



Weeks 2-3 Global Tropics Hazards Outlook

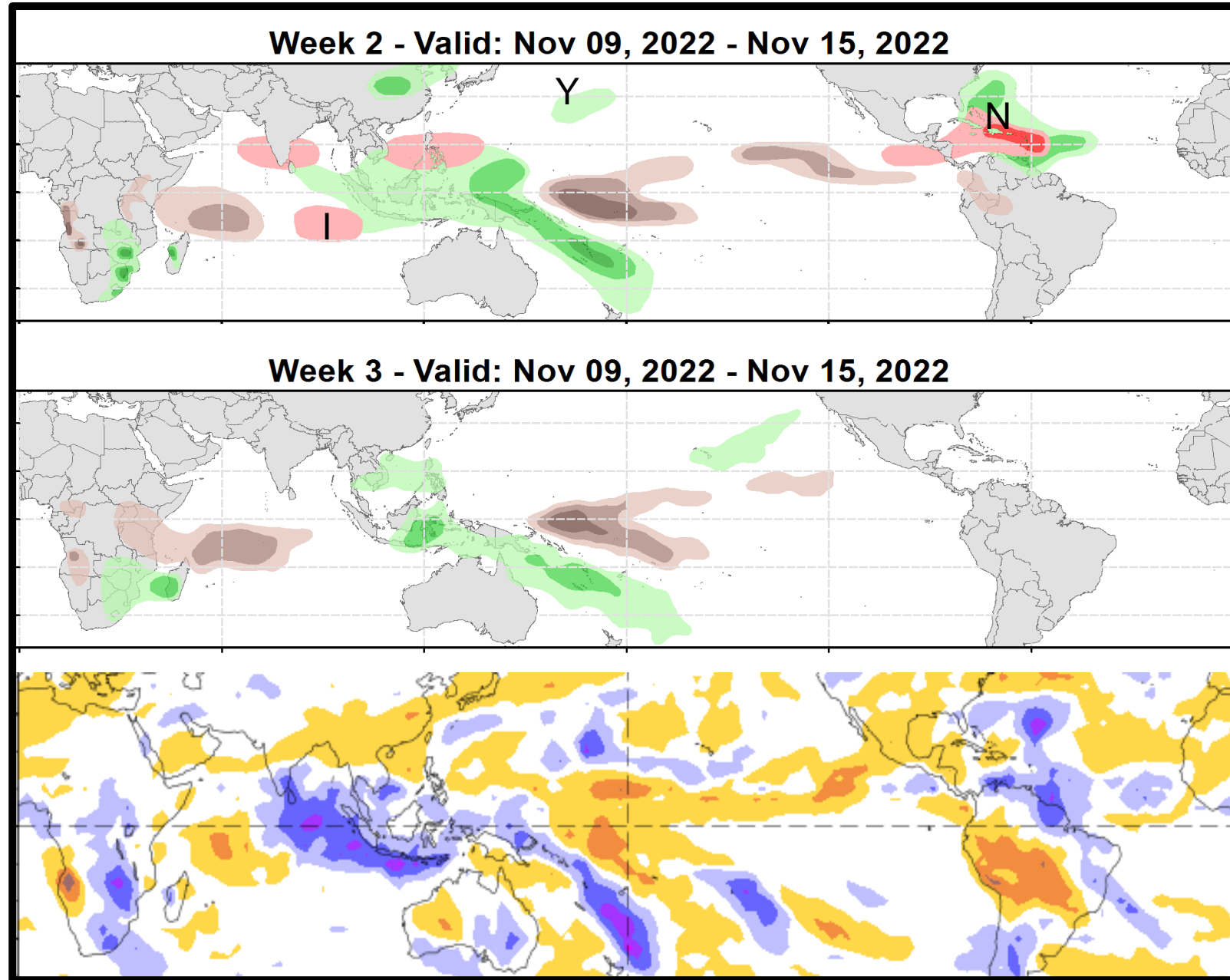
11/15/2022

Nick Novella

NWS / NCEP / Climate Prediction Center

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

- Y = Yamaneko (11/11)
- I = Invest 94S (mod in 24hrs)
- N = Nicole (11/7)



Synopsis of Climate Modes:

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

- ENSO Alert System Status: [La Niña Advisory](#)
- There is a 76% chance of La Niña during the Northern Hemisphere winter (DJF 2022-23), with a transition to ENSO-neutral favored in FMA 2023 (57% chance).

MJO and other subseasonal tropical variability:

- The RMM indicates a much weakened MJO signal during the past week. However, the intraseasonal signal has maintained its eastward propagation where upper-level velocity potential anomaly fields offer a more coherent MJO picture, with increased signs of strengthening over the Maritime Continent more recently.
- There continues to be good agreement in the dynamical models favoring a reemerging MJO over the Maritime Continent during week-1, with a potentially strong event unfolding over the western Pacific during week-2.
- Beyond this time, several extended range ensemble members point to the MJO maintaining an organized structure as it reenters the western Hemisphere, though there is still some degree of uncertainty given the potential for destructive interference with the La Niña established over the equatorial Pacific.
- The renewed MJO favored supports increased chances for additional tropical cyclogenesis mainly in the eastern Hemisphere through the end November. Although the large scale environment may become more conducive in the western Hemisphere, any chances for TC development are impeded by an increasingly inactive climatology later in the outlook period.

GTH Outlook:

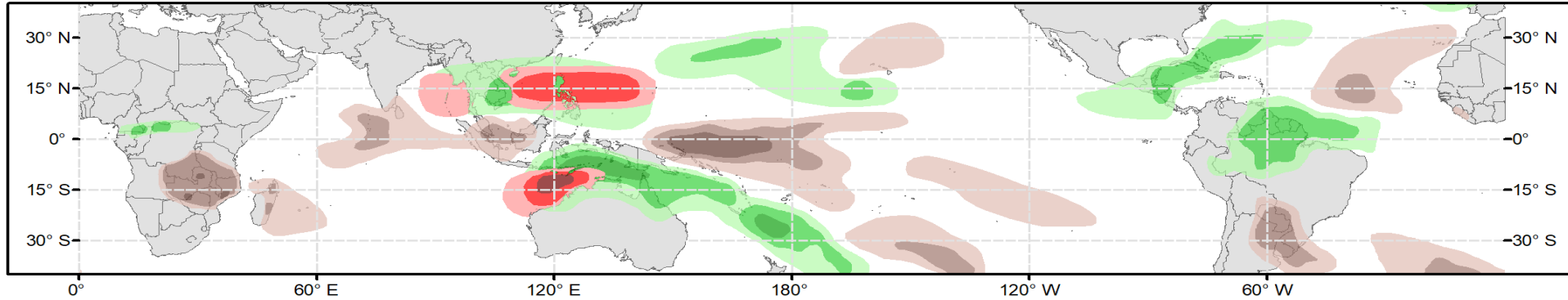


Global Tropics Hazards Outlook

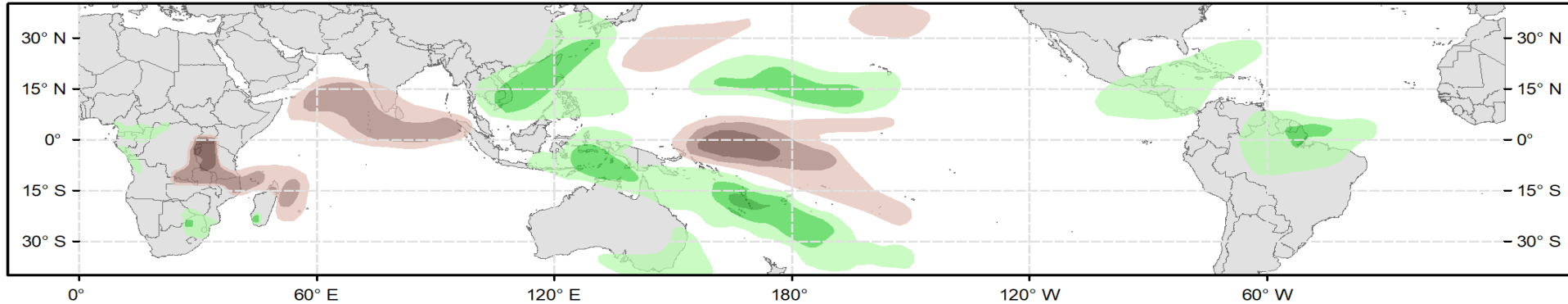
Climate Prediction Center



Week 2 - Valid: Nov 23, 2022 - Nov 29, 2022



Week 3 - Valid: Nov 30, 2022 - Dec 06, 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

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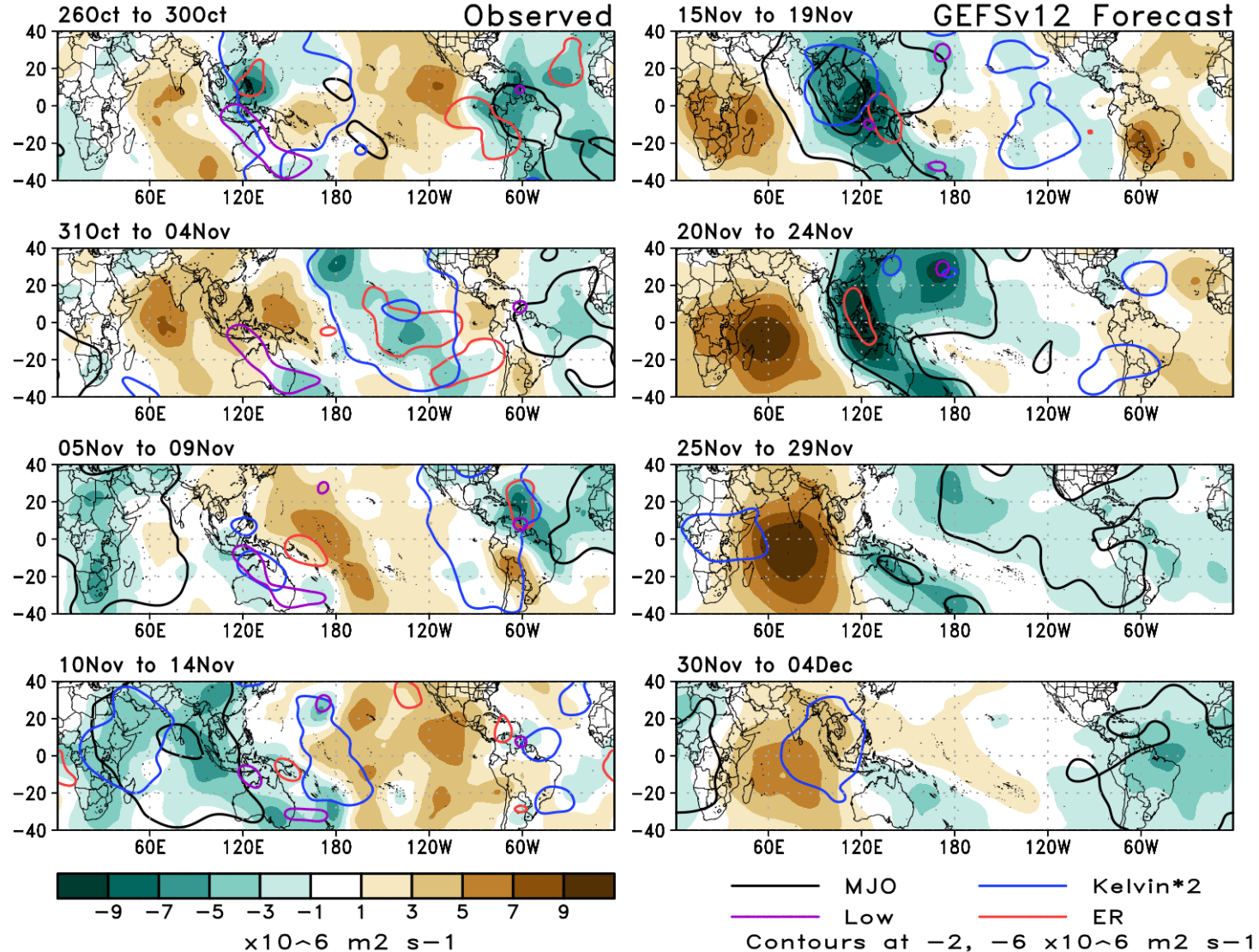
Issued: 11/15/2022
Forecaster: Novella

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200-hPa Velocity Potential Anomaly Maps:

Green: Enhanced Divergence Aloft Brown: Enhanced Convergence Aloft

CHI200 5-Day Means

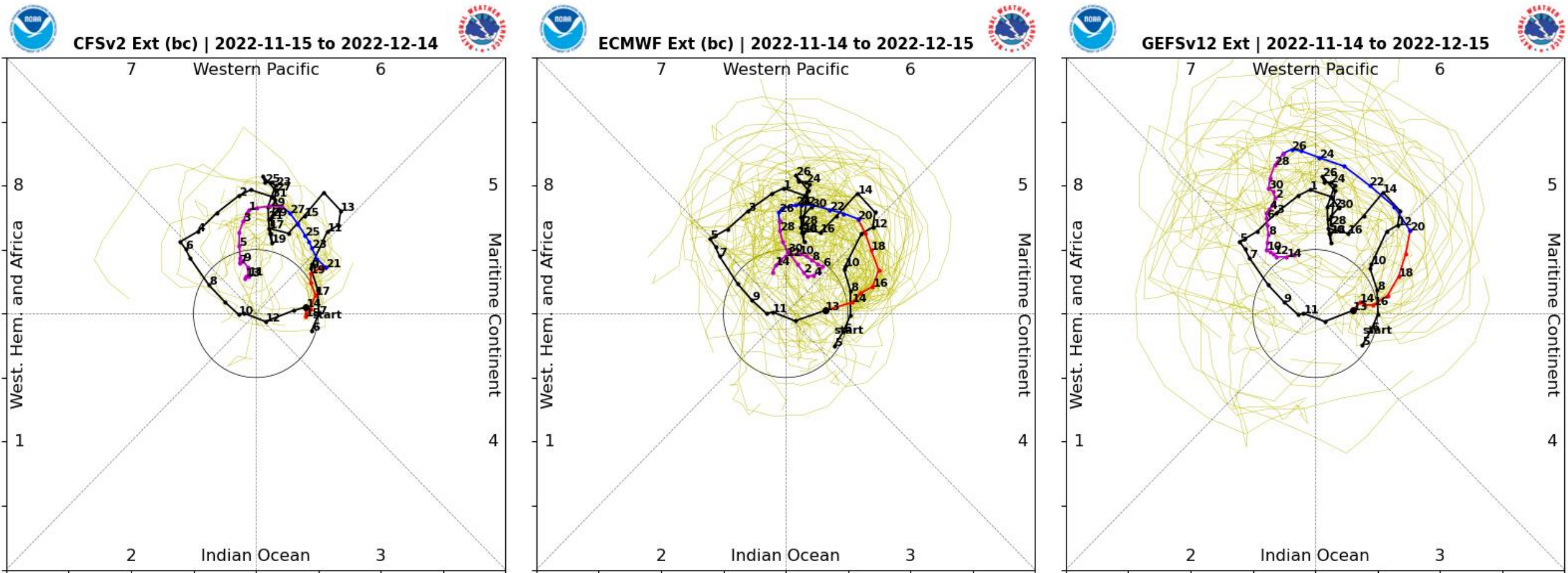


- The pattern became more coherent during the past week, with suppressed conditions shifting eastward, and the leading edge of main convective envelope nearly rejoining the low frequency signal over the Maritime Continent.

- Based on the GEFS, the upper-level dipole strengthens in amplitude, where MJO activity comes through the filtering as it crosses the equatorial Pacific during the next three weeks.

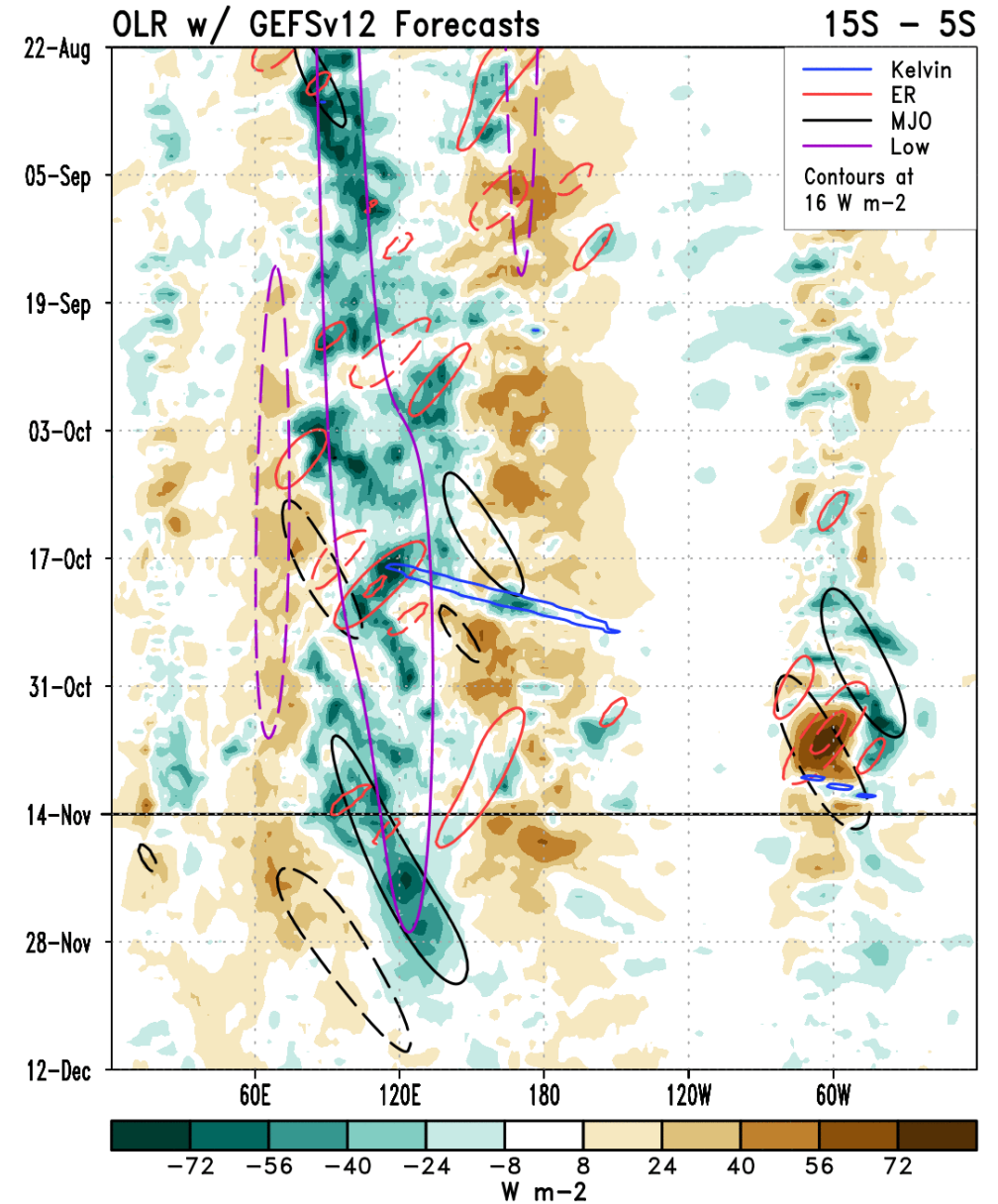
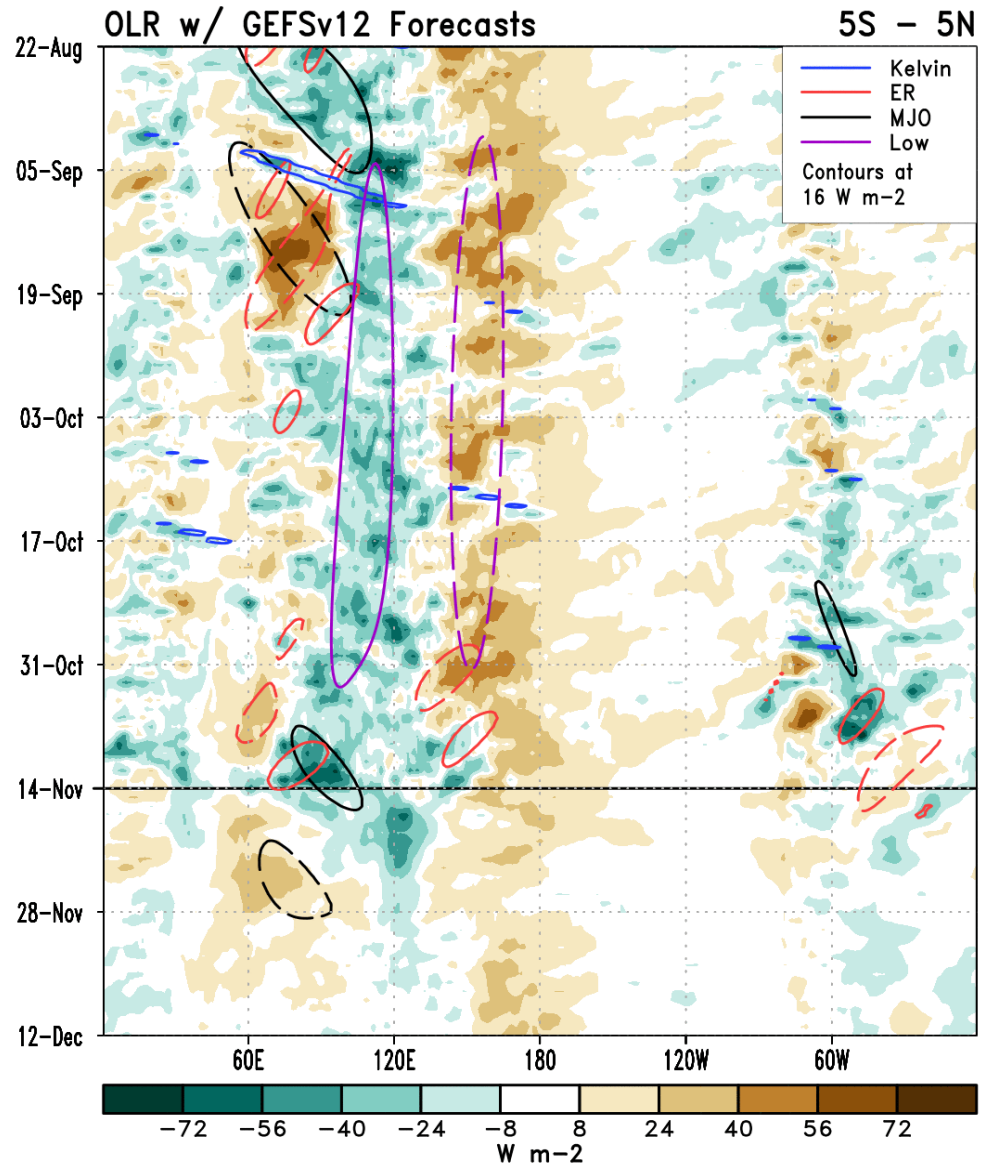
- The suppressed phase of the MJO also shifts eastward and aligns with historical composites for phases 5, 6 and 7.

RMM Index Observations & Forecasts:



- Good agreement exists among the dynamical models w.r.t. the strength and evolution of the MJO signal, particularly during the next two weeks.
- By week-3, ensemble spread increases for all models, however there are several members indicating a high amplitude event, where the GEFs favors more of a global circumnavigation by mid-December.

