Weeks 2-3 Global Tropics Hazards Outlook

10/10/2023

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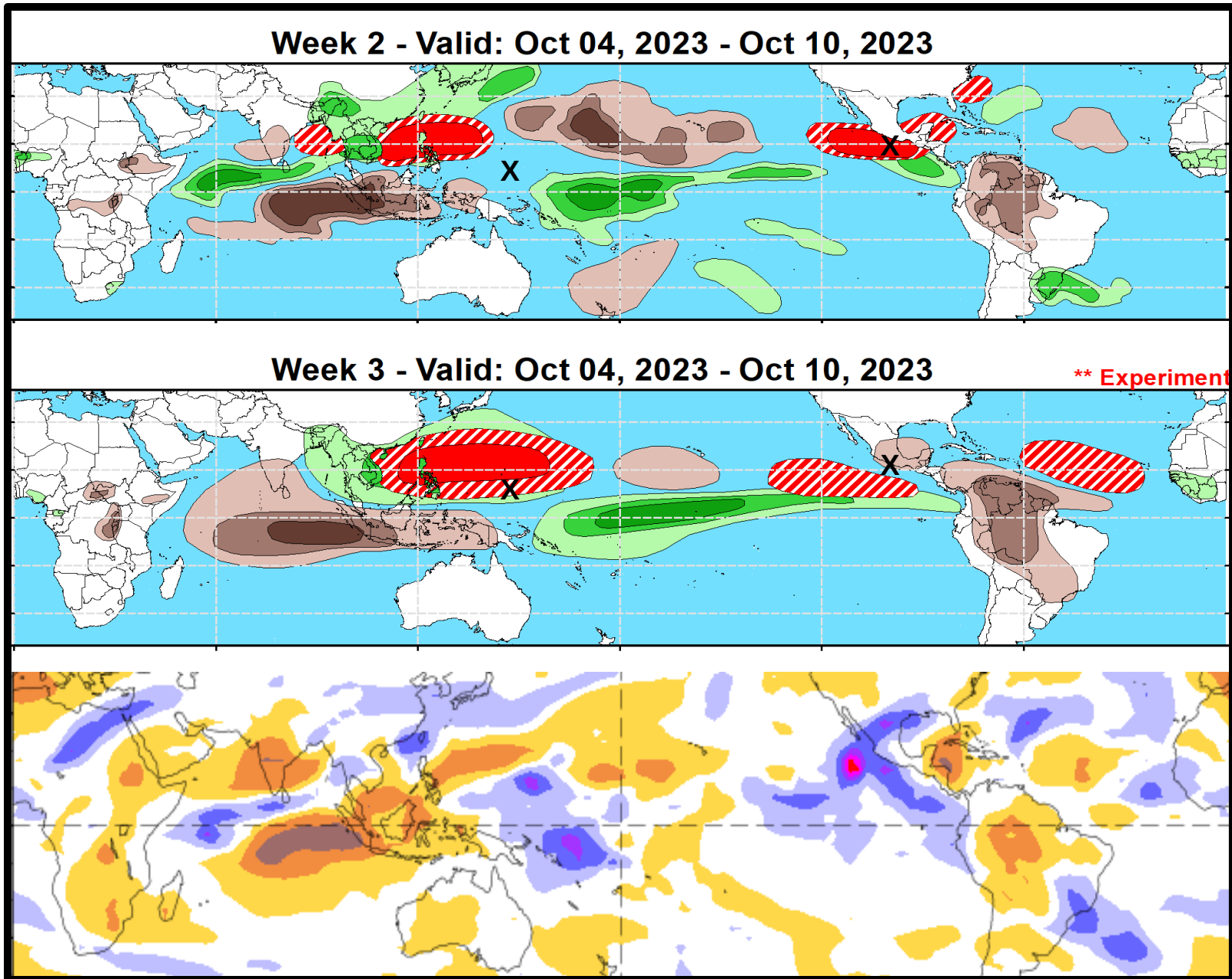
NWS / NCEP / Climate Prediction Center

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

- In addition to Hurricane Lidia over the East Pac, TS Max formed just south of Mexico, and Typhoon Bolaven, now passing just north of Guam
- IOD-related anomalies were well forecast in Week-2
- The ENSO signal was somewhat more suppressed than forecast, with enhanced precip displaced over the West Pac.



Synopsis of Climate Modes:

ENSO: (Sep 14, 2023 Update) ***next update on Thursday, Oct 12th***

- ENSO Alert System Status: El Niño Advisory

- El Niño is anticipated to continue through the Northern Hemisphere winter (with greater than 95% chance through January - March 2024).

MJO and other subseasonal tropical variability:

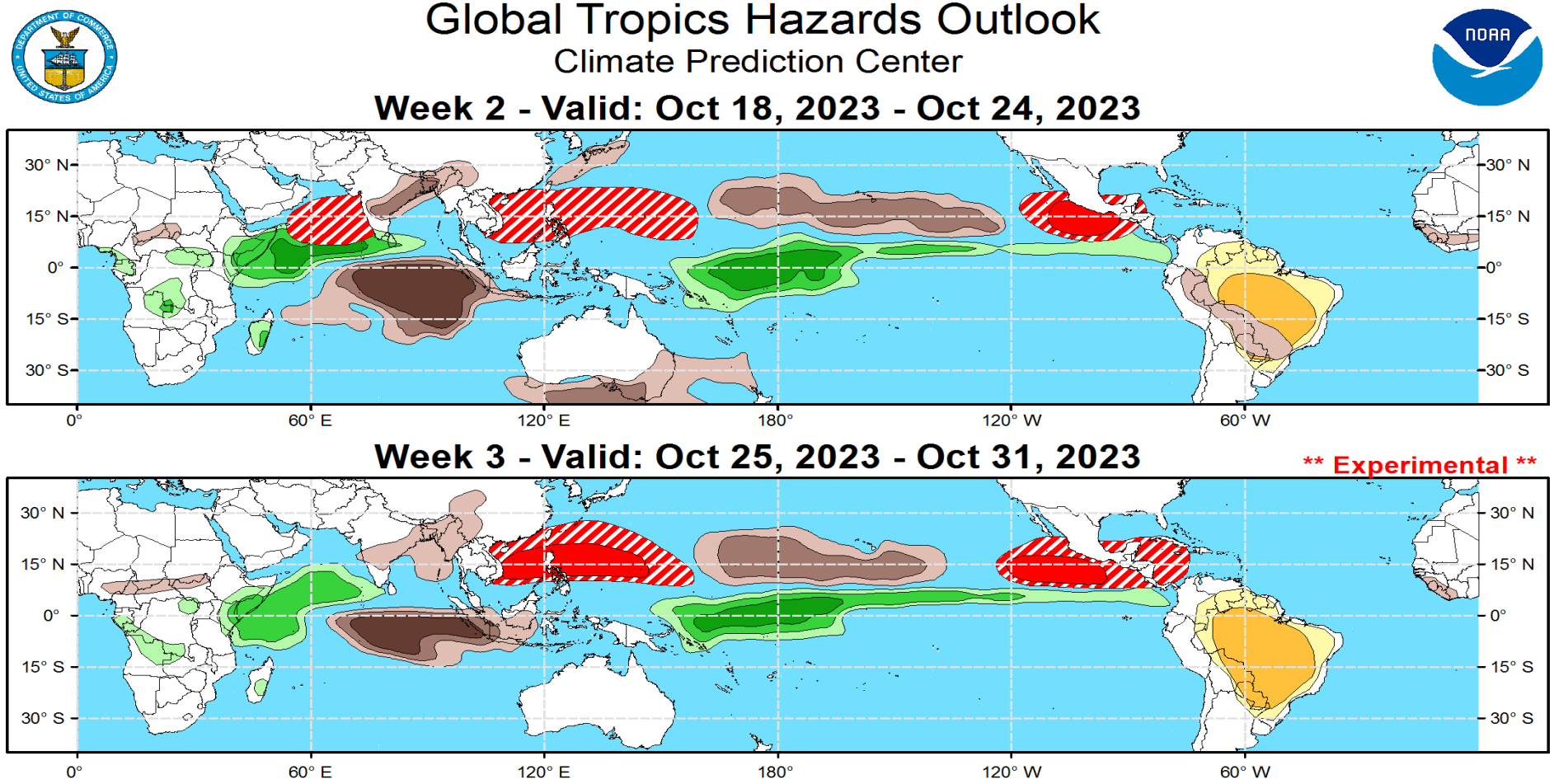
- The MJO is active, with the enhanced convective phase now over the Western Hemisphere.

- The continued evolution of the MJO signal is uncertain, as the tropical pattern is currently dominated by a strongly positive IOD event and ENSO.

- Accordingly, the GTH forecast issued today shows a fairly high confidence and stationary pattern.

- While warm SSTs may promote additional late season MDR TC development, the area of concern is favored to shift towards the western Caribbean as the CAG becomes stronger. East Pacific development may provide a limiting factor due to subsidence.

GTH Outlook:


Global Tropics Hazards Outlook
Climate Prediction Center
Week 2 - Valid: Oct 18, 2023 - Oct 24, 2023
Week 3 - Valid: Oct 25, 2023 - Oct 31, 2023
** Experimental **
30° N
15° N
0°
15° S
30° S
0°
60° E
120° E
180°
120° W
60° W
Tropical Cyclone (TC) Formation Probability
>20% >40% >60%
Tropical Depression (TD) or greater strength
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>50% >65% >80%
Weekly total rainfall in the Upper third of the historical range
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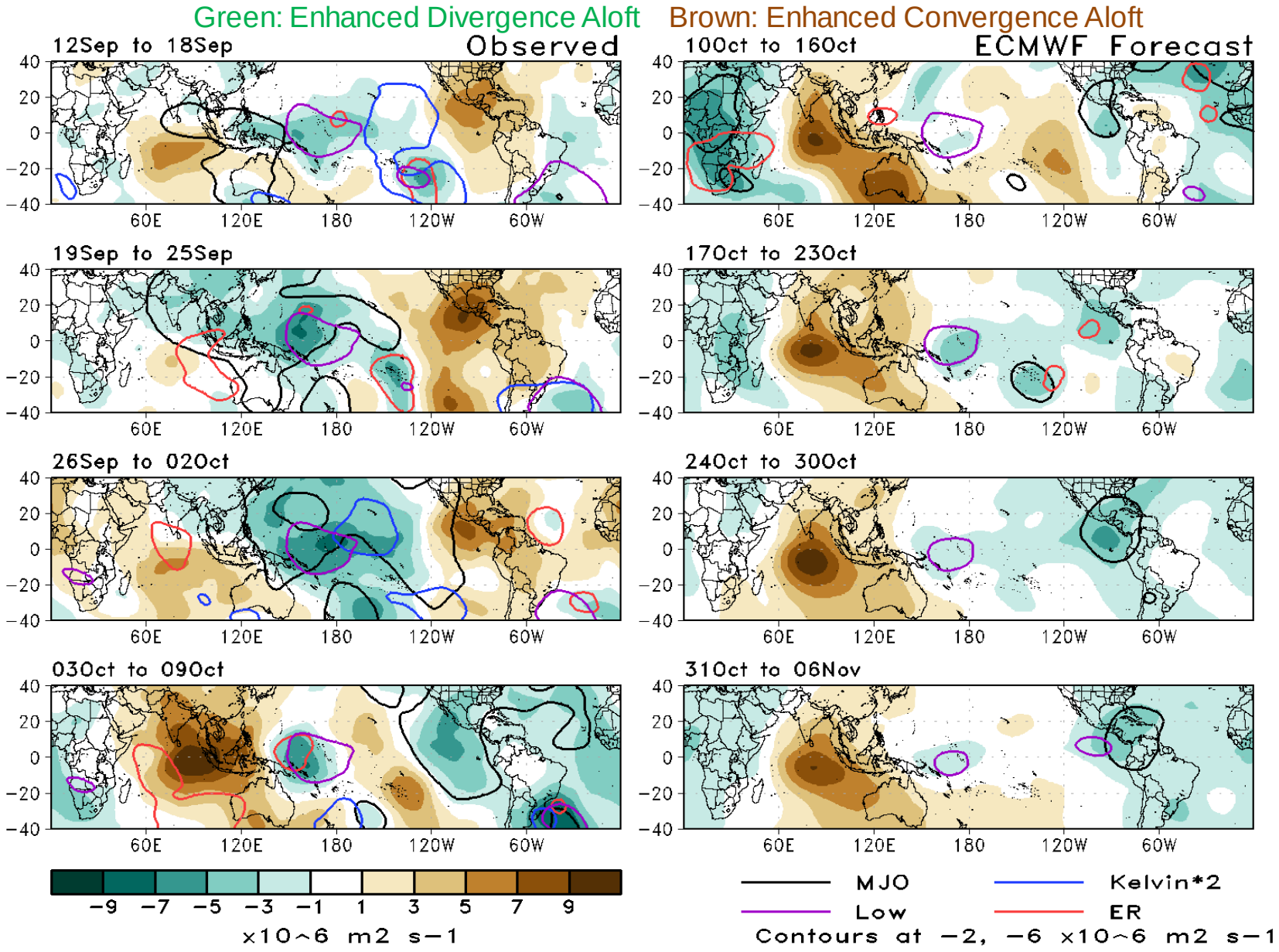
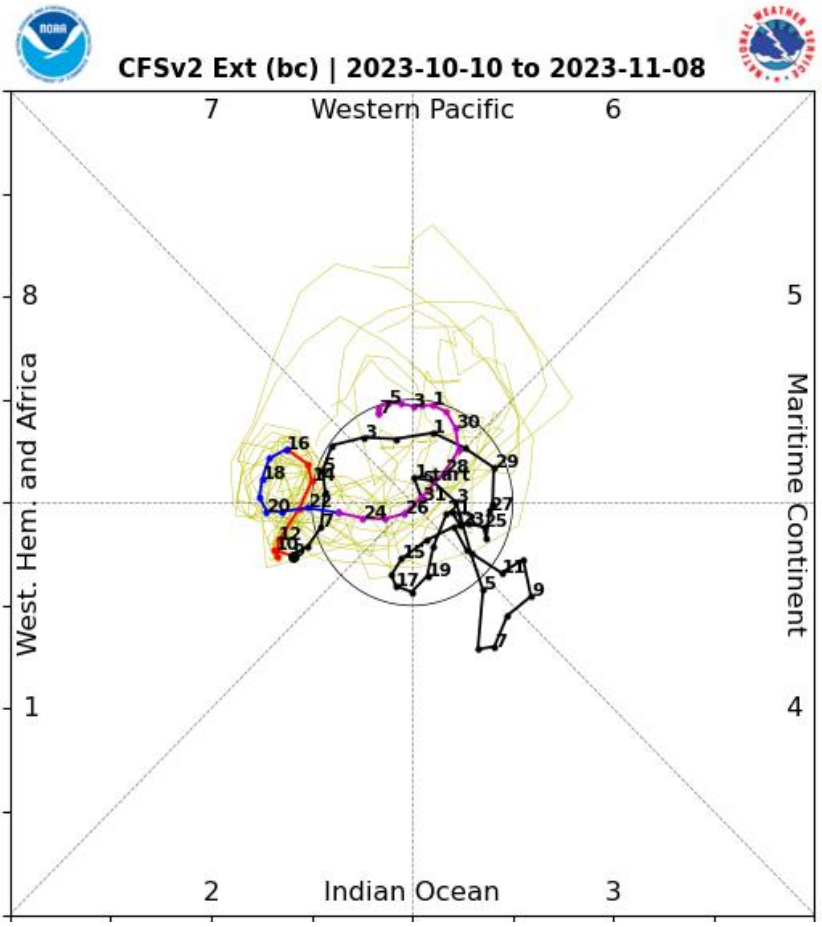
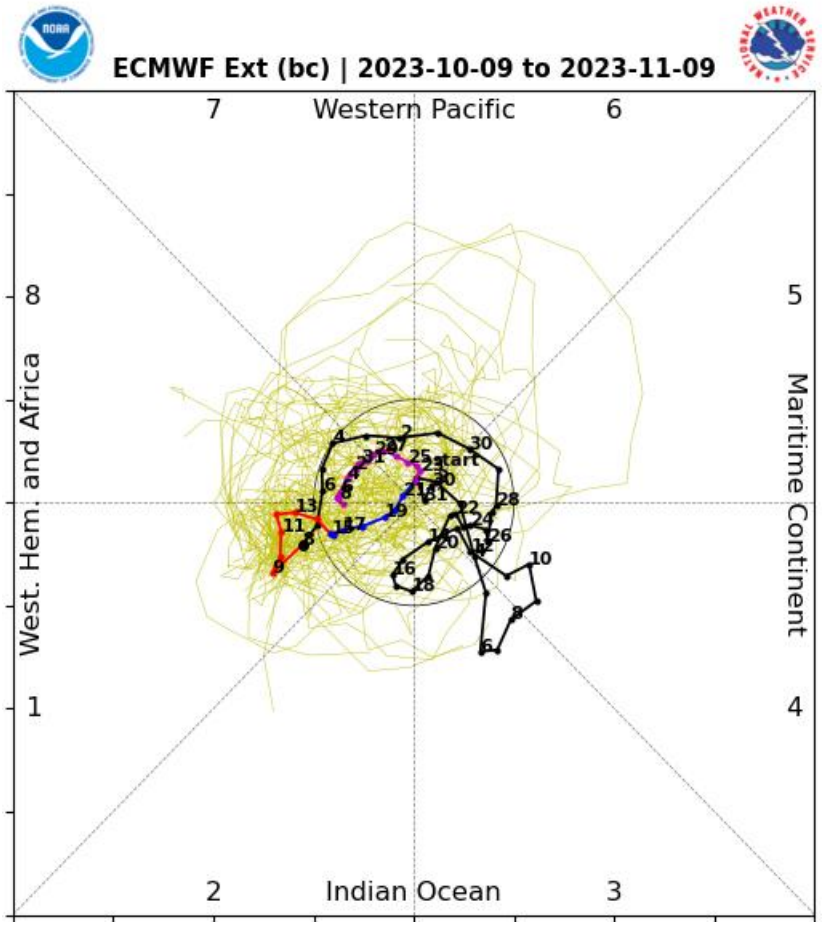
200-hPa Velocity Potential Anomaly Maps:

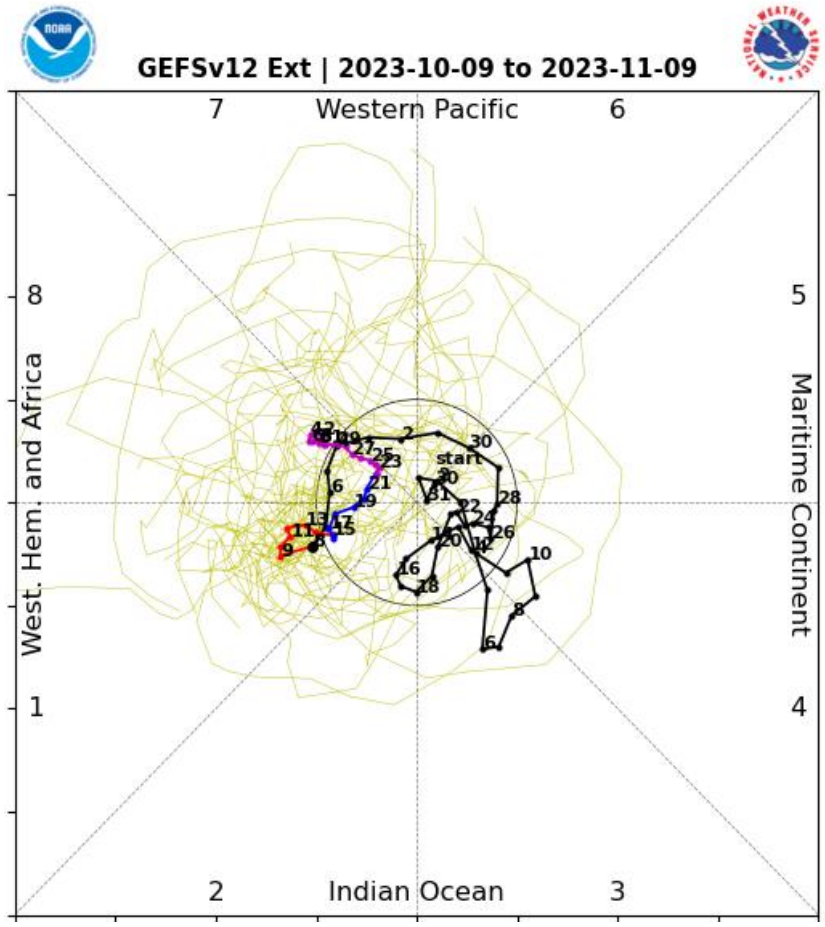
- Robust intraseasonal activity was established in the upper level VP field by late September.
- ECMWF forecasts show a much more stationary signal over the next month, with the positive IOD signal emerging as the strongest.



RMM Index Observations & Forecasts:

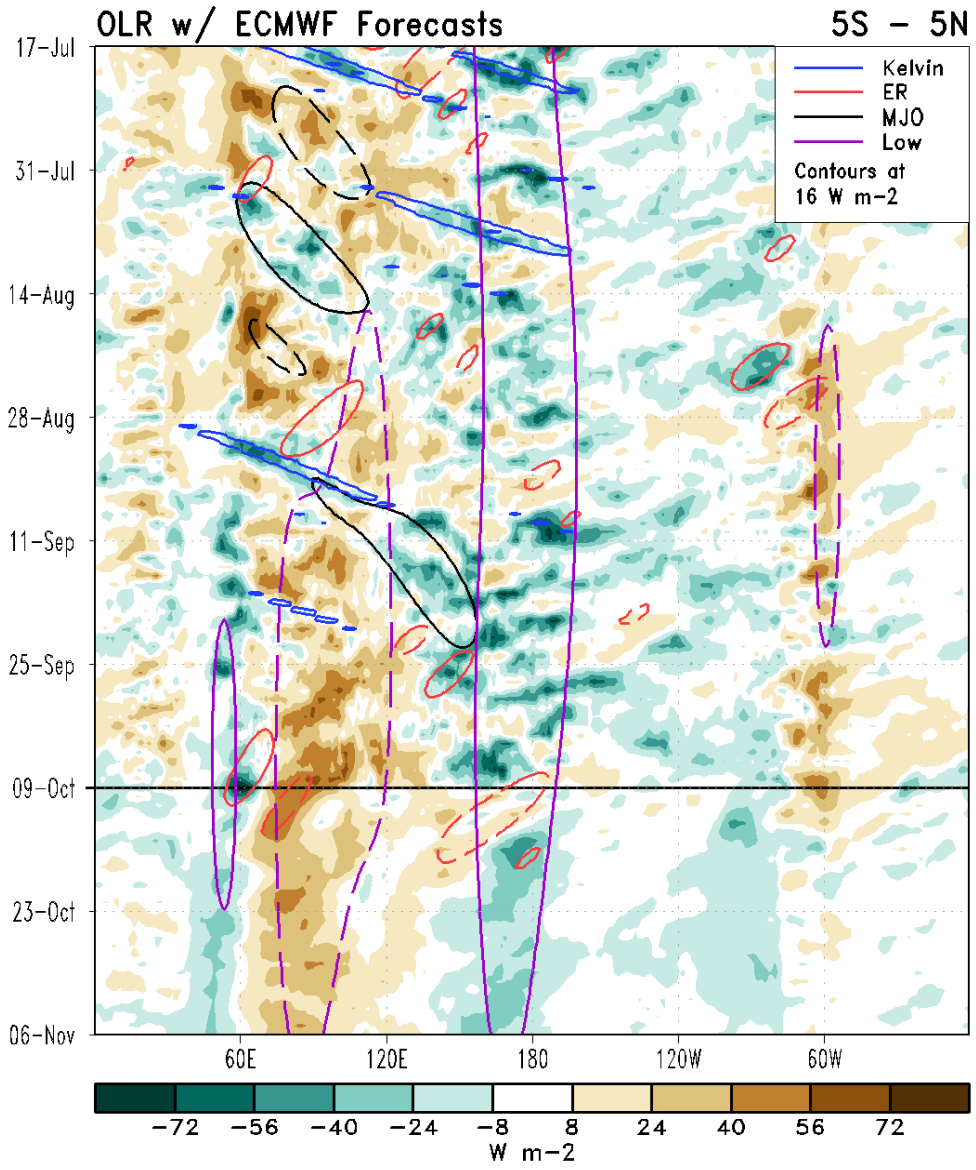


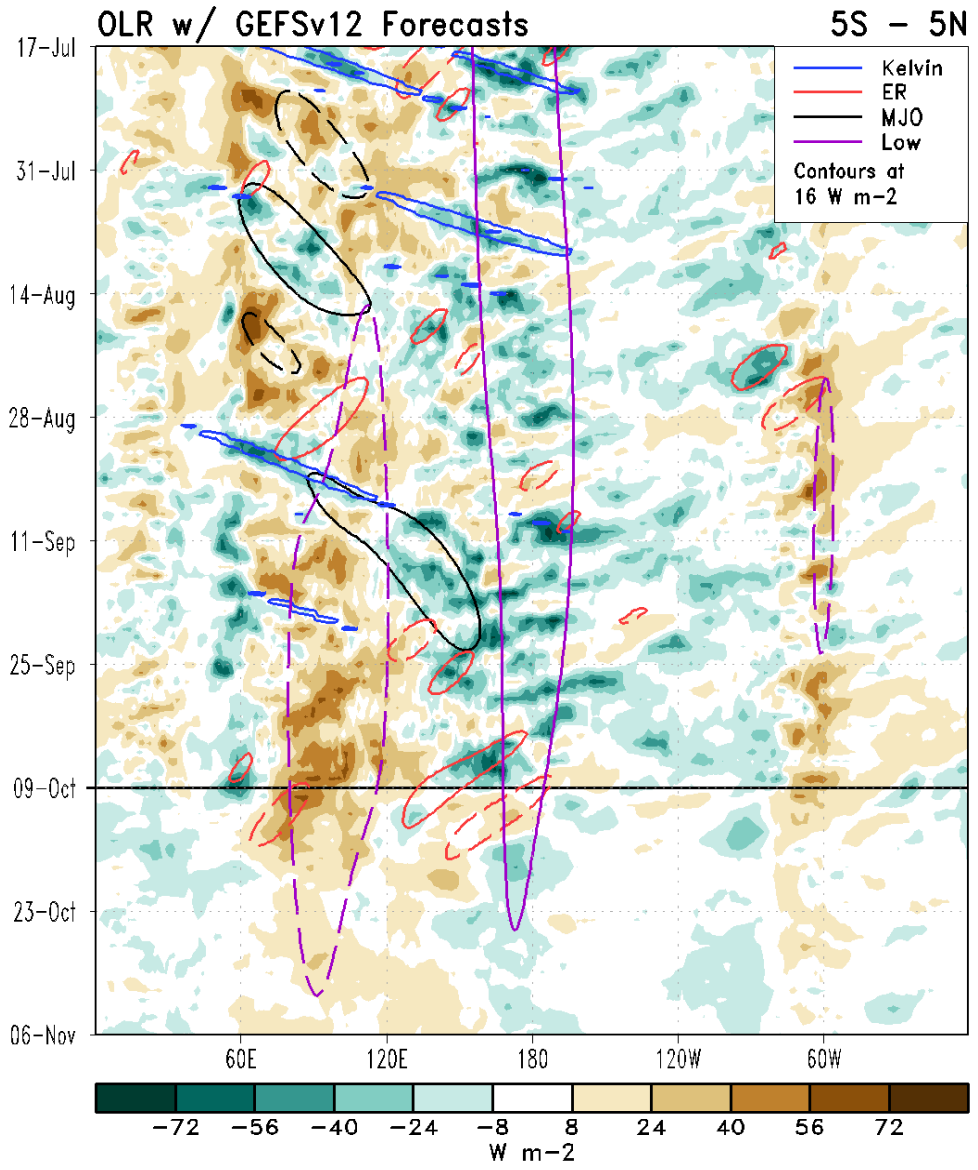




- The IOD and ENSO interference seemingly prevent MJO evolution across the Indian Ocean and Maritime Continent.
- A tight loop (potentially a faster moving intraseasonal signal decoupled from convection then returning to the Pacific) is evident over the Pacific and Western Hemisphere over the next few weeks.

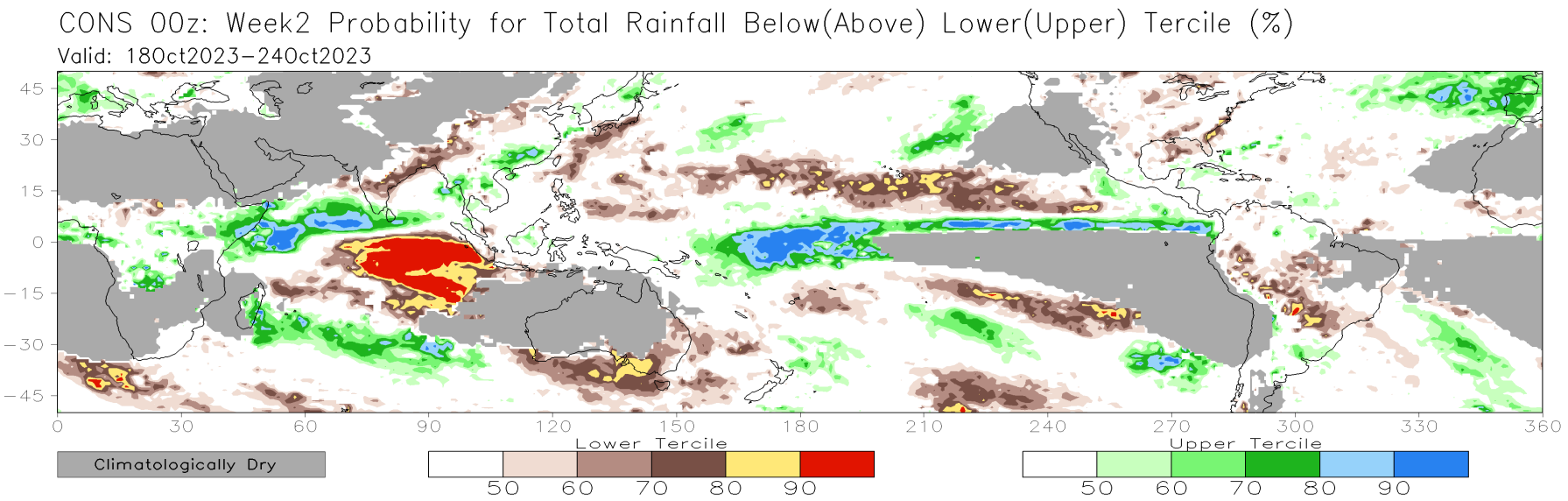
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:

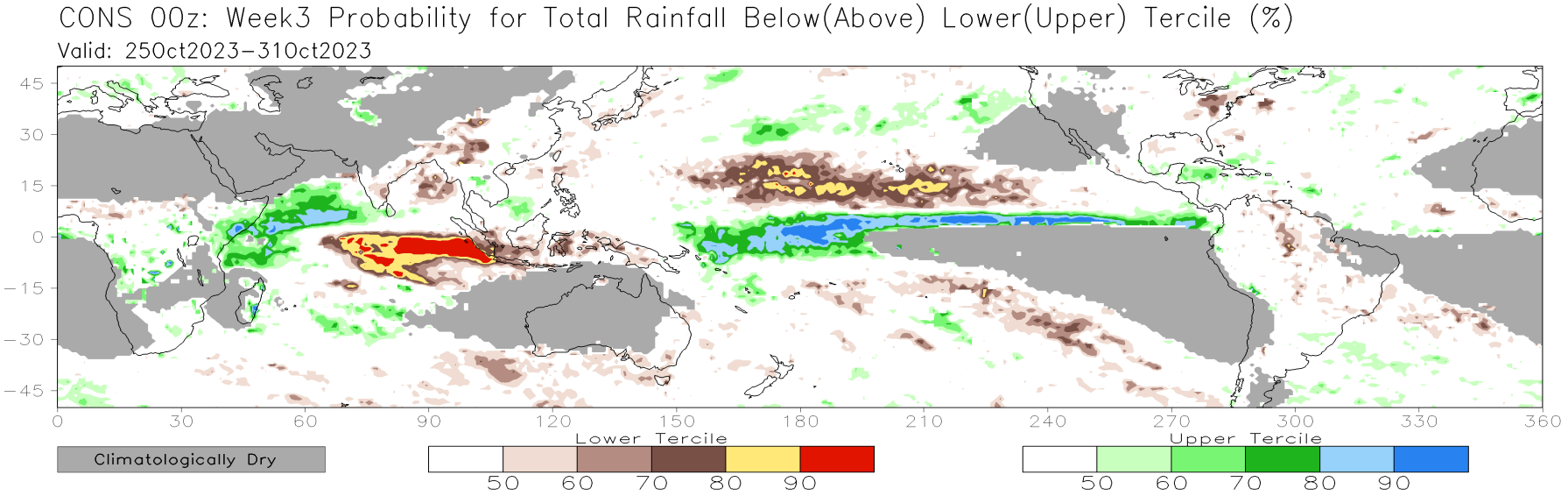




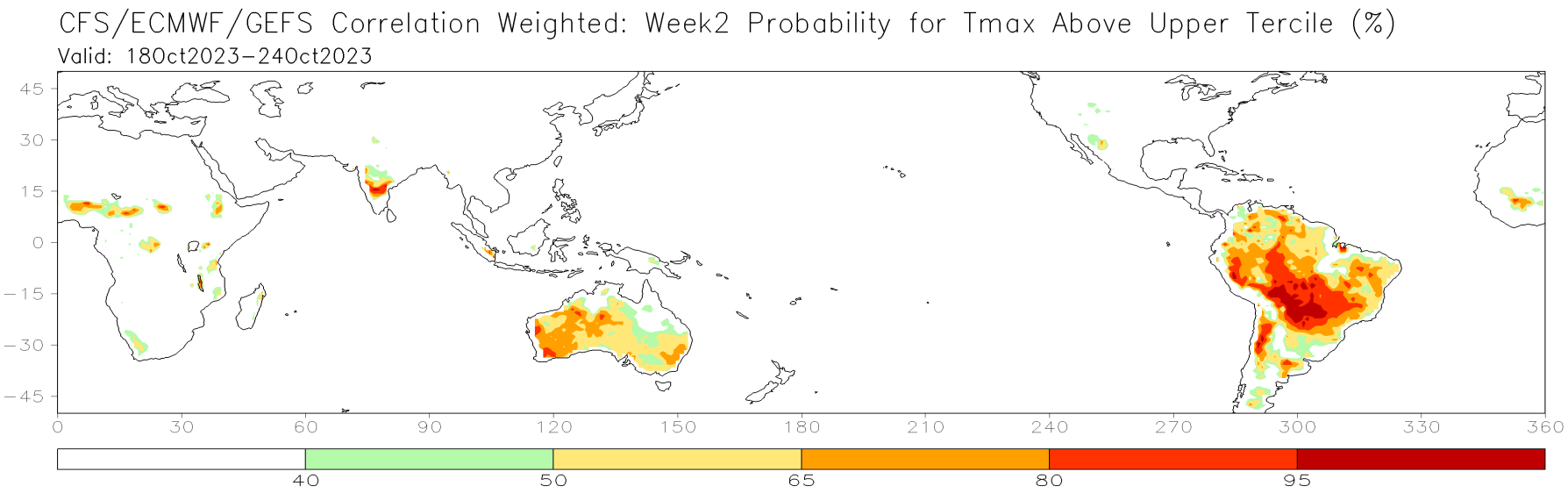
GEFS shows a bit more intraseaonal activity than the ECMWF

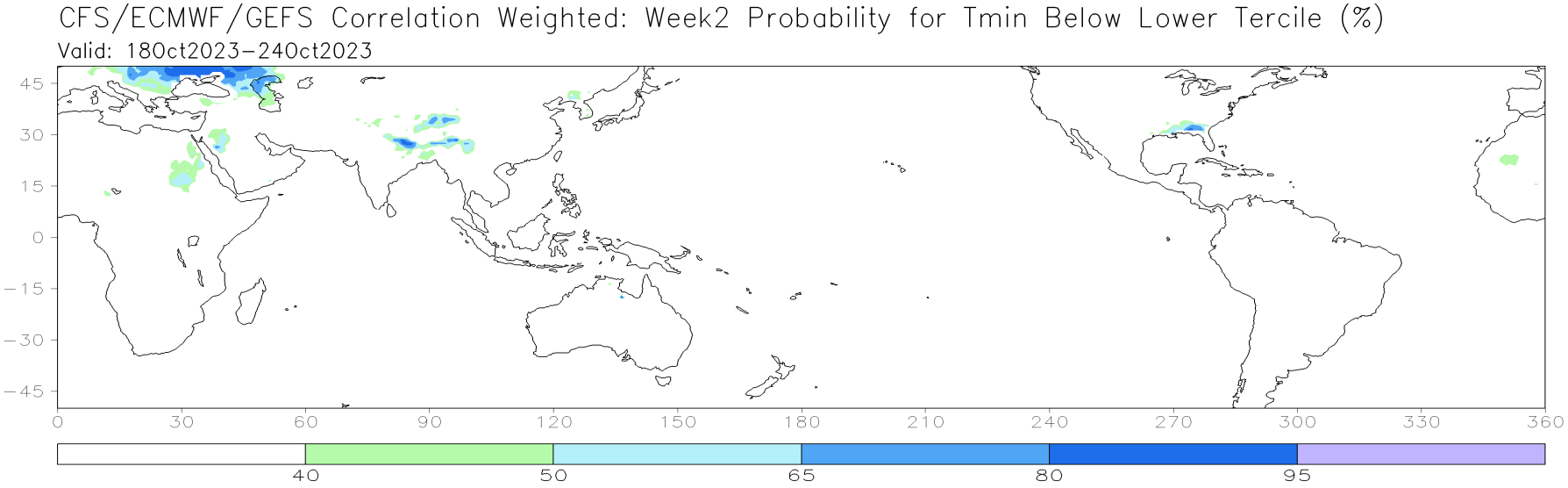
Consolidated Probabilistic Precipitation: Weeks 2 & 3



