Weeks 2-3 Global Tropics Hazards Outlook

10/11/2022

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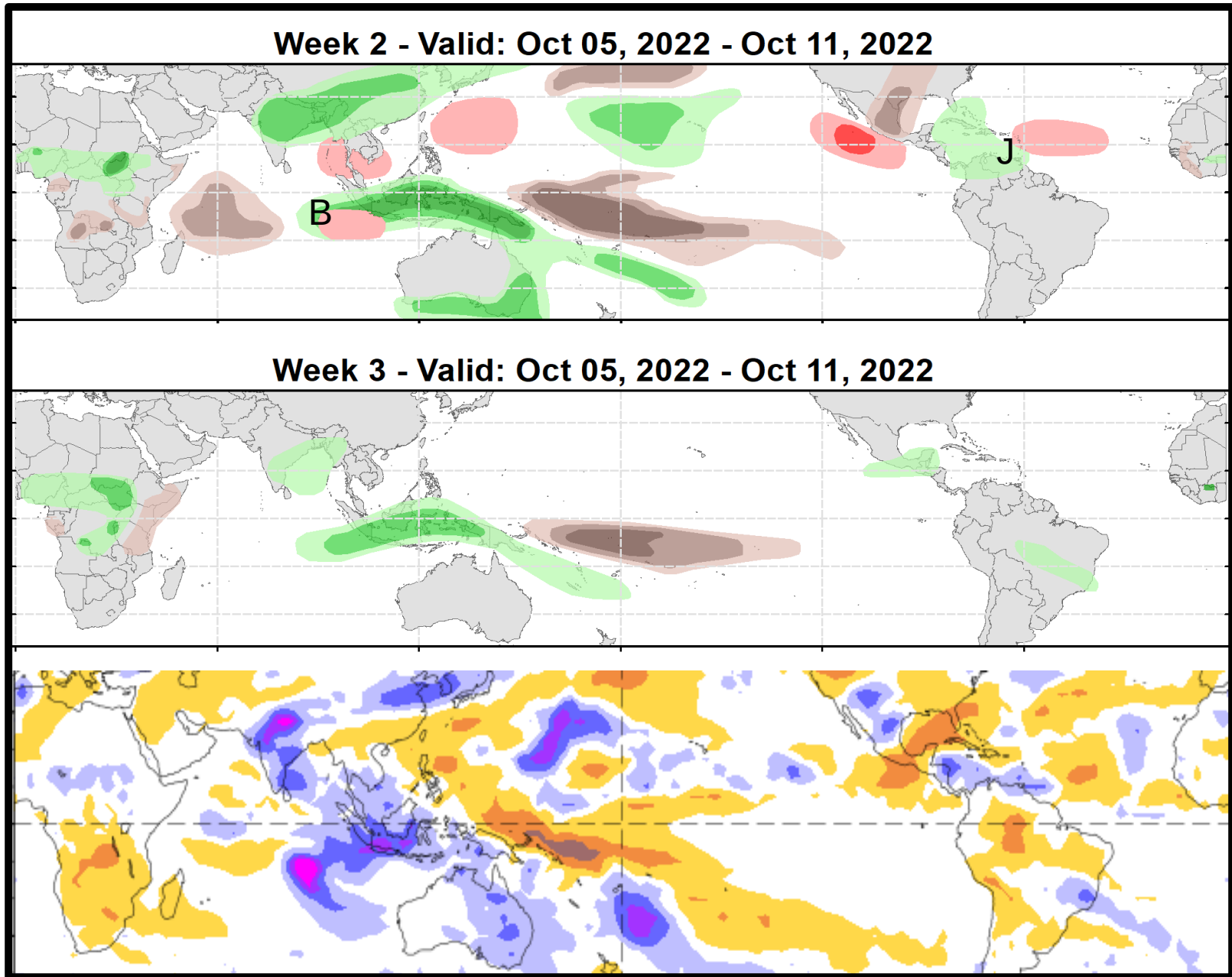
NWS / NCEP / Climate Prediction Center

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

TCs formed in the past week

Atlantic
- Julia (10/7)

South IO
- Balita (10/6)



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 SON, decreasing to a 54% chance in JFM 2023.

MJO and other subseasonal tropical variability:

- As previously forecast, the RMM index shows renewed eastward propagation of the intraseasonal signal across the Maritime Continent but has struggled to gain amplitude, straddling the unit circle over phases 4 and 5 during the past week.

- RMM forecasts continue to favor a strengthening MJO signal over the western Pacific during the next two weeks, but there is continued uncertainty as to well the MJO can remain organized due to destructive interference with La Nina, as extended range mean solutions fail to fully propagate a healthy signal into the western Hemisphere later in October.

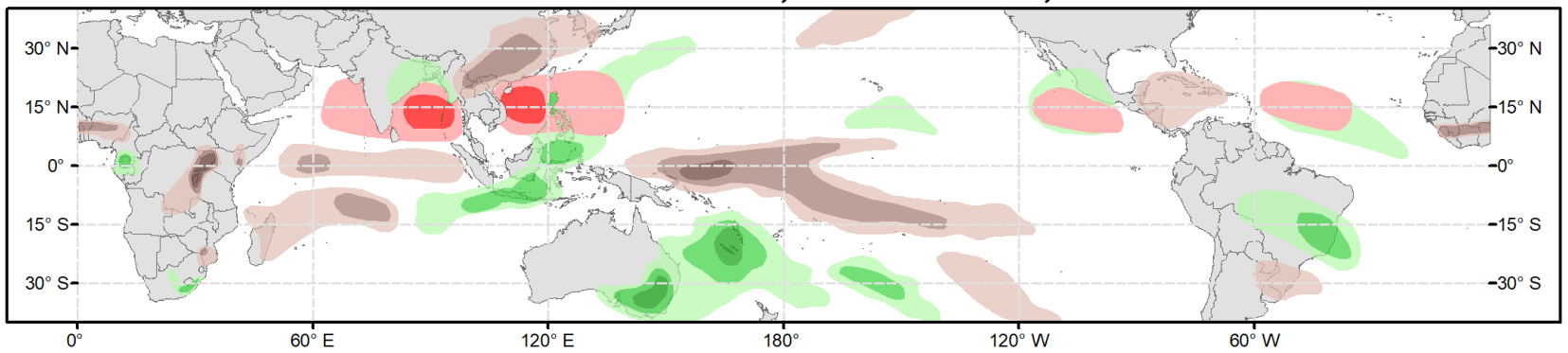
- Combined with Rossby wave activity forecast, the large-scale environment is expected to be favorable for tropical cyclogenesis across the eastern Hemisphere, with decreased chances over the east Pacific and Atlantic, coinciding with a climatological downtick in TC activity later in October.

GTH Outlook:

Global Tropics Hazards Outlook

Climate Prediction Center

Week 2 - Valid: Oct 19, 2022 - Oct 25, 2022



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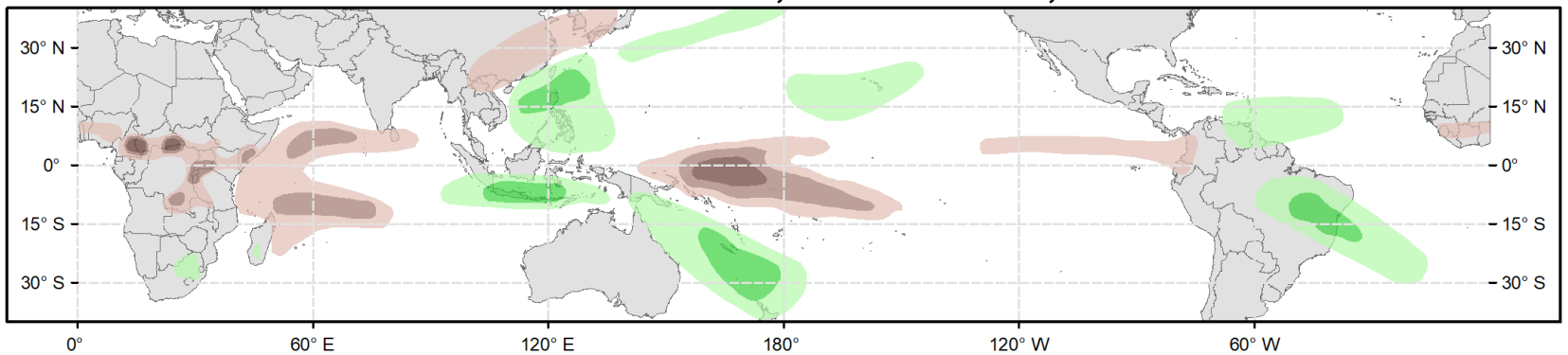

