

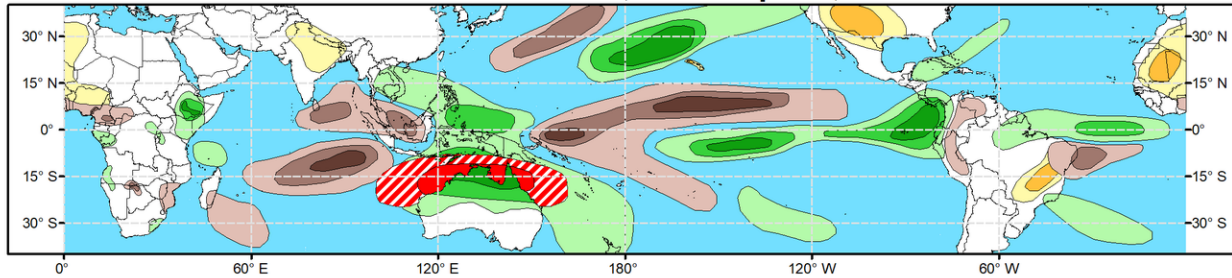


Global Tropics Hazards Outlook

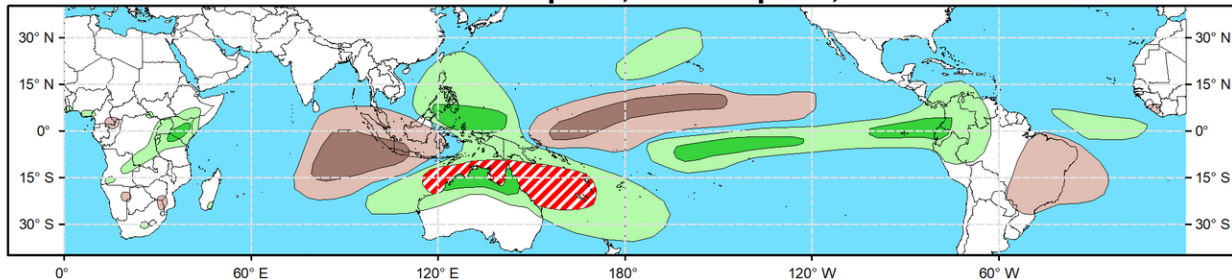
Climate Prediction Center



Week 2 - Valid: Mar 26, 2025 - Apr 01, 2025



Week 3 - Valid: Apr 02, 2025 - Apr 08, 2025



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: 03/18/2025
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.

Since entering the Indian Ocean at a slowed phase speed earlier in month, RMM observations show a more canonical eastward propagation of the MJO signal, though its amplitude has gradually weakened during the past few days in phase 3. Objective filtering of upper-level velocity potential and OLR anomaly observations offer a slightly different perspective, which shows the core of the MJO enhanced envelope closer to 110E, where according to composites during Feb-Apr, is more reflective of a phase 4 MJO expression at present. During the next week, RMM forecasts favor a very fast phase speed over the Maritime Continent, while maintaining a low to near zero amplitude as it enters the Western Pacific. Such a phase speed is uncharacteristic of the MJO, and the thinking is that this behavior is related to the rapid development of suppressed divergence aloft favored in the western Indian Ocean tied to exiting equatorial Kelvin wave activity in the region. This would cause the RMM index to “catch-up” to the enhanced convective MJO envelope that actually lies closer to the Western Pacific, consistent with the latest OLR and velocity potential short-term forecast fields.

Beyond week-1 however, dynamical models remain at odds with the strength and evolution of the MJO once in the Western Pacific. The ECMWF continues to devolve the upper-level velocity potential fields into a multiple wave pattern by weeks 2 and 3, suggesting other modes of variability, namely, an emerging low frequency signal in the eastern Pacific characteristic of El Nino conditions, are playing a growing role in the global tropics. The GFS and CFS have been less supportive of this feature, likely owing to the shallowness of the anomalously warm water in eastern Pacific, and favor a more organized MJO over the western Pacific. However, these models also struggle to maintain its eastward propagation and its potential to break through the low-frequency enhanced trade wind regime along Date Line heading into April. Given the

unusual structure of the base state, and its potential interactions with the evolving subseasonal activity, there is a higher degree of uncertainty in the updated outlook. Despite these uncertainties, there continues to be decent support in the model guidance for additional tropical cyclone (TC) development in the southern Indian Ocean and South Pacific later in March. Conversely, decreased chances for TC development are favored over the southeastern and south-central Indian Ocean following a pretty active period from late February into early March.

No TCs formed during the past week, with no active TCs at present. The Joint Typhoon Warning Center (JTWC) is monitoring a disturbance (91S) in the southeastern Indian Ocean with increased chances of formation during week-1. With the GEFs and ECMWF both favoring the persistence of strong anomalous lower level westerlies over this part of the basin and extending eastward by week-2, conditions look to remain favorable for additional development off the Kimberley Coast eastward to the Coral Sea. Therefore, 40% chances are posted from approximately 120E to 145E to the north of Australia, with a broader area of 20% chances, consistent with the week-3 GTH outlook issued last week. Probabilistic genesis tools also feature increased signals north of the equator in the Philippine Sea; however, the environment may not be yet conducive for genesis, precluding any TC shapes at this time. TC development is also possible to the northeast of Madagascar based on these tools, but forecast confidence is too low especially if the suppressed phase of the MJO should prevail over this part of the basin. Given the aforementioned differences in the model guidance with respect to the MJO, the week-3 perspective is unclear, which is compounded by a quieter genesis climatology entering April. However, 20% chances are posted to the north of Australia and extending eastward into the South Pacific where models favor the persistence of anomalous lower-level westerlies with modest signals in the probabilistic tools.

Forecasts for enhanced and suppressed precipitation are based on a historical skill weighted blend of CFSv2, GEFs, and ECMWF ensemble systems, with some consideration of MJO and ENSO composites for Feb-Apr due the uncertainties associated with predicted subseasonal activity, as well as the non-canonical low frequency base state. The model blend does well reflect the suppressed precipitation near the Date Line tied to the enhanced trades, with warming SSTs supporting an expanded coverage of enhanced precipitation over the eastern and central equatorial Pacific, where the highest probabilities are issued. Above-normal temperatures are favored over much of the western CONUS and many parts of eastern South America, where drought related conditions are being registered. In addition, excessive heat conditions are possible in portions of western Africa and the Indian subcontinent where daytime temperatures could exceed 105 degrees F. Precipitation forecasts over Africa are made in coordination with the International Desk at CPC. For hazardous weather concerns in your area in the U.S. during the next two weeks, 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.