



# Weeks 2-3 Global Tropics Hazards Outlook

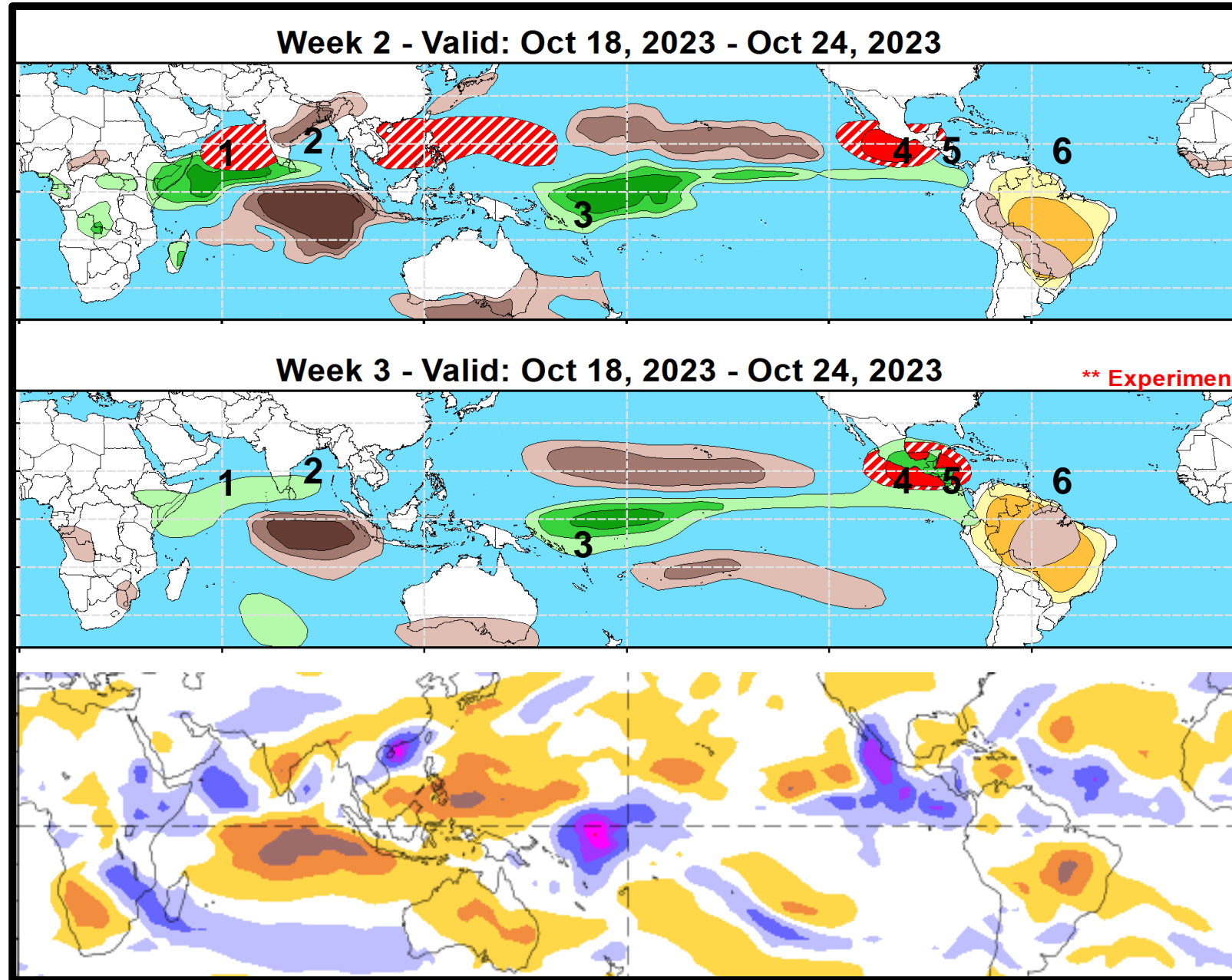
10/24/2023

Nick Novella

NWS / NCEP / Climate Prediction Center

# Outlook Review: TC development & anomalous precipitation during the past week

- 1) TC Tej: (NIO) 10/20
- 2) TC Hamoon: (NIO) 10/23
- 3) TC Lola: (SPAC) 10/21
- 4) TC Otis: (EPAC) 10/22
- 5) TC TD21: (ATL) 10/23
- 6) TC Tammy: (ATL) 10/18



# Synopsis of Climate Modes:

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**ENSO:** (Oct 12, 2022 Update)      *next update on Thursday, Nov 9<sup>th</sup>*

- ENSO Alert System Status: [El Niño Advisory](#)
- El Niño is anticipated to continue through the Northern Hemisphere spring (with an 80% chance during Mar-May 2024).

## **MJO and other subseasonal tropical variability:**

- As previously forecast, the MJO remained incoherent and disorganized through mid-October, likely due to competing models of low frequency variability dominating the convective and circulation pattern throughout the global tropics.
- Although RMM and upper-level velocity potential forecasts offer some signs of renewed eastward propagation over the Indian Ocean, the eventual return of a coherent MJO appears unlikely in the outlook given the large scale responses of El Niño and a positive Indian Ocean Dipole event.
- The large-scale environment is expected to remain favorable for additional tropical cyclogenesis across the Pacific on both sides of the equator, as well as formation over the tropical Americas tied to the emergence of a Central America Gyre (CAG) event.

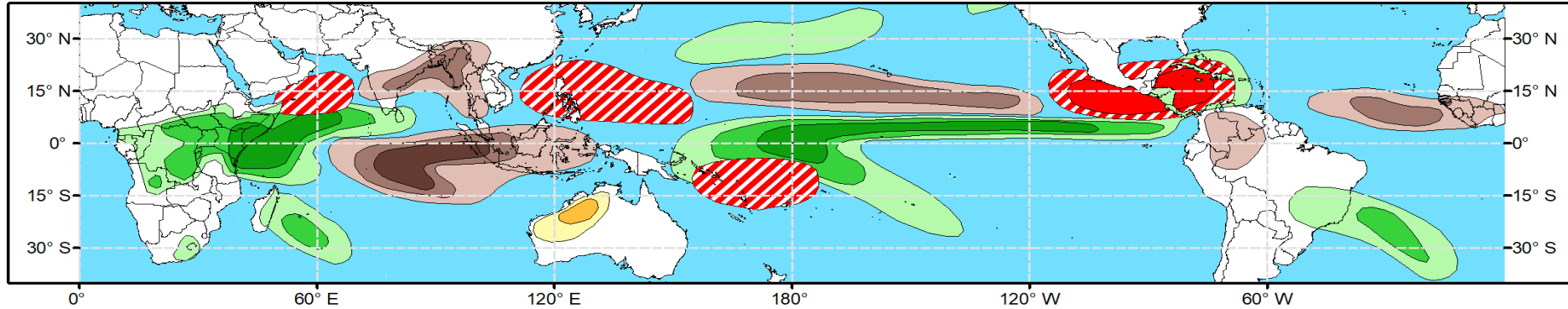
# GTH Outlook:



## Global Tropics Hazards Outlook Climate Prediction Center

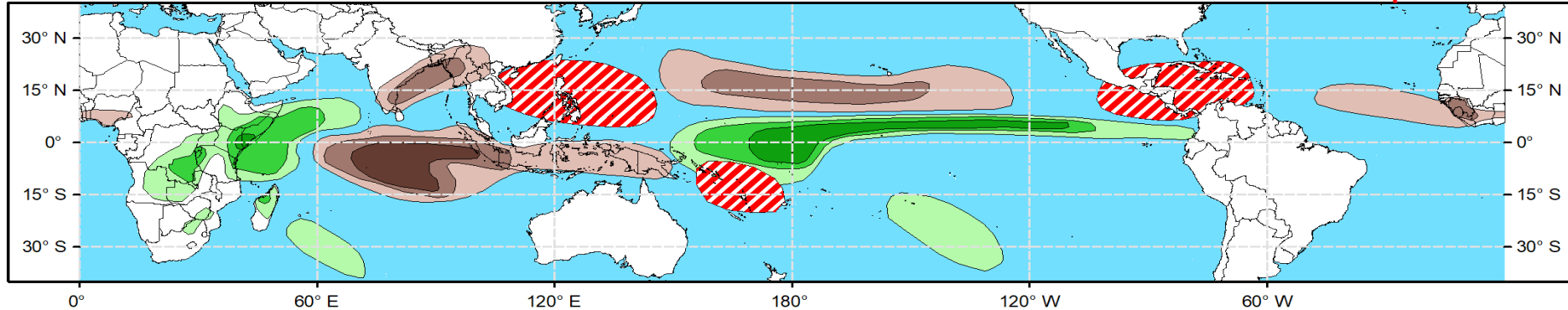


**Week 2 - Valid: Nov 01, 2023 - Nov 07, 2023**



**Week 3 - Valid: Nov 08, 2023 - Nov 14, 2023**

**\*\* Experimental \*\***



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Formation Probability**



>20% >40% >60%

Tropical Depression (TD)  
or greater strength

**Above-Average  
Rainfall Probability**



>50% >65% >80%

Weekly total rainfall in the  
Upper third of the historical range

**Below-Average  
Rainfall Probability**



>50% >65% >80%

Weekly total rainfall in the  
Lower third of the historical range

**Above-Average  
Temperatures Probability**



>50% >65% >80%

7-day max temperatures in the  
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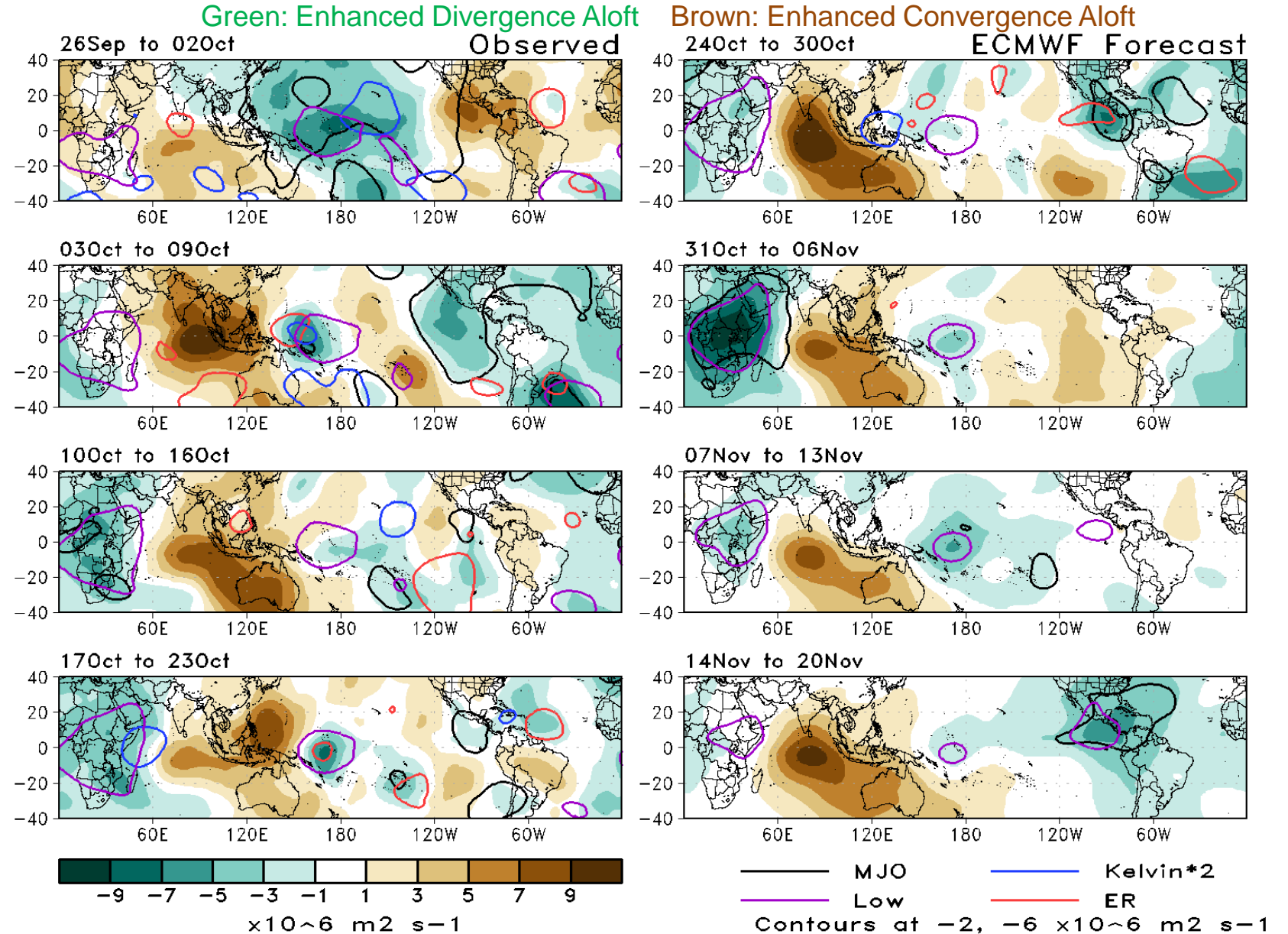
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**Issued: 10/24/2023  
Forecaster: Novella**