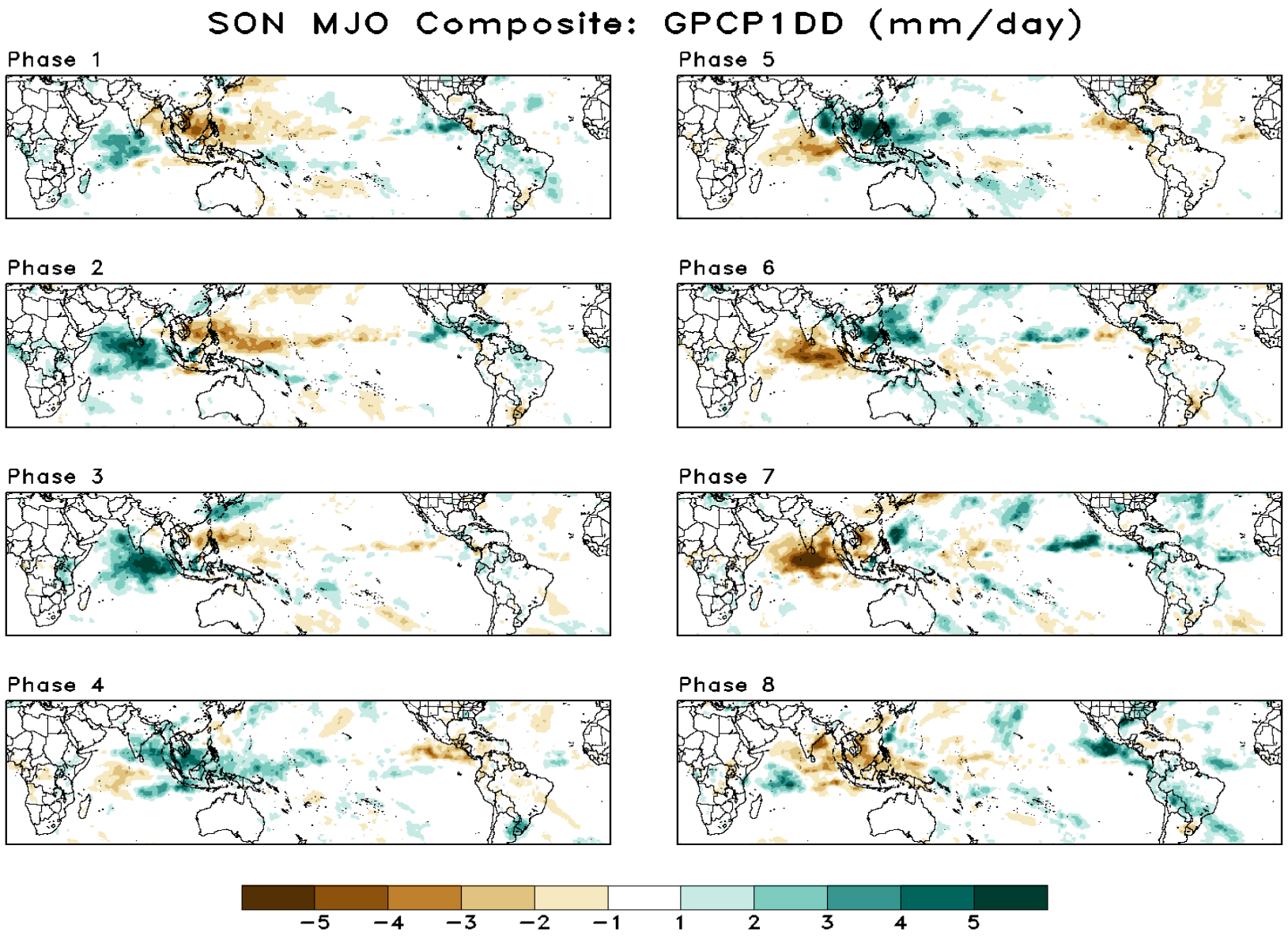


Consolidated Probabilistic Temperatures: Week-2

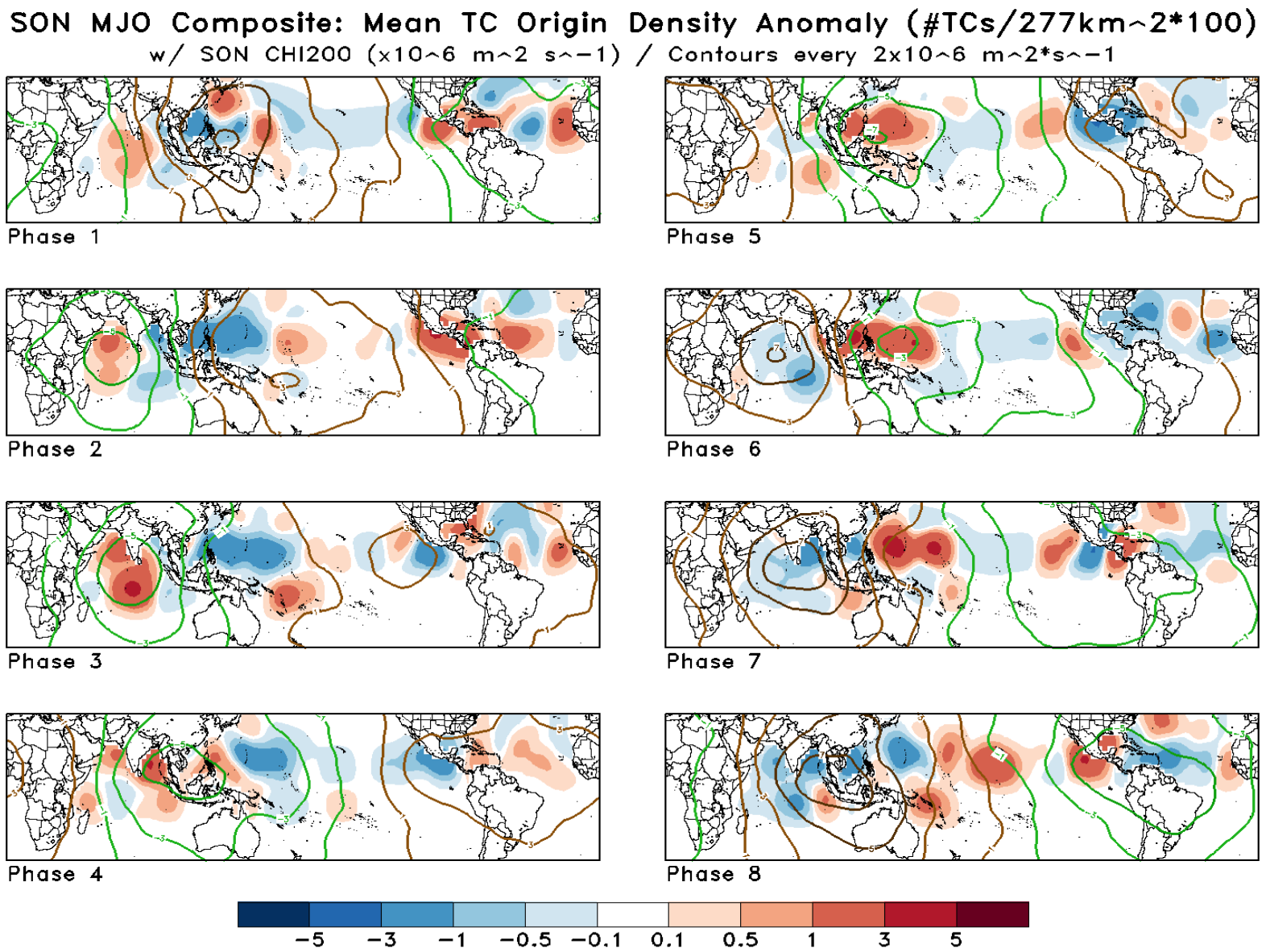


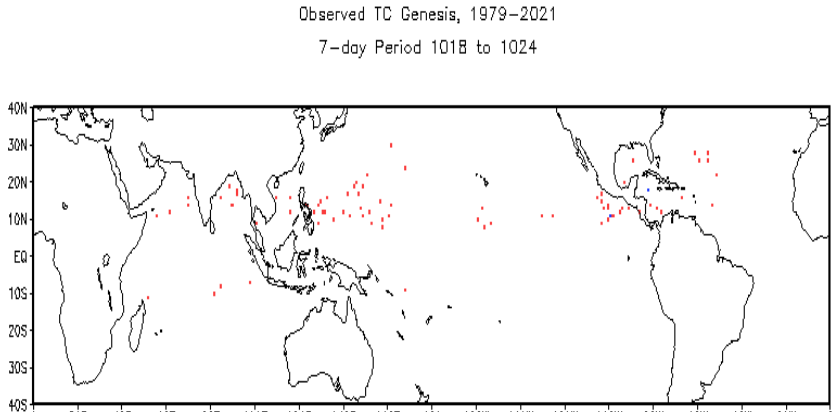


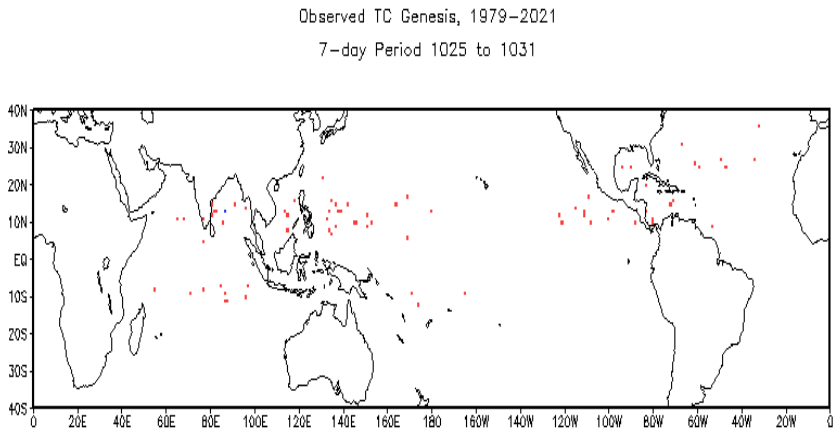
Historical Precipitation Anomalies By MJO Phase:



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

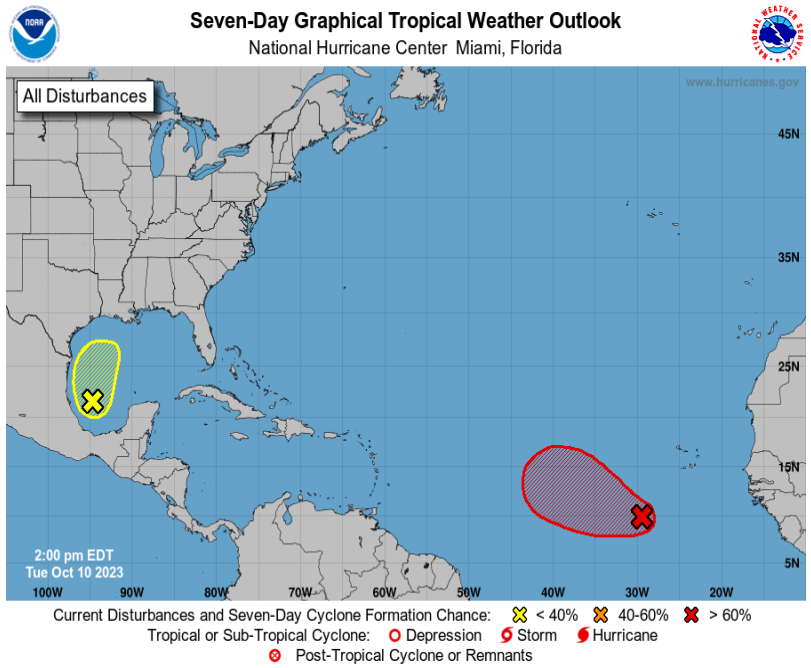


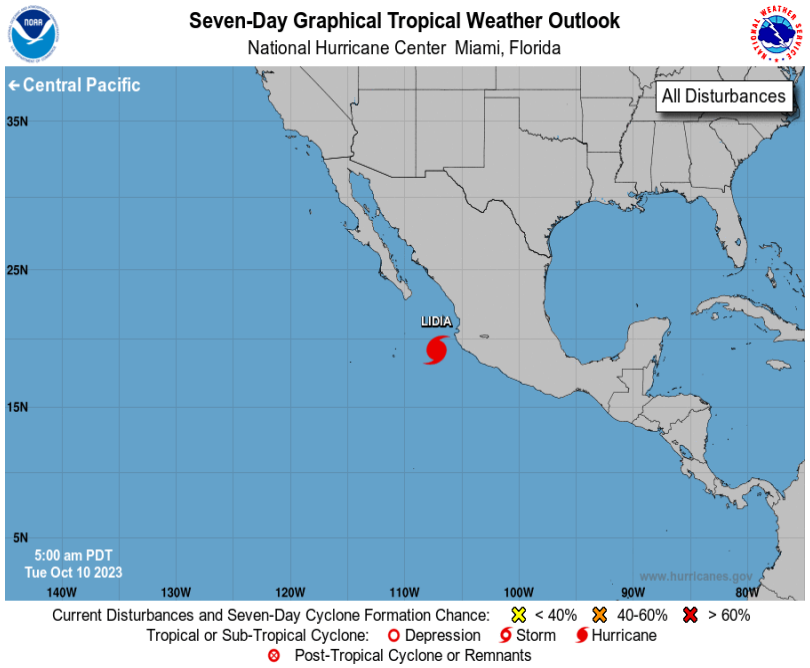


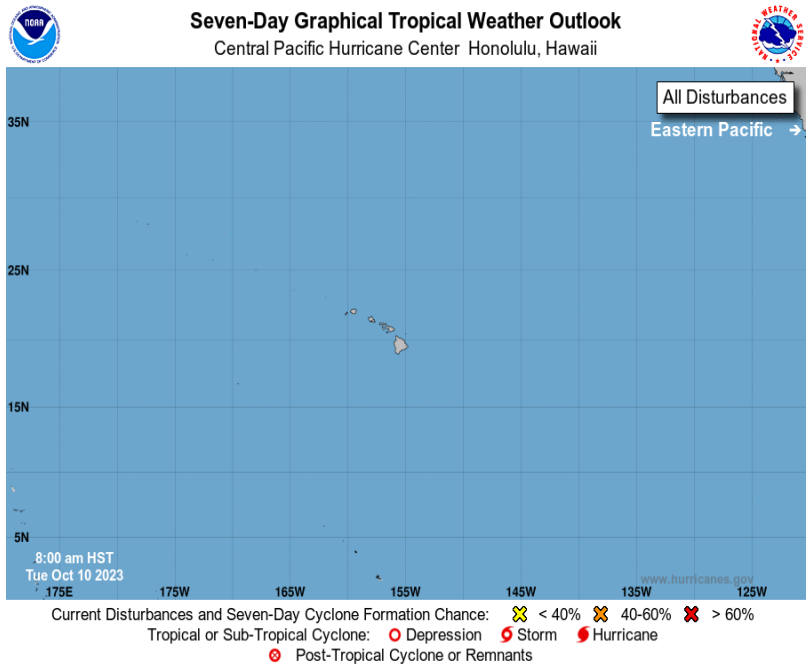


Experimental

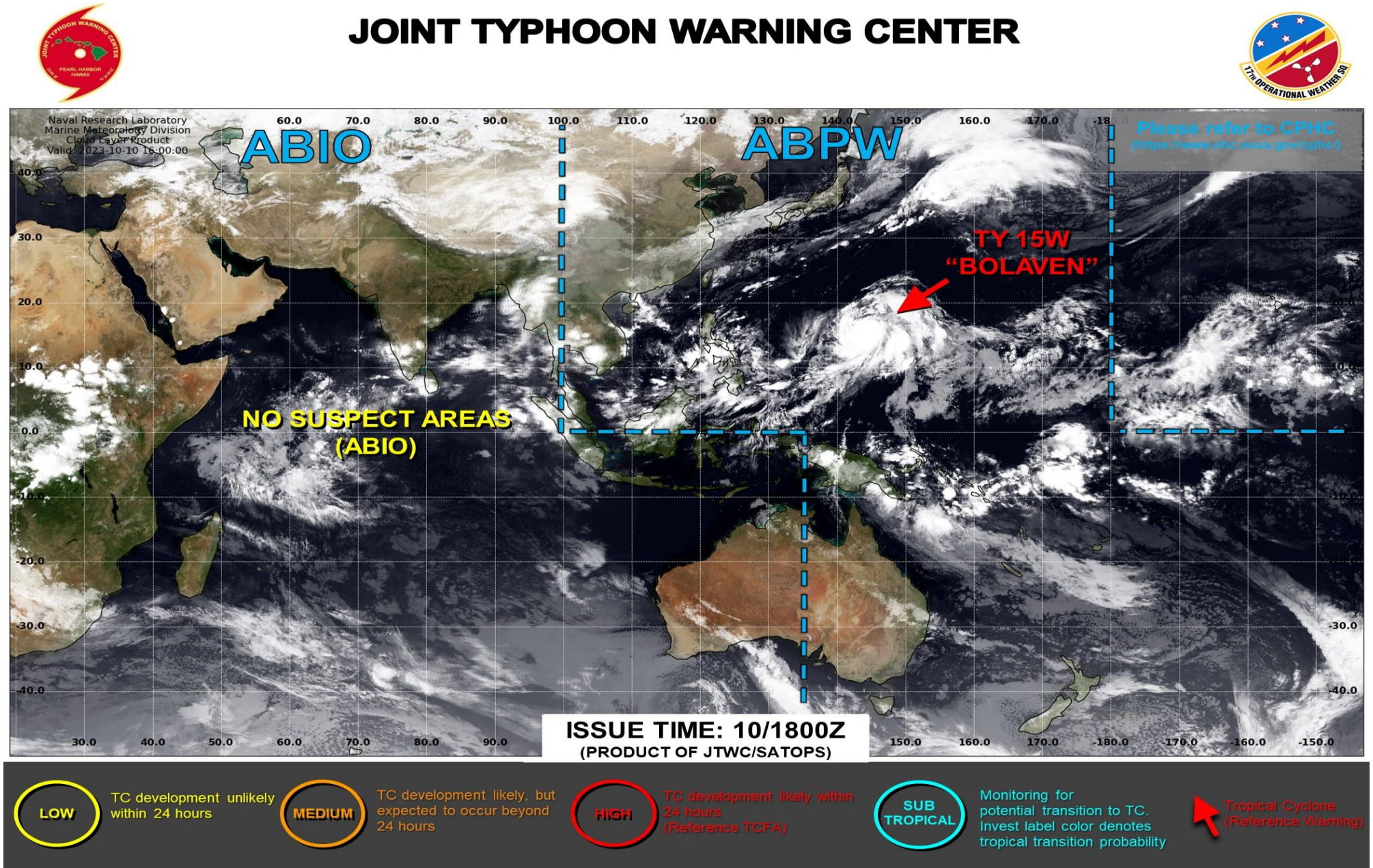
Tropical Cyclone Monitoring/Forecast: NHC / CPHC







Tropical Cyclone Monitoring/Forecast: JTWC



Key Messages for Hurricane Lidia

Advisory 30: 9:00 AM MDT Tue Oct 10, 2023

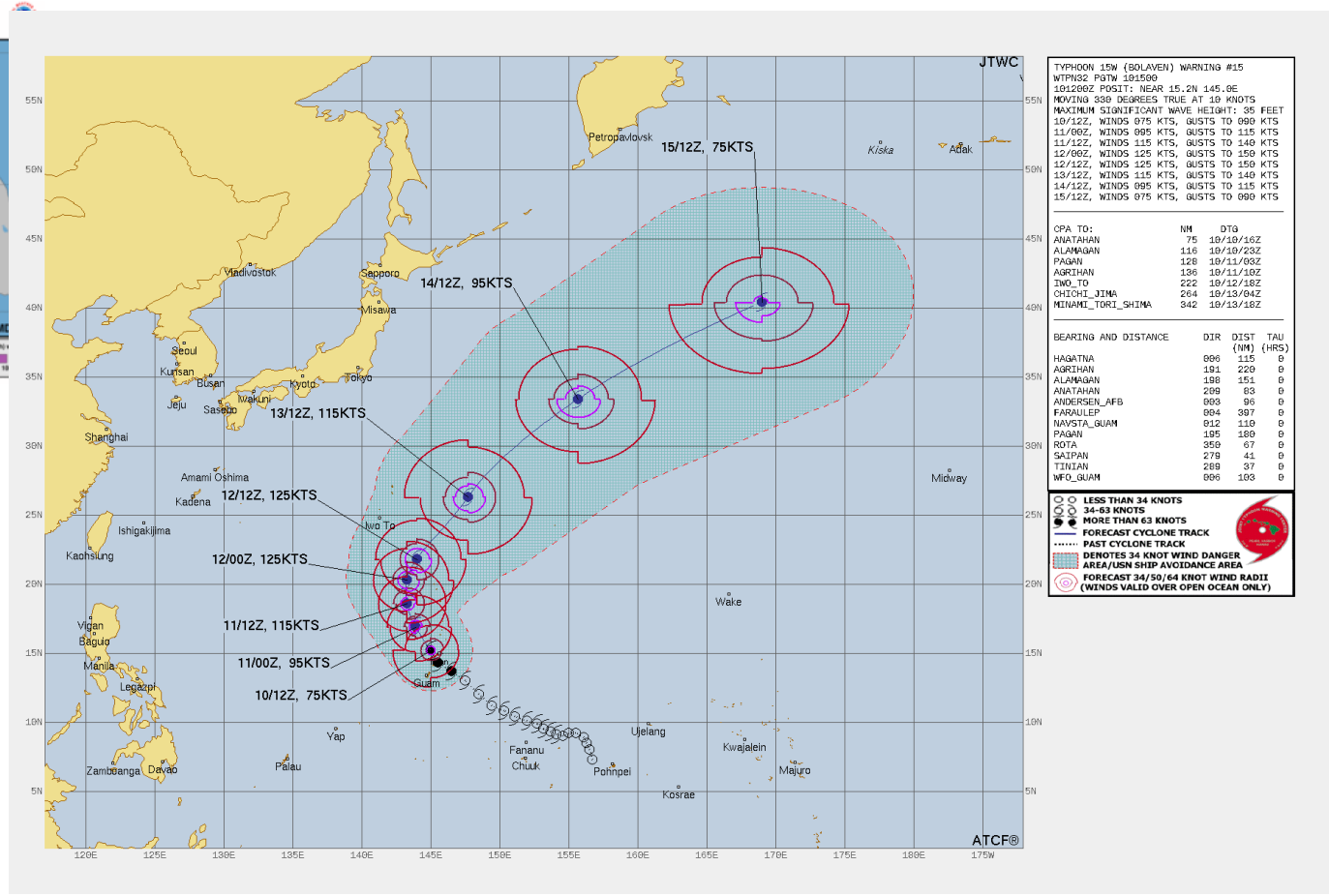
1. Lidia is expected to continue to strengthen as it approaches west-central Mexico today. Dangerous hurricane-force winds are expected within the Hurricane Warning area beginning this afternoon.

2. Heavy rains from Lidia will likely produce flash and urban flooding, along with possible mudslides in areas of higher terrain across the the state of Nayarit, southern portions of the state of Sinaloa, and coastal portions of the state of Jalisco in western Mexico.

