

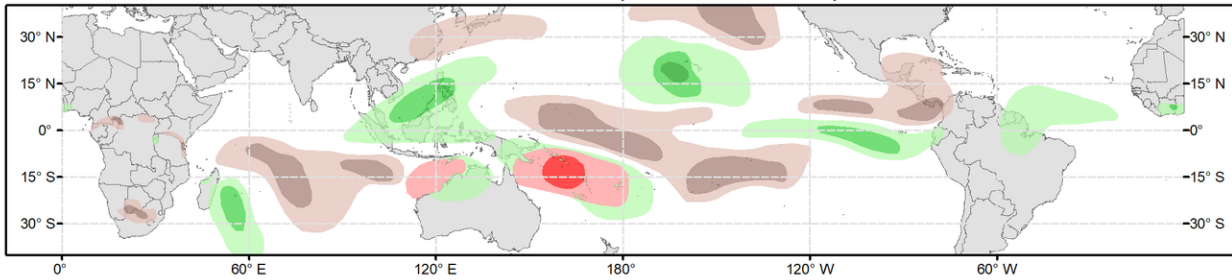


# Global Tropics Hazards Outlook

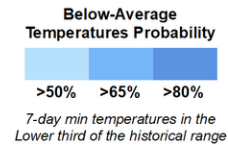
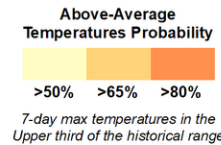
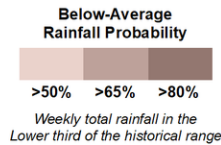
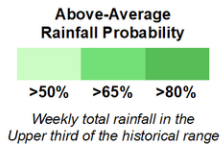
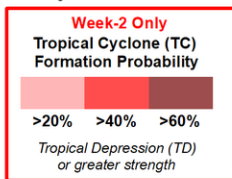
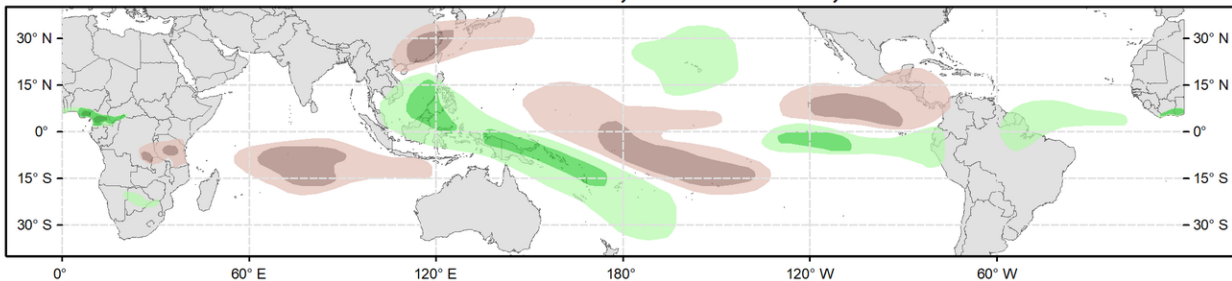
## Climate Prediction Center



**Week 2 - Valid: Feb 22, 2023 - Feb 28, 2023**



**Week 3 - Valid: Mar 01, 2023 - Mar 07, 2023**



**Issued: 02/14/2023**  
**Forecaster: Novella**

**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.**

During the past week, both the RMM and upper-level velocity potential based MJO indices continue to reflect coherent Madden Julian Oscillation (MJO) activity, with the enhanced convective phase having entered the far western Pacific in the past few days. During the next week, there is good agreement in the dynamical models favoring continued eastward propagation of the MJO signal across the western Pacific where it is anticipated to destructively interfere with the low frequency footprint. Notably, time/longitude forecasts of lower-level wind anomalies show a major disruption of an enhanced trade wind regime over the central Pacific tied to La Nina, with anomalous westerlies emerging over the eastern Pacific and velocity potential anomaly fields maintaining a fairly defined wave-1 pattern. As the MJO propagates across the western Hemisphere during week-2, RMM forecasts generally depict a weakening mean signal and increased ensemble spread contributing to added uncertainty later in February. Despite a potentially much less coherent MJO at this lead, the large-scale environment is expected to become less (more) favorable for tropical cyclone (TC) development in the Indian Ocean (South Pacific). The extratropical response associated with western Hemisphere MJO events during boreal winter historically favors warmer (colder) than normal conditions developing across the western (eastern) U.S., but this is at odds with the latest 500-hPa height anomaly guidance from the ensembles which maintain more of a La Nina pattern over North America heading into March.

Two TCs formed in the global tropics during the past week. In the South Pacific, TC Gabrielle developed on 2/8 and peaked at category-3 intensity this past weekend over the Coral Sea. Although Gabrielle weakened and lost its tropical characteristics while tracking poleward, this system brought strong winds and heavy precipitation over New Zealand, resulting in extensive power outages, flooding, and damages to infrastructure in the North Island during the

past 24 hours. In the southern Indian Ocean, TC Dingani formed on 2/9 near 90E,17S and reached category-1 strength before weakening under an unfavorable shear environment. The Joint Typhoon Warning Center (JTWC) forecasts this system to track southward and dissipate over open waters in the next few days.

Since forming on 2/6, TC Freddy remains active in the southern Indian Ocean and is currently located near 90E,15S. After a brief period of weakening this past weekend, the JTWC expects Freddy to strengthen to a category-4 strength system while tracking due west during the next 5 days. Beyond this time, both the GEFS and ECMWF ensembles show Freddy maintaining a westerly track and nearing Madagascar late in week-1 and early in week-2. Regardless of landfall, enhanced precipitation amounts are favored over the southwestern Indian Ocean during week-2 associated with this disturbance.

For week-2, probabilistic genesis tools appear fairly muted in regards to TC development across the southern Indian Ocean. The GEFS ensemble continues to feature an area of lowering pressure near 70E early in week-2, however the ECMWF ensemble is less supportive of this realization and there is insufficient confidence for genesis in this part of the basin given the more unfavorable upper-level environment tied to the MJO. Farther east, there is better agreement in the ensembles favoring a broad area of deepening low pressure in the Timor Sea. Given good continuity in the probabilistic guidance, slight chances for genesis are posted to the north of the Kimberley Coast of Australia for week-2. In the South Pacific, a broad area of slight chances for TC development is issued from the Coral Sea to the Fiji Islands with moderate chances (40%) posted to the west of Vanuatu where ensembles and probabilistic tools show the strongest signals for TC formation late in February.

The precipitation outlooks for weeks 2 and 3 are based on a historical skill weighted blend of GEFS, CFS, ECMWF and Canadian ensembles, MJO precipitation composites, La Nina conditions, and anticipated TC tracks. 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.