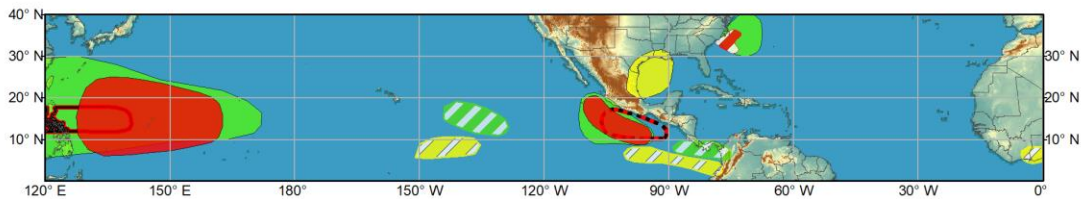




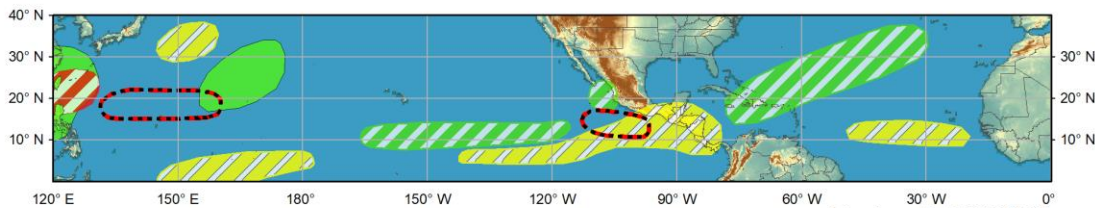
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Oct 09 2021 - Oct 12 2021



Week 2 - Valid: Oct 13 2021 - Oct 19 2021



Confidence
High Moderate

Produced: 10/08/2021
Forecaster: Collow

- | | | | |
|-----------------------------------|--|--|--|
| Tropical Cyclone Formation | | | Development of a tropical cyclone (tropical depression - TD, or greater strength). |
| Prior TC Formation Outlook | | | Tropical cyclone outlook from previous release. |
| Above-average rainfall | | | Weekly total rainfall in the upper third of the historical range. |
| Below-average rainfall | | | Weekly total rainfall in the lower third of the historical range. |
| Above-normal temperatures | | | 7-day mean temperatures in the upper third of the historical range. |
| Below-normal temperatures | | | 7-day mean temperatures in the lower third of the historical range. |

Product is updated once per week. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



中央氣象局
Central Weather Bureau



UNIVERSITY AT ALBANY
State University of New York



The Madden-Julian Oscillation (MJO) has amplified in RMM space since the initial outlook and remains situated over the Maritime Continent. However, destructive interference from increased Rossby Wave activity and the emerging low frequency La Nina base state continue to hamper the eastward progress of the intraseasonal signal. Today's dynamical models (GEFS, JMA, ECMWF) are less bullish in regards to the amplitude of the MJO compared to earlier in the week, with some eastward propagation into the West Pacific forecast during the next week, followed by a quick return to the RMM-based MJO index unit circle.

Tropical Storm Lionrock developed over the South China Sea on 10/7, and is forecast to impact northern Vietnam over the weekend. Three additional invest areas are being monitored by the Joint Typhoon Warning Center over the western Pacific for tropical cyclone (TC) development over the next several days. 93W and 94W are predicted to consolidate into a single system, and track toward the South China Sea and Taiwan by the middle of next week. 95W is located further out over the West Pacific and is forecast to recurve into the North Pacific where it could approach Alaska by late next week as a powerful extratropical low pressure system. A broad high risk for tropical cyclone development is posted over the Western Pacific, corresponding with these potential threats.

Over the Eastern Pacific, the National Hurricane Center (NHC) is monitoring a disturbance off the coast of Central America, which has a 90% chance of TC development in the next 5-days tied to increased Kelvin Wave activity. This corresponds with a high risk for TC formation and above-normal rainfall in today's updated graphic. This system is forecast to generally track to the northwest and potentially curve more toward the Mexican Coast by the day 5-11 period. The Atlantic Basin remains quiet, with subtropical development possible this weekend off the East Coast of the U.S. (40% chance per NHC).

