



Weeks 2-3 Global Tropics Hazards Outlook

10/4/2022

Thomas Collow

NWS / NCEP / Climate Prediction Center

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

TCs formed in the past week

North Atlantic

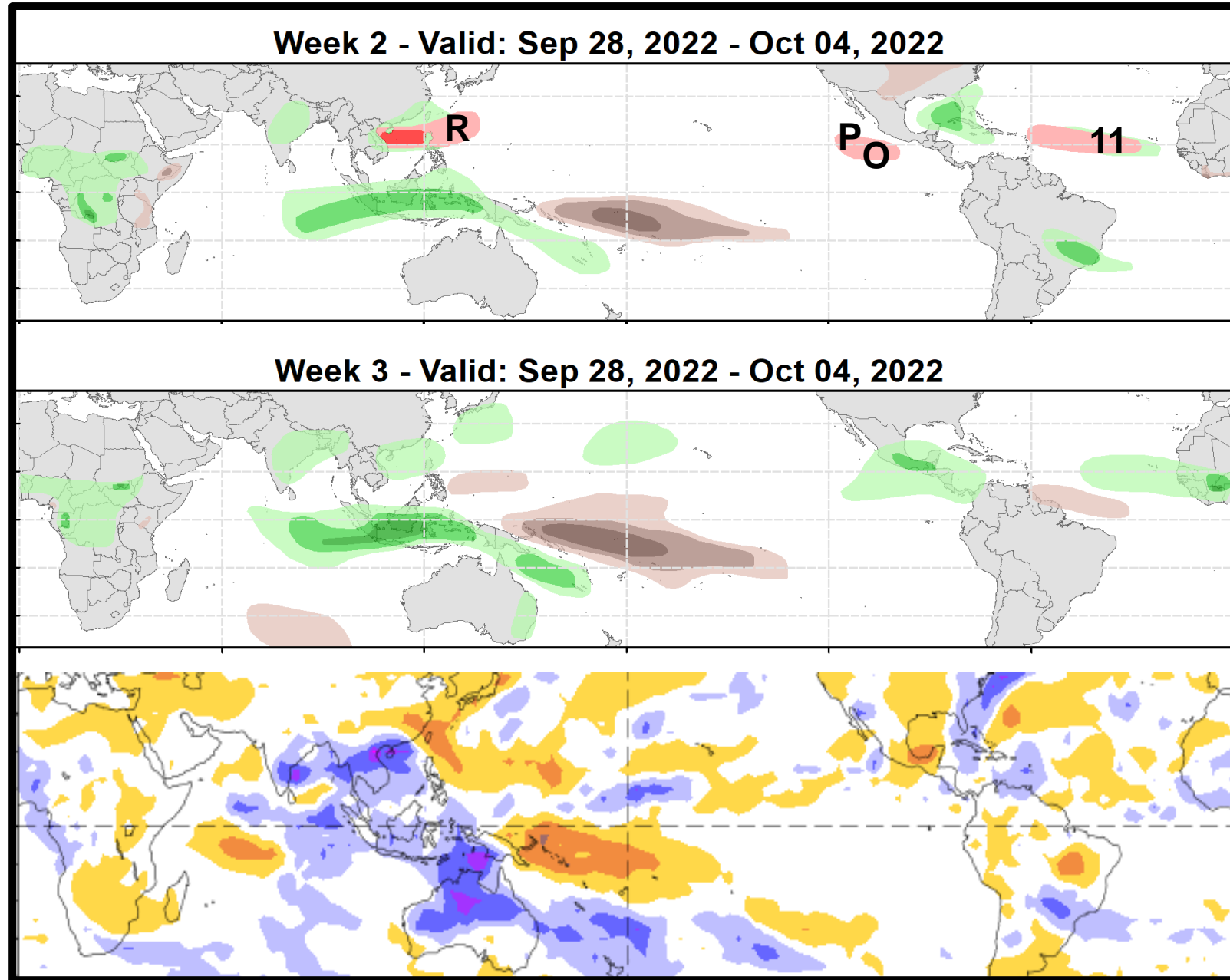
- TD-Eleven (9/28)

Northeast Pacific

- Hurricane Orlene (9/29)
- Tropical Storm Paine (10/3)

Northwest Pacific

- Typhoon Roke (9/28)



Synopsis of Climate Modes:

ENSO: (Sep 8, 2022 Update) *next update on Thursday, Oct 13th*

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is favored to continue through Northern Hemisphere winter 2022-23, with a 91% chance in Sep-Nov, decreasing to a 54% chance in Jan-Mar 2023.

MJO and other subseasonal tropical variability:

- The Madden Julian Oscillation (MJO) has been inactive for much of September, with the RMM-based index remaining within the unit circle.
- Dynamical model guidance, particularly the GEFS and ECMWF ensembles, depict an amplifying MJO signal emerging across the Maritime Continent and propagating eastward into the western Pacific over the next 2 weeks.
- There is uncertainty as to whether or not the intraseasonal signal will be able to continue its eastward propagation across the Pacific due to interference with the ongoing La Nina, with some members depicting a weakening MJO signal over the west-central Pacific, while others support continued eastward propagation into phase 8 by the end of October.

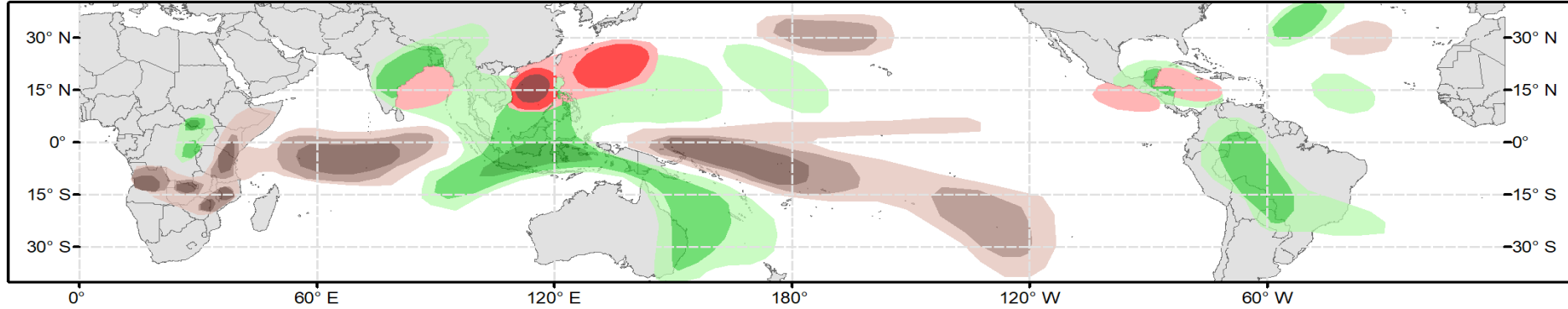
GTH Outlook:



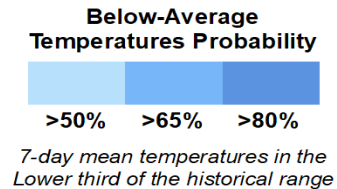
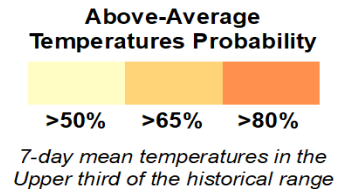
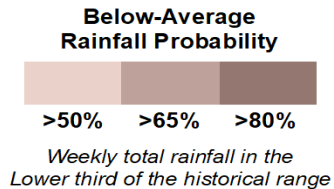
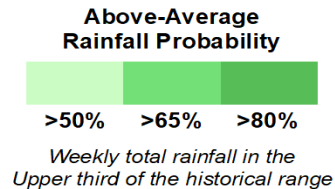
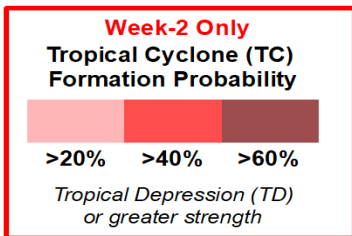
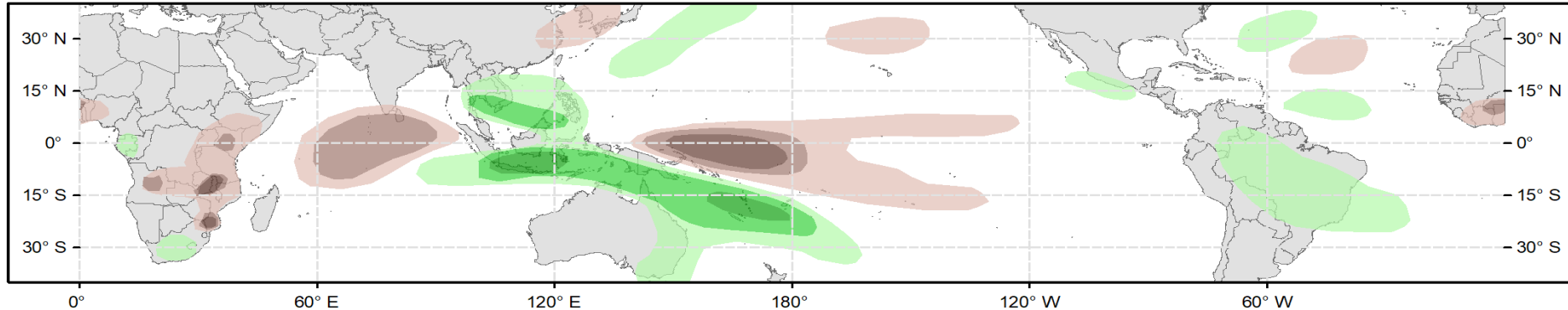
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Oct 12, 2022 - Oct 18, 2022