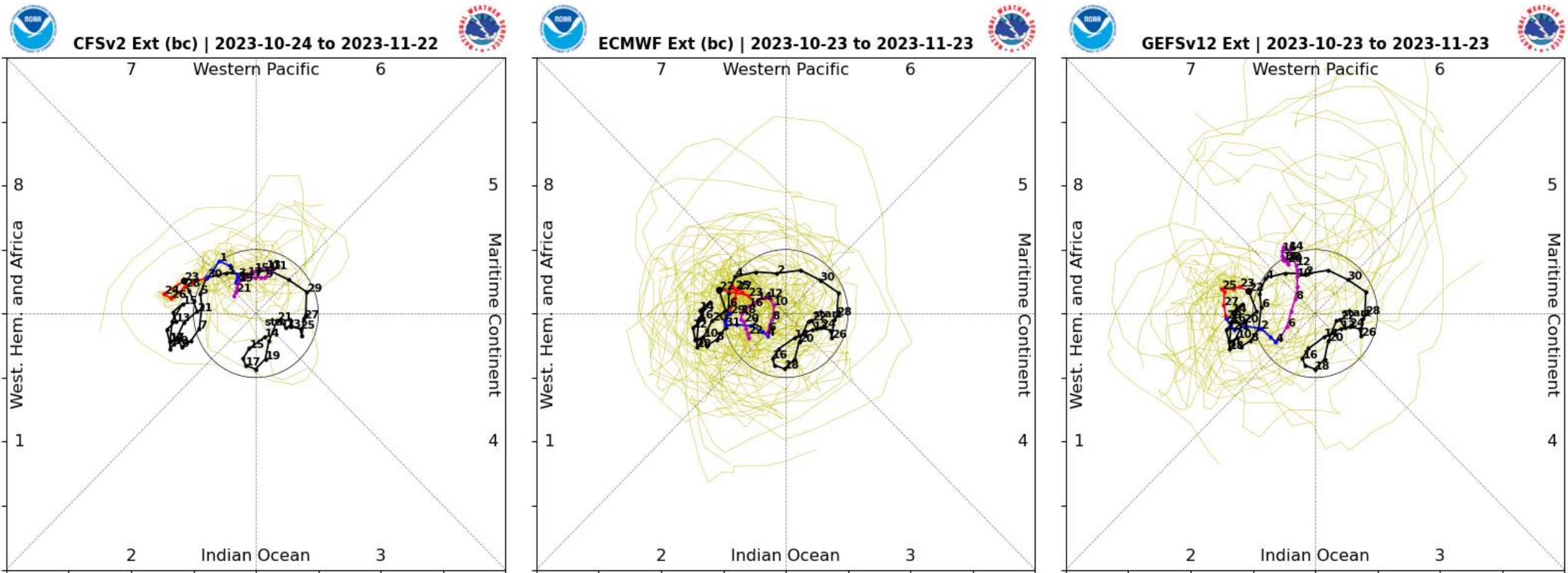
**This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only.  
Consult your local responsible forecast agency.**

# 200-hPa Velocity Potential Anomaly Maps:

- Two stationary, low frequency modes of variability (purple contours) are evident in both the observed and forecast upper-level environment.
- Weak MJO activity (black contours) is coming through the filtering over the western Hemisphere and Africa during the next two weeks, but its enhanced phase dissolves by week-3 as it confronts largely suppressed conditions in the Indian Ocean.

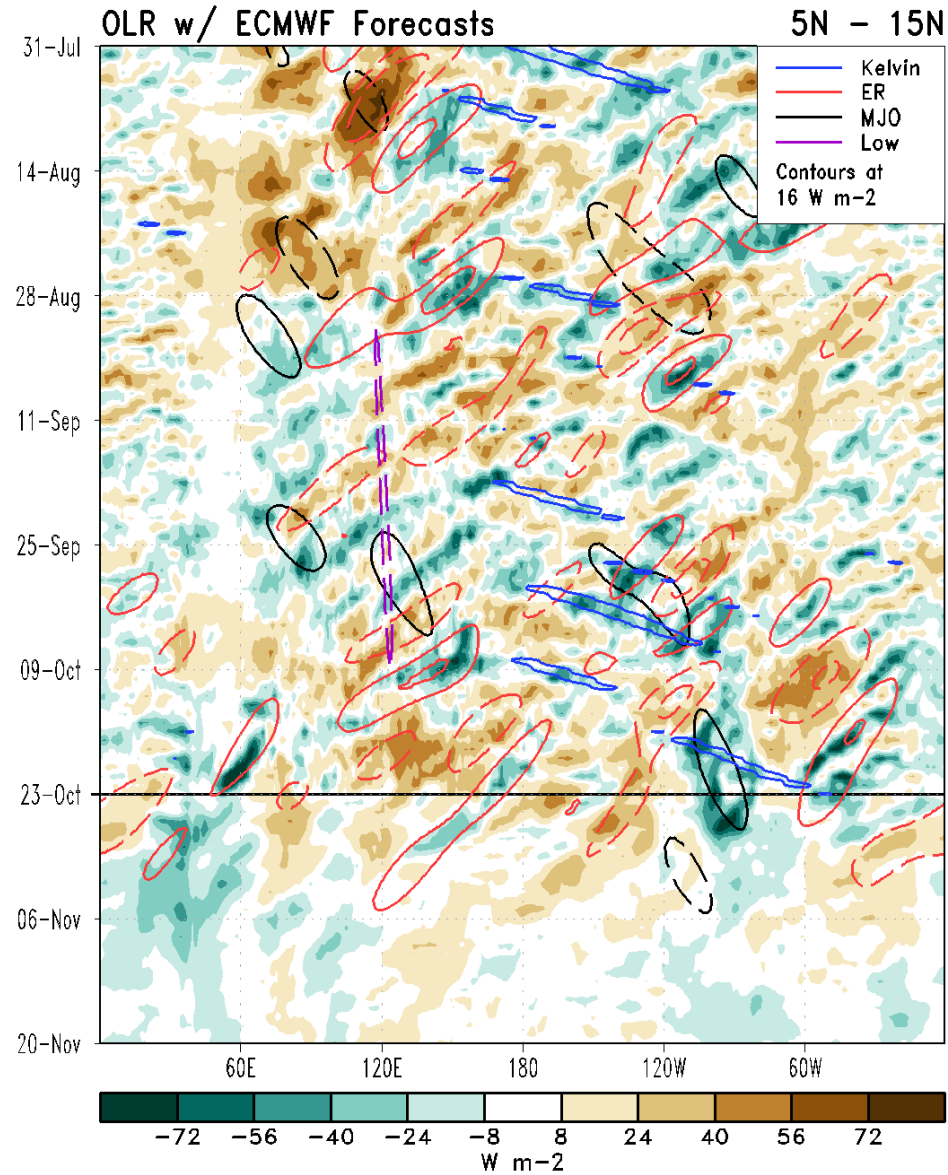
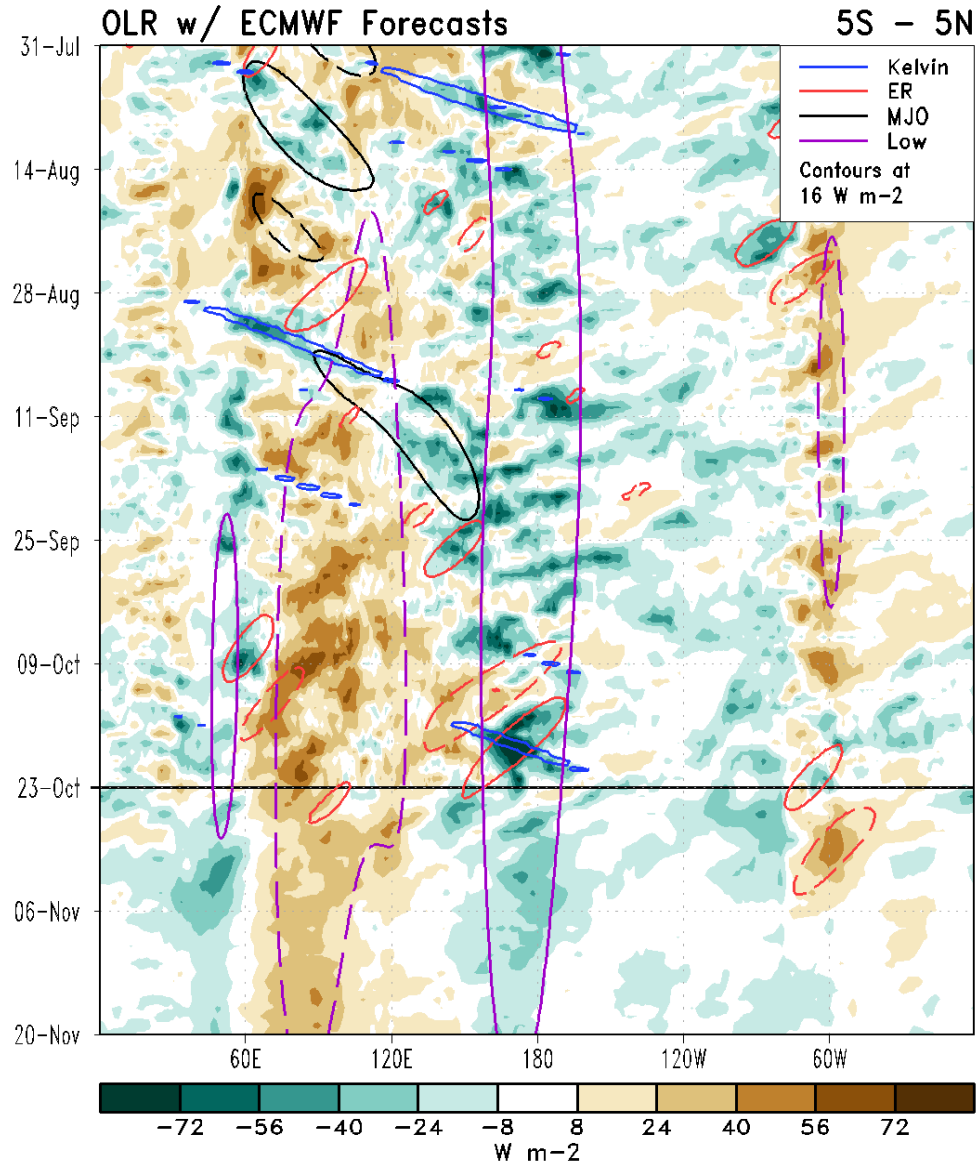


# RMM Index Observations & Forecasts:



- The GFSv12 and ECMWF show some signs of renewed eastward propagation, but at a low amplitude with high ensemble spread.
- The bulk of ensemble spread is largely confined to phases 6 through 1, which is suggestive of low frequency variability (+IOD and El Nino) projecting onto the forecast indices.

