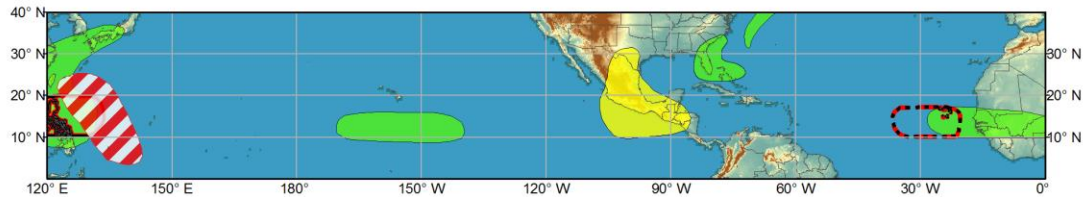




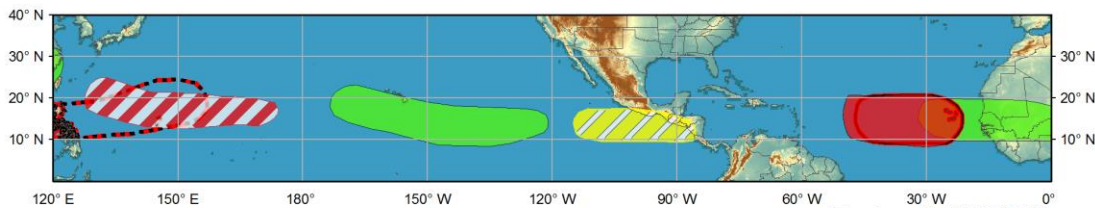
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Aug 31 2019 - Sep 03 2019



## Week 2 - Valid: Sep 04 2019 - Sep 10 2019



Confidence  
High Moderate

Produced: 08/30/2019  
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.



All eyes remain focused on Hurricane Dorian in the Atlantic; the National Hurricane Center forecasts Dorian to affect Florida during the next five days. Today's GTH update includes an above-normal rainfall region over Florida and surrounding areas that has been altered to match the latest WPC rainfall guidance. Interested parties are encouraged to carefully monitor Dorian's forecast track and rainfall at the National Hurricane Center and Weather Prediction Center, respectively.

Elsewhere, model guidance continues to suggest there is a low risk of tropical cyclone development off the west coast of Africa in Week-1 and a moderate risk in Week-2. The moderate risk forecast shape has been expanded slightly westward in Week-2 to match the latest GFS ensemble guidance. There is also a low risk of tropical cyclone development in the East Pacific, where NHC currently forecasts a 30% chance of development over the next five day, but this below our threshold to plot on the GTH map.

The GFS deterministic and ensemble runs suggest that there is a moderate risk of tropical cyclone development over a broad region in the West Pacific during the next two weeks as an equatorial Rossby wave passes through. We have adjusted the previously forecast shapes in accordance with this risk.

Original Discussion from Tuesday, August 27, 2019 follows:

The Madden-Julian Oscillation (MJO) remained weak during mid to late August with a Kelvin wave the primary mode of tropical variability. This Kelvin wave recently crossed the Western Hemisphere and provided a favorable environment for tropical cyclone (TC) development in the Atlantic basin. This Kelvin wave is currently over Africa and is forecast to progress east to the Maritime Continent. Model solutions diverge on the how the MJO evolves during early September with a number of ECMWF and Canadian ensemble members indicating a developing MJO over the Maritime Continent. The GFS model maintains a weak MJO through early September. Although there is an increasing chance of a more coherent MJO developing during the next two to three weeks, forecast confidence is low until model agreement improves. A complicating factor is the likelihood of multiple westward moving TCs across the West Pacific and South China Sea through early September.

Tropical Storm Dorian developed east of the Windward Islands at 10.3N/47.4 W on August 24. Despite low wind shear and warm sea surface temperatures (above 28 degrees C), dry air continues to limit intensification of the relatively small tropical cyclone. At the beginning of the outlook period (August 28), Dorian is forecast to be near Puerto Rico with a subsequent northwest track across the Dominican Republic and Bahamas. Uncertainty is high on the intensity of Dorian but there is an increasing risk of heavy rain and high winds across Florida this weekend. Please refer to the National Hurricane Center for the latest updates and forecasts on Dorian.

Tropical Depression Six formed on August 26 west of Bermuda at 31.7N/72.5W. Modest strengthening is forecast during the next 48 hours before it transitions to an extratropical low pressure system which is likely to remain well offshore of the East Coast of the United States. Elsewhere, Tropical Storm Ivo developed on August 21 in the East Pacific (15.2N/106.5W) and made a track, paralleling the Baja California Peninsula, and then dissipated on August 25. Tropical Storm Bailu, the ninth TC in the West Pacific during 2019, also formed on August 21 to the east of the Philippines (15.2N/131.9E). Bailu resulted in locally more than 500 mm of rainfall across southern Taiwan and then made a second landfall in southeast China.

Early September is the climatological peak of the Atlantic hurricane season and model solutions begin to ramp up tropical cyclone (TC) development, beginning late Week-1. However, the suppressed phase of a Kelvin wave is expected to hinder tropical cyclone (TC) development across the main development region of the Atlantic through the end of August. Easterly waves and associated rainfall are forecast to remain enhanced across the Sahel of west Africa. During the first week of September, a TC is likely to form across the main development region of the tropical Atlantic. The OZ ECMWF model indicates initiation of a TC as early as September 2 or 3, while the GFS model is slightly delayed. Given uncertainty on when the TC forms, moderate confidence is posted for Week-1 with confidence increasing to high during Week-2. TC development is unlikely across the eastern Pacific through early September. The West Pacific is forecast to be the most active with one to two additional TCs forming either east of the Philippines or across the South China during the next two weeks. The moderate confidence for TC development extends northeast across the West Pacific during Week-2 since the GFS ensemble members favor formation of a higher latitude storm.

The precipitation outlook during the next two weeks is based largely on predicted tracks of tropical cyclones along with the model consensus among the CFS, ECMWF, and GFS models. The enhanced rainfall forecast across India, Southeast Asia, and the West Pacific is also consistent with a developing MJO (per many ECMWF and Canadian ensemble members) over the Maritime Continent during early September. The remnants of tropical cyclones emerging from the South China Sea are likely to result in an expanding area of above average rainfall and an elevated risk of flooding across Southeast Asia, Bangladesh, India and perhaps as far west as eastern Pakistan. In contrast to the potential for flooding across Asia, no relief is in sight for drought-stricken Texas with dry weather persisting into the beginning of September. Forecasts over Africa are made in consultation with CPCs international desk, and can represent local-scale conditions in addition to global-scale variability.