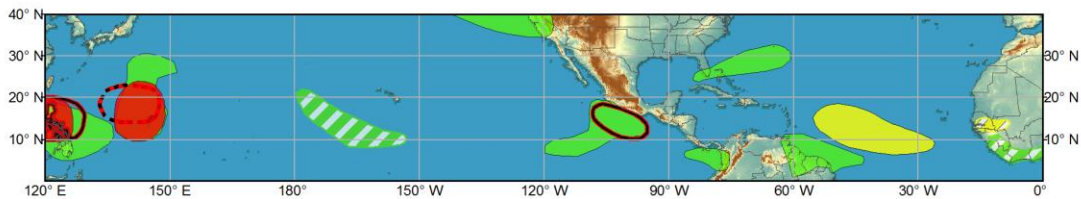




Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Oct 23 2021 - Oct 26 2021















Week 2 - Valid: Oct 27 2021 - Nov 02 2021



Confidence
High Moderate

Produced: 10/22/2021
Forecaster: Allgood

- | | | | |
|-----------------------------------|---|---|--|
| 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



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» The MJO remained weak over the past few days, as the prior enhanced convective phase continues to destructively interfere with the La Nina base state over the Pacific. Dynamical model MJO index forecasts have begun to highlight a Kelvin wave currently crossing the Western Hemisphere, with many ensemble members from both the GEFS and ECMWF showing amplification over Africa or the Indian Ocean during the next two weeks as the feature evolves into a broader intraseasonal envelope. While considerable uncertainty remains, the Kelvin wave passage and potential Indian Ocean enhancement may provide a window of increased favorability for tropical cyclogenesis across the Atlantic basin over the next two weeks.

Tropical Depression 17-E formed south of Mexico earlier today. The latest forecast from the National Hurricane Center (NHC) favors steady strengthening, with the system attaining hurricane intensity prior to landfall over southern Mexico. No additional tropical cyclone formations are anticipated over the East Pacific basin. Across the Atlantic, no new tropical cyclones are forecast through Days 1-4. During Days 5-11, tropical cyclone development remains favored with moderate confidence over the Western Caribbean, with several GEFS and ECMWF ensemble members depicting a new tropical cyclone tracking generally northward. Additionally, there is robust dynamical model support for tropical or subtropical

cyclone development in the vicinity of the Bahamas, with any potential system tracking northeastward over open waters. Across the West Pacific, there is high confidence for tropical cyclone development in the vicinity of Guam over the next few days, with any potential system favored to track northwards and intensify. Formation potential has decreased west of the Philippines, but dynamical models continue to favor potential development either close to the Philippines or over the South China Sea over the next few days.

The original discussion released on 19 October 2021 follows.

RMM observations show the Madden-Julian Oscillation (MJO) has weakened substantially, falling within the unit circle over the West Pacific during the last week. This weakening in RMM space is likely tied to destructive interference with the emerging low frequency base state, where a La Nina advisory has been recently issued, with an 87% chance of La Nina conditions favored during boreal winter. However, the velocity potential based MJO index, and objective wavenumber-frequency filtering of upper-level velocity potential anomalies continue to reflect eastward propagation of the intraseasonal signal east of the Date Line, which is also supported by the recent relaxation of anomalous westerlies aloft and enhanced trades observed over the equatorial Pacific. Looking ahead, there is fair agreement in the dynamical models favoring a continued decrease in RMM1 values, placing the intraseasonal signal over the Western Hemisphere during the next two weeks. This decrease likely appears to be driven by the development of strong anomalous lower-level westerlies forecast over the tropical eastern Pacific and Atlantic towards the end of October. Although most model ensemble means remain confined within the RMM unit circle indicative of a weak MJO through early November, there are several ensemble members depicting a higher amplitude intraseasonal event over phases 8 and 1, which is noteworthy when considering RMM values have been skewed towards phases 4 and 5 due to the persistence of enhanced convection favored over the Maritime Continent tied to the building La Nina. In light of all this, tropical cyclone (TC) activity is favored over the East Pacific in the near-term, with increasingly favorable conditions for development over the Atlantic basin during late October and into early November.

No new tropical cyclones formed during the last seven days. In the eastern Pacific, the National Hurricane Center (NHC) is monitoring a disturbance to the south of Central America with at least a 60% chance of formation by this weekend. Given good run-to-run continuity and agreement for development in the dynamical models, a high confidence area is posted to the south of Mexico for the week-1 period. As this disturbance is predicted to curve north towards Mexico by the end of week -1, the advection of

anomalous mid-tropospheric moisture is favored to help bring above-normal, and possibly heavy precipitation over portions of eastern CONUS by the middle of next week. For week -2, a pair of moderate confidence areas for development are posted in the eastern Pacific to the south of Mexico, and throughout the southern Caribbean tied to the aforementioned band of anomalous lower-level westerlies forecast to promote a more favorable shear environment over the region. This is also supported by increased signals in the probabilistic TC tools and predicted Rossby wave activity later in the outlook period.

Following the dissipation of Tropical Storm Namtheun yesterday, tropical activity looks to be quiet through the rest of the week across the western Pacific. By this weekend, there is good agreement in the ensemble means featuring the development of a closed low near the Philippines that tracks west into the South China Sea prompting a high confidence area for the region. Ensemble guidance also favors another area of deepening low pressure farther to the east near the Mariana Islands late in week-1, though there is some question as to whether this low strengthens to a tropical depression before tracking northward, and a moderate confidence is posted.

The precipitation outlook during the next two weeks is based on a consensus of GEFS, CFS, and ECMWF guidance, with some consideration from historical MJO precipitation composites. For hazardous weather concerns during the next 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 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.