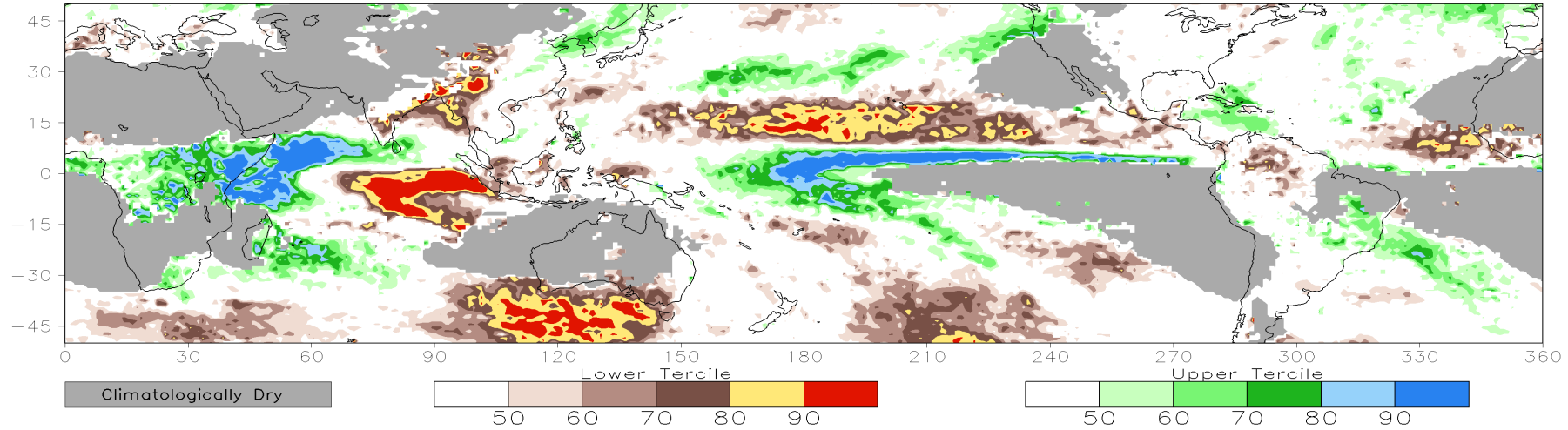
# Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



# Consolidated Probabilistic Precipitation: Weeks 2 & 3

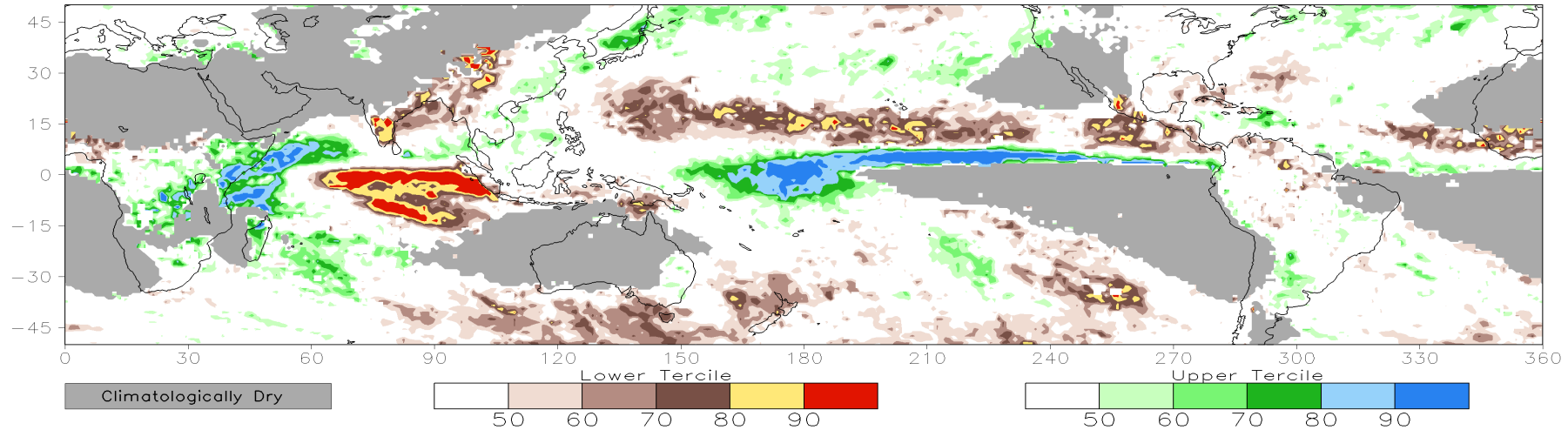
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 01Nov2023–07Nov2023



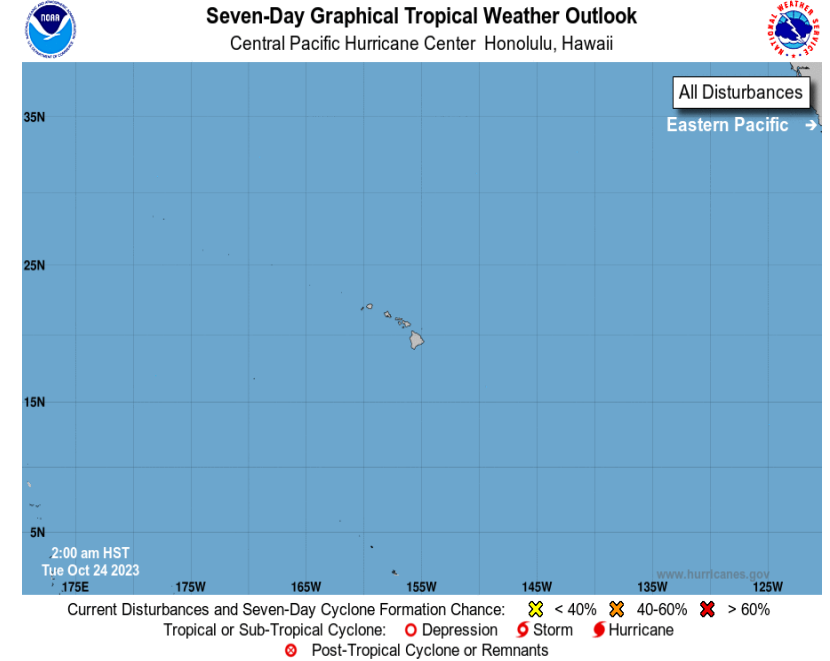
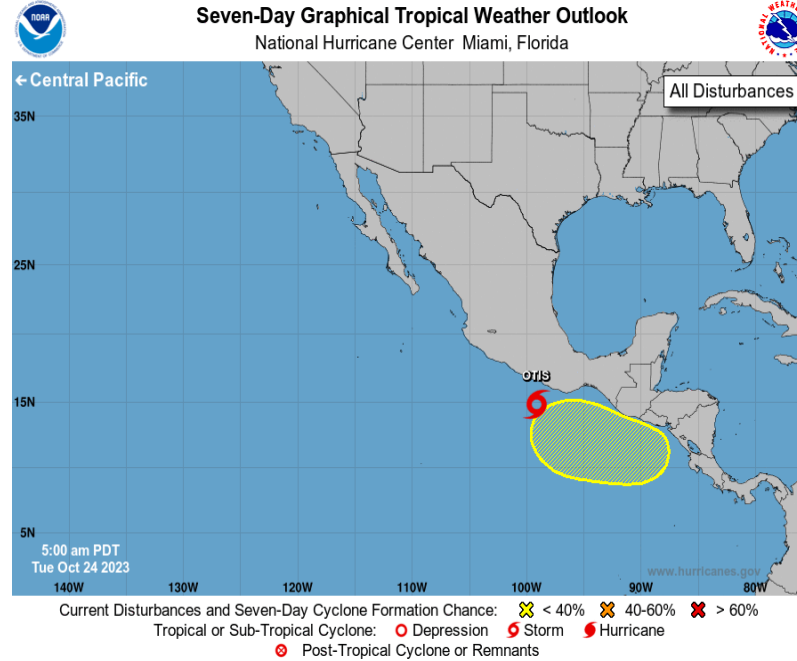
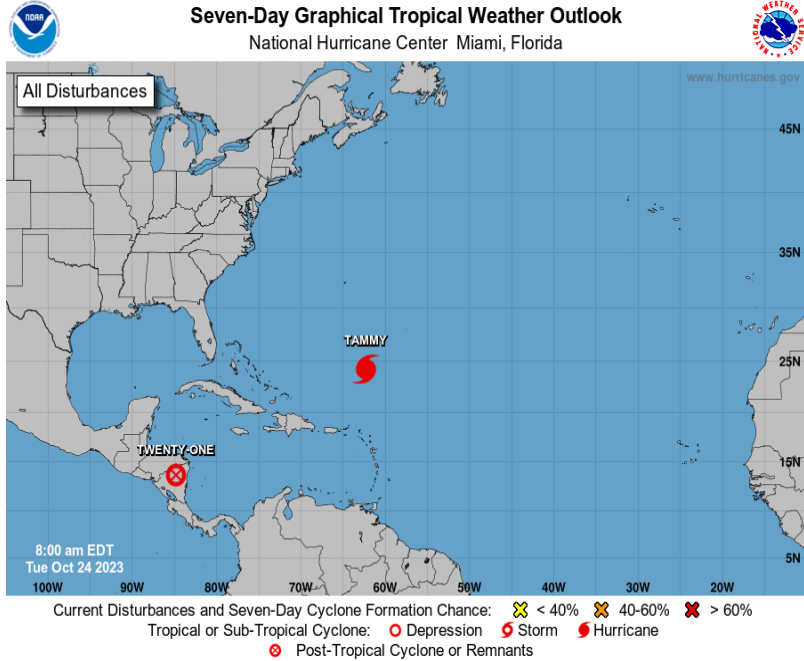
CONS 00z: Week3 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

