



Weeks 2-3 Global Tropics Hazards Outlook

11/12/2024

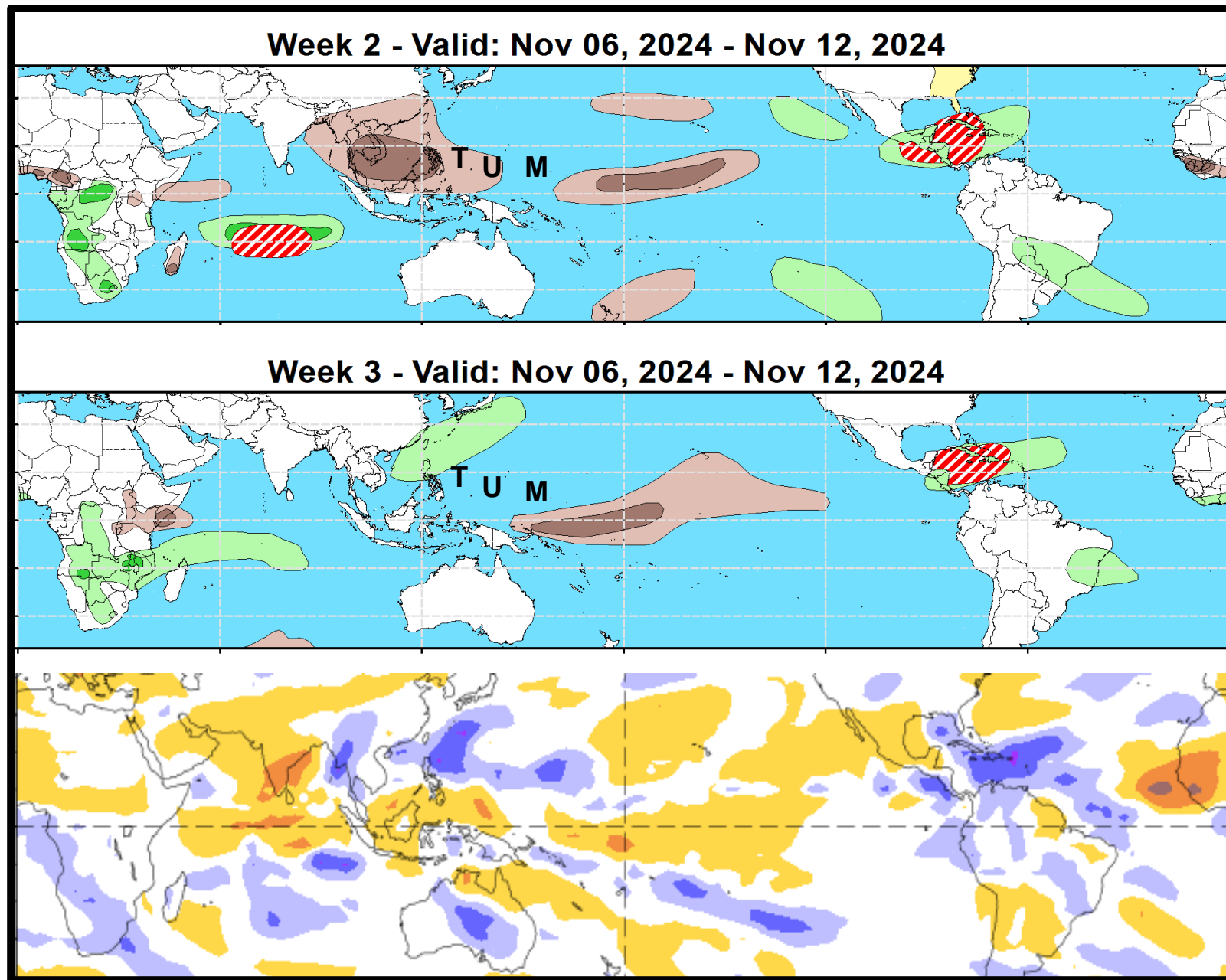
Thomas Collow

NWS / NCEP / Climate Prediction Center

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

Western North Pacific

- Toraji (11/9)
- Man-Yi (11/9)
- Usagi (11/11)



Synopsis of Climate Modes:

ENSO: (Oct 10, 2024 Update) *next update on Thursday, Nov 14th*

- ENSO Alert System Status: [La Niña Watch](#)
- La Niña is favored to emerge in September-November (60% chance) and is expected to persist through January-March 2025.

MJO and other subseasonal tropical variability:

- The RMM-based MJO index completed a full circumnavigation of the globe during the past month and now resides across Africa (Phase 1) .
- Dynamical models depict the MJO continuing to propagate eastward into the Indian Ocean, with the intraseasonal signal forecast to slow down and constructively interfere with the low frequency convective signal tied to the developing La Niña.
- By week-3 and beyond, models differ in regards to eastward propagation of the MJO, with the GEFS favoring a quicker progression into the Western Pacific in early December, and the ECMWF ensemble slower to move through the Maritime Continent.

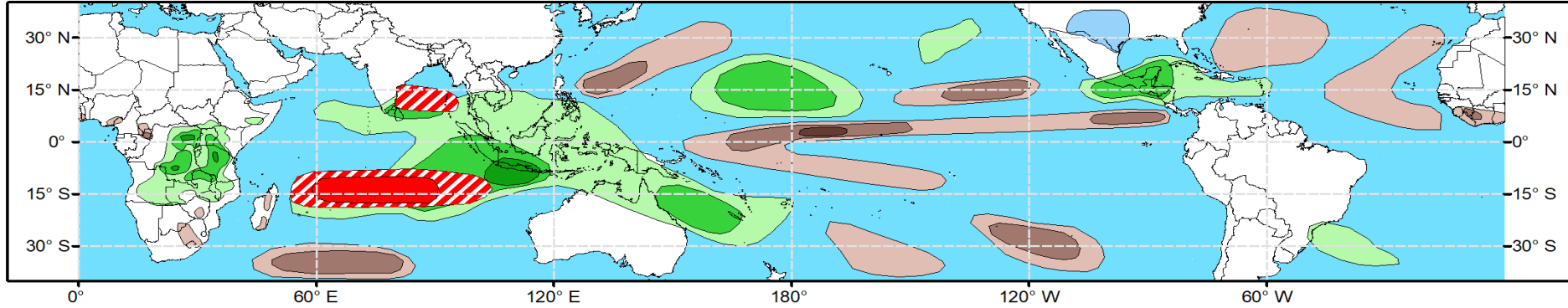
GTH Outlook:



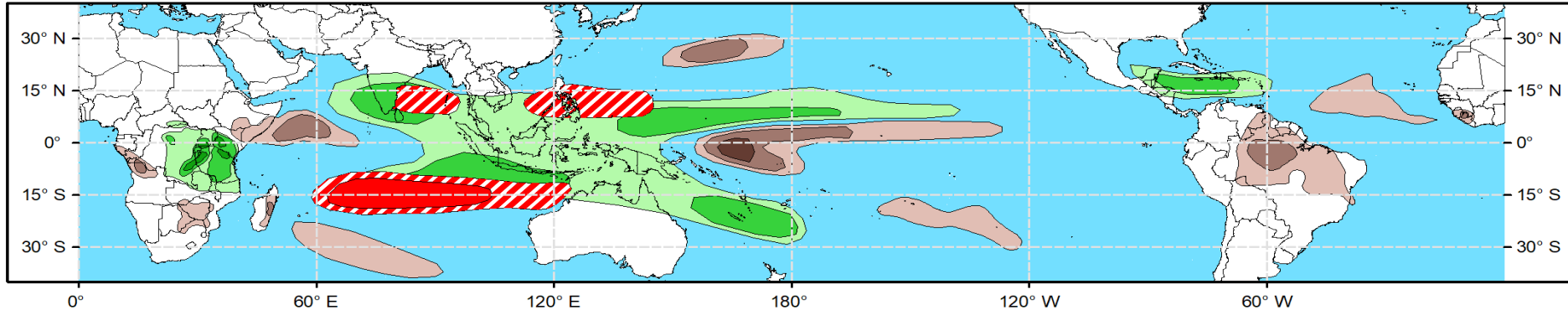
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Nov 20, 2024 - Nov 26, 2024



Week 3 - Valid: Nov 27, 2024 - Dec 03, 2024



**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 max temperatures in the
Upper third of the historical range*

**Below-Average
Temperatures Probability**



>50% >65% >80%

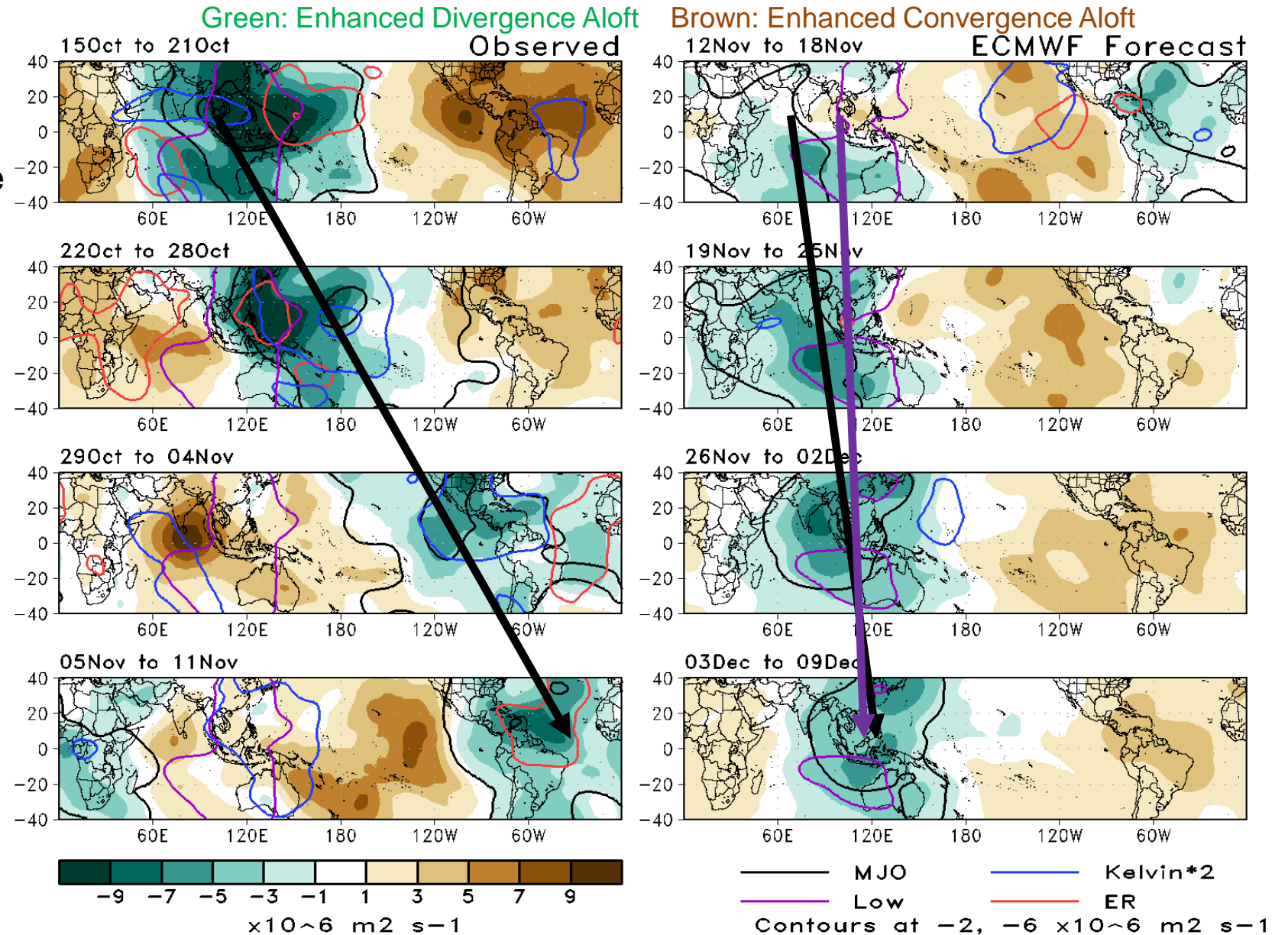
*7-day min temperatures in the
Lower third of the historical range*

