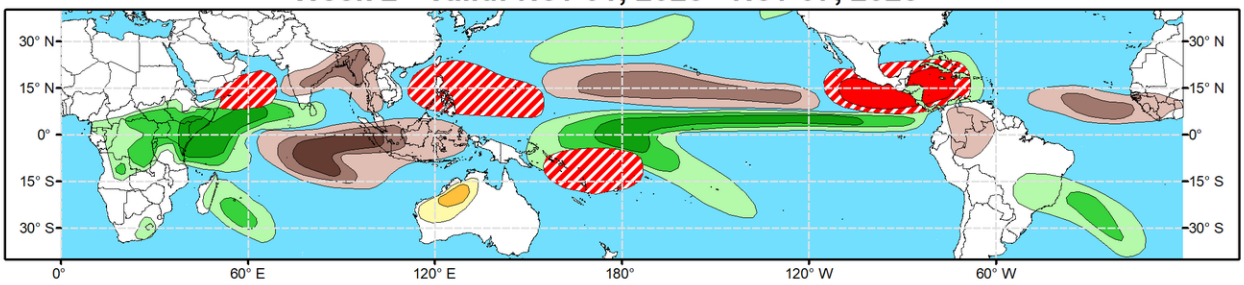
Global Tropics Hazards Outlook

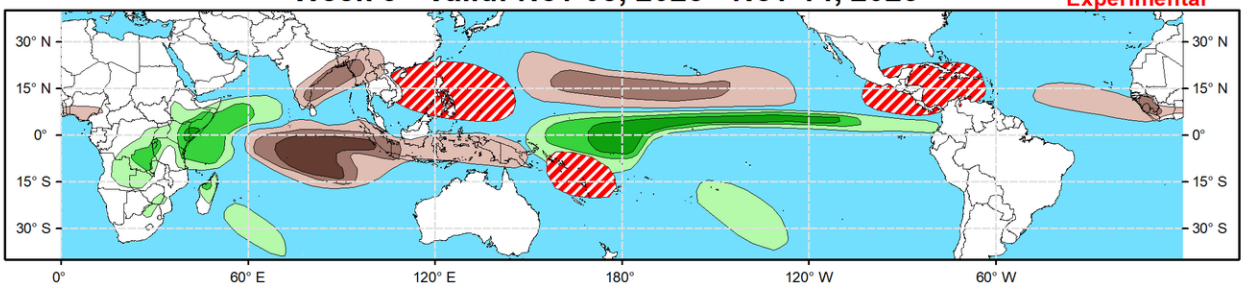
Climate Prediction Center

Week 2 - Valid: Nov 01, 2023 - Nov 07, 2023



Week 3 - Valid: Nov 08, 2023 - Nov 14, 2023

** Experimental **



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: 10/24/2023
Forecaster: Novella

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.

During the past week, the Madden Julian Oscillation (MJO) remains incoherent which continues to be supported by westward retreating signals in the RMM index and upper-level velocity potential anomaly observations. The tropical perspective has changed little since last week, as the disorganization of the MJO is likely due to large-scale competing influences from the ongoing El Nino response as well as a potent positive Indian Ocean Dipole (+IOD) signal that is firmly established throughout the eastern Hemisphere. Looking ahead, RMM forecasts from the dynamical models offer some support for renewed eastward propagation of the MJO signal during the next few weeks, however there is still a good deal of uncertainty as whether this behavior in RMM space is more reflective of true intraseasonal activity or changes in the lower-level wind responses associated with the low frequency footprints favored in the models. While upper-level velocity potential forecasts suggest a reemerging MJO is possible over the Indian Ocean, such intraseasonal activity would likely be disorganized, and therefore the outlook continues to rely on the +IOD and El Nino conditions dominating the global tropics.

