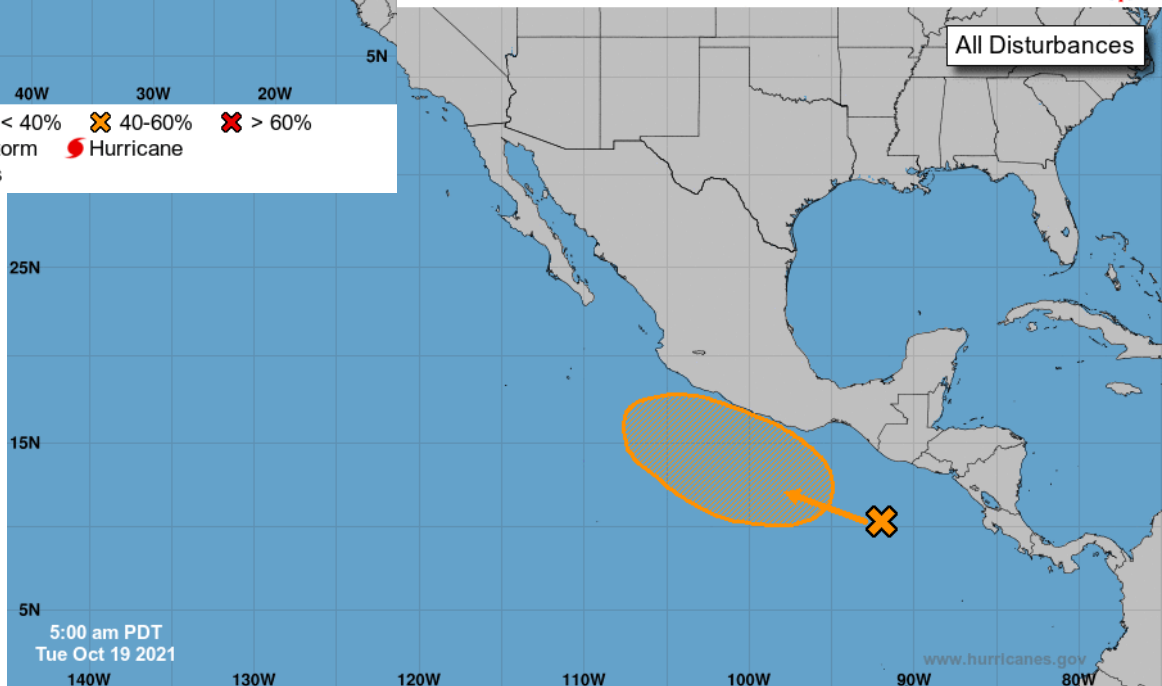
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