**Issued: 11/12/2024
Forecaster: Collow**

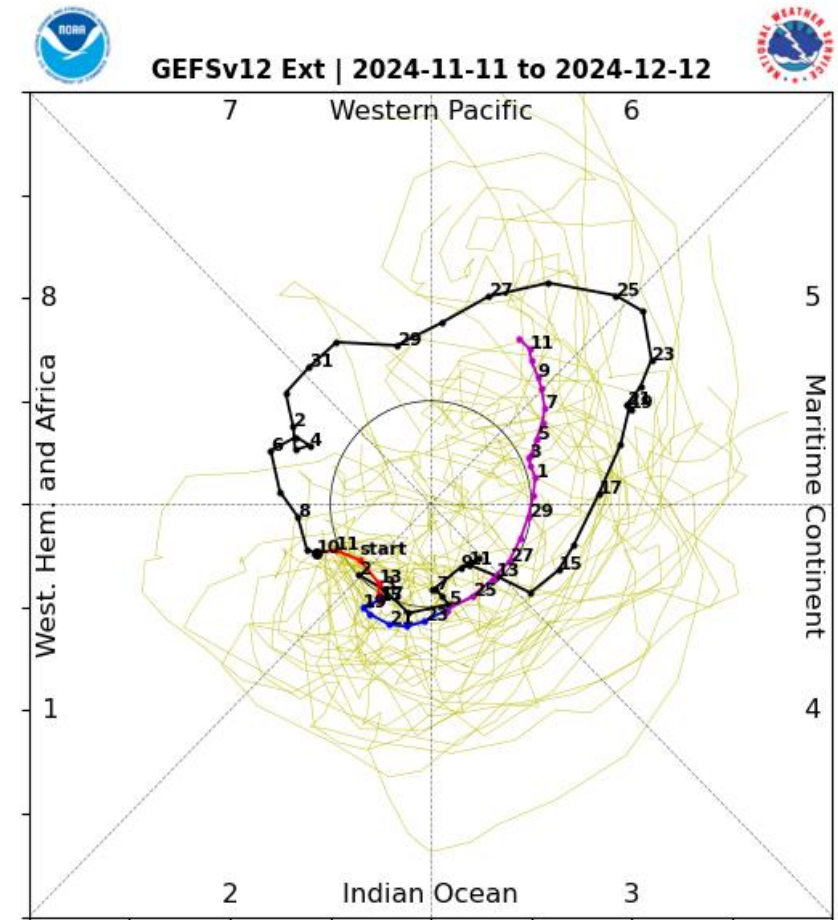
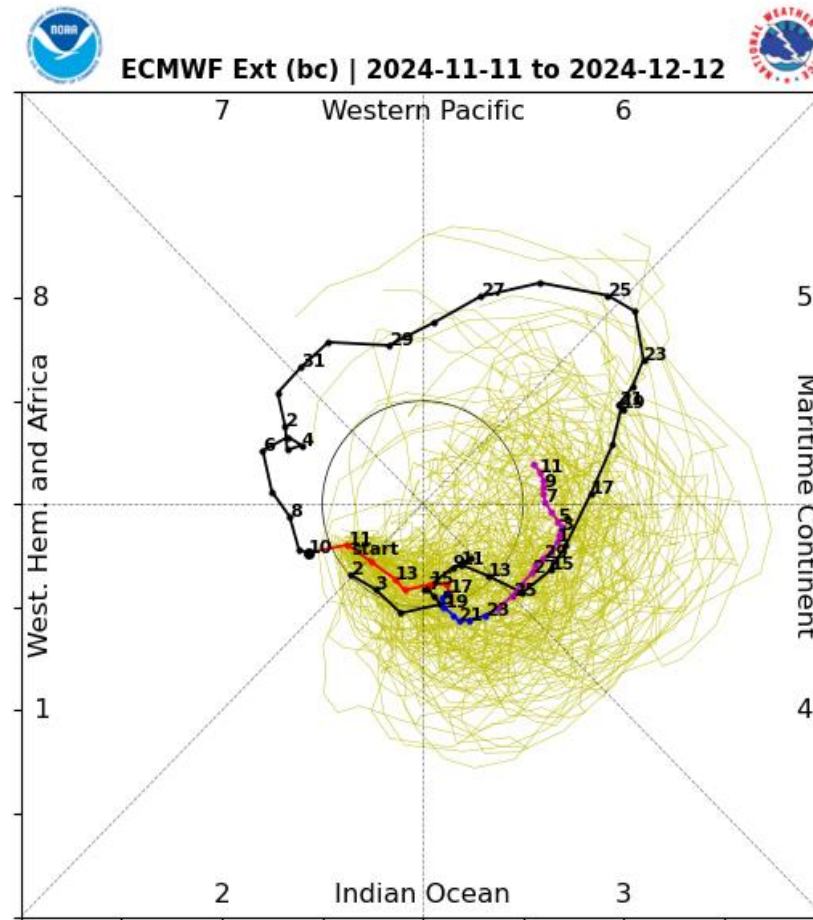
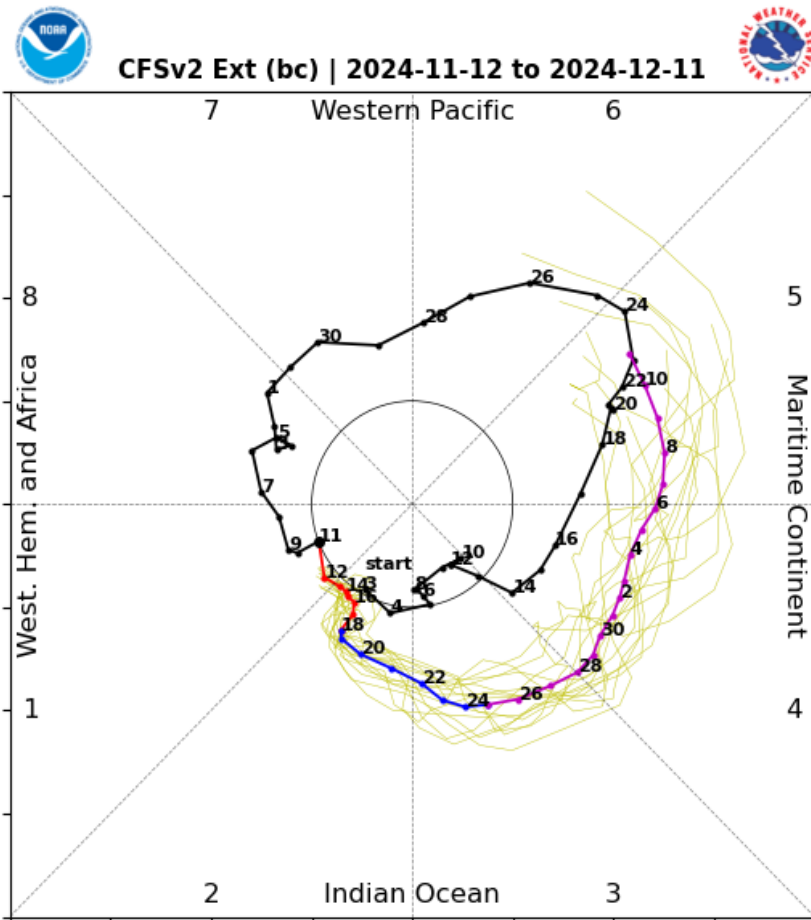
**This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only.
Consult your local responsible forecast agency.**

200-hPa Velocity Potential Anomaly Maps:

- Robust eastward propagation of wave-1 asymmetry pattern in the upper-level velocity potential during the past month tied to the **MJO**.
- A slower propagation is favored during the next month, with constructive interference with the **low frequency** base state.
- Enhanced convergence aloft (suppressed convection) is forecast to spread across the Americas.

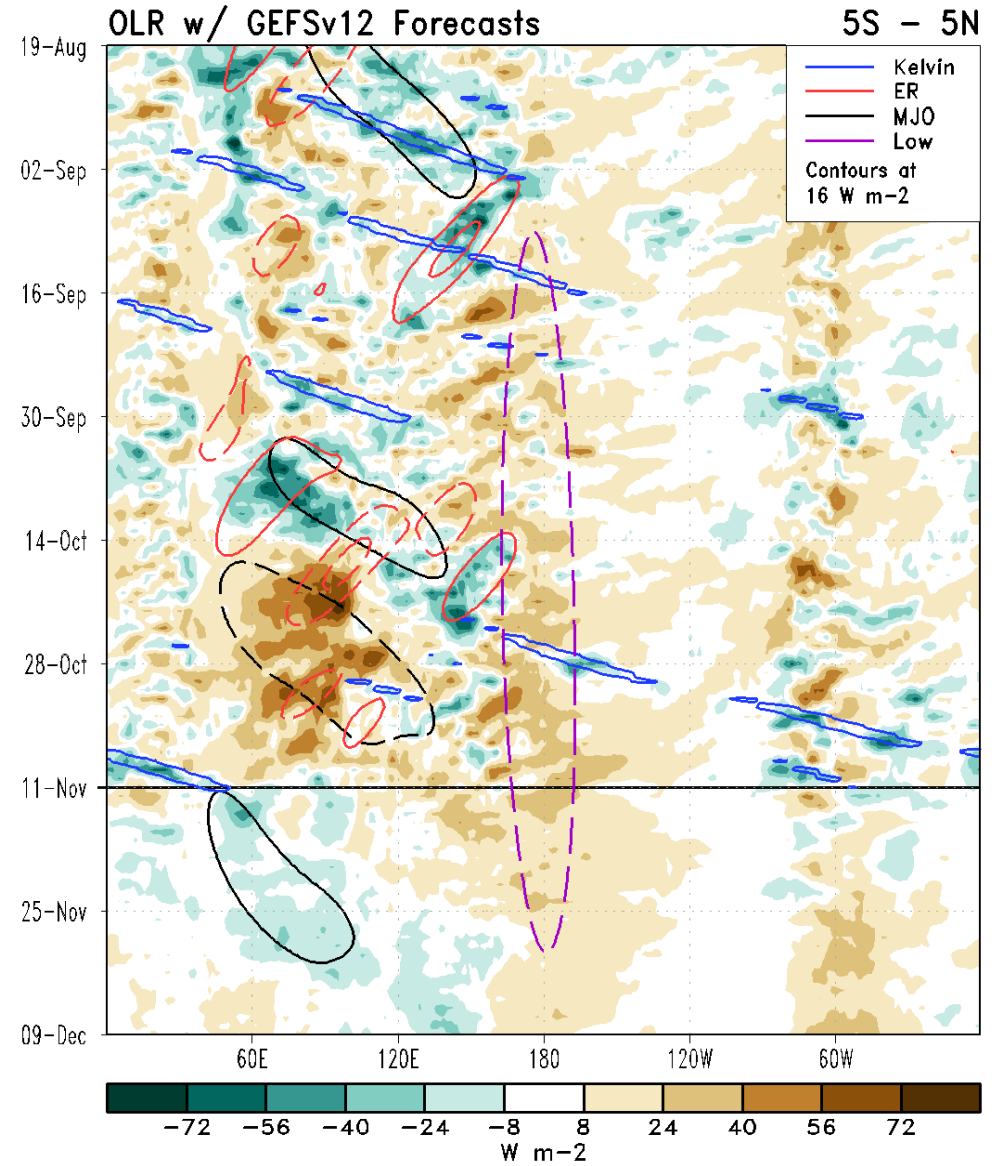
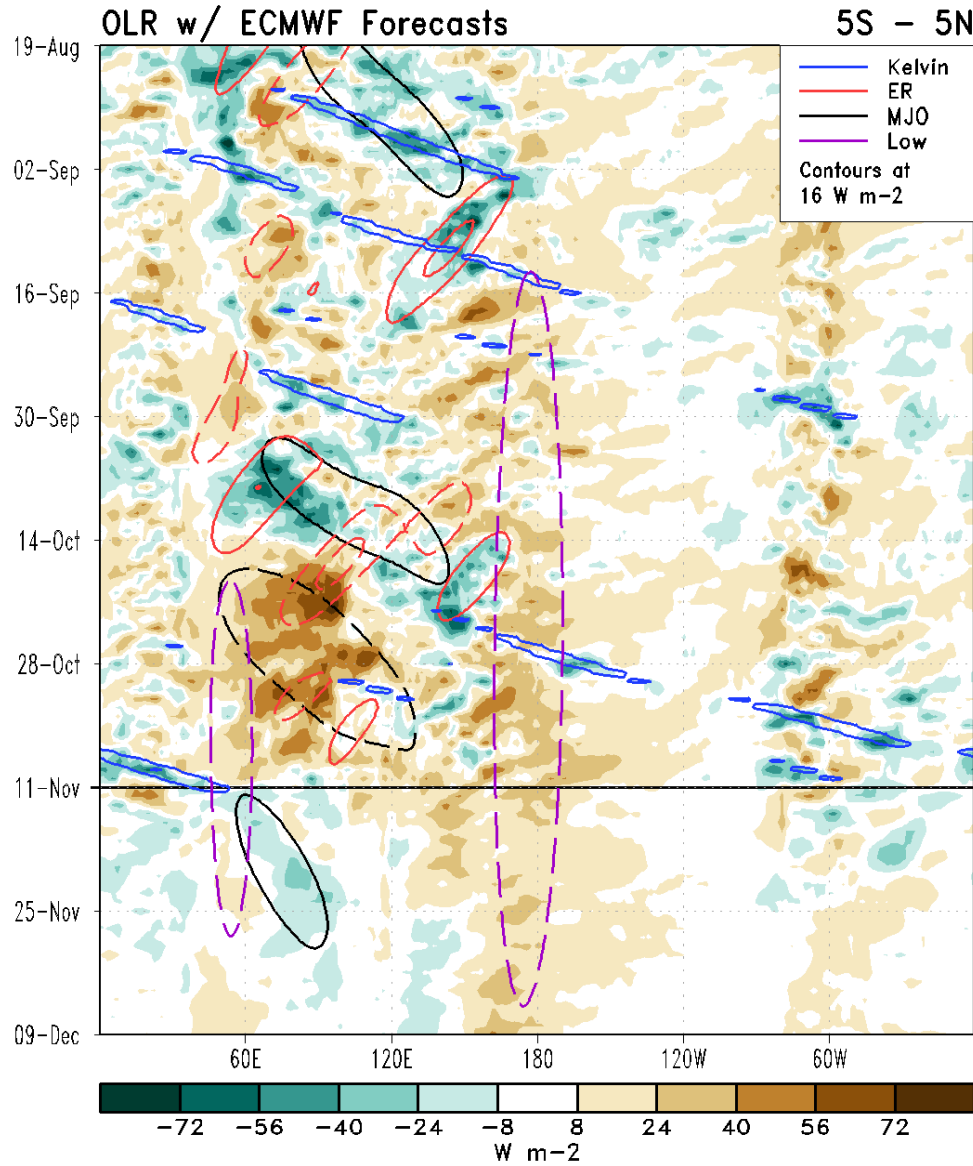


RMM Index Observations & Forecasts:



- Dynamical models indicate continued eastward propagation of the MJO, with a reduced phase speed compared to prior weeks.
- The GEFS is fastest, with the ensemble mean entering the Western Pacific (Phase 6) during early December. The CFS and ECMWF only reach the Maritime Continent (Phase 5).