Six tropical cyclones (TCs) formed during the past week, five of which currently remain active across the global tropics. In the eastern Hemisphere, TC Tej formed in the Arabian Sea on 10/20 and peaked at category 3 intensity this past weekend. Tej gradually weakened while tracking towards the Arabian Peninsula, and made landfall during the past 24 hours bringing locally heavy amounts of precipitation to parts of eastern Yemen. The Joint Typhoon Warning Center (JTWC) expects Tej to fully dissipate below warning level intensity within the next 24 hours. Elsewhere in the northern Indian Ocean, TC Hamoon formed on 10/23 and has tracked northeastward over the Bay of Bengal. The JTWC expects Hamoon to soon make landfall as a category 1 strength system over eastern Bangladesh, where high winds and locally heavy precipitation are likely

over the region in the next day or so before the low is favored to rapidly weaken over rugged terrain. Tied to a Westerly Wind Burst (WWB) that took place across the equatorial Pacific to the west of Date Line during the past week, TC Lola formed in the South Pacific on 10/21. Despite tropical cyclogenesis being quite early in the basin, climatologically, Lola impressively intensified to category 4 system during the past few days. The JTWC forecasts Lola to weaken slightly before making landfall over Vanuatu, but likely bring many adverse impacts to the island nation, including large swells, high sustained winds, heavy precipitation, and coastal flooding. Lola is then expected to continue tracking southward towards New Caledonia but rapidly weaken under an increasingly dry air environment later this week.

In the eastern Pacific, TC Otis formed on 10/22 to the south of Mexico and has continued to track northward towards Mexico during the past few days. The National Hurricane Center (NHC) expects Otis to strengthen into Category 1 Hurricane and reach the southern coast of the Guerrero State of Mexico in the next day or so. Locally heavy rainfall from Otis will begin to impact areas of southern Mexico, and possibly trigger localized flooding and mudslides in areas of higher terrain. Since forming on 10/18 in the Main Development Region (MDR) of the Atlantic, TC Tammy tracked northwestward and strengthened to Category 1 Hurricane and is currently near 23N/63W. Tammy has already begun to curve to the east along the periphery of the steering subtropical ridge, however the NHC forecasts Tammy to recurve to the west and possibly bring Tropical Storm strength conditions near Bermuda later this week. In the southern Caribbean, Tropical Depression 21 (TD21) formed on 10/23 just offshore of the Mosquito Coast of eastern Nicargua. Since moving onshore, TD21 has become post-tropical and NHC expects its remnants to promote heavy rains impacting portions of Nicaragua, with this threat spreading into Honduras where localized flooding and mudslides may occur in areas of higher terrain. The post-tropical remnants of TD 21 could regenerate to the west, where the NHC highlights at least a 30% chance of reformation during the next seven days, extending from the Gulf of Fonseca to the east of the Gulf of Tehuantepec.

For week-2, there is good agreement among the dynamical models favoring an enhanced convective pattern tied to an emerging Central American Gyre (CAG) event over the tropical Americas. Combined with a decreasing shear environment predicted throughout the Caribbean, the broad scale circulation remains favorable for tropical cyclogenesis and 20% chances for TC formation are posted from the south of Mexico to Hispaniola. Embedded within the highlighted area, 40% chances are posted where probabilistic TC tools and ensemble guidance show the highest odds of development during early November. The week-3 forecast is generally a persistence of week-2, with the CAG leading to an elevated potential for TC development over the eastern Pacific and the Caribbean. However, a decreasing TC genesis climatology during November supports only 20% chances for development being highlighted.

In the eastern Hemisphere, ensembles and probabilistic TC guidance also show the persistence of an elevated TC potential over the South Pacific. With additional support from TC genesis composites during Oct-Dec El Nino events, 20% chances for additional TC development in the wake of TC Lola are posted for weeks 2 and 3. North of the equator, a broad area of 20% chances for TC formation are also posted for weeks 2 and 3, extending from the South China Sea to the east of the Marianas where there is increased support in the latest probabilistic TC guidance. In the northern Indian Ocean, the large-scale environment tied to the +IOD is expected to remain supportive for additional TC development in the Arabian Sea, and 20% chances are posted, which is also consistent with the basin's climatology.

The precipitation outlook for weeks 2 and 3 is based on an historical skill weighted blend of GEFS, ECMWF, CFS and Canadian ensemble forecasts, potential

TC tracks, and the continued dominance of the +IOD and El Nino signal resulting in a generally stationary forecast of large-scale convective anomalies. Above-normal temperatures remain likely throughout portions of northern and western Australia consistent with a +IOD promoting hot and dry conditions to the region. For hazardous weather conditions in your area in the coming weeks, please refer to your local NWS office, the Medium Range Hazards Forecast produced by the Weather Prediction Center (WPC), and the CPC Week-2 Hazards Outlook. Forecasts made over Africa are made in coordination with the International Desk at CPC.