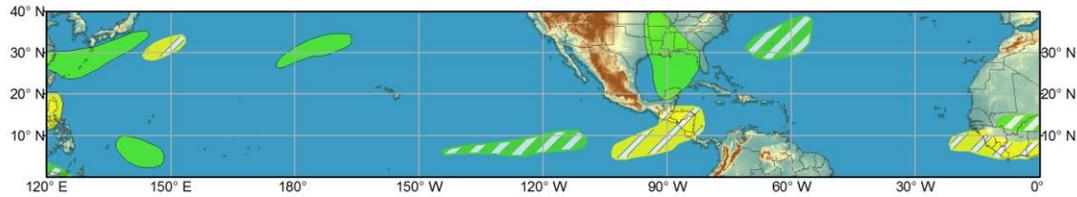




Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jun 06 2020 - Jun 09 2020



Week 2 - Valid: Jun 10 2020 - Jun 16 2020



Confidence
High Moderate

Produced: 06/05/2020
Forecaster: Allgood

- 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.



Consistent with the dynamical forecasts made earlier this week, the rapid eastward propagation seen recently in the RMM-based MJO index has begun to slow. The Kelvin wave featured in these discussions for the past two weeks is now over the Indian Ocean and appears to be decaying, and model forecasts show Rossby wave activity over both the Indian Ocean and Pacific basins becoming the dominant features in the forecast circulation.

Tropical Cyclone Nisarga formed on June 2nd near the western coast of India and made landfall in the vicinity of Mumbai, causing wind and flooding damage. Tropical Storm Cristobal made landfall over southern Mexico, and is forecast to re-emerge over the Bay of Campeche and slowly intensify as it tracks northward towards the central U.S. Gulf Coast over the next few days. Freshwater flooding remains the primary hazard in association with Cristobal, but wind and storm surge can present hazards to parts of the Gulf Coast depending on the exact track and intensity of the system prior to landfall. The precipitation forecasts are updated to reflect the latest model guidance. Parts of Central America that

have been inundated by this slow moving system may have a break from heavy rains as the tropical cyclone moves northward over the Gulf of Mexico.

During Days 5-11, Rossby wave activity and enhanced convection in the dynamical model guidance continue to reflect a potential for tropical cyclone formations over the East Pacific south of Mexico and the West Pacific south of Guam. Therefore, no changes are made to the tropical cyclone formation hazards included in the initial outlook.

The original discussion released on Tuesday, 2 June 2020 follows.

The dominant feature in the tropical convective pattern remained the convectively coupled Kelvin wave (CCKW) that crossed the eastern Pacific last week and is now over Africa. The Kelvin wave activity projects strongly as a fast-moving signal on both the CPC velocity potential based MJO index and the RMM-based MJO index. Despite the strength of the signal, the CCKW did not substantially weaken the Pacific trade winds near the equator; most of the convective response was centered near 10N. Behind the Kelvin wave, a large-scale suppressed convective regime has overspread the West Pacific basin. Dynamical model MJO index forecasts depict a much slower evolution over the next two weeks, with the enhanced phase moving from the Western Hemisphere to the western Indian Ocean. While it is possible for a new MJO event to initiate over the Indian Ocean, the forecast signal is likely due to a superposition of the Kelvin wave and a low frequency signal favoring enhanced (suppressed) convection over the western Indian Ocean (West Pacific).

Two tropical cyclones developed in association with the Kelvin wave and a newly formed Central American Gyre feature. Tropical Storm Amanda developed over the far East Pacific and made landfall over southeastern Guatemala. The remnants of this system caused substantial flood damage and numerous fatalities in El Salvador before re-emerging over the Bay of Campeche and re-forming as Tropical Storm Cristobal. TS Cristobal is forecast to meander within the Bay of Campeche over the next several days, bringing additional heavy rainfall to southern Mexico and northwestern Central America. By next weekend, forecasts from the National Hurricane Center show a northward turn, and the tropical cyclone may bring wind and heavy rainfall impacts to parts of the U.S. Gulf Coast. Elsewhere, Tropical

Storm Bertha briefly formed from a disturbance along the U.S. Southeast coast just prior to landfall over South Carolina near Charleston. The system brought widespread heavy rainfall and flash flooding extending from Florida through the Carolinas.

Over the next day or so, a disturbance over the Arabian Sea near the western coast of India has a high potential for tropical cyclogenesis prior to landfall, and may bring wind and heavy rainfall to parts of northwestern India, including Mumbai, as it moves northeastward. Dynamical models show a second disturbance entering the Bay of Bengal later in Week-1, and there is a moderate potential for the formation of a tropical cyclone as it moves northwestward towards eastern India or Bangladesh. Increasing vertical shear, however, may provide a limiting factor for substantial development of this system. Elsewhere, a Rossby wave over the West Pacific may provide a chance for tropical cyclogenesis over the West Pacific south of Guam during Week-2. Additional Kelvin wave activity in combination with a persistent gyre over Central America favors a potential for new East Pacific tropical cyclogenesis, though fewer GEFS ensemble members today depict a closed low compared to yesterday's run.

Forecasts for above- and below-normal rainfall are based on dynamical model consensus and the forecast tracks of ongoing and potential tropical cyclones. Ongoing heavy rainfall over southern Mexico and Central America presents a substantial flooding threat, and the potential for heavy rainfall shifts northward to the northern U.S. Gulf Coast later in Week-1. Enhanced rainfall is forecast for India in association with tropical cyclone activity (or a monsoon low) in both Week-1 and Week-2, while suppressed convection and periods of heat are favored across Southeast Asia and China's southeastern coast. Enhanced (suppressed) rainfall over the western Indian Ocean, east-central China, southern Japan, and southern Brazil (the Equatorial West Pacific, and parts of the northwestern Pacific basin south of Japan) are also favored to persist during the two-week forecast period.

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