



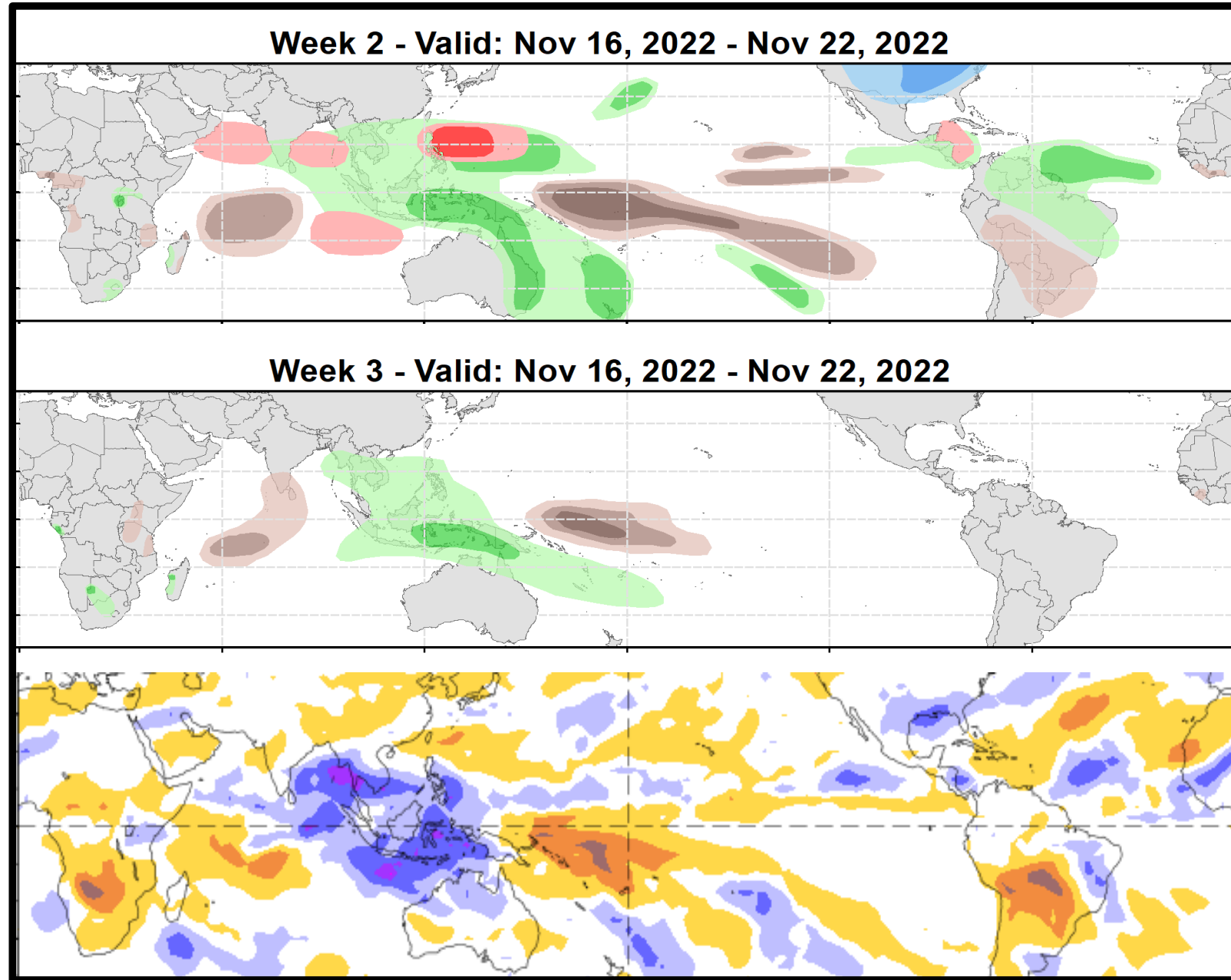
# Weeks 2-3 Global Tropics Hazards Outlook

11/22/2022

Danny Barandiaran  
NWS / NCEP / Climate Prediction Center

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

- No TCs in the last week, organized convection occurred over Western Pacific, Bay of Bengal and Southern Indian Ocean
- Notable wet signal over Maritime Continent



# Synopsis of Climate Modes:

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**ENSO:** (Nov 10, 2022 Update)      *next update on Thursday, Dec 8<sup>th</sup>*

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is expected to continue, with chances for La Niña gradually decreasing from 76% in the coming season to 57% of ENSO-neutral during Feb-Apr 2022-23.

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

- The RMM index indicates the MJO has increased in amplitude over the last week and the signal has continued to steadily propagate eastward into the Western Pacific.
- There is generally good agreement among the dynamical models favoring rapid eastward propagation of the convective envelope during week-1, followed by a weakening of the MJO signal with destructive interference from La Nina base state. In the extended range there is some indication of the MJO signal reemerging over the Indian Ocean and Maritime Continent later in week-3.
- Strong La Nina base state will provide a favorable environment for tropical cyclone (TC) genesis around the Maritime Continent for both weeks 2 and 3.

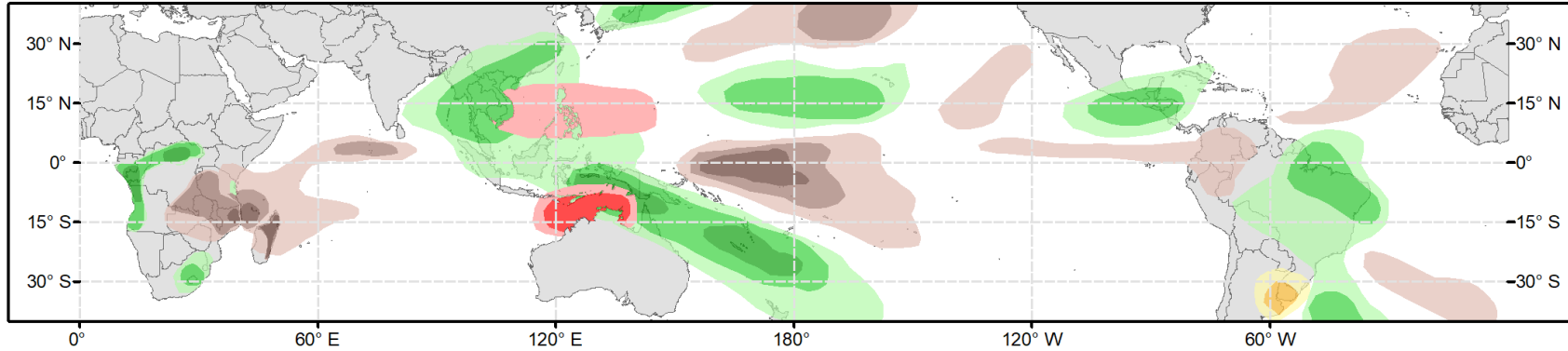
# GTH Outlook:



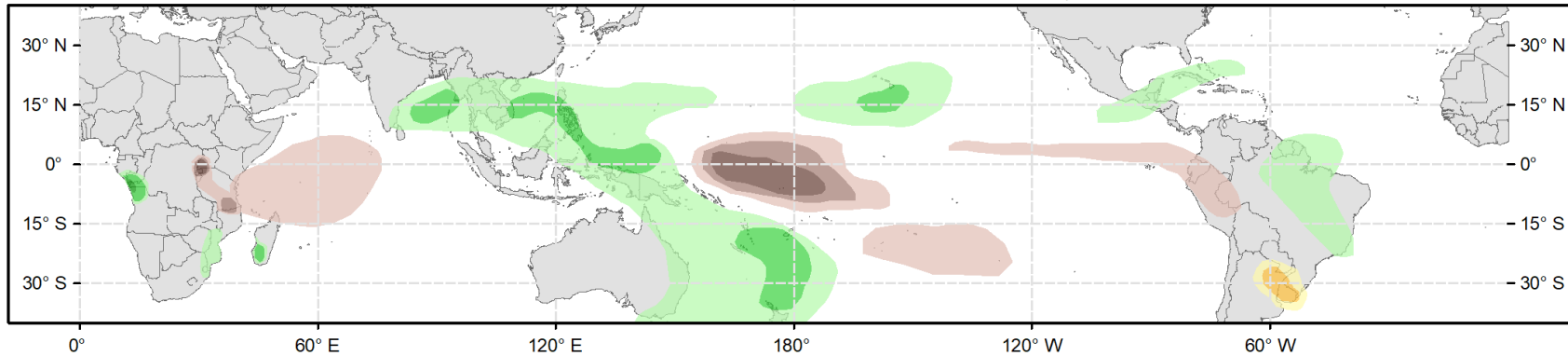
## Global Tropics Hazards Outlook Climate Prediction Center



**Week 2 - Valid: Nov 30, 2022 - Dec 06, 2022**



**Week 3 - Valid: Dec 07, 2022 - Dec 13, 2022**



**Week-2 Only**  
**Tropical Cyclone (TC) 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 mean temperatures in the Upper third of the historical range*

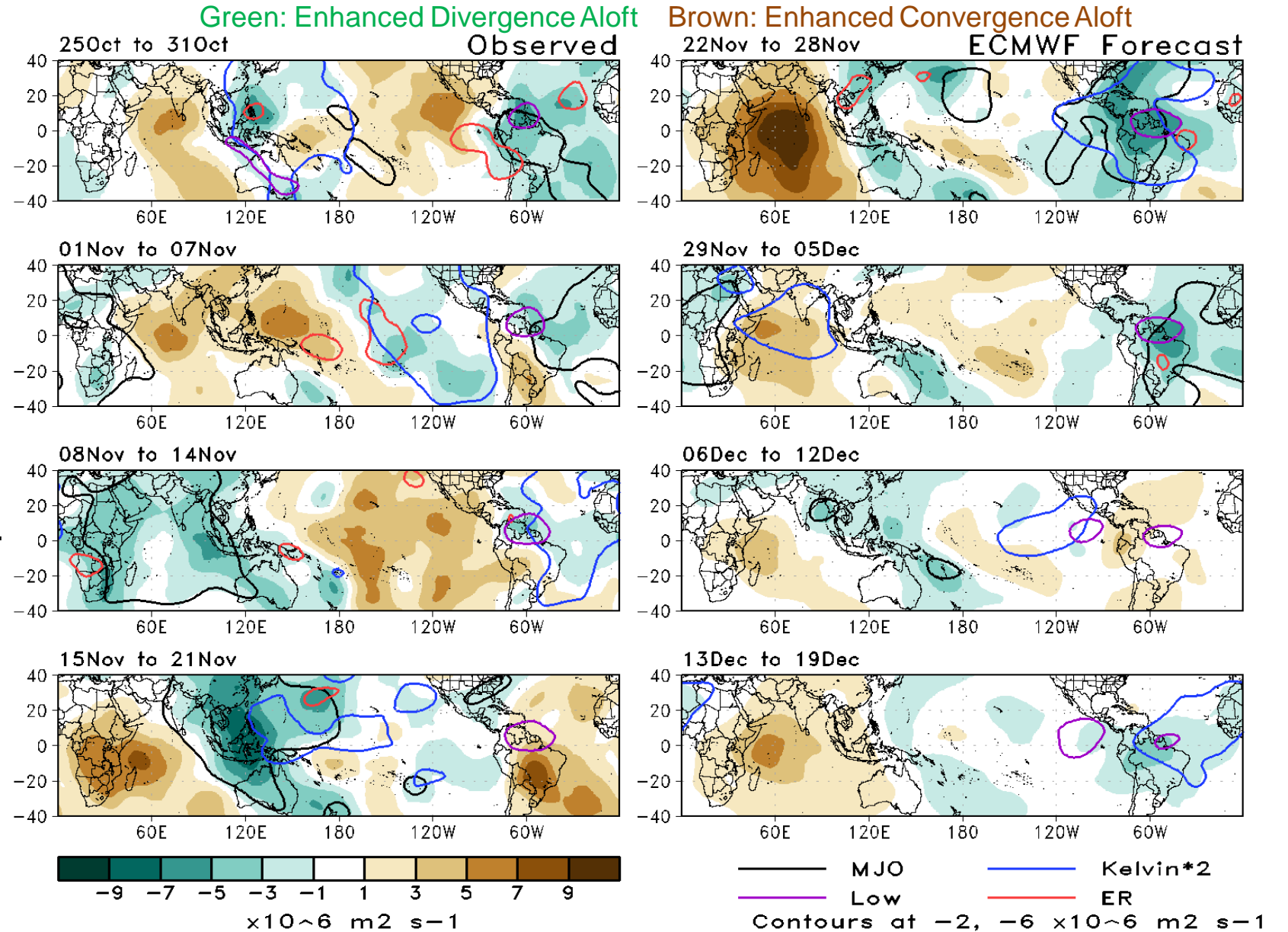
**Below-Average Temperatures Probability**  
  