Week 3 - Valid: Oct 19, 2022 - Oct 25, 2022

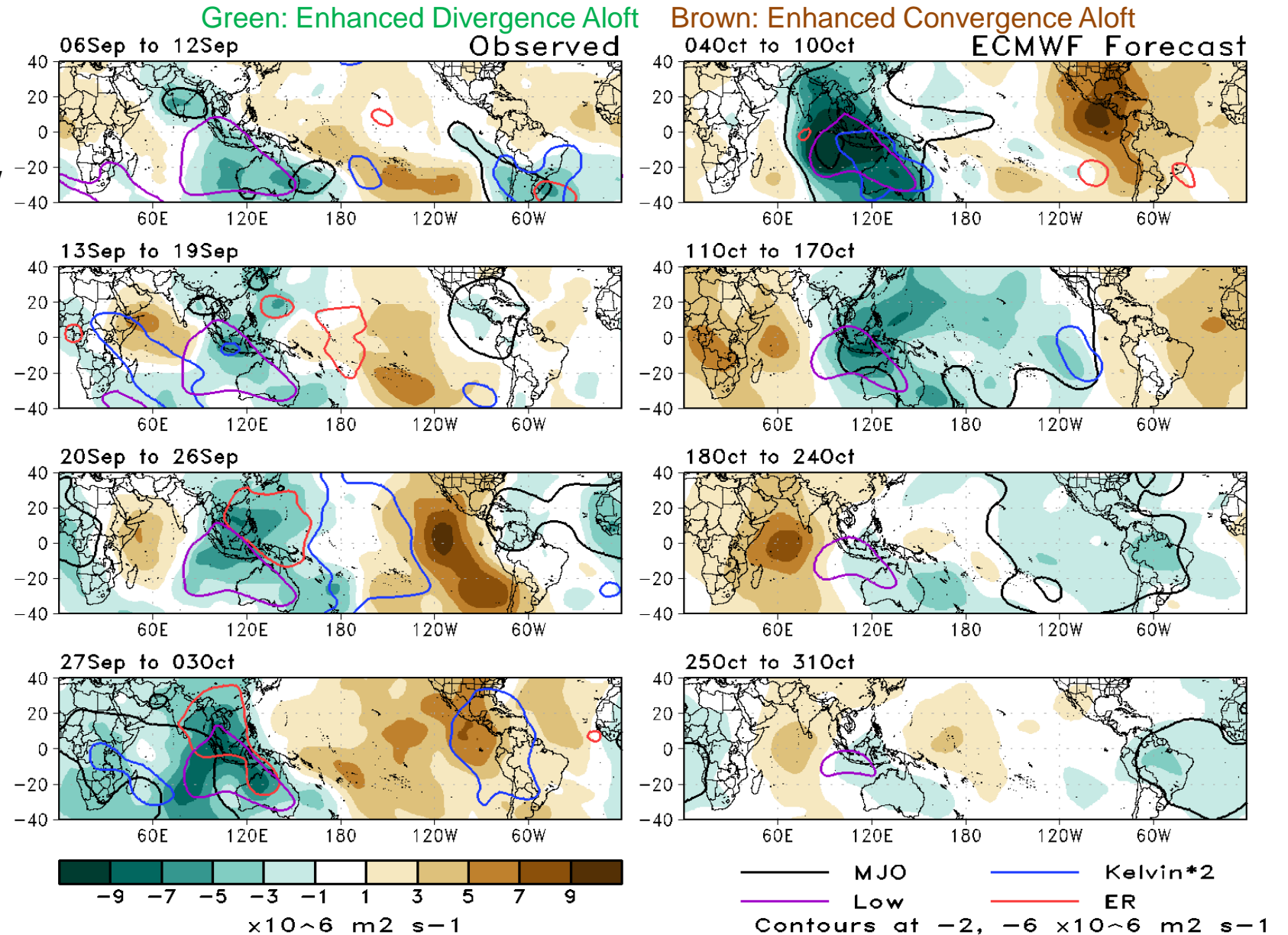


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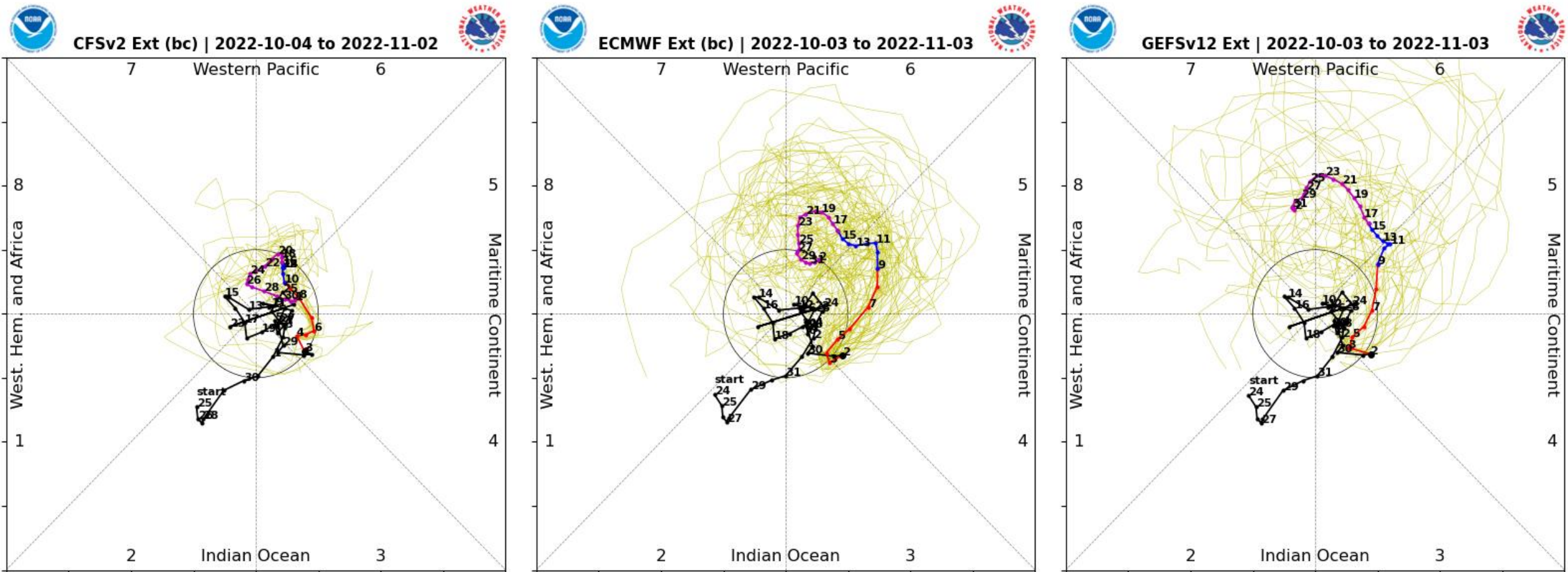
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Convective envelope has been nearly stationary for the past few weeks, but has become more organized into a wave-1 asymmetry pattern.
- As of last week, enhanced (suppressed) convection is noted across much of the Eastern (Western) Hemisphere.
- The ECMWF ensemble depicts a robust MJO propagation across the Pacific through the end of October (other models are not as aggressive).

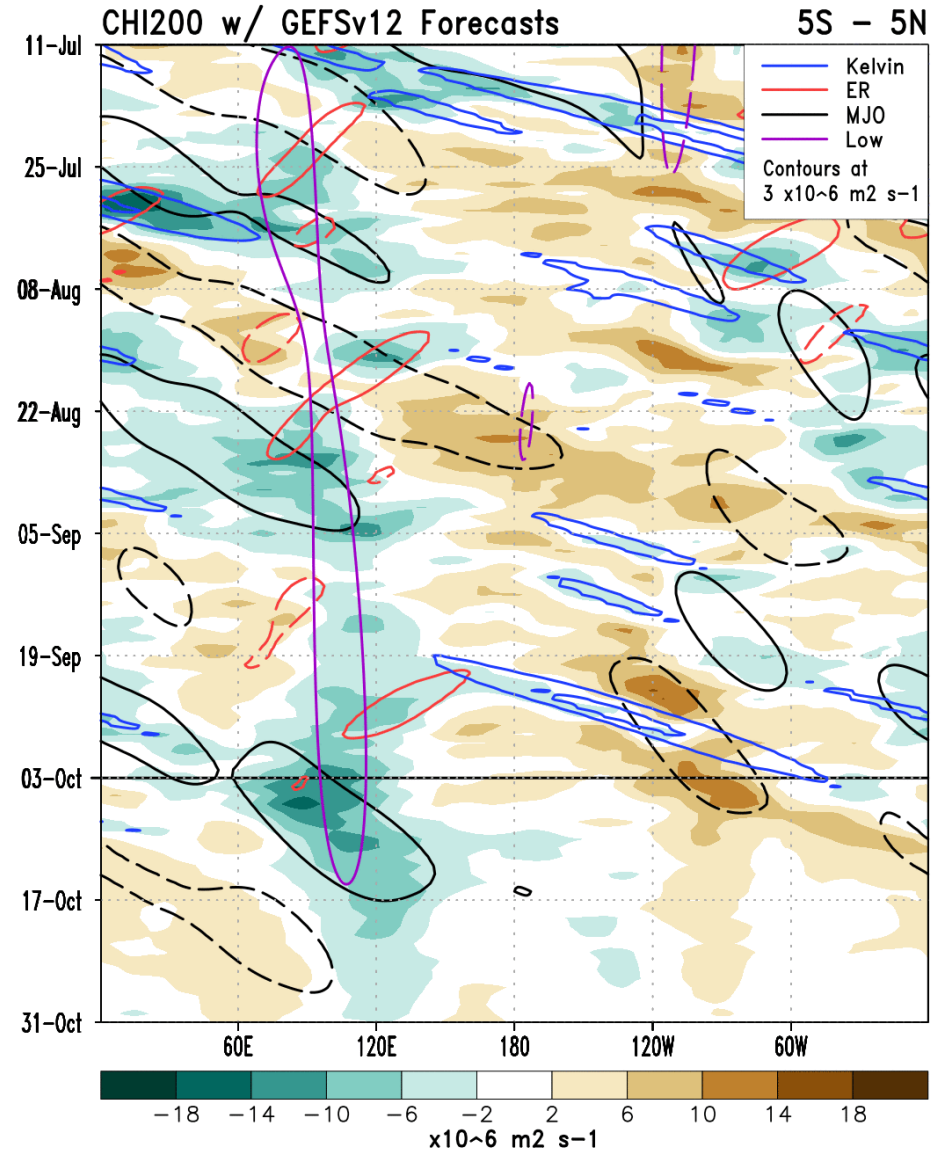
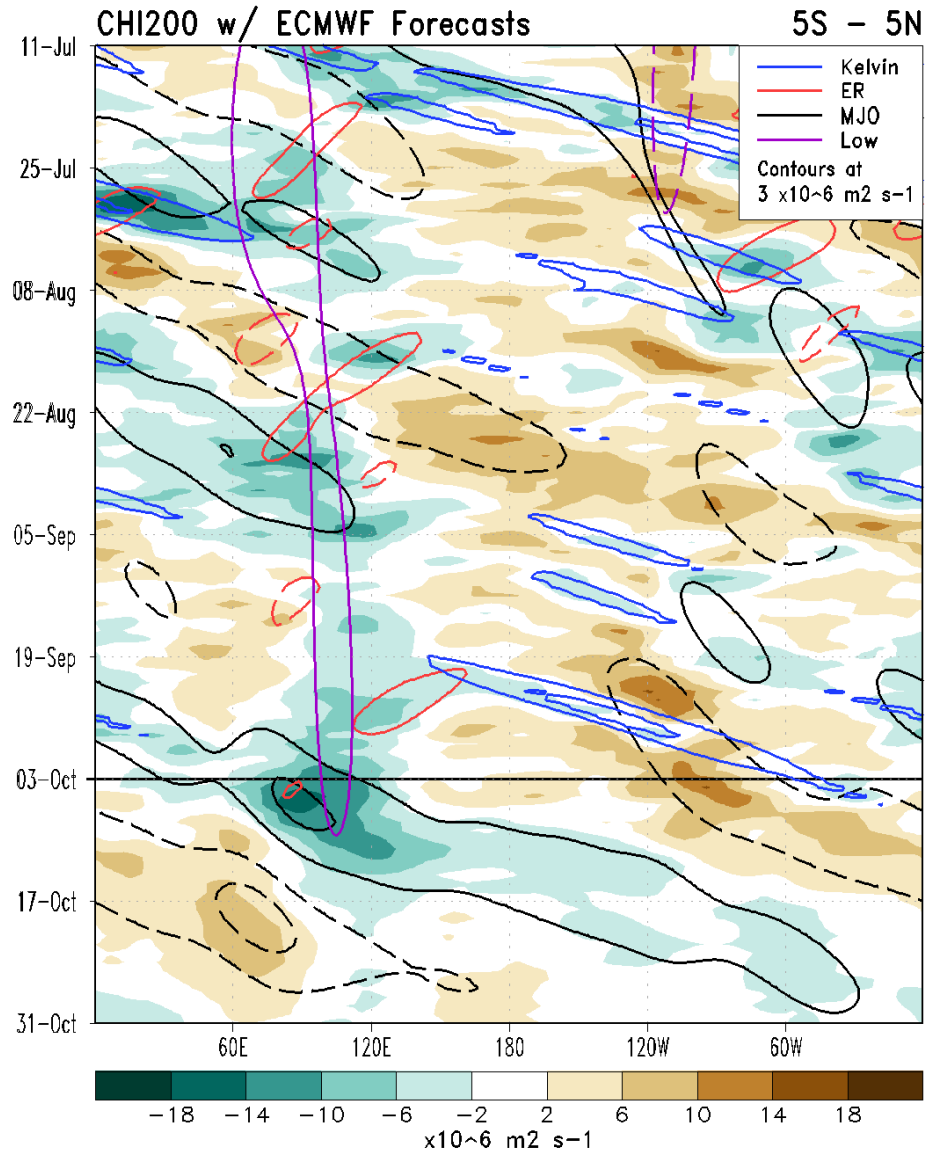


RMM Index Observations & Forecasts:



- The ECMWF and GEFS ensembles are quite robust with the eastward propagation of the MJO into the West Pacific (phases 6 and 7), with a much weaker signal noted in the CFS.
- Ensemble spread is very high indicating greater than normal uncertainty, with some members returning the RMM-based index to the unit circle by mid-October, and others continuing to propagate the signal into the Atlantic by the end of the month.

