

The MJO remained active during the past week with the enhanced convective phase shifting across the western Pacific and now impacting the Western Hemisphere. Atmospheric Kelvin wave (KW) activity continues to be superimposed on the slower MJO variability. The suppressed phase of an equatorial Rossby wave (ERW) is also evident across the western Pacific and the Asian monsoon circulation continues to weaken. Enhanced convection was observed from the South China Sea into parts of the western Pacific and across much of central Africa. Strong enhanced convection also developed over areas in the eastern Pacific associated with KW activity and subsequent tropical cyclone development (Hurricane Irwin and Jova). A low-latitude frontal system resulted in enhanced convection in proximity to the Bahamas. A tropical depression also developed east of the Philippines.

The WH MJO index showed continued eastward propagation during the past week as the enhanced convective phase shifted across the western Pacific and is now entering Phase 8. The observed evolution of the MJO index was well forecast by most of the models from both one and two weeks ago. The MJO is forecast to remain active with MJO index model forecasts indicating continued eastward propagation well into Phase 1 by the end of the two week period. Interestingly most models, however, indicate a decrease in eastward propagation by the end of Week-2 indicating potential persistence of large scale

enhanced convection over the Americas and Africa. The MJO index forecast from the ECMWF seasonal prediction system indicates continued eastward propagation of a moderate strength MJO signal across the Indian Ocean by the end of Week-3.

For Week-1, suppressed convection is favored from the Bay of Bengal across the Maritime continent (MC) into the western Pacific associated with the suppressed phases of the MJO, a KW and an ERW. Enhanced convection is forecast for central Africa and portions of the western Indian Ocean associated with KW activity and the enhanced phase of the MJO later in the period. The western hemisphere is forecast to remain very active with enhanced rainfall favored for parts of the eastern Pacific, Mexico, Central America, northern South America and the Caribbean. Tropical cyclone development chances remain elevated for the eastern Pacific and Caribbean Sea. Numerical forecast guidance favors enhanced rainfall for southeast Brazil.

During Week-2, the area of suppressed convection is forecast to continue across the MC and western Pacific with a slight shift eastward from Week-1 while enhanced convection is favored from eastern Africa across much of the western and central equatorial Indian Ocean stretching into southern India as the MJO enhanced convective phase begins to impact the region. There is often a quick increase in convection across the IO when entering WH phase 1 (composites) especially if KWs precede the main MJO activity. There remains elevated chances for enhanced rainfall and tropical cyclone development across the eastern Pacific, Americas and the Caribbean as the MJO signal may linger in this region well into Week-2.