Week-2 Only

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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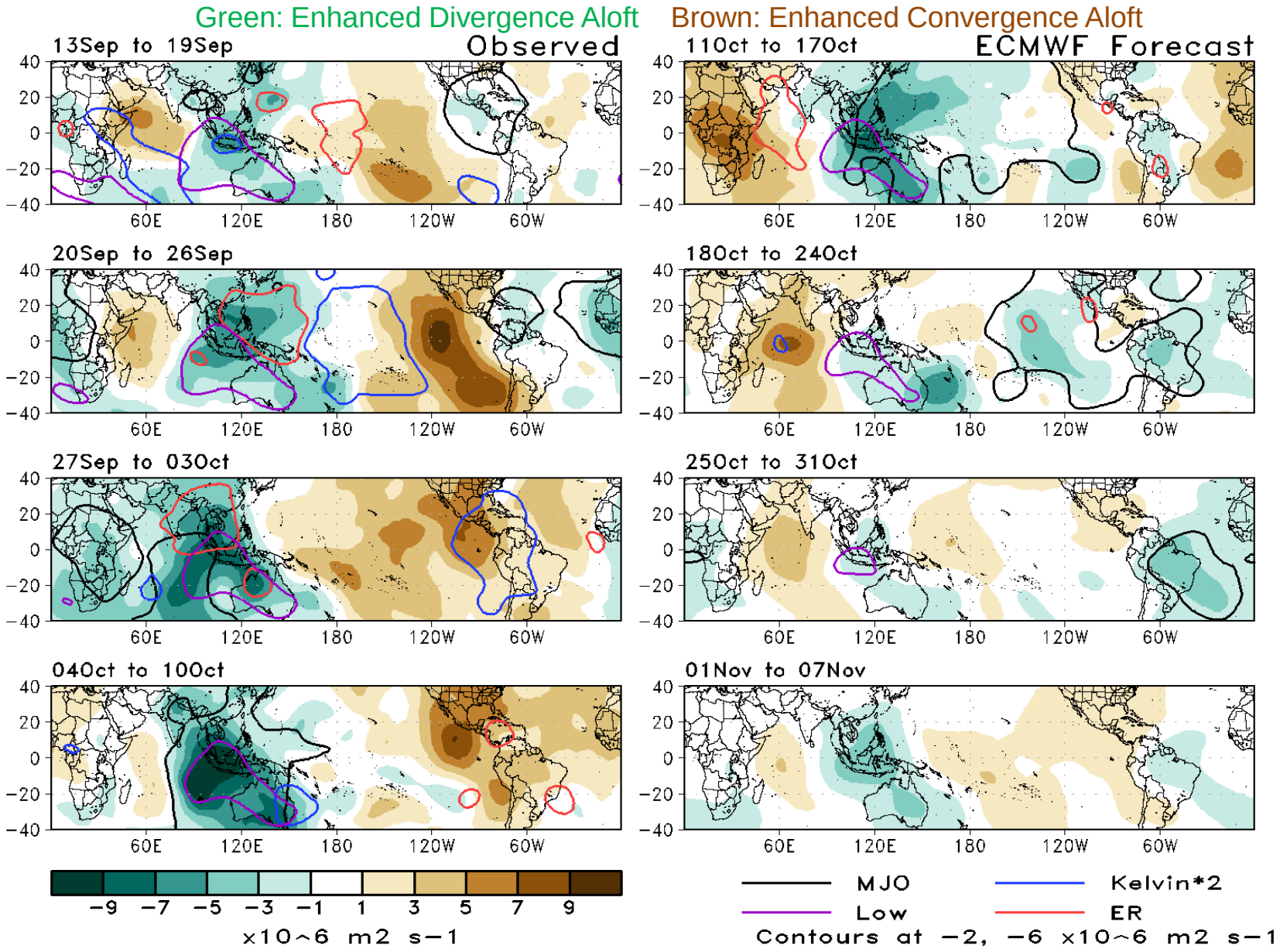
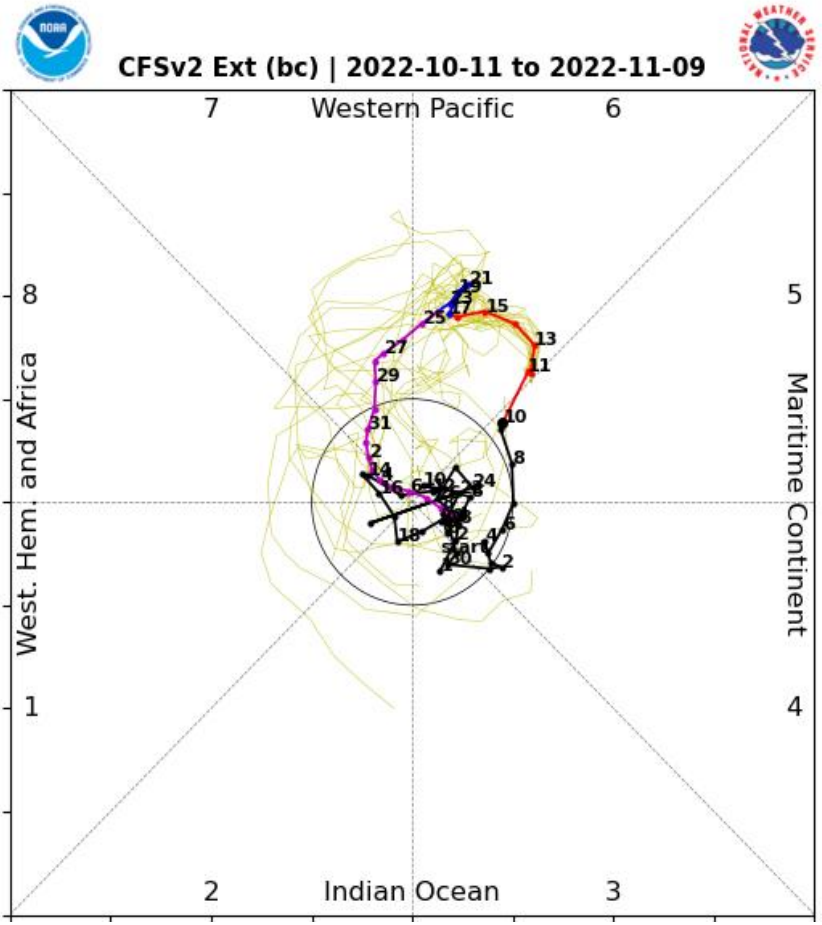
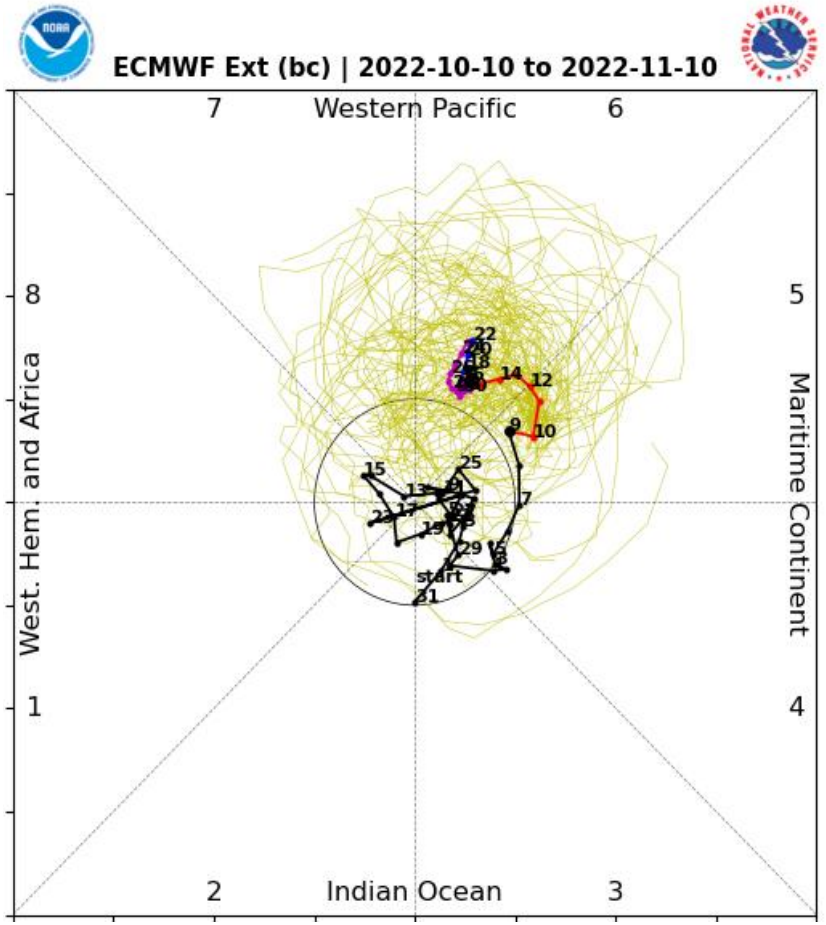
200-hPa Velocity Potential Anomaly Maps:

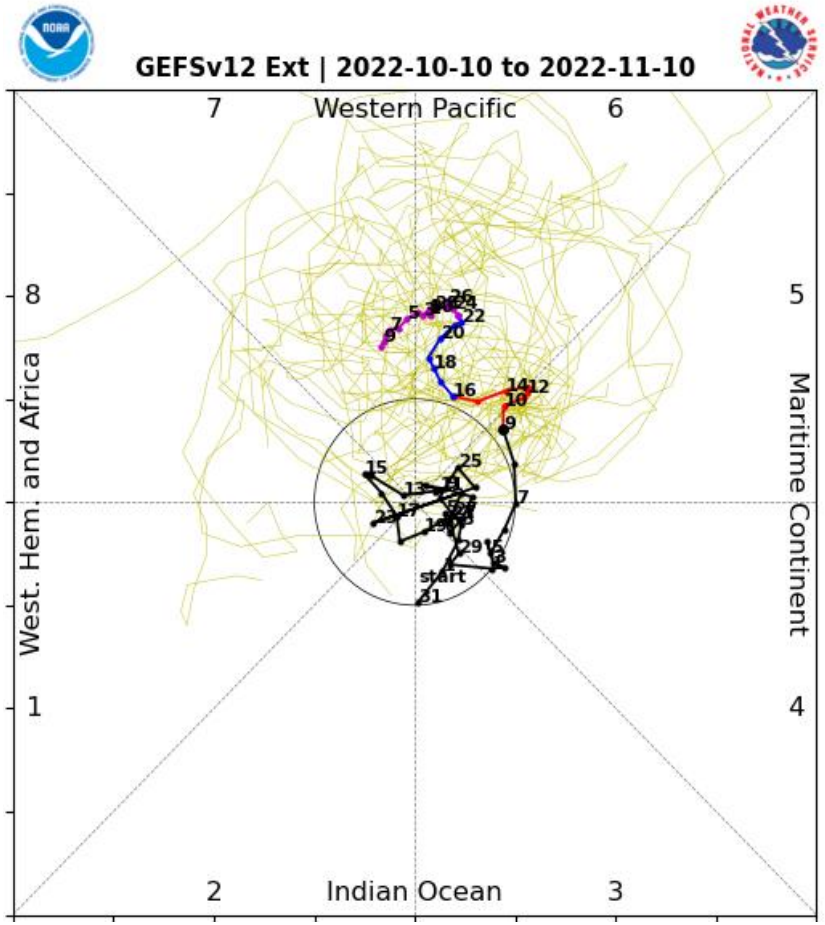
- The leading edge of the main convective MJO envelope has shifted slightly eastward, with more anomalous upper-level convergence overspreading the tropical Atlantic and Africa.
- Despite favoring a disintegration of the wave-1 pattern, MJO activity is coming through the filtering over the western Hemisphere, but decreases in magnitude towards the end of the month.



RMM Index Observations & Forecasts:



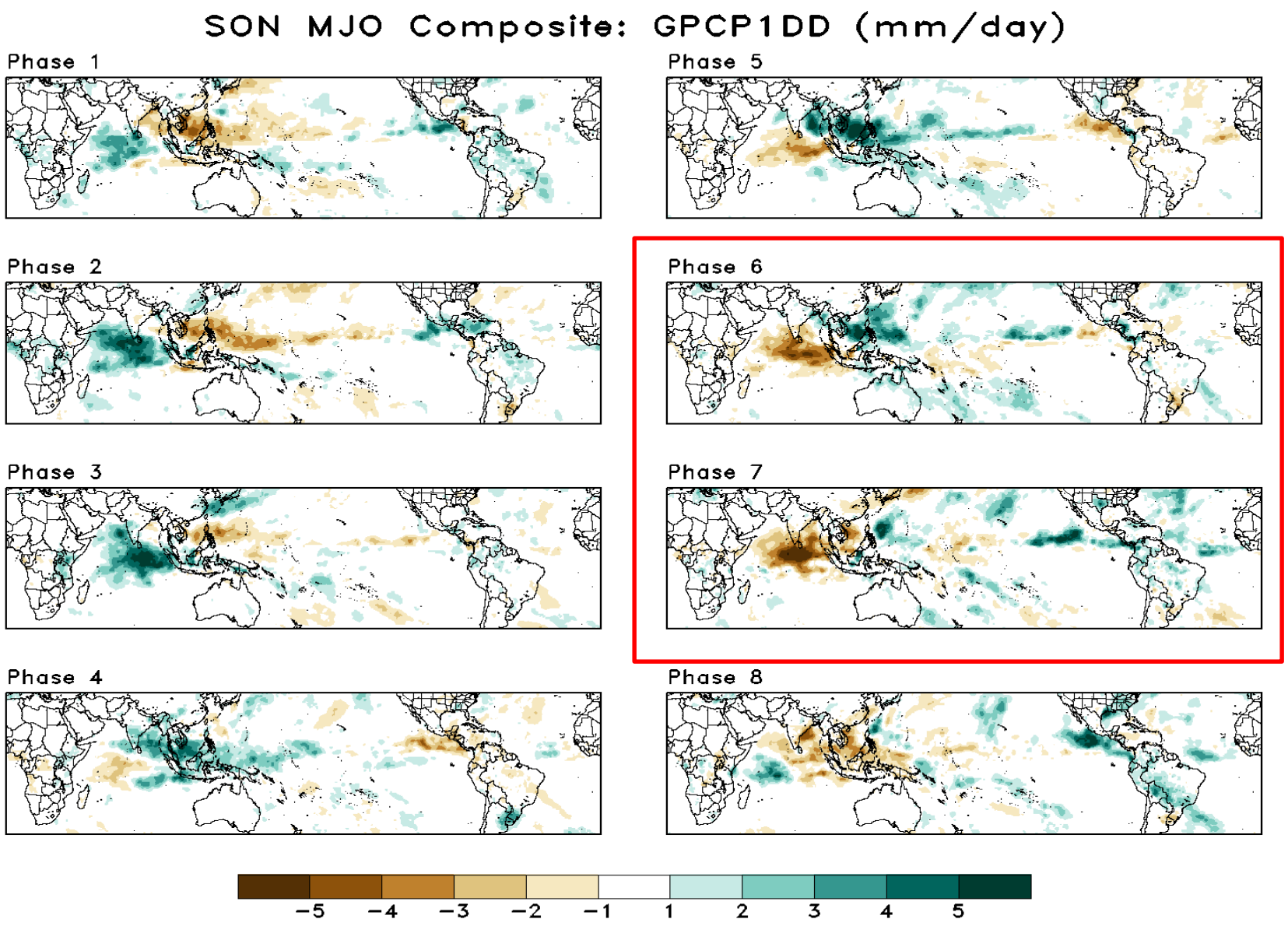




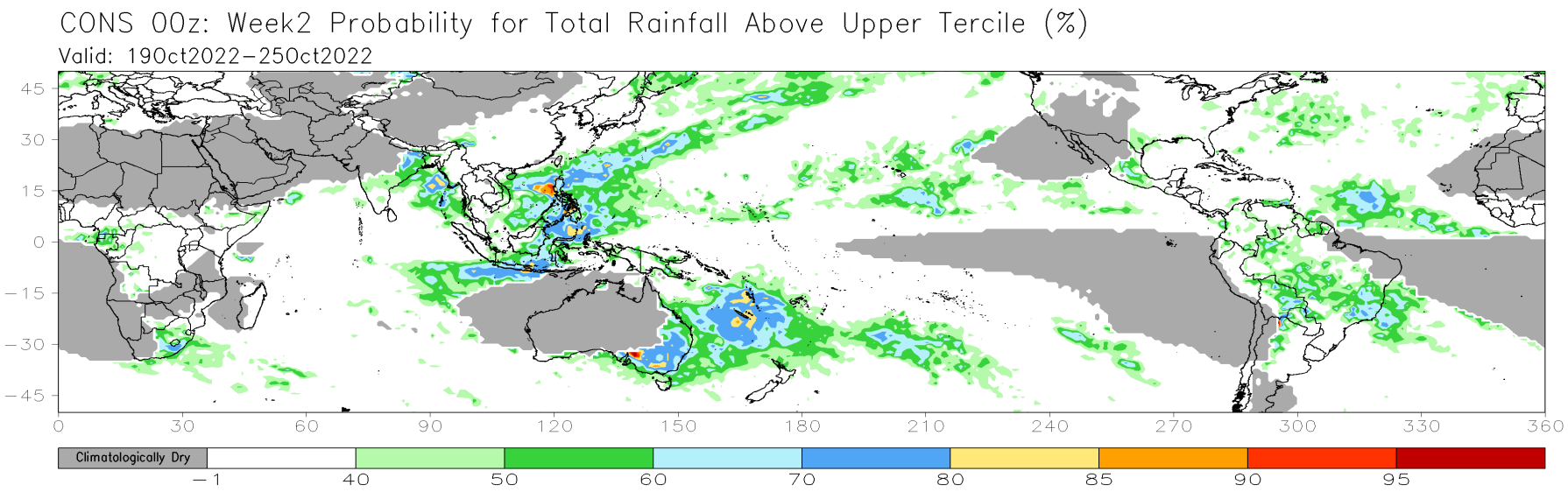
- Dynamical models continue to favor the strengthening of the MJO, but some models (GEFS, ECMWF) have become more stagnant with the intraseasonal signal over the western Pacific, with many members lingering on the top side of RMM space. The CFS depicts are more progressive, but weakening solution by late October.