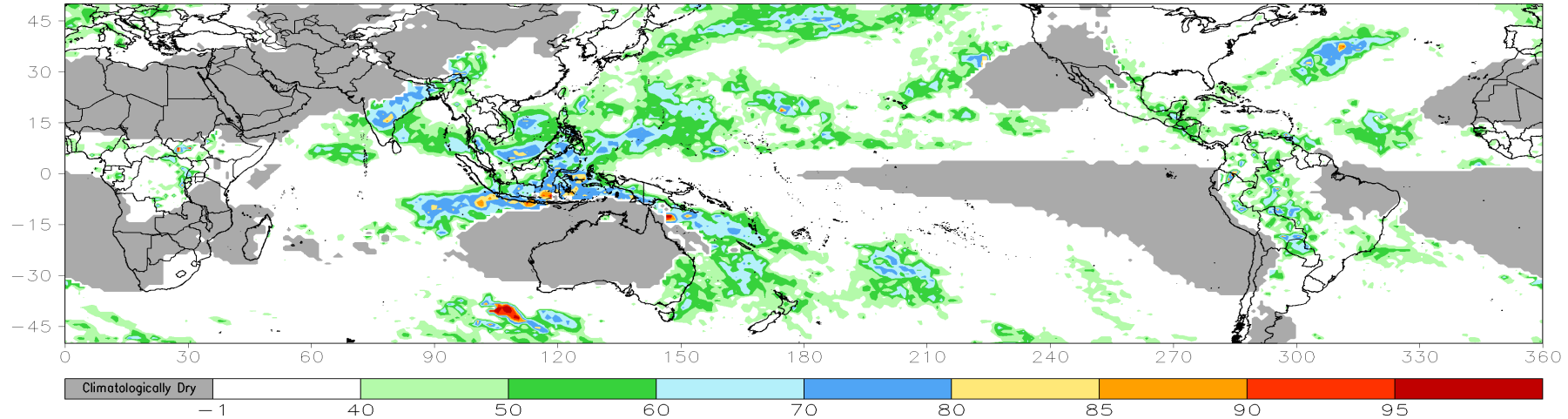
Upper-level Velocity Potential (CHI200) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Week-2

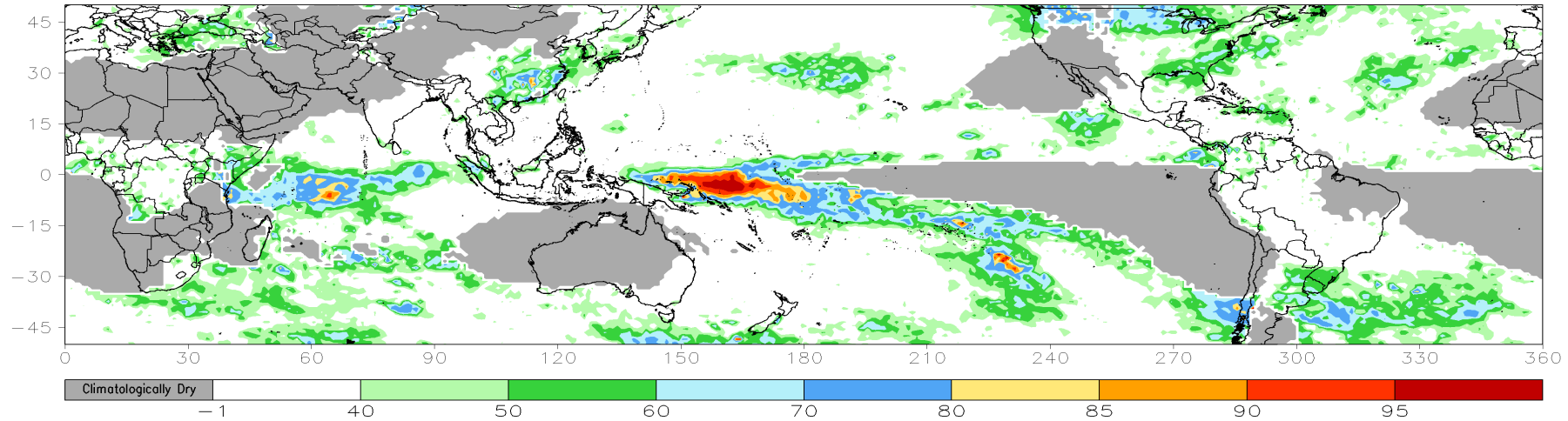
CONS 00z: Week2 Probability for Total Rainfall Above Upper Tercile (%)

Valid: 120ct2022–180ct2022



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

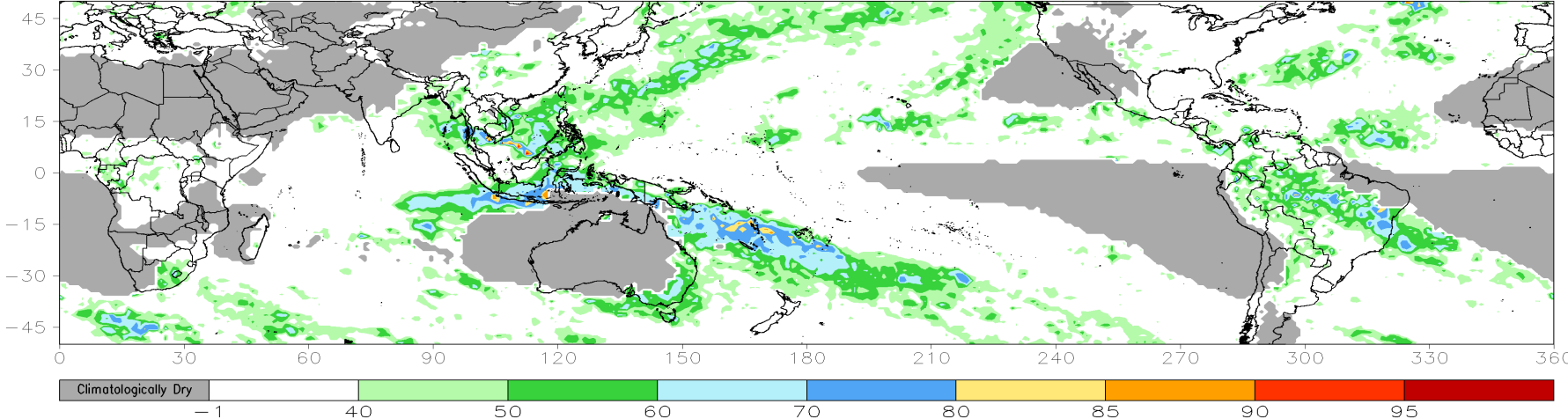
Valid: 120ct2022–180ct2022



Consolidated Probabilistic Precipitation: Week-3

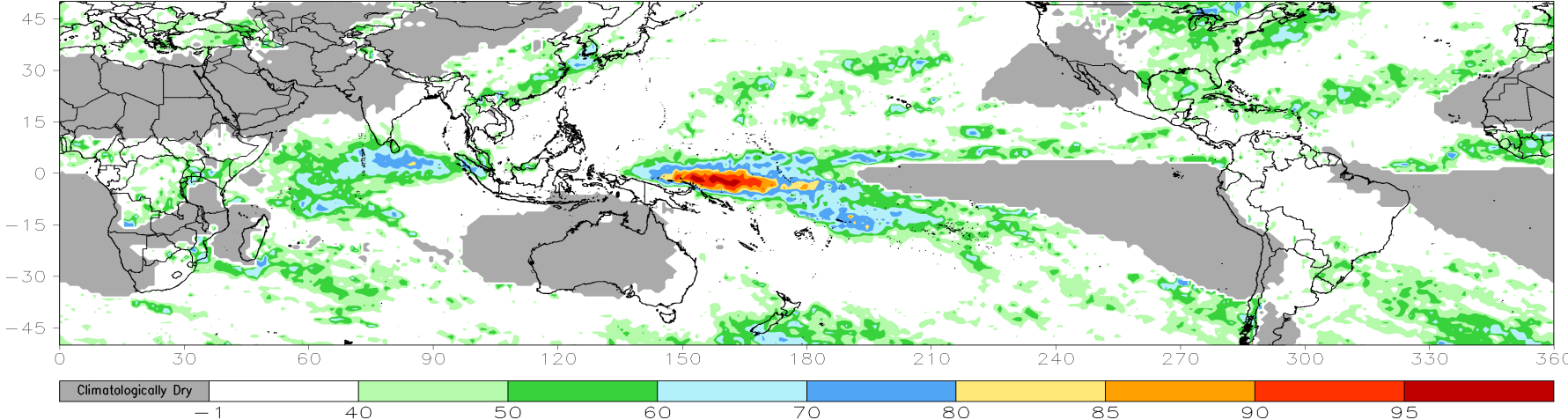
CONS 00z: Week3 Probability for Total Rainfall Above Upper Tercile (%)

Valid: 19Oct2022-25Oct2022



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

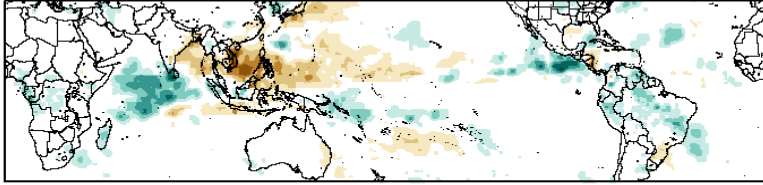
Valid: 19Oct2022-25Oct2022



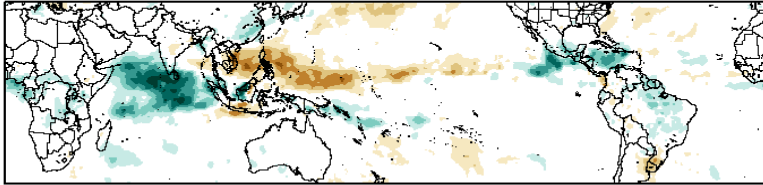
Historical Precipitation Anomalies By MJO Phase:

SON MJO Composite: GPCP1DD (mm/day)

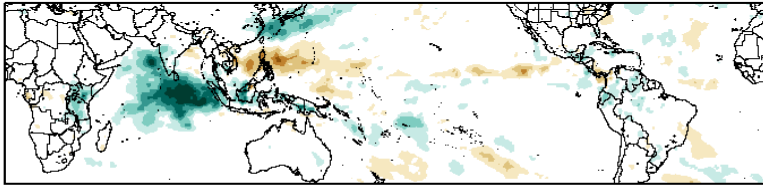
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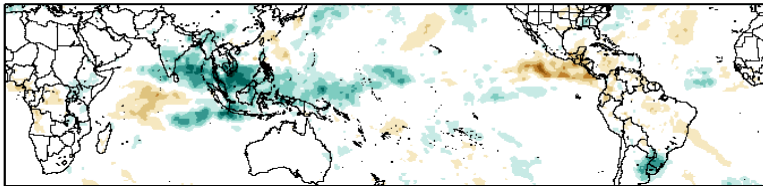
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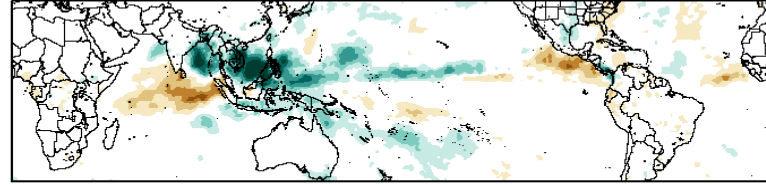
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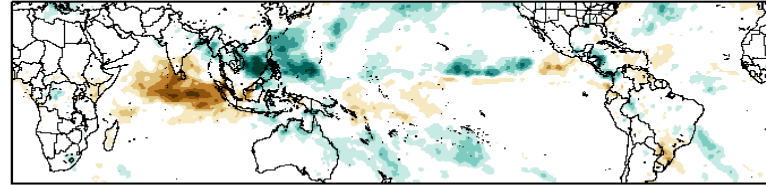
Phase 4