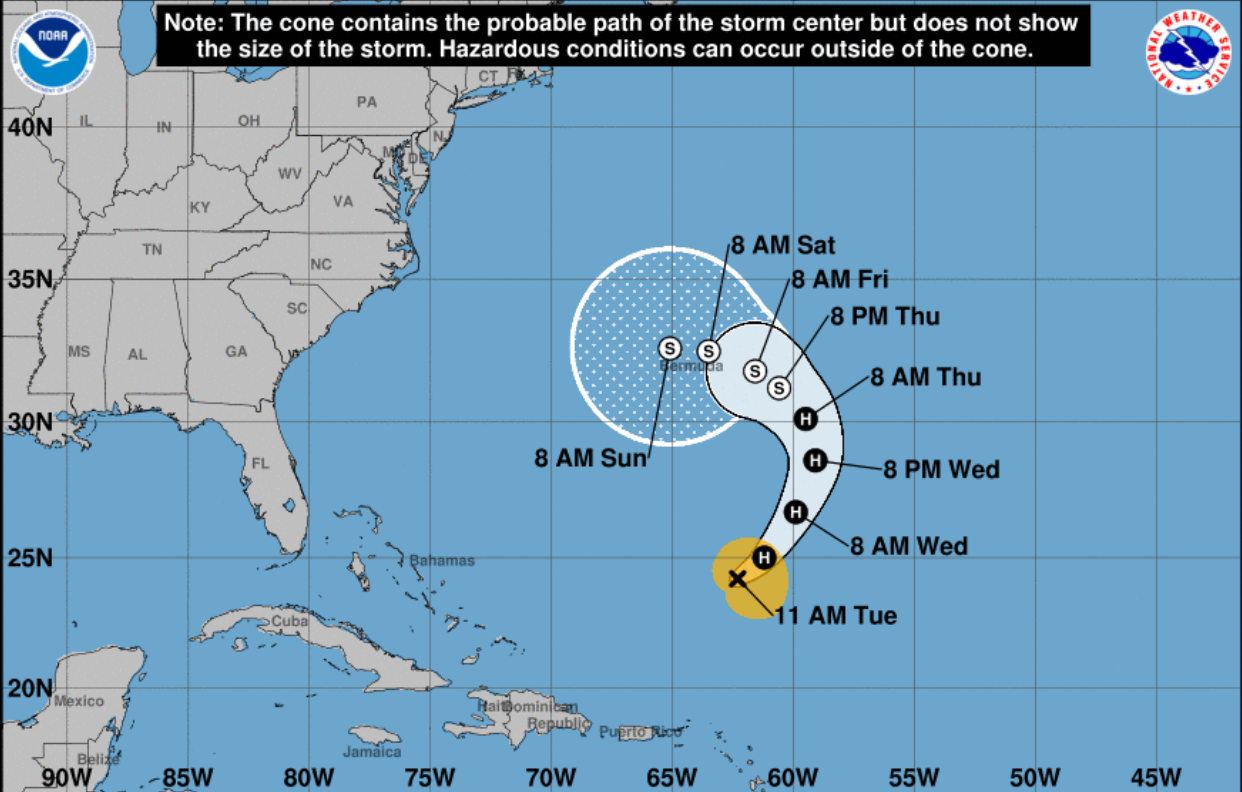
Valid: 08Nov2023–14Nov2023





# Tropical Cyclone Monitoring/Forecast: NHC / CPHC





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.

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**Tropical Storm Otis**  
 Tuesday October 24, 2023  
 10 AM CDT Advisory 9  
 NWS National Hurricane Center

**Current information: x**  
 Center location 14.8 N 99.1 W  
 Maximum sustained wind 70 mph  
 Movement NNW 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 field estimate:**  
 Hurricane Trop Stm

**Hurricane Tammy**  
 Tuesday October 24, 2023  
 11 AM AST Advisory 25  
 NWS National Hurricane Center

**Current information: x**  
 Center location 24.2 N 62.3 W  
 Maximum sustained wind 75 mph  
 Movement NE 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

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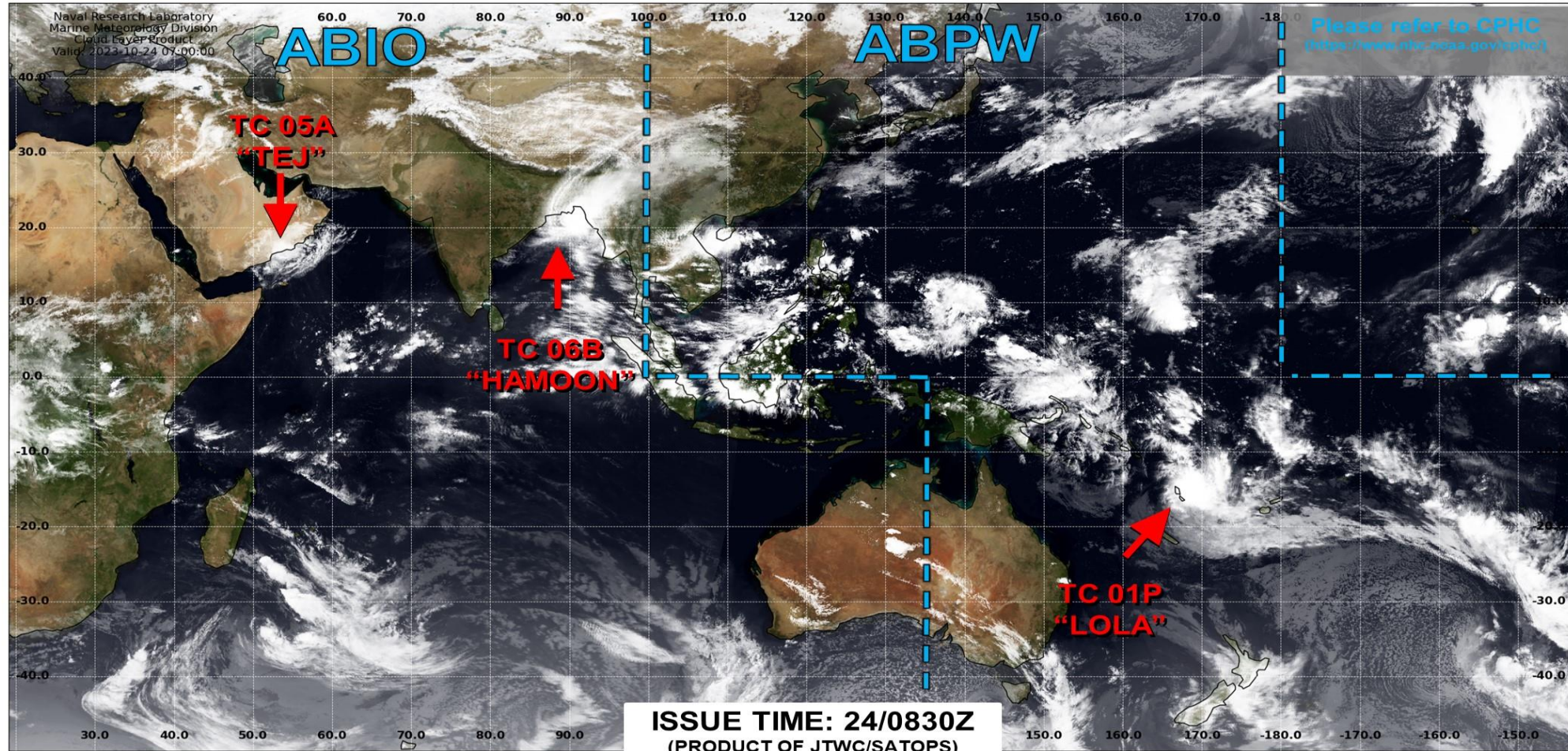
**Warnings:**  
 Hurricane Trop Stm

**Current wind field estimate:**  
 Hurricane Trop Stm

# Tropical Cyclone Monitoring/Forecast: JTWC



## JOINT TYPHOON WARNING CENTER



TC development unlikely within 24 hours



TC development likely, but expected to occur beyond 24 hours

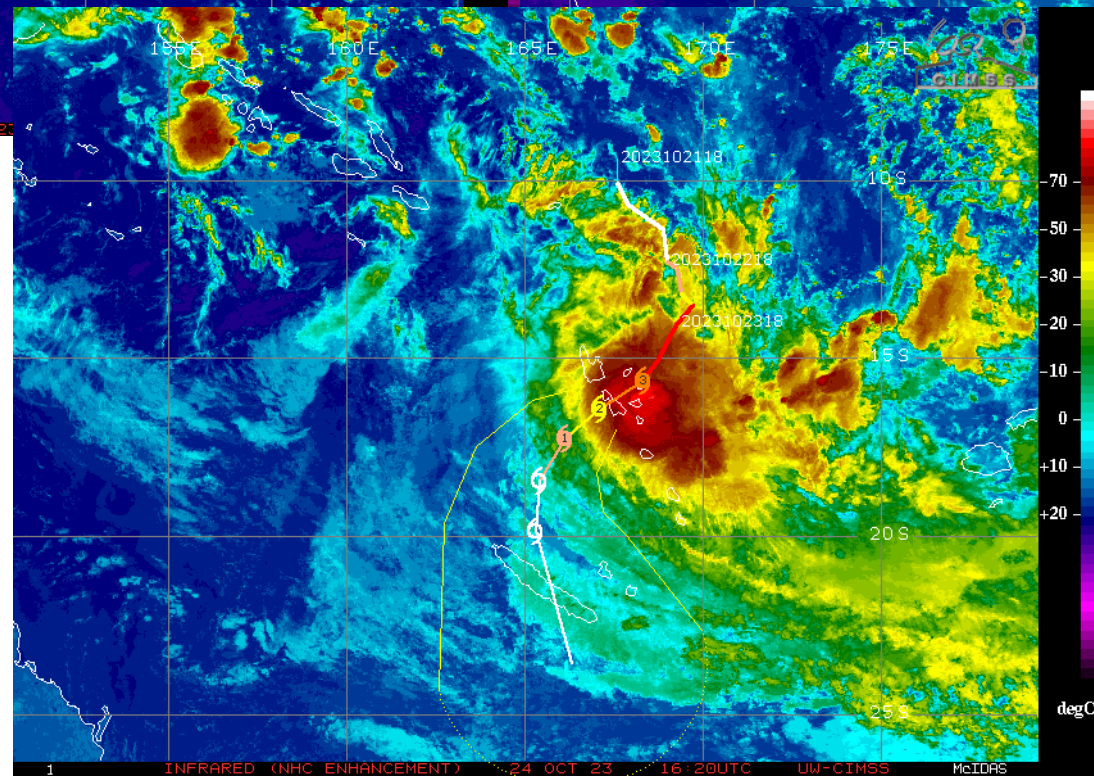
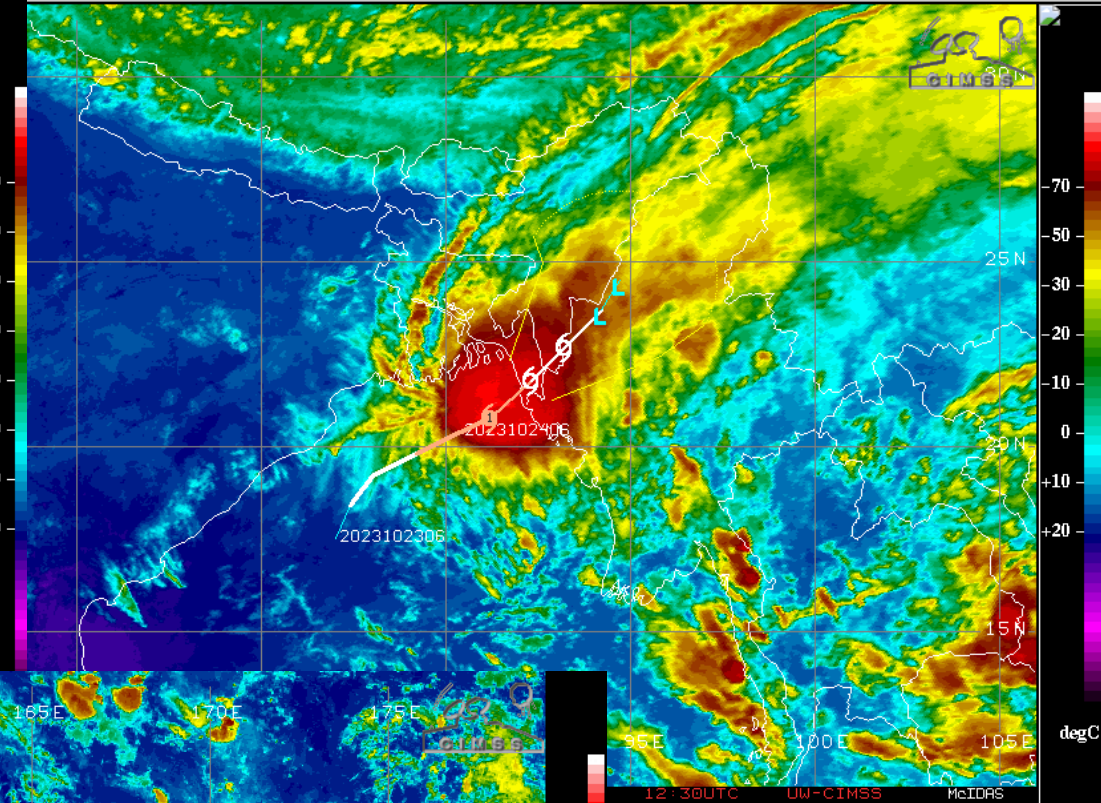
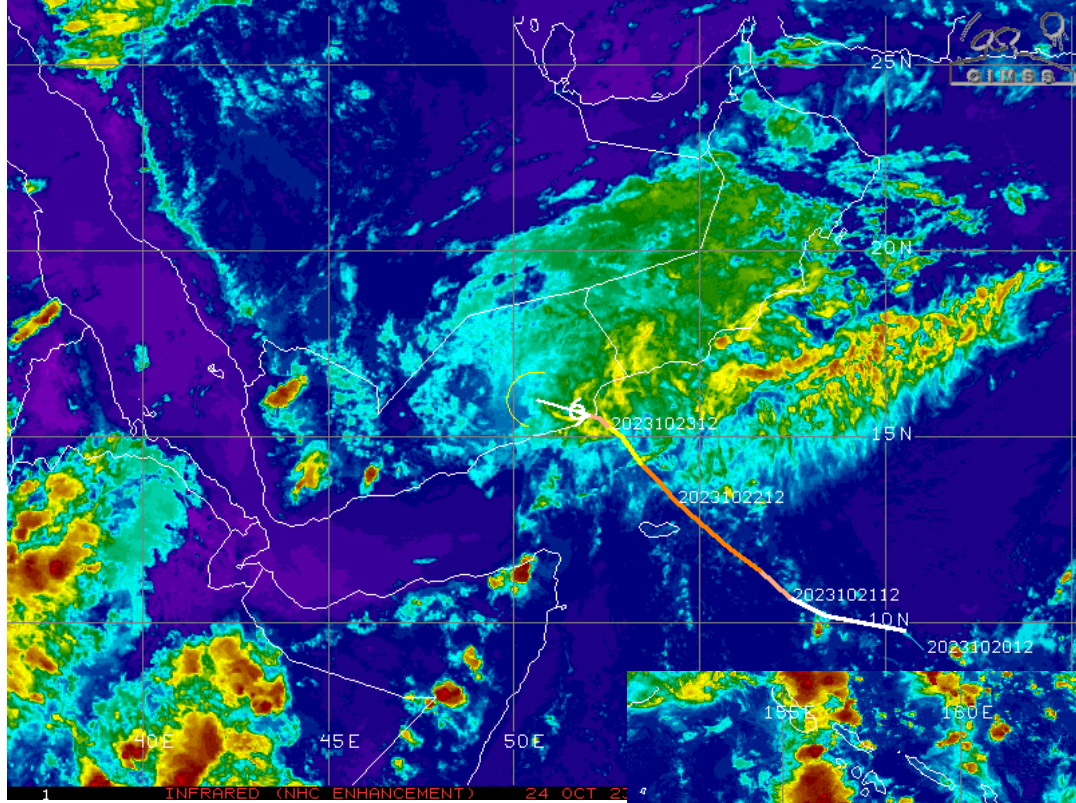