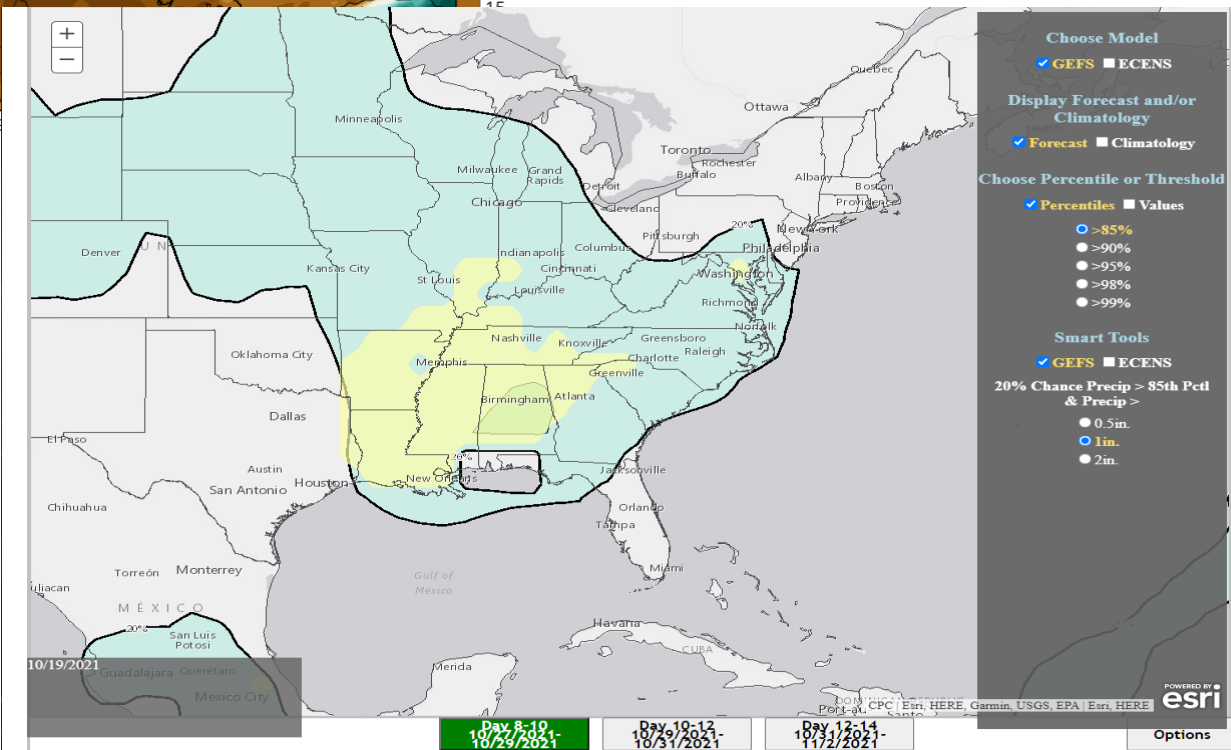
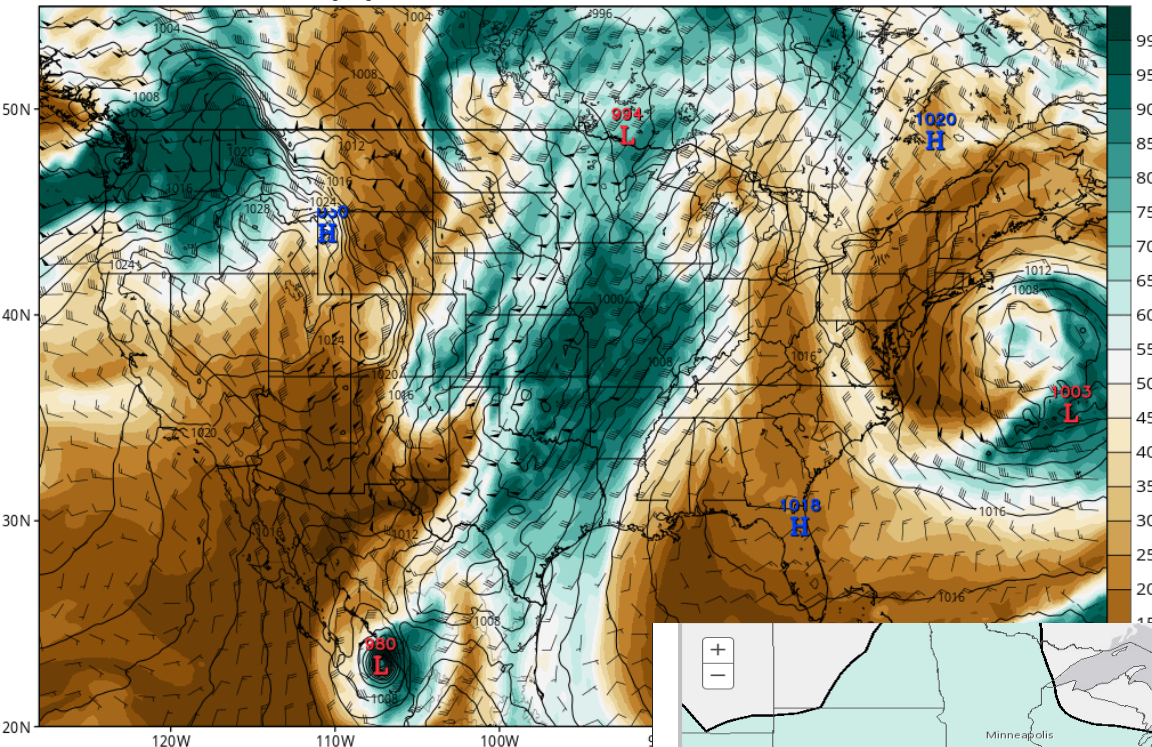