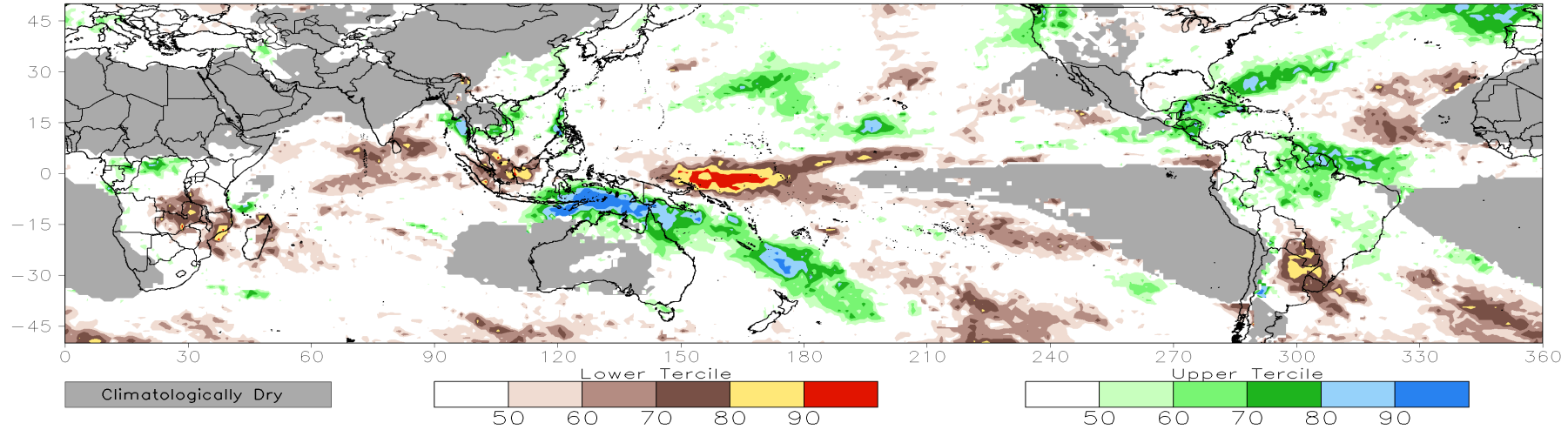
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

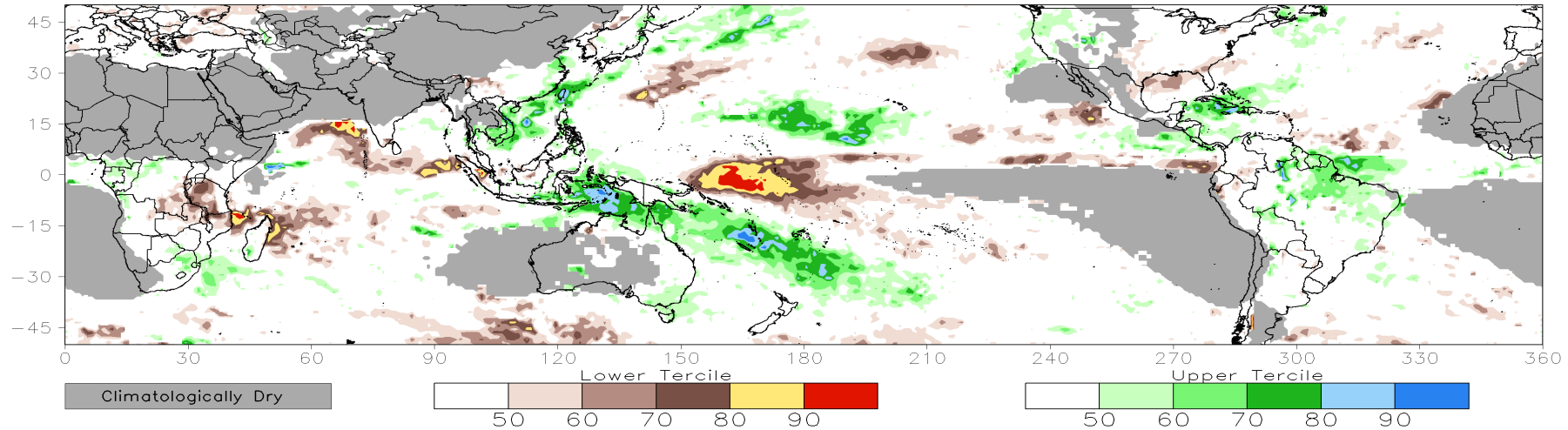
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 23Nov2022-29Nov2022



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

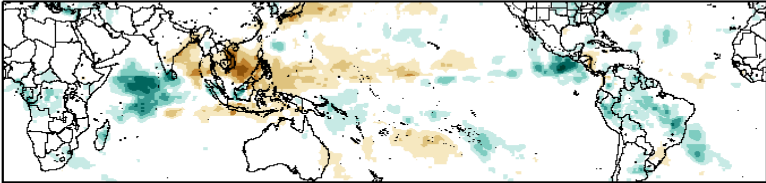
Valid: 30Nov2022-06Dec2022



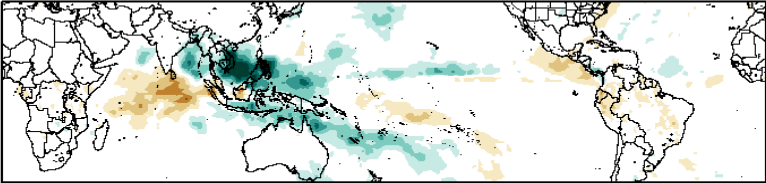
Historical Precipitation Anomalies By MJO Phase:

OND MJO Composite: GPCP1DD (mm/day)

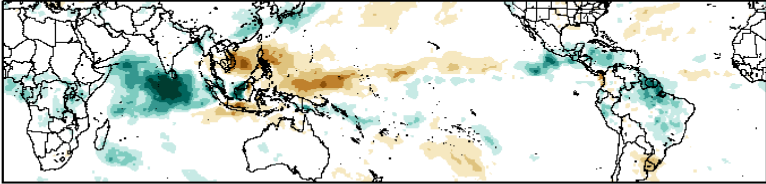
Phase 1



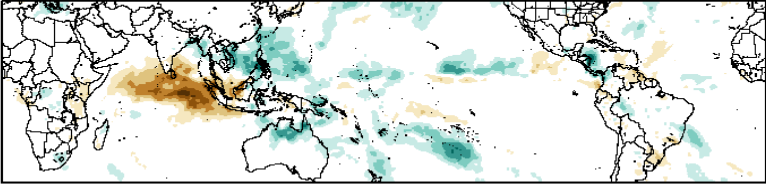
Phase 5



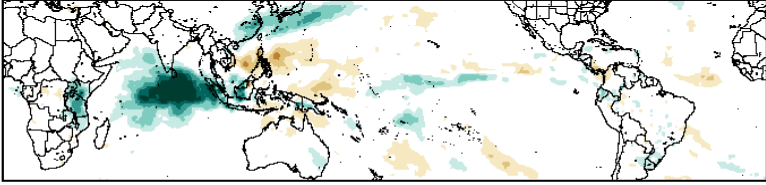
Phase 2



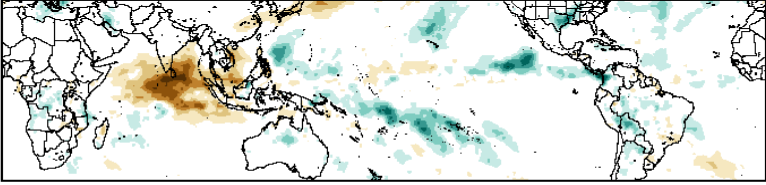
Phase 6



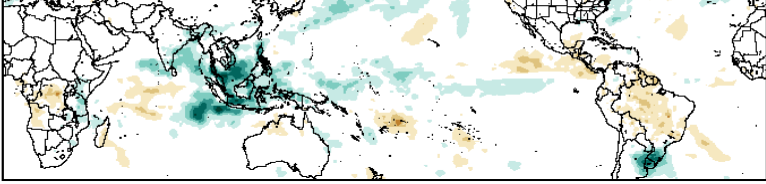
Phase 3



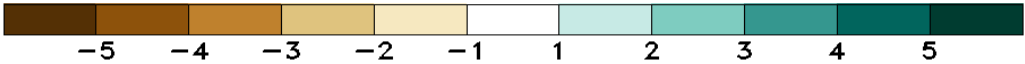
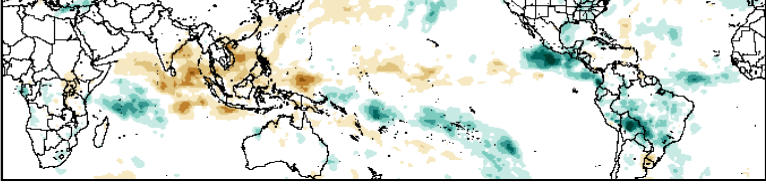
Phase 7