 >50% >65% >80%  
*7-day mean temperatures in the Lower third of the historical range*

**Issued: 11/22/2022**  
**Forecaster: Barandiaran**

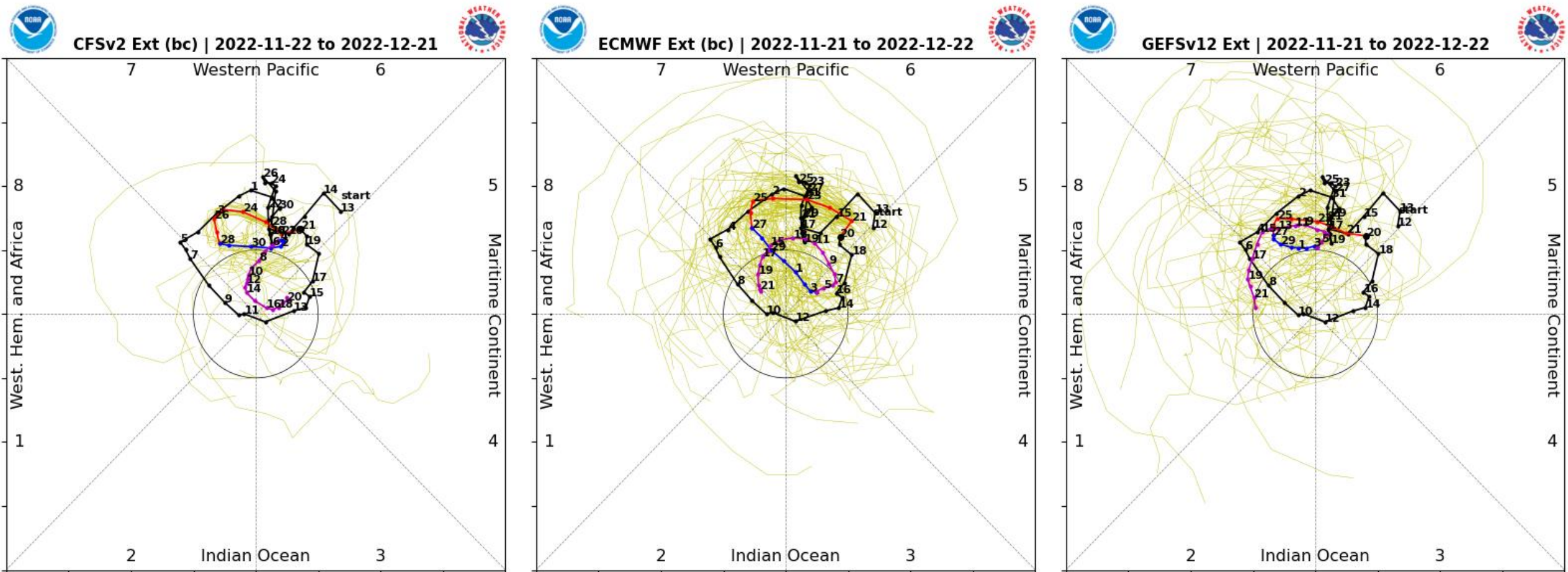
**This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.**

# 200-hPa Velocity Potential Anomaly Maps:

- A secondary envelope of enhanced conditions is favored during week-1 over the Americas, while convection in the eastern Hemisphere diminishes.
- Subsidence over the western Indian Ocean is an enduring feature for entire forecast period.

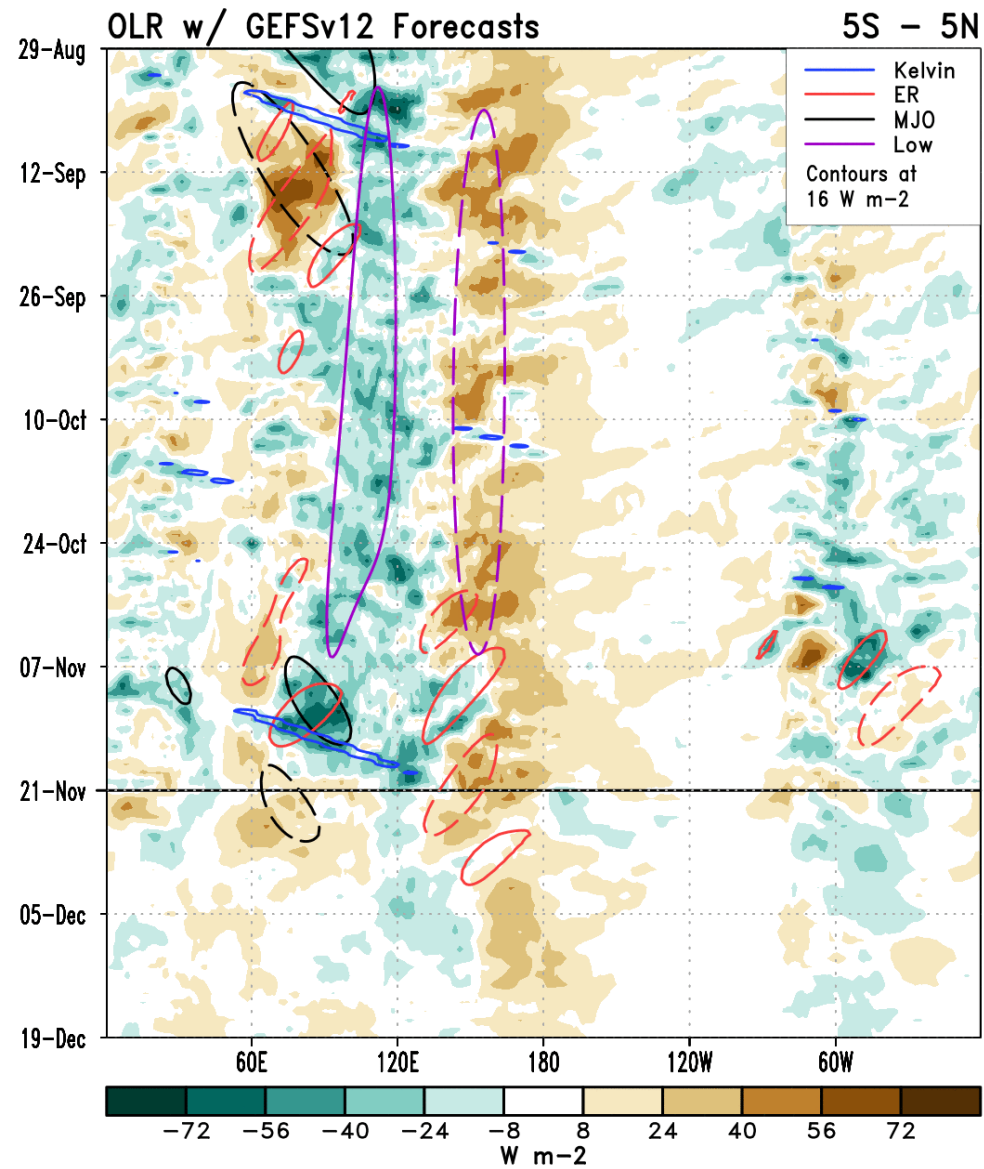
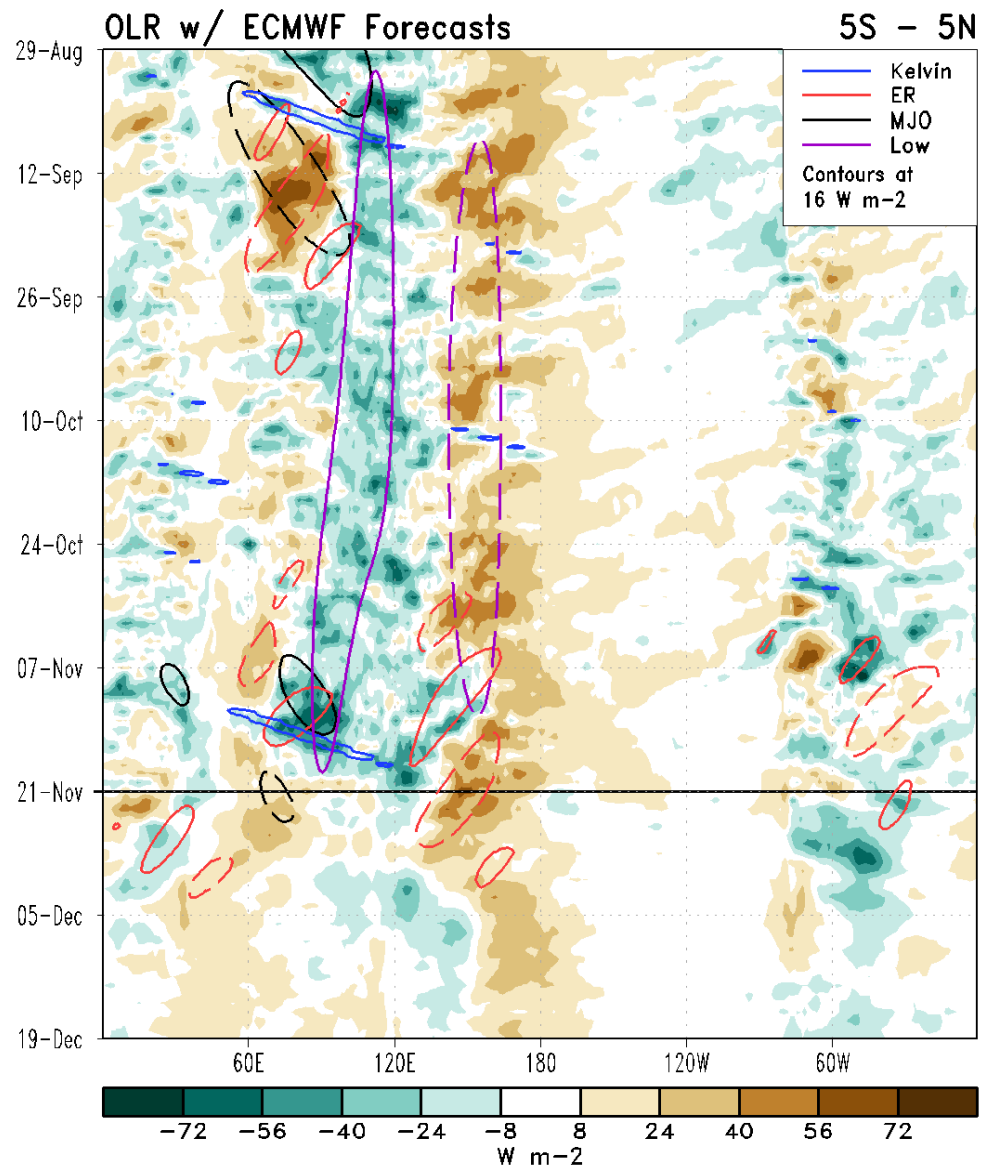


# RMM Index Observations & Forecasts:



- Good agreement exists among the dynamical models favoring rapid Kelvin wave-like activity over the Western Pacific during week-1 before the signal weakens and moves back towards the right half of the RMM diagram within the unit circle during week 2. Model solutions diverge significantly for week 3.
- GEFS and BOMM both favor a more coherent RMM signal in phases 8-3, while other models push signal near the center of the unit circle.

