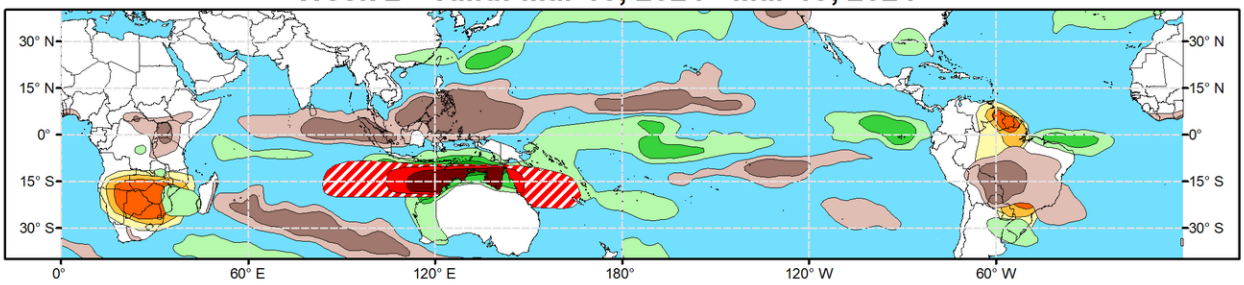
Global Tropics Hazards Outlook

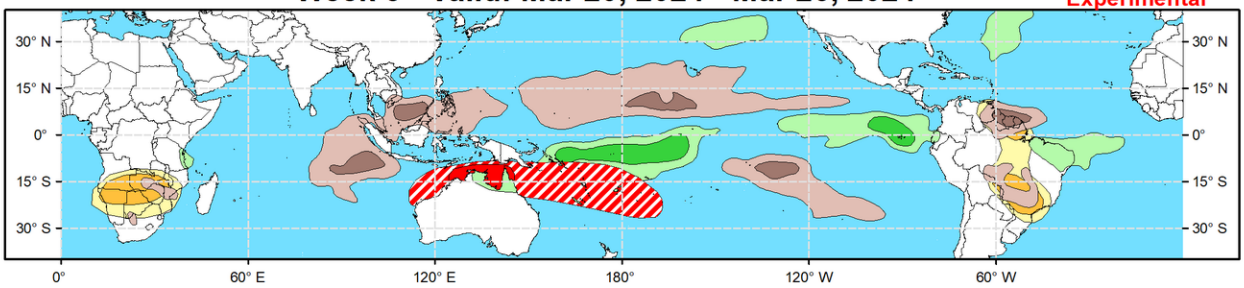
Climate Prediction Center

Week 2 - Valid: Mar 13, 2024 - Mar 19, 2024



Week 3 - Valid: Mar 20, 2024 - Mar 26, 2024

** Experimental **



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: 03/05/2024
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) strengthened at the beginning of March as a more coherent wave-1 pattern of anomalous upper-level divergence (convergence) developed over the Indian Ocean (eastern Pacific). The RMM-based MJO index gained amplitude since the end of February and is currently shifting from phases 3 to 4. Dynamical models remain consistent and in good agreement that a moderate to strong MJO propagates eastward to the Pacific Ocean during mid to late March. Given this predicted evolution, MJO precipitation and tropical cyclone composites for phases 5, 6, and 7 were used as guidance in the weeks 2 and 3 GTH outlook. Although enhanced convection recently weakened near the Date Line due to the suppressed phase of the MJO, sea surface temperatures remain above-normal across the central and eastern equatorial Pacific and El Nino is expected to continue playing a role in global tropical rainfall.

No tropical cyclones (TCs) formed from February 28 to March 5 but the large-scale environment is likely to become more favorable for development initially over the Indian Ocean and then shift eastward to northern Australia. Prior to week-2, the GFS and ECMWF models are depicting multiple TCs forming over the Mozambique Channel, South Indian Ocean, and offshore of the Kimberley Coast of Australia. Dynamical model output and MJO composites support a greater than 60 percent chance of TC development near the Kimberley Coast of Australia and Gulf of Carpentaria during week-2 (March 13-19). A broader 20 to 60 percent chance extends from the South Indian Ocean to the Coral Sea. By week-3 (March 20 to 26), the GEFS has the strongest signal for TC genesis over the Gulf of Carpentaria and based on the predicted MJO progression, a greater than 40 percent chance is justified. A 20 to 40 percent chance of TC development continues near the Kimberley Coast of Australia and MJO composites support a large favored TC genesis area from the Coral Sea to the South Pacific. Since powerful tropical cyclone Jasper in December 2023, six TCs have formed in the

South Pacific but all were relatively weak.

The precipitation outlook for weeks 2 and 3 are based on a historical skill weighted blend of the GEFS, CFS, ECCC, and ECMWF models, MJO precipitation composites (phases 5, 6, and 7), and the continued influence from El Nino. Above-average rainfall is strongly favored across northern Australia from March 13 to 19 with this favored wet area shifting eastward to the South Pacific later in March. The Indian Ocean is expected to see a drying trend from week 2 to 3. Based on multi-model ensemble output, there is a greater than 65 percent chance of above-average temperatures across parts of South America and southern Africa during weeks 2 and 3. The MJO would favor a much drier pattern along the West Coast by mid-March which is consistent with the week-2 dynamical models.

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. Forecasts made over Africa are made in coordination with the International Desk at CPC.