5:00 am PDT
Tue Oct 19 2021

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



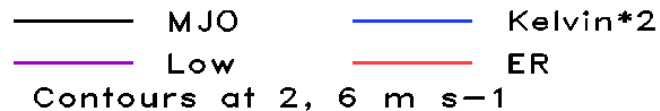
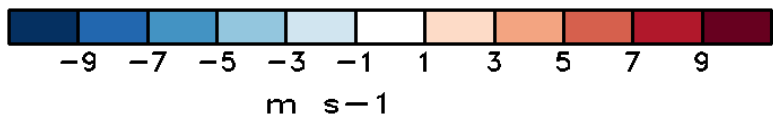
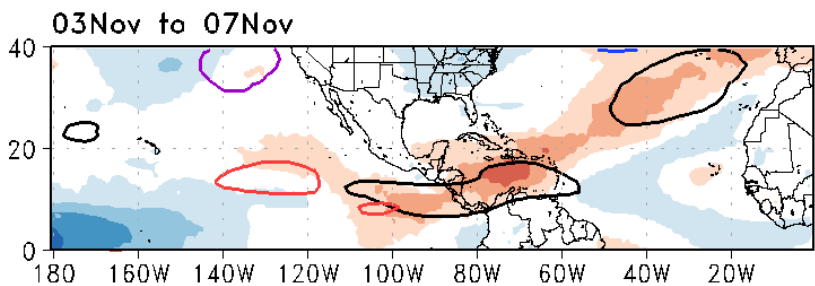
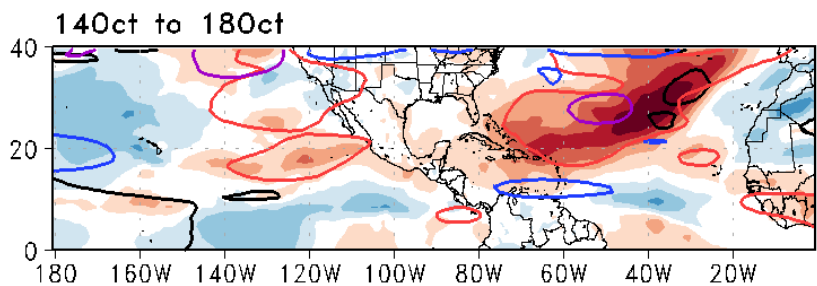
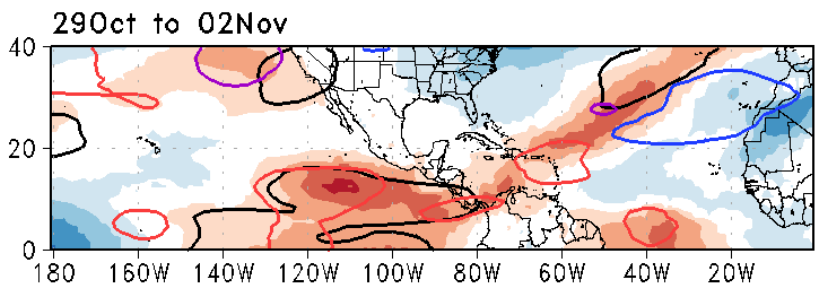
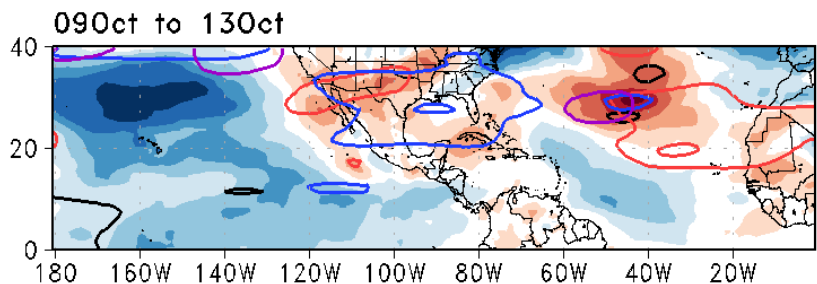
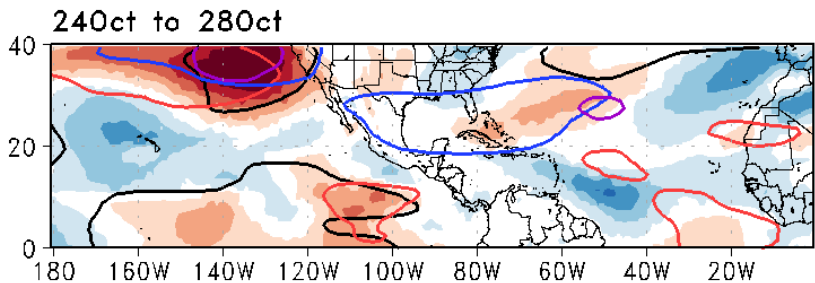
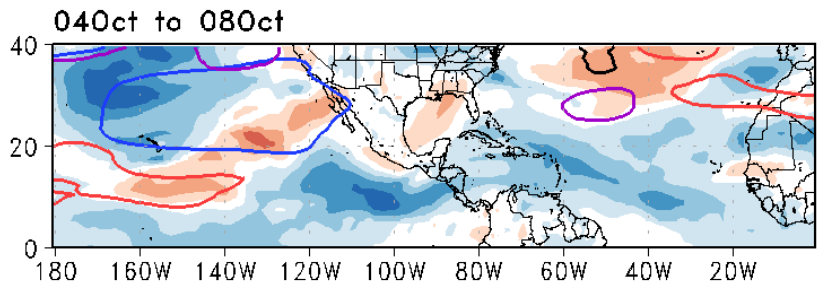
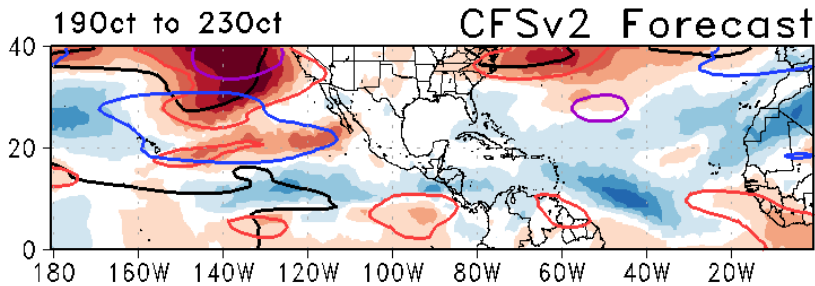
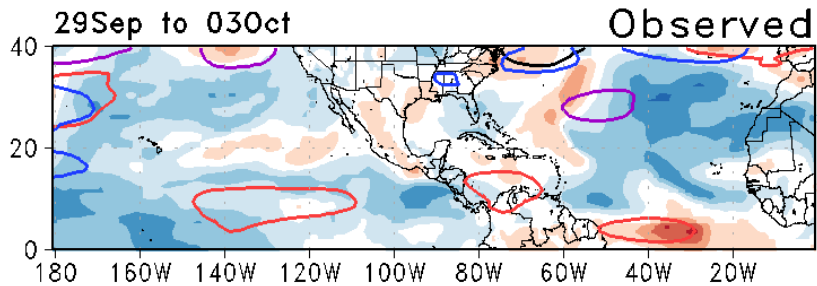
Day 8-10
10/29/2021 - 10/31/2021