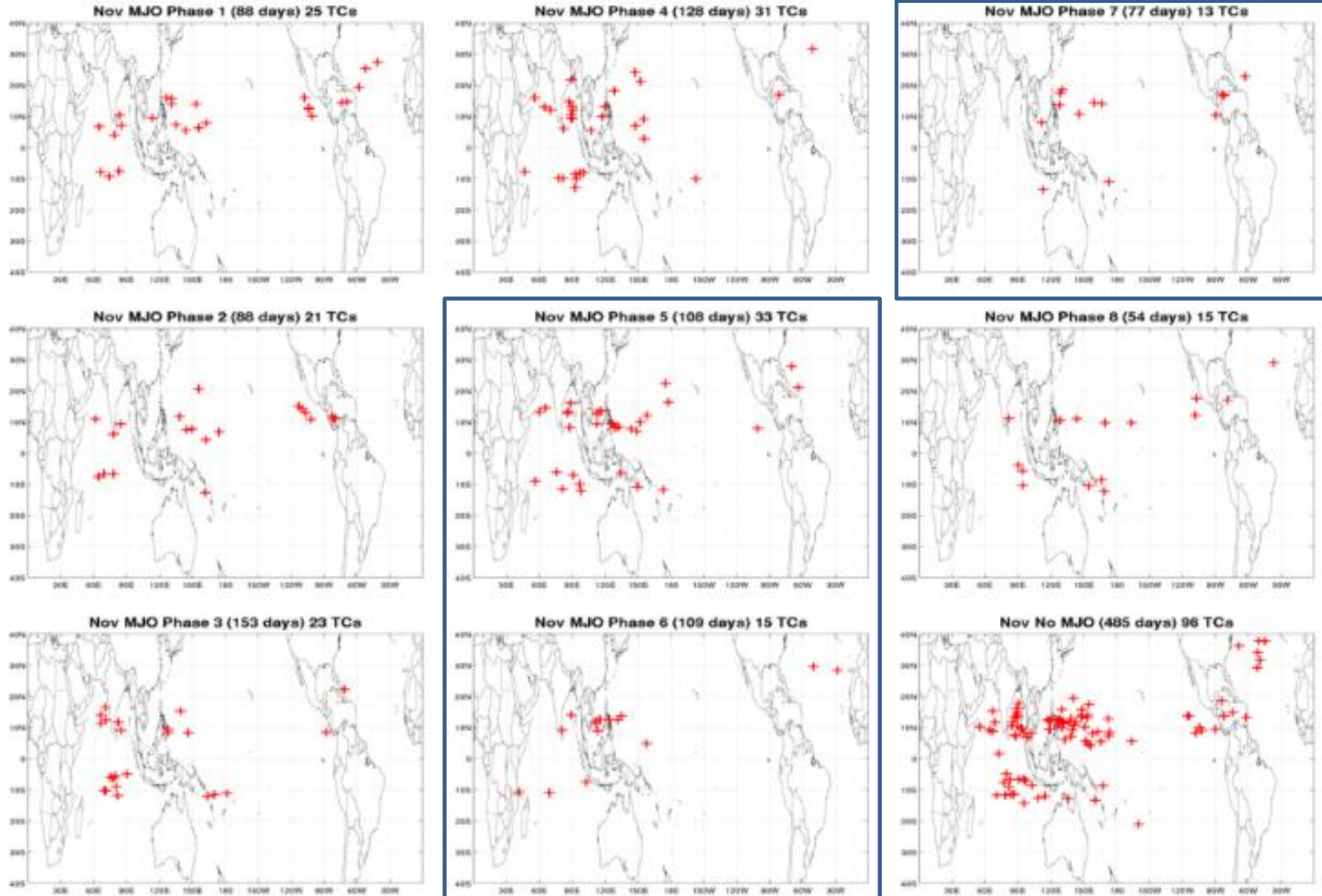
Phase 4



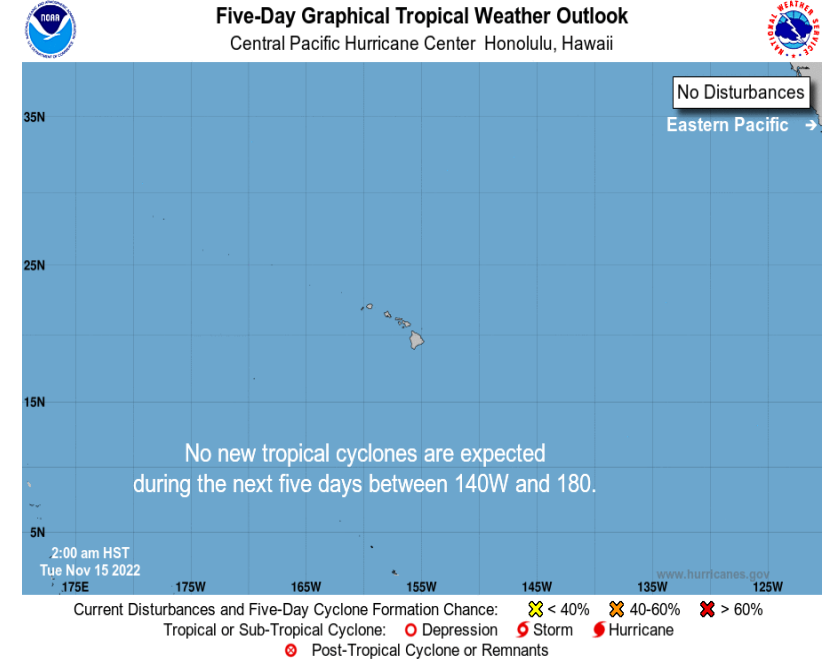
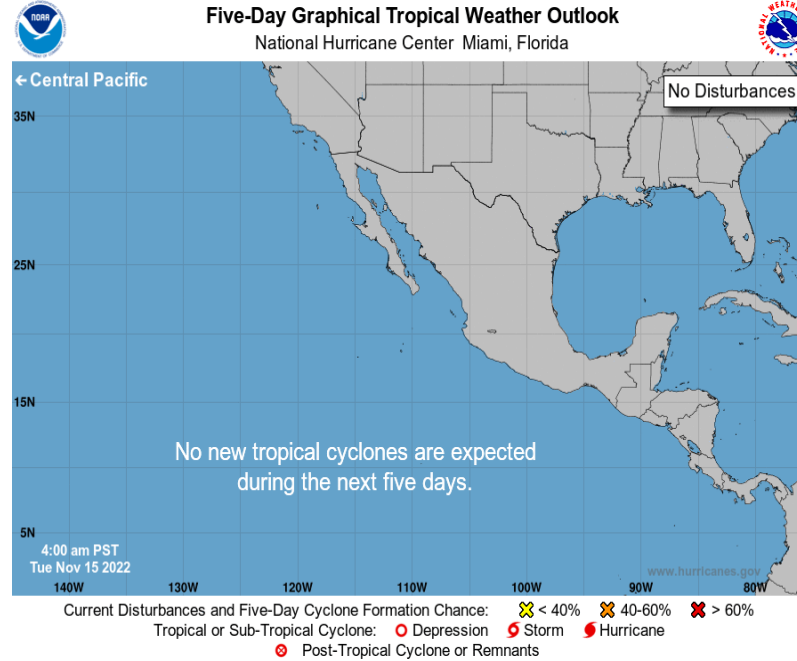
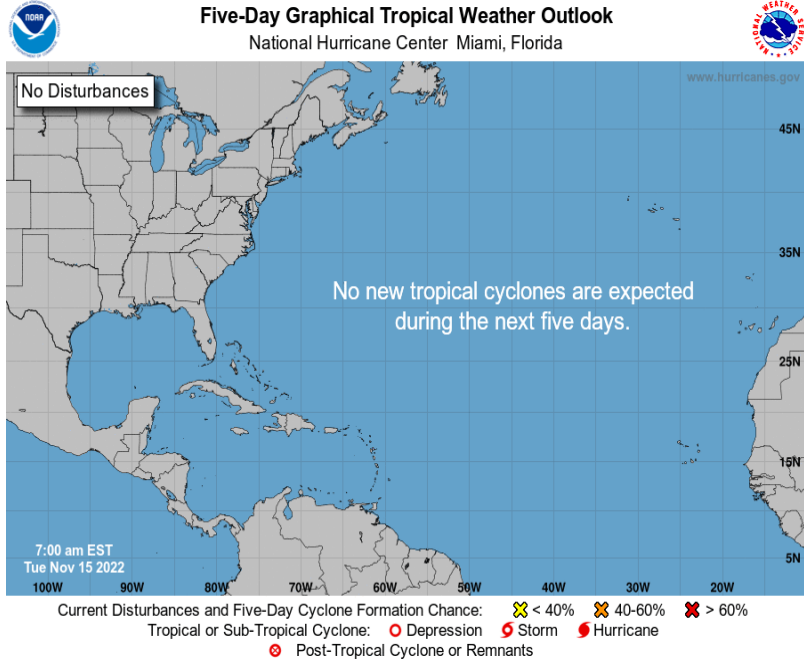
Phase 8



Historical TC Genesis Origins By MJO Phase:



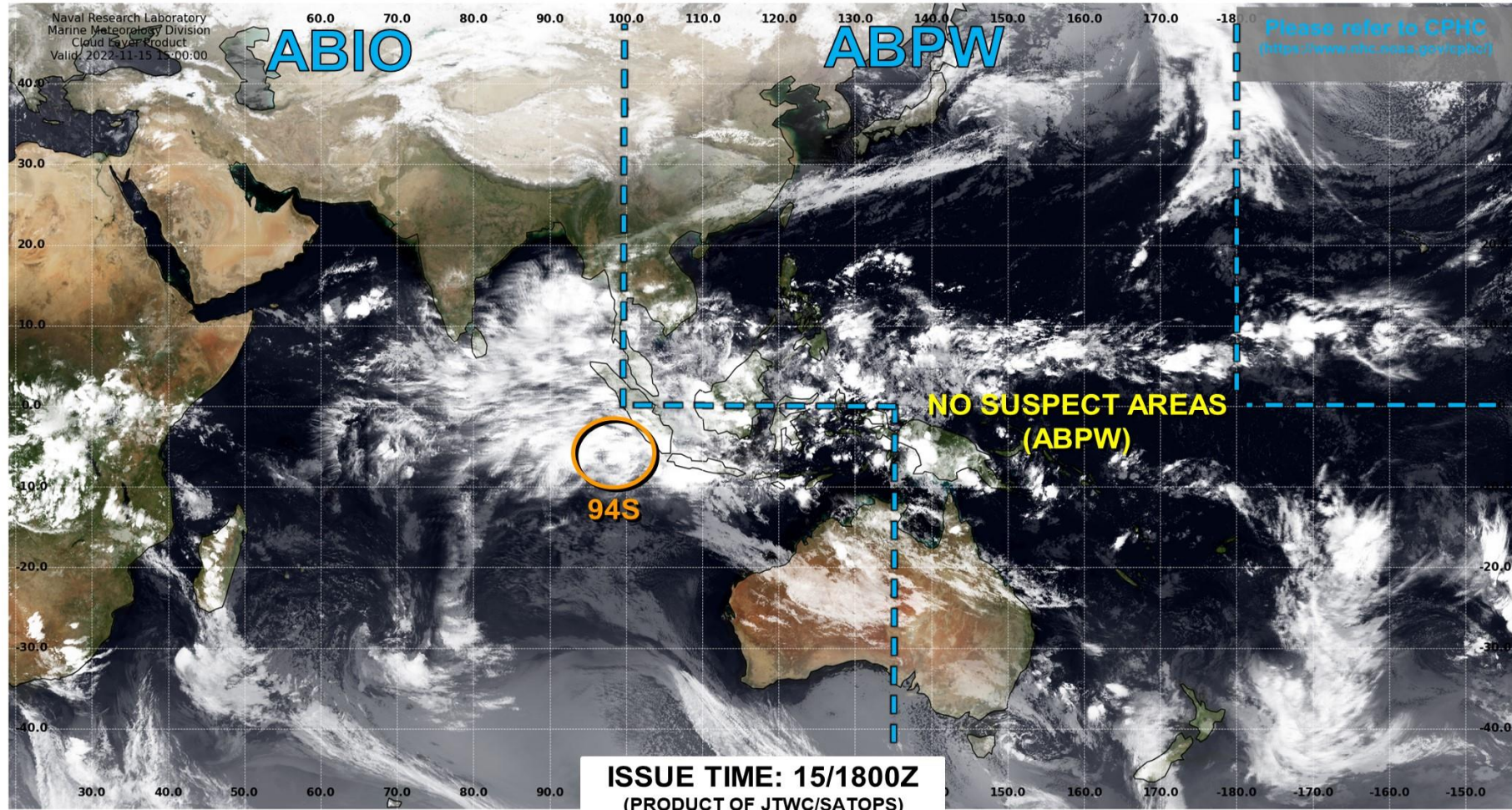
Tropical Cyclone Monitoring/Forecast: NHC



Tropical Cyclone Monitoring/Forecast: JTWC



JOINT TYPHOON WARNING CENTER



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

Storm Track Density Distribution, IC=20221114

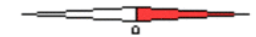
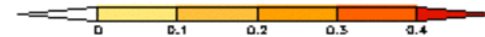
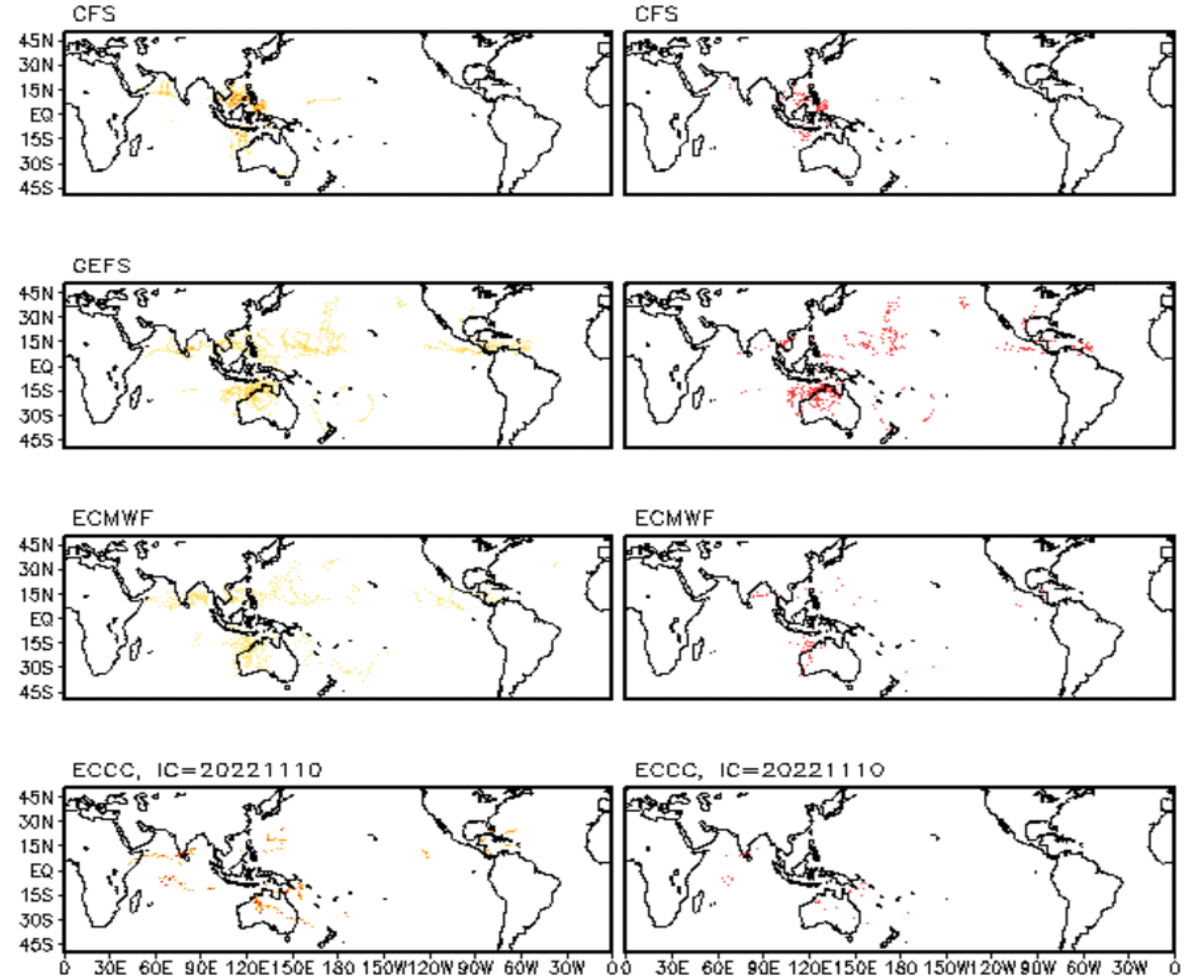
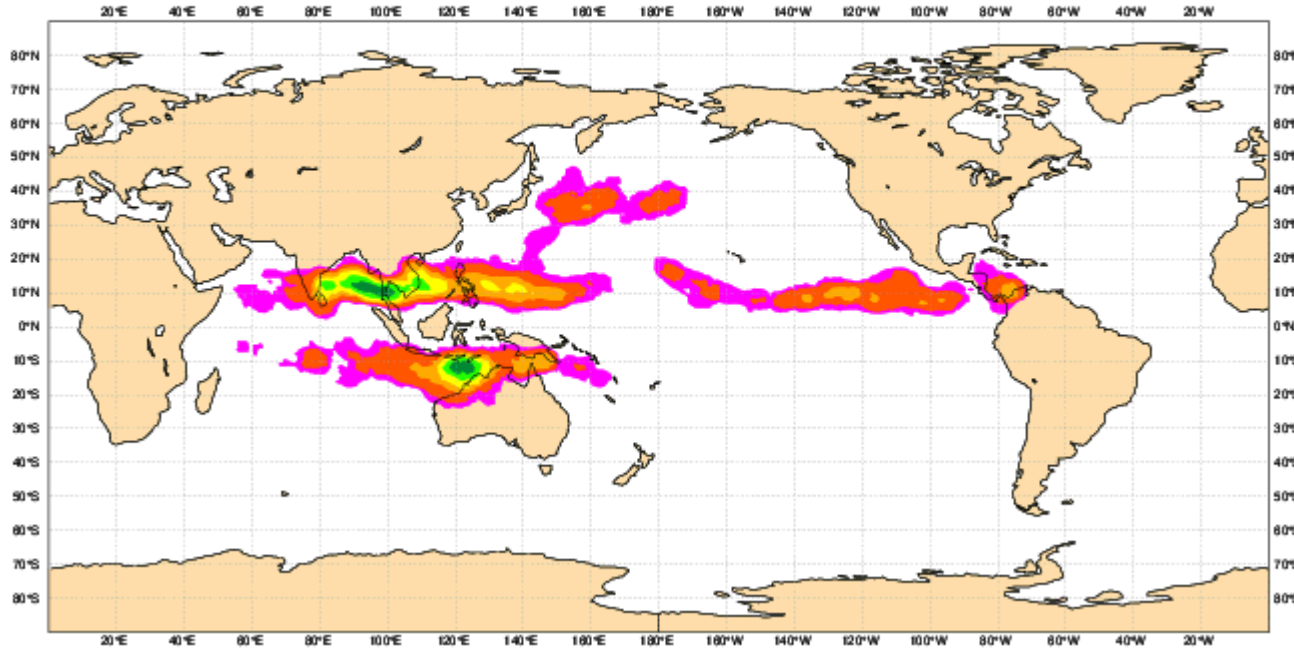
Week 2 Forecast: 1123-1129

