

Recent observations and data, including anomalous patterns of low-level winds, upper-level velocity potential and outgoing longwave radiation (OLR) indicate that the MJO remained weak during the past week. The OLR pattern is more consistent with other modes of tropical atmospheric variability, including Kelvin waves (KW) and Equatorial Rossby Waves (ERW). Time-longitude plots of OLR data depict a Kelvin wave moving across Africa and an equatorial Rossby wave moving westward across the western Pacific. A slowly evolving base state favoring enhanced convection over anomalously warm sea surface temperatures (SSTs) in the central Pacific also continues to contribute significantly to the pattern of global tropical convection.

Dynamical model forecasts depict enhanced convection over the central and eastern Indian Ocean, which projects onto Phase 2 of the Wheeler-Hendon method of tracking the MJO, however, the speed of propagation and spatial extent are not consistent with robust MJO activity. Most of the available models depict a significant weakening of the signal during Week-2, although the ECMWF solution does maintain a stronger signal for enhanced convection across the Maritime Continent. The Global Tropical Hazards and Benefits Outlook is based on other modes of variability, with the MJO playing only a minor role in the outlook.

During Week-1, enhanced convection is likely over the central and eastern Indian Ocean due to the constructive interference of a KW and an ERW. The passage of an atmospheric KW is linked to an increased threat of tropical cyclone formation; therefore an enhanced threat of tropical cyclone formation is indicated over the Southern Indian Ocean. In the wake of the ERW, the threat of tropical cyclone formation is also increased over the western Pacific, east and south of the Philippines. Some models indicate a corresponding low-pressure system developing over the Southwest Pacific. Anomalous low-level westerlies increase the chances for below-average rains over much of Congo Brazzaville, DRC, and Angola, while enhancing the odds for above-average rains over southeast, sub-Saharan Africa. The developing background state and constructive interference of the dry phases of the KW and ERW yield increased odds for below-average rainfall over much of the Maritime Continent, although the progress of the ERW is uncertain and could bring rains later in Week-1.

During Week-2, there is increased uncertainty about which modes of tropical variability will dominate the pattern, therefore, forecast confidence in Week-2 is lower than Week-1. Above-average rains are favored near the eastern Indian Ocean and western Maritime Continent, and along the remnants of the SPCZ. Tropical cyclone formation odds are increased across the Timor Sea and Gulf of Carpentaria in the wake of the passage of the KW and ERW. Below-average rains are favored over the northern Maritime Continent, Southeast Asia, and the Coral Sea region.