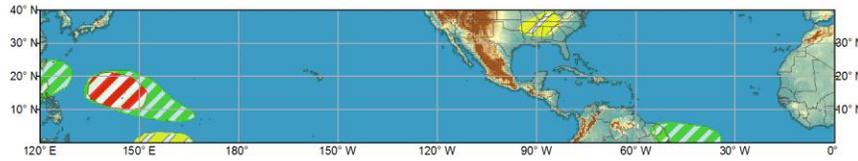




# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Nov 27 2021 - Nov 30 2021



## Week 2 - Valid: Dec 01 2021 - Dec 07 2021



Confidence  
High Moderate

Produced: 11/26/2021  
Forecaster: Rosencrans

- 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.



The MJO remained weak for the last 4 days. There are some indications of a strengthening signal in the next couple of days, though it could be aliasing with a Kelvin Wave signal apparent in OLR data. Any signal that does grow, is likely to emerge over the Maritime Continent and have some eastward propagation to the West Pacific. Beyond that, the signal is stunted in any further propagation, likely due to interaction with the ongoing La Nina. This time of year, that position and propagation are likely to result in impacts along the South Pacific Convergence Zone (SPCZ), which is outside of the GTH update outlook domain, but worth mentioning as it could bring significant rains to the South Pacific Island Nations.

No tropical cyclones formed in the last couple of days. There are some model signals for a potential tropical cyclone in the vicinity of Guam and the Northern Marianas Islands. That signal maximizes later in Week-1 and extends into the early portion of Week-2.

There is a weak signal of a Kelvin Wave moving into the Maritime Continent area, which could support the tropical cyclone development, and a period of wet weather. That period of above-average rains

could extend into Week-2, especially if the model forecast front interacts with tropical moisture. Signals for dry, along the equator between 150E and the Date Line, remain, supported by the ongoing La Nina.

----- Previous Discussion Follows -----

Following a brief amplification of the RMM-based MJO index last week due to the passage of a Kelvin wave constructively interfering with the low frequency La Nina base state, the index weakened again, and retrograded towards the Indian Ocean in association with an equatorial Rossby wave. The response to La Nina conditions remains the primary driver of tropical convective anomalies, and a recent trade wind surge is likely to promote further upwelling of anomalously cold water along the equatorial central and eastern Pacific. Recent observations do suggest the presence of a MJO-like intraseasonal signal attempting to propagate across the Maritime Continent to the West Pacific, with the upper-level velocity potential field showing enhanced divergence building over the SPCZ region. Dynamical model MJO index forecasts generally support the growth of this signal, with the GEFS and ECMWF ensemble means depicting continued retrogression of the signal to the eastern Indian Ocean tied to Rossby wave activity during Week-1, followed by a rapid jump to the West Pacific during Week-2. Dynamical model precipitation forecasts show this potential event unfolding primarily over the Southern Hemisphere in the SPCZ region, which is fairly typical of MJO events in a La Nina background state. Pacific MJO events during the Boreal winter have the potential for inducing lagged pattern changes across North America, favoring building ridging over the western U.S. and troughing across the East, but given the fairly early timing of this event and the likelihood of any widespread convective anomalies unfolding primarily over the Southern Hemisphere, the potential for this event to have substantial impacts on the Northern Hemisphere midlatitude pattern is uncertain.

One tropical cyclone developed during the past week. Tropical Storm Paddy formed over the southeastern Indian Ocean on November 22, and after passing just south of Christmas Island, the storm recently turned to a westward course. Forecasts from the Joint Typhoon Warning Center (JTWC) show Tropical Storm Paddy weakening and eventually dissipating over open waters. It has been nearly a month since the last tropical cyclone formation over the Northwest Pacific basin. During Week-1, analyses of dynamical model ensembles and guidance from JTWC indicate two potential formation areas with moderate confidence: the southwestern Indian Ocean west of where Tropical Storm Paddy developed in association with Rossby wave activity, and the South China Sea in association with a trough. Tropical cyclone development is also possible somewhere in the vicinity of Guam westward towards the Philippines, but confidence remains too low for placement of a hazard on the outlook. During Week-2, several ECMWF and GEFS ensemble members show a potential formation over the Bay of Bengal. Additionally, there is a low potential for formation in the vicinity of northern Australia. A quiet end to the East Pacific and Atlantic hurricane seasons is anticipated.

The precipitation outlook during the next two weeks is based on a consensus of GEFS, CFS, and ECMWF guidance, with consideration given to composite precipitation anomalies of historic La Nina and Pacific MJO events. Widespread enhanced convection is favored across the Maritime Continent during Week-1, progressing eastward to the SPCZ region during Week-2. In contrast, La Nina conditions favor suppressed convection near and west of the Date Line along the Equator, and along the central Pacific ITCZ.

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.