

The MJO has strengthened considerably over the past several days, with propagation through phase 4 to phase 5, contributing to enhanced convection over the Maritime Continent. Other subseasonal modes, atmospheric Kelvin waves and equatorial Rossby (ER) waves, remain active but are beginning to recede into the background against robust MJO activity. The current velocity potential signature clearly indicates a wave-1 pattern with upper-level divergence (convergence) centered over the Maritime Continent (Atlantic Basin). The consensus among the dynamical and statistical forecast tools suggests propagation of the MJO signal through phases 5 and 6, possibly into phase 7, by the end of the period.

The current Global Tropical Hazards/Benefits Outlook for Week-1 is based on a strong MJO signal, ongoing tropical cyclone (TC) activity, and dynamic model forecasts. Enhanced probabilities of abovemedian rainfall are forecast over the Maritime Continent and western Pacific. Enhanced odds for abovemedian rainfall are also anticipated over parts of Western Australia associated with the forecast track of Tropical Cyclone Narelle. MJO composites and numerical guidance support drier-than-median conditions across much of the western and central Indian Ocean, extending southward to Madagascar. The belowmedian, above-median rainfall couplet over southern Africa is consistent with the current forecasts for the MJO (below-median area) and model guidance (above-median area). Enhanced probabilities for above-median precipitation exist near the Hawaiian Islands, though only moderately so. The background MJO state supports this, while current numerical guidance is indicates some uncertainty.

No substantial risk for tropical cyclone formation is apparent during Week-1; however a slight chance (low confidence) exists near the Philippines. Additionally, there is some chance for further formation over the far eastern, Southern Indian Ocean, even in the wake of Tropical Cyclone Narelle. Some risk of formation exists east of Australia, but confidence is higher during Week-2.

During Week-2, confidence is fairly high that the MJO will continue through phase 6, possibly into phase 7, at moderate to high amplitude. Therefore, the outlook is based largely on phase-6 MJO composites, adjusted slightly using model guidance. Enhanced odds for above-average convection is favored across the far eastern Maritime Continent, centered near Papua New Guinea extending eastward past the Date Line, generally along and south of the Equator. Drier-than-normal conditions are favored over much of the equatorial Indian Ocean and parts of southern Africa, with reduced confidence in that latter. The forecast MJO phase and model guidance are generally supportive of an enhanced risk of tropical cyclone formation in southwestern Pacific extending westward to the Coral Sea and Gulf of Carpentaria.

Extratropical impacts of the MJO are likely to remain important over the next couple of weeks as the diabatic heating serves as source for downstream Rossby wave propagation. Should the MJO propagate through phase 6 and into phase 7 as predicted, it could force a jet extension into the Pacific with important downstream consequences for North American hydroclimate through the end of the month.