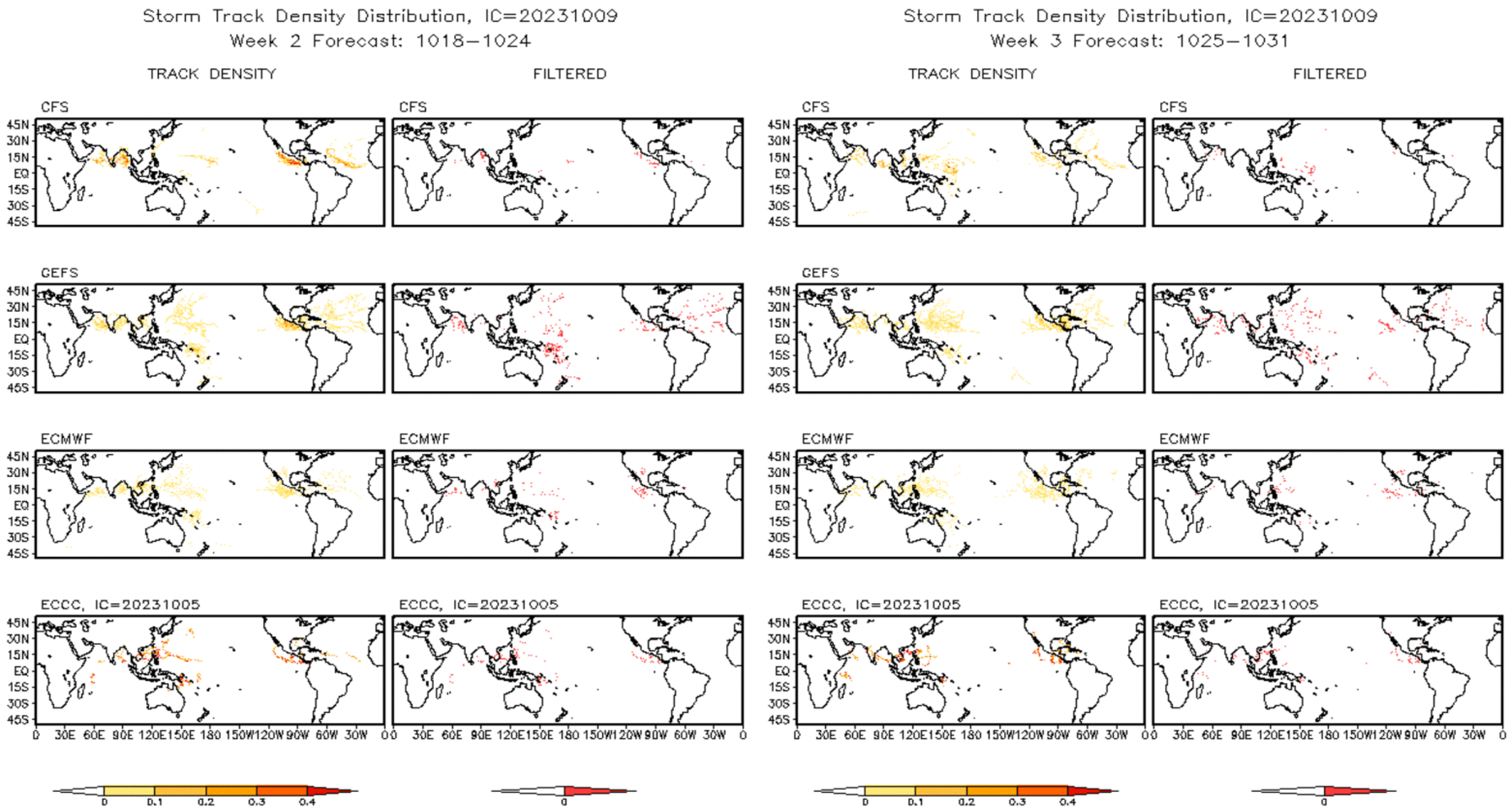
3. A dangerous storm surge is expected near and to the south of where the center of Lidia moves onshore along the coast of west-central Mexico.

4. Swells from Lidia will cause dangerous surf and rip current conditions along the west coast of Mexico and the Baja California peninsula during the next couple of days.

For more information go to hurricanes.gov

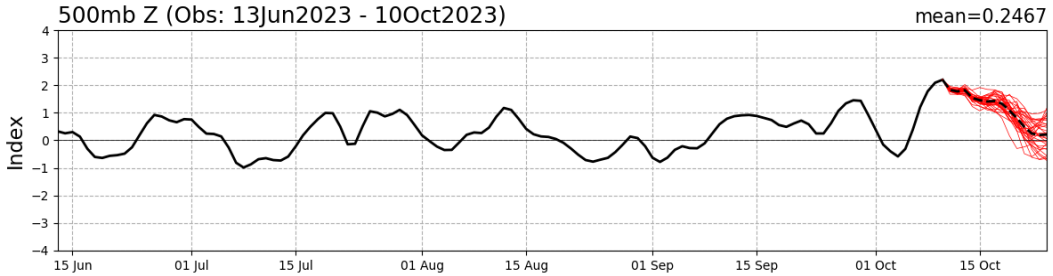


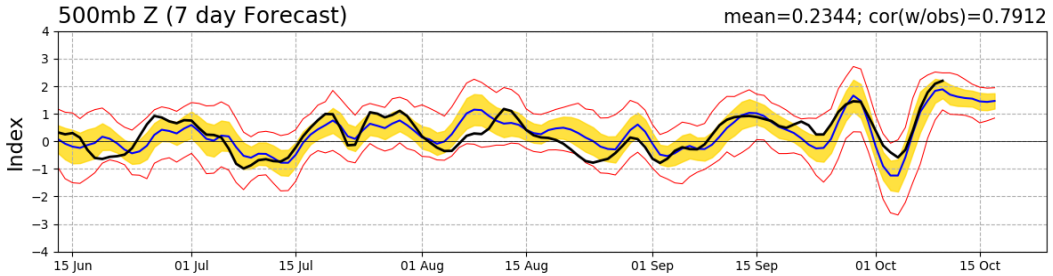
Multi-Model TC Track Densities: Weeks 2+3

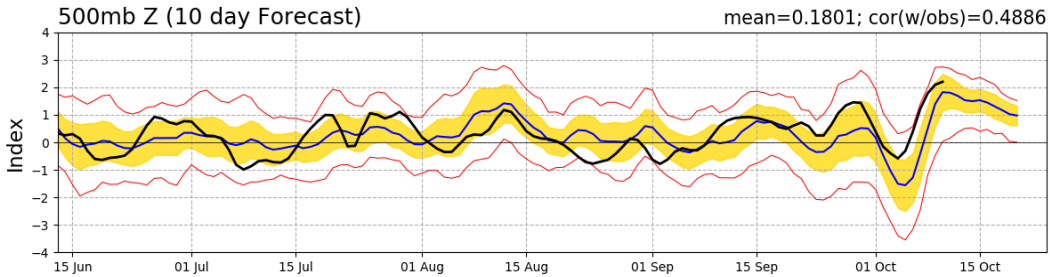


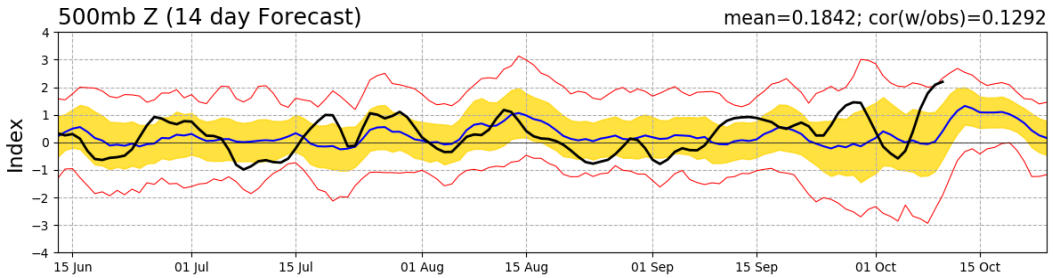
Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