TC development likely within 24 hours (Reference TCFA)



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

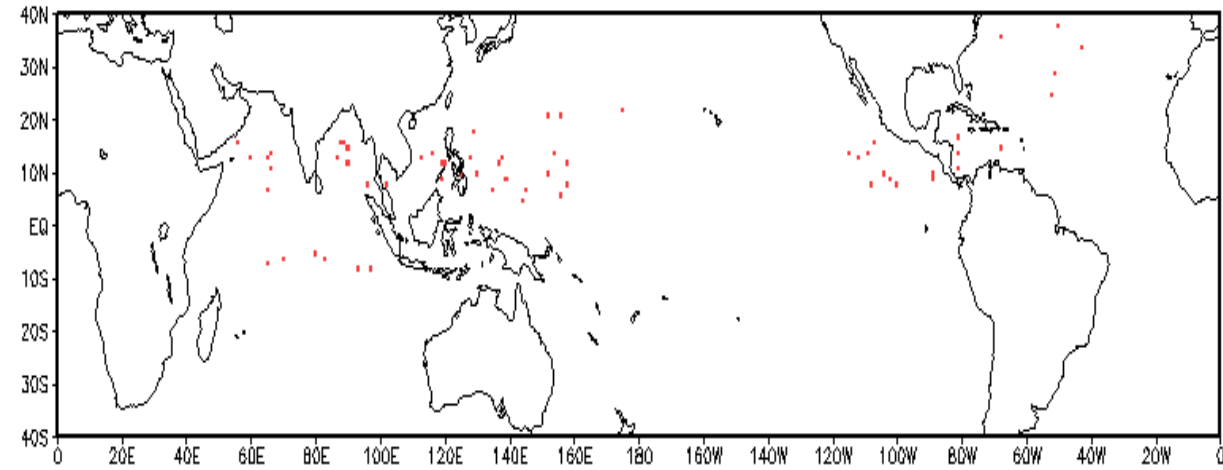
 Tropical Cyclone (Reference Warning)