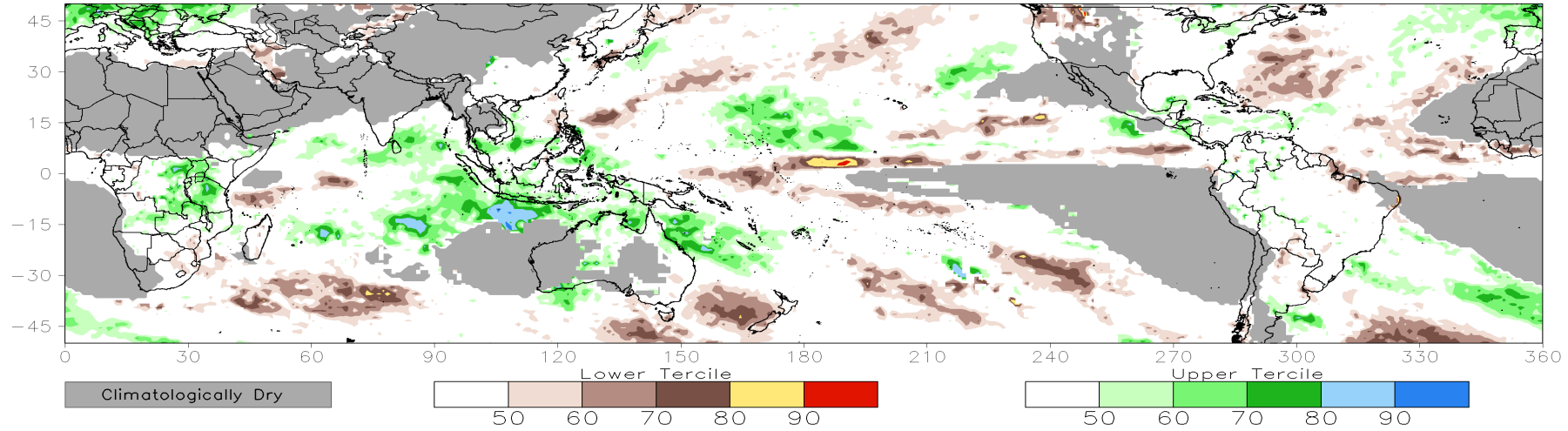
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

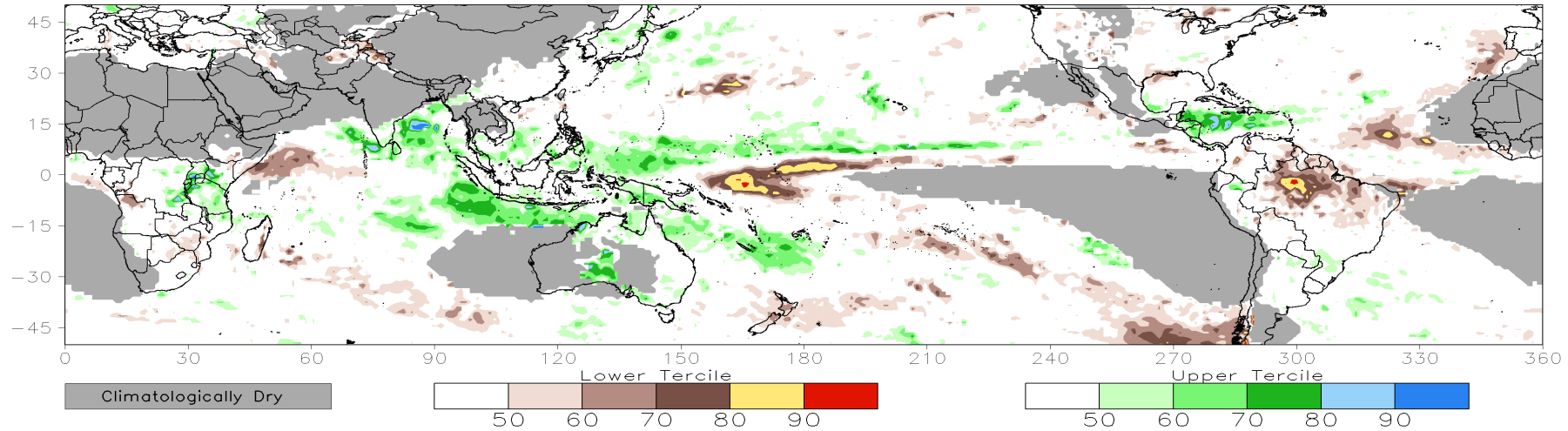
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 20Nov2024–26Nov2024



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

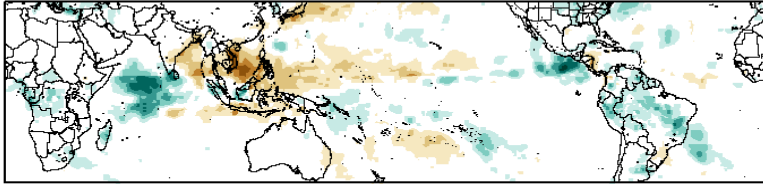
Valid: 27Nov2024–03Dec2024



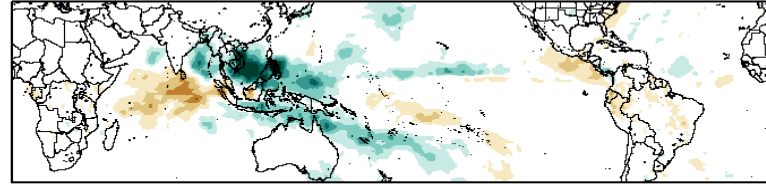
Historical Precipitation Anomalies By MJO Phase:

OND MJO Composite: GPCP1DD (mm/day)

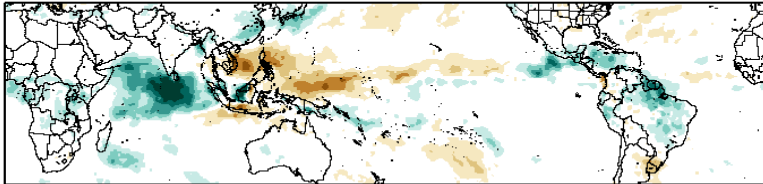
Phase 1



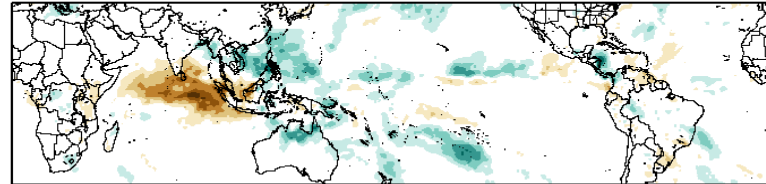
Phase 5



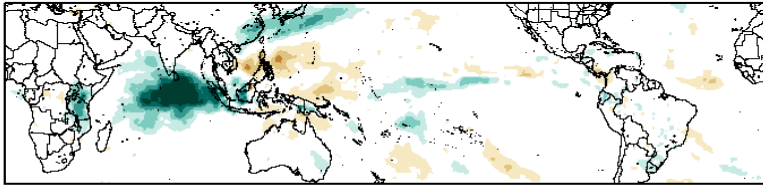
Phase 2



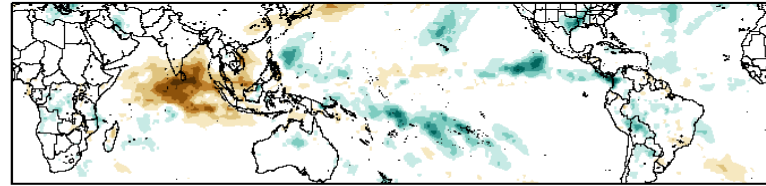
Phase 6



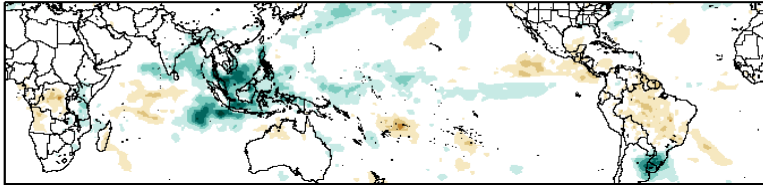
Phase 3



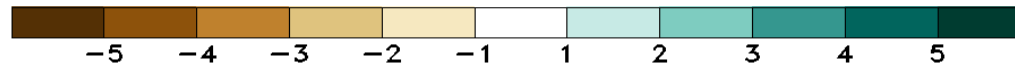
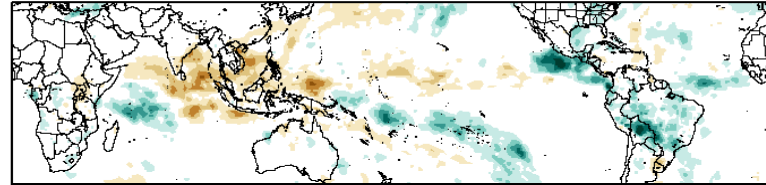
Phase 7



Phase 4

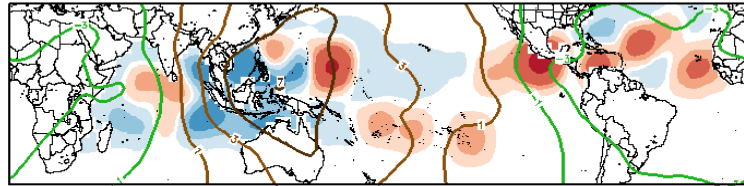


Phase 8

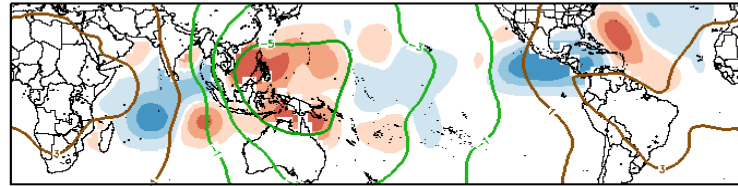


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

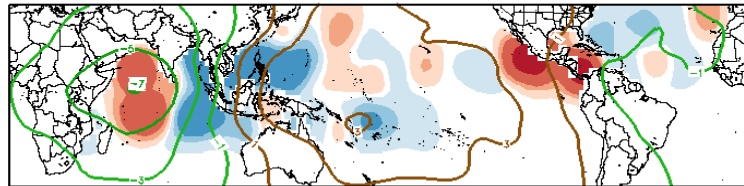
OND MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ OND CHI200 ($\times 10^{-6} m^{-2} s^{-1}$) / Contours every $2 \times 10^{-6} m^{-2} s^{-1}$