Day 10-12
10/31/2021 - 11/2/2021

Day 12-14
11/2/2021 - 11/4/2021

Options

UWND850 5-Day Means



Storm Track Density Distribution, IC=20211018
Week 1 Forecast: 1020-1026

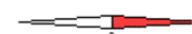
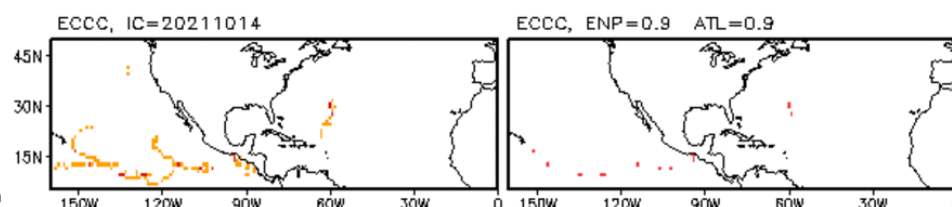
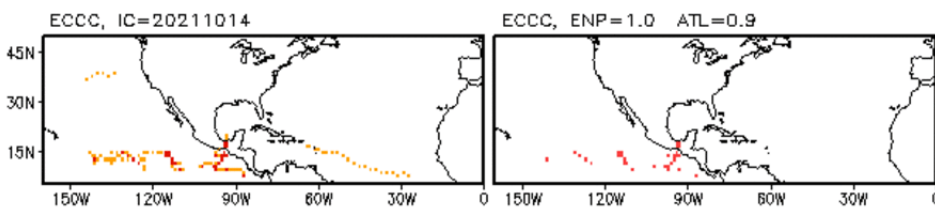
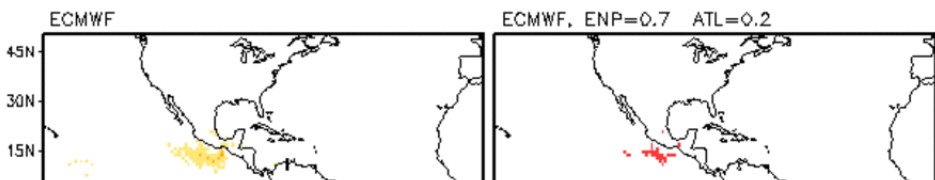
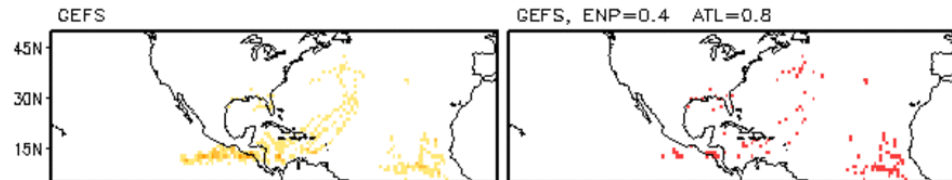
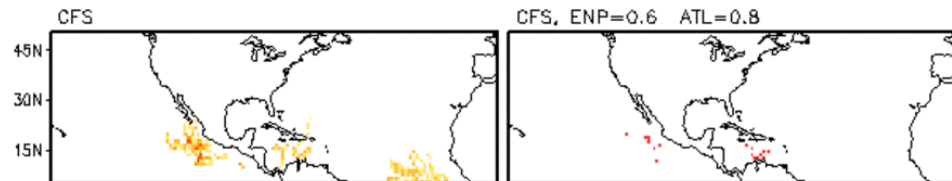
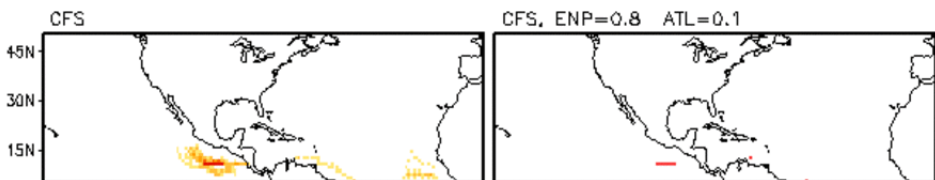
Storm Track Density Distribution, IC=20211018
Week 2 Forecast: 1027-1102

