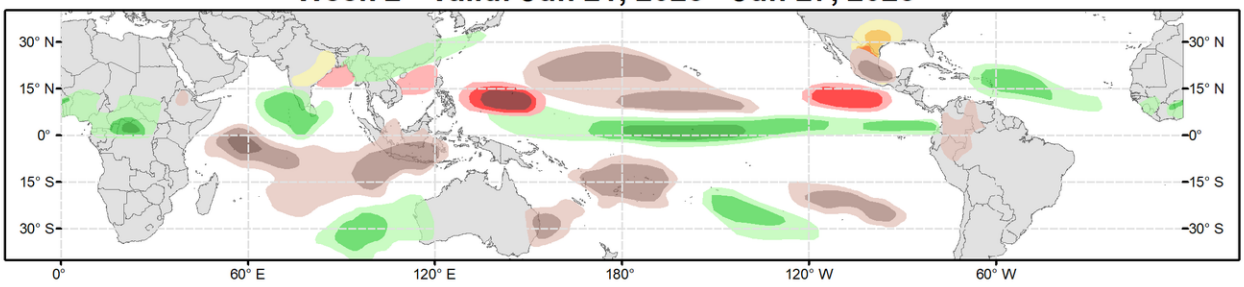
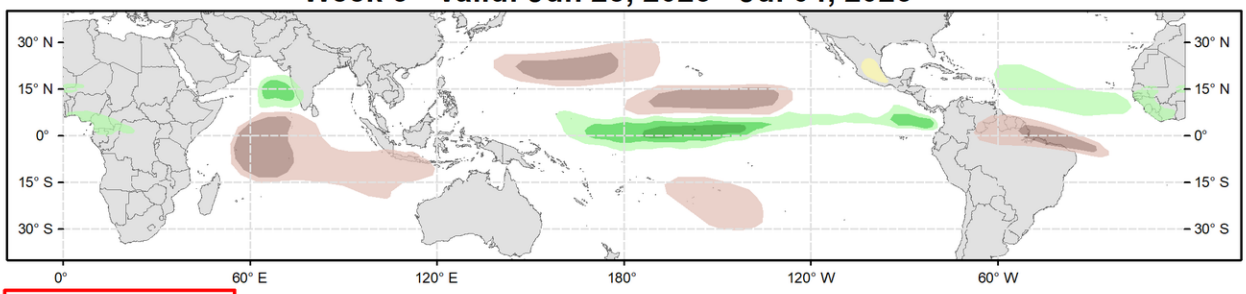
Global Tropics Hazards Outlook

Climate Prediction Center

Week 2 - Valid: Jun 21, 2023 - Jun 27, 2023



Week 3 - Valid: Jun 28, 2023 - Jul 04, 2023



Week-2 Only
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: 06/13/2023
Forecaster: Collow

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.

A weak RMM-based Madden Julian Oscillation (MJO) signal has propagated across the Western Hemisphere and into the Indian Ocean at the end of May and into early June. While RMM-based forecasts from the GEFS and ECMWF ensembles generally depict a weakening of the signal back into the unit circle, upper-level velocity potential based MJO forecasts are more robust, depicting the MJO propagating across the Pacific during the next 2 weeks, possibly enhanced by the low frequency El Nino state. The GEFS also depicts a Convectively Coupled Kelvin Wave breaking off the main convective envelope and moving into the Atlantic, while the ECMWF indicates a longer persistence of suppressed convection across the Atlantic.

The only new TC formation during the past week was Tropical Cyclone 03B, which developed near the coast of Bangladesh on 6/9, and quickly moved inland. Cyclone Biparjay and Typhoon Guchol reached their peak intensities over the Arabian Sea and Western Pacific respectively. Biparjay is forecast to move into southeastern Pakistan or western India, with Guchol becoming a remnant low southeast of Japan. Invest 99W, currently over the South China Sea, has a low chance (10% per the Joint Typhoon Warning Center) for developing into a TC.

The strongest enhanced convective signal is forecast across the Western Pacific during the next 2 weeks, with the MJO constructively interfering with El Nino, and perhaps enhanced Rossby Wave activity. This supports a 60 percent chance of TC formation across the Western Pacific basin east of the Philippines in todayâ€™s outlook. This is also consistent with seasonal climatology, as well as several ECMWF ensemble members which indicate a system developing in week-2. TC development may also occur across the South China Sea given the enhanced convection predicted over the region, although probabilities are weaker compared to further east, and only a 20 percent chance for TC development is

indicated. Although marginal, TC development is also possible (20 percent chance) across the Bay of Bengal given the delayed onset of the Indian Monsoon and increased wet signals over the region.

TC formation probabilities are forecast to increase across the Eastern Pacific during the next 2 weeks as the enhanced convective envelope shifts eastward. The National Hurricane Center notes a 20 percent chance of TC development in week-1. By week-2, this signal increases further, with several GEFS and ECMWF ensemble members depicting TC development to the southwest of Mexico, supporting a 40 percent chance for TC formation in todayâ€™s week-2 outlook. Multiple GEFS and ECMWF ensemble members depict potential TC formation across the Main Development Region in the Atlantic. However, based on climatology, it is likely too early to have TC development in this region despite enhanced precipitation signals in both models. Therefore, no risk area is designated over the Atlantic Basin.

The precipitation outlook for weeks 2 and 3 is based on a historical skill weighted blend of GEFS, ECMWF, CFS and Canadian ensemble guidance, anticipated TC tracks, and historical precipitation composites of Maritime Continent and Western Pacific MJO events during May-Jul. Above-normal rainfall is generally forecast across the equatorial Pacific tied to enhanced convection and El Nino. The suppressed phase of the MJO supports below-normal rainfall across much of the southern Indian Ocean during weeks 2 and 3, with increased onshore flow across western Australia favoring above-normal rainfall during week-2. Increased rainfall is also forecast across the central Atlantic, including over the northwesternmost Caribbean Islands. Hot temperatures are possible across portions of central and eastern India, and across Mexico and the south-central U.S., with daytime highs across both regions possibly exceeding 100 deg F.

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.