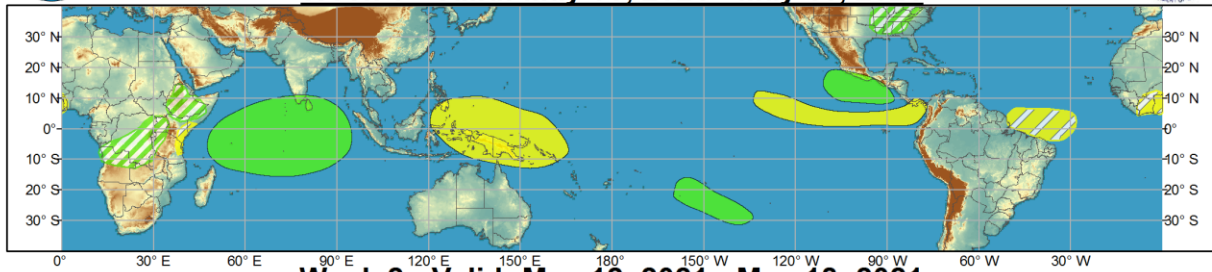




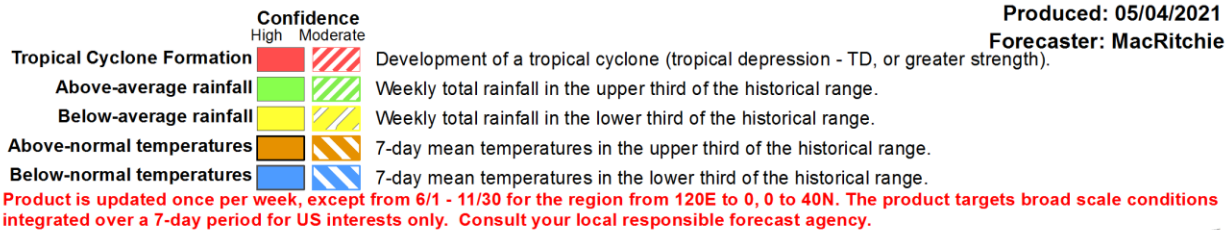
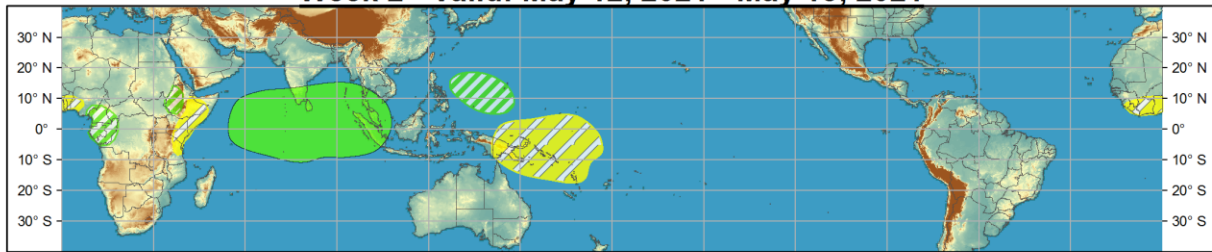
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: May 05, 2021 - May 11, 2021



Week 2 - Valid: May 12, 2021 - May 18, 2021



Produced: 05/04/2021

Forecaster: MacRitchie



The Madden Julian Oscillation (MJO) is rapidly approaching the western Indian Ocean. Its amplitude is especially high, projecting to over 3.5 on some RMM indices. Part of this enhancement is due to the subtraction of the 120-day mean of variables during the calculation of the RMM index (see Wheeler and Hendon 2004, section 2 for details). This is normally performed as a proxy for removing low frequency variability, but when applied during ENSO transitions can lead to situations in which the previous 120-day mean is not indicative of the current background state, such as now with the transition to ENSO neutral conditions. The result of this is a "left shifted" RMM index, which results in especially high amplitude values in the phases on the left-hand side (negative RMM1 values) of the RMM index and artificially low values in the right-hand side phases (positive RMM1 values).

Regardless of the aforementioned caveat, the MJO is strong and dynamical guidance is in good agreement that it will continue to propagate over the Indian Ocean and Maritime Continent during the next few weeks. The removal of the 120-day mean does result in forecast RMM values that are within the circle during Week-2, but as stated earlier, we do not expect that this is an accurate representation of the MJO, and so our GTH forecast assumes an active MJO for all of Weeks-1 and 2.

The CFS and ECMWF forecast weak precipitation anomalies throughout the tropics during the next two weeks. Our GTH forecast includes a standard MJO pattern of anomalous rainfall over the Indian Ocean and suppressed rainfall over the eastern Maritime Continent. It is noteworthy that despite the dynamical models forecasting such a strong MJO, neither ensemble mean included these MJO-related areas of rainfall.

The deterministic GFS and several of its ensemble members spin up a tropical cyclone over the West Pacific during Week-2. However, that signal isn't present in any of our other models. Therefore, there is no associated tropical cyclone development region posted. There are also weak indications of tropical cyclone development over the Indian Ocean during Weeks-1 and 2. The probabilities are strongest in the GEFS and weak in most other models. Such a scenario would be consistent with active MJO convection over the Indian Ocean, but probabilities are too low to include a hazard on the map.

There is potential for anomalous rainfall in the Southeastern U.S. during Week-1. For hazardous weather concerns during the upcoming two weeks across the U.S. please refer to your local NWS Forecast Office, the Weather Prediction Center's Medium Range Hazards Forecast, and CPC's Week-2 U.S. Hazards Outlook. Forecasts over Africa are made in consultation with the International Desk at CPC and can represent local-scale conditions in addition to global-scale variability.