TRACK DENSITY

FILTERED

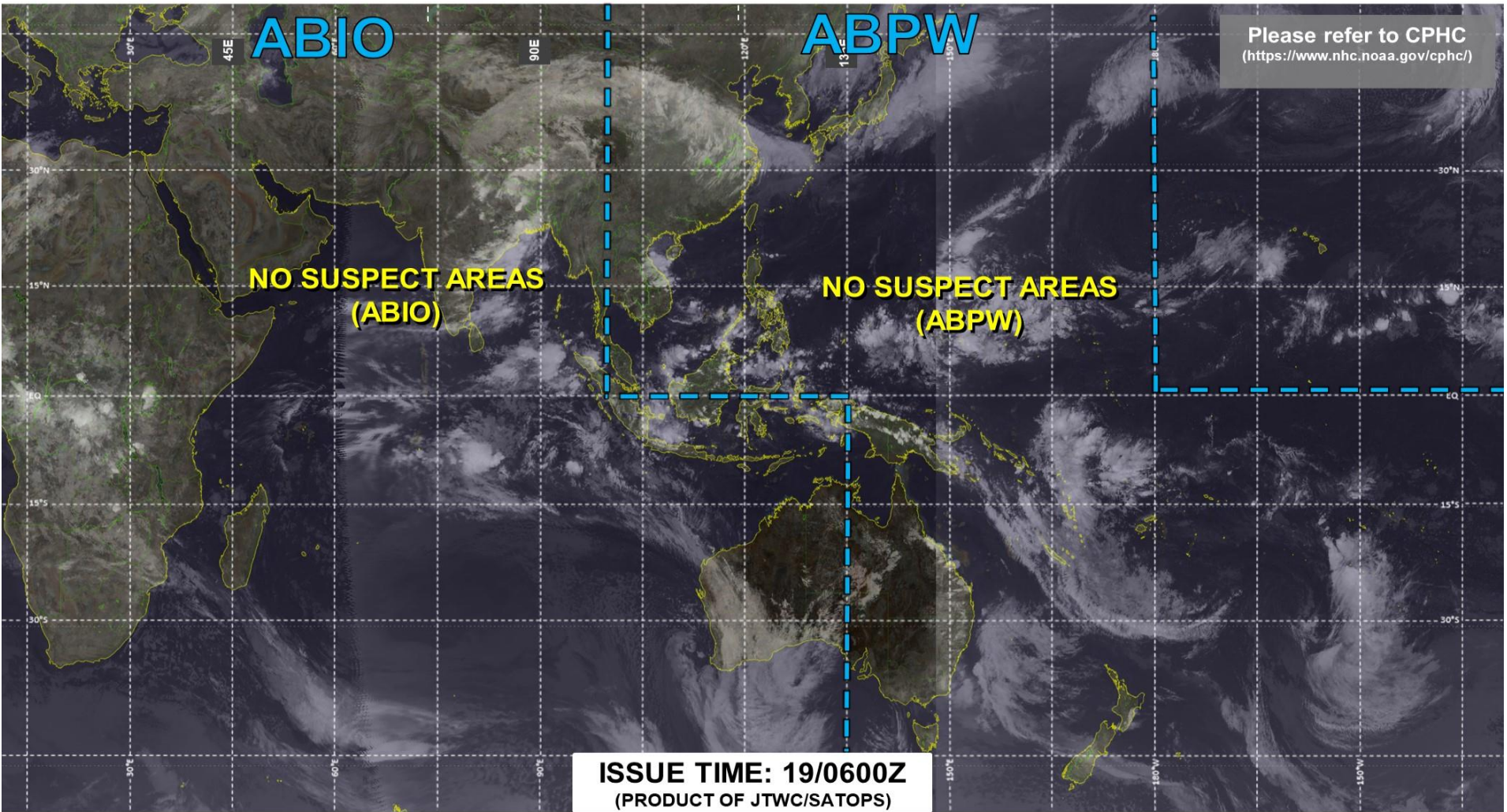
TRACK DENSITY

FILTERED





JOINT TYPHOON WARNING CENTER



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

**NO SUSPECT AREAS
(ABIO)**

**NO SUSPECT AREAS
(ABPW)**