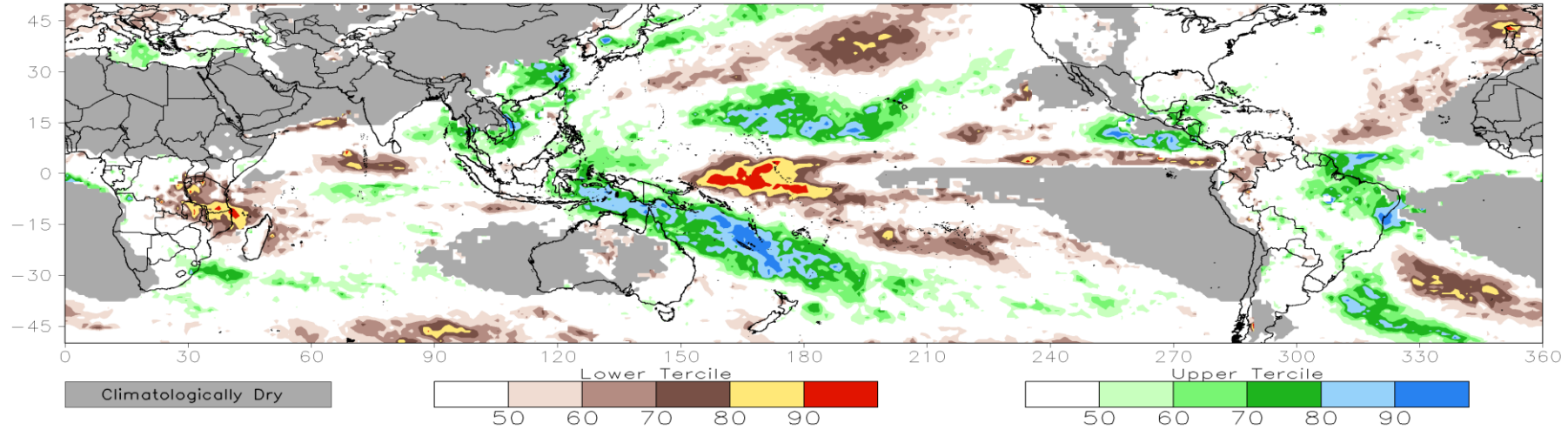
# Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



# Consolidated Probabilistic Precipitation: Weeks 2 & 3

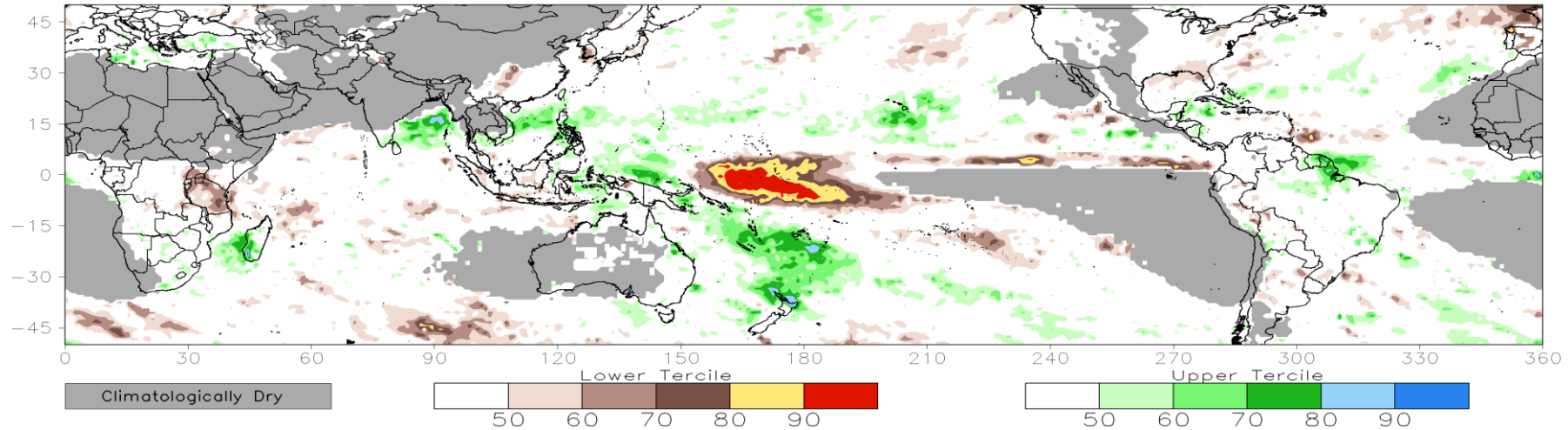
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 30Nov2022-06Dec2022



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

Valid: 07Dec2022-13Dec2022

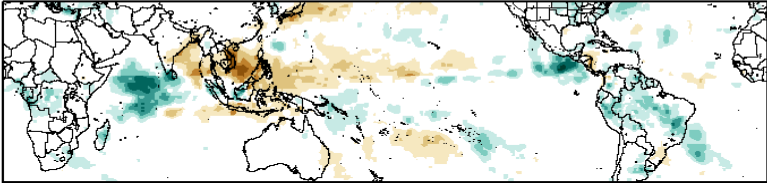




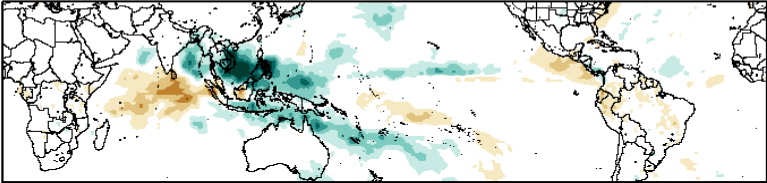
# Historical Precipitation Anomalies By MJO Phase:

OND MJO Composite: GPCP1DD (mm/day)

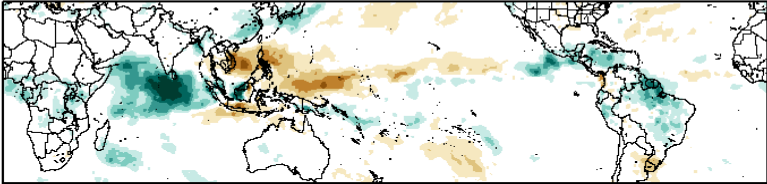
Phase 1



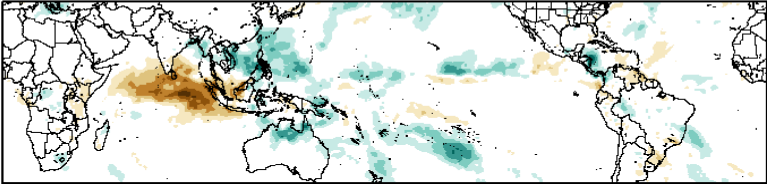
Phase 5



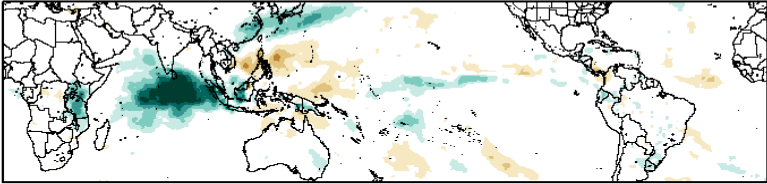
Phase 2



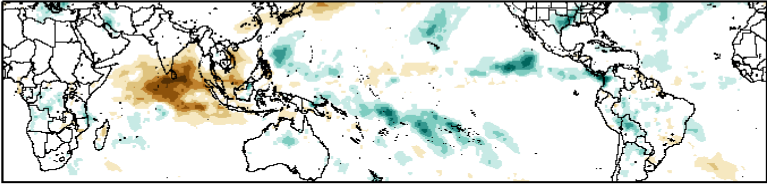
Phase 6



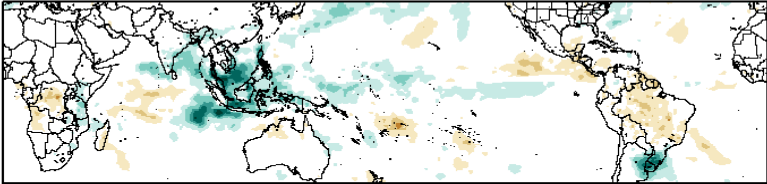
Phase 3



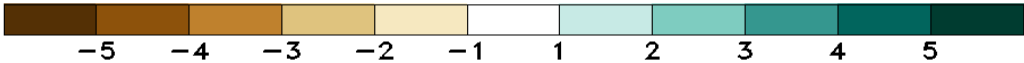
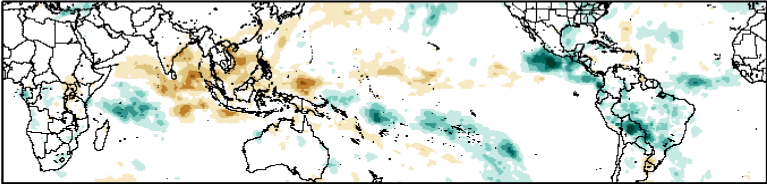
Phase 7