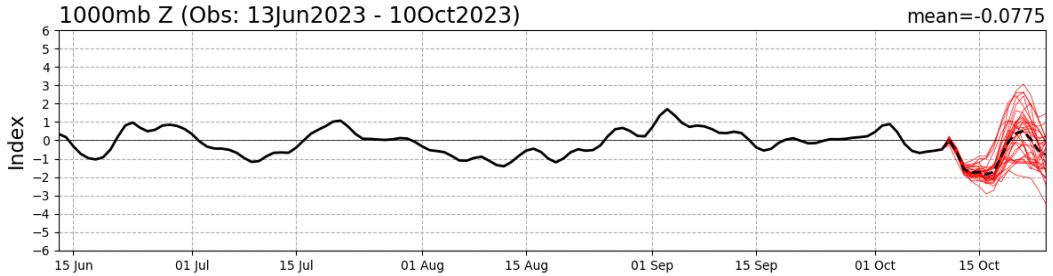


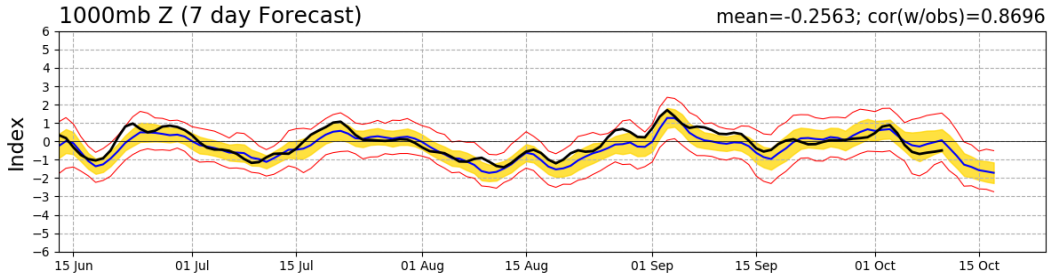


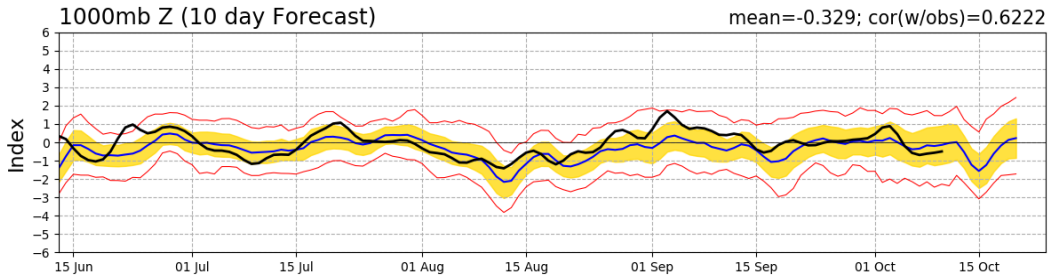


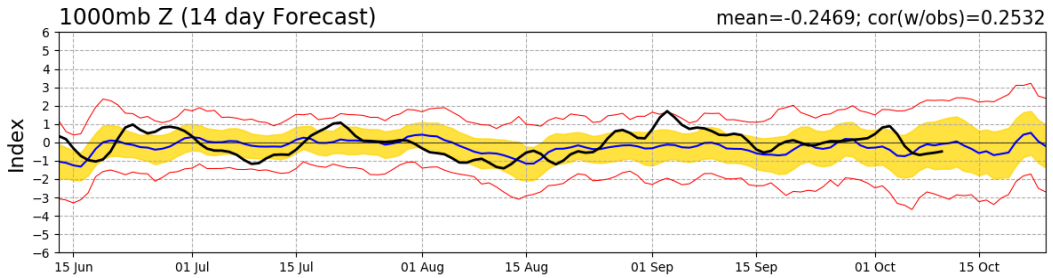


AO Index: Observed & GEFS Forecasts

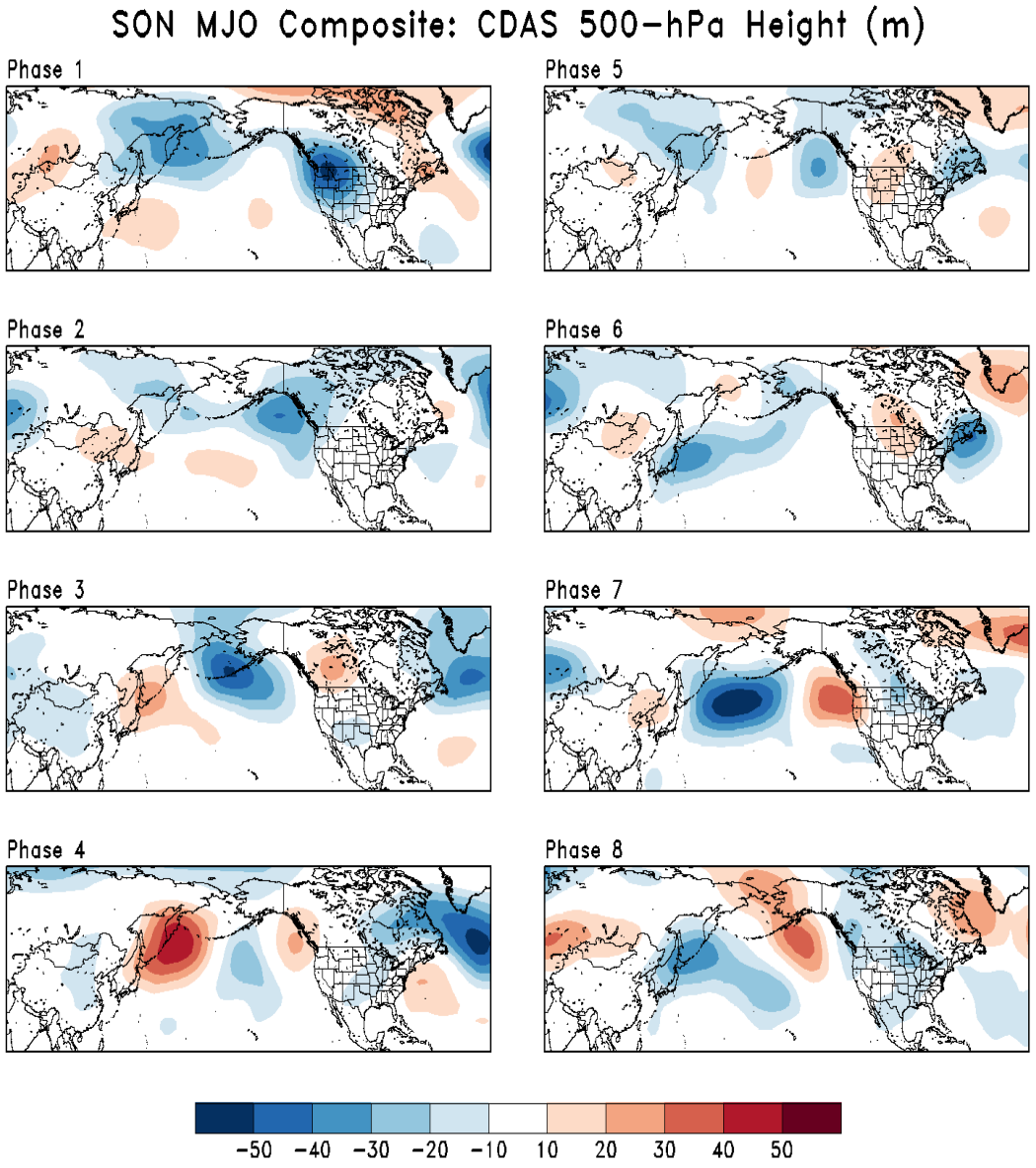


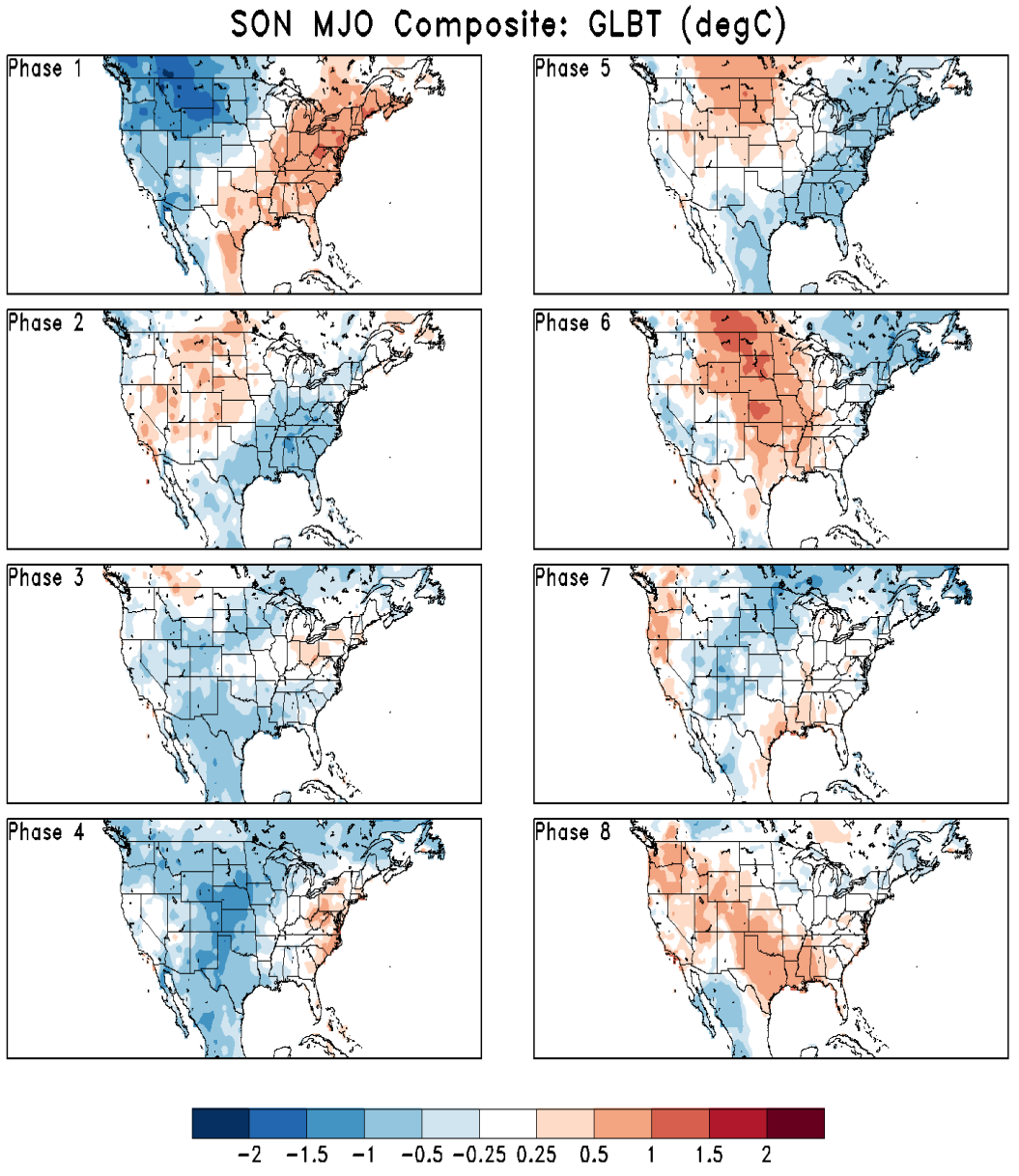




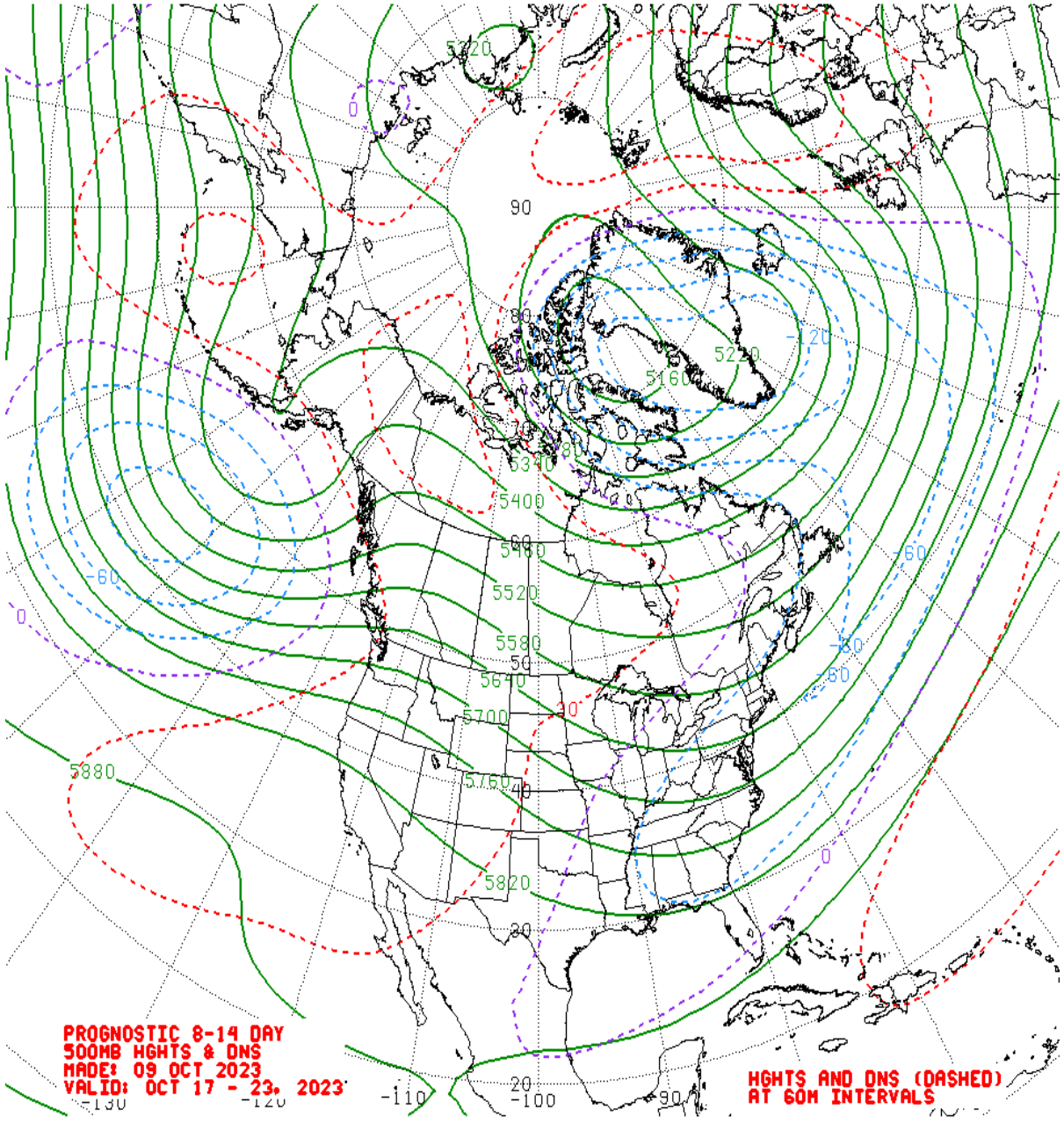


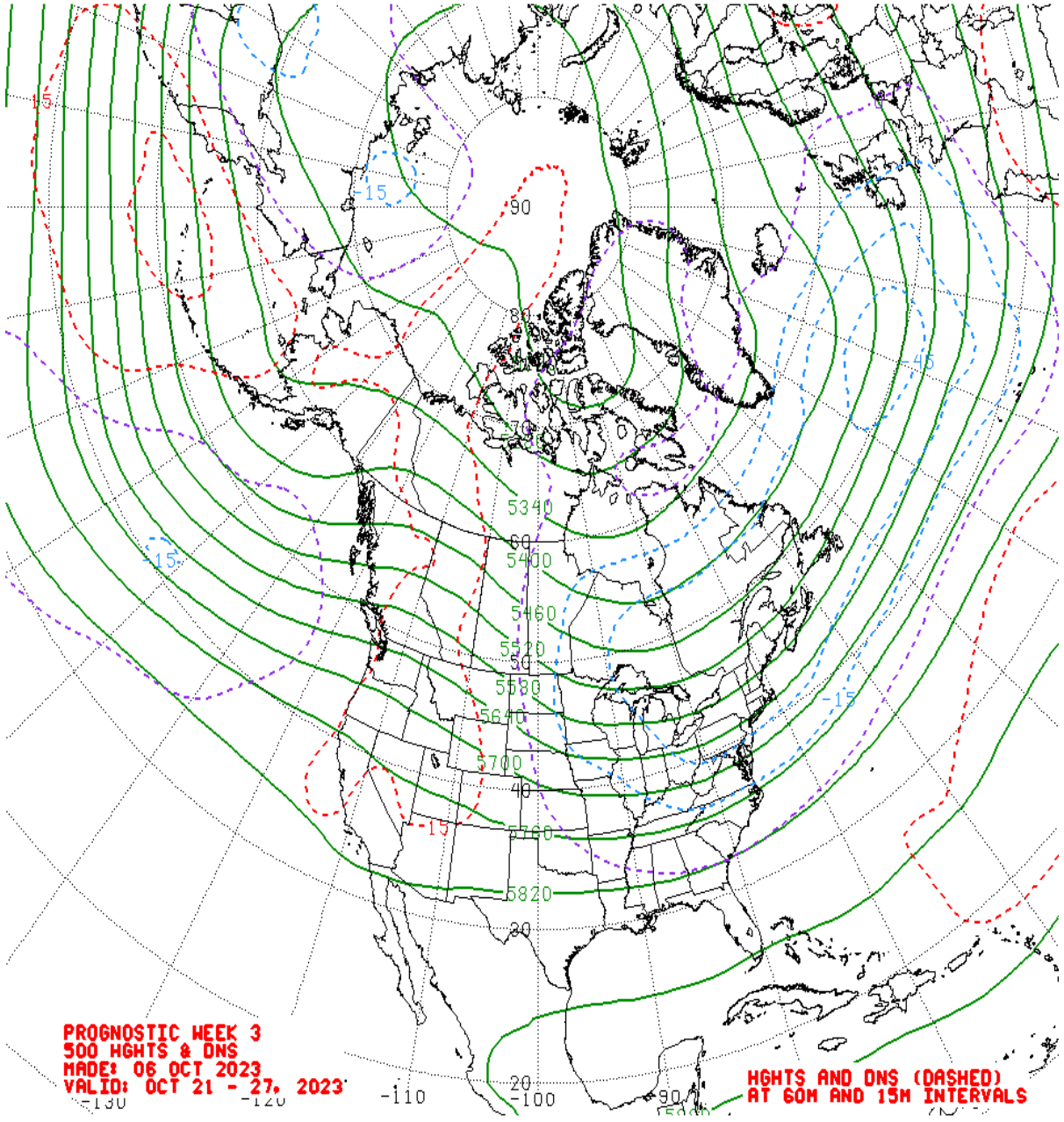
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:



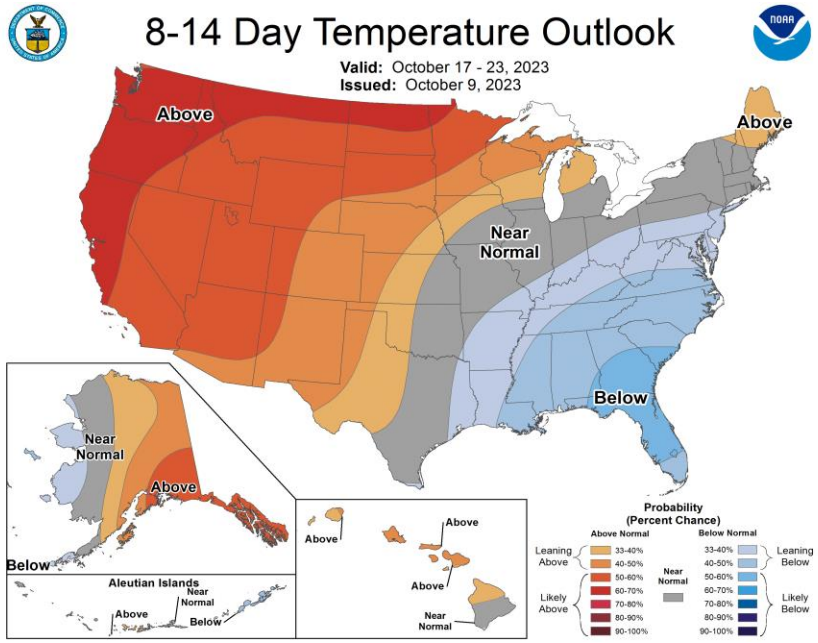