TRACK DENSITY

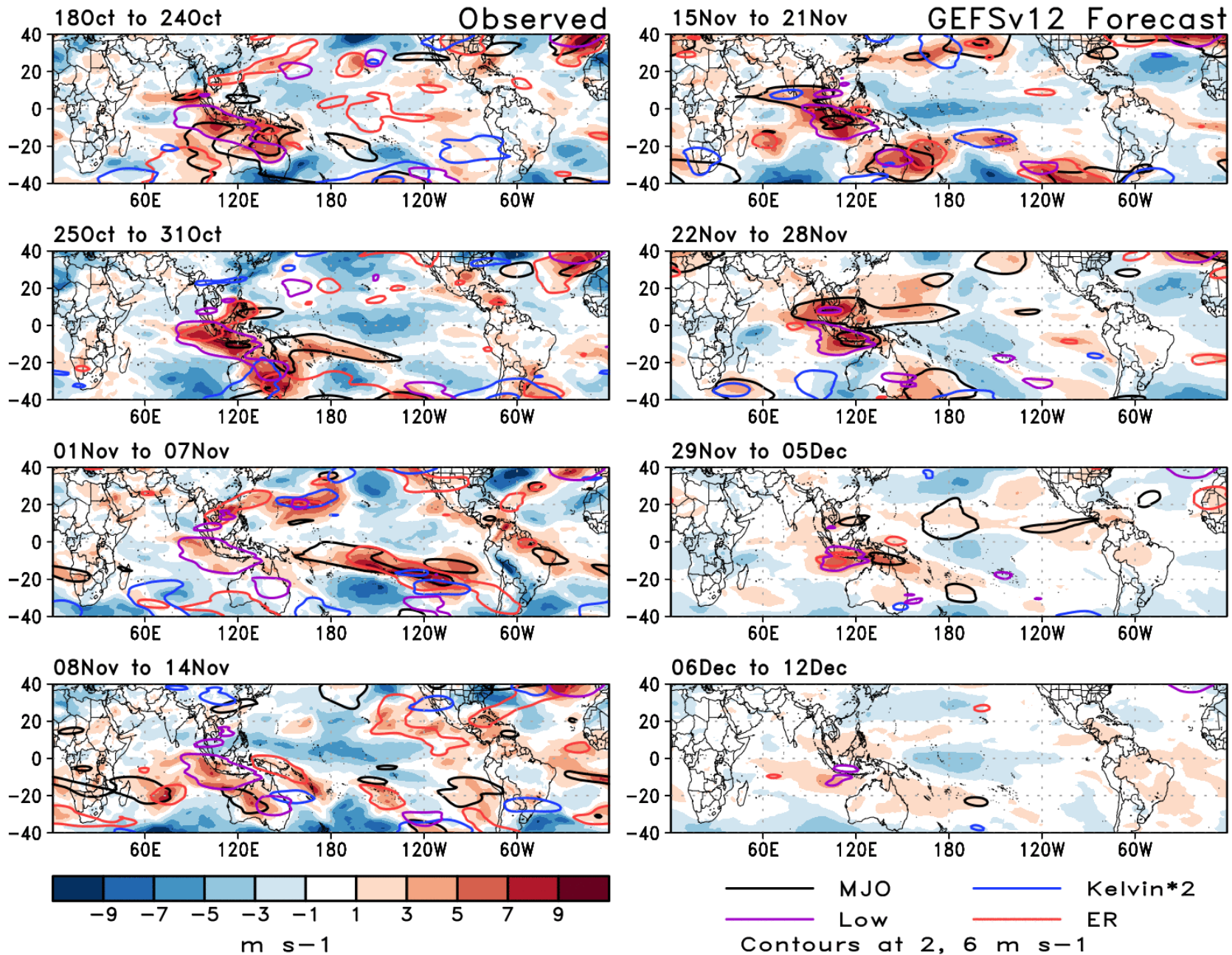
FILTERED

Weekly Mean Tropical Cyclone Strike Probability. Date: 20221114 0 UTC 1+(168-336)
Probability of a TC passing within 300km radius

5-10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 80-90 90-110



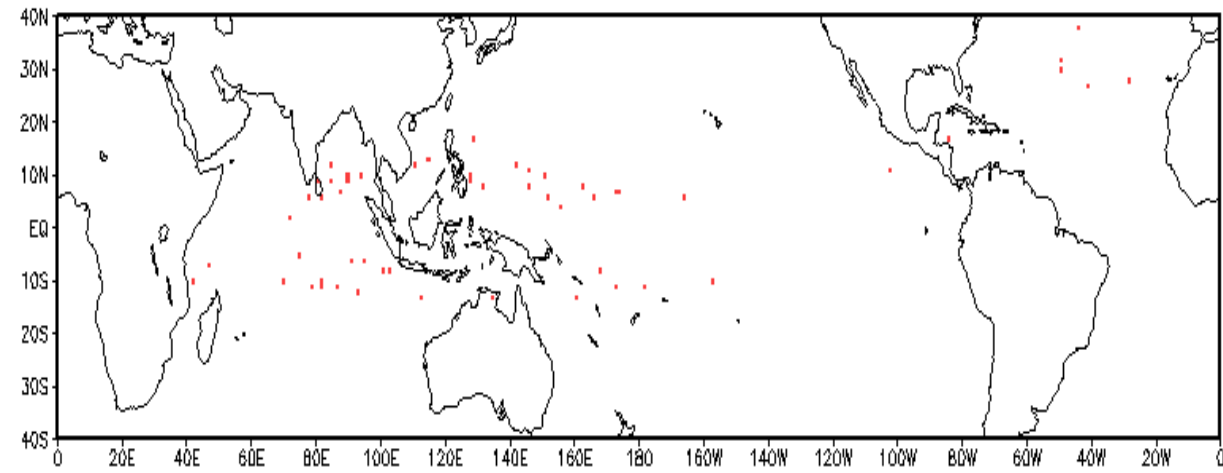
UWND850 7-Day Means



TC Climatological Genesis: Weeks 2 & 3

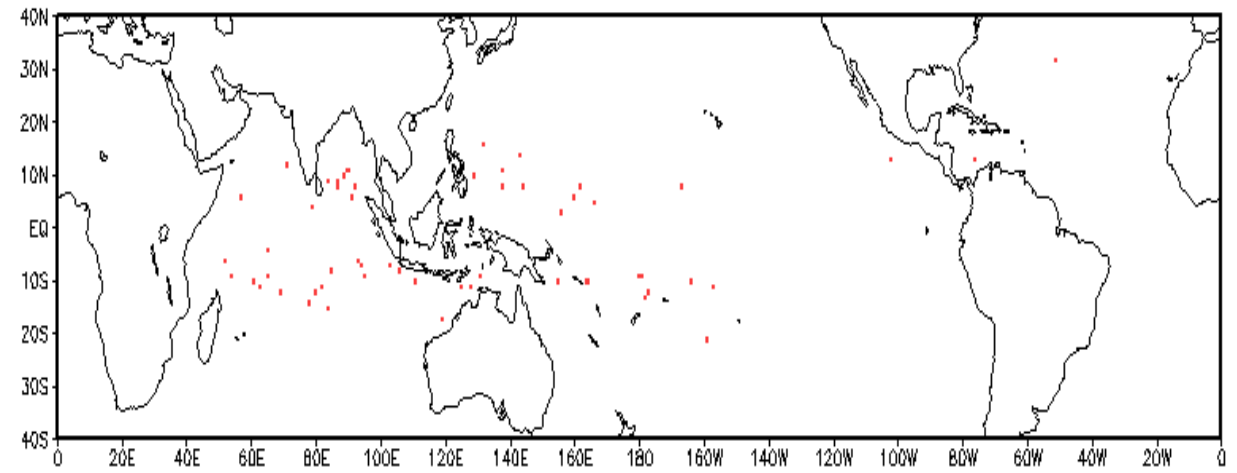
Observed TC Genesis, 1979–2021

7-day Period 1123 to 1129



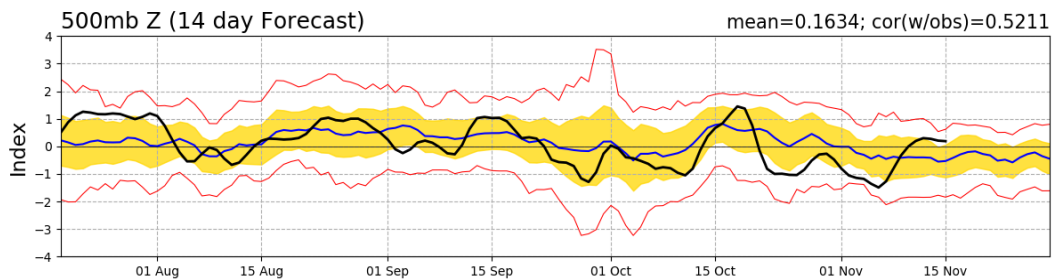
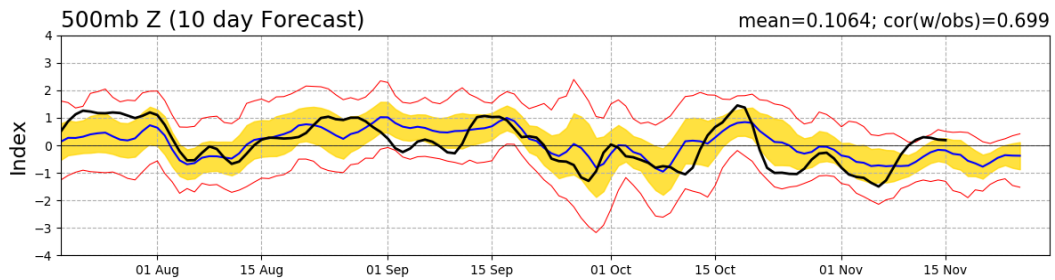
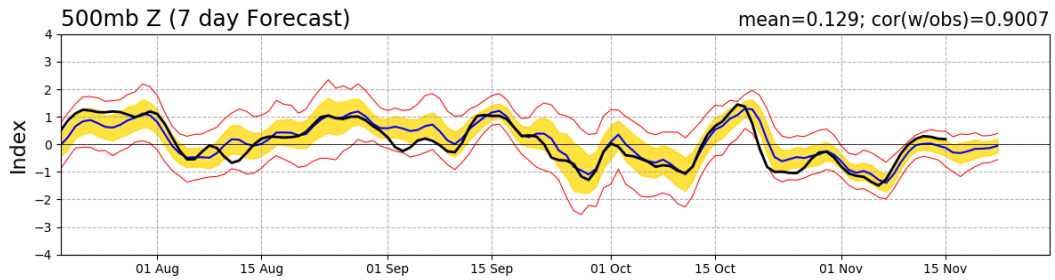
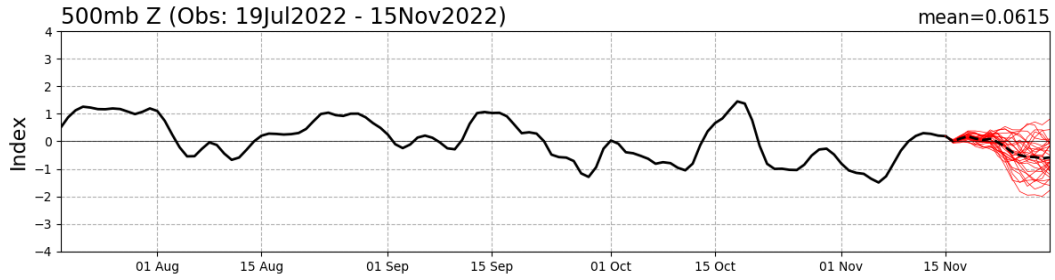
Observed TC Genesis, 1979–2021