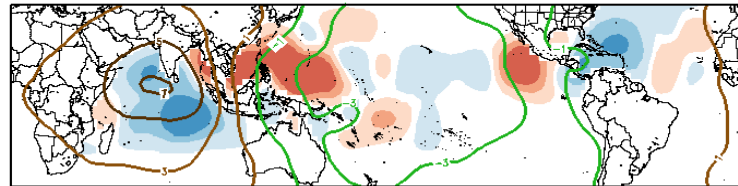
Phase 1



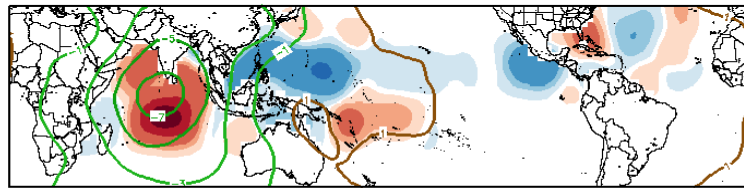
Phase 5



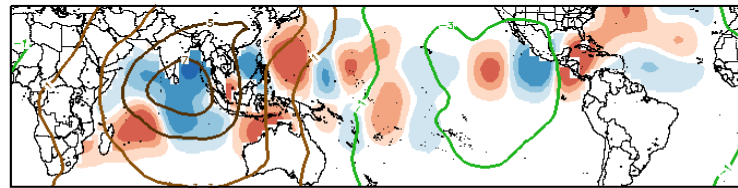
Phase 2



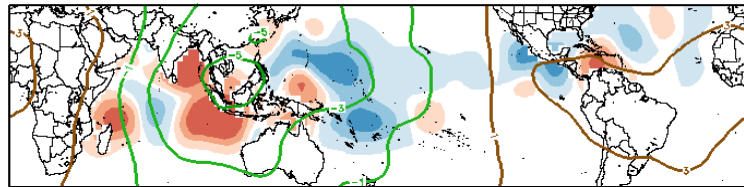
Phase 6



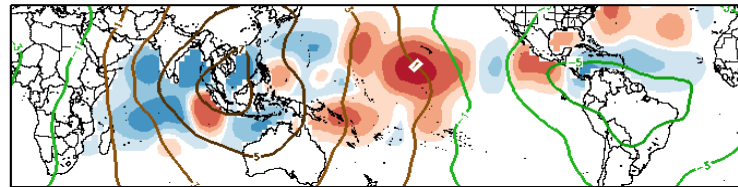
Phase 3



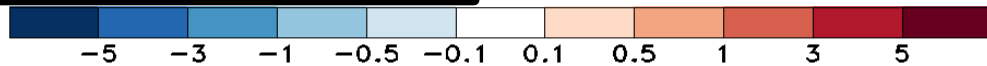
Phase 7



Phase 4



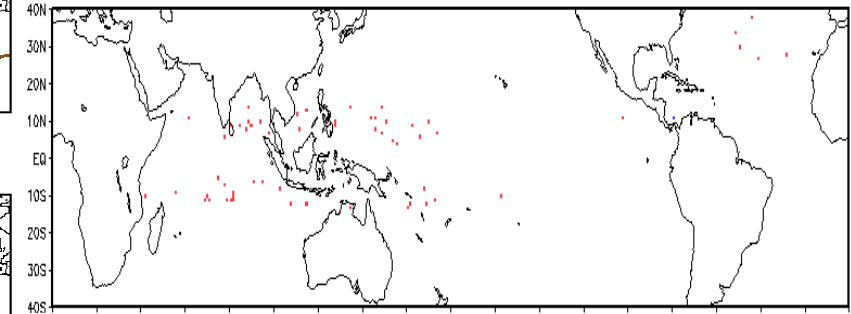
Phase 8



Experimental

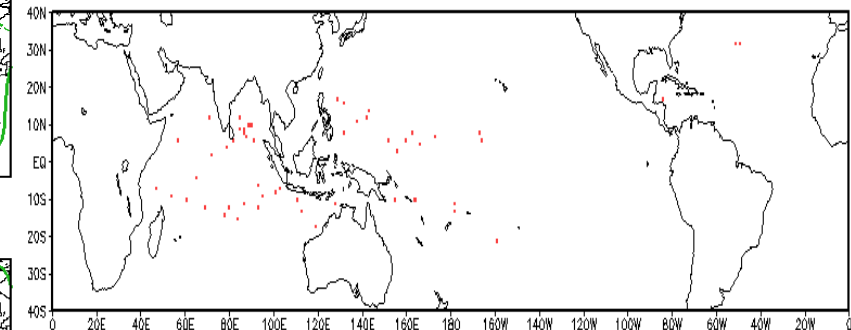
Observed TC Genesis, 1979–2021

7-day Period 1120 to 1126




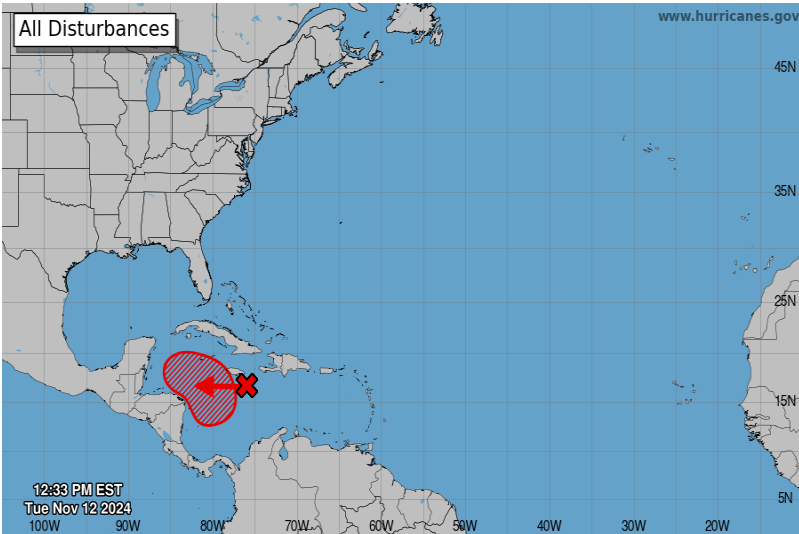
Observed TC Genesis, 1979–2021








7-day Period 1127 to 1203




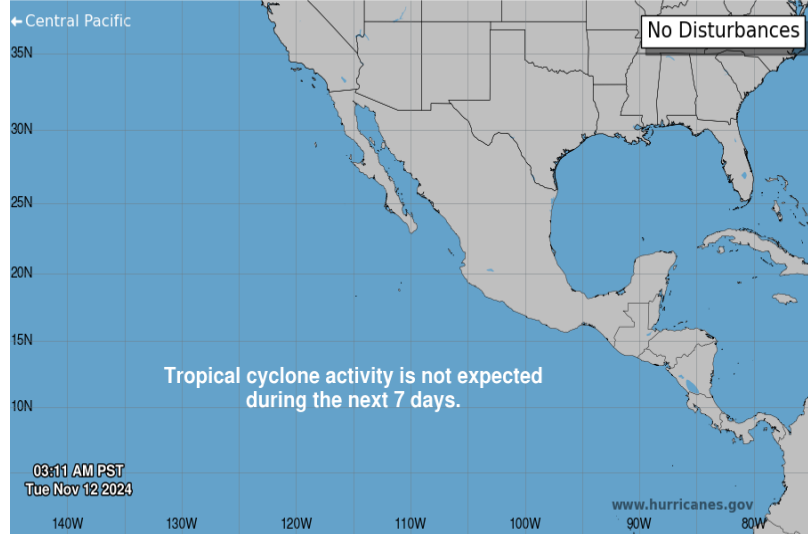
Tropical Cyclone Monitoring/Forecast: NHC / CPHC


Seven-Day Graphical Tropical Weather Outlook
 National Hurricane Center Miami, Florida




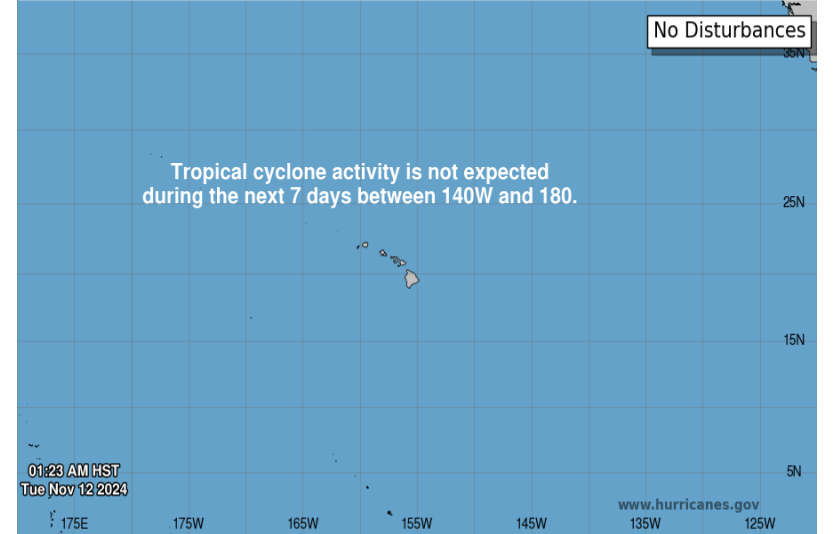
Current Disturbances and Seven-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%
 Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane
 Post-Tropical Cyclone or Remnants









Seven-Day Graphical Tropical Weather Outlook
 National Hurricane Center Miami, Florida



Current Disturbances and Seven-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%
 Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane
 Post-Tropical Cyclone or Remnants


Seven-Day Graphical Tropical Weather Outlook
 Central Pacific Hurricane Center Honolulu, Hawaii

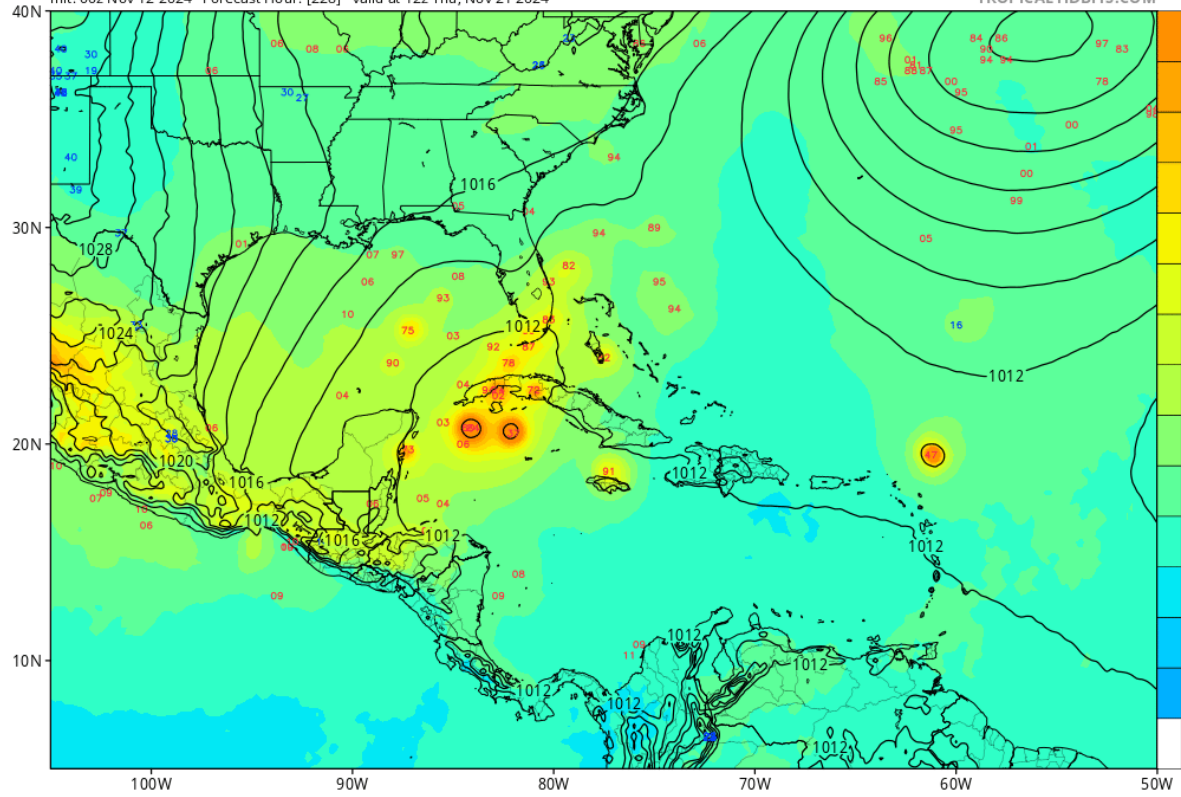


Current Disturbances and Seven-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%
 Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane
 Post-Tropical Cyclone or Remnants

EPS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | High: blue), & Normalized Spread (σ)

Init: 00z Nov 12 2024 Forecast Hour: [228] valid at 12z Thu, Nov 21 2024

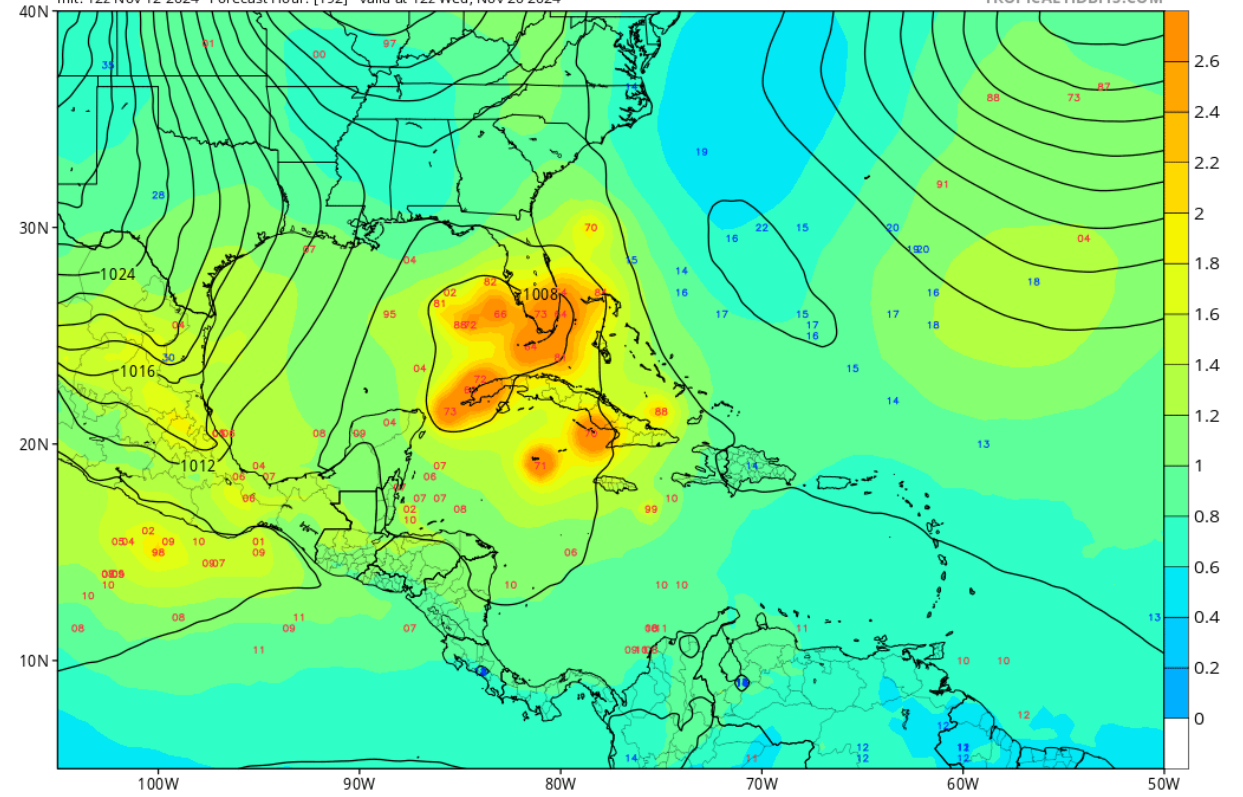
TROPICALTIDBITS.COM



GEFS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | High: blue), & Normalized Spread (σ)