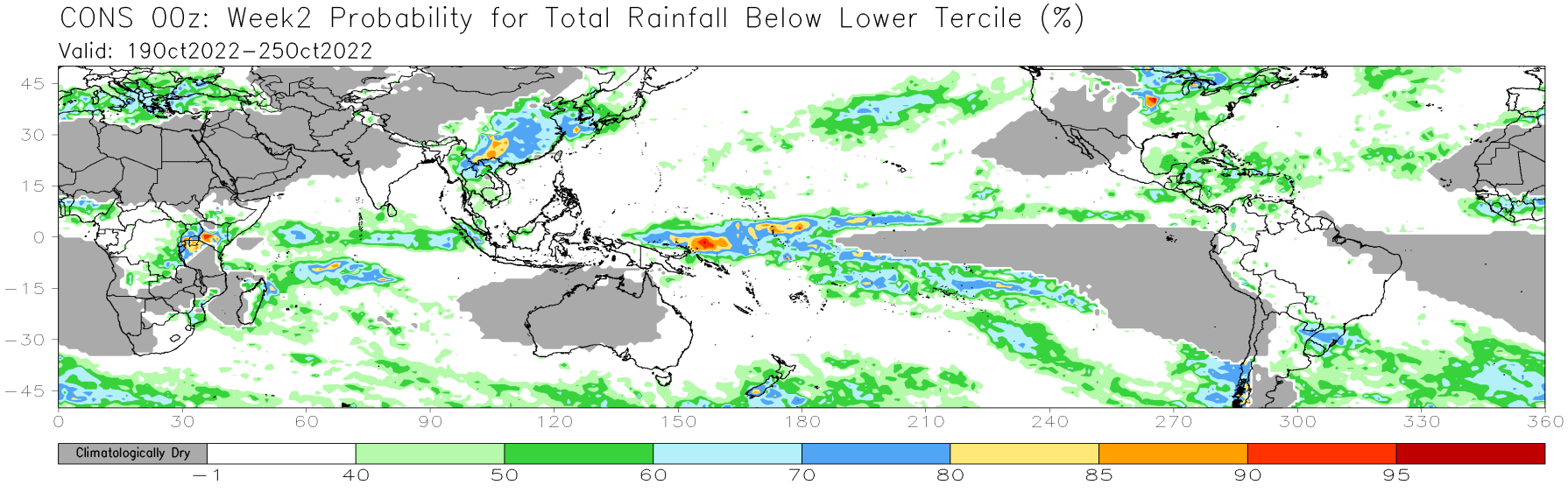
- Given high ensemble spread, and the potential for destructive interference with La Nina over the Pacific, forecast confidence remains low.

Historical Precipitation Anomalies By MJO Phase:

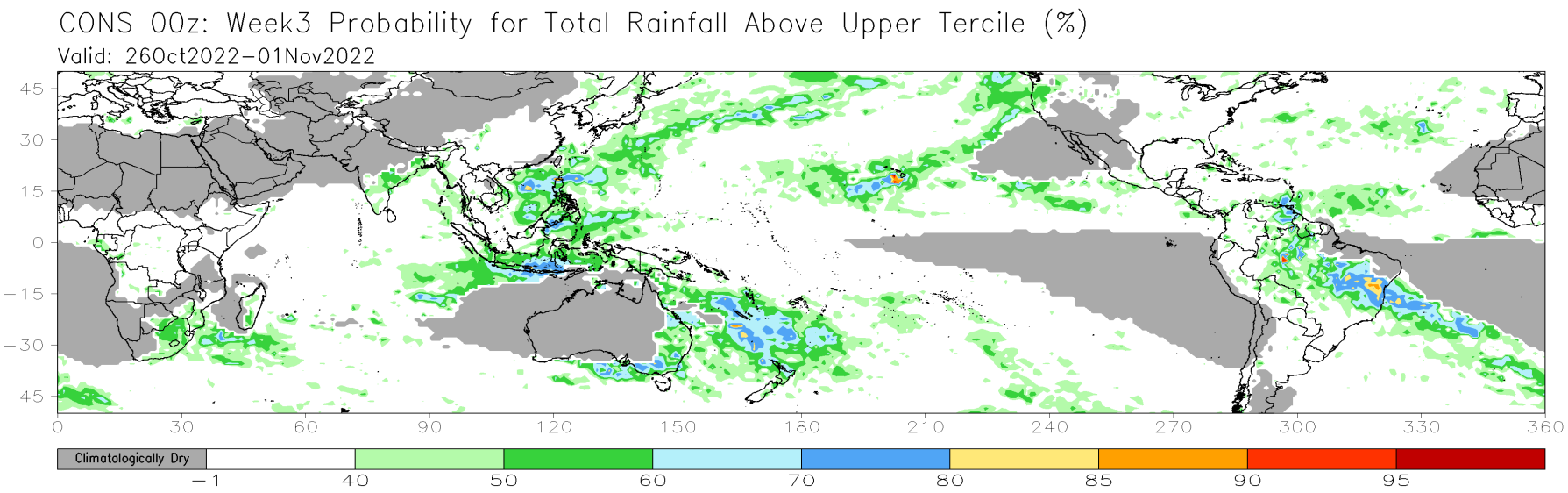


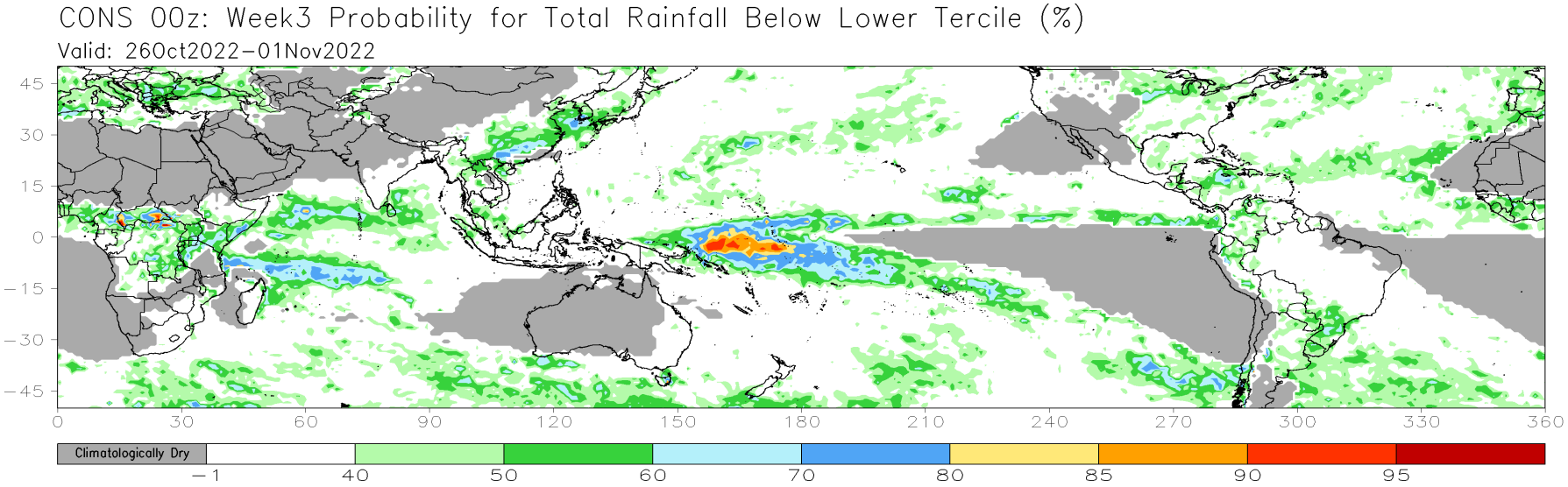
Consolidated Probabilistic Precipitation: Week-2



