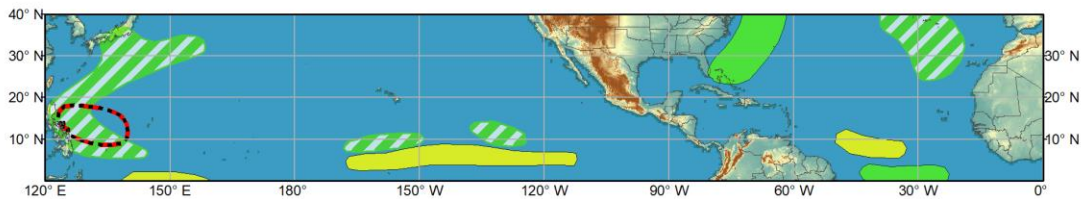




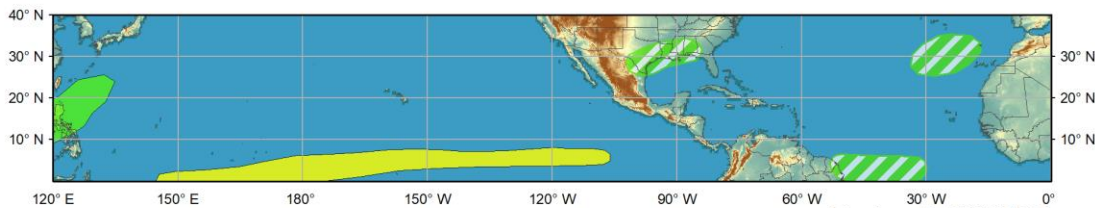
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Nov 20 2021 - Nov 23 2021















Week 2 - Valid: Nov 24 2021 - Nov 30 2021



Confidence
High Moderate

Produced: 11/19/2021
Forecaster: Pugh

- | | | | |
|-----------------------------------|---|---|--|
| 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.



La Nina continues to be the major influence on anomalous rainfall across the global tropics with enhanced convection observed over the Maritime Continent and suppressed convection anchored across the central equatorial Pacific. The Madden-Julian Oscillation (MJO) is forecast to remain weak through the remainder of November and there are no signs among prognostic tools that a coherent MJO develops anytime soon. Although a Kelvin wave may initiate convection across the East Pacific and southwestern Caribbean Sea during the next week to ten days, there is no model support for TC development across these basins at this time. Therefore, no additional TCs are expected to form as the 2021 East Pacific and Atlantic hurricane seasons come to an end. The previous outlook, released on Nov 16, included a moderate confidence for TC development to the east of the Philippines from Nov 17-23. A stationary front and inverted trough are expected to enhance rainfall over parts of the West Pacific during the next several days, but TC formation is not expected through Nov 23. The deterministic 12Z GFS model and a few of its ensemble members, initialized on Nov 19, are depicting formation of a TC either just east of the Philippines or over the South China Sea during the final week of November. Due to the lack of other model support, a TC favored area is not posted for these areas but will be reevaluated on the next outlook, released on Nov 23.

Modifications to the favored areas of above- and below-average rainfall from the previous outlook are based on recent model guidance. The high confidence for above-average rainfall (Nov 20-23) just offshore of the East Coast is related to an amplifying mid-level trough early next week. A shortwave trough in the southern stream supports moderate confidence of above average rainfall from the Lower Rio Grande Valley to the Lower Mississippi Valley from Nov 24-30.

----- Previous discussion released on Nov 16 follows -----

During the past week, the RMM-based MJO index shifted eastward to the Maritime Continent. Its magnitude has also increased slightly, and now lies near the edge of the RMM unit circle. Rather than a true emergence of an MJO, this signal is more likely tied to constructive interference between a convectively coupled Kelvin Wave and the low frequency enhanced convective state established across the Maritime Continent associated with La Nina. There is large ensemble spread in the GEFS and ECMWF regarding MJO propagation, with a mean consensus being a slight retrogression and weakening of the intraseasonal signal during the next two weeks. This evolution is consistent with La Nina and also indicated more clearly in the JMA ensembles, which show less variability compared to the GEFS and ECMWF ensembles.

Tropical cyclone (TC) activity has been generally quiet across the globe. The only new system in the past week was Tropical Cyclone 04B, which developed over the Bay of Bengal on 11/11 and impacted southern India. Although the system was weak, the heavy rainfall associated with this system exacerbated ongoing severe flooding across southern India and Sri Lanka. Given the enhanced convective mode across the region, additional rainfall is likely to continue over these areas with a slight northward shift in the heaviest rainfall forecast in the near term, with the highest accumulations favored over the states of Andhra Pradesh and Karnataka, and relatively drier conditions over Sri Lanka. There is moderate confidence in TC development across both the Bay of Bengal and the eastern Arabian Sea during the next week, with considerable ensemble support from the ECMWF and GEFS. Any potential system that develops over the Bay of Bengal would likely take a west to northwest track into India, further increasing flooding concerns.

Over the western Pacific, a moderate confidence for TC development is indicated across the Philippine Sea during week-1, with the potential system forecast to weaken as it approaches the northern Philippines. Subtropical development is also possible across the far north Atlantic, in the vicinity of the Azores, although confidence is too low to include an associated risk area on today's graphic given the

uncertainty and the time of year. No areas of TC development are highlighted during week-2 throughout the globe.

The precipitation outlook during the next two weeks is based on a consensus of GEFS, CFS, and ECMWF guidance. The most significant areas of heavy rainfall forecast during week-1 are over interior South America tied to a potential mesoscale convective system, the eastern half of Indonesia, situated underneath the enhanced low frequency convective signal, and as discussed previously, over southern India. A more tranquil pattern is forecast over South America by week-2, with only moderate confidence areas for heavy rainfall indicated over eastern Brazil and French Guiana. Heavy rain is favored to continue across southern India, in addition to much of the Maritime Continent associated with the persistence of the low frequency signal.

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.