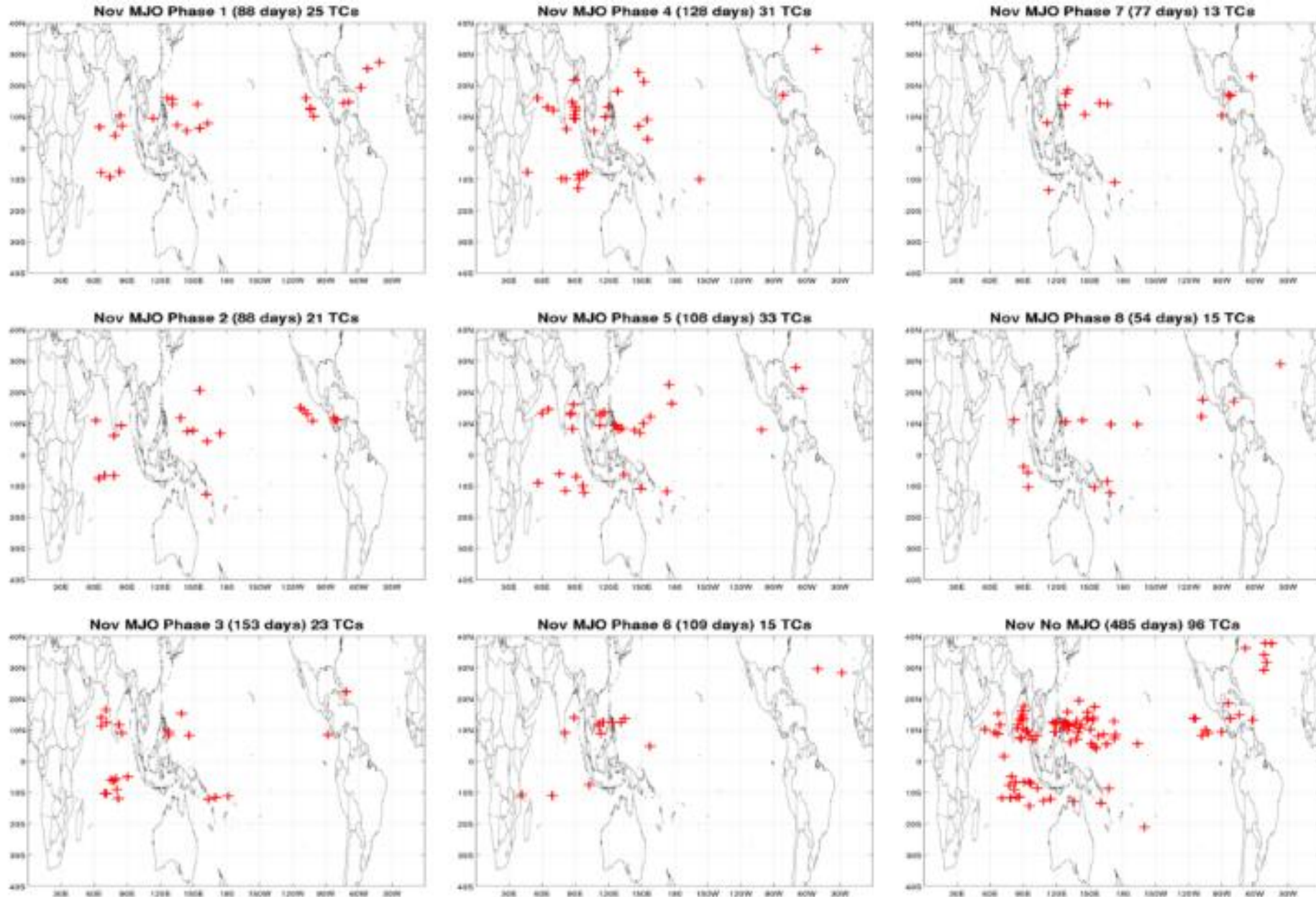
Phase 4



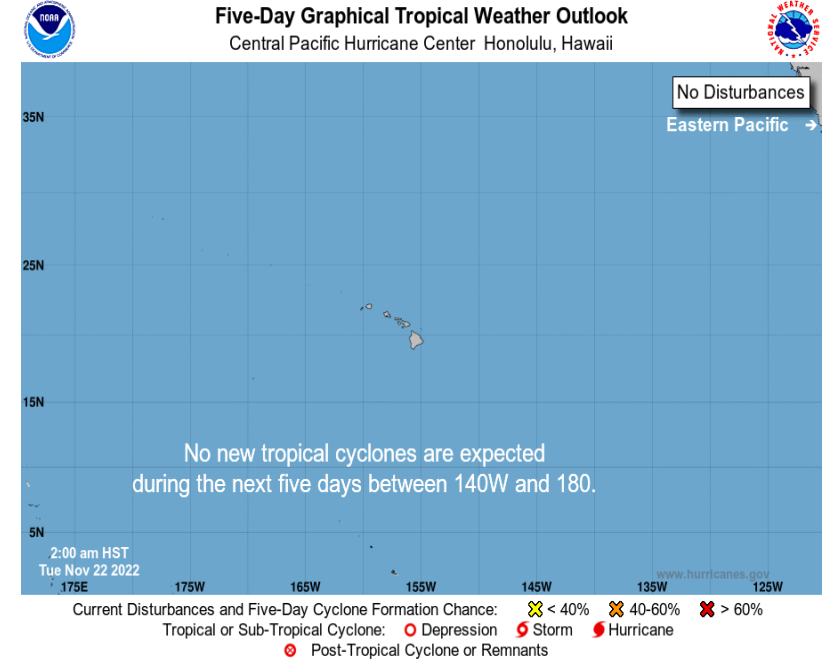
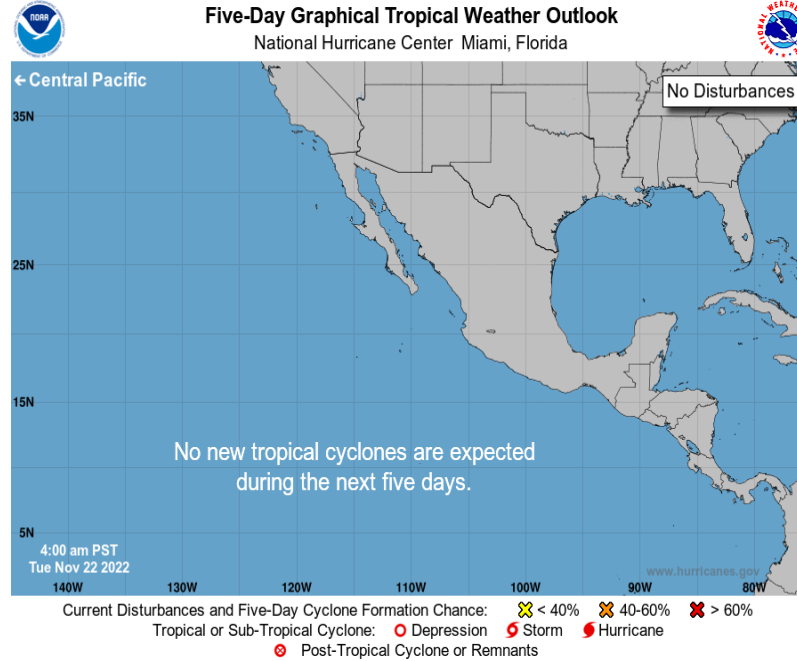
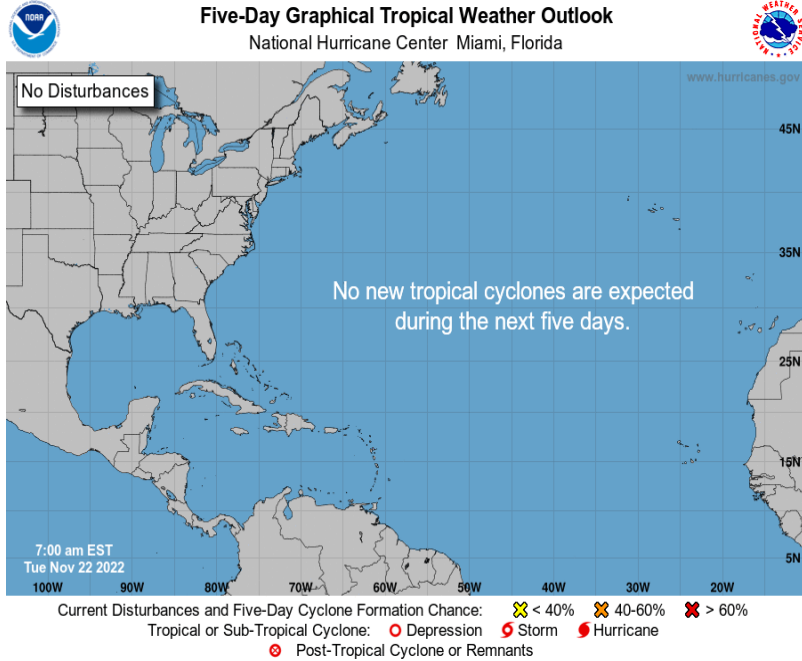
Phase 8



# Historical TC Genesis Origins By MJO Phase:



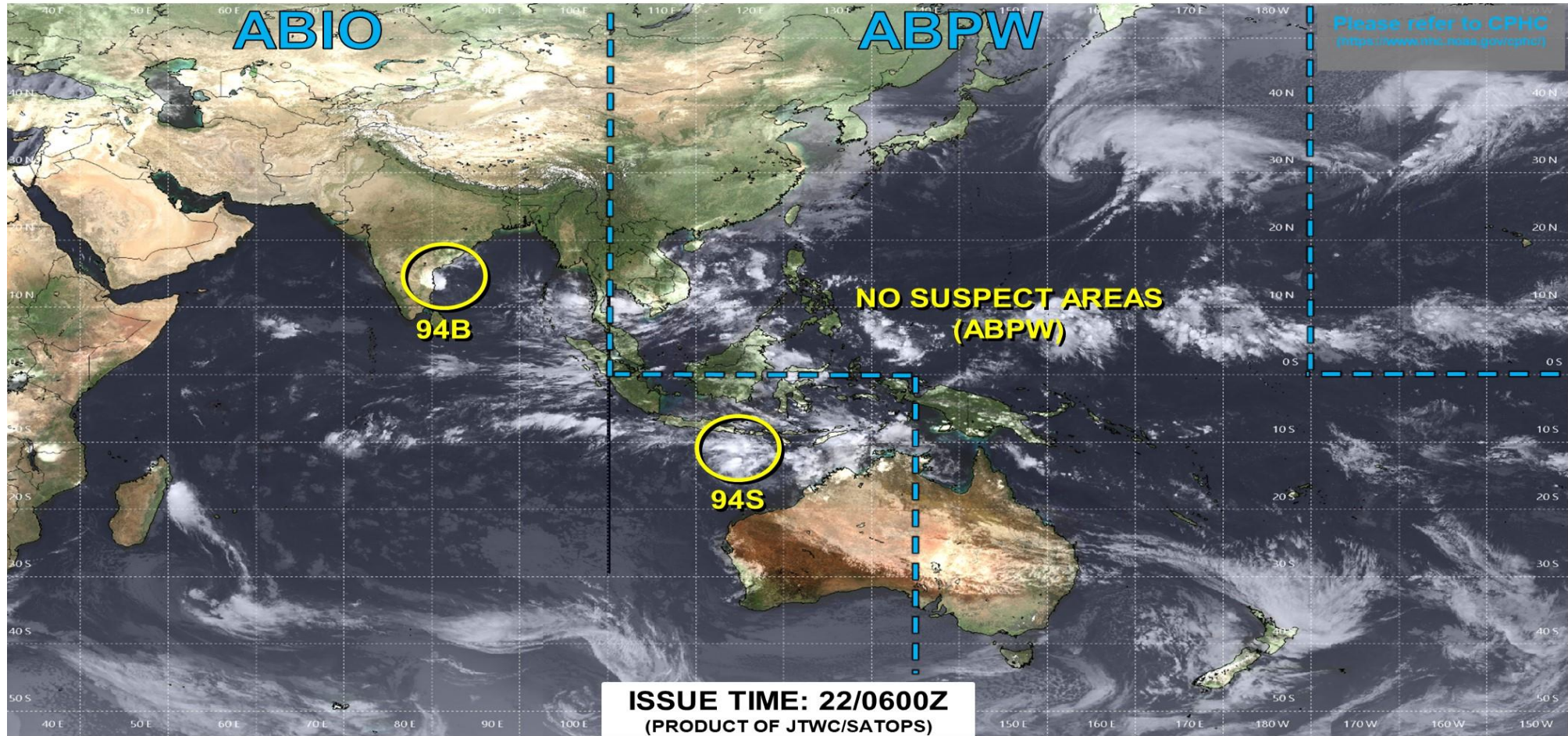
# Tropical Cyclone Monitoring/Forecast: NHC