Init: 12z Nov 12 2024 Forecast Hour: [192] valid at 12z Wed, Nov 20 2024

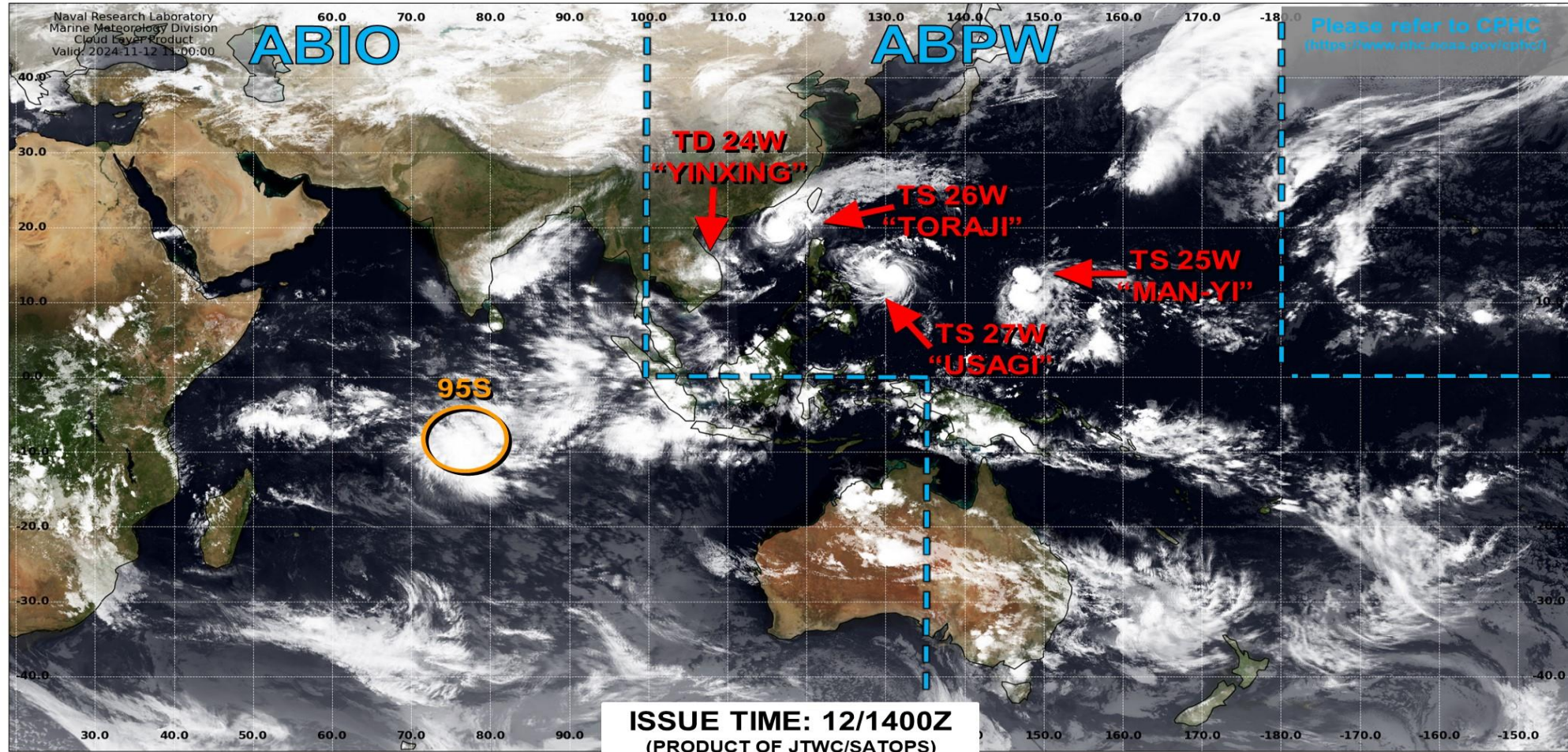
TROPICALTIDBITS.COM



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

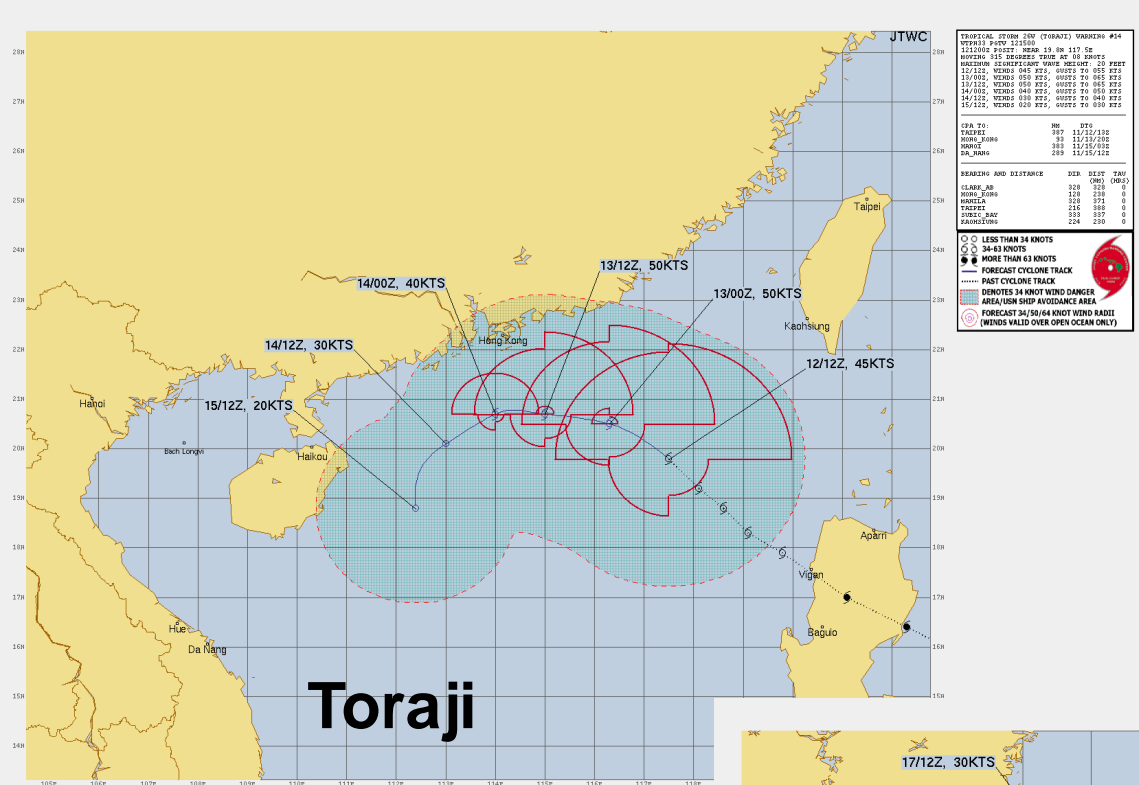


TC development likely within 24 hours (Reference TCFA)

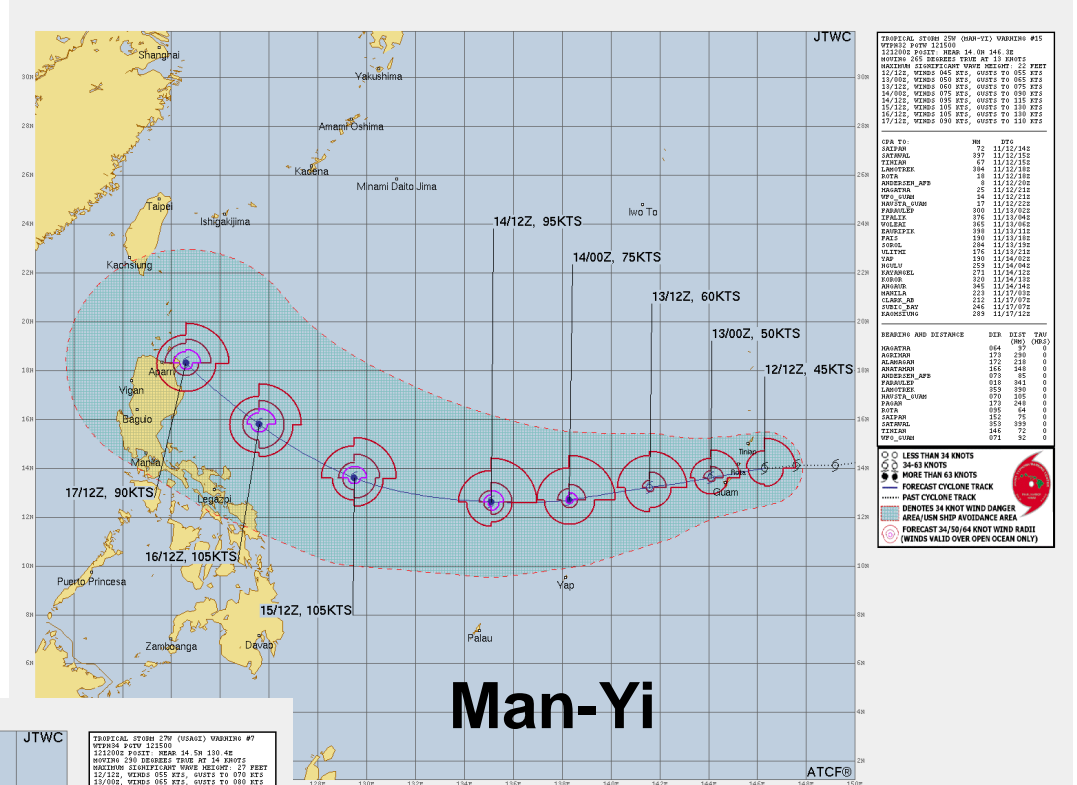


Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

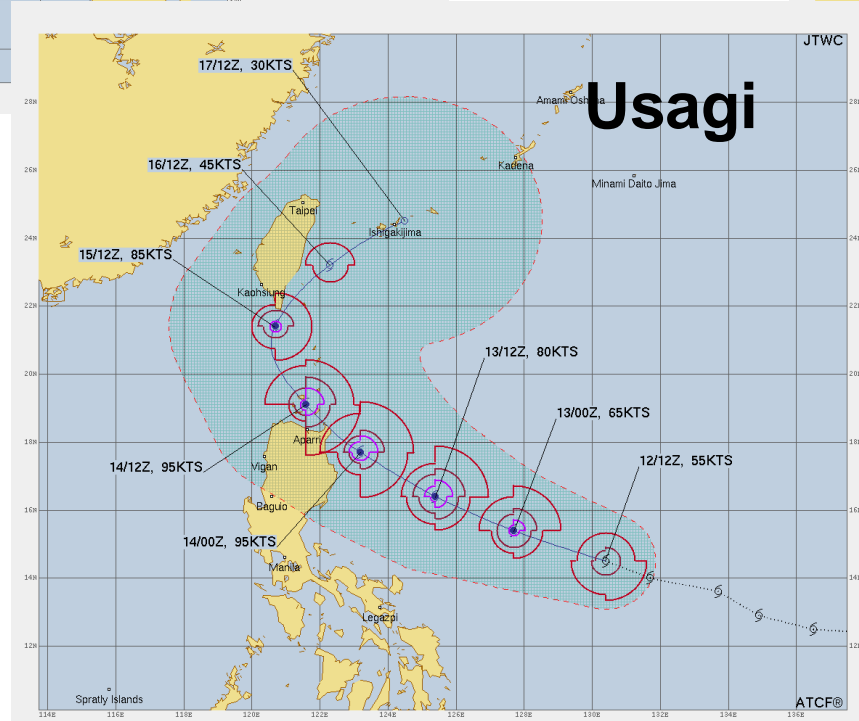
 Tropical Cyclone (Reference Warning)



Toraji

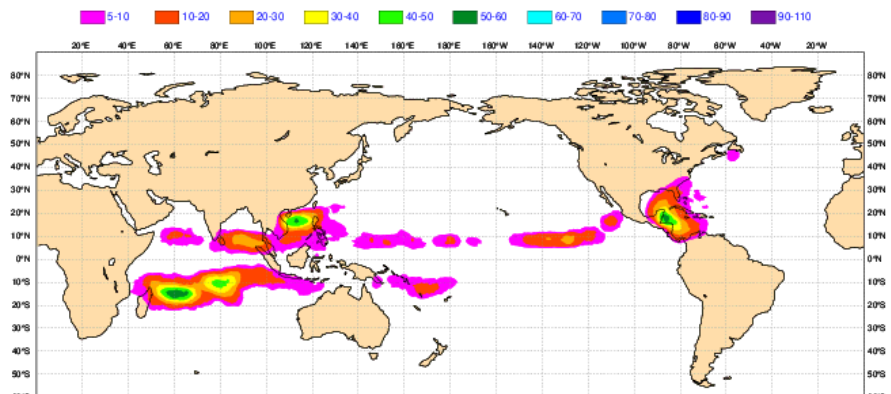


Man-Yi

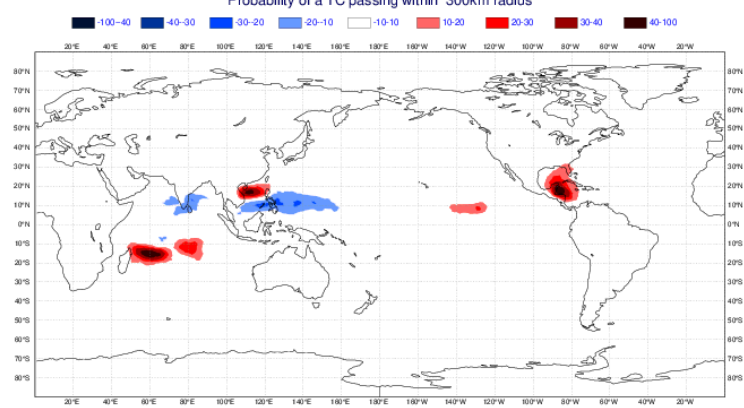


Usagi

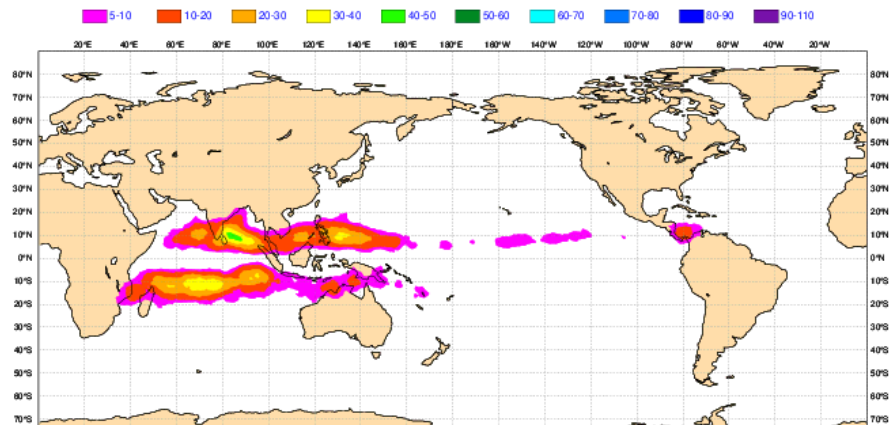
Weekly Mean Tropical Cyclone Strike Probability. Date: 20241111 0 UTC \pm (168-336)
Probability of a TC passing within 300km radius