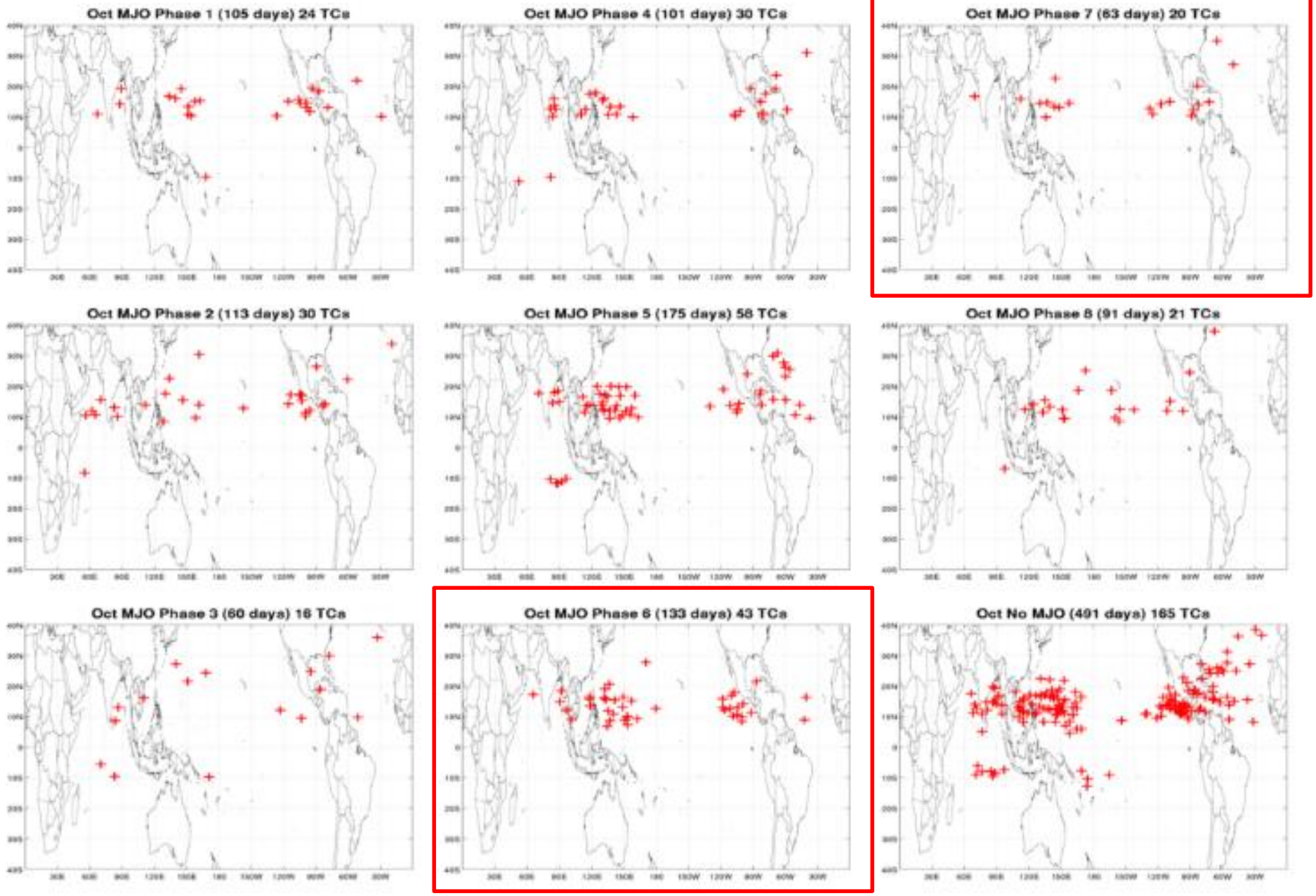


Consolidated Probabilistic Precipitation: Week-3

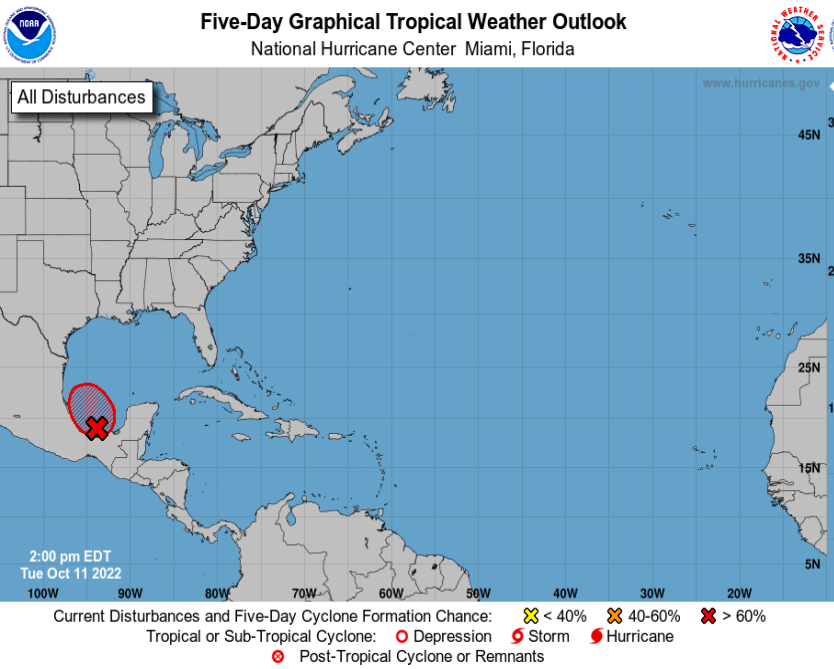


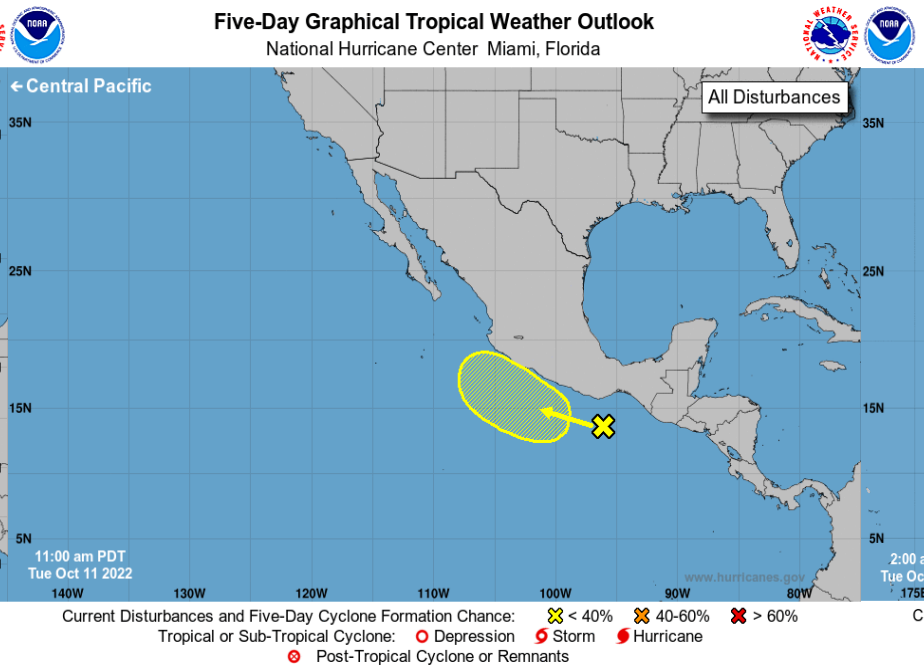


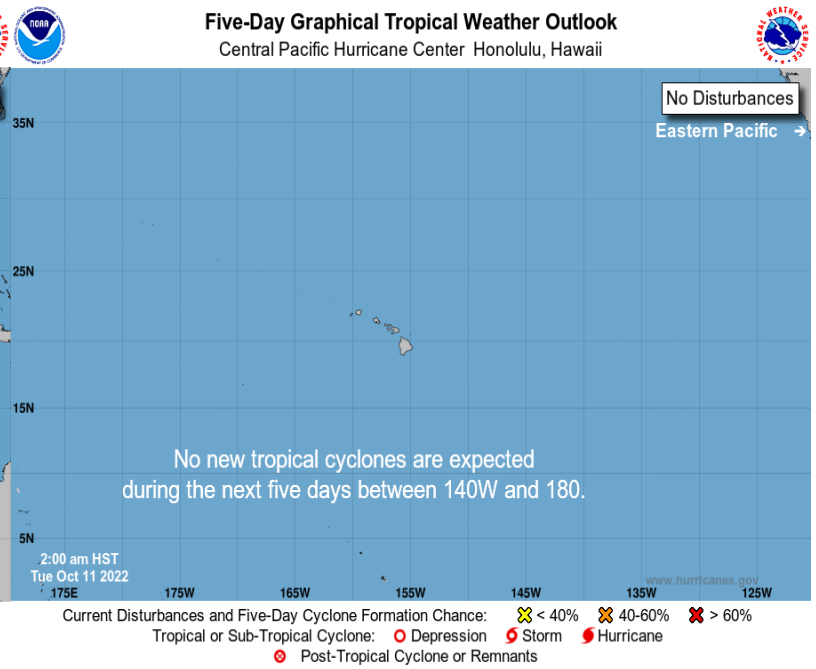
Historical TC Genesis Origins By MJO Phase:



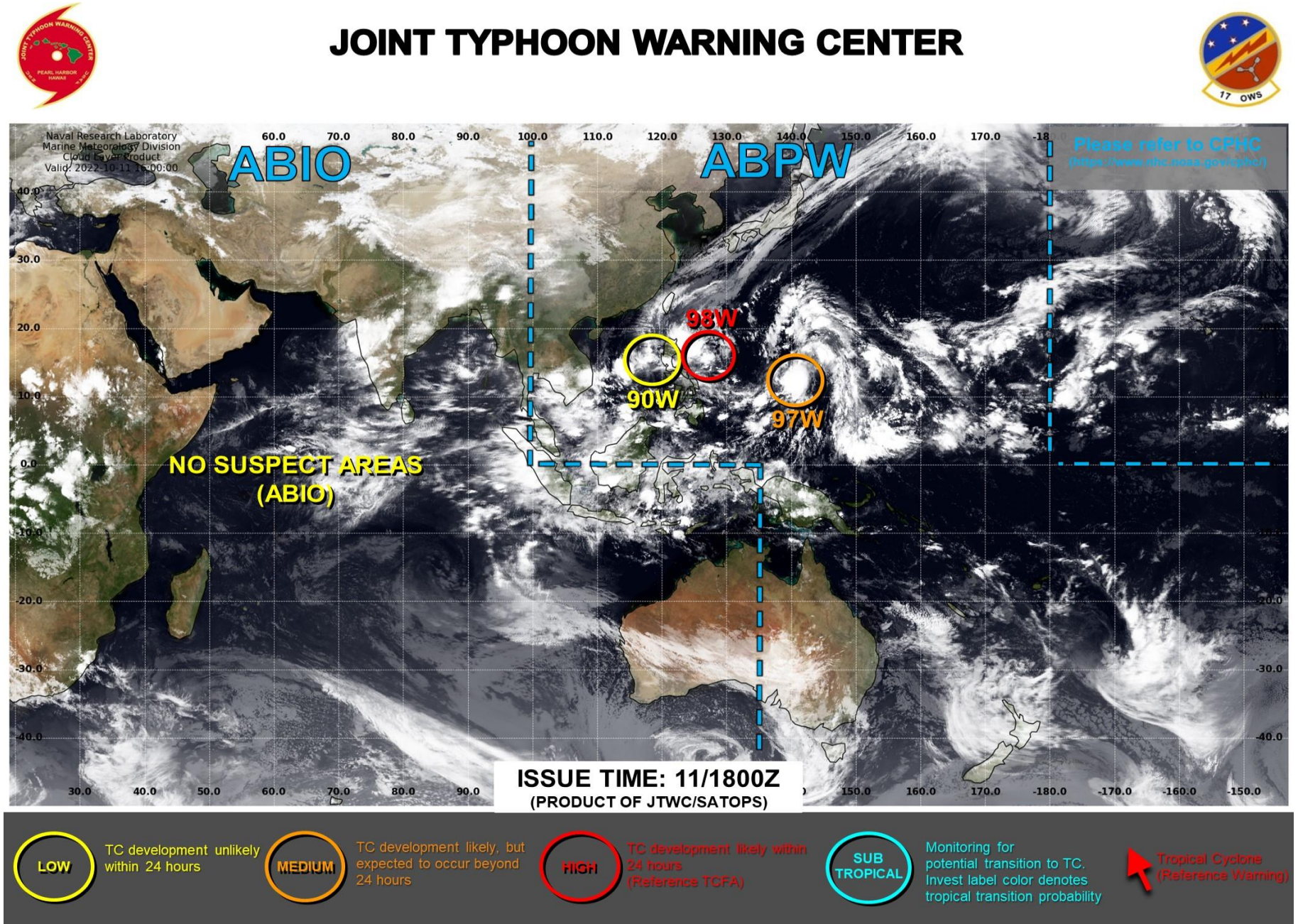
Tropical Cyclone Monitoring/Forecast: NHC







