

The MJO has progressed slightly eastward since Tuesday. The associated large-scale convective signal is still forecast to be anomalously strong over the North Atlantic during the end of August and beginning of September, which will increase probabilities of tropical cyclone formation over the MDR during Weeks 2 and 3. Dynamical models suggest that there is now a moderate risk of tropical cyclone formation in the Bay of Campeche during Week-2.

Three tropical cyclones have formed since the initial forecast this week: two in the Atlantic and one in the West Pacific. As of 11 AM EDT on August 21, Tropical Depression 14 is around 16.6N/64.1W with maximum sustained winds of 35 mph. The NHC forecasts the storm to track northwestward into the Gulf of Mexico, briefly attaining hurricane status early next week. Tropical Storm Laura is just east of the Antilles with maximum sustained winds of 45 mph. The NHC forecasts it to track into the Gulf of Mexico and attain hurricane status early next week as well. We have removed the associated tropical cyclone formation areas from Tuesday's forecast since these storms have formed. The NHC is forecasting a 30% risk of tropical cyclone development just off the African coast in the eastern MDR for days 1-4, which is below our moderate risk threshold. We are forecasting a high likelihood for days 5-11 over a similar region.

Tropical Depression Nine is located just east of Taiwan. The Joint Typhoon Warning Center (JTWC) forecasts it to track northeastward and reach the southern tip of South Korea by the middle of next week. We have modified our rainfall forecast in this area to better match JTWC's forecast track.

----- The original discussion from August 18 follows: ------

Convectively coupled wave activity throughout the tropics has been high during August, and is expected to remain high for the foreseeable future. The Madden Julian Oscillation (MJO) is approaching the African continent and most dynamical models forecast it to continue around the equator as a successive MJO event. Successive MJO events are usually stronger than the primary events that they succeed. The GEFS and ECMWF also suggest that Kelvin wave activity will pick up along with the MJO. This combination suggests the potential for enhanced tropical cyclone activity over the East Pacific and North Atlantic during Weeks 2-4. Additionally, September is climatologically the most active month for tropical cyclone activity in the Atlantic. We therefore expect the superposition of enhanced tropical wave activity, easterly waves over western Africa, climatologically warm SSTs, and low wind shear to result in an active North Atlantic basin during late August and early September. High confidence of tropical cyclone formation is posted just west of the African coast during Week-2 to this effect.

Tropical cyclones Josephine and Kyle formed in the North Atlantic during the past week, though Josephine formed just before the beginning of last week's forecast. Both storms peaked at Tropical Storm strength and recurved to the Northeast, eventually merging with the midlatitude storm track. Our Week-1 tropical cyclone forecast features two areas in the Main Development Region (MDR) of the Atlantic, which correspond to the National Hurricane Center's (NHC) invests. There is a high probability of tropical cyclone formation within the areas. Anomalous rainfall is likely around the tracks of these disturbances during Weeks 1 and 2, including moderate confidence of above normal rainfall throughout the Gulf of Mexico and U.S. Gulf Coast. Above normal temperatures and below normal rainfall are likely in the southwestern U.S. Interested parties in the U.S. are encouraged to follow days 3-7 hazards forecasts from the Weather Prediction Center and Week-2 hazards forecasts from the Climate Prediction Center for the most up-to-date information.

The East Pacific has also been active with tropical cyclones Fausto and Genevieve. Fausto formed on August 16 and briefly attained tropical storm status before dissipating. Genevieve also formed on August 16 and as of August 18 at 12 p.m. MDT is classified as a hurricane with maximum sustained winds of 130 mph. The NHC forecasts Genevieve to track northwestward off the west coast of Mexico

and reach major hurricane status later this week. We have moderate confidence of additional tropical cyclone formation in the East Pacific during both Weeks 1 and 2.

The Joint Typhoon Warning Center is tracking Tropical Storm Higos in the West Pacific just southeast of Hong Kong. They forecast the storm to make landfall south of Hong Kong and dissipate quickly within the next 36 hours. There is a moderate chance of another tropical cyclone forming northeast of the Philippines during Week-1. The GFS suggests that this storm will track northeastward, leading to above average rainfall for parts of Japan.

Other rainfall forecasts are based on the expected evolution of the MJO, Kelvin waves, and lowfrequency state of the El Nino Southern Oscillation. An MJO in RMM phases 8 and 1, which is likely during the next two weeks, favors large regions of below average rainfall over the eastern Indian Ocean and Maritime Continent. Above average rainfall is expected over the central Indian Ocean towards the end of Week-2 as the MJO shifts eastward. Additionally, there is high confidence in below-average rainfall during Weeks 1 and 2 just west of the Date Line due to the trend of ENSO towards its La Nina phase.

Forecasts over Africa are made in consultation with the CPC International Desk, and can represent localscale conditions in addition to global-scale variability.