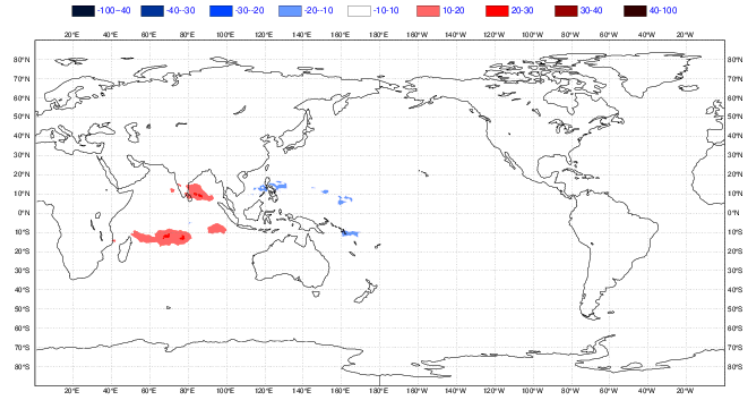
Weekly Mean Anomaly of Tropical Cyclone Strike Probability. Date: 20241111 0 UTC \pm (168-336)
Probability of a TC passing within 300km radius



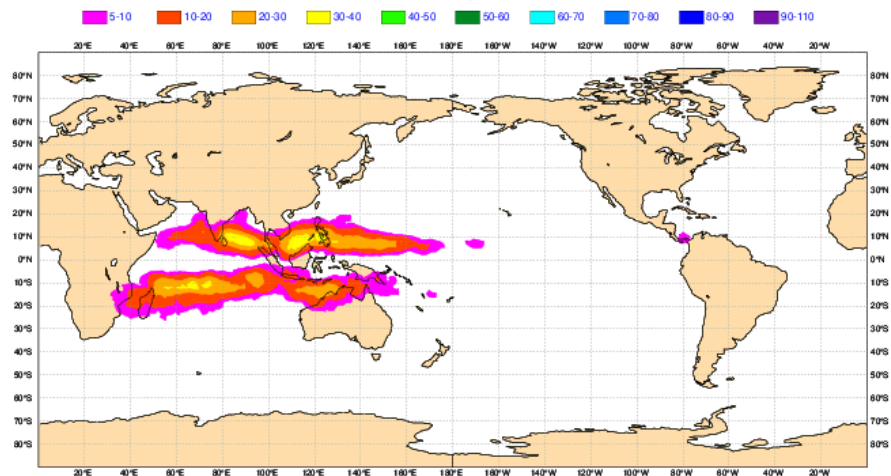
Weekly Mean Tropical Cyclone Strike Probability. Date: 20241111 0 UTC \pm (336-504)



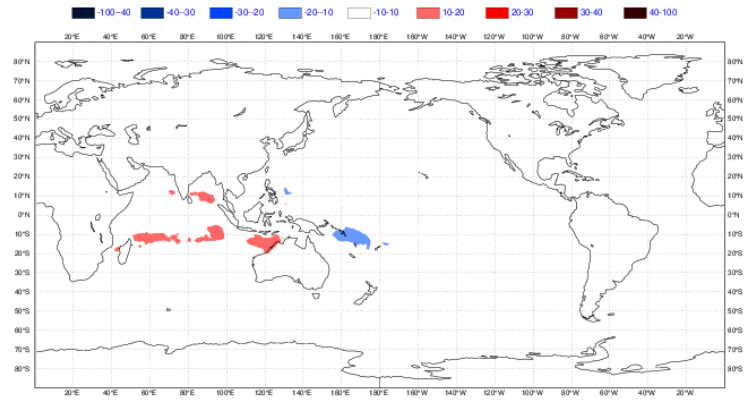
Weekly Mean Anomaly of Tropical Cyclone Strike Probability. Date: 20241111 0 UTC \pm (336-504)
Probability of a TC passing within 300km radius



Weekly Mean Tropical Cyclone Strike Probability. Date: 20241111 0 UTC \pm (504-672)



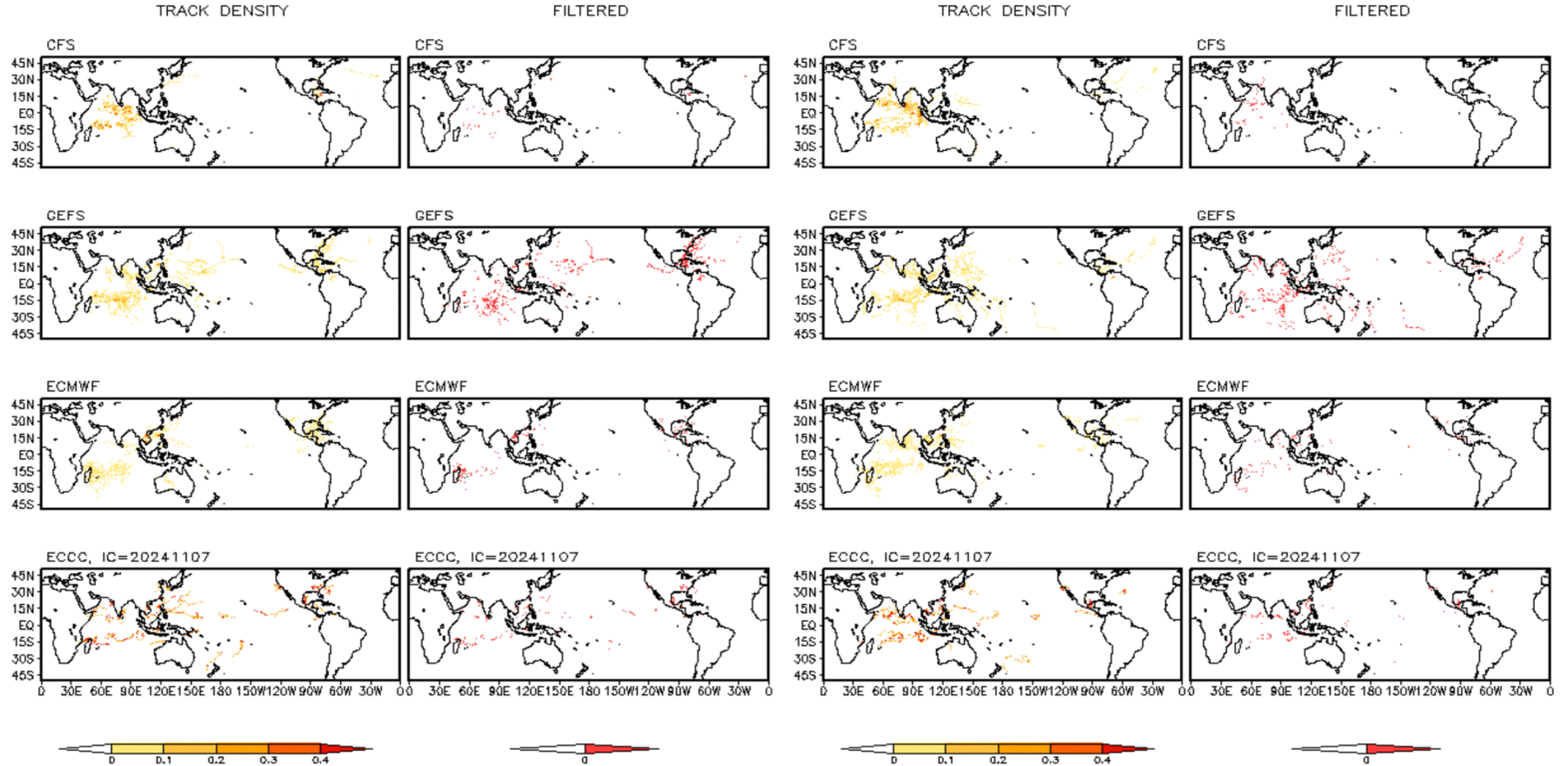
Weekly Mean Anomaly of Tropical Cyclone Strike Probability. Date: 20241111 0 UTC \pm (504-672)
Probability of a TC passing within 300km radius



Multi-Model TC Track Densities: Weeks 2+3

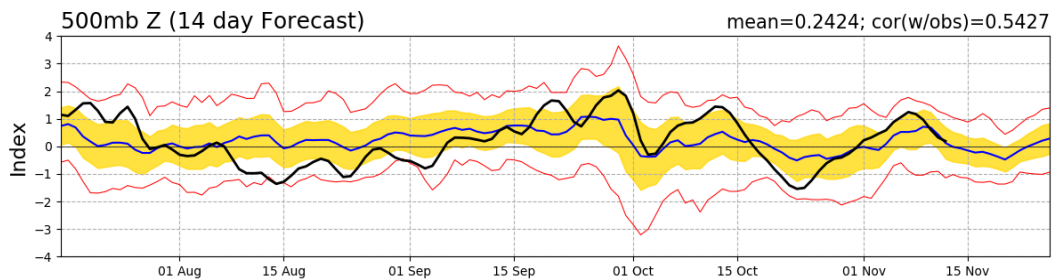
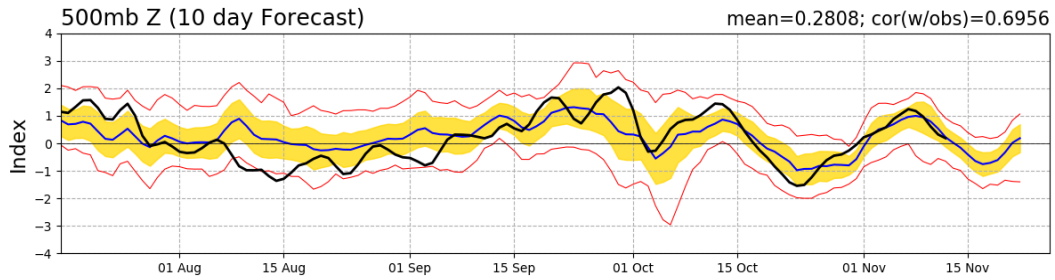
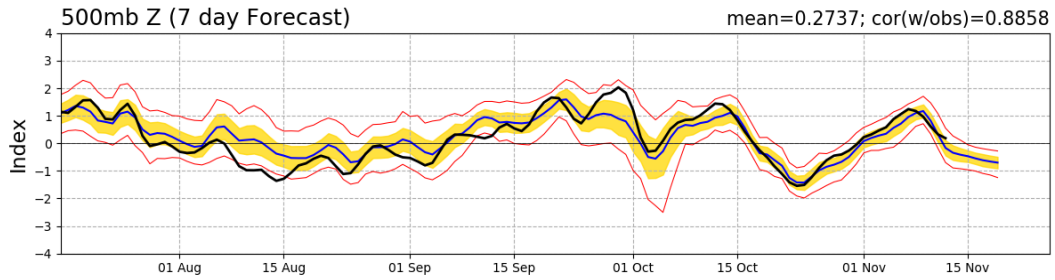
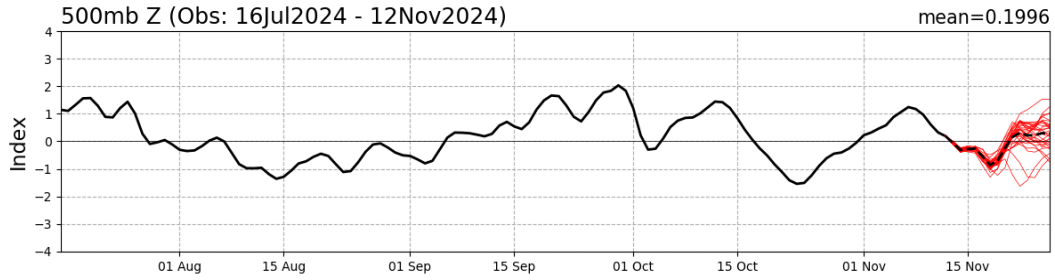
Storm Track Density Distribution, IC=20241111
Week 2 Forecast: 1120–1126

Storm Track Density Distribution, IC=20241111
Week 3 Forecast: 1127–1203

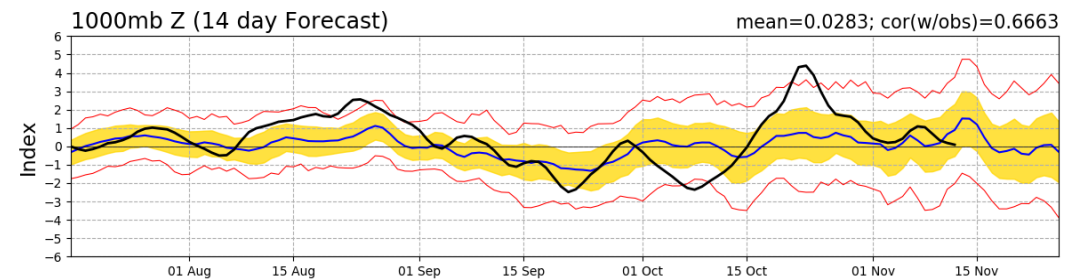
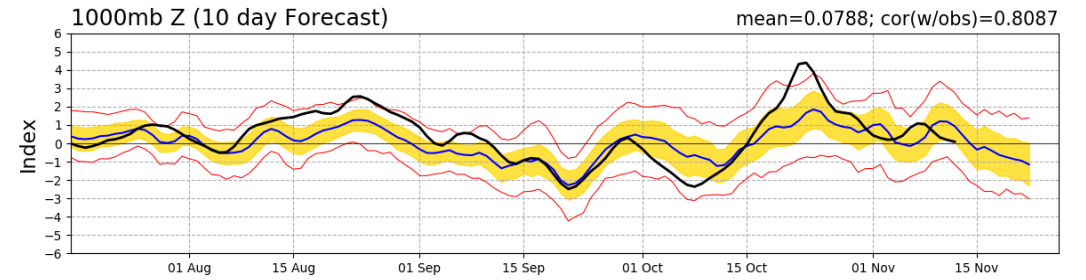
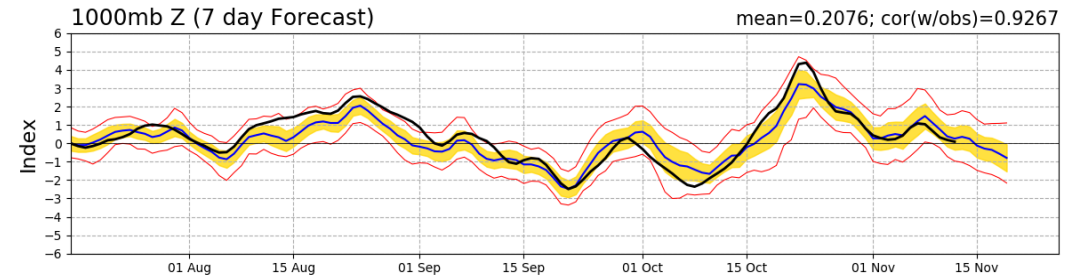
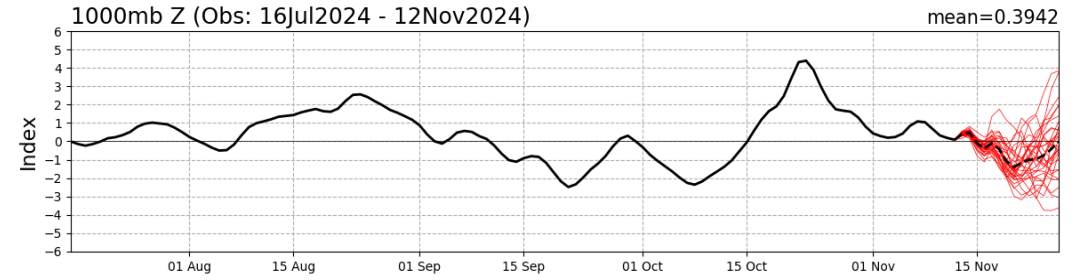