Tropical Cyclone Monitoring/Forecast: JTWC



UWND850 7-Day Means

13Sep to 19Sep — Observed

110ct to 170ct — ECMWF Forecast

20Sep to 26Sep

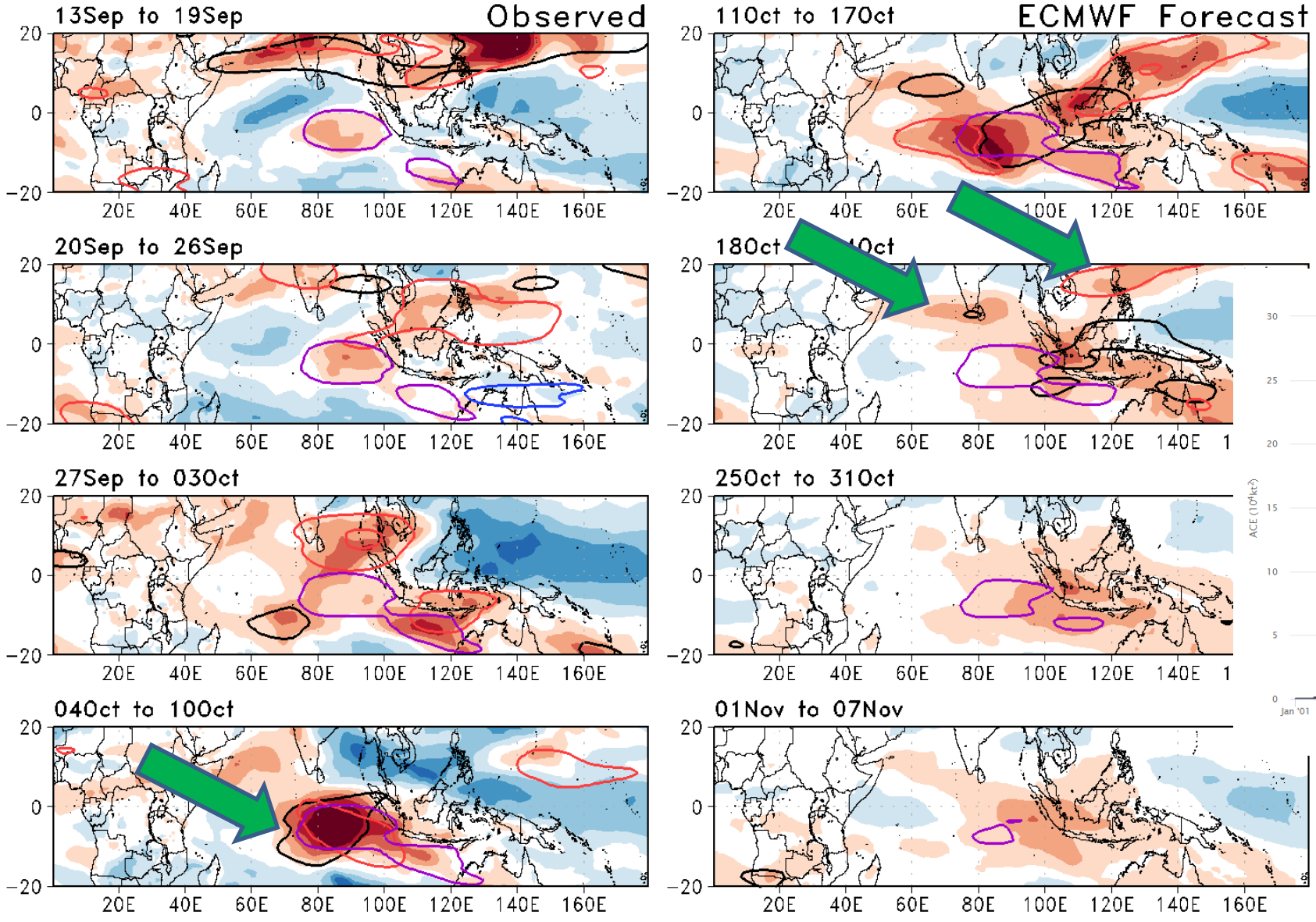
180ct to 240ct

27Sep to 030ct

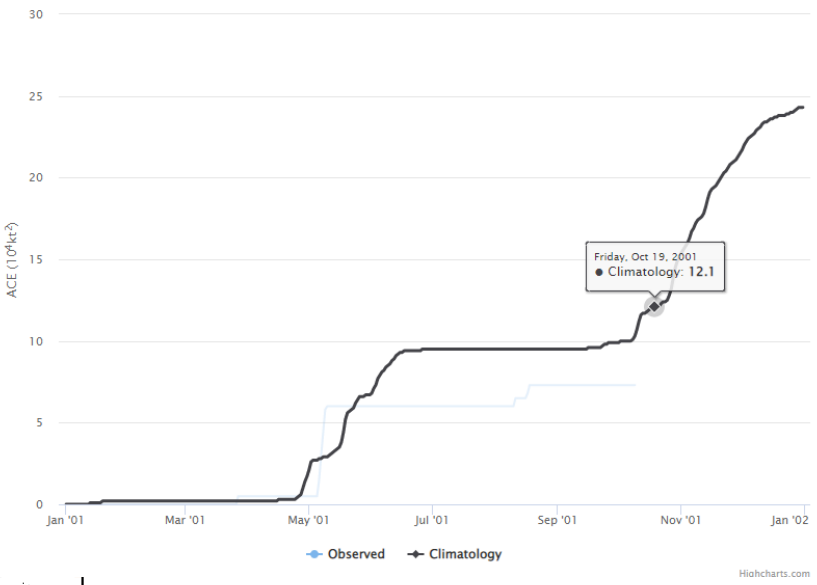
250ct to 310ct

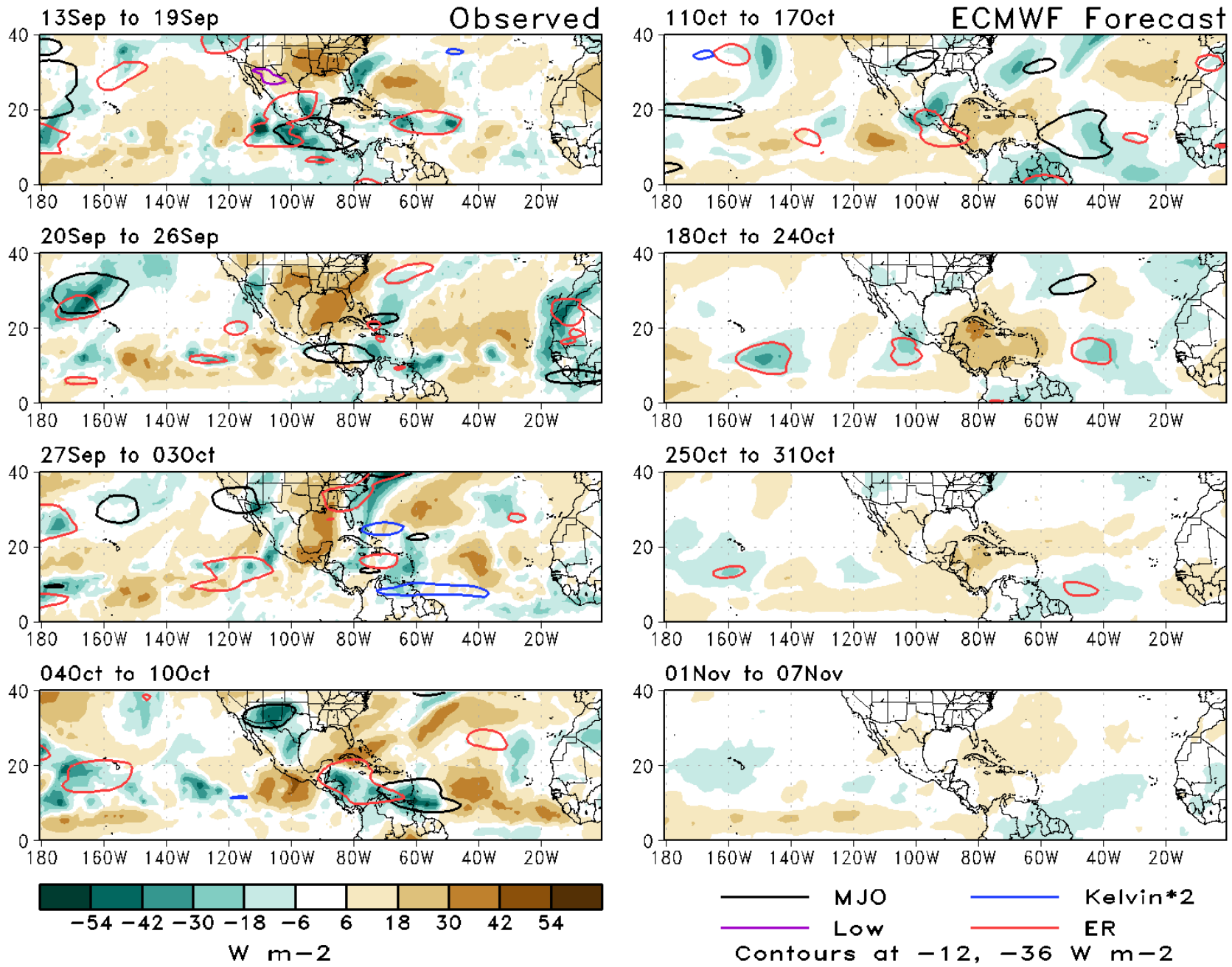
040ct to 100ct

01Nov to 07Nov

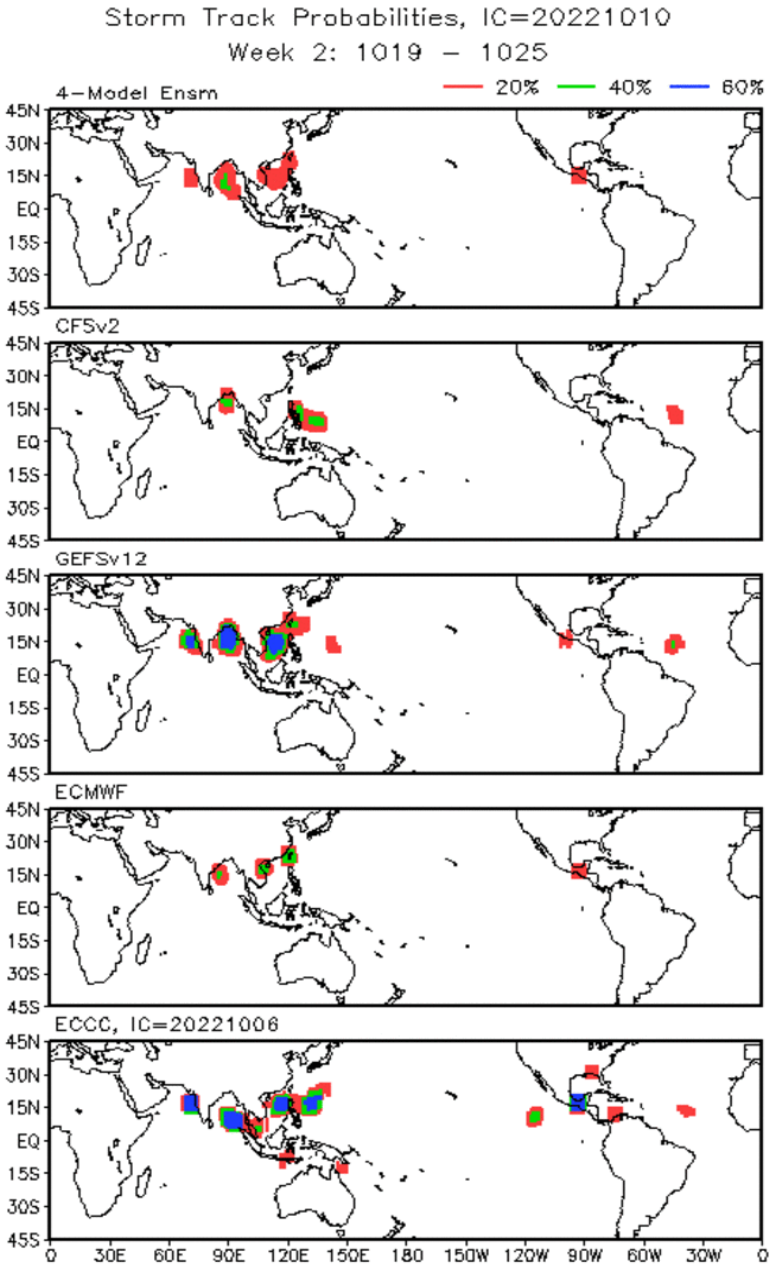


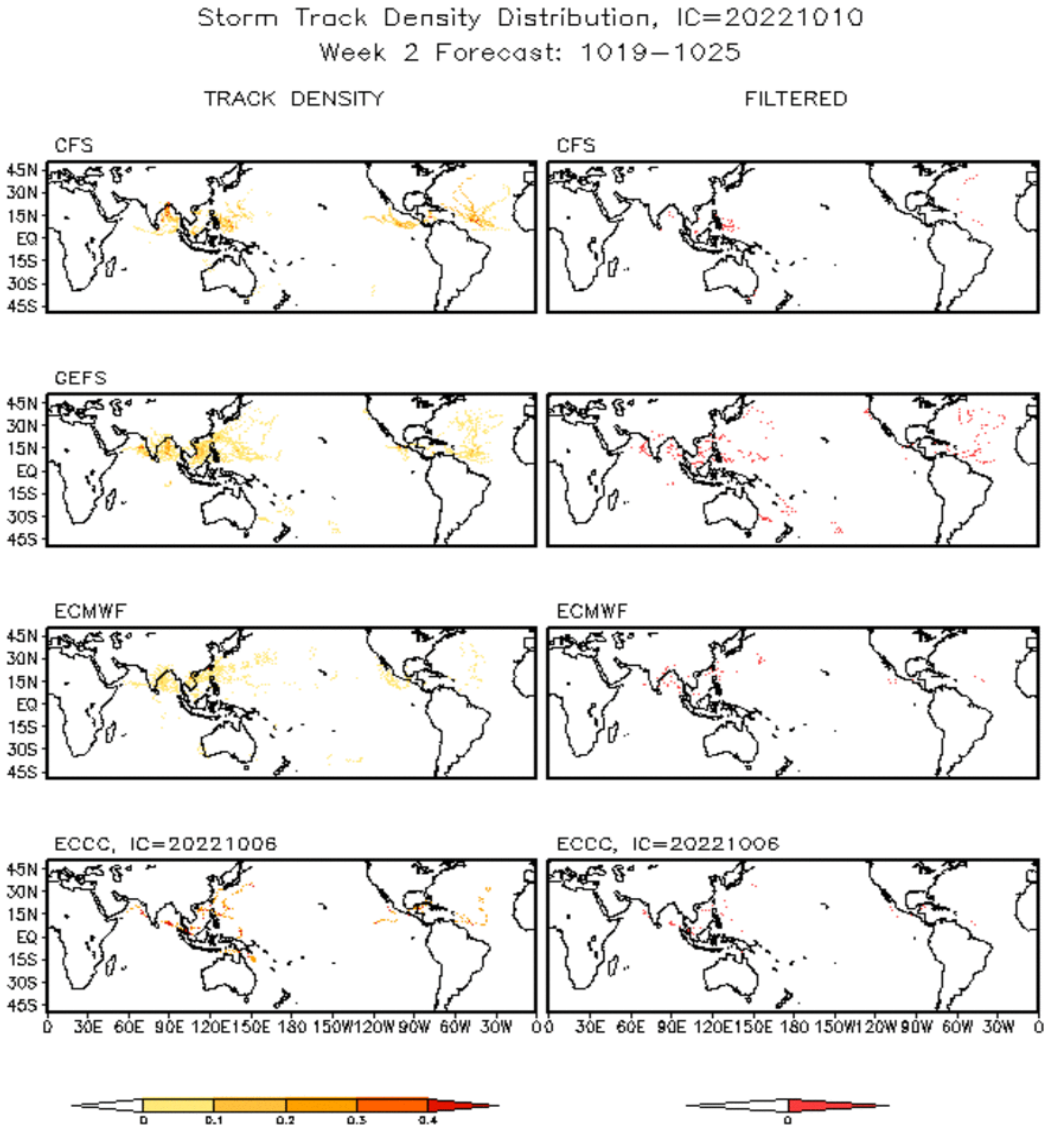
Current Season North Indian Ocean ACE (1991–2020 Climatology)



