Madden-Julian Oscillation (MJO) activity is increasing after a recent period of incoherent tropical convective activity. Tropical convection is coalescing into a wave 1-like pattern with enhanced (suppressed) convection over the Maritime Continent (Eastern Pacific) and modest eastward propagation of these features, especially the suppressed phase. Looking ahead, there is widespread agreement among dynamical model RMM-based forecasts for the high probability of an upcoming significant MJO event. The general consensus is that the RMM signal will emerge from the unit circle during the week-1 timeframe in phase 4 or 5 and amplify significantly while propagating slowly eastward during weeks 2-3.

Tropical cyclone (TC) activity has been high over the last week. A pair of TCs formed south of Japan (Noru, 9/22; Kulap, 9/25). Noru became a strong typhoon and is currently moving toward the Vietnam coast, while Kulap has stayed out to sea and is set to become an extratropical system in the coming days. TC Newton formed in the East Pacific on 9/21 and dissipated quickly without affecting land. TC Ashley formed in the southern Indian Ocean 9/26 but is not expected to have any impacts to land. In the Atlantic Basin, TC Hermine formed near the Cape Verde Islands on 9/23 and quickly dissipated. Later on 9/23, TC Ian formed in the Caribbean Sea, and is currently near Cuba as an intensifying hurricane. Ian is anticipated to come ashore along the eastern Gulf Coast in the coming days with the potential for heavy rain and high winds during the next few days. Please refer to the National Hurricane Center (NHC) for more information and the latest forecasts.

Looking ahead to week 2, heightened MJO activity and the La Niña base state when coupled with a westerly wind burst over the equatorial Indian Ocean depicted in multiple dynamical models provide favorable conditions for TC formation on either side of the equator for the Eastern Indian Ocean. Model
guidance from the ECMWF and GEFS also indicate heightened probabilities of TC formation during the week-2 time period covering a broad area in Philippine Sea, the Eastern Pacific Basin and the Main Development Region (MDR) of the Atlantic Basin.

The precipitation outlook for the next two weeks is based on anticipated TC tracks, ongoing La Nina conditions, and consensus of GEFS, CFS, and ECMWF ensemble mean solutions. Suppressed (enhanced) rainfall continues near and to the west of the Date Line (over the Maritime Continent) due to ongoing La Nina conditions and anticipated MJO phase. Below-normal precipitation is anticipated for the western tropical Indian Ocean for both weeks 2 and 3.

For hazardous weather conditions in your area during the coming two-week period, 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. Forecasts made over Africa are made in coordination with the International Desk at CPC.