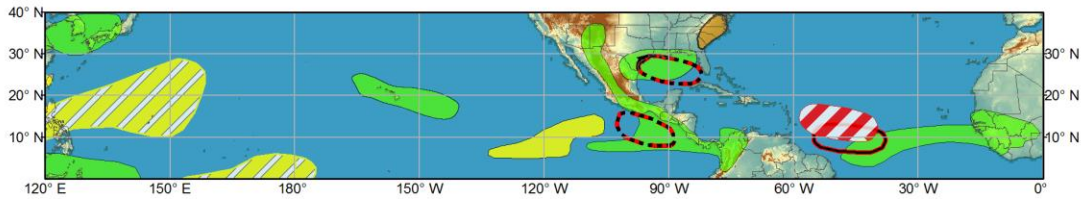




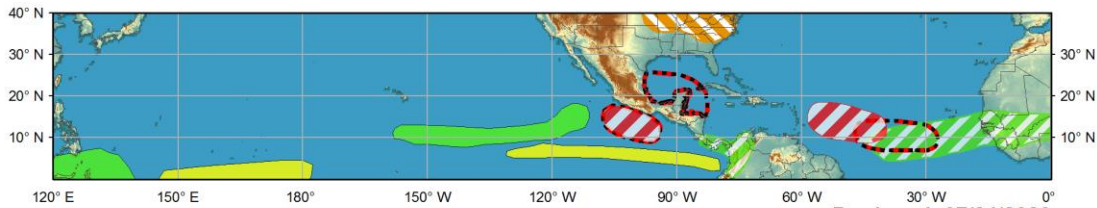
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jul 25 2020 - Jul 28 2020



Week 2 - Valid: Jul 29 2020 - Aug 04 2020



Confidence
High Moderate

Produced: 07/24/2020
Forecaster: MacRitchie

- 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 large-scale tropical situation remains largely unchanged from earlier this week. The superposition of Kelvin wave and MJO activity over the Indian Ocean has resulted in a noisy RMM index. The Kelvin wave, which has a faster phase speed than the MJO, is expected to propagate eastward during the next couple of weeks. This may increase the probability of tropical cyclone development over the East Pacific during Week-2.

Tropical storms Hanna, in the Gulf of Mexico, and Gonzalo, east of the Antilles, both formed this week. The National Hurricane Center (NHC) forecasts Hanna to track westward into Texas, which could result in heavy rainfall and high winds. Interested parties are encouraged to closely monitor updates from their local weather forecast offices as well as the NHC. The NHC forecasts Gonzalo to track west-northwestward and is expected to impact the southern Windward Islands during the next few days.

The NHC forecasts a 40% chance of tropical cyclone development in the MDR, east of the Antilles, during the remainder of Week-1. This is equivalent to our moderate confidence threshold, so we have added

the region in our Week-1 forecast. We have also added a similar region in our Week-2 forecast due to the likelihood that it remains a threat based on current model guidance.

Hurricane Douglas is now in the Central Pacific. The Central Pacific Hurricane Center forecasts the storm to pass over Hawaii this weekend as a category 1 hurricane that weakens to tropical storm intensity as it tracks westward. We have updated our rainfall forecast in Week-1 to be consistent with the storm's track forecast. We advise interested parties to pay close attention to information from their local NWS forecast offices and the Central Pacific Hurricane Center.

--- Original discussion from July 21, 2020 follows ---

Following a period of increased amplitude and eastward propagation last week, the CPC velocity potential based and RMM-based MJO indices weakened rapidly. There are two competing large-scale signals currently at play. The first is a slowly evolving enhanced convective envelope over Africa and the western Indian Ocean, and the second is a robust convectively coupled Kelvin wave crossing the Pacific. The superposition of these two signals has resulted in a Wave-2 asymmetry in the global upper-level anomalous velocity potential field, and thus a weaker projection on the MJO indices. As the faster propagating Kelvin wave circumnavigates the globe, it may return to the Indian Ocean and reinforce the slower-moving convective envelope, providing a more Wave-1 type asymmetry that is consistent with MJO activity. The GEFS RMM-index forecast shows renewed enhancement over the Indian Ocean during the outlook period with little eastward propagation, likely due to Rossby wave or even tropical cyclone activity. The ECMWF ensemble members are generally more supportive of continued MJO evolution to the Maritime Continent, although the amplitude of the signal is fairly weak. While the MJO may contribute to enhanced convection across parts of the Indian Ocean basin and Maritime Continent, atmospheric responses to the Kelvin wave may have a greater impact on U.S. interests.

Two tropical cyclones developed over the East Pacific basin during the past week. Tropical Depression 7-E formed on 19 July well southwest of the Baja California peninsula, and quickly dissipated by early 21 July. Tropical Storm Douglas formed to the southeast of TD 7-E, and is currently intensifying while moving towards the west. TS Douglas is forecast to reach hurricane intensity, and may bring wind, rainfall and high seas impacts to Hawaii by early next week.

During Week-1, a pair of tropical waves over the Atlantic basin may develop into tropical cyclones. The first wave is currently bringing heavy rainfall to southern Florida and the Bahamas, and has a moderate potential for formation as it moves westward across the Gulf of Mexico over the next several days. Most

dynamical model track forecasts bring this system towards the Texas coastline near the end of the week. The second wave is currently east-southeast of the Lesser Antilles, and the National Hurricane Center's (NHC) latest outlook shows a 90-percent chance for the formation of a tropical depression. Increasingly unfavorable environmental conditions will likely limit the potential for this system to persist or intensify beyond a few days.

Over the East Pacific, the Kelvin wave may help to promote a tropical cyclone formation south of Mexico during late Week-1 or Week-2. Elsewhere, a broad gyre of low pressure associated with the remnant MJO signal is producing widespread convection over the southwestern Indian Ocean. There is a low to moderate potential for an out-of-season tropical cyclone to form within this broader low. Should this formation occur, the tropical cyclone would likely track westward towards northern Madagascar. During Week-2, the CFS and ECMWF both depict an active AEJ regime, which, in tandem with the Kelvin wave, may provide a window for new tropical cyclogenesis over the MDR. The GEFS does not currently depict a tropical cyclone in Week-2, so confidence is currently on the low side of moderate. Enhanced moisture remaining from the Kelvin wave over Central America may also provide a window of opportunity for new tropical cyclone development over the western Caribbean or Gulf of Mexico. Although disturbances continue to track westward across the West Pacific in the vicinity of Guam, the low frequency base state is favored to continue limiting the potential for widespread organized convection.

Forecasts for above- and below-normal precipitation are based on a consensus of CFS and ECMWF guidance. The remnant MJO signal may result in enhanced convection during Week-1 across parts of Africa, the Indian Ocean basin and Maritime Continent, including southern India, while the monsoon is favored to remain weak across the remainder of southern and southeastern Asia. A storm system is favored to bring enhanced precipitation to eastern Australia, while the Kelvin wave may help to promote enhanced convection across Central America into the U.S. Southwest monsoon region. During Week-2, the axis of enhanced convection across the Indian Ocean becomes weaker while lifting slightly northward in the model guidance. Over the CONUS, renewed ridge building is favored to generate another heatwave across the central and eastern U.S.

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.