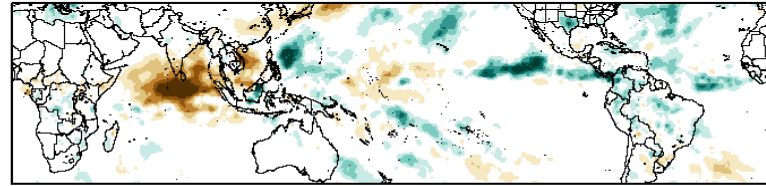
Phase 5



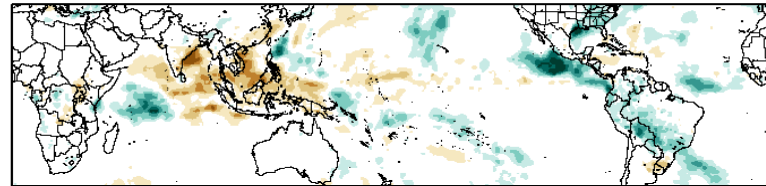
Phase 6



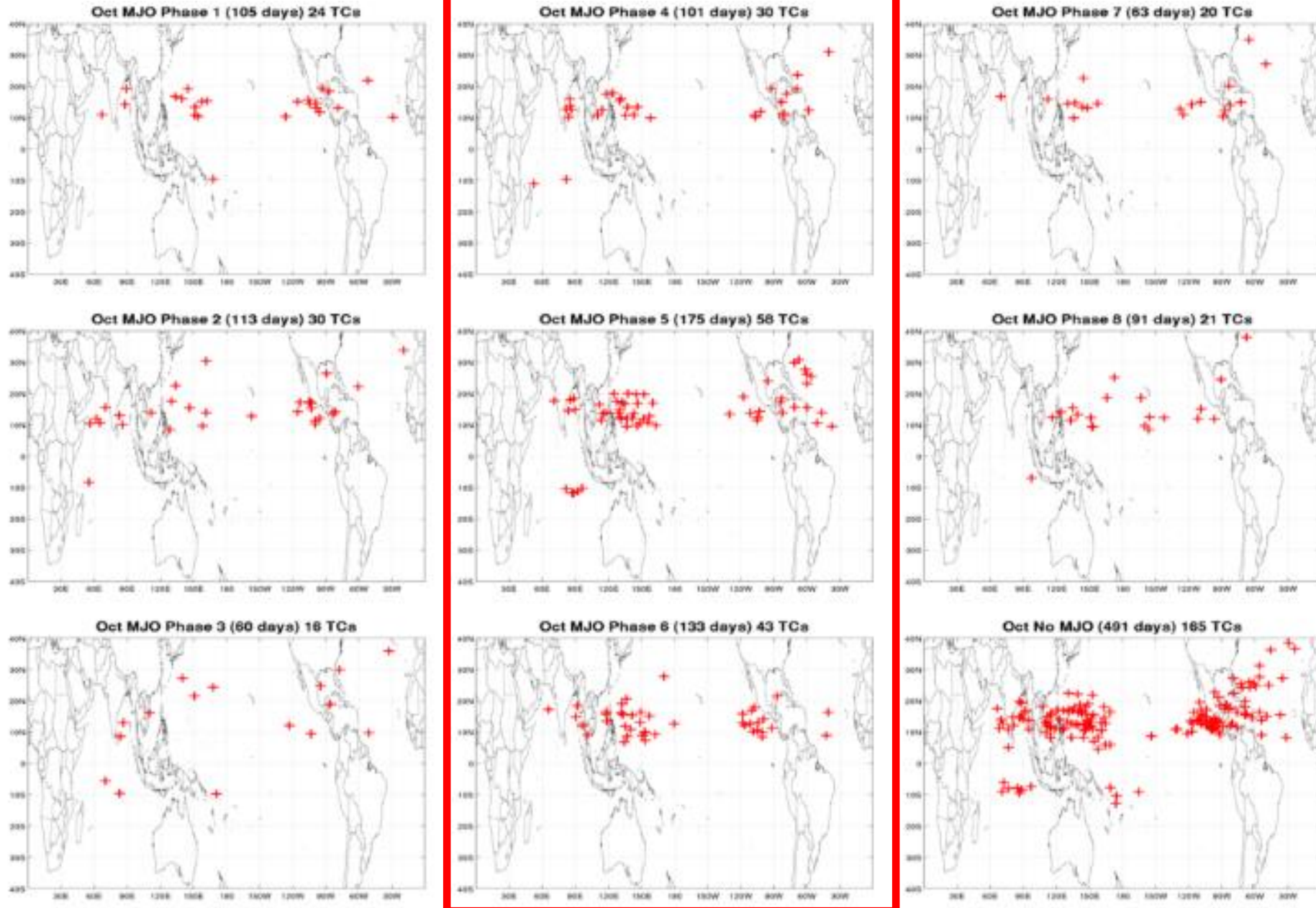
Phase 7

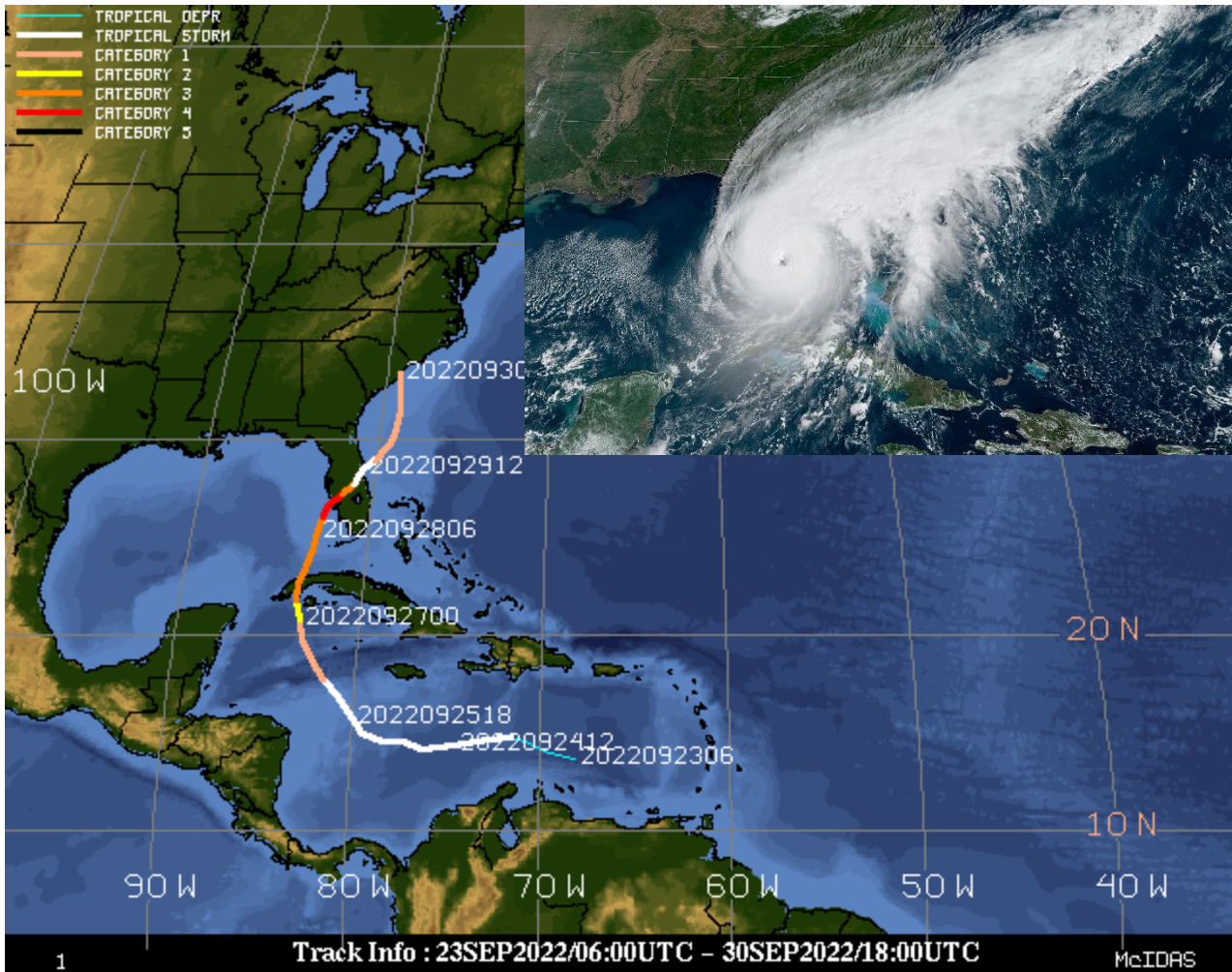


Phase 8



Historical TC Genesis Origins By MJO Phase:





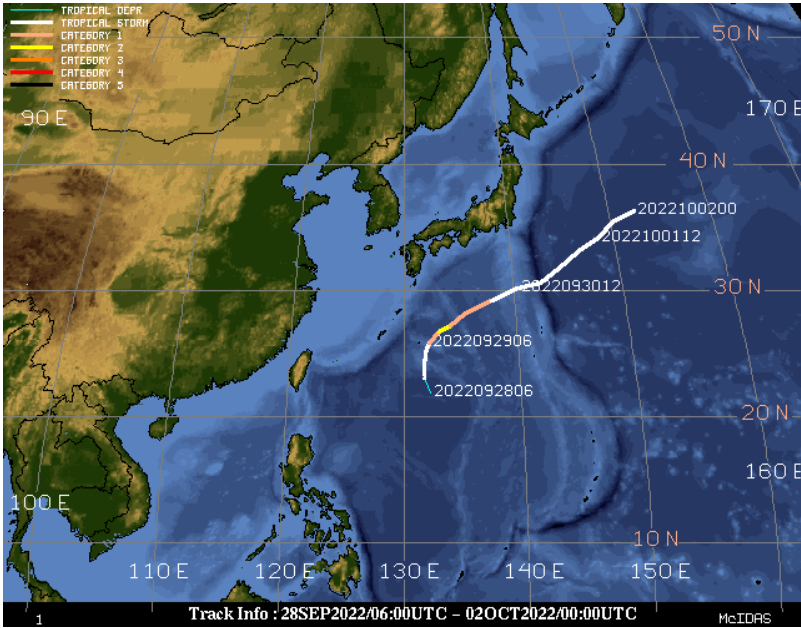
Hurricane Ian (formed 9/23)

Landfall 1 – 9/27, Pinar del Rio, Cuba – 125 mph (Category-3)

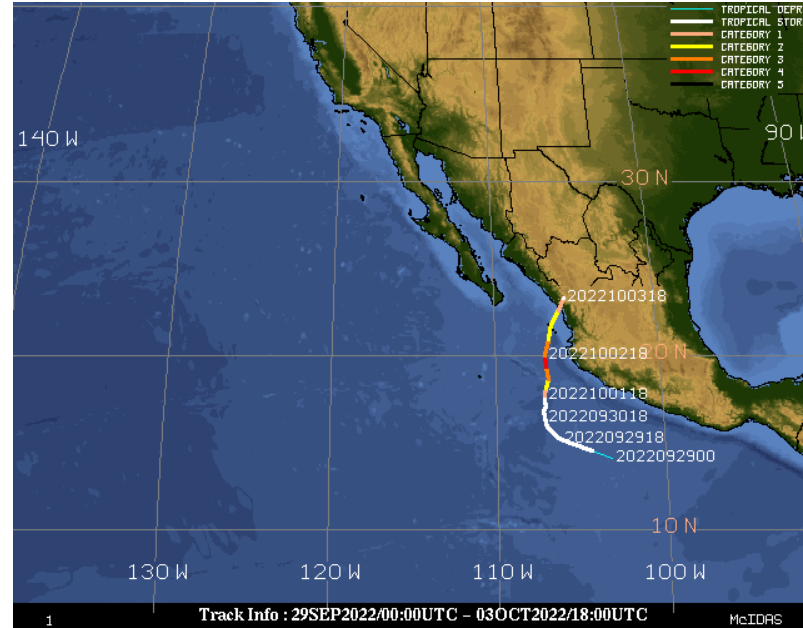
Landfall 2 – 9/28, Cayo Costa, FL – 150 mph (Category-4)

Landfall 3 – 9/30, Georgetown, SC – 85 mph (Category-1)