The decaying MJO signal in the day 5-11 period decreases the chances for TC development over most areas. The West Pacific generally looks quieter during this period, although the ECMWF ensemble indicates some potential for additional TC development in the vicinity of Taiwan and the Northern Philippines. Kelvin Wave activity is predicted to subside over the Eastern Pacific limiting TC development, with increased convective signals emerging across the Atlantic. However, there is no coherency in terms of whether or not any TCs develop, and climatology favors development over the Caribbean or the Gulf of Mexico, rather than the open Atlantic during mid to late October. Therefore, no areas of TC development are depicted over the Atlantic, with just a broad area of increased potential for anomalous rainfall over much of the basin.

Forecasts for above and below normal precipitation have been modified to reflect the latest model guidance for the remaining outlook periods.

----- Previous discussion released on October 5, 2021 follows -----

The Madden-Julian Oscillation (MJO) became more coherent and began to propagate eastward at the beginning of October, following the persistence of a low-frequency base state during September. Signs of a strengthening MJO include anomalous upper-level easterlies developing over the Maritime Continent and an increase in convection closer to the Date Line. Also, anomalous upper-level convergence intensified over the Americas and Caribbean Sea. Dynamical model forecasts are in good agreement that the MJO continues to propagate east over the West Pacific during the next two weeks. However, large spread exists among ensemble members as the MJO destructively interferes with the emerging La Nina.

Following Hurricane Sam, the strongest (peak intensity of Category 4) and longest-lived hurricane of the 2021 Atlantic season, Tropical Storm Victor developed in the eastern Atlantic. Victor was much weaker

and quickly dissipated due to strong vertical wind shear. The National Hurricane Center is currently monitoring a surface trough lifting north from the Bahamas. The most likely outcome later this week is for a frontal wave of low pressure to develop near the East Coast of the United States. Although no tropical cyclone (TC) development is favored throughout the Atlantic basin during the next two weeks, conditions are expected to become more favorable across the Caribbean later in October as the MJO shifts east to the Western Hemisphere. Also, the Caribbean becomes the typical region for TC development during late October. The GFS model remains the most bullish for TC genesis across the East Pacific later in week-1, but forecast confidence is only moderate due to the lack of additional model support. Moderate confidence for TC development is maintained through week-2 for the East Pacific as the large-scale environment is expected to be favorable.

TC development is imminent across the South China Sea and this likely TC is forecast to track slowly, which could result in flooding across Hainan Island and/or parts of Vietnam during the next week. Another TC is likely to form just east of the Philippines during week-1, while model guidance favors a northeast shift across the West Pacific for the favored location by week-2. Enhanced convection, model guidance, and climatology support an increased chance of TC development across the Bay of Bengal through mid-October. Since timing is usually difficult to forecast for this region, a moderate confidence covers weeks 1 and 2.

The favored areas of above and below average rainfall are based on predicted TC tracks, dynamical model output, and MJO precipitation composites for phases 5, 6, and 7. The axis of heaviest rainfall is expected to shift north across South and Southeast Asia along with the West Pacific during the next two weeks. MJO precipitation composites for phases 5, 6, and 7 depict a drying trend over the Maritime Continent but this may be offset by the low-frequency base state. Enhanced rainfall is expected to shift east of the Date Line from early to mid-October.

Please refer to the National Hurricane Center for the latest updates and forecasts. For hazardous weather concerns during the upcoming two weeks across the U.S. please refer to your local NWS Forecast Office, the Weather Prediction Center's Medium Range Hazards Forecast, and CPC's Week-2 U.S. Hazards Outlook. Forecasts over Africa are made in consultation with the International Desk at CPC and can represent local-scale conditions in addition to global-scale variability.