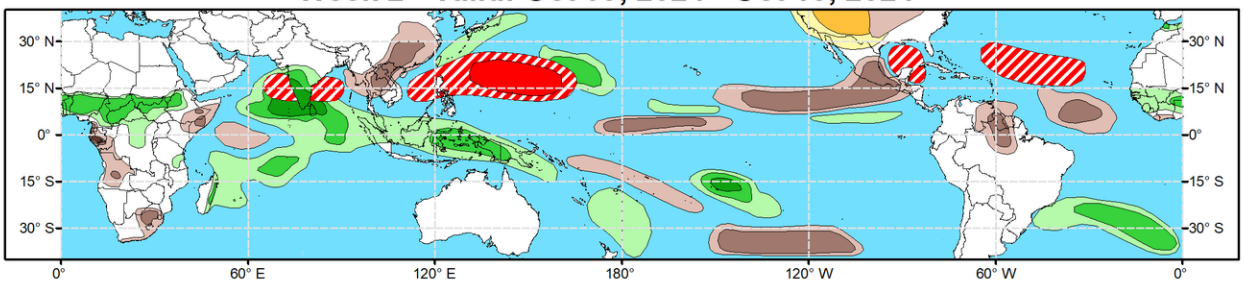
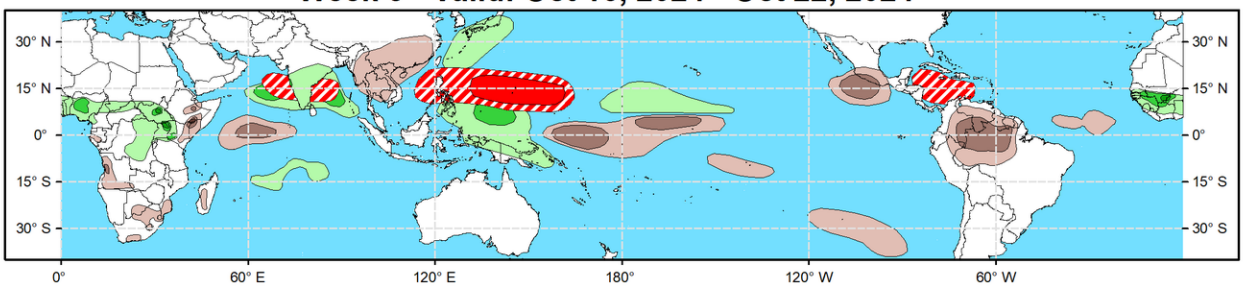
Global Tropics Hazards Outlook

Climate Prediction Center

Week 2 - Valid: Oct 09, 2024 - Oct 15, 2024



Week 3 - Valid: Oct 16, 2024 - Oct 22, 2024



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: 10/01/2024
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.

The MJO is currently active and situated across the Western Hemisphere leading to an uptick in tropical cyclone (TC) activity across the North Atlantic. By week-2, dynamical models depict an eastward propagation of the MJO into the Indian Ocean and Maritime Continent and the suppressed phase moving over the Americas. This favors a reduction in TC development chances across the Atlantic and East Pacific, although a Convectively-Coupled Kelvin Wave (CCKW) may destructively interfere with the suppressed MJO phase leading to an enhancement of TC development chances over the Caribbean later in October. The highest chances for TC formation are forecast over the Western Pacific tied to the incoming MJO combined with an enhanced low frequency convective signal likely related to the emerging La Nina.

While formation occurred in the prior week, category-4 Hurricane Helene made landfall on the Florida Big Bend region on 9/26, with extensive damage and catastrophic flooding extending through the Southeast and Carolinas. Hurricane Issac formed on 9/26 over the North Atlantic and Tropical Storm Joyce (9/27) was a weak, short-lived system across the Main Development Region (MDR). Tropical Storm Kirk developed on 9/29 and is forecast to become a powerful hurricane over the open waters of the Atlantic. The easterly wave behind Kirk is strongly favored to develop into a TC during week-1. The National Hurricane Center (NHC) continues to monitor a tropical disturbance over the northwestern Caribbean that may develop into a tropical cyclone during week-1. However, recent model runs have slowed down potential development, carrying elevated chances into the week-2 period. Of particular concern is this new system could bring heavy rainfall to parts of the Gulf Coast and some of the same regions impacted by Helene. Given some emerging timing uncertainty, a 20-40% chance of TC development is indicated during week-2 over this area. While TC development in the MDR is favored to slow down due to the October climatology along with a

more suppressed convective environment aloft, it is plausible to get an additional easterly wave to spin up into a TC given how active it has been recently, favoring 20-40% chances for TC development in week-2 over the MDR. By week-3, TC development is most favored in the Caribbean where a 20-40% chance is highlighted, consistent with climatology and the aforementioned CCKW.

Across the Eastern Pacific, Hurricane John regenerated off the southern coast of Mexico on 9/25 causing prolonged impacts across the region. Two additional areas are being monitored for development by NHC with high chances during week-1. By week-2, the suppressed phase of the MJO favors a reduction in TC activity. The Western Pacific has been active as well with the formations of Cimaron (9/25), Jebi (9/27), and Krathon (9/28). Cimaron was a weak tropical storm that meandered to the south of Japan. Jebi briefly attained typhoon status before weakening as it skirted Japan. Krathon is the most significant of these systems to have formed, becoming a super typhoon and resulting in flooding across parts of the Philippines and is now forecast to move toward Taiwan. The large scale environment is likely to remain favorable for TC development through much of October, due to the upstream MJO combined with the low frequency enhanced convective footprint providing an additional boost. As a result, 40-60% chances of TC development are forecast for weeks 2 and 3 across the Western Pacific east of the Philippines, with a 20-40% chance extending into the South China Sea.

As the MJO moves into the Indian Ocean by week-2, TC development is possible in the Bay of Bengal and Arabian Sea (20-40% chance for both weeks 2 and 3). This is supported by increased filtered TC track densities in the GEFS and ECENS models. An early start to the South Indian Ocean season is also possible, with Invest 91S being monitored for possible development near 10 deg S, 75 deg W. Any development is most likely to occur during week-1, with decreasing chances by week-2 precluding a related TC formation area in the forecast.

Forecasts for above- and below-normal precipitation are based on composites of MJO activity in the Indian Ocean and Maritime Continent combined with the low frequency enhanced convection over the region. The suppressed phase of the MJO favors increased chances for below-normal precipitation across the Eastern Pacific and extending into parts of the Americas. Above-normal temperatures are forecast across the western half of the contiguous U.S. during week-2. For hazardous weather concerns in your area during the next two weeks, please refer to your local NWS office, the Medium Range Hazards Forecast from the Weather Prediction Center (WPC), and the CPC Week-2 Hazards Outlook. Forecasts issued over Africa are made in coordination with the International Desk at CPC.