**ISSUE TIME: 19/0600Z
(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

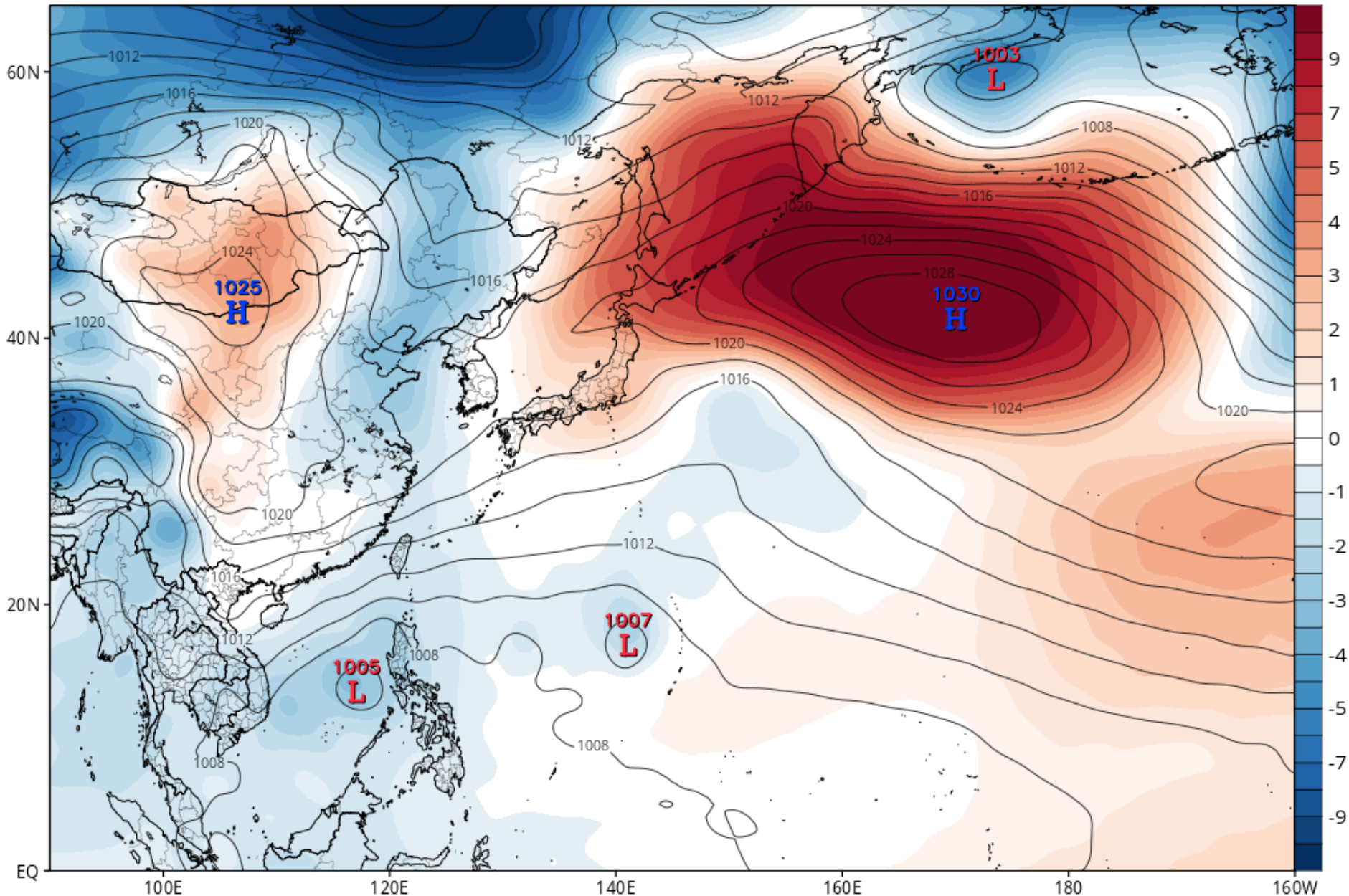
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

 Tropical Cyclone
(Reference Warning)