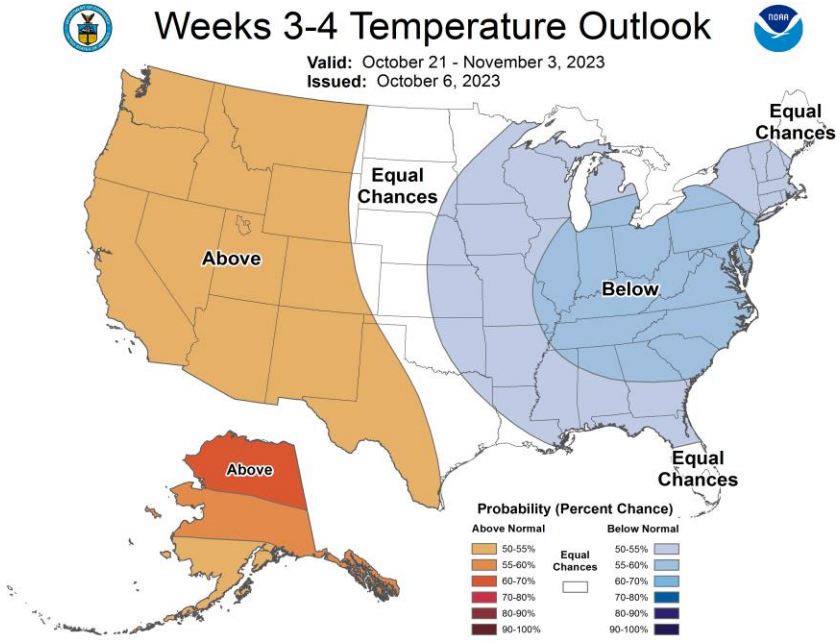
Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3

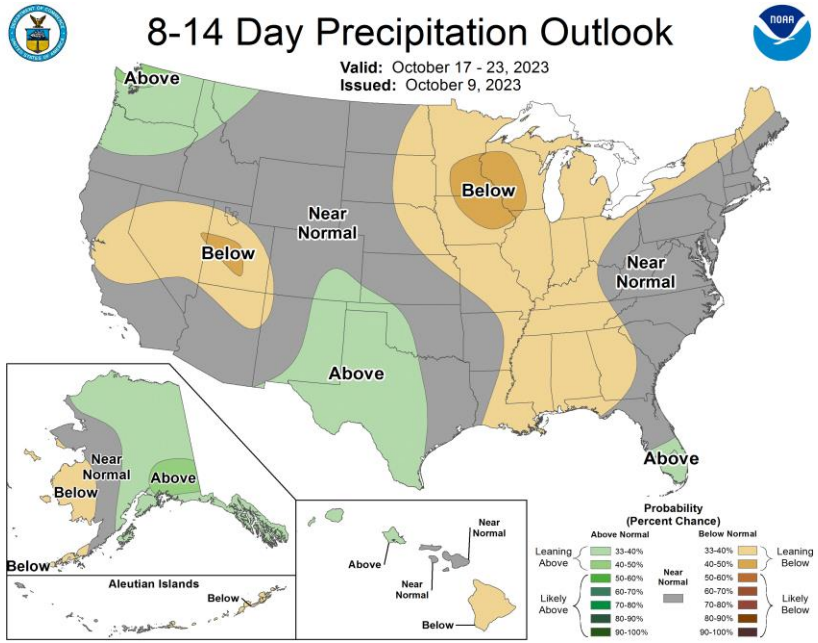


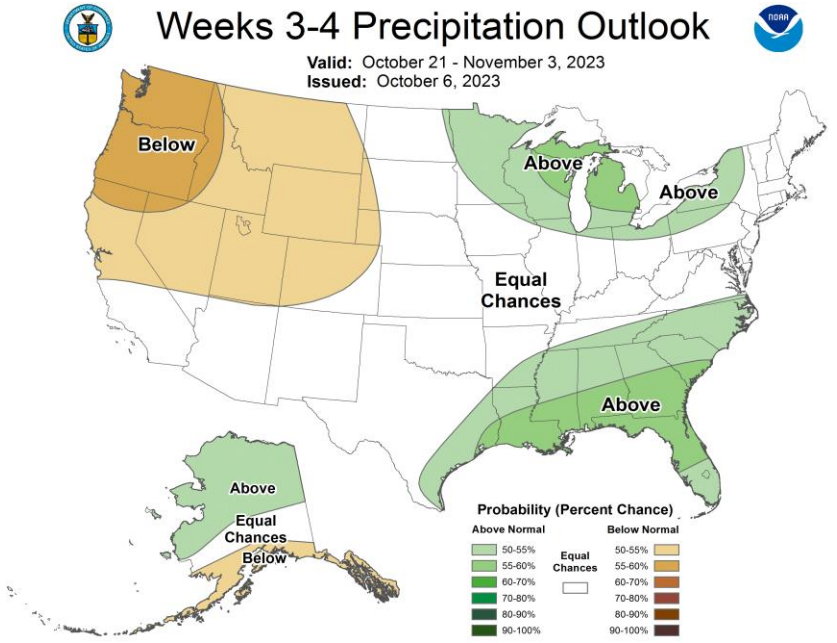


Official Temperature & Precipitation Forecasts:









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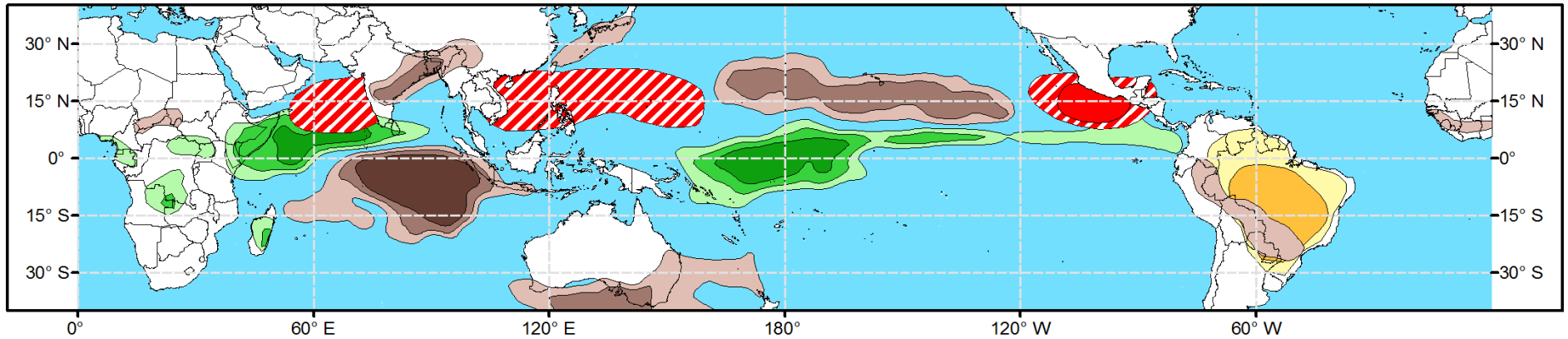

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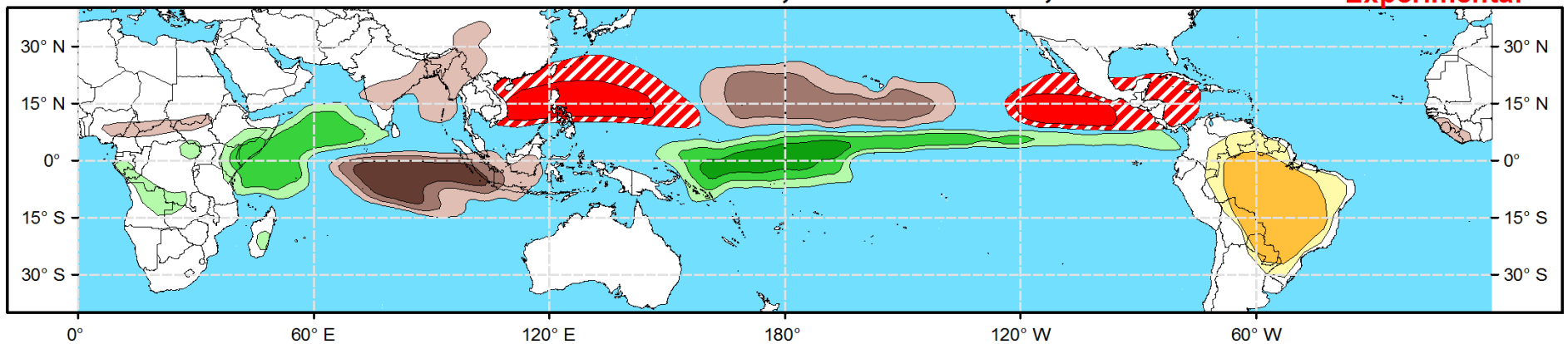

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