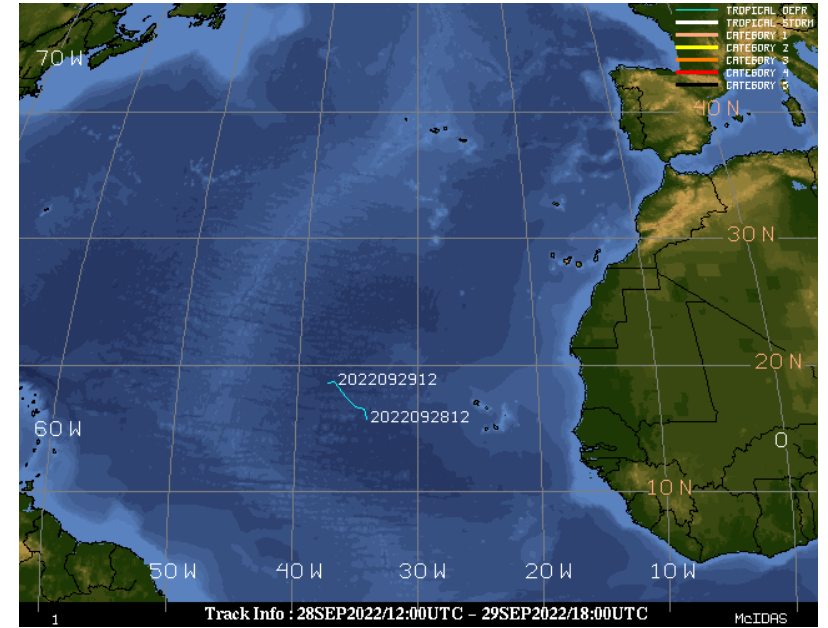
Typhoon Roke



Hurricane Orlene

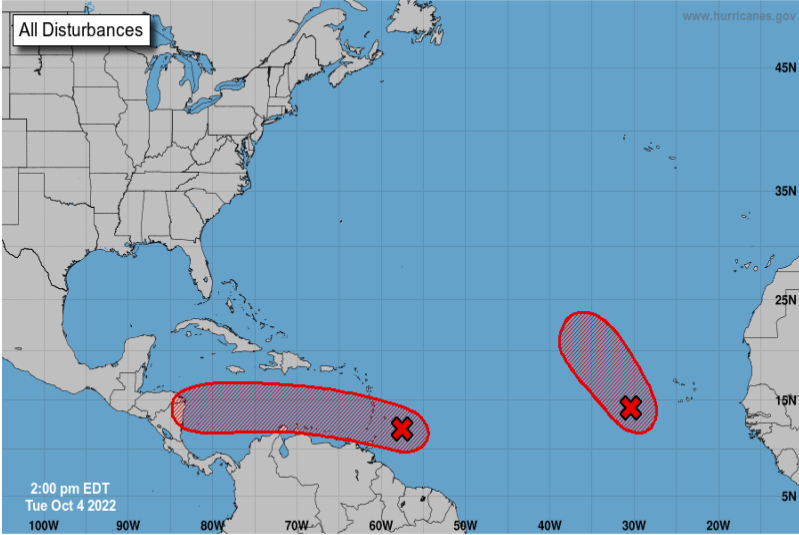


Tropical Depression Eleven



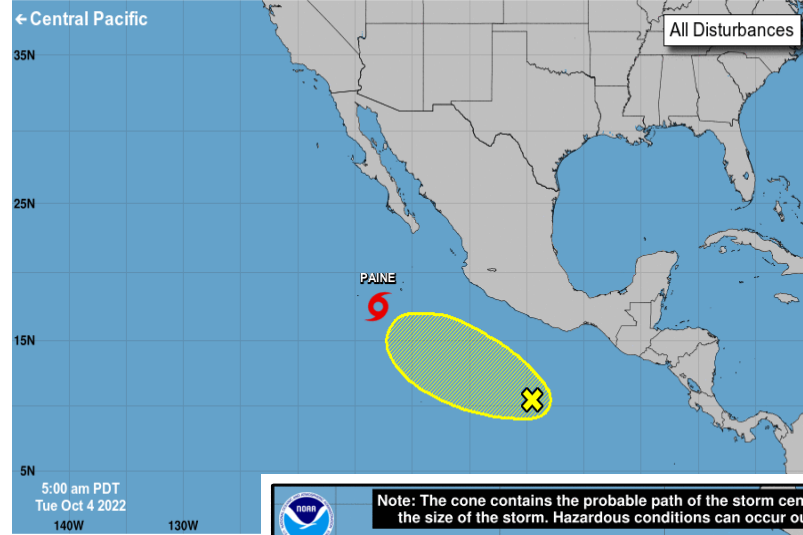
Tropical Cyclone Monitoring/Forecast: NHC

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



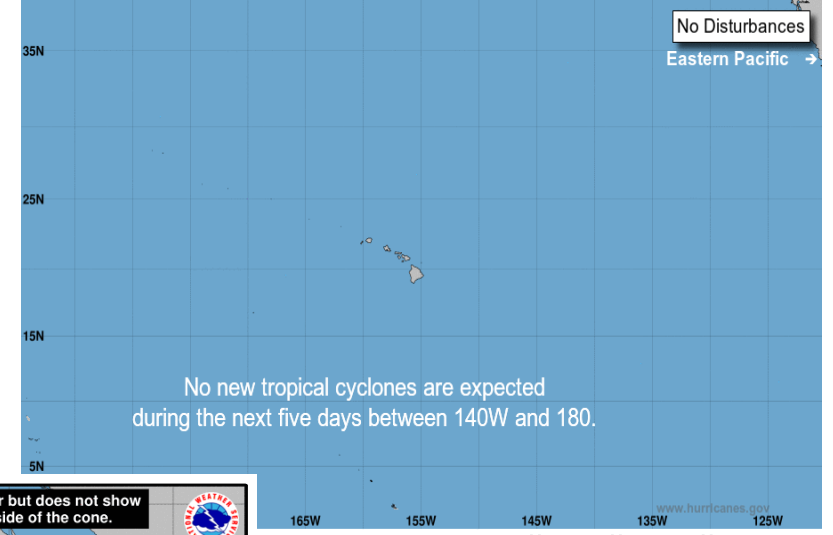
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%
Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane
 Post-Tropical Cyclone or Remnants

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



Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%
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Five-Day Graphical Tropical Weather Outlook
Central Pacific Hurricane Center Honolulu, Hawaii



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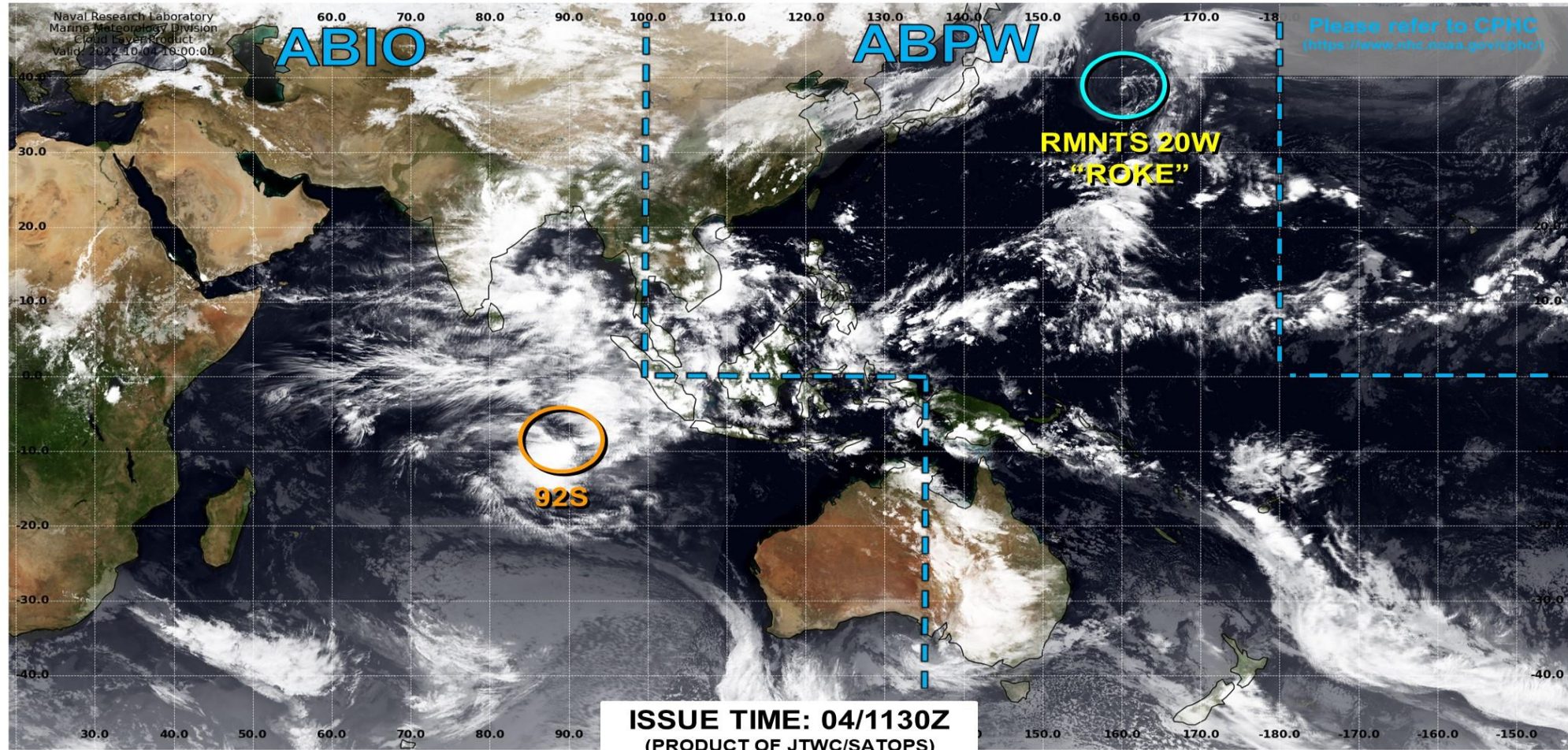
Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.

Tropical Storm Paine Tuesday October 04, 2022 9 AM MDT Advisory 4 NWS National Hurricane Center	Current information: x Center location 17.5 N 113.0 W Maximum sustained wind 40 mph Movement NW at 7 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 extent: Hurricane Trop Stm		

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)

