



Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Sep 04 2021 - Sep 07 2021



Week 2 - Valid: Sep 08 2021 - Sep 14 2021



Confidence
High Moderate

Produced: 09/03/2021
Forecaster: Novella

- Tropical Cyclone Formation** Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Prior TC Formation Outlook** Tropical cyclone outlook from previous release.
- Above-average rainfall** Weekly total rainfall in the upper third of the historical range.
- Below-average rainfall** Weekly total rainfall in the lower third of the historical range.
- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Product is updated once per week. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



The MJO remains disorganized as reflected in the upper-level velocity potential anomalies which show a wave-2 pattern with two centers of action focused across the Atlantic and the eastern Indian Ocean. RMM index observations depict some eastward propagation of the intraseasonal signal, but it continued to decrease in amplitude and fell within the unit circle during the past few days. Most RMM forecasts maintain this weakened signal moving forward, with some indications of interference with Rossby wave activity over the Indian Ocean during week-1; however, dynamical models have come into better agreement favoring renewed eastward propagation of the intraseasonal signal into the Maritime Continent while increasing in amplitude later in the outlook period. Tropical cyclone (TC) activity is increasingly favored in the West Pacific later in September, and there is also continued model support for additional TC development in the Atlantic and East Pacific likely tied to predicted Kelvin wave activity.

Since the initial outlook release, TC Larry formed on 9/1 in the Atlantic Main Development Region (MDR) and has intensified to a Category 1 Hurricane. The National Hurricane Center (NHC) forecasts Larry to continue strengthening to a Category 4 Major Hurricane under very favorable environmental conditions by this weekend, and begin to take a more northwesterly track into the central Atlantic early next week.

Elsewhere in the Atlantic, the NHC continues to monitor a disturbance in the western Caribbean with a low chance of formation (30%) during the next 5 days. The moderate confidence area for TC development associated with this disturbance is shifted from the days 1-4 outlook to the days 5-11 outlook due to increasing support in the latest probabilistic tools and deterministic solutions, which depict closed low formation in the western Gulf of Mexico late next week. A moderate confidence area also remains posted over the eastern MDR for days 5-11 given continued support in the models favoring an area of deepening low pressure associated with an easterly wave exiting from West Africa next weekend.

In the eastern Pacific, conditions are still expected to remain quiet through early next week. However, a broad high confidence area for TC formation is added to the south of Mexico where guidance favors an elevated potential for a pair of TCs to develop, one located south of the Baja California Peninsula, and the other near the Gulf of Tehuantepec during the days 5-11 period. In the western Pacific, Tropical Depression 17W developed on 9/2 near 27N/160E. The Joint Typhoon Warning Center (JTWC) expects this system to weaken and dissipate over open waters while accelerating northward during the next few days. Looking ahead, there is increased model support for TC development over the Philippine Sea prompting the addition of a moderate confidence area in today's update for the latter period.

Forecasts for above and below normal precipitation have been modified to reflect the latest model guidance for the remaining outlook periods.

----- Previous discussion released on August 31, 2021 follows -----

The Madden Julian Oscillation (MJO) continues to be disorganized following a period of interference with other modes of tropical variability. The RMM index shows that the intraseasonal signal has remained over the Indian Ocean (phase 2) since mid-August, but has recently experienced some amplification likely associated with an increase in anomalous upper-level easterlies over Africa and the western Indian Ocean. Dynamical model RMM forecasts are showing signs of renewed eastward propagation of the intraseasonal signal across the Indian Ocean, but differ in regards to its evolution. The GEFS and ECCC are the most progressive solutions, favoring a low amplitude signal that gradually increases over the phases 3 and 4 by week-2, whereas the ECMWF and JMA favor a slower and weaker MJO over the Indian Ocean leading to some uncertainty in the outlook during the next two weeks. Despite these differences, there continues to be model support for tropical cyclone development in the eastern Pacific and the Atlantic through mid-September coinciding with the climatological peak of the Hurricane season.

Hurricane Ida made landfall near Port Fourchon, LA as a Category 4 Major Hurricane on 8/29 and brought devastating impacts to many areas near the central Gulf Coast. Early assessments indicate torrential rainfall amounts well in excess of 10 inches and storm surge estimates as high as 12 to 16 feet. As Ida is forecast to continually weaken on land and undergo extratropical transition, above-normal rainfall is anticipated along its path across the CONUS with an elevated risk for flash flooding across portions of the Tennessee and Ohio Valleys, Appalachians, Mid-Atlantic, and the Northeast during the next several days. Elsewhere in the Atlantic, Tropical Storms (TS) Kate and Julian formed in open waters of the central Atlantic on 8/27 and 8/28, respectively. TS Julian has since dissipated, but the National Hurricane Center (NHC) forecasts Tropical Depression Kate to maintain its intensity and track northward into the central Atlantic where it is favored to be eventually absorbed by an extratropical frontal system this weekend. In the eastern Pacific, Hurricane Nora formed on 8/26 and peaked as a category 1 Hurricane triggering floods and landslides in western Mexico as the system entered the Gulf of California. Although Hurricane Nora rapidly weakened this past weekend, the enhancement of moisture in the monsoonal circulation is likely to trigger locally heavy rainfall and flash flooding across western Mexico, and into the Desert Southwest and Four Corners region of the U.S. during the next few days.

The NHC is monitoring a well defined area of low pressure just off the West Africa coast with a 90% chance for development in the coming days prompting a high confidence formation area in the outlook for week-1. There is good model agreement favoring the strengthening of this potential system as it tracks westward through the Main Development Region (MDR) through the end of this week. Farther west, the NHC expects an area of low pressure to form in the southwestern Caribbean with a 20% chance of formation during the next 5 days. Tied to this low pressure area, there has been good run to run continuity in the deterministic ECCM model depicting the formation of a closed low in the western Gulf of Mexico late in week-1. Several ensemble members from this morning's 00z GEFS support this realization, and a moderate confidence area for development is issued in the outlook extending from the Gulf of Honduras to the western Gulf of Mexico. Over the eastern Pacific, conditions are expected to be quiet during week-1, however a moderate confidence area for TC development is posted to the south of Mexico for week-2 given support from probabilistic tools and the passage of another Kelvin wave favored by the ECMWF and CFS models over the basin. A moderate confidence region is also issued for the eastern MDR for week-2 where guidance favors another area of deepening low pressure associated with an easterly wave moving off of West Africa next weekend.

The precipitation outlook during the next two weeks is based on a consensus of GEFS, CFS, and ECMWF guidance, and anticipated TC tracks. For hazardous weather concerns during the next two weeks across the U.S., please refer to your local NWS Forecast Office, the Weather Prediction Center's Medium Range Hazards Forecast, and CPC's Week-2 Hazards Outlook. 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.