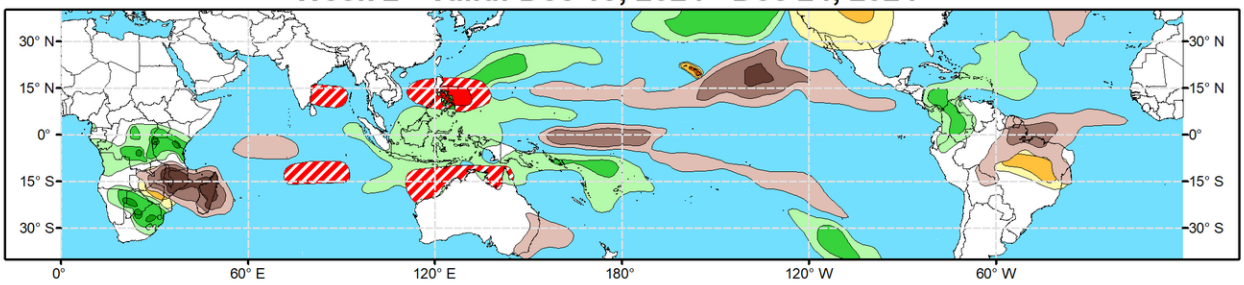
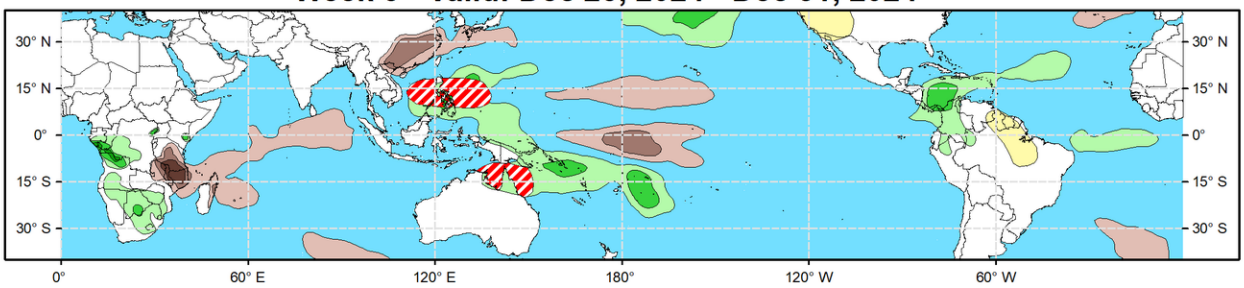
Global Tropics Hazards Outlook

Climate Prediction Center

Week 2 - Valid: Dec 18, 2024 - Dec 24, 2024



Week 3 - Valid: Dec 25, 2024 - Dec 31, 2024



Tropical Cyclone (TC) Formation Probability
>20% >40% >60%
Tropical Depression (TD) or greater strength

Above-Average Rainfall Probability
>50% >65% >80%
Weekly total rainfall in the Upper third of the historical range

Below-Average Rainfall Probability
>50% >65% >80%
Weekly total rainfall in the Lower third of the historical range

Above-Average Temperatures Probability
>50% >65% >80%
7-day max temperatures in the Upper third of the historical range

Below-Average Temperatures Probability
>50% >65% >80%
7-day min temperatures in the Lower third of the historical range

Issued: 12/10/2024
Forecaster: Pugh

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

The Madden-Julian Oscillation (MJO) shifted east from the Indian Ocean to the Maritime Continent during late November and early December. However, its eastward propagation slowed due to influence from an equatorial Rossby wave and the emerging La Nina. The 200-hPa velocity potential and upper-level wind anomalies depict a robust MJO, while the low-level wind anomalies are more stationary with strong westerly (easterly) anomalies observed across the Indian (central Pacific) Ocean during the past ten days. Despite the stationary low-level wind anomalies, enhanced convection has recently overspread the Maritime Continent and northern Australia. Forecast uncertainty has increased today with the future evolution of the MJO during the next two to three weeks. Another equatorial Rossby wave coupled with the low-frequency base state is expected to cause additional slowing of the MJO as it propagates towards the Western Hemisphere.

Tropical Cyclone (TC) Chido recently developed across the southwestern Indian Ocean. The Joint Typhoon Warning Center (JTWC) forecasts TC Chido to track westward near or over northern Madagascar by December 13th and then reach Mozambique a couple days later. The JTWC is monitoring three areas across the southeastern Indian Ocean and closer to northern Australia for potential TC development during the next week. By week-2 (December 18-24), the increased chance of TC development is expected to expand east to include the Gulf of Carpentaria and the West Pacific. Given the slower eastward MJO propagation favored, an elevated chance of TC genesis is maintained for portions of the southern Indian Ocean through week-2. Also, recent GFS and ECMWF model runs have shown a TC forming across the western Bay of Bengal either late in week-1 or early week-2. For week-3 (December 25-31), dynamical model guidance and MJO composites (phases 6 and 7) favor an elevated chance of TC development across the West Pacific and near northern Australia. Due to the expected slow phase

speed of the MJO, the favored TC genesis area was limited to the western Coral Sea region for week-3.

The precipitation outlook for weeks 2 and 3 was based on the historical skill weighted blend of the GEFS, CFS, and ECMWF along with MJO precipitation composites for phases 5, 6, and 7. During mid to late December, increased chances for above-normal precipitation are forecast to shift eastward from the Maritime Continent to the West and South Pacific. The MJO would favor a continuation of above-normal temperatures and below-normal precipitation for northeastern Brazil through week-2. If the MJO propagates eastward over the Pacific the next few weeks, then chances for below-normal temperatures would increase across the eastern U.S. by early January.

For hazardous weather conditions in your area during the coming two-week period, please refer to your local NWS office, the Medium Range Hazards Forecast produced by the Weather Prediction Center, and the CPC Week-2 Hazards Outlook.