7-day Period 1130 to 1206

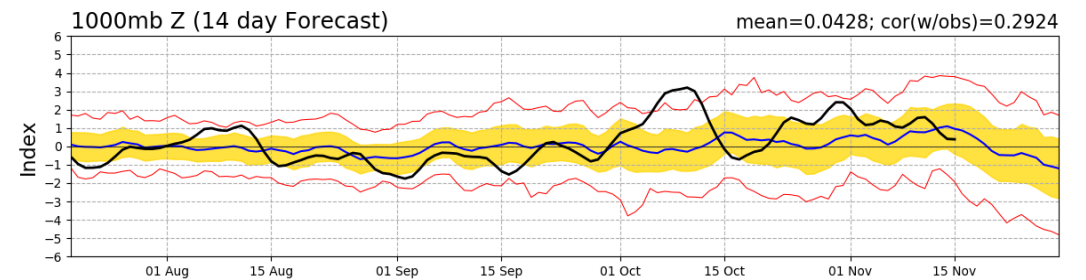
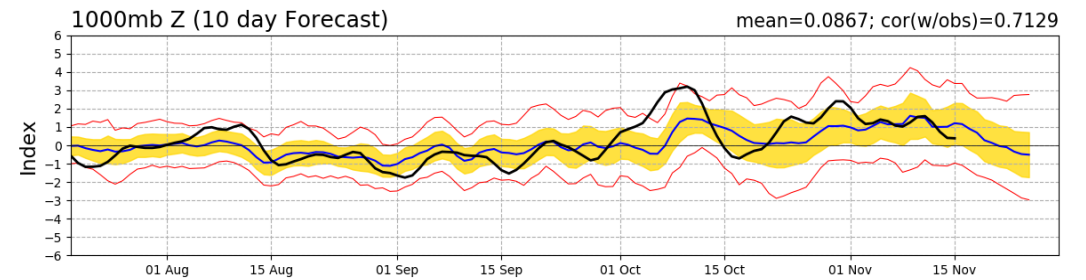
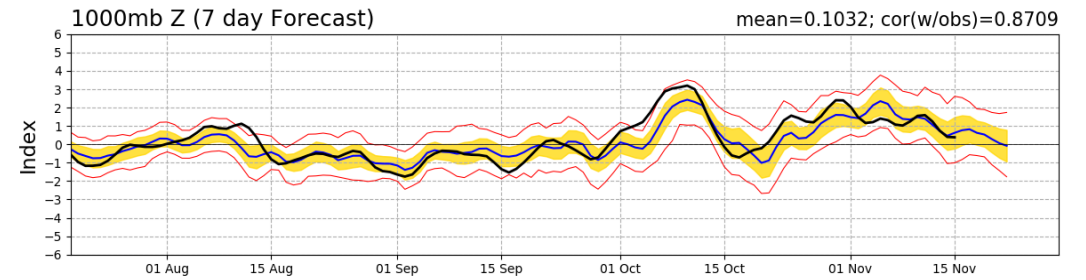
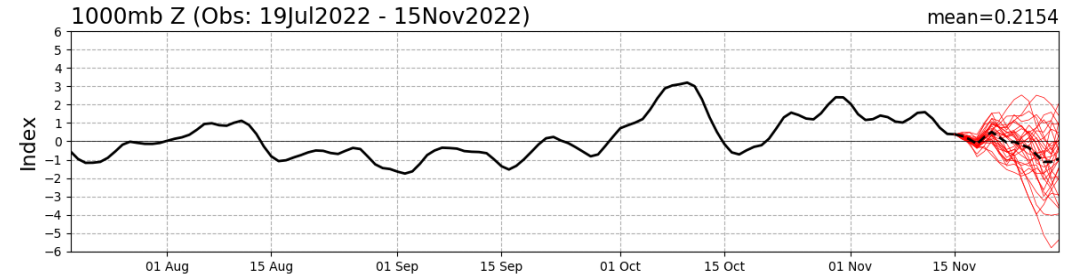


Teleconnection Indices: PNA / AO:

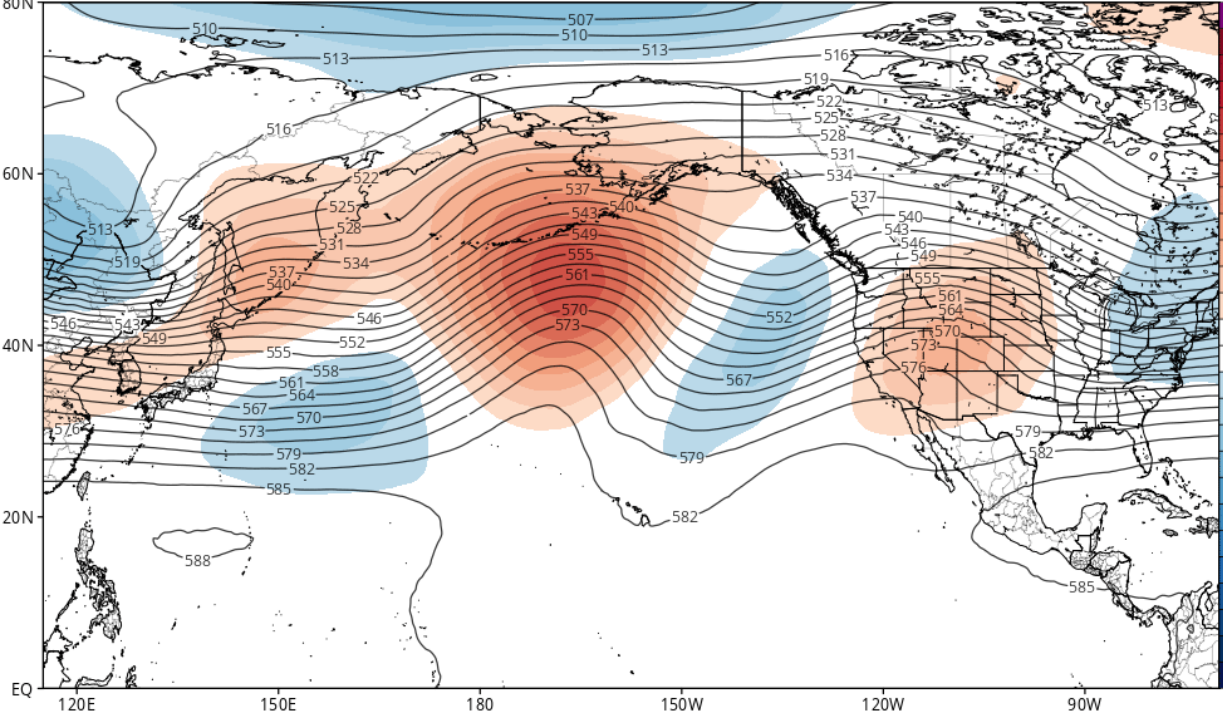
PNA Index: Observed & GEFS Forecasts



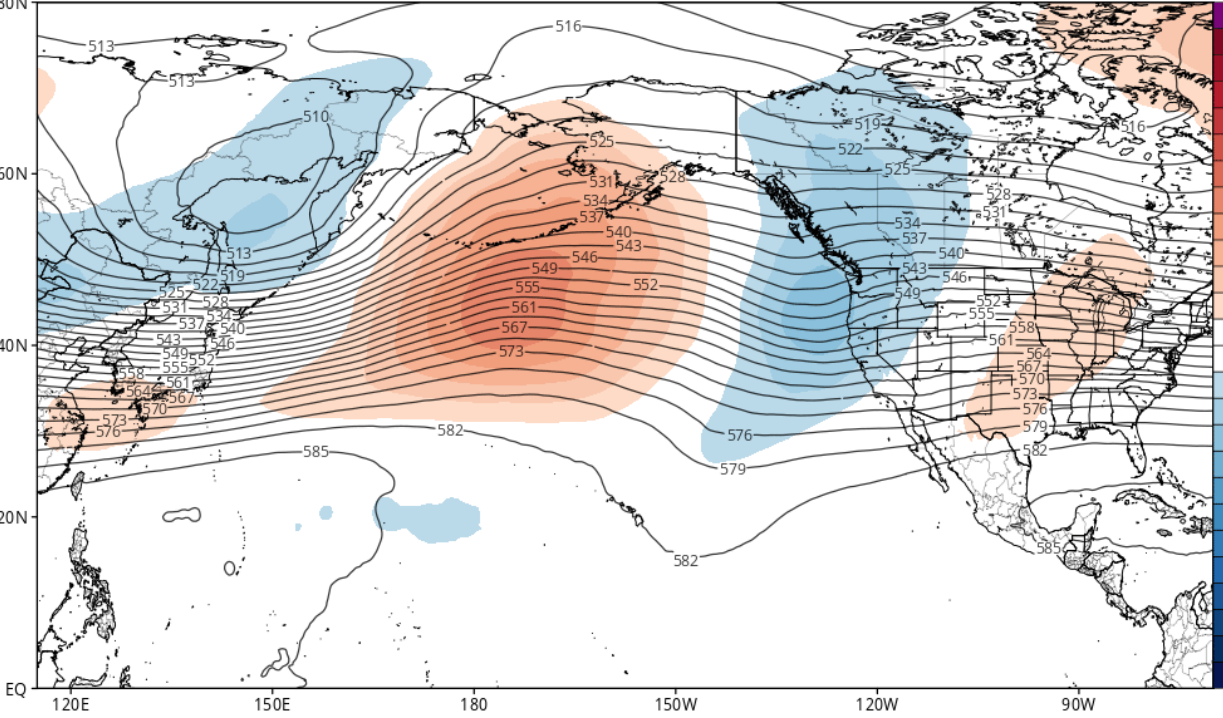
AO Index: Observed & GEFS Forecasts



GEFS 500mb Geopotential Height & Anomaly (dam) (based on CFSR 1981-2010 Climatology)
Init: 00z Nov 15 2022 Forecast Hour: [252] valid at 12z Fri, Nov 25 2022