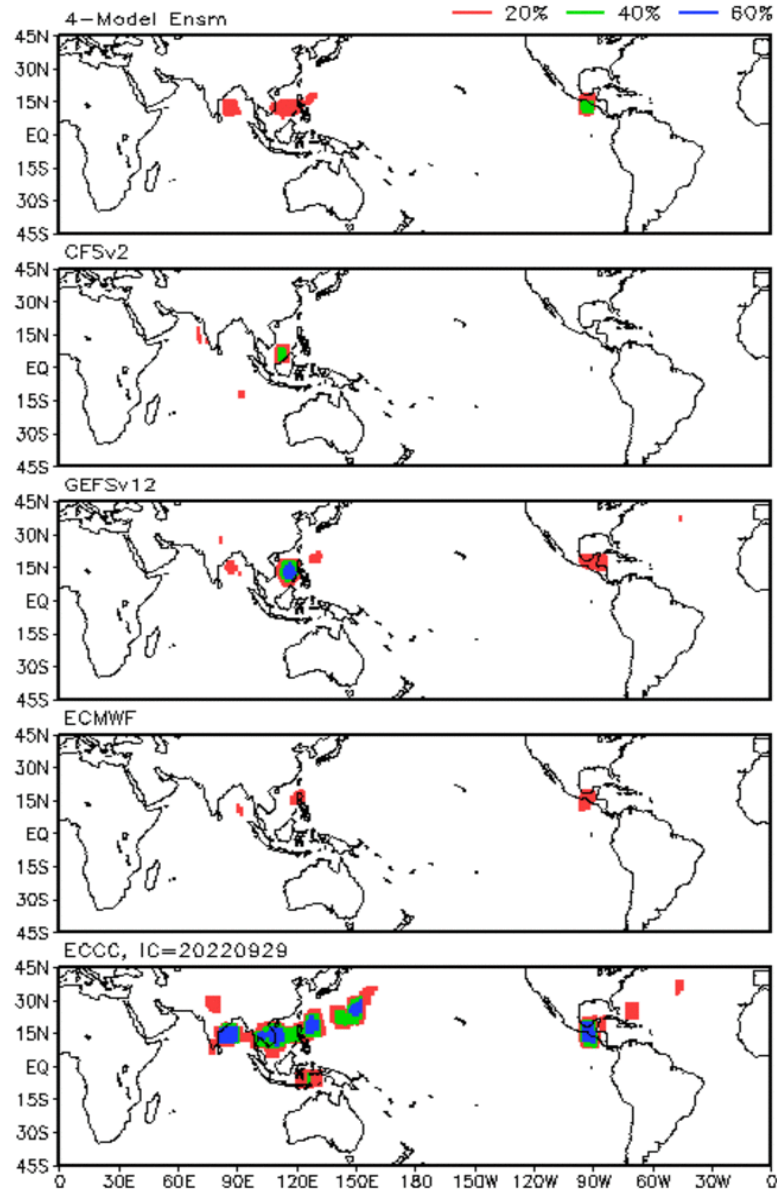


SUB TROPICAL Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

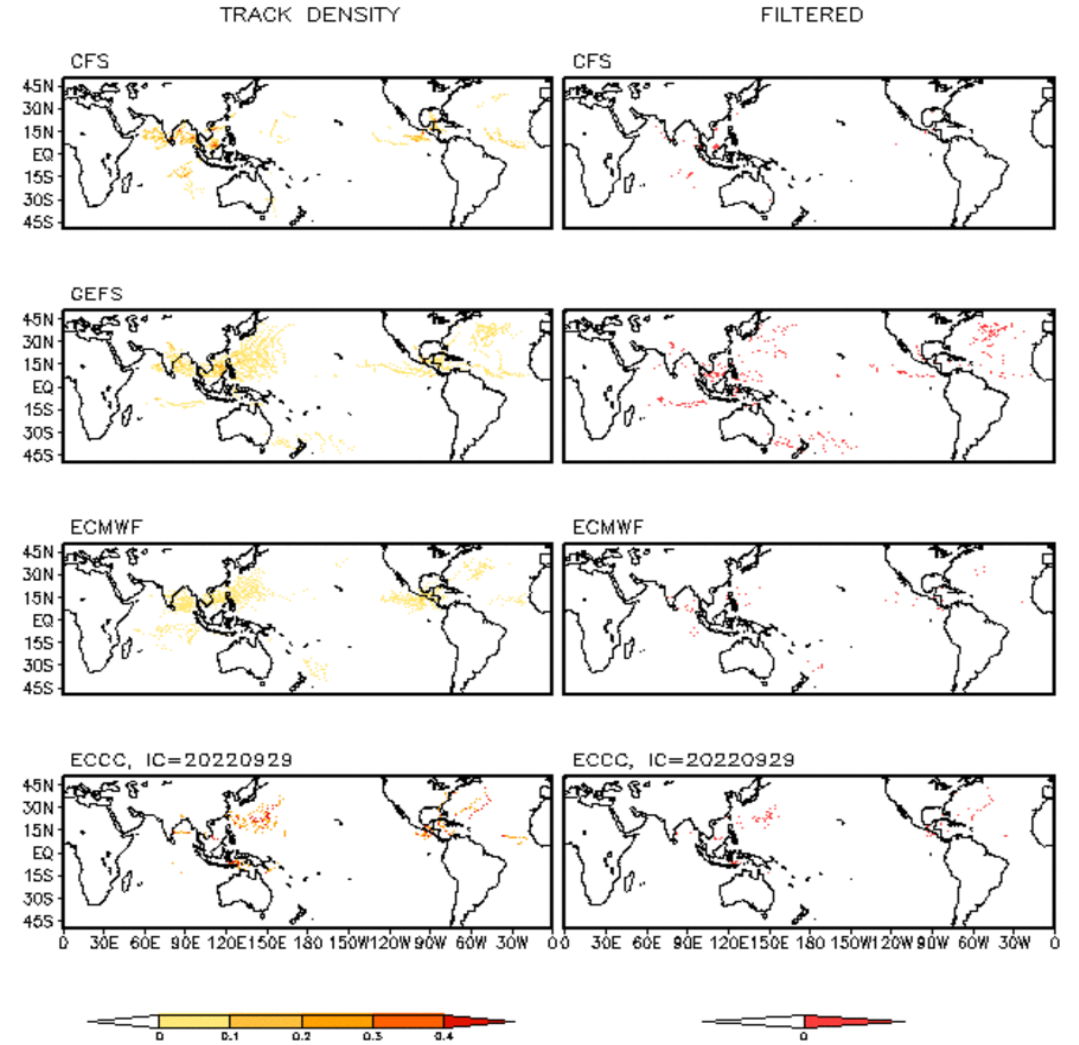


Multi-Model TC Track Probabilities/Densities: Week-2

Storm Track Probabilities, IC=20221003
Week 2: 1012 - 1018



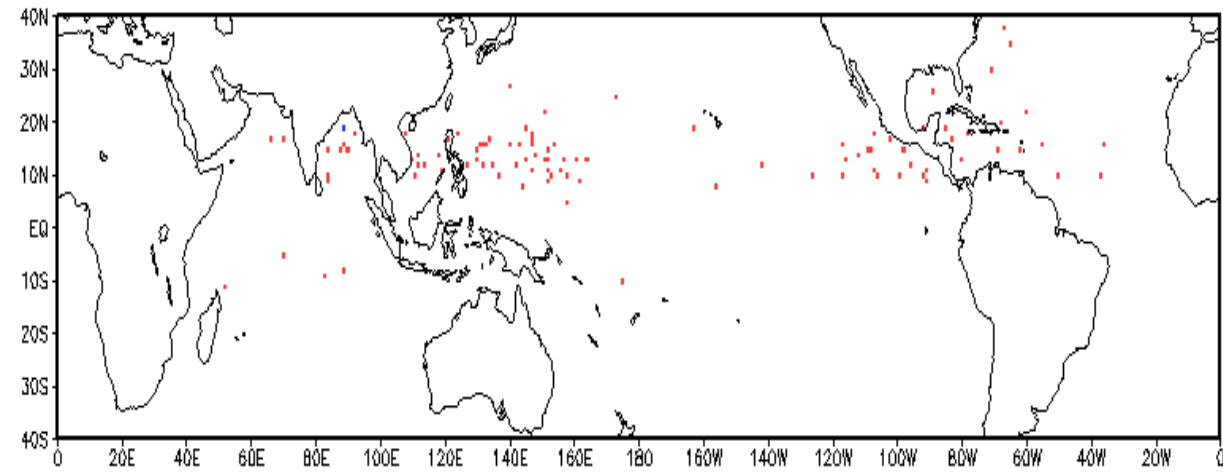
Storm Track Density Distribution, IC=20221003
Week 2 Forecast: 1012-1018



TC Climatological Genesis: Weeks 2 & 3

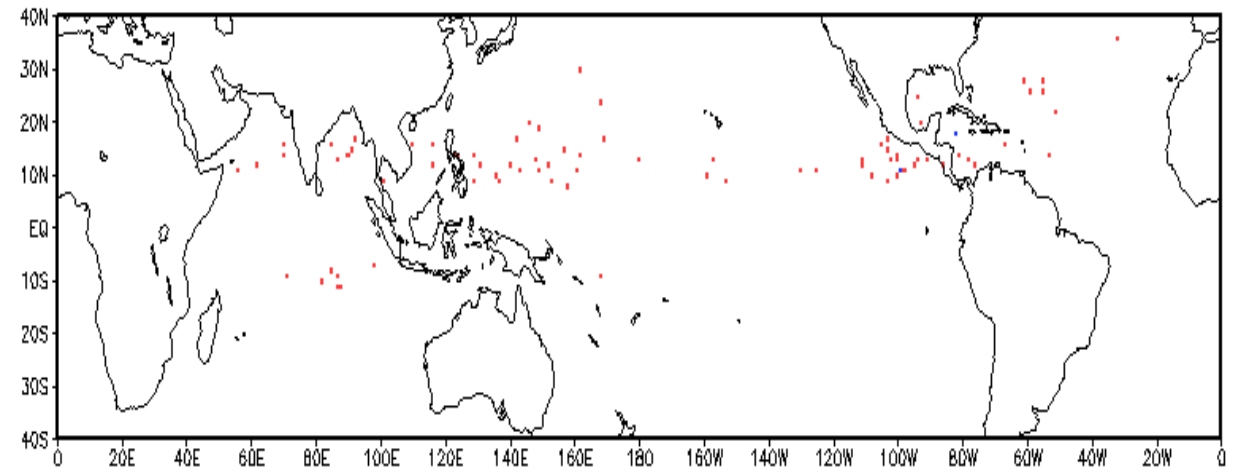
Observed TC Genesis, 1979–2021

7-day Period 1012 to 1018



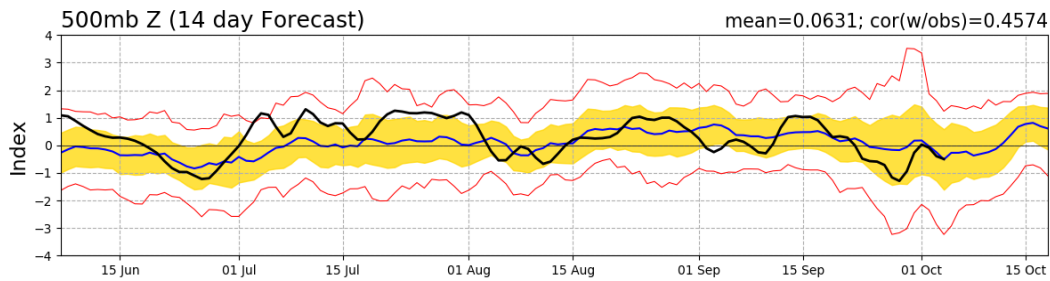
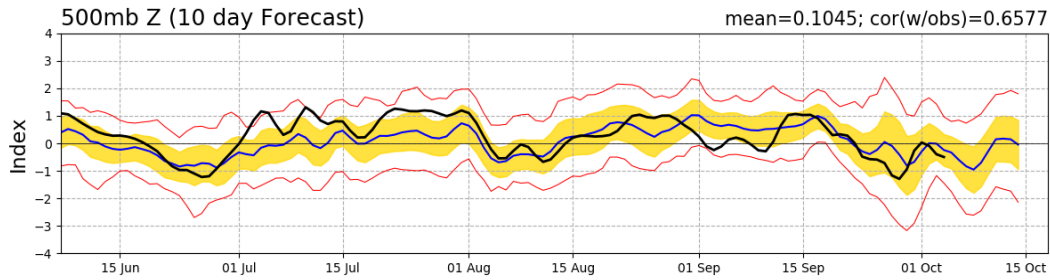
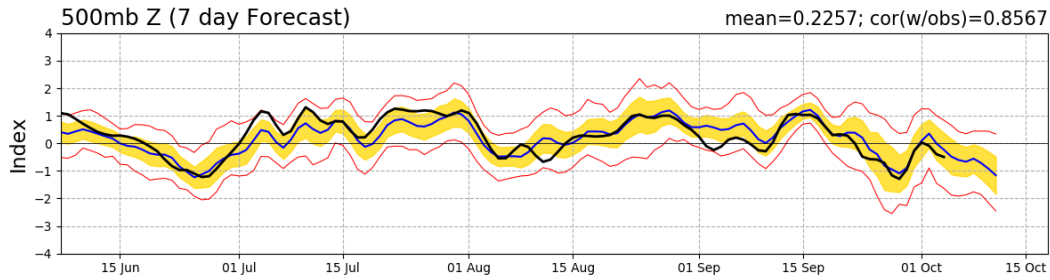
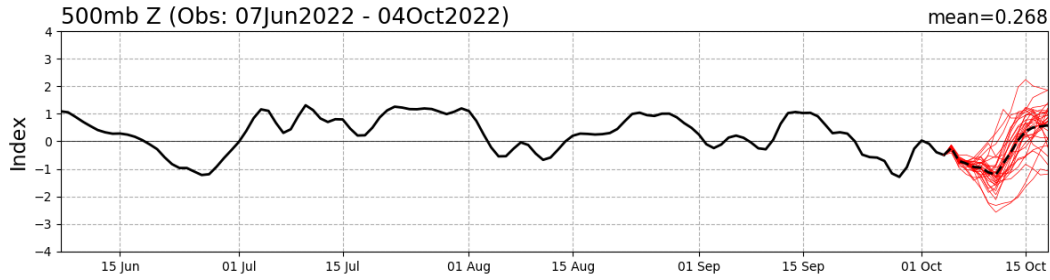
Observed TC Genesis, 1979–2021

7-day Period 1019 to 1025

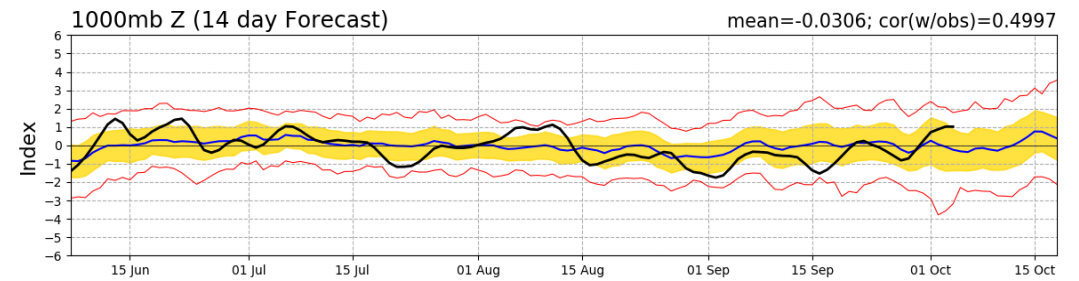
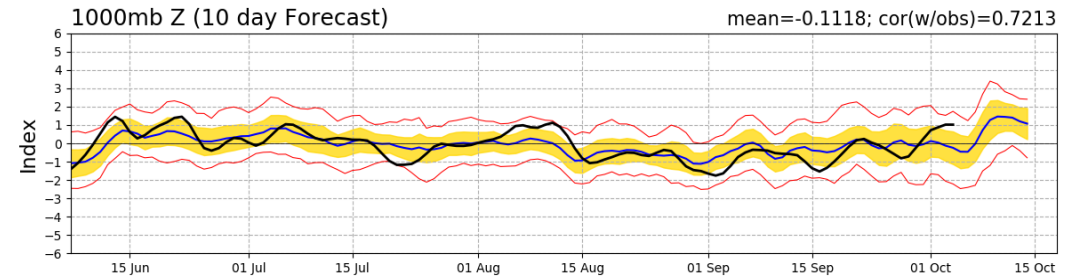
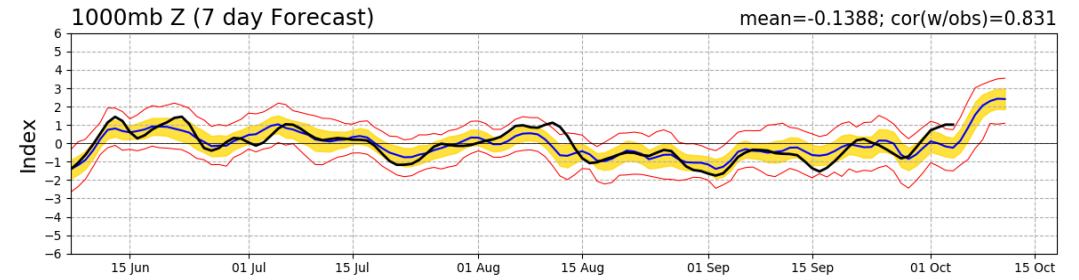
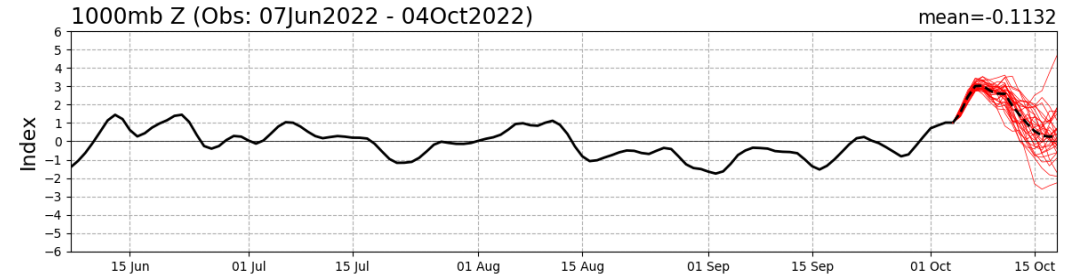


