

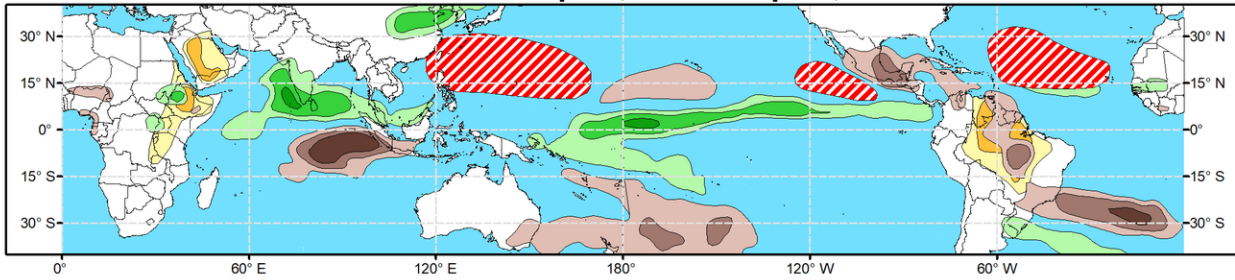


# Global Tropics Hazards Outlook

## Climate Prediction Center

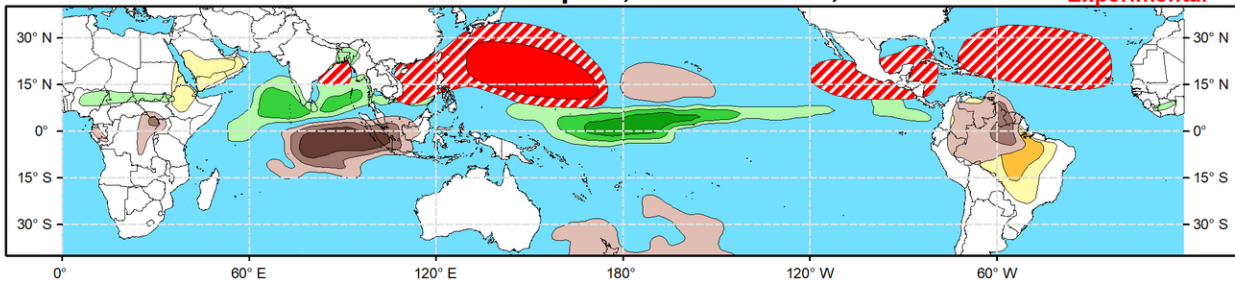


**Week 2 - Valid: Sep 20, 2023 - Sep 26, 2023**



**Week 3 - Valid: Sep 27, 2023 - Oct 03, 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: 09/12/2023**  
**Forecaster: Allgood**

**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.**

El Nino conditions remain the primary driver of global tropical convective anomalies, although other modes have created some destructive interference with this low frequency base state. During late August into early September, the Madden-Julian Oscillation (MJO) projected weakly on both the CPC upper-level velocity potential based index and the RMM-based index, as interference from both the ENSO base state and higher frequency modes broke up the signal. More recently, a higher amplitude signal emerged over the Maritime Continent, with a notable increase in convection across southern and southeastern Asia, the Bay of Bengal, and the Maritime Continent, as well as anomalous low-level easterlies observed over the equatorial West Pacific. Eastward propagation of this signal has not been established, however, dynamical model MJO index forecasts depict a sharp “left turn” of the signal back inside the unit circle, characteristic of equatorial Rossby wave interference. Longer range forecasts, particularly the ECMWF and Australian BOM model, show a resumption of eastward propagating MJO activity reaching the Pacific basin by Week-3. Uncertainty is high, however, as dynamical model forecasts have recently under-forecasted the enhanced precipitation over the Indian Ocean basin, resulting in sharp differences between the raw model forecasts and the bias corrected RMM-index projections. An Indian Ocean Dipole (IOD) event may be initiating, with above- (below-) normal SSTs over the western (eastern) Indian Ocean, which would further modulate the low frequency base state. Therefore, while MJO activity may continue to influence the overall pattern, the atmospheric response to the ongoing El Nino remains the most coherent climate signal.

During the past week, Tropical Depression 13 strengthened and became Hurricane Lee, attaining Category-5 intensity on the Saffir-Simpson scale over the open Atlantic waters before beginning a series of intensity fluctuations. Still a powerful hurricane, Lee is forecast by the National Hurricane Center (NHC) to

begin a northward turn, influenced by a trough over the eastern US, with potential impacts arriving across New England and eastern Canada during the weekend. Interests in these regions should monitor forecasts from their official meteorological agencies. A second system, Hurricane Margot, formed to the east of Hurricane Lee just west of the Cape Verde Islands, and is forecast to slowly recurve over the northern Atlantic. No new tropical cyclones formed over the East or West Pacific basins in the past week.

The NHC is currently monitoring an area of low pressure over the eastern main development region (MDR) for development. While this system could organize during the Week-2 period, it is more likely to form during late Week-1. Although both the remnant MJO signal and El Nino conditions are broadly unfavorable for tropical cyclone development during Week-2, warm SSTs and a continued high climatological favorability support at least a slight potential for additional development over the MDR both during Week-2 and Week-3. Suppressed convection has precluded development over the Caribbean and Gulf of Mexico recently, and this pattern is favored to persist into Week-2; however, dynamical models indicate an increasing potential for development in these regions by Week-3. Across the East Pacific, any tropical cyclogenesis during Week-2 would most likely occur over the southwestern part of the basin, well south or southwest of the Baja California Peninsula. During Week-3, dynamical models are more supportive of potential tropical cyclogenesis closer to the coast of southern Mexico. Across the West Pacific, dynamical models depict a somewhat subdued pattern for Week-2, though formation(s) are still possible in the region between Guam, the Philippines, and southern Japan. During Week-3, there is a signal supporting increased favorability across the West Pacific and South China Sea. Additionally, enhanced convection over the Bay of Bengal coupled with a weaker monsoonal circulation due to El Nino conditions may provide a window of opportunity for early season tropical cyclogenesis during Week-3.

Forecasts for organized regions of enhanced and suppressed rainfall during Weeks 2-3 are based on a composite climatology of past El Nino events coupled with a skill-weighted consensus of dynamical model guidance. The potentially developing IOD event, coupled with the El Nino, favors suppressed rainfall across the eastern Indian Ocean, though dynamical models favor enhanced rainfall across South Asia and the northern Indian Ocean basin. Suppressed rainfall is favored to continue across parts of central America and Mexico during Week-3, and northern South America throughout the forecast period. Hazardous heat is possible across portions of the Arabian Peninsula, the Horn of Africa region, and the Nile Valley, as well as northern South America.

For hazardous weather conditions in your area during the coming two-week period, please refer to your local NWS office, the Medium Range Hazards Forecast produced by the Weather Prediction Center, and the CPC Week-2 Hazards Outlook. Forecasts made over Africa are made in coordination with the International Desk at CPC.