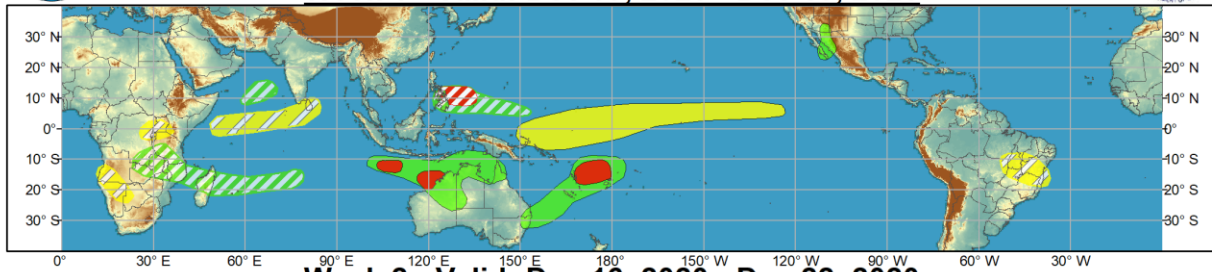




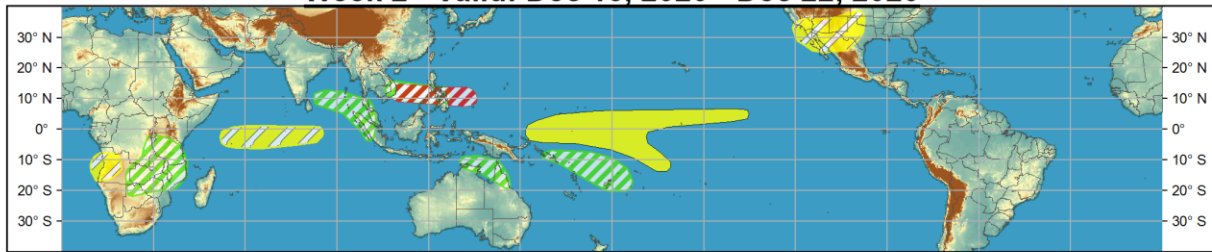
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



**Week 1 - Valid: Dec 09, 2020 - Dec 15, 2020**



**Week 2 - Valid: Dec 16, 2020 - Dec 22, 2020**



**Confidence**  
High Moderate

- Tropical Cyclone Formation** (Red) Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Above-average rainfall** (Green) Weekly total rainfall in the upper third of the historical range.
- Below-average rainfall** (Yellow) Weekly total rainfall in the lower third of the historical range.
- Above-normal temperatures** (Orange) 7-day mean temperatures in the upper third of the historical range.
- Below-normal temperatures** (Blue) 7-day mean temperatures in the lower third of the historical range.

**Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.**

**Produced: 12/08/2020**

**Forecaster: Pugh**



A robust Madden-Julian Oscillation (MJO) propagated eastward from the Indian Ocean to the Maritime Continent during mid to late November. As the MJO shifted east to the Pacific Ocean at the beginning of December, the RMM index depicted a decrease in its amplitude and little to no eastward propagation. This weakening is likely related to destructive interference with the ongoing La Nina which favors suppressed convection across the equatorial Central Pacific. Model spread is large during the next two weeks but there is a notable trend in many GEFS ensemble members for a strengthening MJO with eastward propagation resuming.

The passage of the MJO contributed to the development of multiple tropical cyclones (TCs) over the Indian Ocean basin since late November. TC Burevi, which formed on Nov 30 across the Bay of Bengal, made landfall on the east coast of Sri Lanka and eventually dissipated across the Gulf of Mannar. More recently on Dec 6, TC Bongoyo developed over the South Indian Ocean to the east of Diego Garcia. The Joint Typhoon Warning Center (JTWC) calls for Bongoyo to weaken as it tracks westward toward Mauritius and La Reunion.

A couple of TCs are likely to develop either on Dec 8 or 9 across the southeast Indian Ocean (around 12S/108E) and near the Kimberley coast of Australia. The remnant low of the expected TC near the Kimberley coast is likely to bring heavy rainfall (more than 100 mm) to parts of Western Australia and parts of the Northern Territory. Early in week-1, excellent model agreement and consistency support high confidence for TC development across the South Pacific (10-15S/170E-180). Model solutions indicate that this TC could become intense as it tracks slowly to the southwest. Across the western Pacific, the MJO, along with model guidance, support a moderate confidence area for TC development to the east of the Philippines (week-1) and near the Philippines westward to the South China Sea (weeks 1 and 2).

The precipitation outlook during the next two weeks is based primarily on the model consensus among the CFS, ECMWF, and GEFS model, influences from La Nina, and anomalous rainfall associated with ongoing and predicted tropical cyclones. MJO precipitation composites for phases 5 and 6 were also considered. Below-average rainfall is likely to persist across the central equatorial Pacific, while above-average rainfall is favored for parts of the South Pacific and Australia. Below-average rainfall is expected to gradually expand across the equatorial Indian Ocean during mid to late December. At the beginning of week-1, a relatively small area of above-average rainfall predicted for northern Mexico and the Desert Southwest of the United States is related to a low-latitude shortwave trough. By week-2, below-average rainfall is likely to return to these areas which is typical during La Nina.

Forecasts over Africa are made in consultation with CPC's international desk, and can represent local-scale conditions in addition to global-scale variability.