

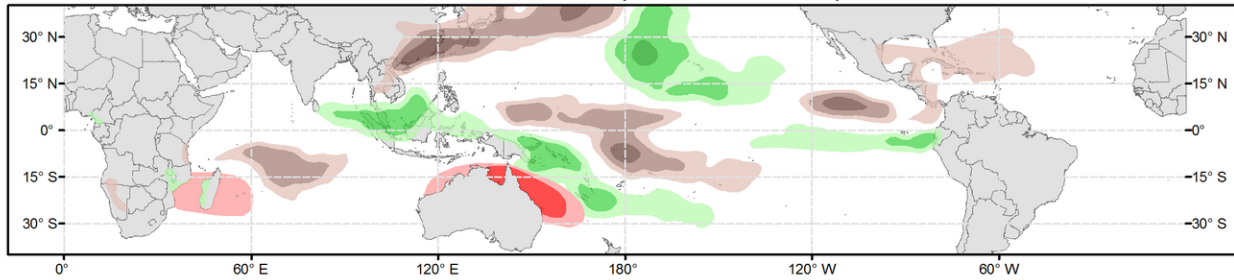


Global Tropics Hazards Outlook

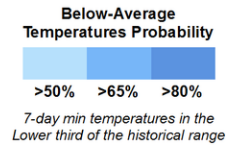
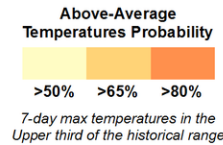
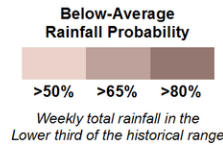
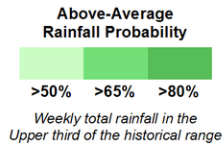
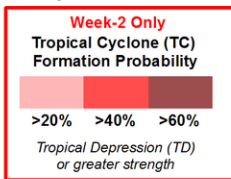
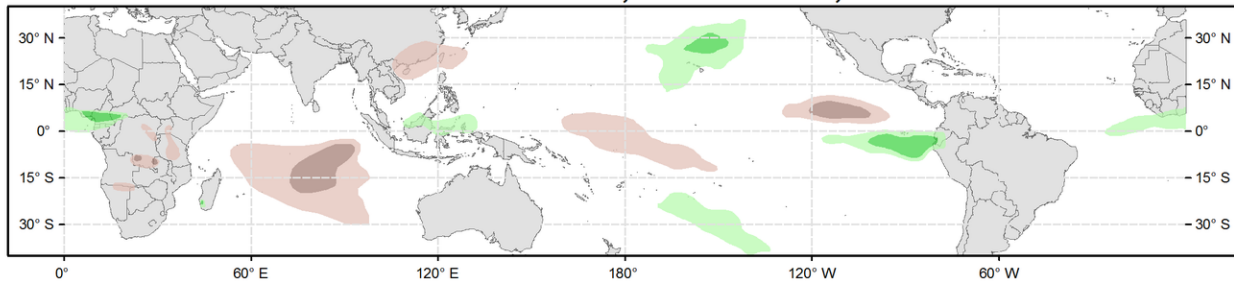
Climate Prediction Center



Week 2 - Valid: Mar 01, 2023 - Mar 07, 2023



Week 3 - Valid: Mar 08, 2023 - Mar 14, 2023



Issued: 02/21/2023
Forecaster: Allgood

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.

Both the RMM-based and CPC upper-level velocity potential based MJO indices continue to reflect robust MJO activity, with the enhanced convective envelope now crossing the Pacific Ocean. Westerly low-level zonal wind anomalies have recently developed along the Equator near the Date Line, which reflects MJO-related destructive interference with the La Niña base state, and could help initiate a downwelling oceanic Kelvin wave that further erodes the cold ENSO conditions. Over the past several days, the upper-level velocity potential field has become somewhat more inconsistent with the other diagnostic fields, showing a faster propagation of the enhanced convective envelope over the Western Hemisphere. It is possible that this activity is related to Kelvin wave activity propagating ahead of the main MJO convective envelope. This competing signal may partly explain the dynamical model MJO index forecasts, which generally depict a weakening of the index during Week-1, followed by a strong resurgence of MJO activity over the West Pacific beginning in Week-2. As the Kelvin wave crosses the Indian Ocean, it would potentially interfere with the ongoing MJO event, and then conversely begin constructively interfering with the MJO as it returns to the Pacific. Despite the strong MJO-related anomalies, due to the lack of a clear progression of the signal across the Western Hemisphere in the model forecasts, the impact of the intraseasonal signal on the evolution of the extratropical pattern is uncertain. Additionally, despite the interference with the base state, dynamical models continue to depict strong subsidence along the Equator near the Date Line.

Long-lived Tropical Cyclone Freddy, which formed on 6 February and currently at Category-3 intensity on the Saffir-Simpson scale, is approaching landfall on the eastern coast of Madagascar, where substantial wind, surge, and flooding impacts are anticipated. Forecasts from the Joint Typhoon Warning Center (JTWC) depict rapid weakening of the cyclone over the higher terrain of Madagascar,

before the system emerges over the Mozambique Channel. A second landfall is anticipated along the Mozambique coast. During Week-2, there is a slight chance of additional tropical cyclone development in the vicinity of La Reunion Island, Madagascar, or the Mozambique Channel following the passage of the previously mentioned Kelvin wave, despite the potentially unfavorable environment generated by the MJO suppressed envelope. Tropical cyclone formations are also possible north of Australia or across the Coral Sea, which is more consistent with forecasted MJO activity. The MJO would also support tropical cyclogenesis along the South Pacific Convergence Zone (SPCZ) region, but dynamical model forecasts do not depict a high potential for tropical cyclone activity in this region.

Forecasts for above- and below-normal precipitation probabilities are based on a consensus of GEFs, ECMWF, and CFS model guidance, MJO activity, and the ongoing La Niña base state. The MJO supports suppressed convection across the central Indian Ocean, with enhanced convection across the Pacific primarily limited to the eastern portion of the basin due to interference with the low frequency suppressed signal near the Date Line. A wet pattern is favored for both Week-2 and Week-3 across Hawaii and in the vicinity of American Samoa, with suppressed convection favored southeast of Guam. Strong ridging favors drier conditions across the Gulf of Mexico and the Caribbean during Week-2, which may exacerbate abnormal dryness and developing drought conditions in Florida and Puerto Rico.

For hazardous weather concerns in your area during the next two weeks, please refer to your local NWS office, the Medium Range Hazards Forecast from the Weather Prediction Center (WPC), and CPCs Week-2 Hazard Outlook. Forecasts made over Africa are made in coordination with the International Desk at CPC.