

The enhanced phase of the MJO is currently over the Indian Ocean and has completed a full global circumnavigation since late July. Upper-level velocity potential anomalies continue to depict a wave-1 pattern, with much of the enhanced envelope continuing to extend from the Atlantic to the Indian Ocean, and anomalous upper-level convergence now overspreading the Pacific Ocean. Dynamical model forecasts indicate a continued eastward propagation of the MJO over the Indian Ocean and into the Maritime Continent, while gradually weakening in amplitude during early September. Compared to previous model guidance, there is better agreement in the models relative to this predicted weakening, as all ensemble means fall within the unit circle in RMM space by the start of week-2. The ECMWF weakens the instraseasonal signal substantially, however, there are a number of ensemble members which depict the signal maintaining a higher amplitude while propagating over the Maritime Continent and into the Western Pacific by mid-September. Despite some of this weakening, there are still elevated chances for tropical cyclone (TC) development across the tropical Atlantic according to guidance, while TC activity looks to quiet down over the Eastern Pacific consistent with the suppressed phase of the MJO over the region during early September.

Several TC's have developed during the last seven days. In the Western Pacific, TC Maysak formed on 8/28 in the Philippine Sea and has continued to track north-northwestward into the East China Sea and has strengthened to a category 4 Typhoon. It is forecast to gradually weaken before making landfall over the Korean Peninsula during the next 24-36 hours. Tropical Storm Eleven formed on 8/31 north of the Mariana Islands (22N / 145E). This storm is expected to briefly track westward before turning north towards Japan under a more favorable shear environment and rapidly strengthen into a major system over the next several days. Please refer to the Joint Typhoon Warning Center for the latest updates on these two systems. Model guidance continues to suggest that the extratropical transitioning of these cyclones are likely to reinforce a high amplitude mid-level pattern over North America. In the eastern Pacific, two weak tropical cyclones, Hernan and Iselle, both formed on 8/26 to the southwest of the Baja Peninsula. Both systems aided in bringing increased moisture and rainfall across many anomalously dry parts of western Mexico and the U.S. Desert Southwest during the last week. Following TC's Marco and Laura in late August over the Atlantic, Tropical Depression Fifteen formed on 8/31 offshore of the Carolinas. This system is forecast to weaken out in the Atlantic and is not expected to impact the eastern U.S. over the next few days. Lastly, Tropical Storm Nana which formed today (9/1) to the south of Jamaica. Nana is forecast to track westward into the Gulf of Honduras and gradually strengthen into a category 1 Hurricane before making landfall over Belize over the next few days. Please refer to the National Hurricane Center (NHC) for the latest updates on this system.

For week-1, NHC is currently monitoring a tropical wave that is predicted to move off the coast of West Africa and models continue to depict gradual development this week. Given the enhanced phase of the MJO, climatology, and run-to-run continuity in the models, a high confidence area is added over the Main Development Region (MDR) for week-1. In the eastern and western Pacific, no TC areas are included in the outlook for week-1 due to little to no signal for TC formation in the models and probabilistic tools, consistent with the suppressed phase of the MJO. Over the equatorial Indian Ocean, the GEFS and CFS favor the formation of a closed low, tied to the enhanced phase of the MJO. However, given the lack of support in other models, inconsistency in the tools, and climatology in the region, a TC area is not added to the outlook.

For week-2, both model ensembles and probabilistic tools favor an area of enhanced precipitation and possible development in the southern Gulf of Mexico during week-2, and a moderate confidence for TC development is added over the region. In addition to climatology, model guidance and TC tools both maintain an elevated TC potential in the MDR during week-2. A broad moderate confidence area is highlighted over the region and is extended slightly north and west compared to the week-1 TC area in accordance with the latest guidance. Lastly, TC tools are beginning to indicate elevated probabilities for TC formation to the east of Hainan in the western Pacific in week-2. However, due to a lack of support from ensemble and deterministic guidance at this time, no TC area is included but this area will continue to be monitored in upcoming outlooks.

The precipitation outlook during the next two weeks is based on the model consensus among dynamical models and MJO composites for phases 2 through 4, with influences from the low frequency base state, and anticipated TC tracks. 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.