# 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)



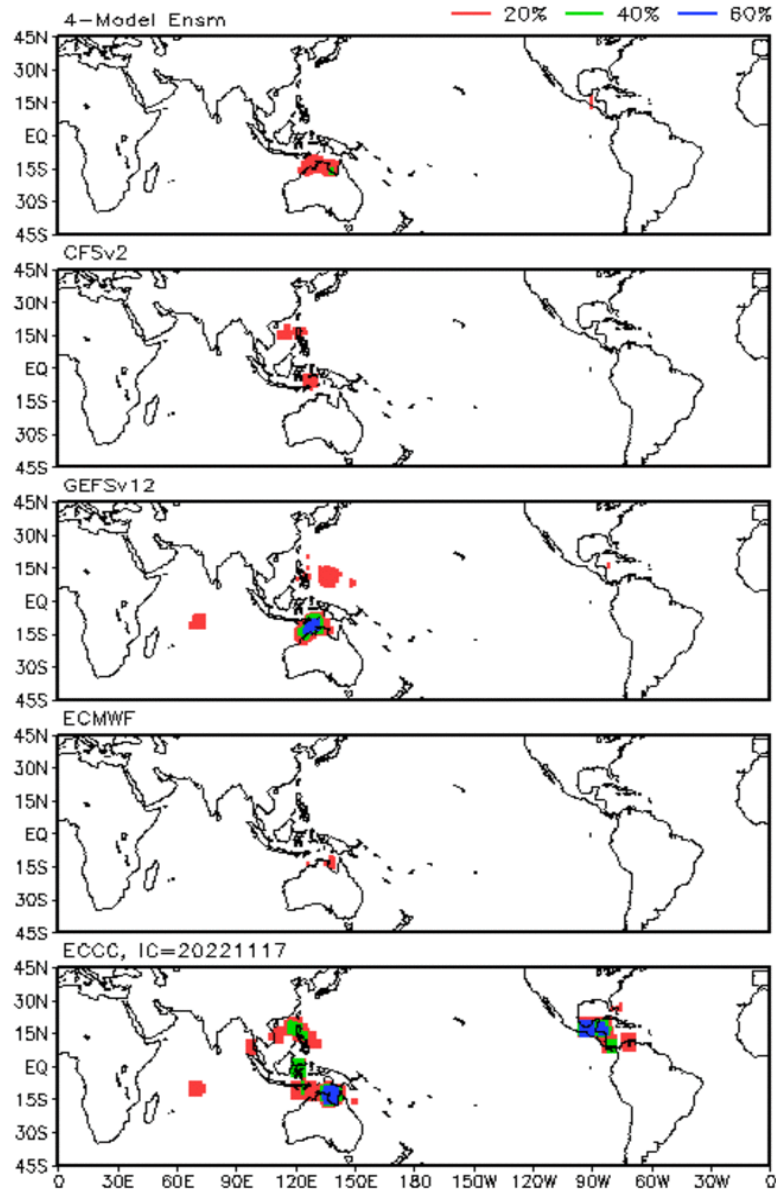
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability



# Multi-Model TC Track Probabilities/Densities: Week-2

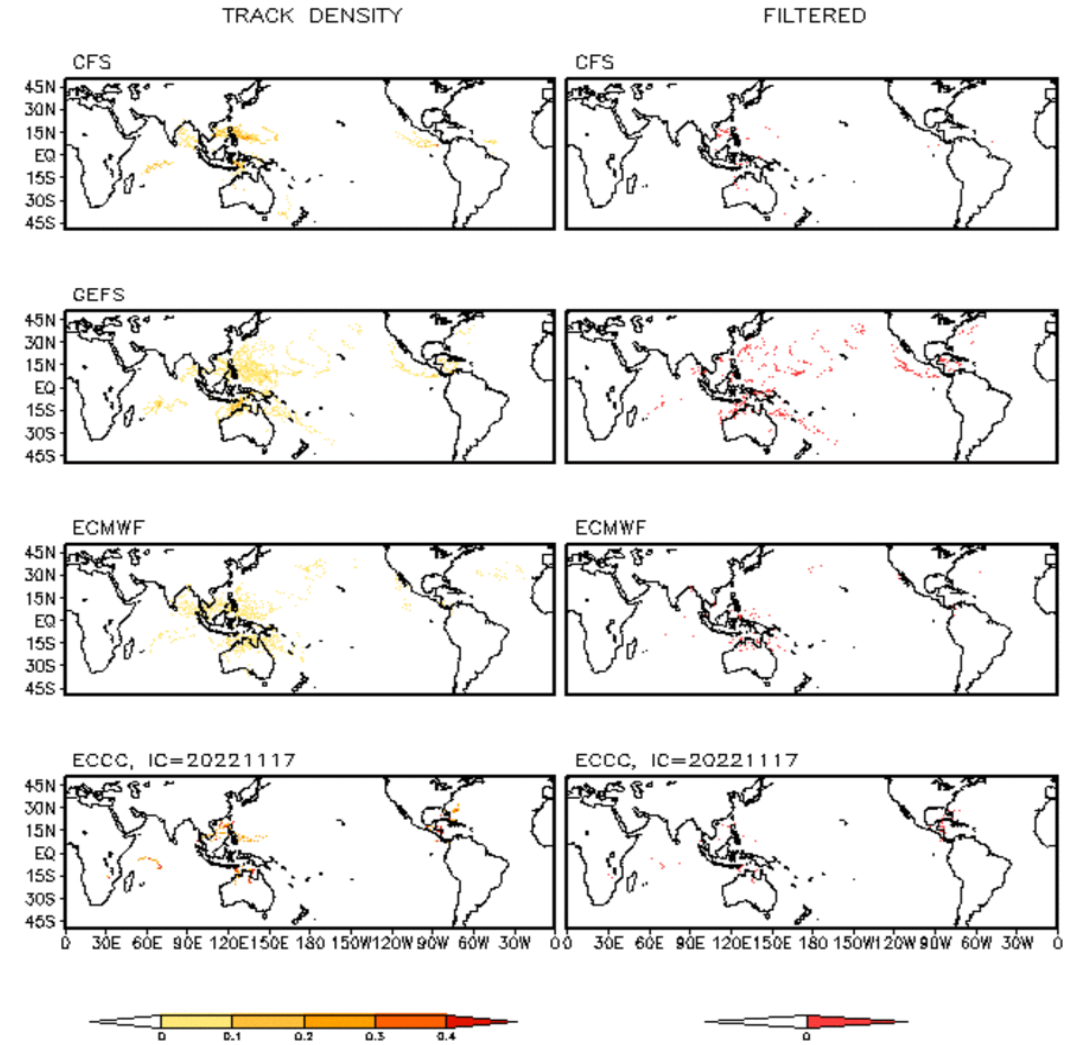
Storm Track Probabilities, IC=20221121

Week 2: 1130 - 1206



Storm Track Density Distribution, IC=20221121

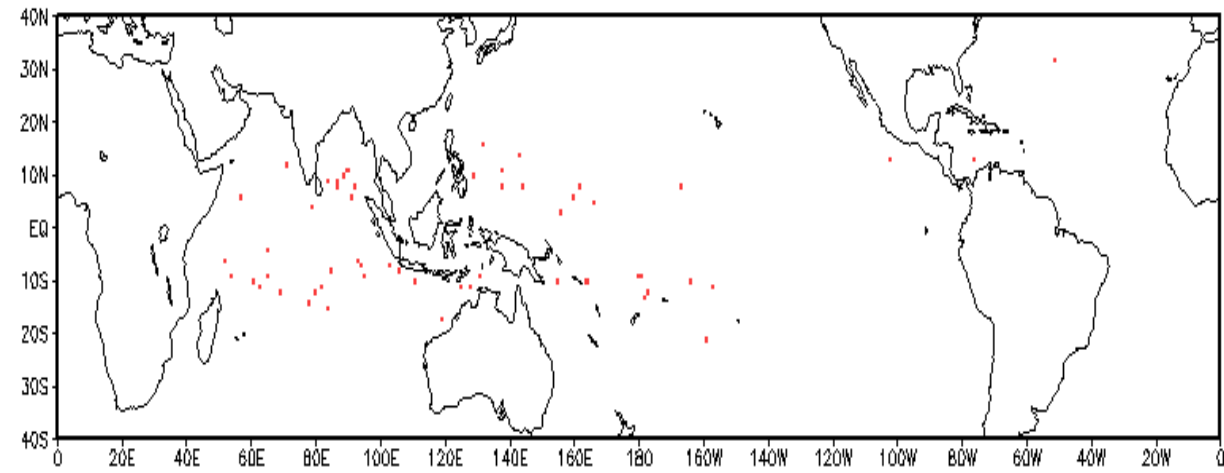
Week 2 Forecast: 1130-1206



# TC Climatological Genesis: Weeks 2 & 3

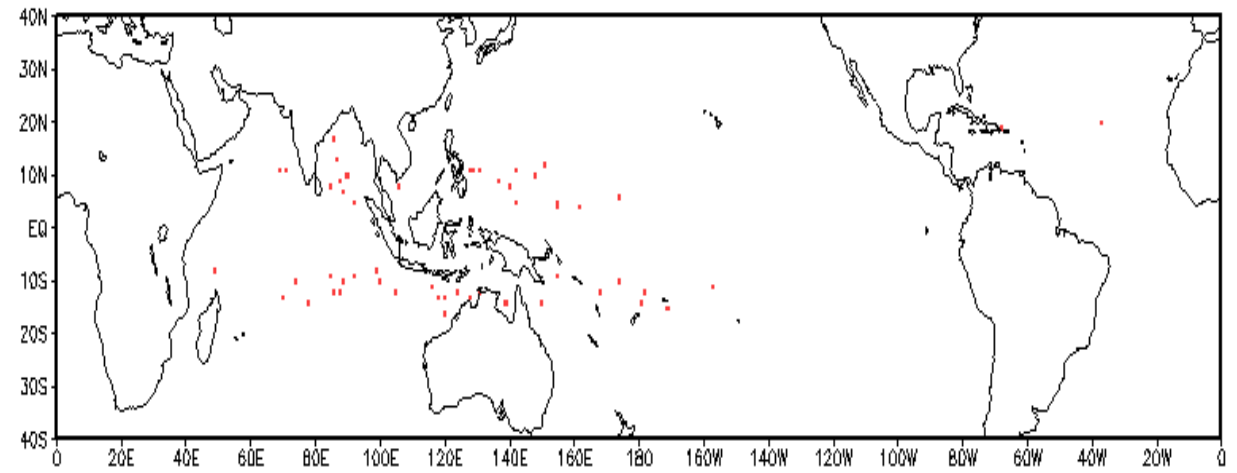
Observed TC Genesis, 1979–2021

7-day Period 1130 to 1206



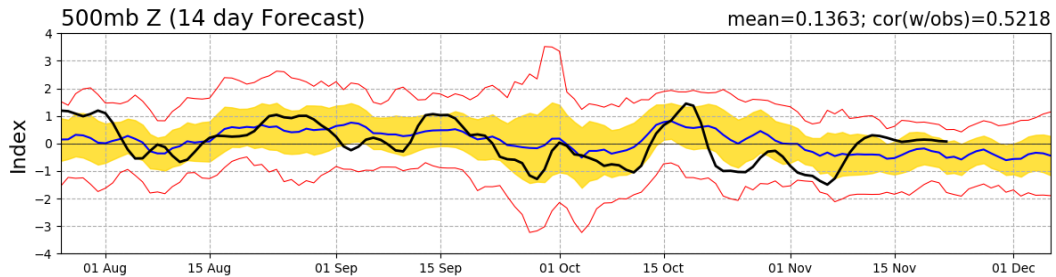
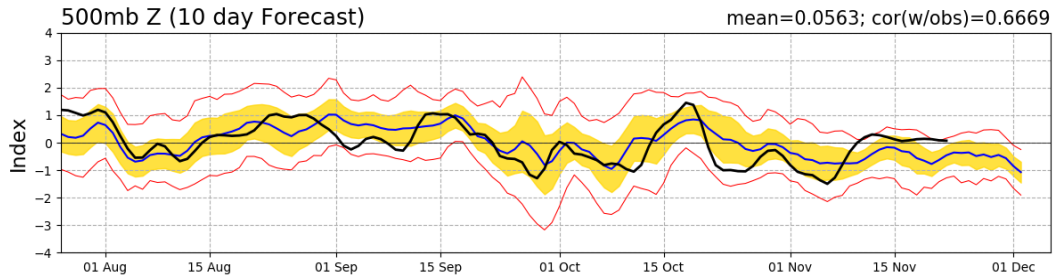
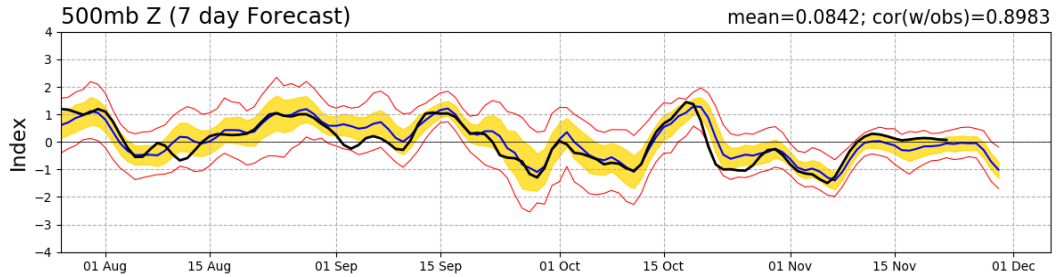
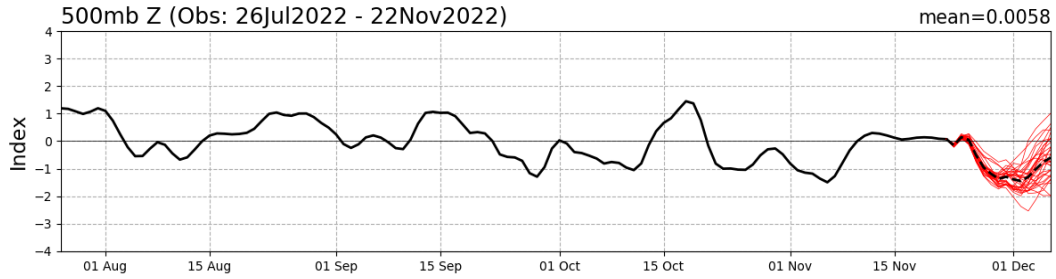
Observed TC Genesis, 1979–2021

7-day Period 1207 to 1213

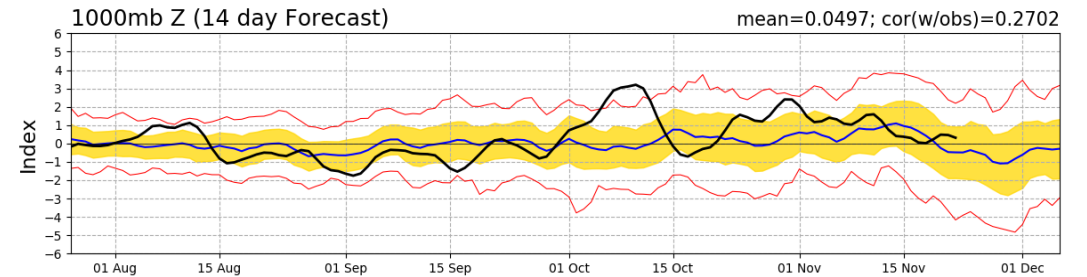
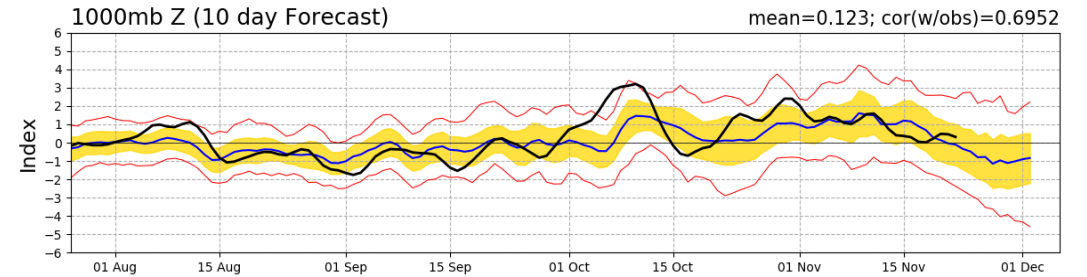
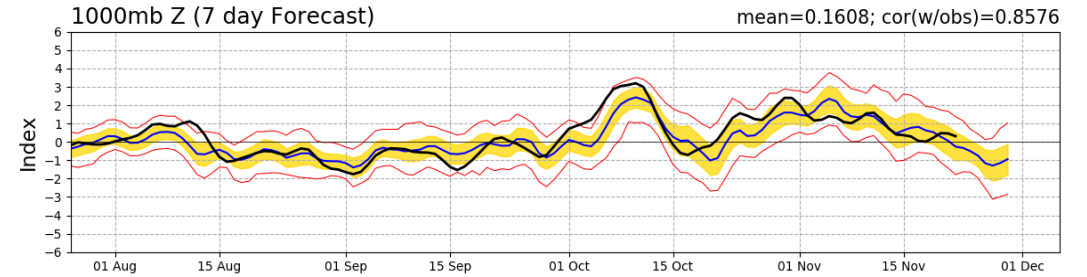
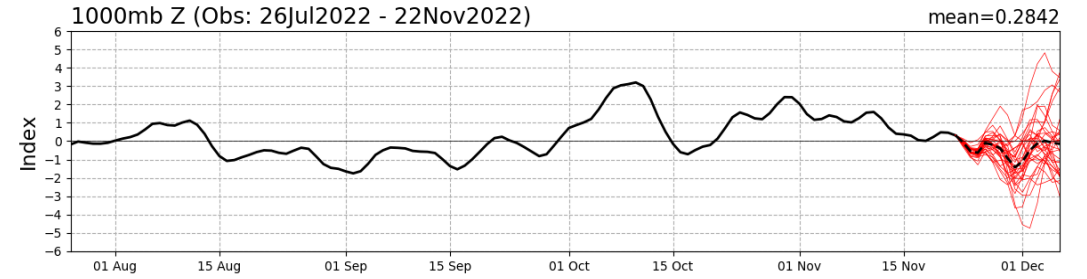


# Teleconnection Indices: PNA / AO:

## PNA Index: Observed & GEFS Forecasts

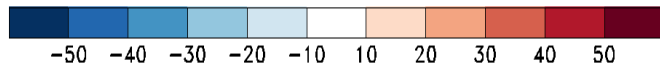
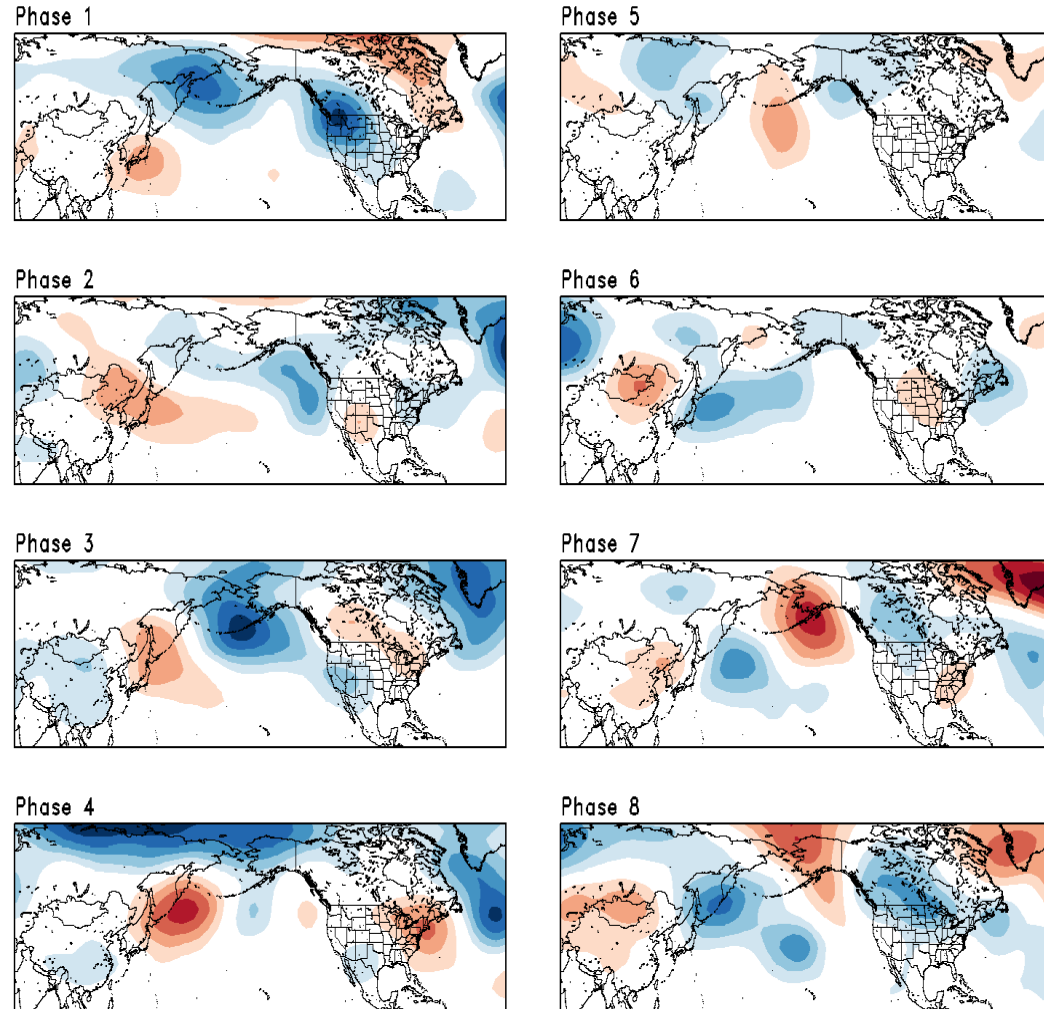