# TC Climatological Genesis: Weeks 2+3

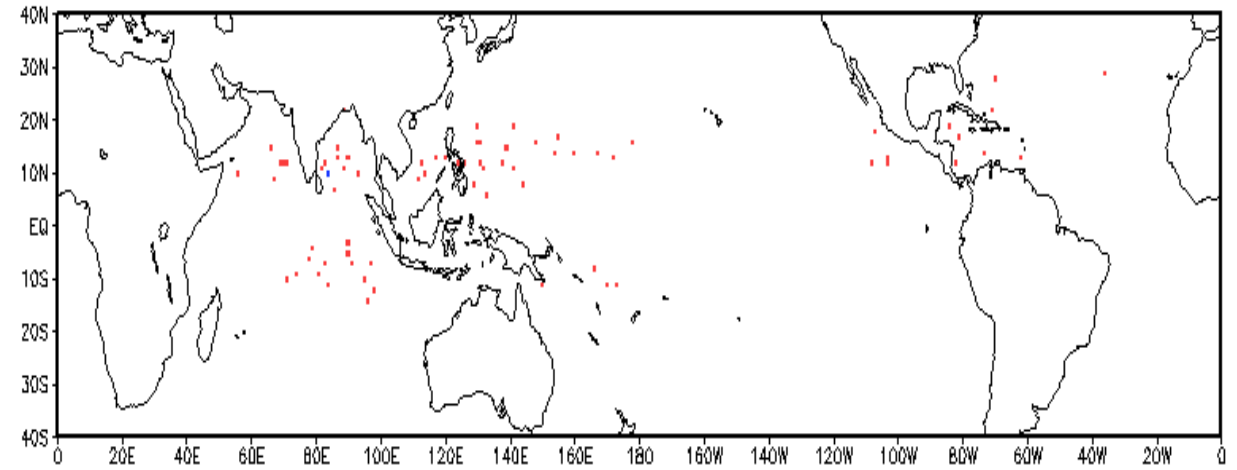
Observed TC Genesis, 1979–2021

7-day Period 1101 to 1107



Observed TC Genesis, 1979–2021

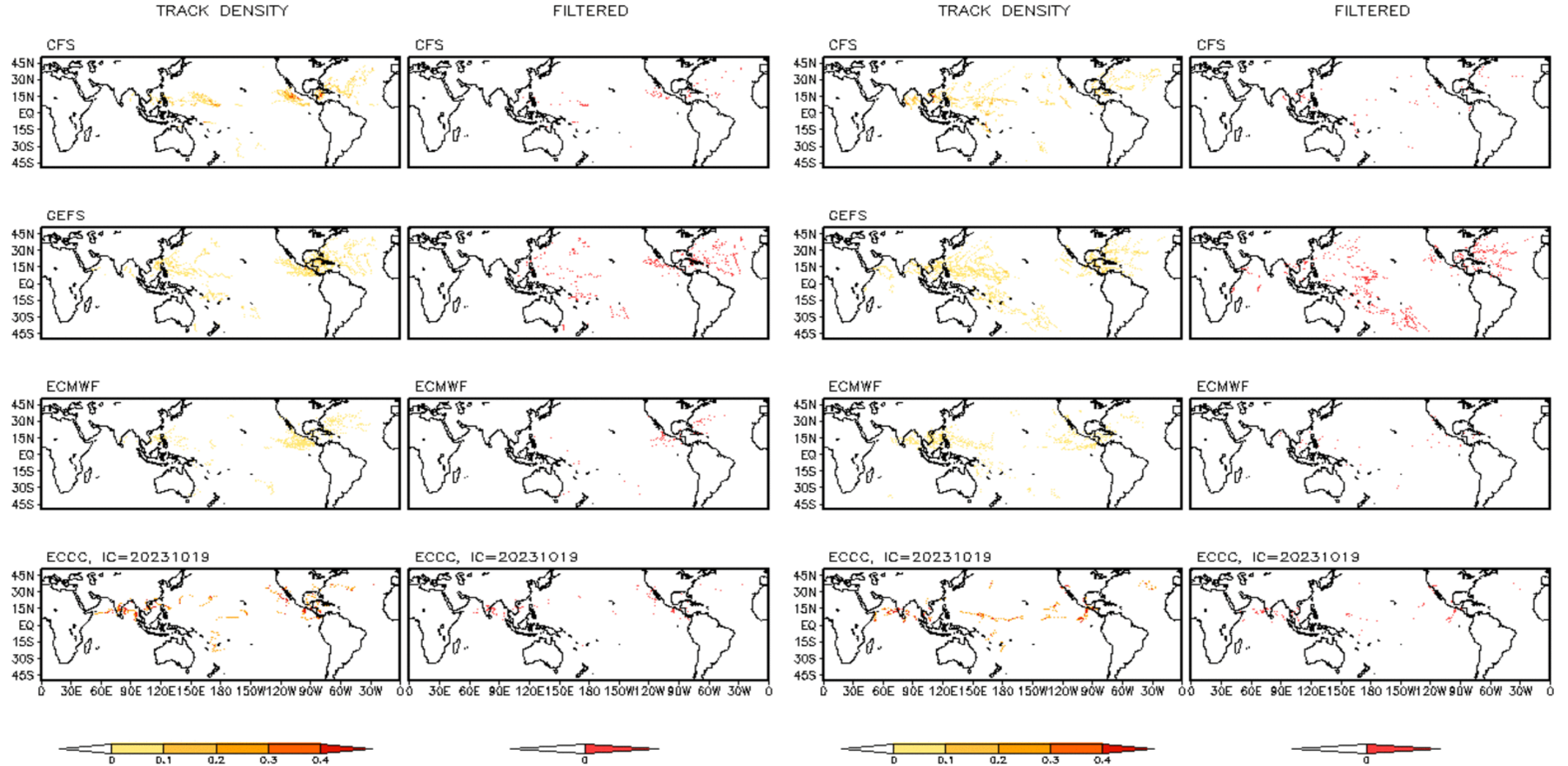
7-day Period 1108 to 1114



# Multi-Model TC Track Densities: Weeks 2+3

Storm Track Density Distribution, IC=20231023  
Week 2 Forecast: 1101–1107

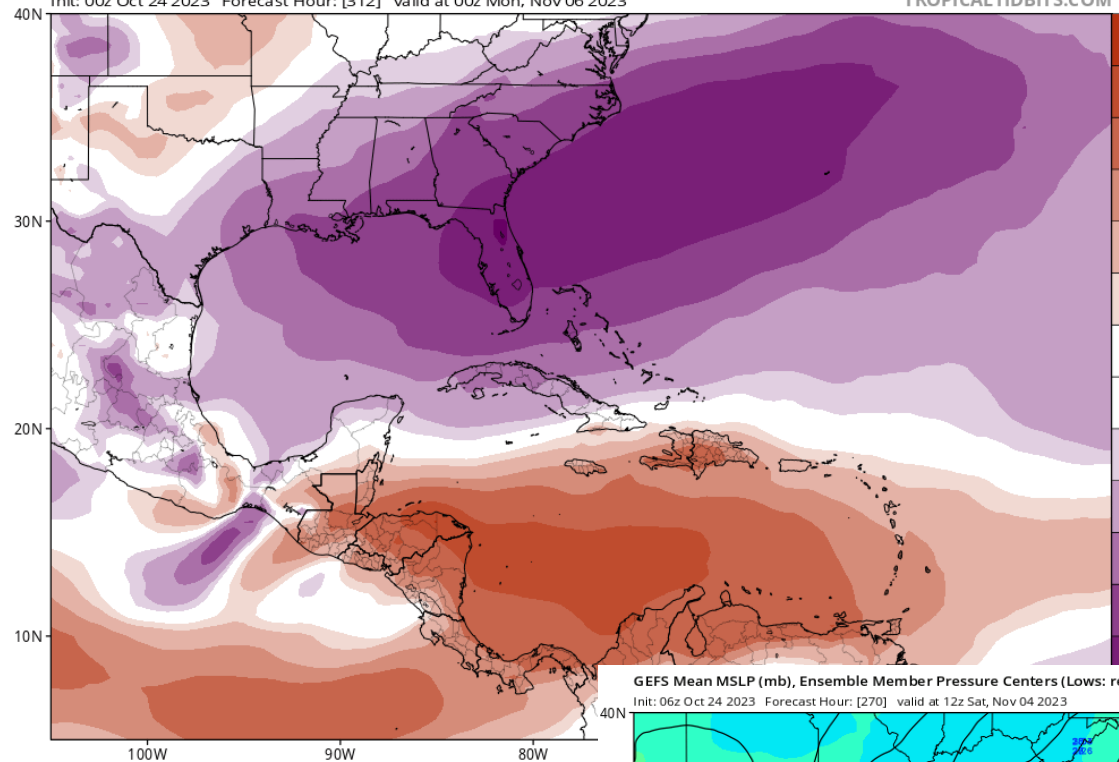
Storm Track Density Distribution, IC=20231023  
Week 3 Forecast: 1108–1114



GEFS 850 hPa Zonal Wind Anomaly (kt) from 00z01Nov2023 to 00z06Nov2023 (Days 9-13)

Init: 00z Oct 24 2023 Forecast Hour: [312] valid at 00z Mon, Nov 06 2023

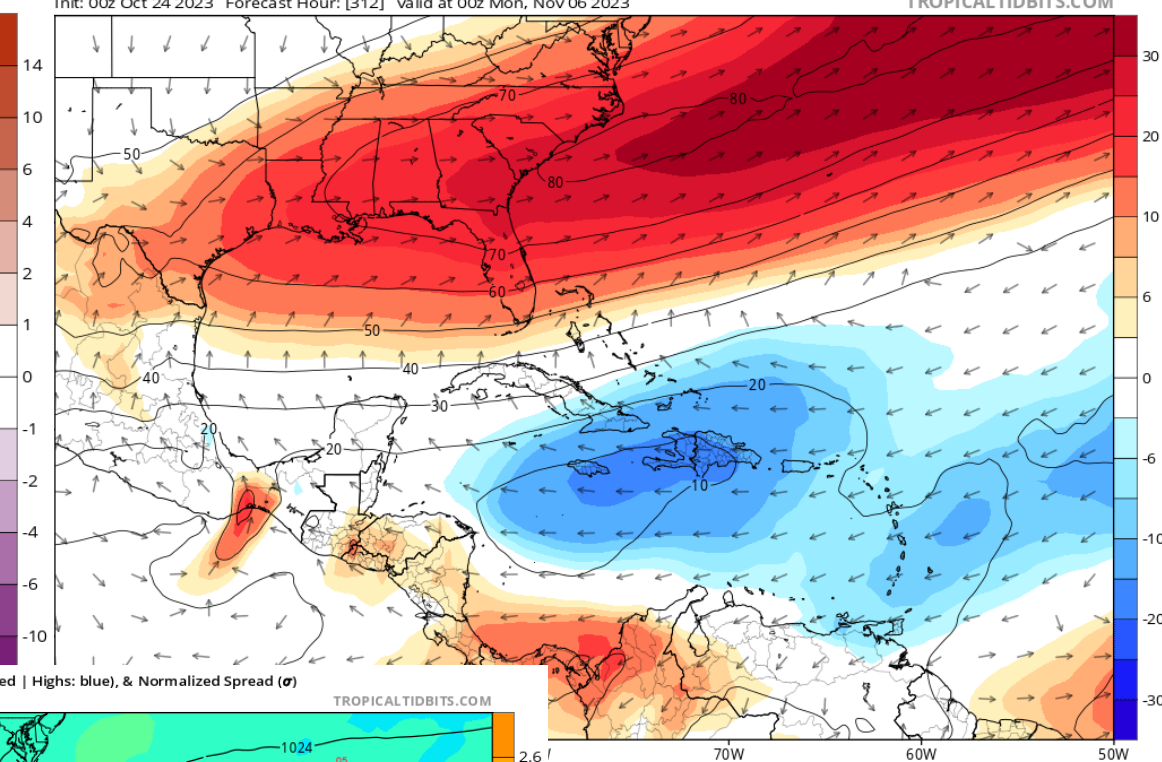
TROPICALTIDBITS.COM



GEFS Mean 850-200 hPa Bulk Shear (kt, contour) & Anomaly (kt, shaded/vector) from 00z01Nov to 00z06Nov (Days 9-13)

Init: 00z Oct 24 2023 Forecast Hour: [312] valid at 00z Mon, Nov 06 2023

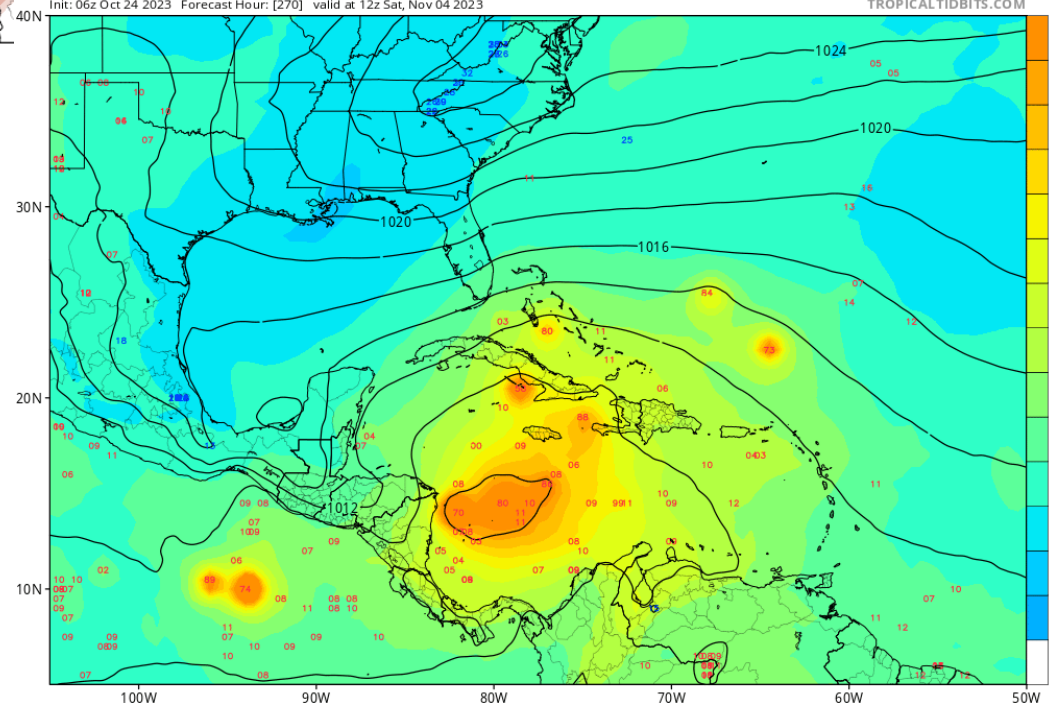
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GEFS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | Highs: blue), & Normalized Spread ( $\sigma$ )

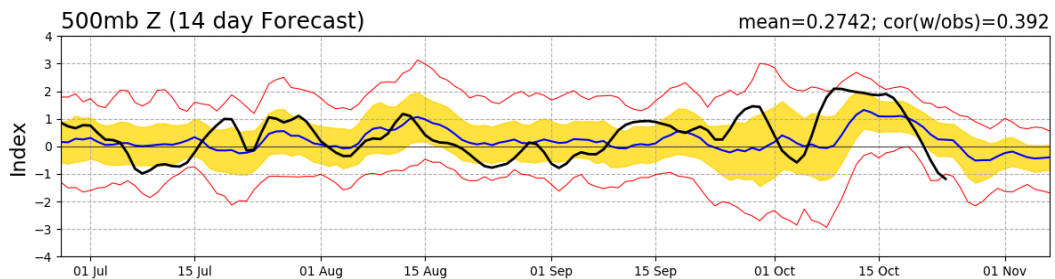
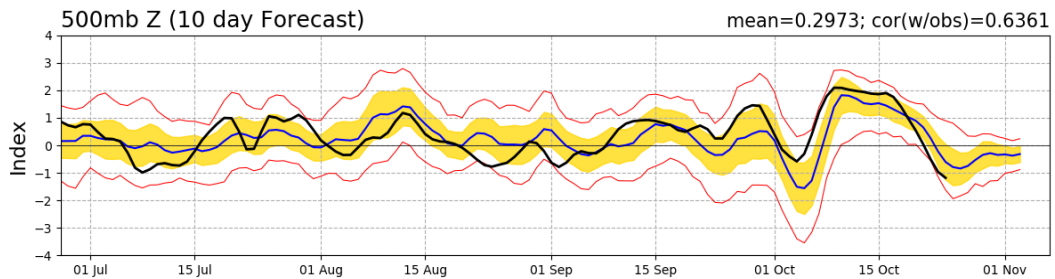
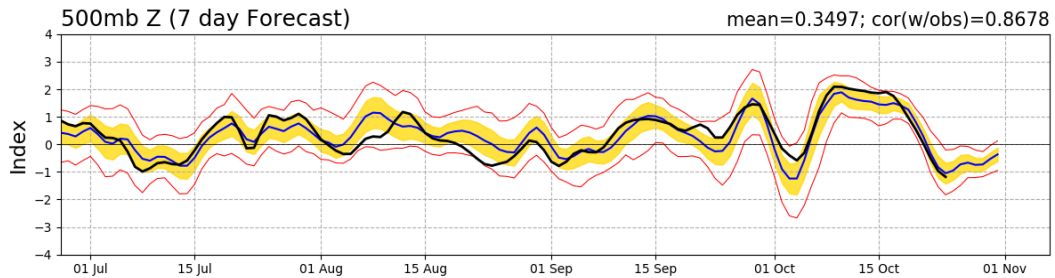
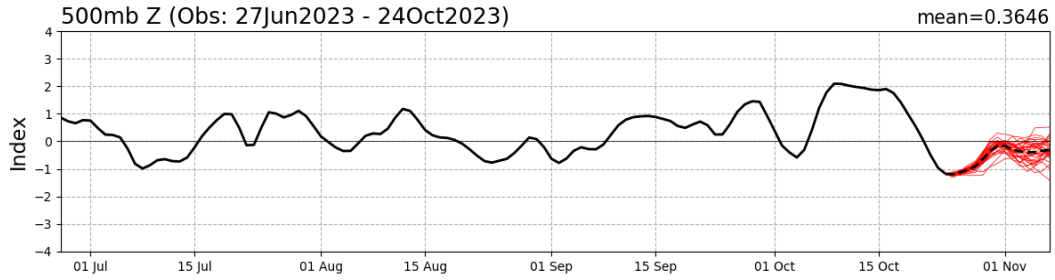
Init: 06z Oct 24 2023 Forecast Hour: [270] valid at 12z Sat, Nov 04 2023