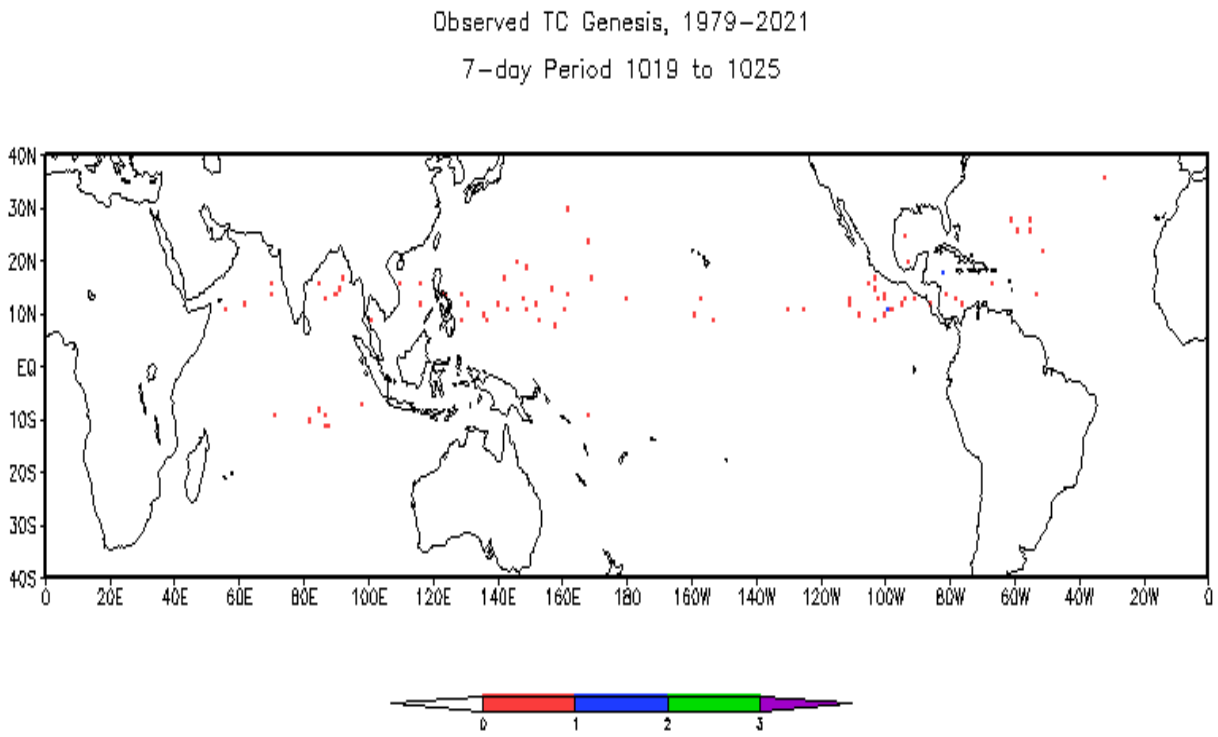

OLR 7−Day Means
13Sep to 19Sep
Observed
110ct to 170ct
ECMWF Forecast
20Sep to 26Sep
180ct to 240ct
27Sep to 030ct
250ct to 310ct
040ct to 100ct
01Nov to 07Nov
40
20
0
180 160W 140W 120W 100W 80W 60W 40W 20W
−54 −42 −30 −18 −6 6 18 30 42 54
W m−2
MJO
Kelvin*2
Low
ER
Contours at −12, −36 W m−2

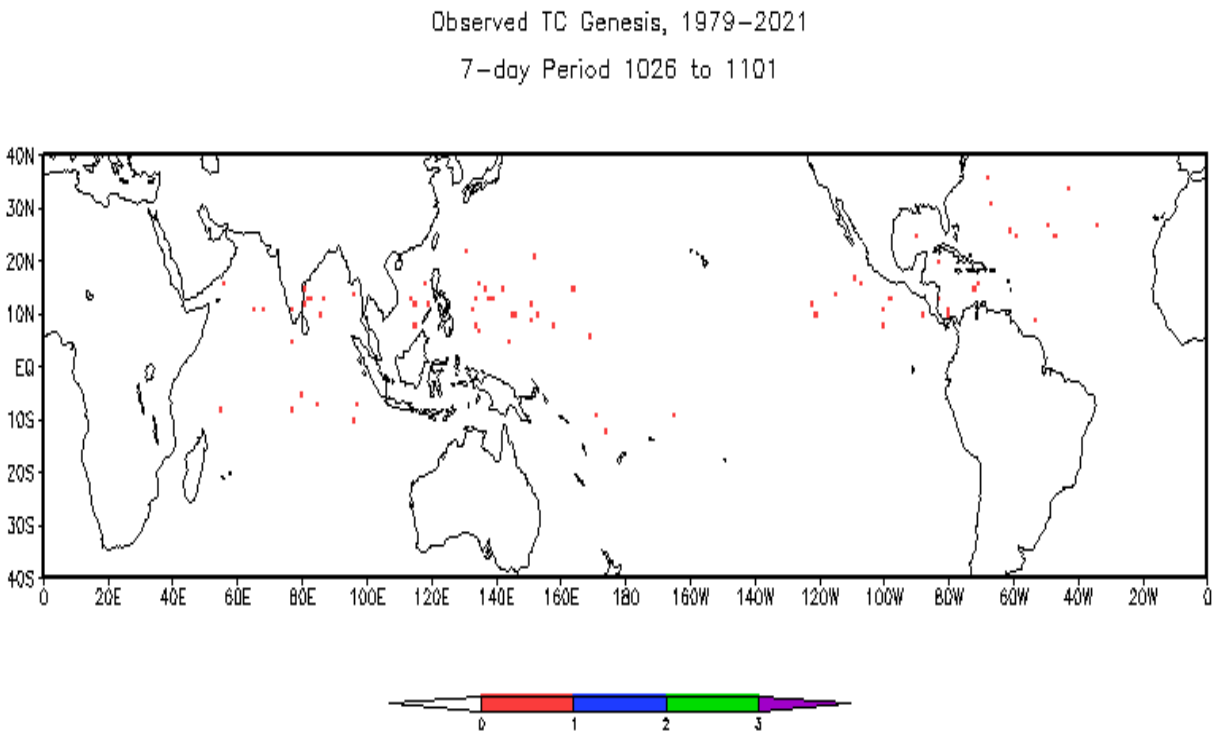
Multi-Model TC Track Probabilities/Densities: Week-2





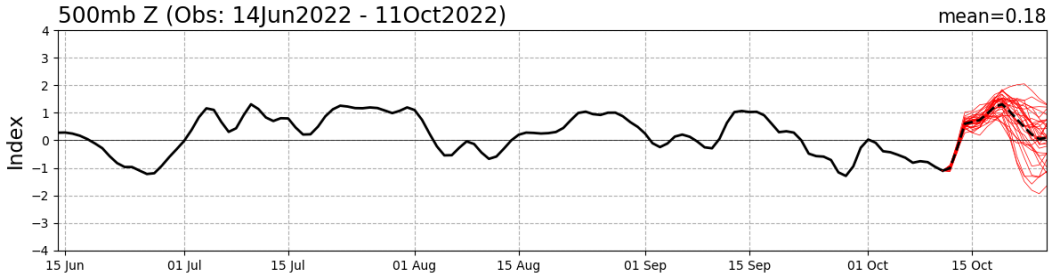
TC Climatological Genesis: Weeks 2 & 3

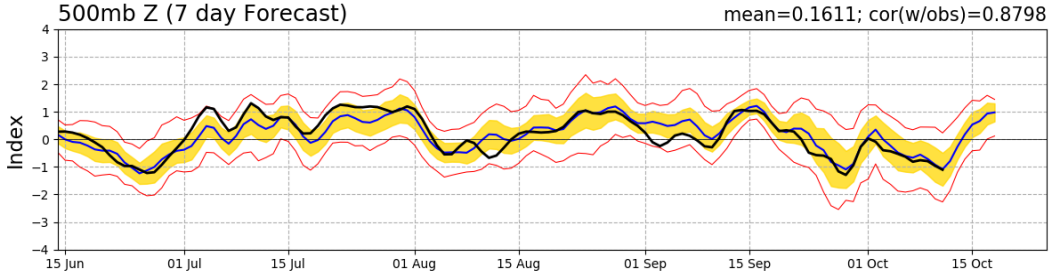


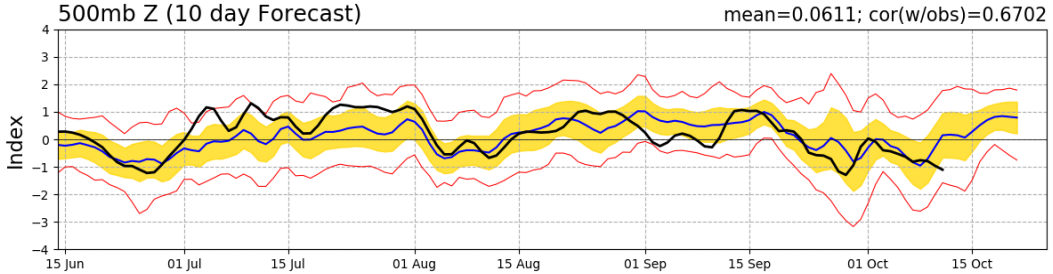


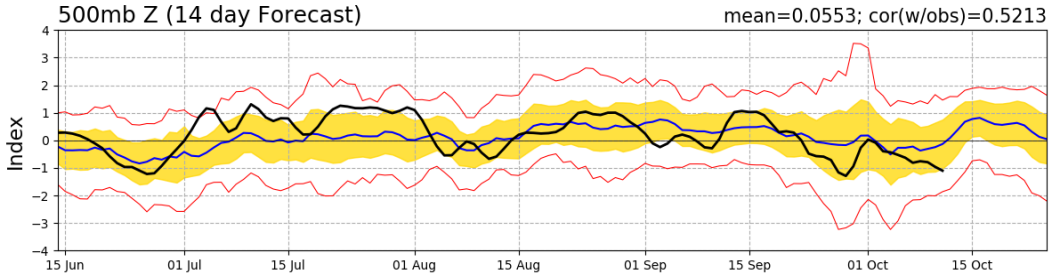
Teleconnection Indices: PNA / NAO:

