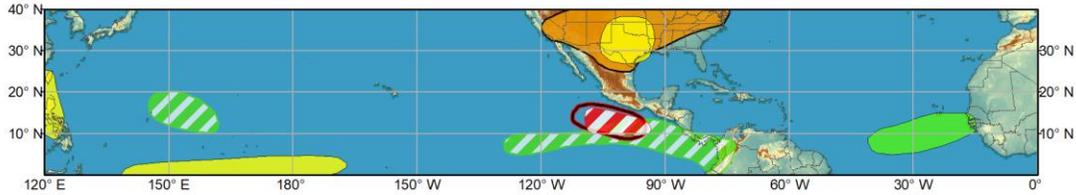




# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Jul 23 2022 - Jul 26 2022



## Week 2 - Valid: Jul 27 2022 - Aug 02 2022



Confidence  
High Moderate

Produced: 07/22/2022  
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.



As previously forecast, RMM observations depict an eastward propagating signal that has continued to increase in amplitude over the Western Hemisphere during the past few days. Objective wavenumber-frequency filtering of upper-level velocity potential anomaly field forecasts reveal both MJO and Kelvin wave activity traversing the Americas which is expected to remain favorable for tropical cyclone (TC) formation in the eastern Pacific next week, with increasing chances for development over the Atlantic later in the period. RMM forecasts show continued eastward propagation of the intraseasonal signal into the Indian Ocean during the week-2 timeframe, however models have become somewhat divided in regards to the strength and evolution of the MJO in the outlook. The ECMWF favors a slower and weaker MJO perspective, whereas the GEFS maintains a more progressive and coherent signal over the Indian Ocean through the end of July.

Currently, there are no active TCs in the global tropics following the dissipation of TC Estelle in the eastern Pacific yesterday (7/21). The National Hurricane Center (NHC) is monitoring two areas to the south of Mexico for potential TC development during the next 5 days. While this region has been slower to develop than initially forecast, GEFS and ECMWF ensembles and probabilistic tools continue to favor formation chances increasing by early next week and a moderate confidence area is issued for both

areas for days 1-4. A high confidence area is also posted to the south of Mexico for days 5-11 where signals are strongest in the TC genesis tools should this potential system delay its formation later in the week. In the Atlantic basin, TC development is not anticipated during the next 5 days, though models continue to favor an area of deepening low pressure associated with a tropical wave propagating across the Main Development Region (MDR) next week. Development is possible, however formation chances are not high enough to warrant a corresponding TC area in the updated outlook. Moderate confidence for TC genesis remains across the western Pacific, as both GEFS and ECMWF ensembles continue to favor closed low formation tied to Rossby wave activity predicted in the northern Philippine Sea next week.

Forecasts for above- and below-normal rainfall are updated to reflect the latest dynamical model guidance and analyses of various modes of tropical variability. Over the CONUS, above (below) normal temperatures (precipitation) are favored to persist through the early period, before mid-level troughing and frontal activity are expected to bring cooler and wetter conditions to portions of the Great Plains and Mississippi Valley by the middle of next week.

----- Previous discussion from Jul 19, 2022 is below -----

Since mid-June, CPCs upper-level velocity potential based MJO index depicts coherent intraseasonal activity, though the enhanced and suppressed phases become more stationary by early July. This evolution also aligns well with the RMM index observations indicating an eastward propagating MJO over the Indian Ocean, but has since stalled over the Maritime Continent constructively interfering with the low-frequency footprint. During the last few days, the leading edge of the enhanced envelope has shifted beyond the Date Line, suggestive of renewed eastward propagation of the MJO where it is likely to destructively interfere with the ongoing La Nina over the Pacific. This is reflected in the RMM forecasts, as dynamical models have come into good agreement favoring continued eastward propagation of the intraseasonal signal at a low amplitude over the Western Pacific, and increasing in amplitude over the Western Hemisphere and Africa during the next two weeks. The GEFS and CFS have fallen more in-line with previous ECMWF and BOM solutions in regards to this evolution, which adds confidence in the MJO outlook compared to last week. Combined with Kelvin and Rossby wave activity forecast over the Pacific, conditions are expected to be conducive for tropical cyclone (TC) formation over the basin during the outlook period.

During the past seven days, TC Estelle formed in the eastern Pacific on 7/15. After peaking as a category 1 Hurricane earlier this week to the south of Baja California, Estelle has since been downgraded to a Tropical Storm where the National Hurricane Center (NHC) expects this system to continue weakening

as it tracks westward over cooler waters by the end of the week. Looking ahead, there is good model agreement favoring an area of deepening low pressure to the south of Mexico in the wake of Estelle during the next week. Although the NHC designates this area with a low chance of formation during the next 5 days, a high confidence area for TC formation is posted due to the aforementioned Kelvin wave activity forecast, and good support in the model guidance and probabilistic tools for development late in week-1. With environmental conditions expected to remain favorable for additional development in the eastern Pacific later in July, a moderate confidence area for TC formation is posted for week-2, which is also endorsed by good run-to-run continuity in the GFS and ECMWF deterministic solutions indicating additional closed low formation in the region.

In the Atlantic basin, model guidance favors one or more tropical waves propagating off the coast of West Africa during the outlook period. While there are increased signals in the probabilistic TC genesis tools over the Main Development Region (MDR) associated with these waves, these signals are not sufficient to warrant a corresponding TC formation area during the next two weeks. However, should the MJO remain coherent and continue propagating eastward over the Indian Ocean beyond the week-2 timeframe, this would favor increased chances for TC development across the MDR coinciding with the climatological uptick in TC activity over the basin during early August. In the western Pacific, conditions look to become favorable for TC development in the northern Philippine Sea tied to Rossby wave activity forecast later in July. Both the ECMWF and GEFS ensembles continue to favor an area of deepening low pressure, prompting a moderate confidence area for TC formation for week-2.

The precipitation outlook for the next two weeks is based on a consensus of GEFS, CFS and ECMWF ensemble means, anticipated TC tracks, the ongoing La Nina response, with some consideration from historical MJO phase 8 and phase 1 precipitation composites. For week-1, enhanced precipitation is favored over the Coral Sea and western Australia, where several local areas in the New South Wales State have experienced numerous floods and adverse impacts since earlier this month. Across the U.S., there is high confidence for above-normal temperatures overspreading much of the CONUS raising concerns for excessive heat conditions during the hottest time of the year climatologically. Combined with below-normal precipitation favored, rapid onset drought is likely over many portions of the Great Plains and Mississippi Valley. For week-2, there is good model agreement favoring a broad area of above-normal precipitation from the equatorial Indian Ocean to the Maritime Continent, with below-normal precipitation forecast over parts of northeastern India where monsoonal rainfall has been below-normal since mid-June.

For hazardous weather concerns during the next weeks across the U.S., please refer to your local NWS office, the Medium Range Hazards Forecast from the Weather Prediction Center, and the Week-2 Hazards Outlook at CPC. Forecasts over Africa are made in coordination with the International Desk at CPC.