## AO Index: Observed & GEFS Forecasts

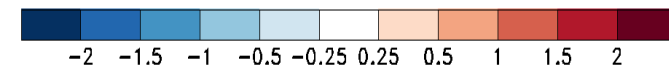
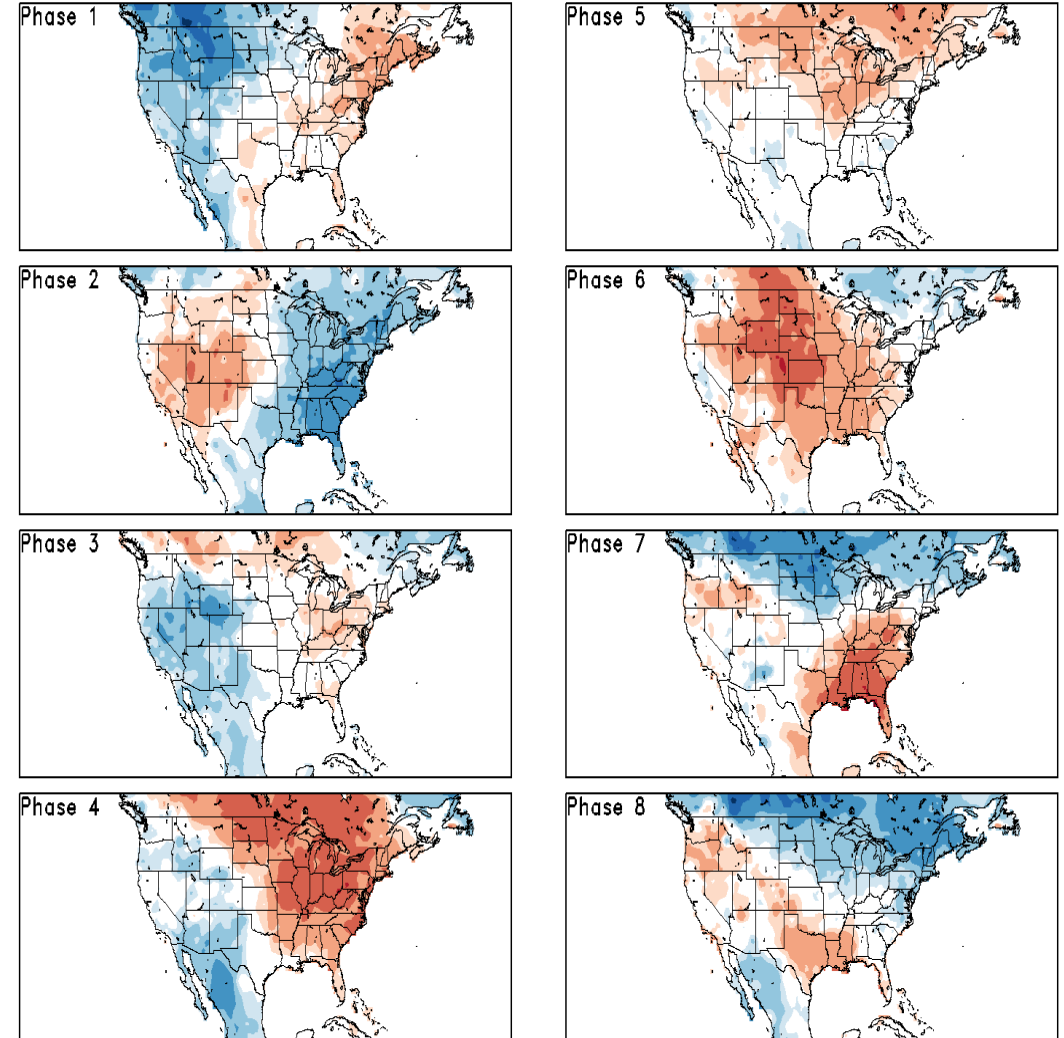


# Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

OND MJO Composite: CDAS 500-hPa Height (m)

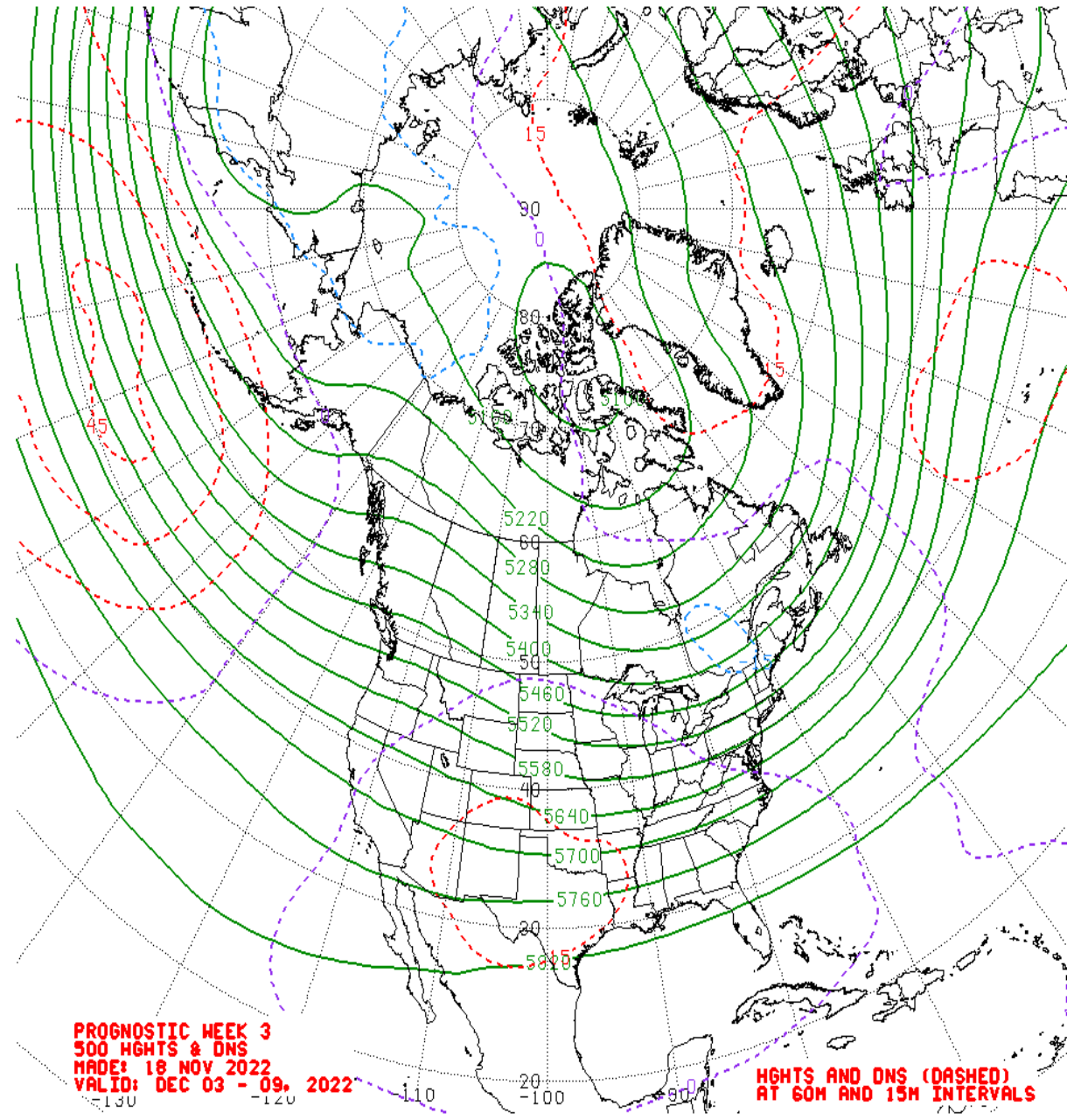
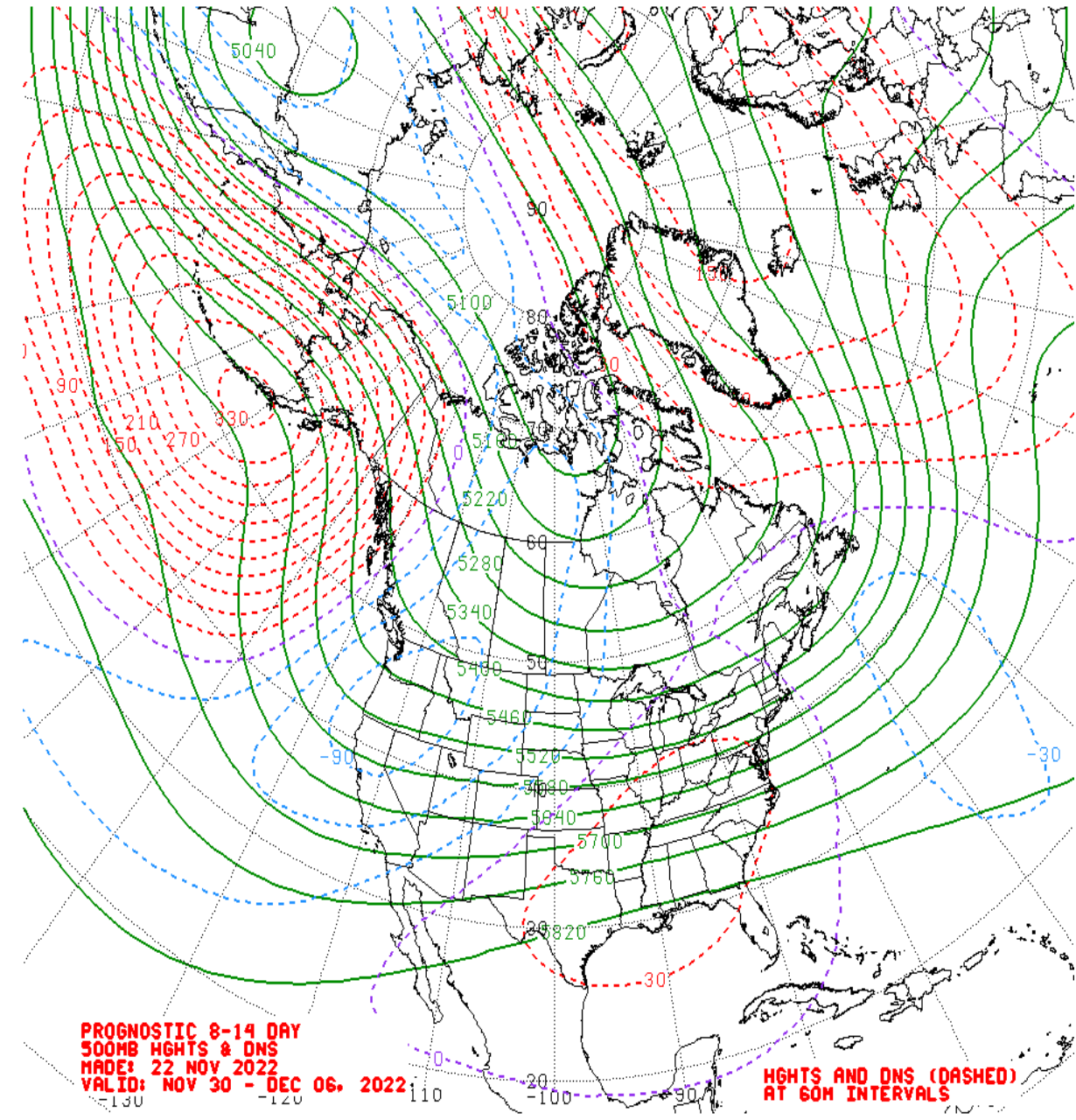