PNA Index: Observed & GEFS Forecasts

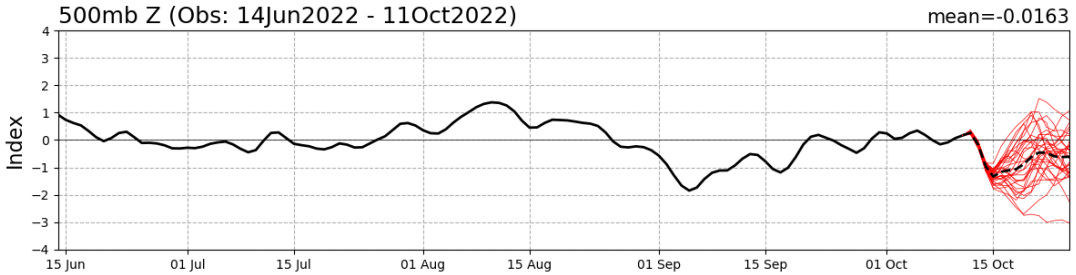


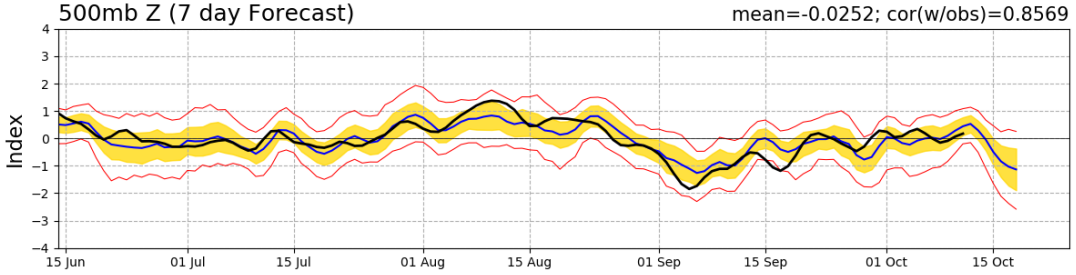


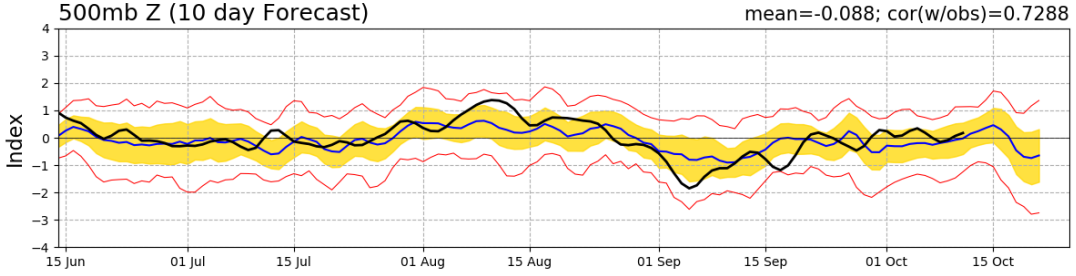


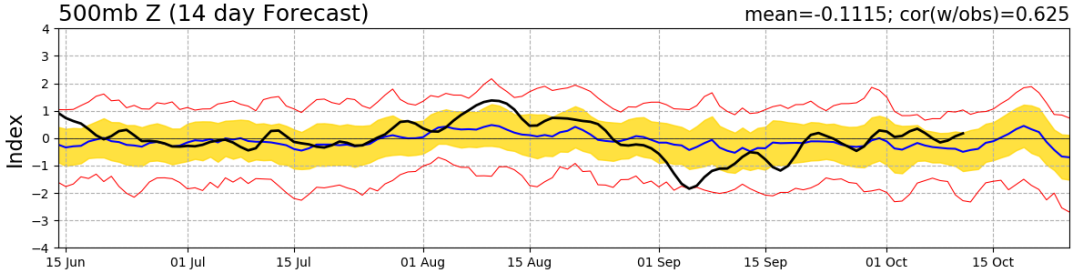


NAO Index: Observed & GEFS Forecasts



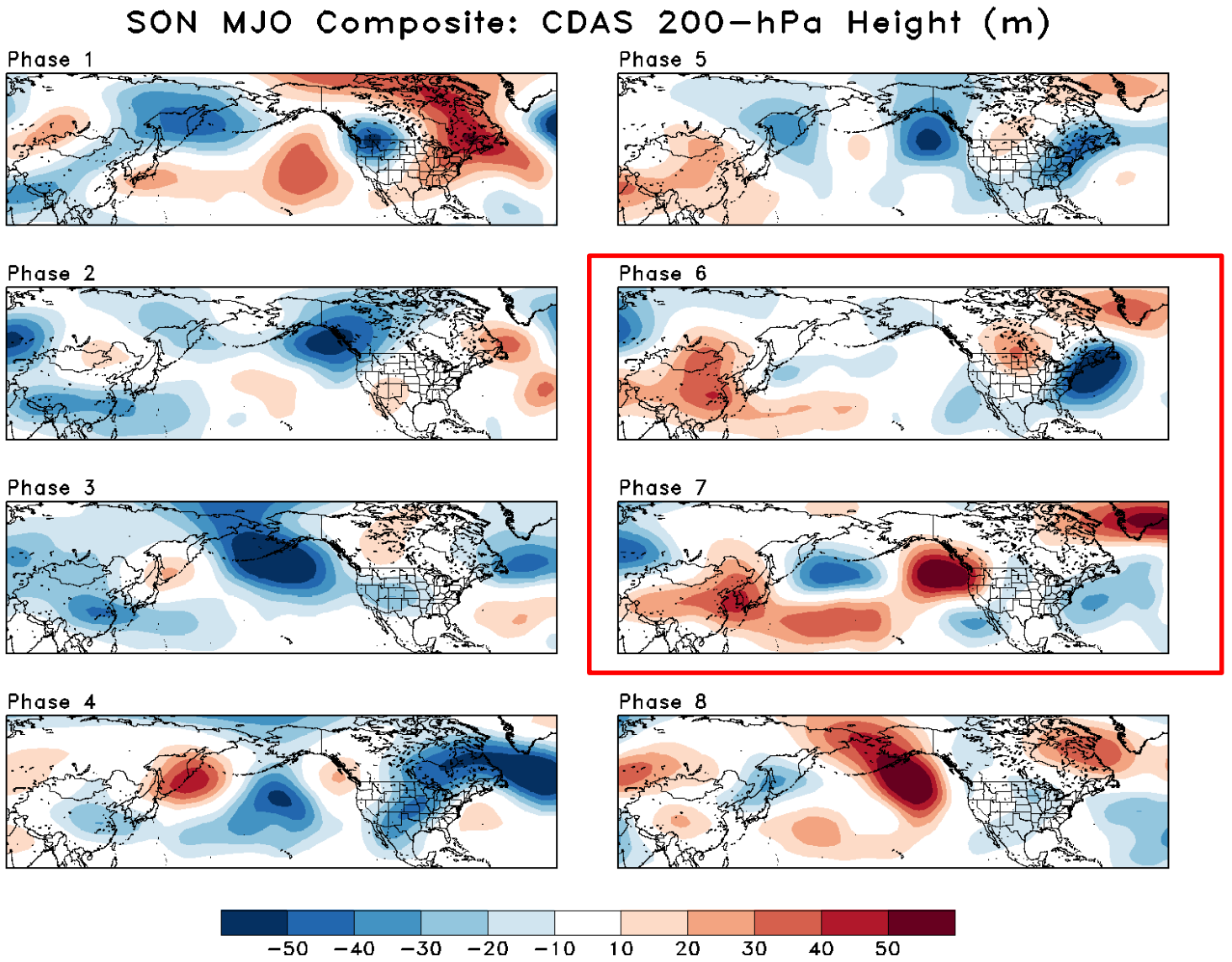




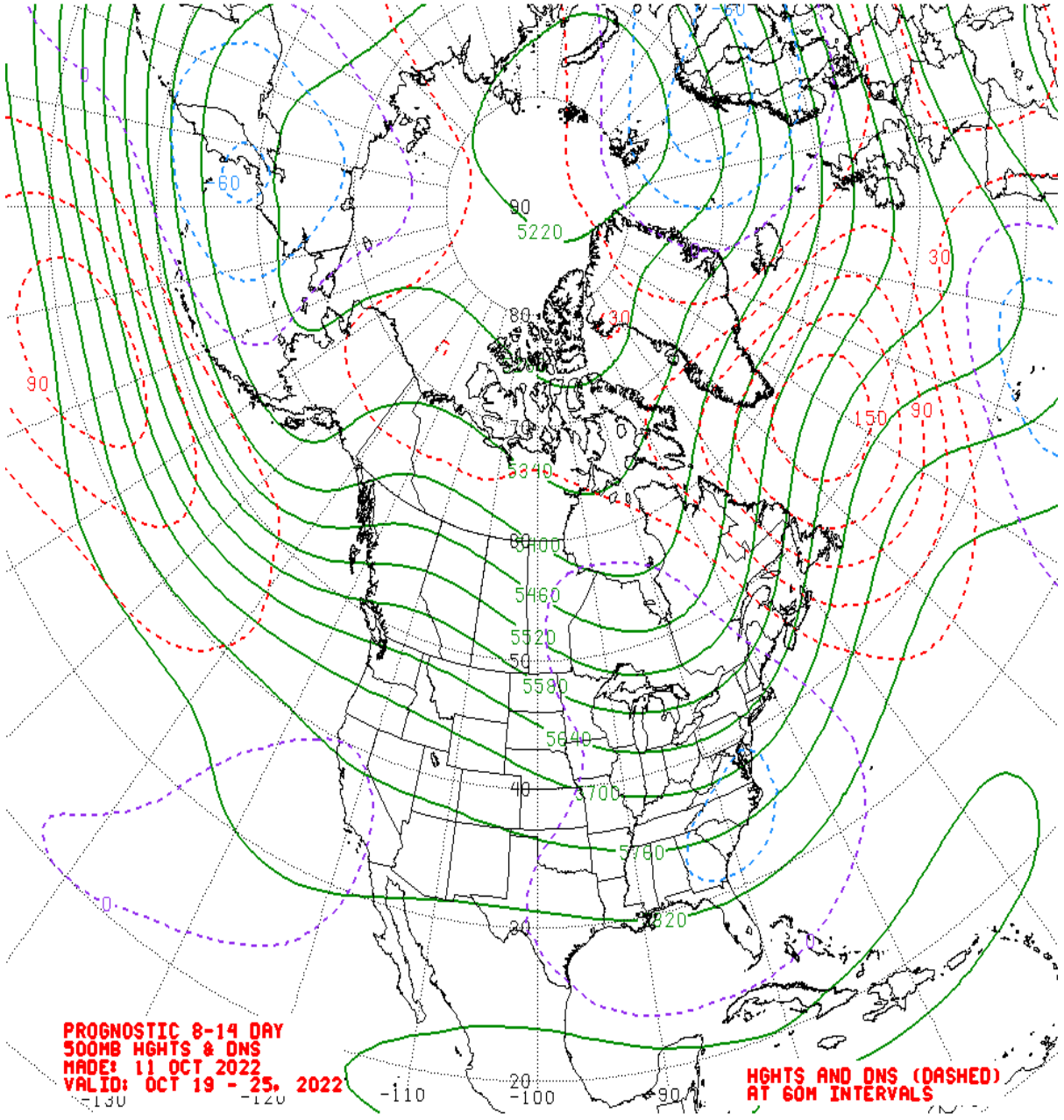


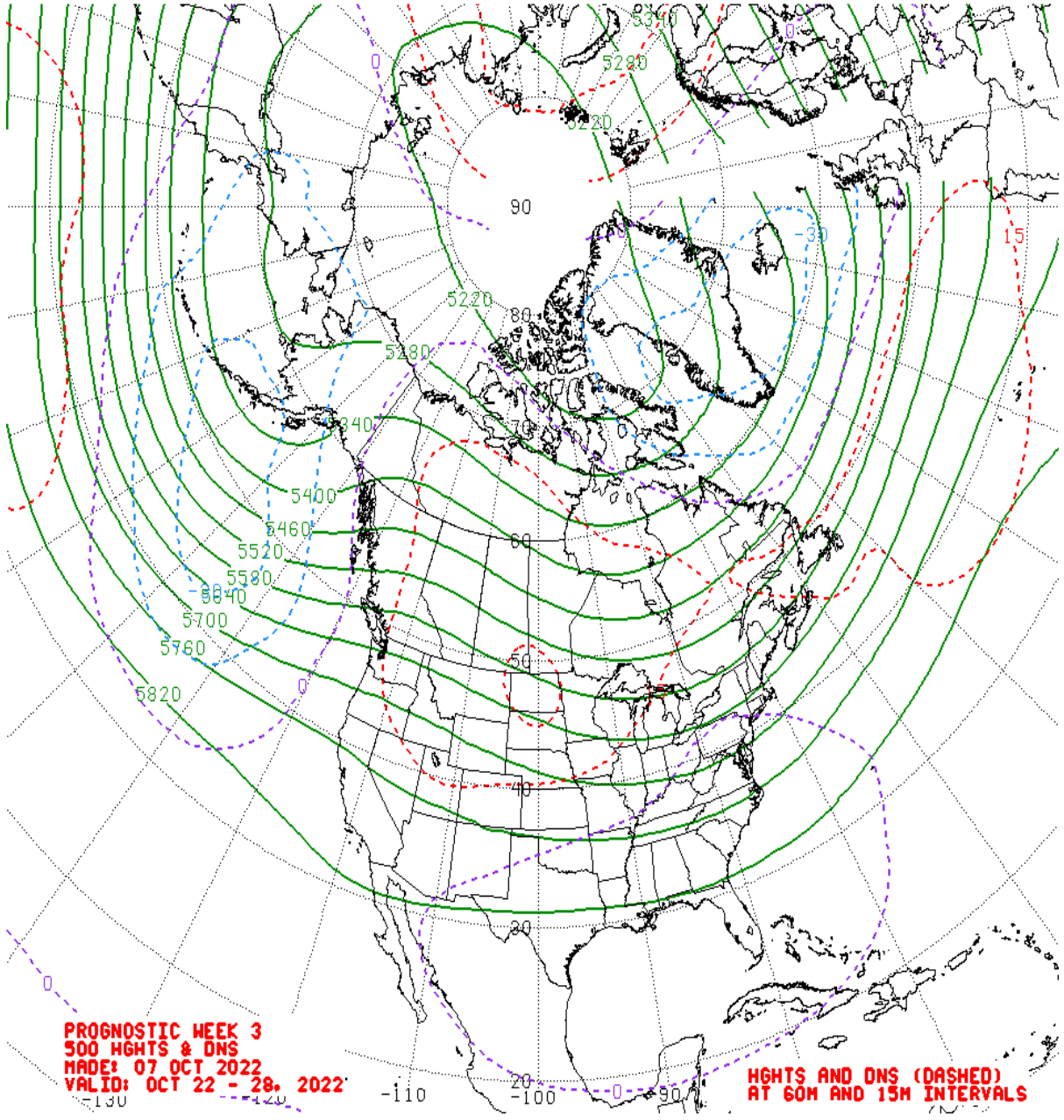
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

The negative phase of the NAO is favored after suppressed (enhanced) convection is located in the Indian Ocean (western Pacific), corresponding to phase 6 of the MJO

