

Since the original forecast release Tropical Storm 28W formed to the west of Guam and is forecast to track west-northwestward and slowly strengthen over the next 5 days. In addition, short-lived Tropical Depression 19 developed in the Gulf of California, and brought heavy rainfall to parts of Sonora and Sinaloa in Mexico. Remnant moisture of this system is forecast to feed into a frontal boundary sprawling across the Central US, leading to high confidence in above-normal rainfall for much of the Southern Plains during the next five days.

The National Hurricane Center (NHC) is anticipating a possible return to lively tropical cyclone (TC) activity in the Atlantic in the near future, as four areas are being monitored for development and two of these are featured in our updated forecast. Highest confidence exists for an area between the Azores and Bermuda where a non-tropical low pressure system is anticipated to develop subtropical or tropical characteristics around early next week, with a 70% chance of this occurring (high confidence). Another easterly wave is presently entering the tropical Atlantic near 10S, with a 60% chance of undergoing tropical cyclogenesis over the next 5 days (moderate confidence). Elsewhere, a remnant circulation from Florence is given a 30% chance of becoming a TC through the 26th, although it remains unclear if this system were to develop if it would be renamed or remain Florence. Lastly a weak low pressure area

presently near 12N/50E is given a 10% chance of developing over the next 5 days due substantial wind shear and dry mid-latitude air in the vicinity of the circulation.

NHC is also monitoring two areas for development in the East Pacific. The first area is tied to a low pressure anticipated to form over the weekend between 10-15N and 100-110W, with a 50% chance of becoming a TC in the next 5 days (moderate confidence). Lastly a low pressure centered near 12N/125W is given a near 0% chance of becoming a TC due to persistent strong upper-level winds. Model guidance does suggest increased storminess throughout the Intertropical Convergence Zone (ITCZ) in the East Pacific over the next two weeks, tied to the anticipated emergence of the active phase of the Madden-Julian Oscillation in Phase 8. Model guidance indicates some of these systems may become weak TCs during the next two weeks, with substantial development appearing unlikely given enhanced westerly shear forecast across much of the Western Hemisphere. In Week-2 moderate confidence remains along the coast of Mexico for another system to possibly develop in the wake of the system NHC is monitoring in Week-1. TC tracking algorithms also suggest potential for TC development closer to the Central Pacific within the ITCZ near 10N between 130-145W.

Above- and below-normal rainfall areas are adjusted in the updated outlook to match the latest forecast TC tracks. The initial discussion from the original product release on Tuesday, September 18th follows below.

The MJO is currently weak, but model guidance is overwhelmingly favoring the MJO to strengthen and emerge in phases 8 or 1 by the beginning of Week-2. Support from the GEFS, CFS, ECMWF, and BOMM models suggest that this is a high confidence forecast and the MJO's climatological phase 8 state is the basis of the Week-2 GTH forecast.

There are three areas of potential TC development during the forecast period. Convection in the Bay of Bengal is likely to form a TC within the next few days. The GFS suggests this will occur more quickly than the ECMWF does, but both models agree that there will be a TC, forecast to track northwest, in the Bay of Bengal by Thursday.

There is an area of possible TC development in the West Pacific, just west of Guam and the Mariana Islands. Warm SSTs and low shear create a favorable environment for TC formation, but model guidance

is uncertain about development potential. The deterministic GFS creates a TC just west of Guam, which it forecasts to track north and become caught in the extratropical flow before reaching Japan by the end of the Week-1 period. The ECMWF is similar, but forms a weaker TC further west. The GFS ensemble members are spread over about 20 degrees of longitude, suggesting significant positional uncertainty. The models remain split about the potential for TC development just west of the Week-1 region during the early part of Week-2, which we have included in our forecast. Interested parties are encouraged to monitor JTWC's updates for the latest information over the next few days.

Model guidance and the National Hurricane Center suggest that there is the potential for TC formation in the East Pacific just off the west coast of Central America during Week-1. This threat continues into Week-2, but is moved south and east. Models are split about whether a TC spins up in the East Pacific or Caribbean during Week-2, so we've posted a threat for both areas. We will monitor the situation and provide any necessary updates on Friday and again next Tuesday as we get closer to the potential formation period.

The MJO in phases 8 and 1 climatologically supports above-average rainfall in the west central Indian Ocean, which is included in our forecast and supported by ECMWF model guidance. The forecast MJO phase also supports below-average rainfall over the Maritime Continent.

Above-average rainfall south and west of Hawaii is expected during Week-1 as low pressure becomes wrapped up in the extra-tropical flow. Rainfall should fall back to climatological values as the MJO strengthens in phases 8/1 during Week-2.

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