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts



AO Index: Observed & GEFS Forecasts

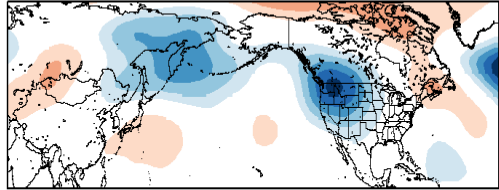


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

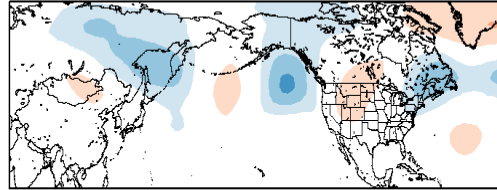
SON MJO Composite: CDAS 500-hPa Height (m)

SON MJO Composite: GLBT (degC)

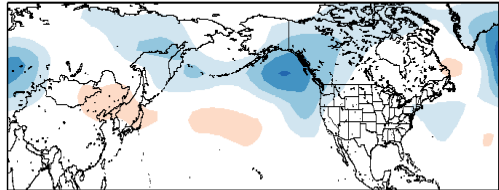
Phase 1



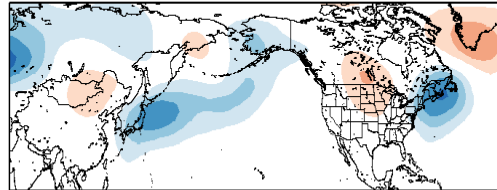
Phase 5



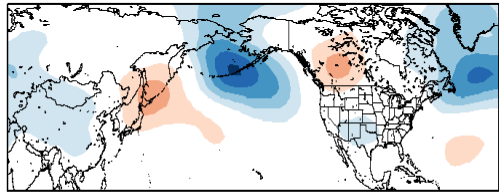
Phase 2



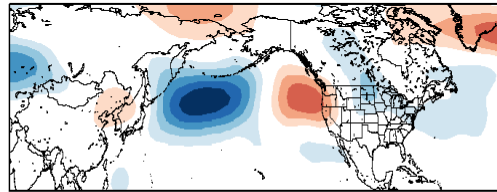
Phase 6



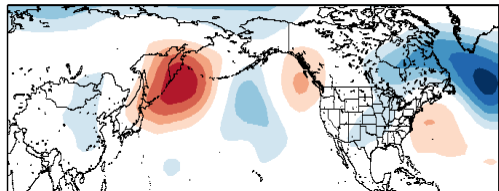
Phase 3



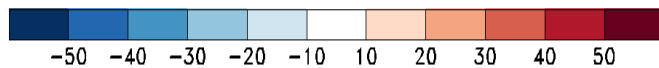
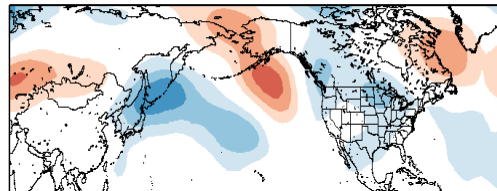
Phase 7



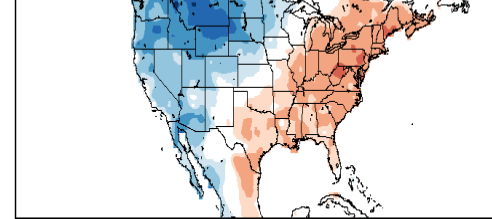
Phase 4



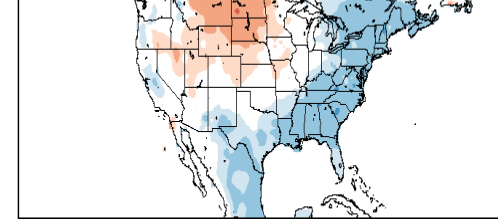
Phase 8



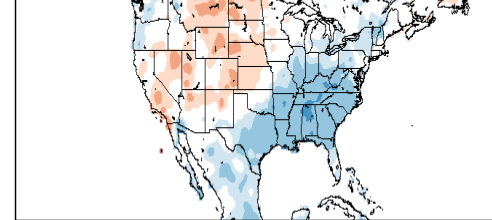
Phase 1



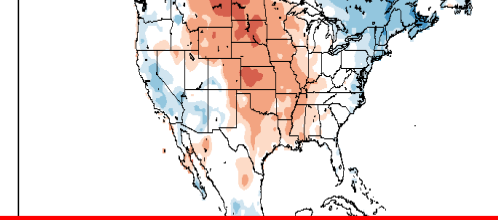
Phase 5



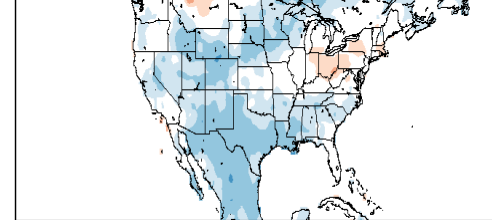
Phase 2



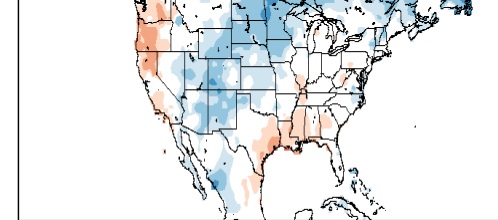
Phase 6



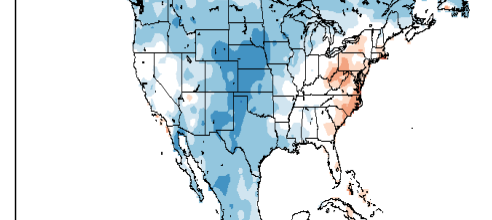
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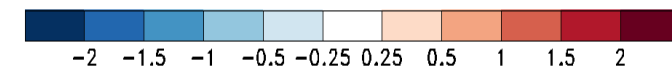
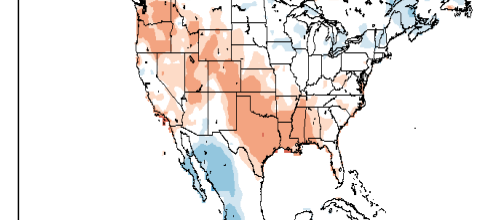
Phase 7



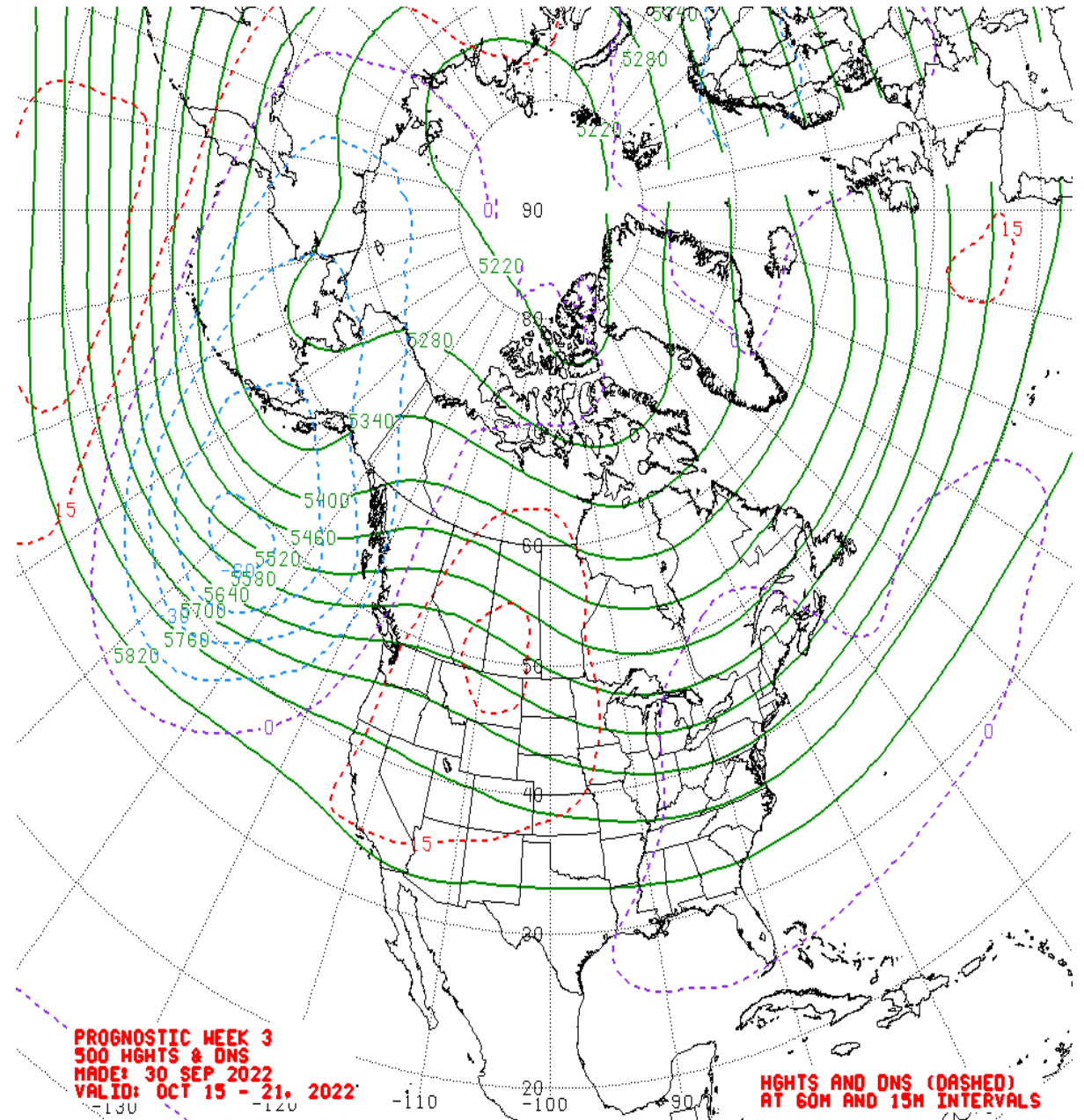
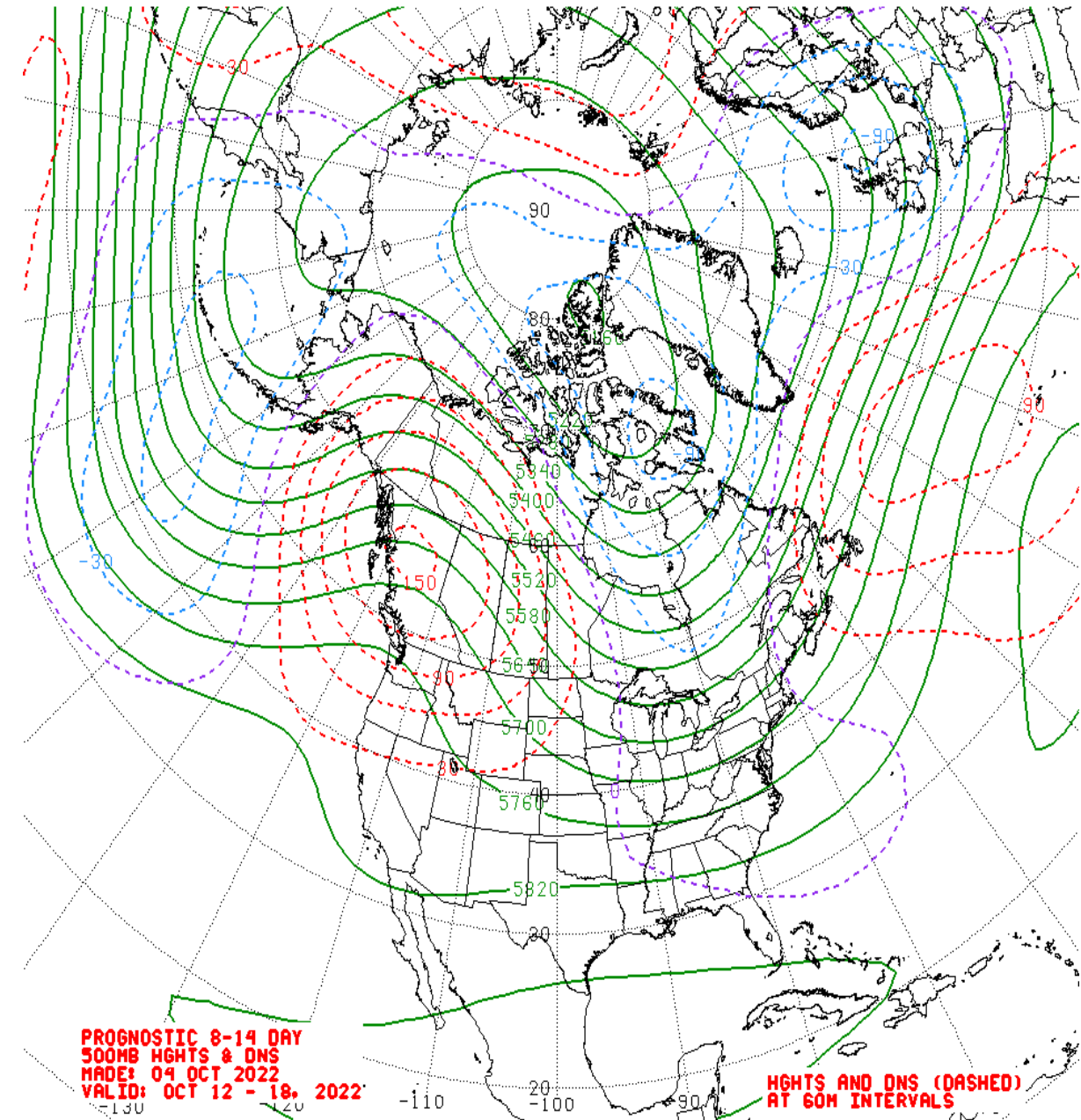
Phase 4