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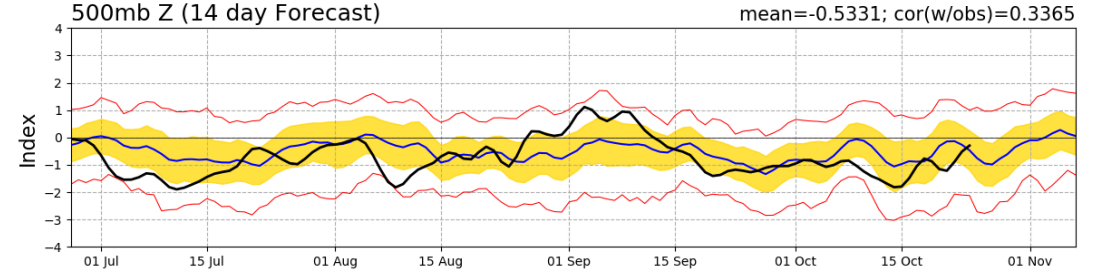
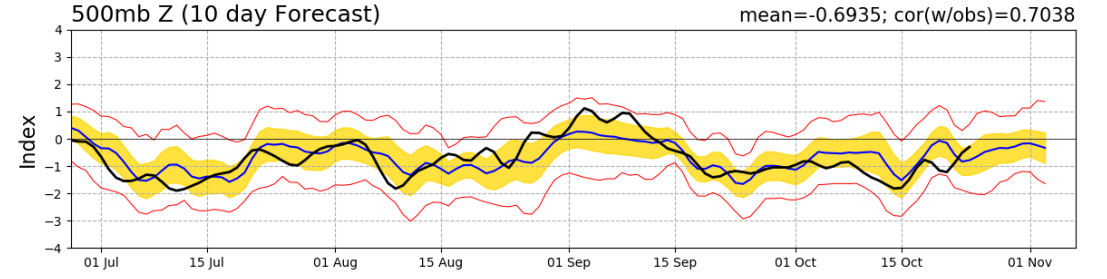
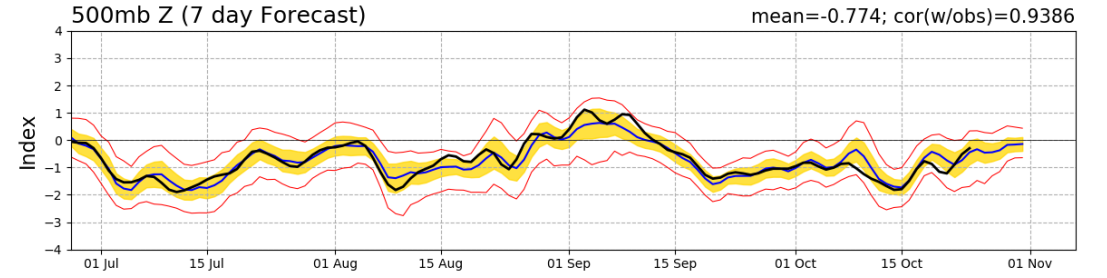
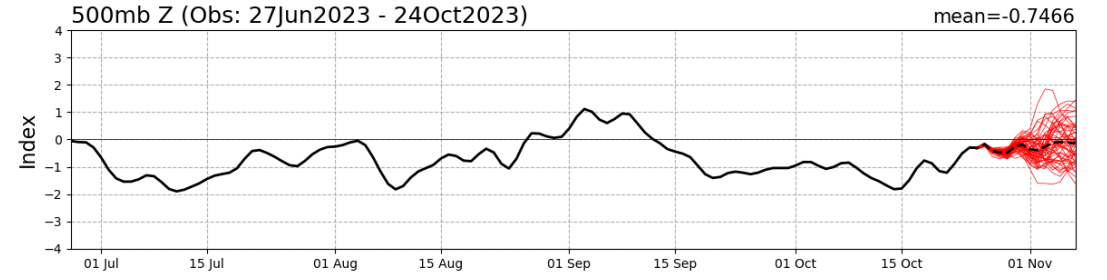


# Teleconnection Indices: PNA / AO:

## PNA Index: Observed & GEFS Forecasts

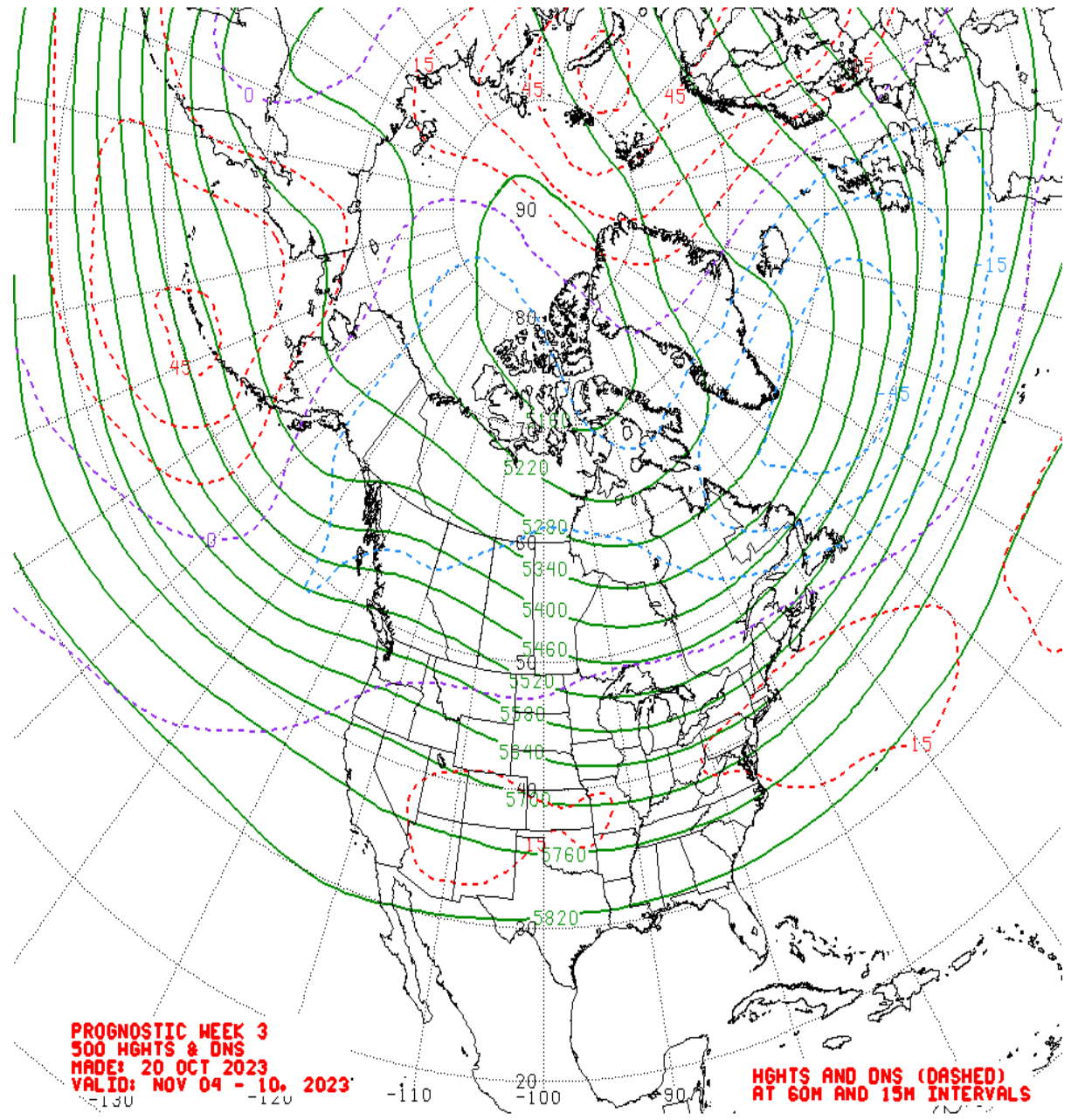
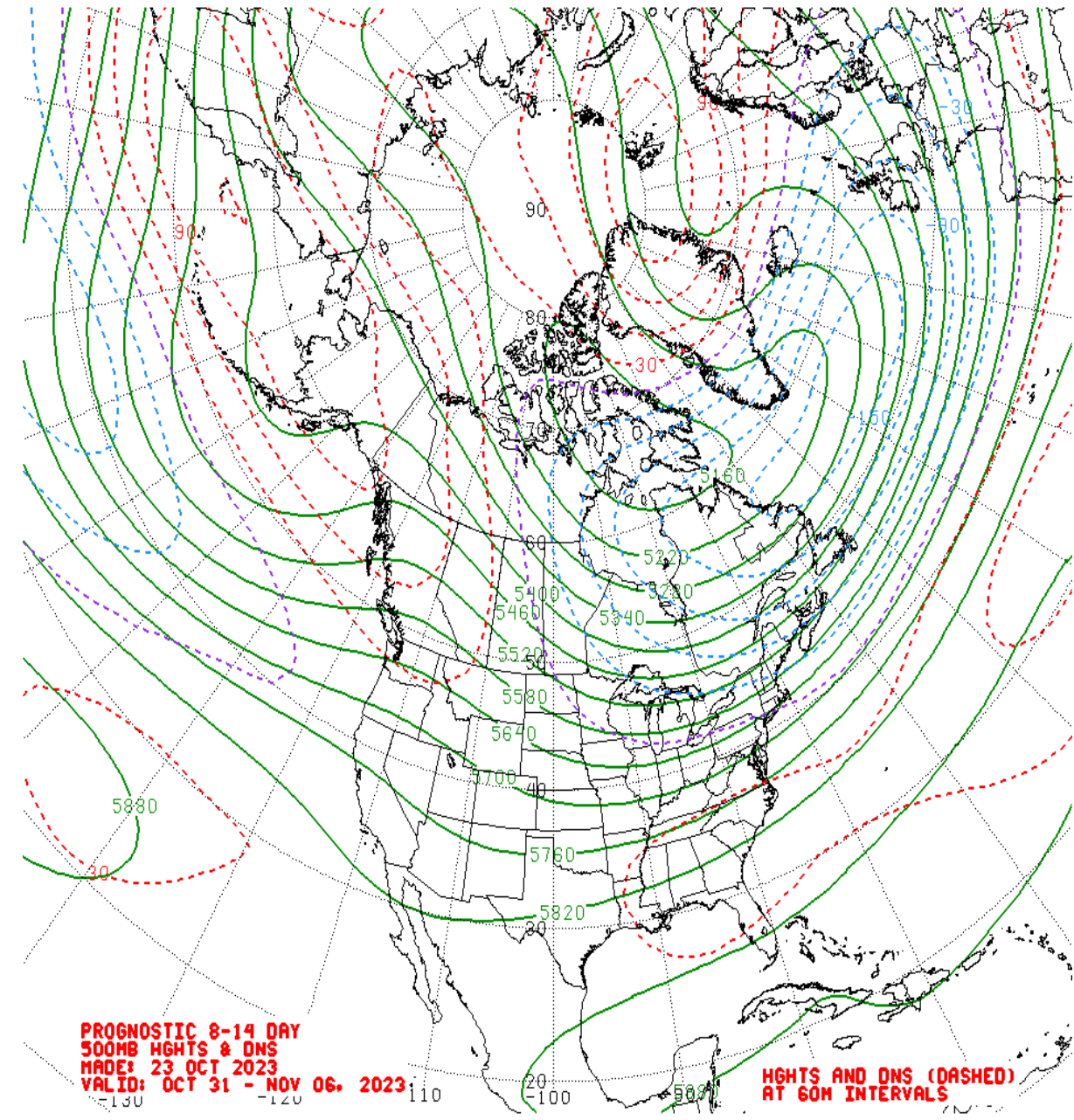