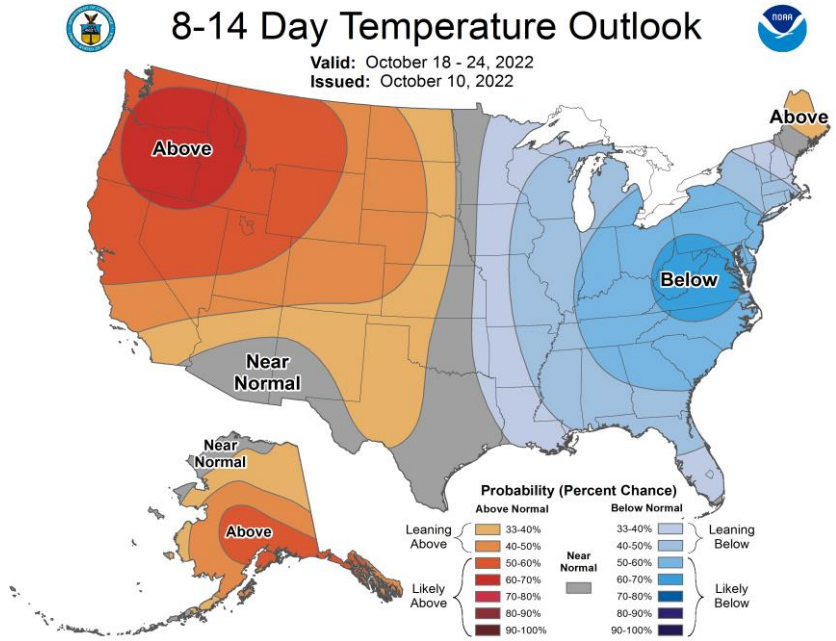


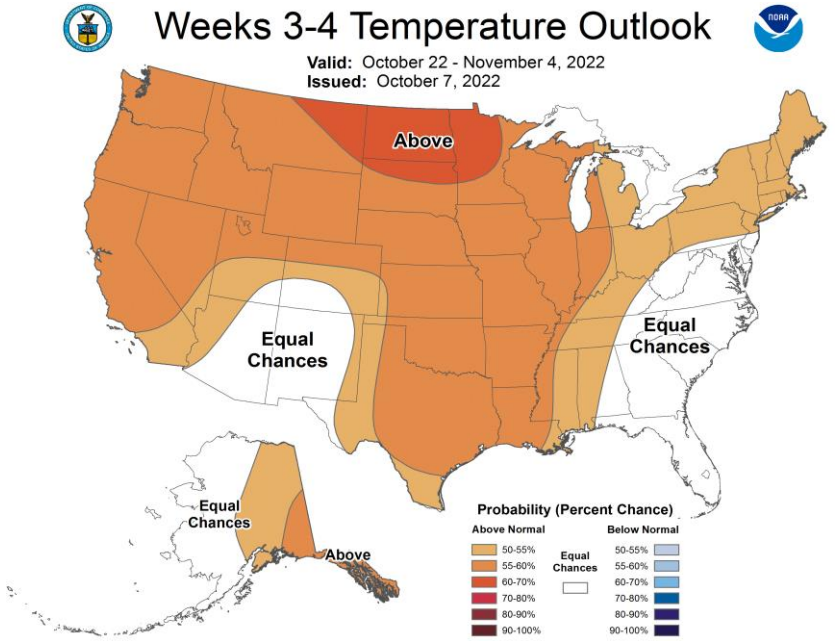
Mean 500-hPa Height Anomaly Forecasts:

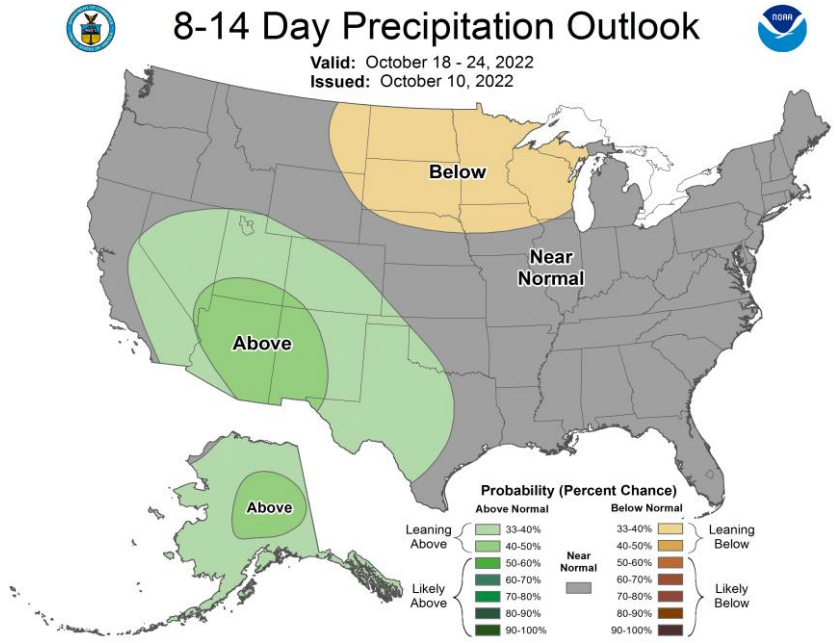


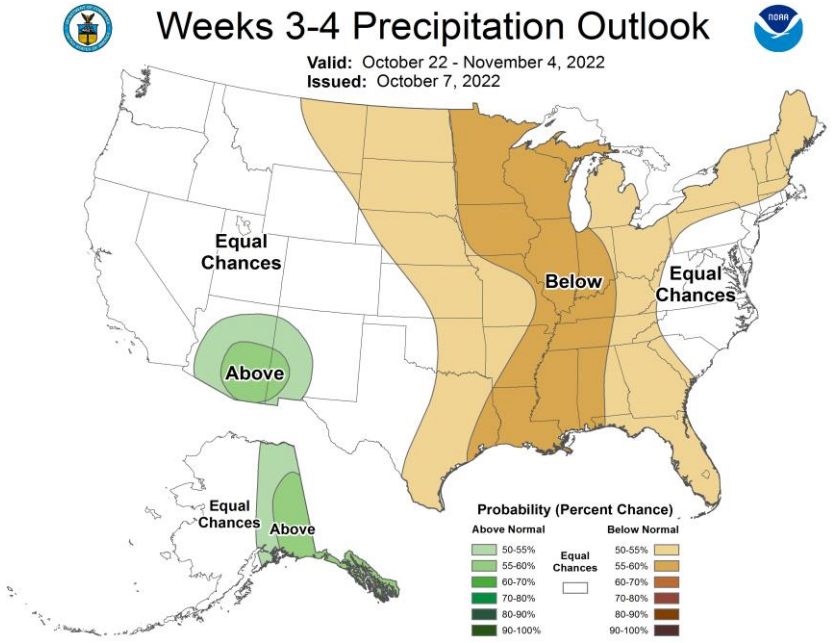


Official Temperature & Precipitation Forecasts:









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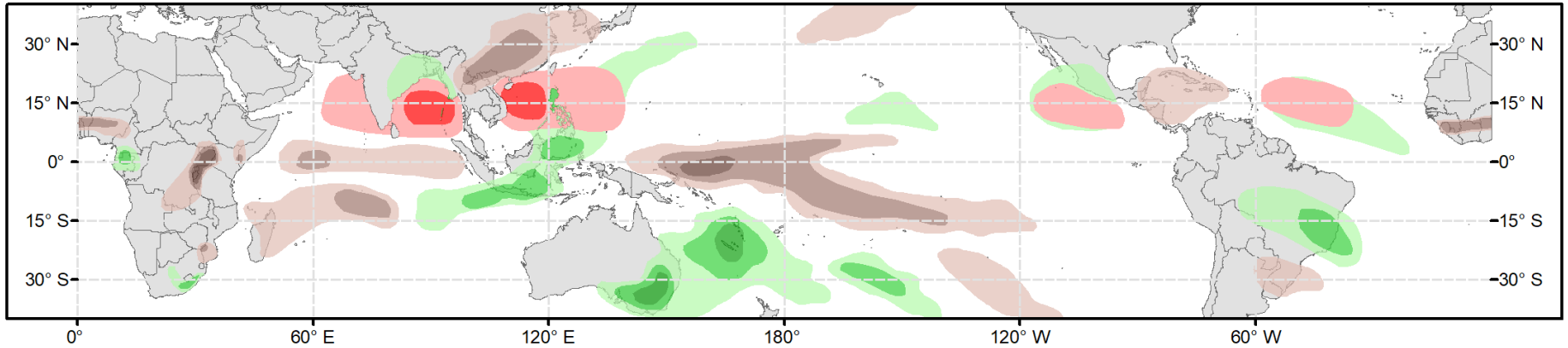

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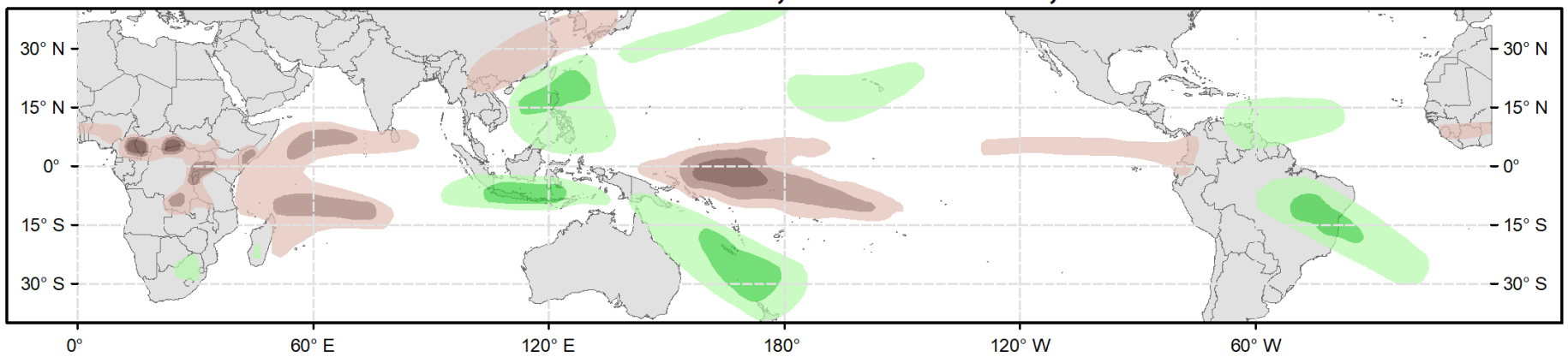

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