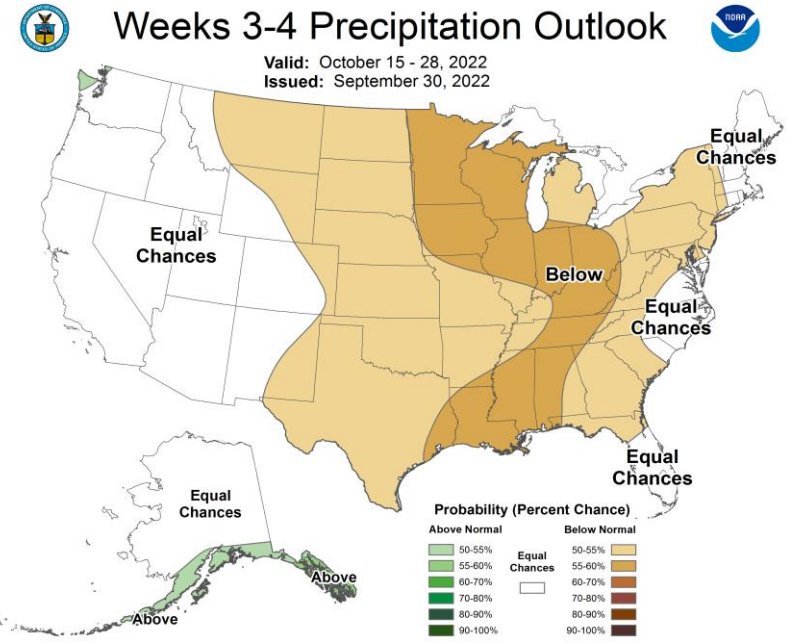
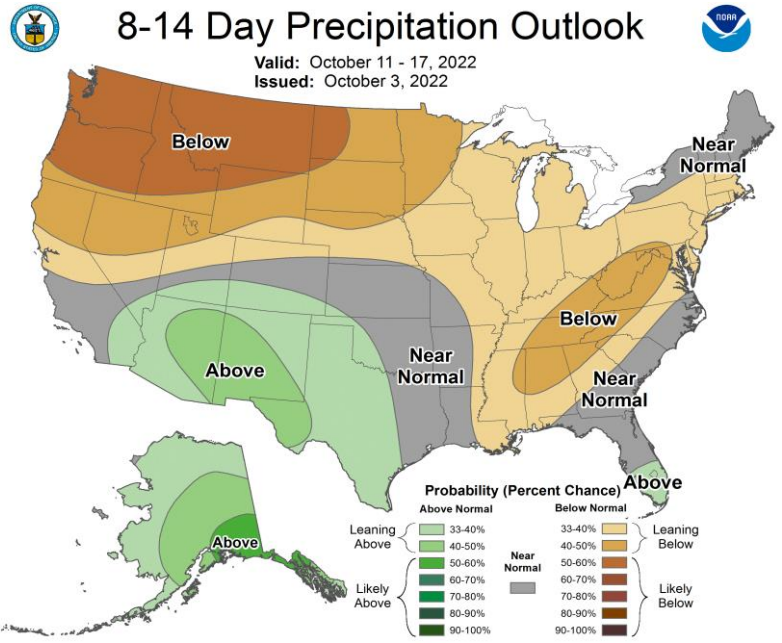
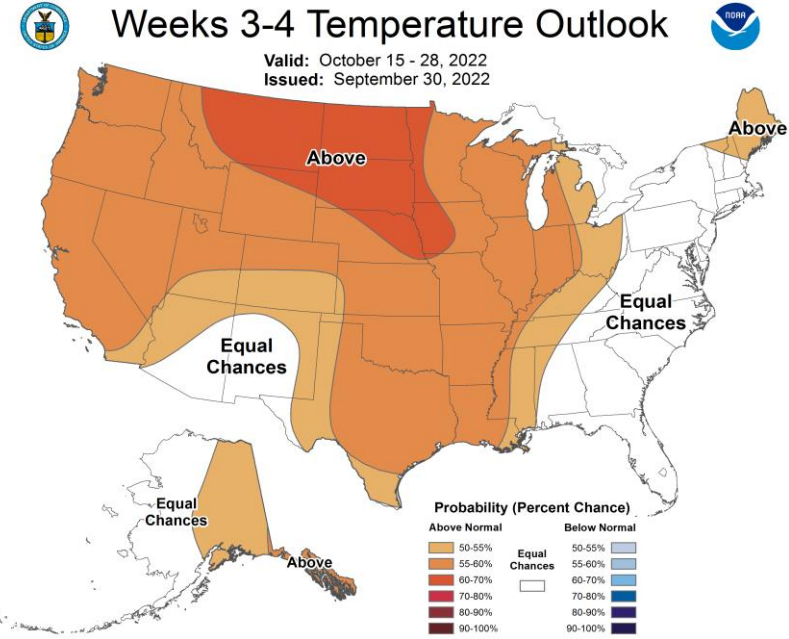
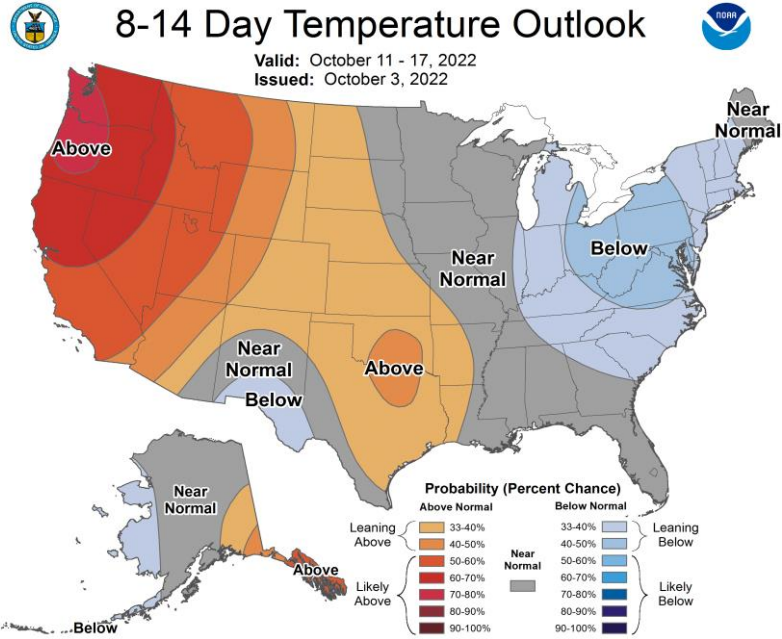
Phase 8



Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:



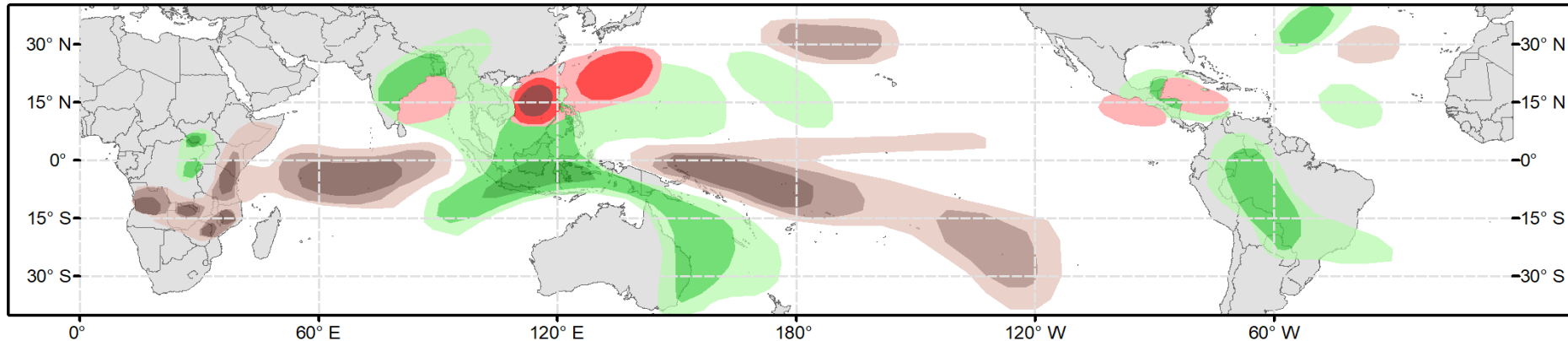


Global Tropics Hazards Outlook

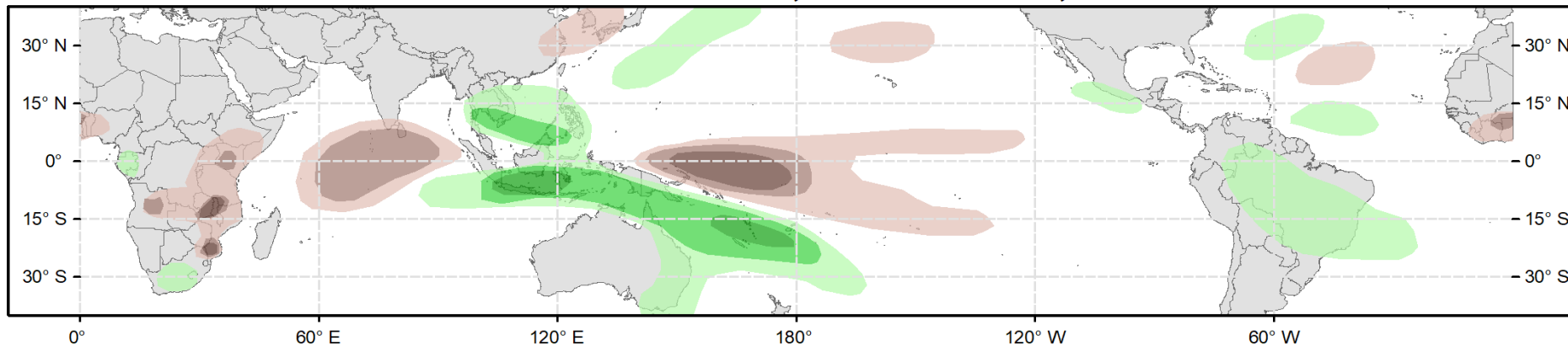
Climate Prediction Center



Week 2 - Valid: Oct 12, 2022 - Oct 18, 2022



Week 3 - Valid: Oct 19, 2022 - Oct 25, 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: 10/04/2022
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.