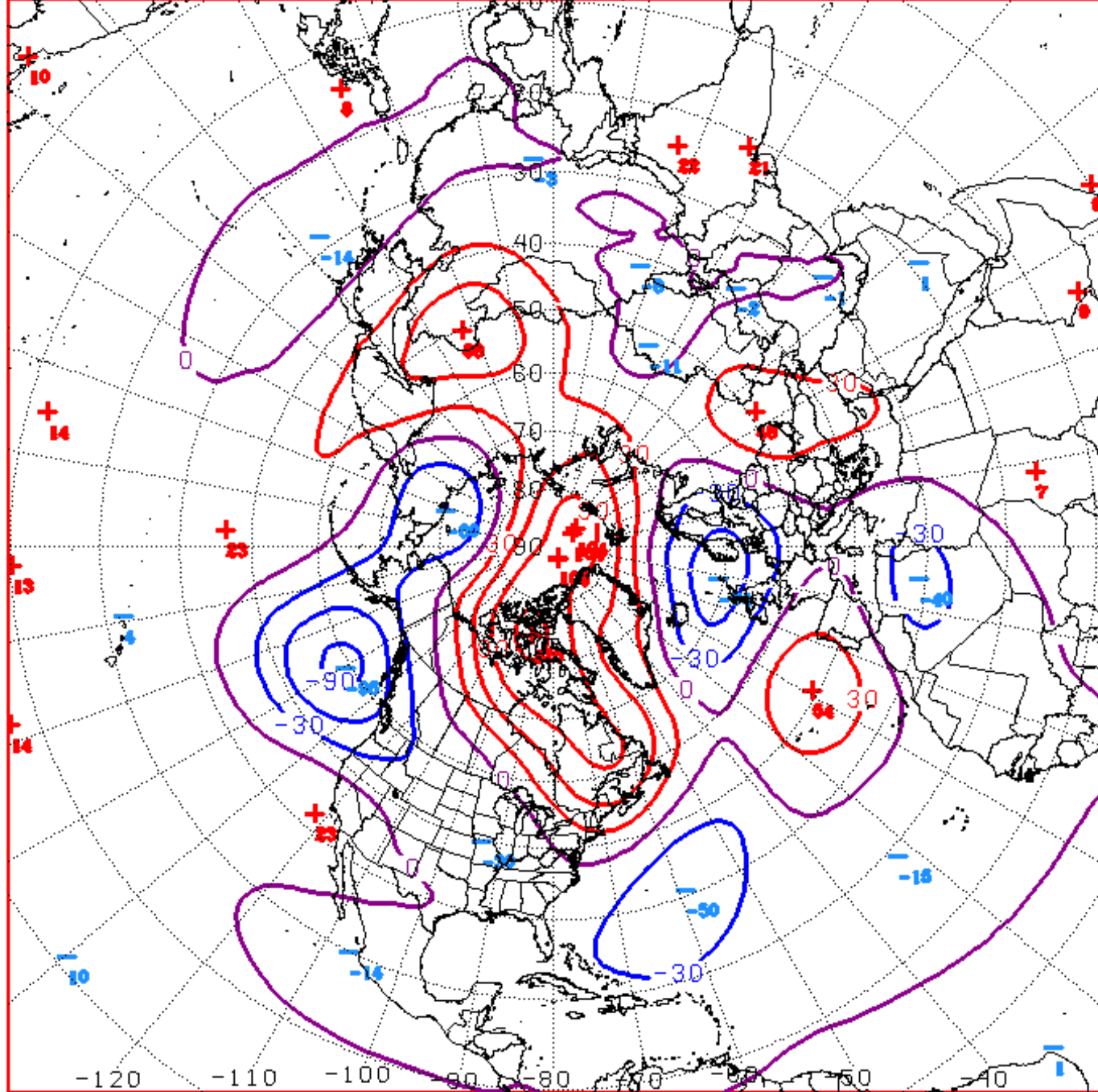
GEFS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

Init: 00z Oct 19 2021 Forecast Hour: [174] valid at 06z Tue, Oct 26 2021

TROPICALTIDBITS.COM



Connections to U.S. Impacts



D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE OCT 19 2021 1400 UTC CNTD OCT 30 2021

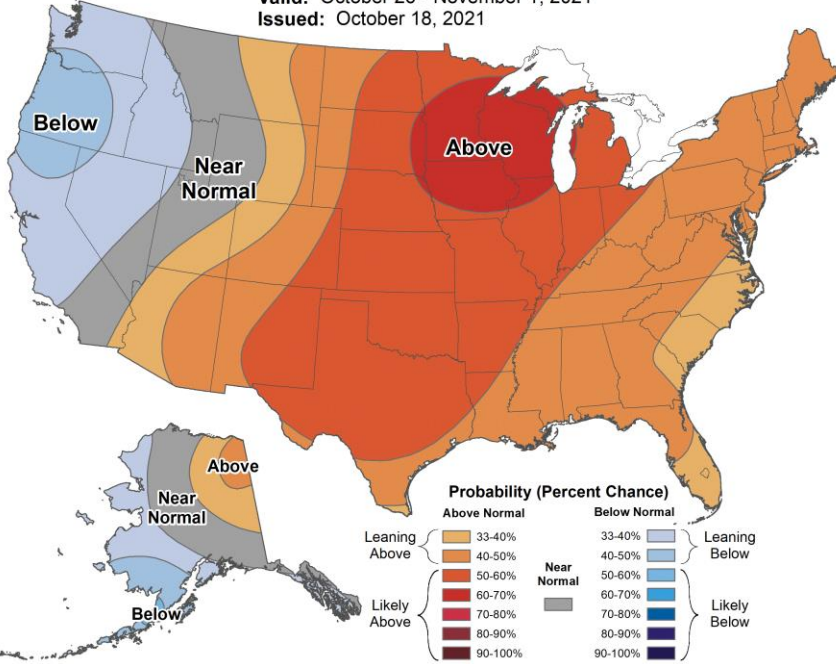
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



