

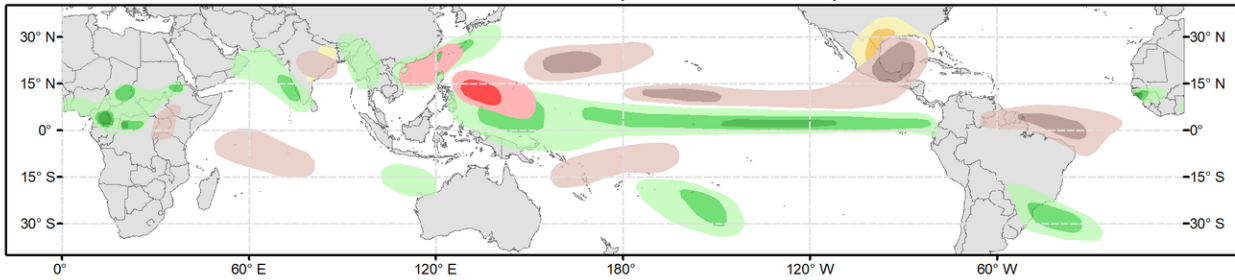


Global Tropics Hazards Outlook

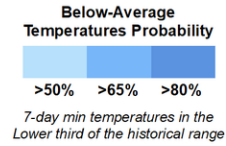
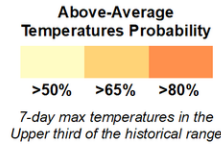
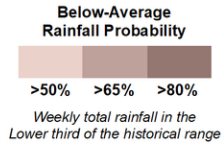
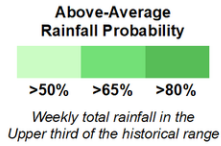
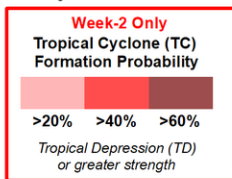
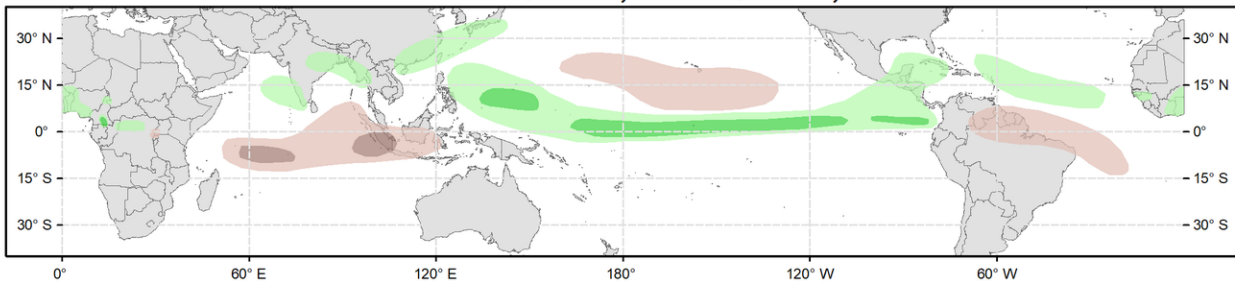
Climate Prediction Center



Week 2 - Valid: Jun 14, 2023 - Jun 20, 2023



Week 3 - Valid: Jun 21, 2023 - Jun 27, 2023



Issued: 06/06/2023
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.

Since late May, the enhanced phase of the Madden-Julian Oscillation (MJO) has propagated from the western Pacific and into the Western Hemisphere where it has gradually decreased in amplitude in RMM space. The loss of strength is generally consistent with recent upper-level velocity potential anomaly observations, and appears to be tied to destructively interfering modes of variability in the tropics. Despite this, the leading edge of the convective envelope has shifted well beyond the Prime Meridian, and there is good agreement in the RMM forecasts favoring continued eastward propagation of the MJO at low amplitude over the Indian Ocean during week-1, followed by an uptick in amplitude over the Maritime Continent during week-2. Beyond mid-June, ensemble spread greatly increases in the RMM forecasts, however these predictions have trended in favor of a more coherent MJO at this lead, with several ensemble members depicting a potentially fairly robust event unfolding over the western Pacific during the week-3 time frame. Given support for the continuation of well-organized intraseasonal activity in the upper-level velocity potential forecasts, the outlook relies on this perspective, resulting in increased chances for tropical cyclone (TC) development being favored over the Western Pacific during the period. With the suppressed phase of the MJO expected to shift across the Western Hemisphere, the large-scale environment is expected to become less conducive for TC development over the Eastern Pacific and Atlantic basins, however tropical cyclogenesis cannot be ruled out given an increasingly active climatology later in June.

During the past week, three TCs developed in the global tropics. In the Atlantic basin, TC Arlene developed on 6/1 and briefly peaked at tropical storm intensity in the Gulf of Mexico before dissipating over open waters this past weekend. Within the last several hours, a pair of TCs formed in the northern Indian Ocean (02A) and the western Pacific (TS03W). With its formation likely

tied to the recent passage of a Kelvin wave in the Arabian Sea, 02A has rapidly consolidated and the Joint Typhoon Warning Center (JTWC) expects this system to gradually intensify under a favorable shearing environment, tracking northward during the next several days. Later in week-1, deterministic solutions show the system generally weakening likely due to dry air entrainment, but are divided in regards to its eventual track, with the GFS (ECMWF) favoring a more westerly (easterly) solution over the northern Arabian Sea. Regardless of its track, enhanced precipitation amounts are favored late in week-1 and into early week-2. In the Philippine Sea, TS03W is forecast to reach category two intensity while tracking poleward during the next several days. Thereafter, model guidance shows this system recurving along the western periphery of a subtropical ridge but could bring potentially heavy precipitation amounts to portions of southern Japan. For the latest information regarding these two active systems, please refer to updates from the JTWC.

In the Western Pacific, additional TC formation remains favored over the South China Sea tied to strengthening low-level westerly anomalies and predicted Rossby wave activity. Probabilistic tools and ensemble guidance suggest formation is more likely late in week-1, however 20% chances for TC development are issued should any potential development be delayed in the region. To the east, 40% chances for TC development are issued for week-2 over the Philippine Sea where there is increased support in the GFS and ECMWF ensembles for an area of deepening low pressure and more elevated signals in latest probabilistic tools. Accompanying this area, 20% chances for TC development is posted extending eastward beyond the Mariana Islands given a broad area decreasing shear favored in the dynamical models and another area of low pressure which may form to the south of Guam.

The enhanced phase of the MJO also supports potential TC development in the Bay of Bengal which is reflected in latest probabilistic guidance, however no shapes are posted due to increased shearing associated with the predicted onset of the Indian monsoon and an overall decrease in activity in the TC climatology by mid-June. Likewise across the eastern Pacific and Atlantic, no TC areas are issued for week-2, given the development of anomalous lower-level easterlies and the building of a subtropical ridge over Mexico resulting in drier than normal precipitation forecast.

The precipitation outlook for weeks 2 and 3 is based on a historical skill weighted blend of GFS, ECMWF, CFS and Canadian ensemble guidance, anticipated TC tracks, and historical precipitation composites of Maritime Continent and Western Pacific MJO events during May-Jul. For temperatures, a sluggish or dry start to the Indian monsoon favors above-normal temperatures for portions of India, and the aforementioned development of subtropical ridging over North America is also expected to increase the risk of much above-normal temperatures for parts of Mexico and the south-central U.S. Calibrated reforecast tools indicate increased chances for daytime temperatures exceeding 100 degrees F across parts of southern Texas and northern Mexico during the week-2 period.

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