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts



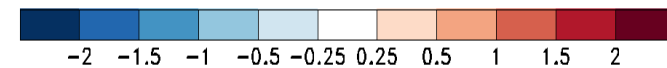
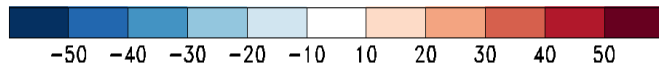
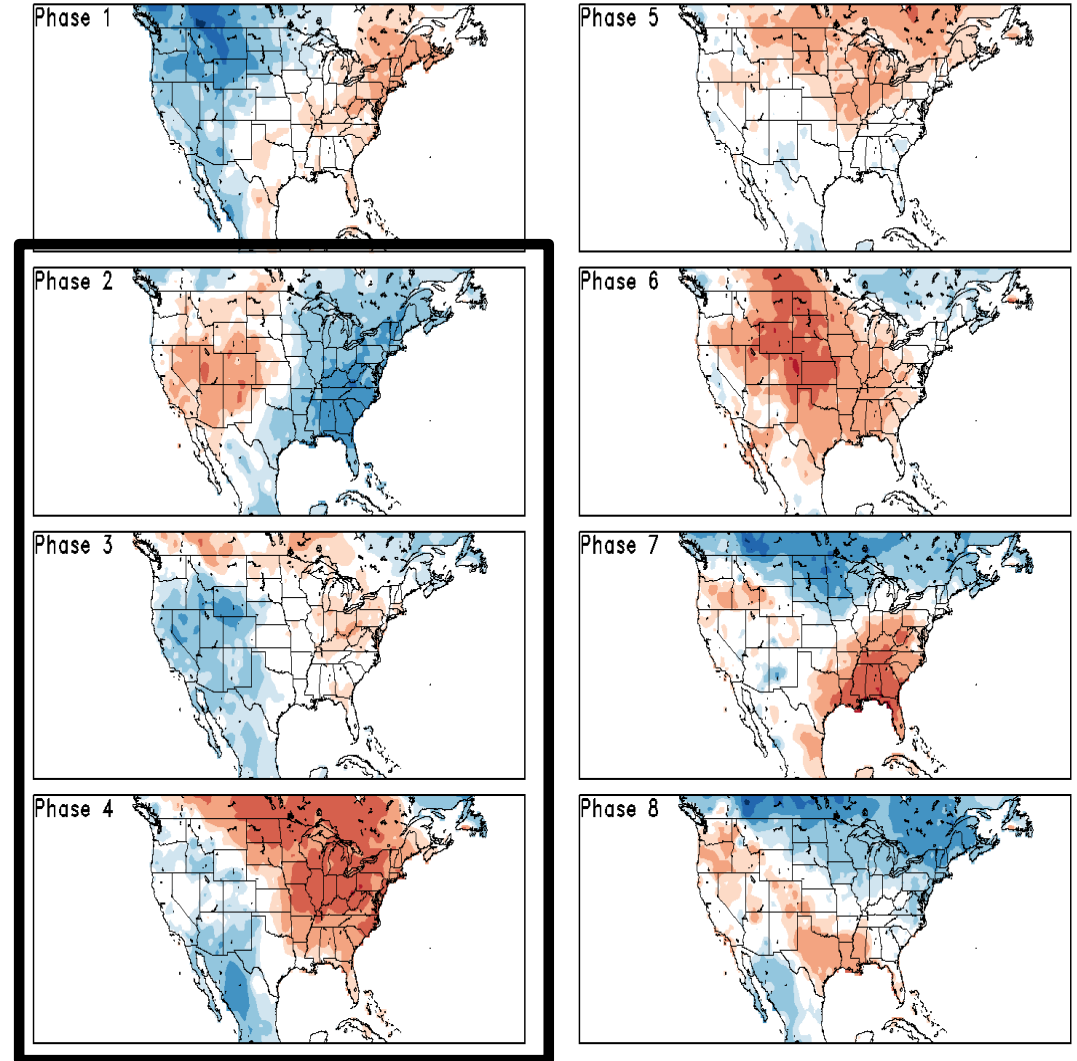
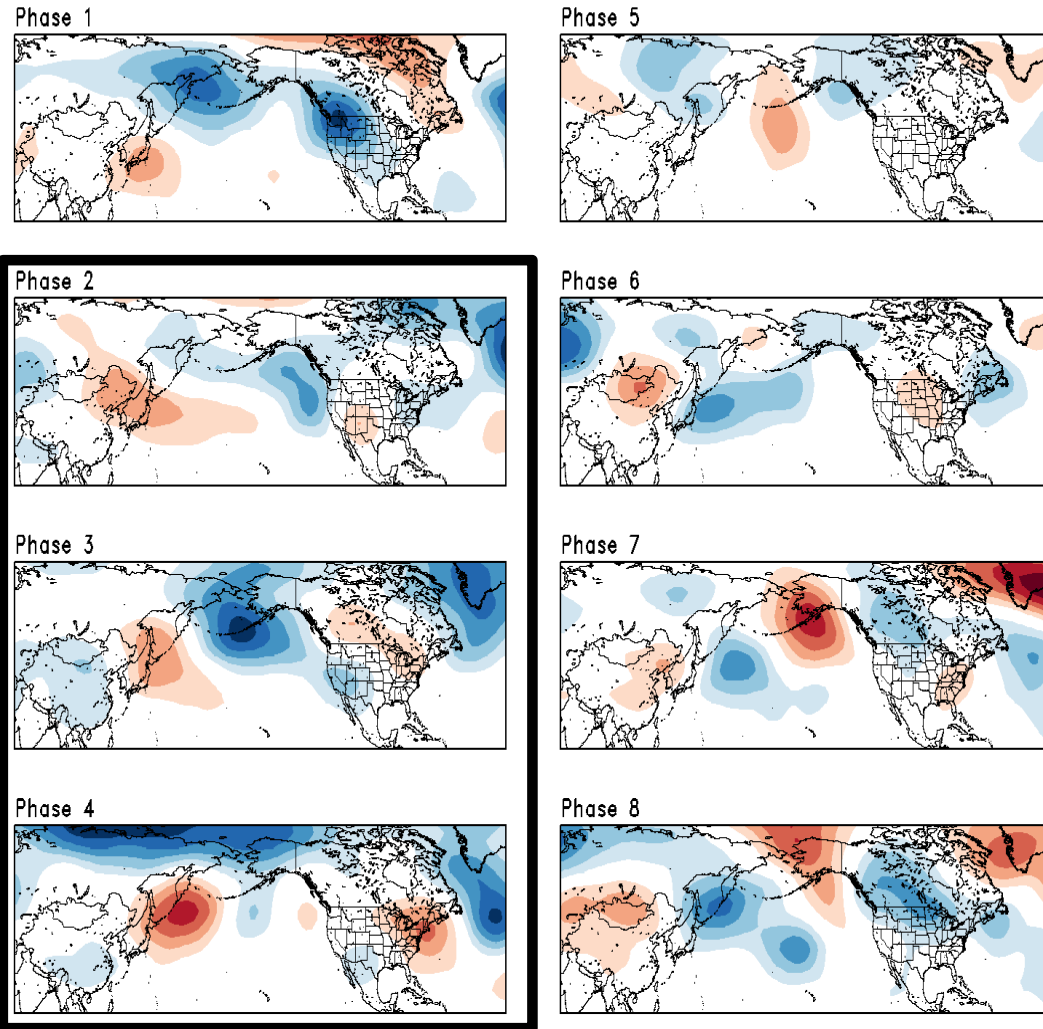
AO Index: Observed & GEFS Forecasts



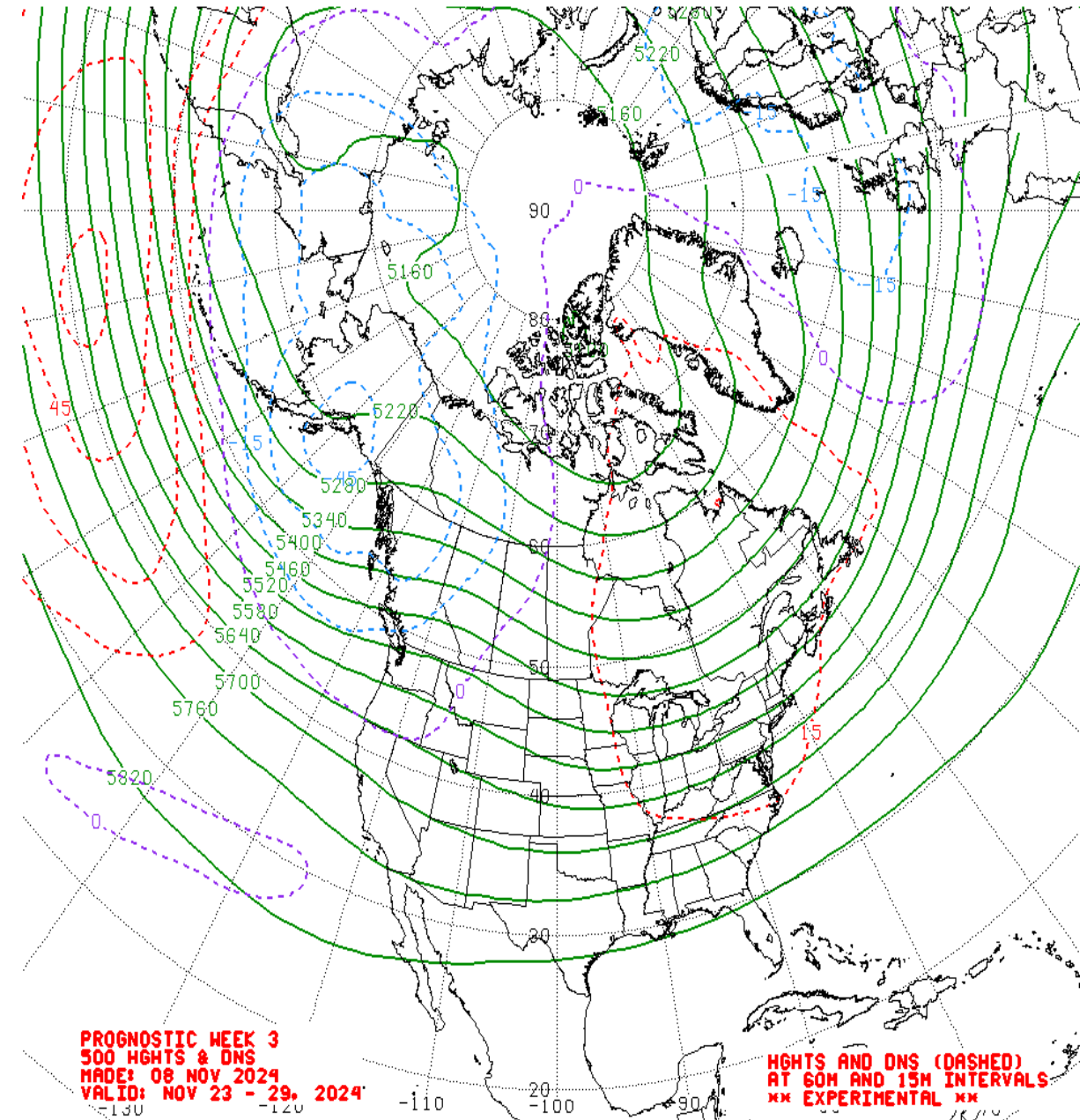
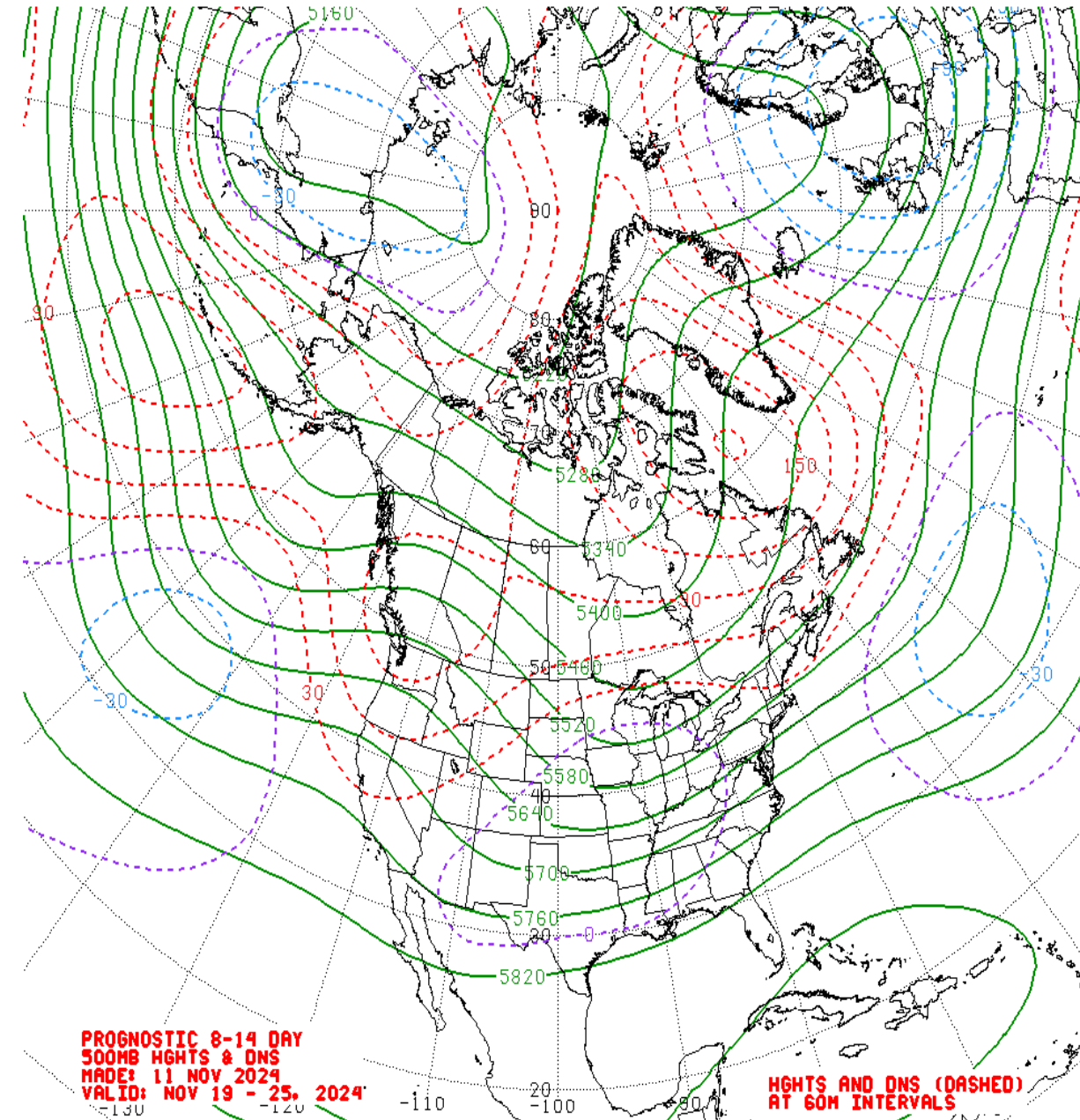
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