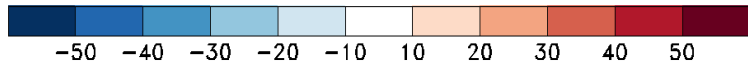
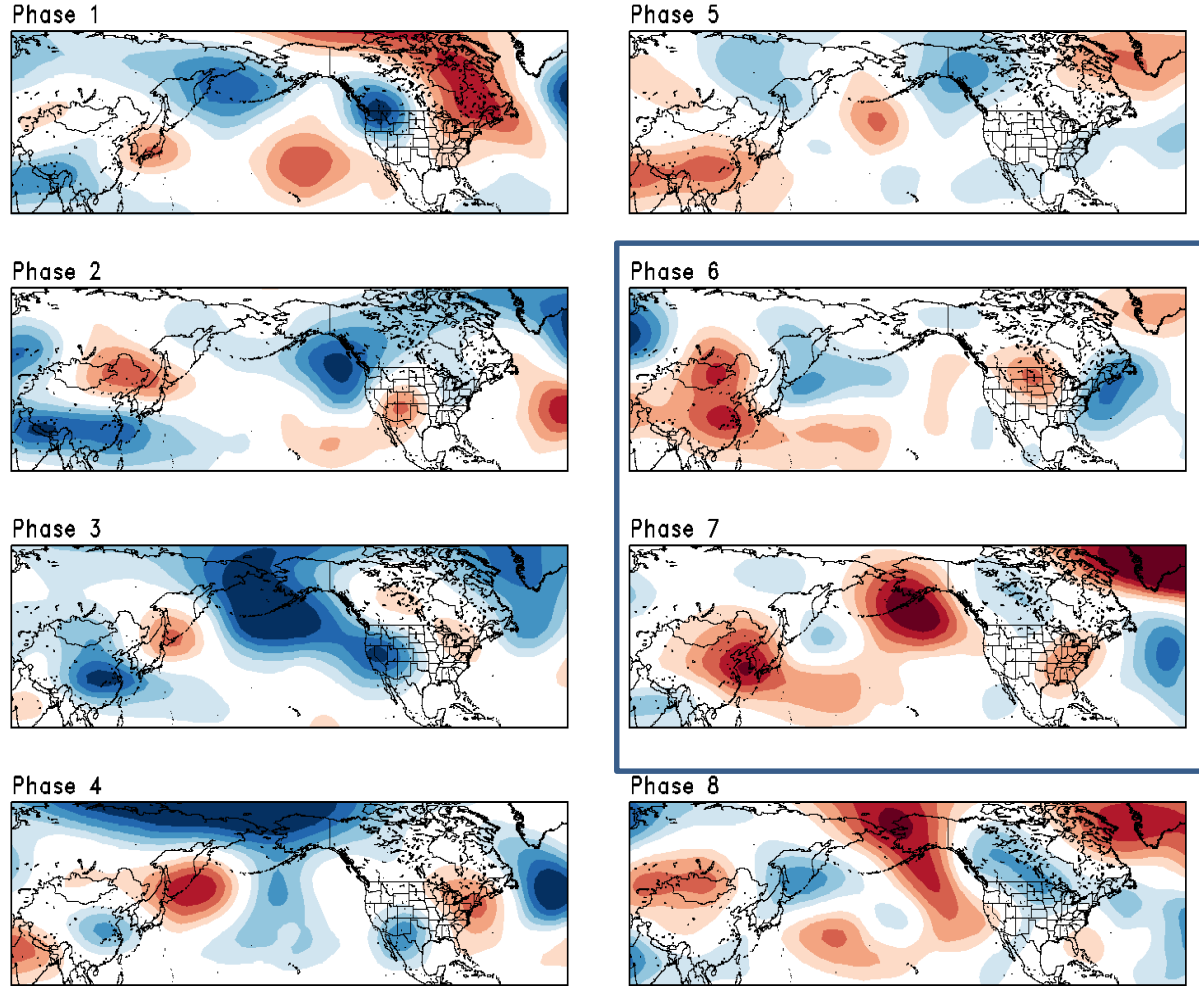


GEFS 500mb Geopotential Height & Anomaly (dam) (based on CFSR 1981-2010 Climatology)
Init: 00z Nov 15 2022 Forecast Hour: [384] valid at 00z Thu, Dec 01 2022

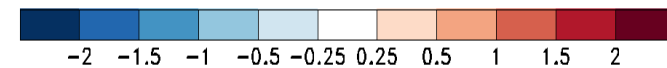
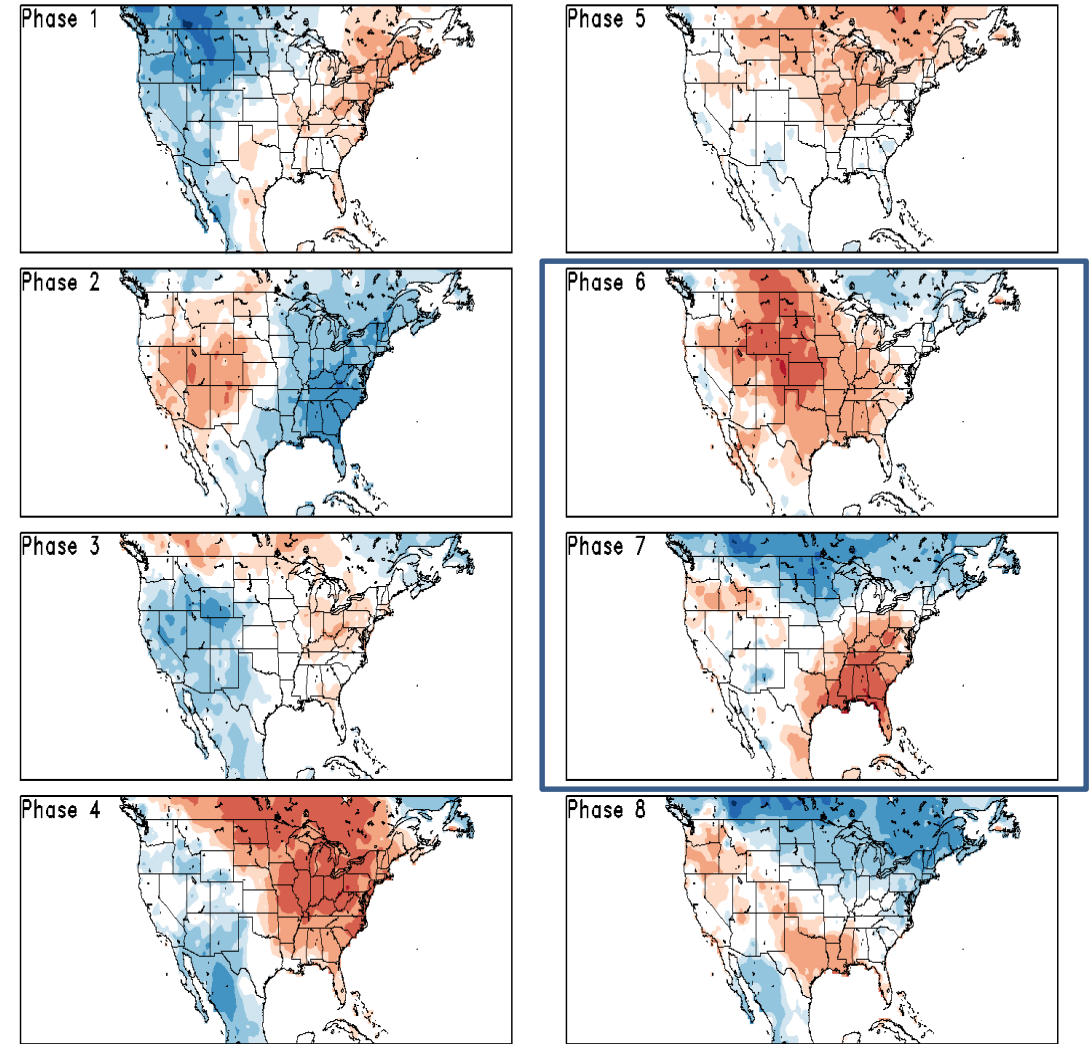


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

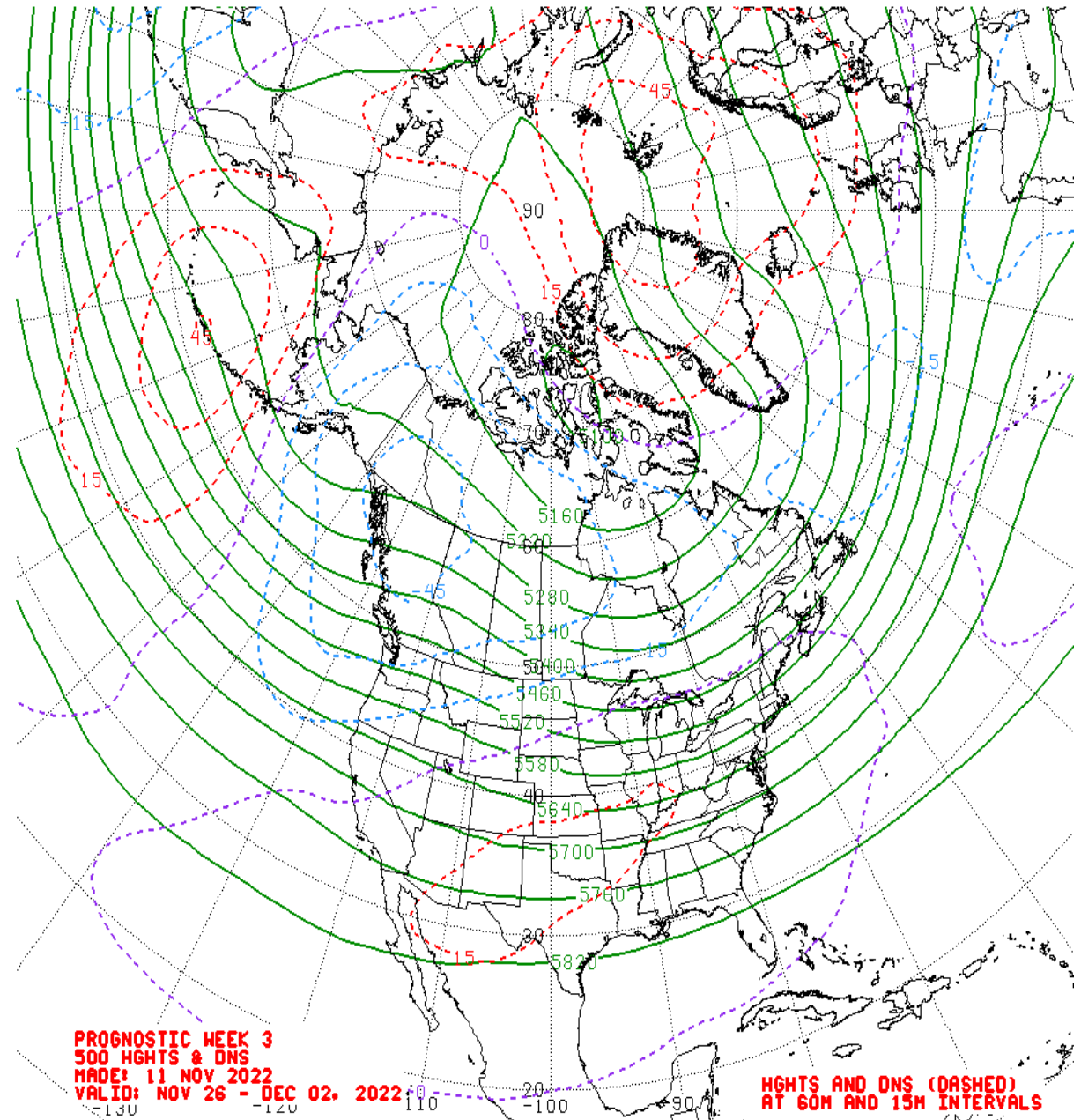
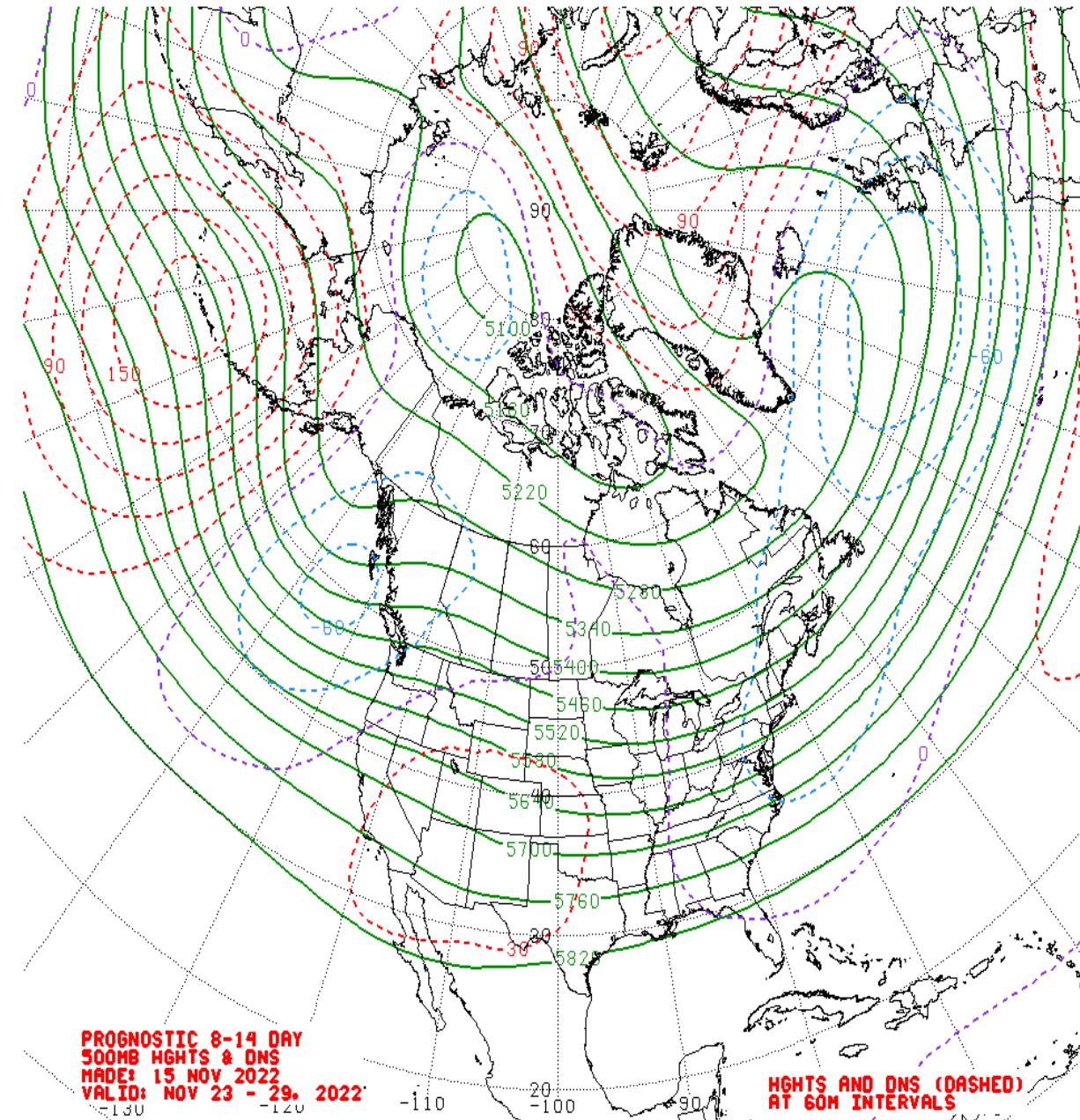
OND MJO Composite: CDAS 200-hPa Height (m)