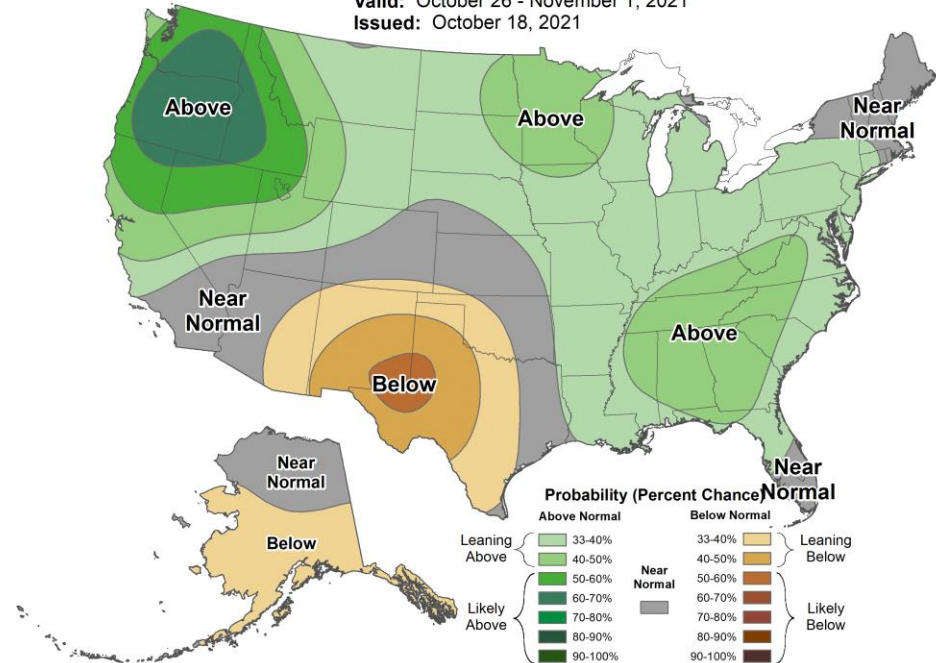
Valid: October 26 - November 1, 2021
 Issued: October 18, 2021



8-14 Day Precipitation Outlook



Valid: October 26 - November 1, 2021
 Issued: October 18, 2021



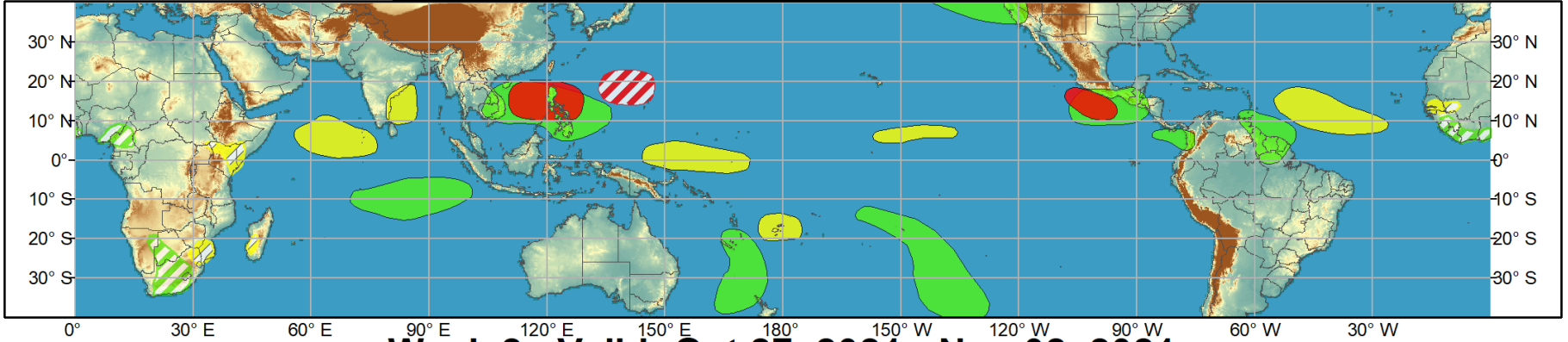
Possibly wetter today across the Southern Plains due to the weakness in the circulation on the prior slide.



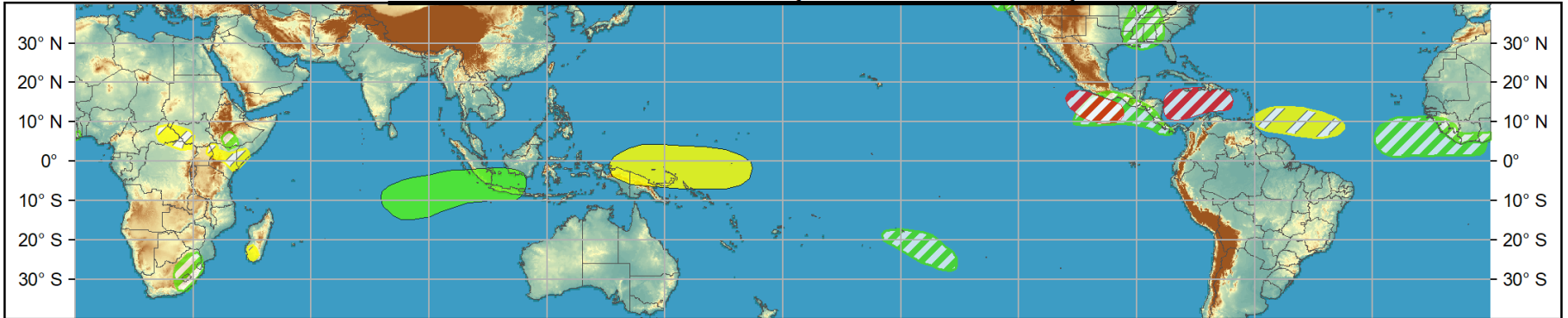
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Development of a tropical cyclone (tropical depression - TD, or greater strength).

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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