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

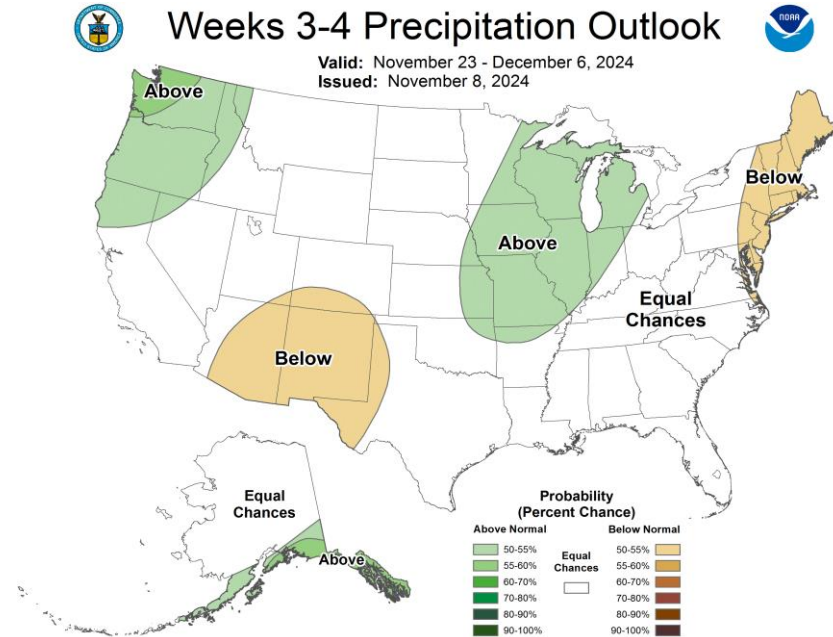
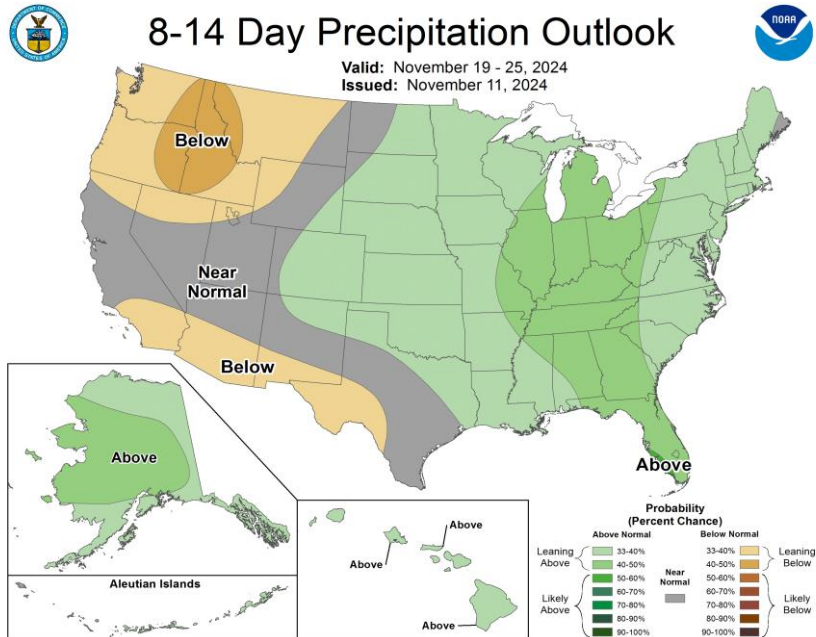
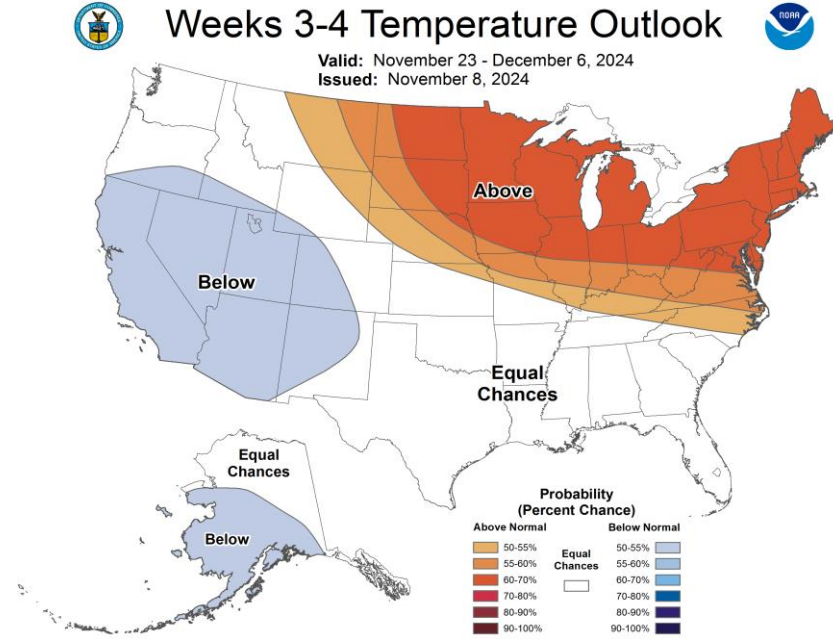
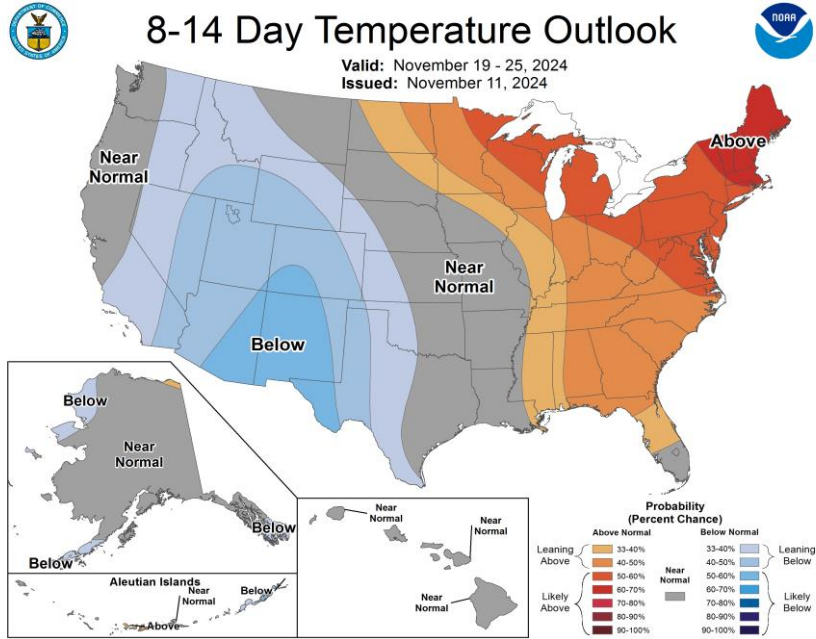
OND MJO Composite: GLBT (degC)



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



Official Temperature & Precipitation Forecasts:



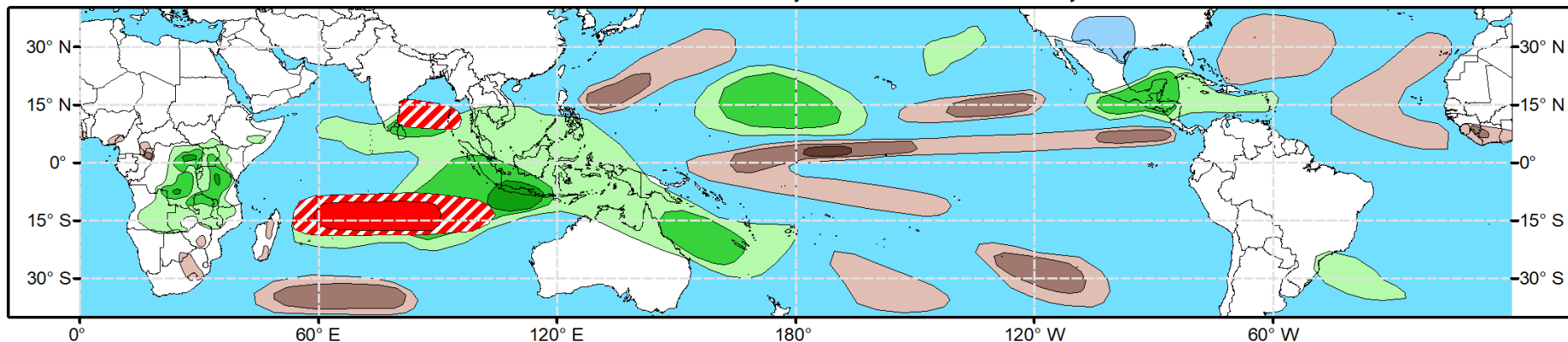


Global Tropics Hazards Outlook

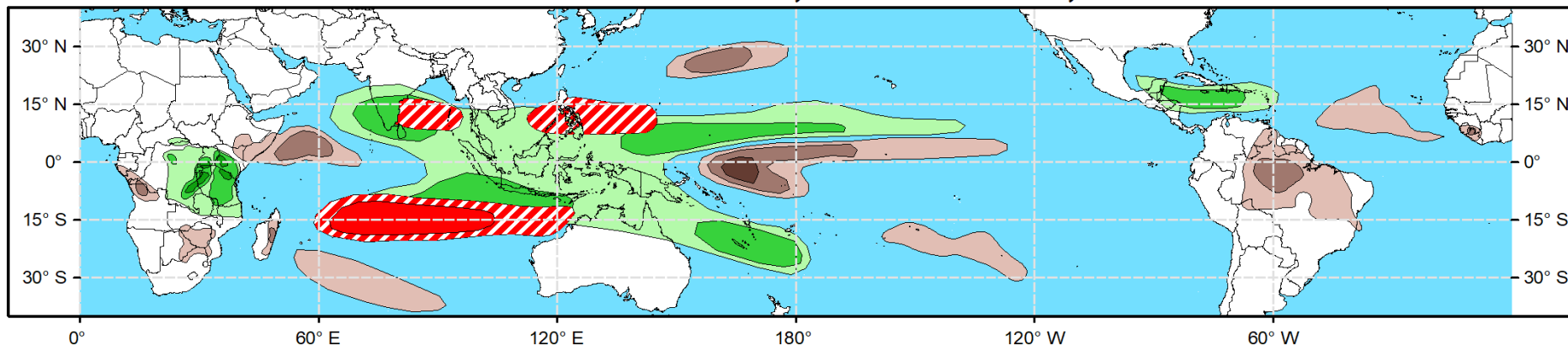
Climate Prediction Center



Week 2 - Valid: Nov 20, 2024 - Nov 26, 2024



Week 3 - Valid: Nov 27, 2024 - Dec 03, 2024



**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 max temperatures in the
Upper third of the historical range*

**Below-Average
Temperatures Probability**



>50% >65% >80%

*7-day min temperatures in the
Lower third of the historical range*

**Issued: 11/12/2024
Forecaster: Collow**

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.