## NAO Index: Observed & ECMWF Forecasts

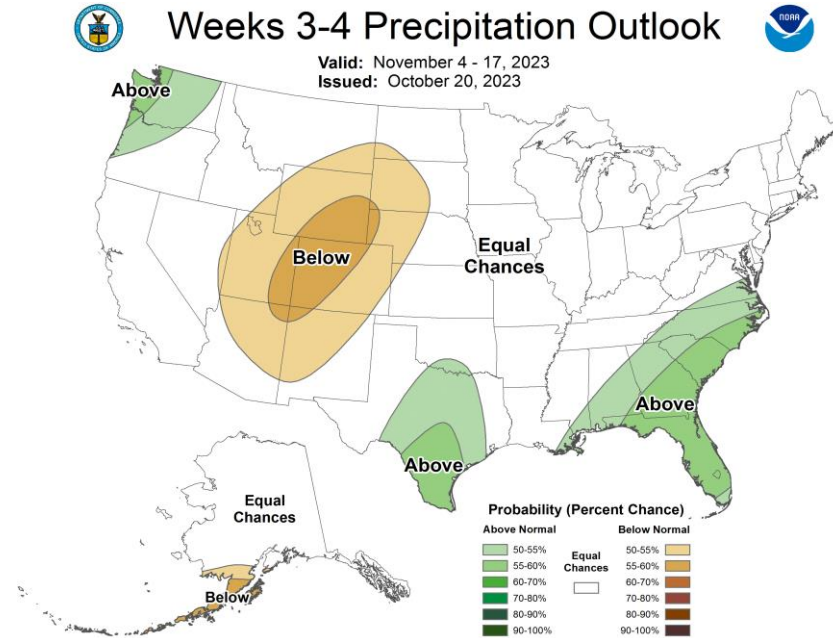
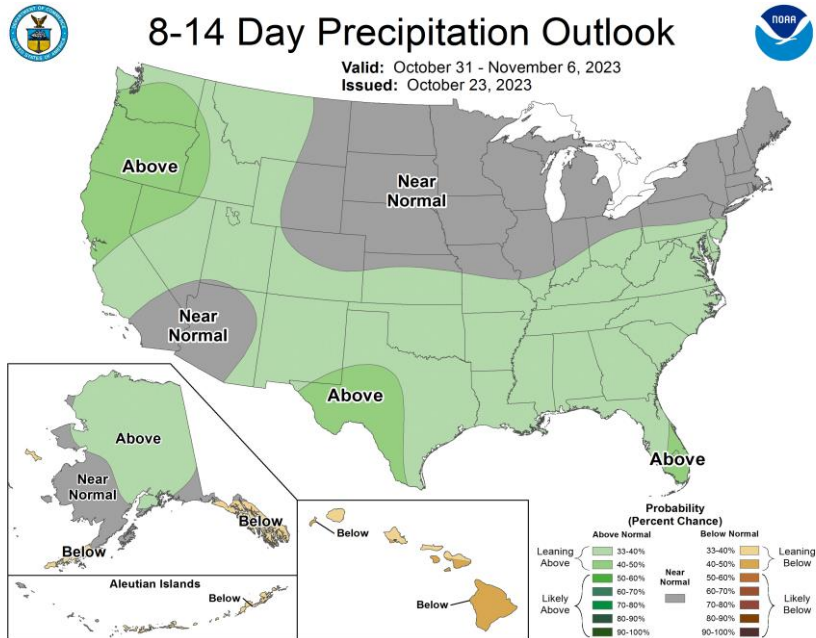
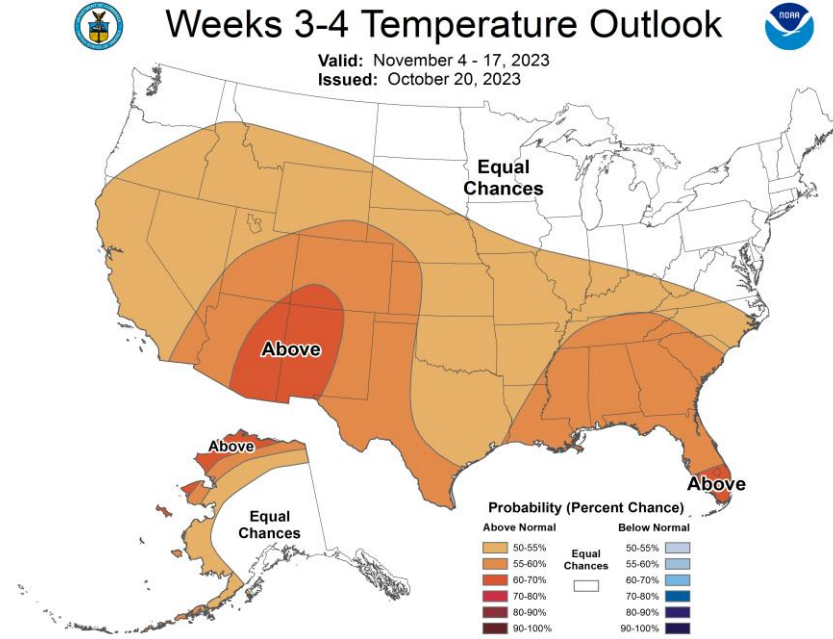
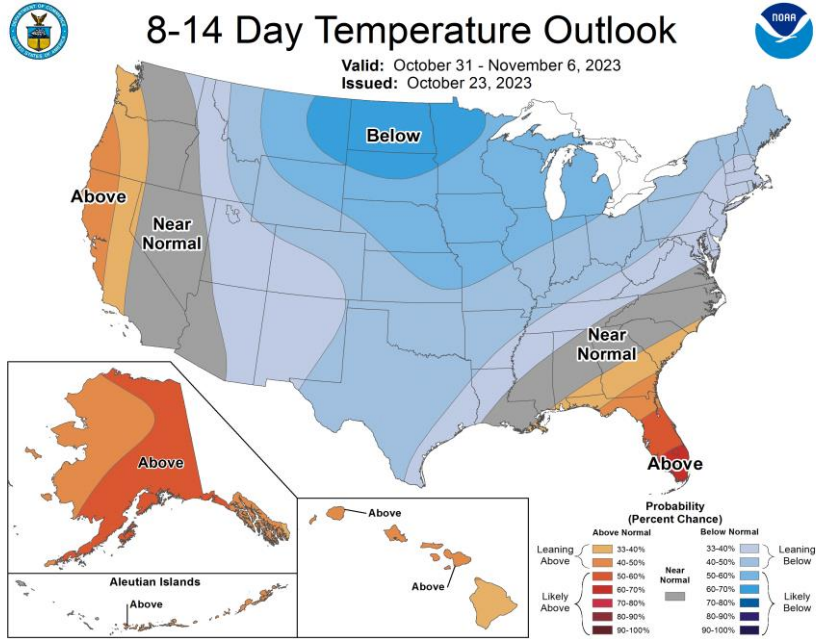




# Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3



# Official Temperature & Precipitation Forecasts:



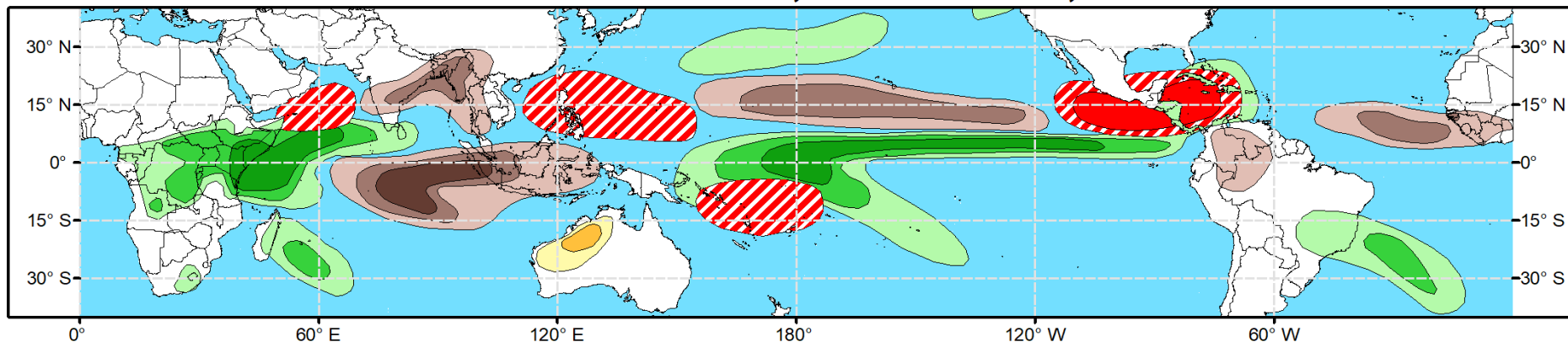


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Climate Prediction Center

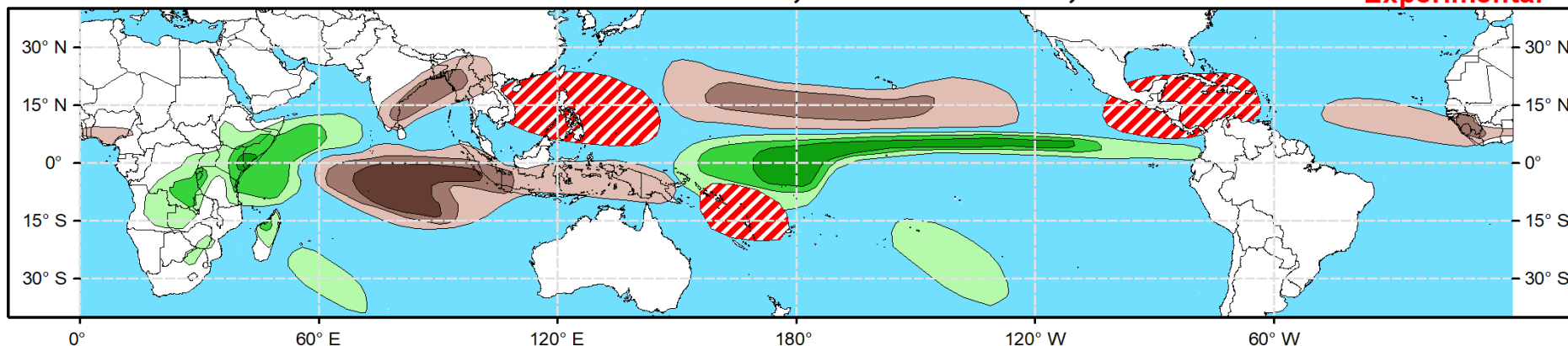


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