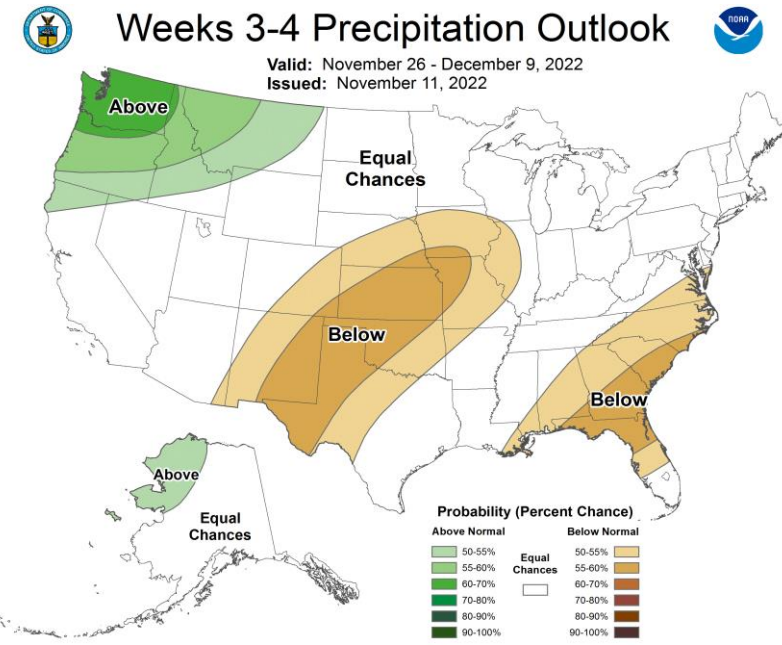
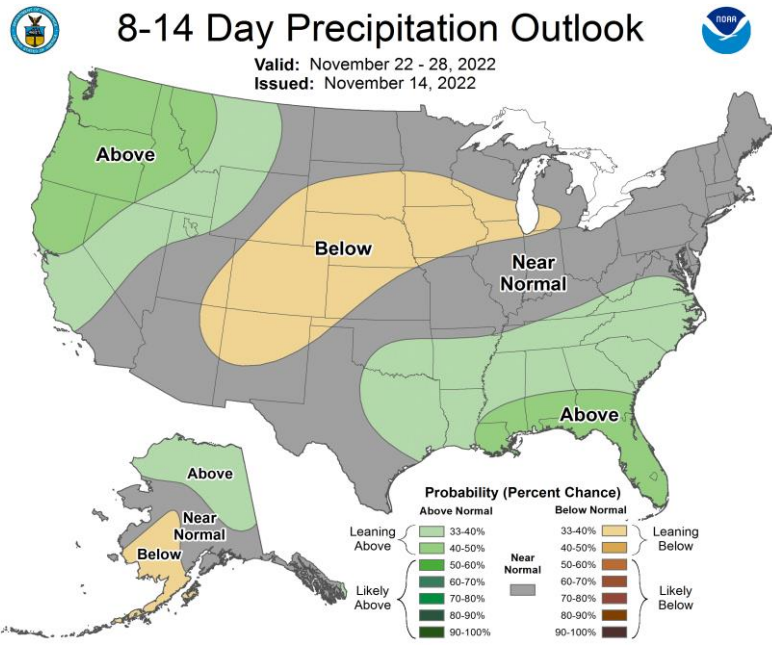
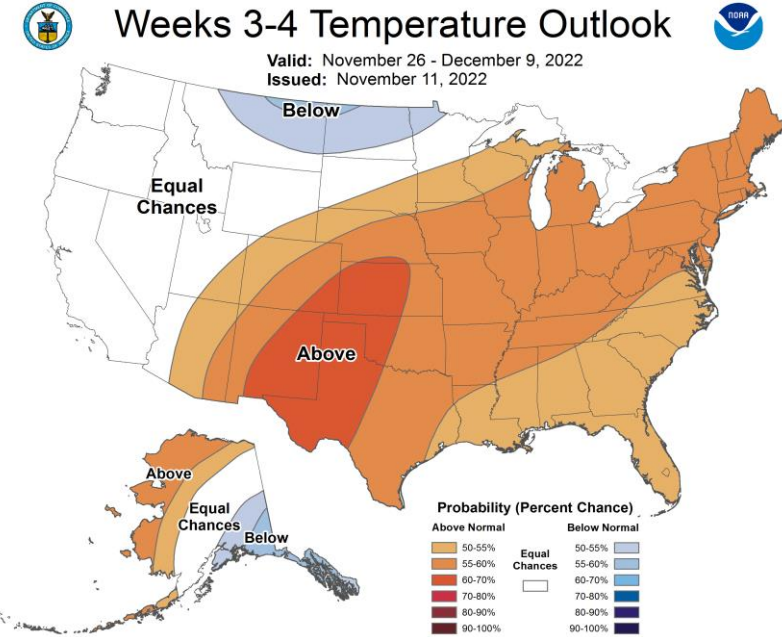
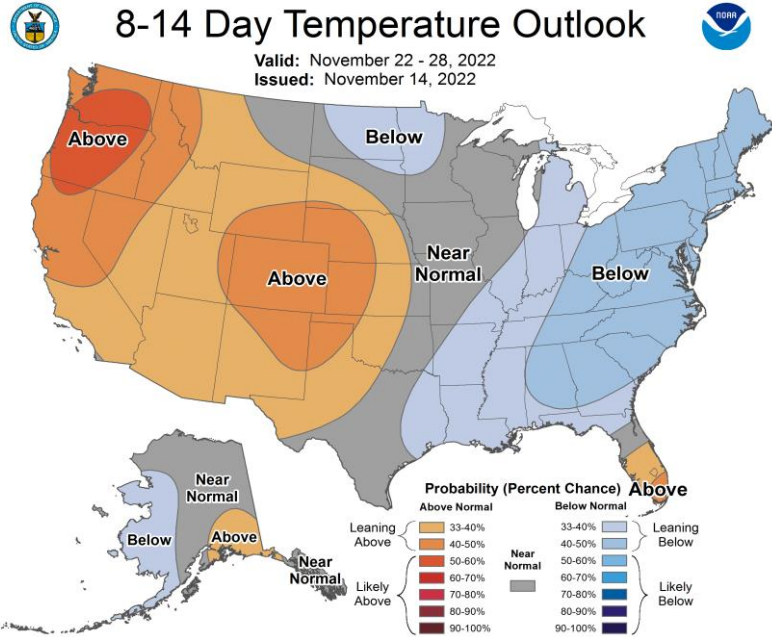
OND MJO Composite: GLBT (degC)



Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:



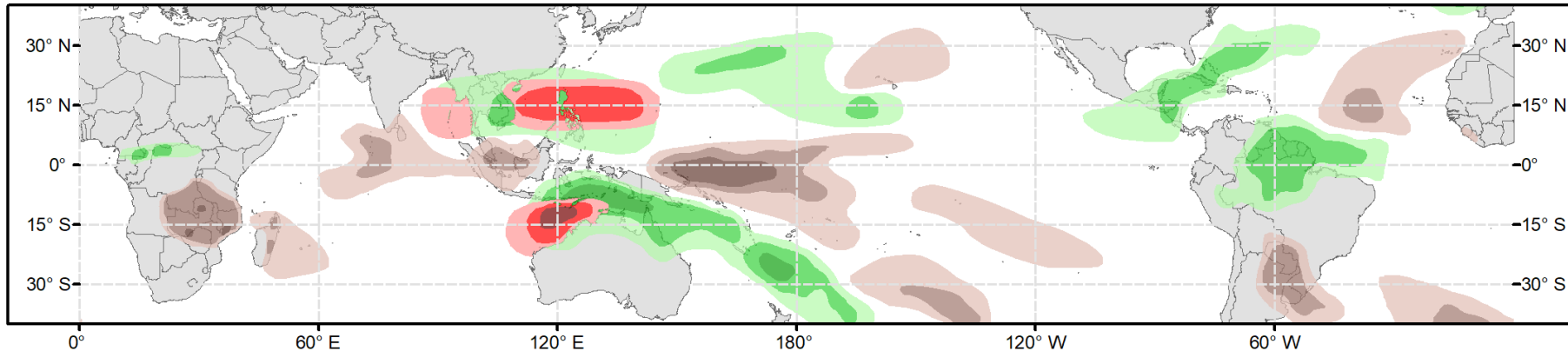


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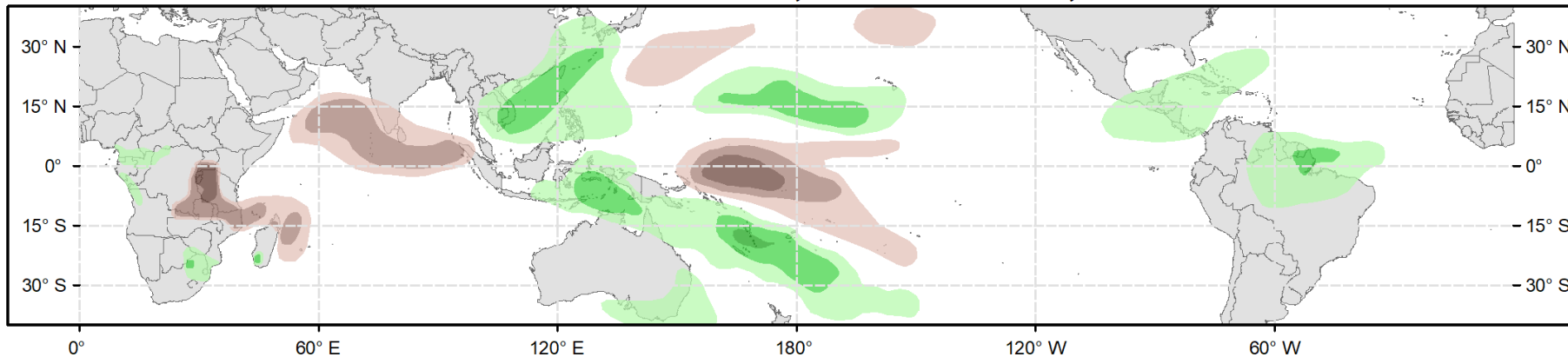
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