OND MJO Composite: GLBT (degC)





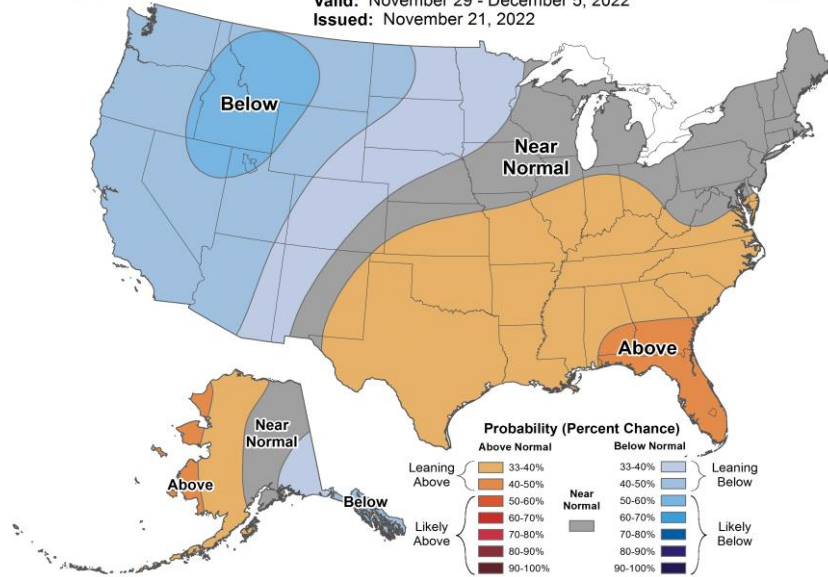
# Mean 500-hPa Height Anomaly Forecasts:



# Official Temperature & Precipitation Forecasts:

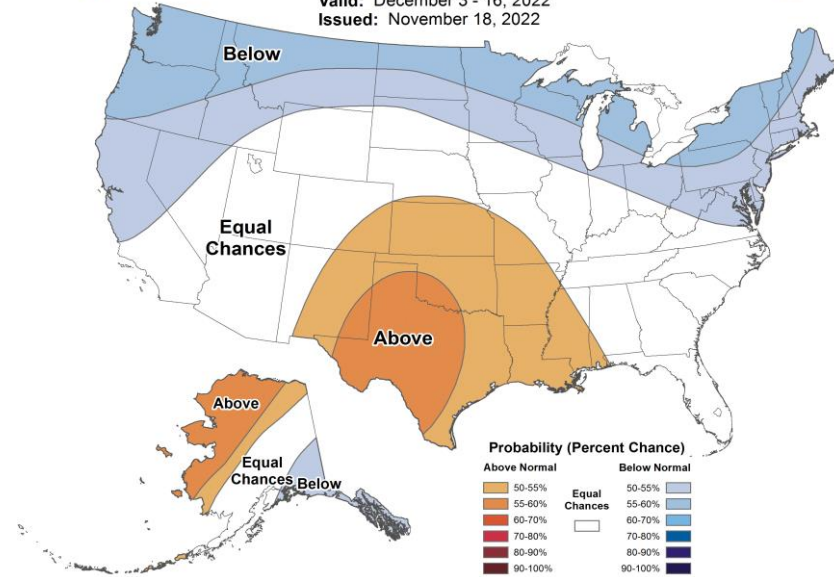
## 8-14 Day Temperature Outlook

Valid: November 29 - December 5, 2022  
 Issued: November 21, 2022



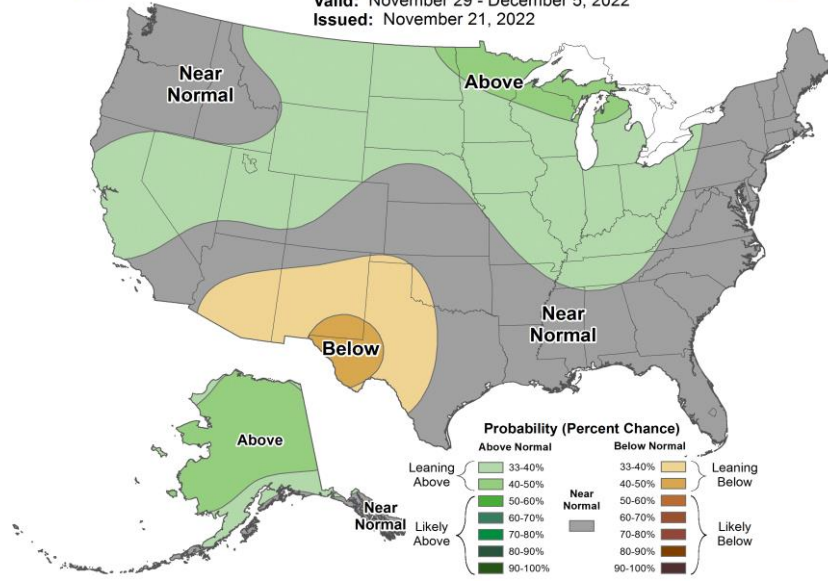
## Weeks 3-4 Temperature Outlook

Valid: December 3 - 16, 2022  
 Issued: November 18, 2022



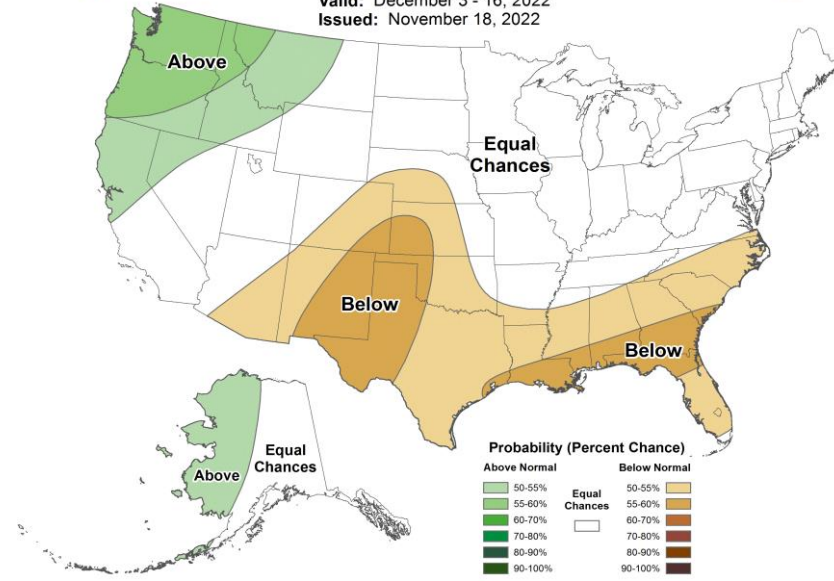
## 8-14 Day Precipitation Outlook

Valid: November 29 - December 5, 2022  
 Issued: November 21, 2022



## Weeks 3-4 Precipitation Outlook

Valid: December 3 - 16, 2022  
 Issued: November 18, 2022



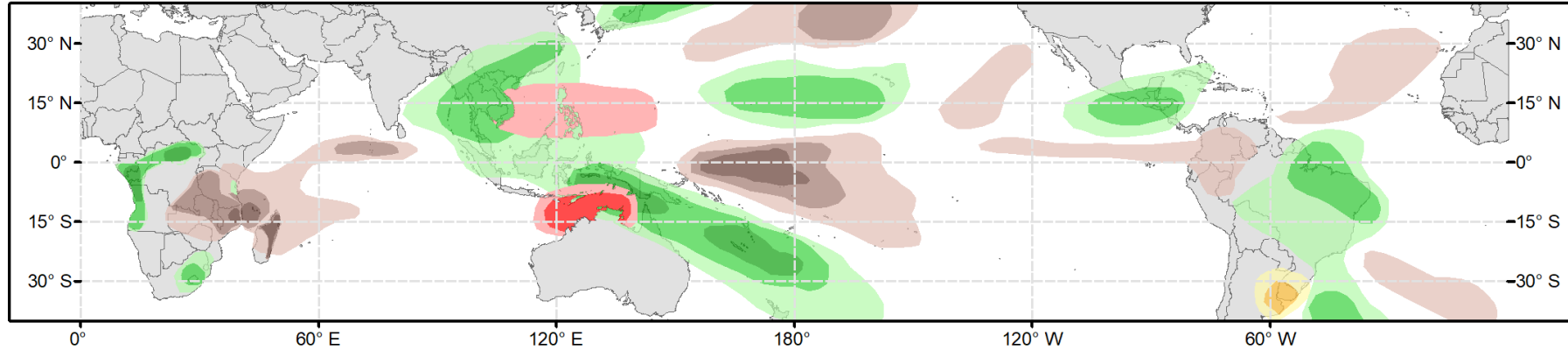


# Global Tropics Hazards Outlook

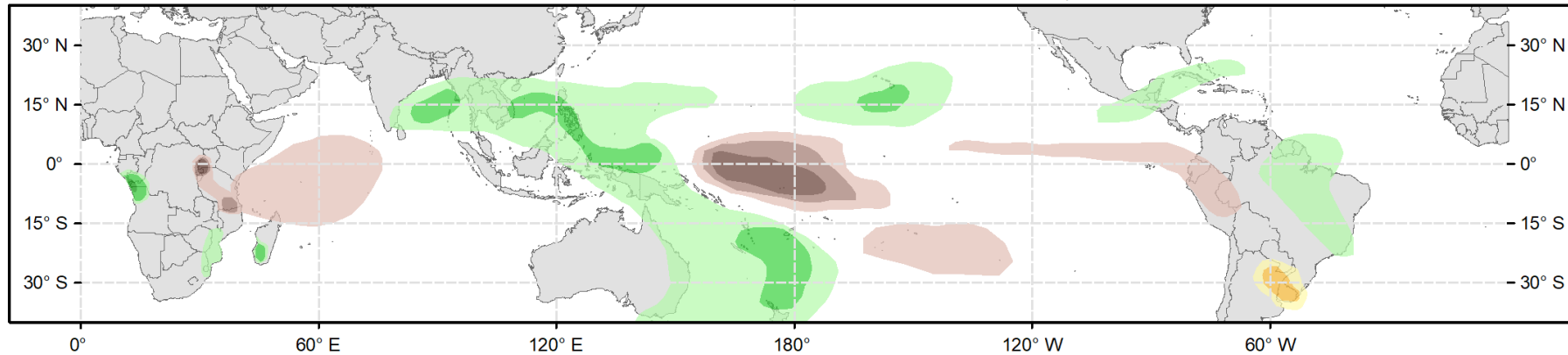
## Climate Prediction Center



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**Forecaster: Barandiaran**

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