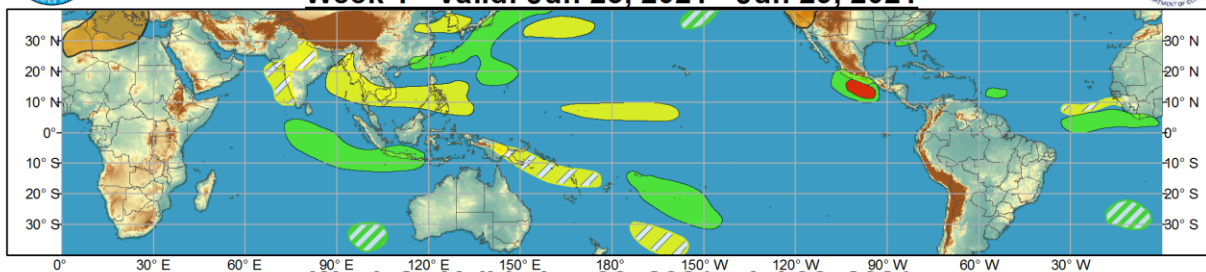




Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jun 23, 2021 - Jun 29, 2021



Week 2 - Valid: Jun 30, 2021 - Jul 06, 2021



Confidence
High Moderate

- Tropical Cyclone Formation** ■ ▨ Development of a tropical cyclone (tropical depression - TD, or greater strength).
- 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, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

Produced: 06/22/2021

Forecaster: Harnos



Little evidence is apparent to support the presence of an active Madden-Julian Oscillation (MJO) event at this time, with the global tropical circulation instead being dominated by a pair of atmospheric Kelvin waves that are roughly 180 degrees out of phase with one another. The RMM index is having difficulty in capturing the intraseasonal state of the tropics, and reflects a transitioning signal from emphasizing the Kelvin wave currently approaching the Date Line to the other presently near the Prime Meridian. The ECMWF ensembles consistently highlight the latter Kelvin wave, projecting onto Phases 1 and 2 over the next two weeks. The GEFS generally does this as well, but has substantially more spread than the ECMWF ensembles, particularly in RMM1 space, where the 2-week forecast varies by up to 6 units (i.e. concluding over Africa or the Maritime Continent). Altogether the lack of an apparent MJO, the two Kelvin waves being 180 degrees out of phase, and large spread in GEFS RMM forecasts underscore the limited predictability and decreased confidence in the upcoming forecast. Despite this, the Kelvin waves are likely to increase tropical cyclogenesis chances over the East Pacific through late Week-1 and over the West Pacific during Week-2.

During the past week three tropical cyclones (TCs) developed. The first to form was Tropical Storm Dolores, near 14N/101W on June 18th. Dolores attained a peak intensity of 60 knot winds on the 19th

shortly before making landfall near the border of Colima and Michoacan in Mexico. Elsewhere, Tropical Storm Claudette formed near 30N/91W late on June 18th just prior to landfall along the Central Gulf Coast. Claudette brought up to a foot of rainfall to the region, and caused a dozen fatalities across Alabama due to falling trees and poor road conditions leading to auto accidents. Lastly, Tropical Storm Six formed near 11N/148E on June 21st. Tropical Storm Six is forecast by the Joint Typhoon Warning Center to recurve northward along roughly the 140th parallel through the weekend, with some accompanying intensification during the next few days.

The NHC is currently monitoring disturbances with the potential to undergo tropical cyclogenesis over both the Atlantic and East Pacific. Over the Atlantic, an easterly wave located approximately 500 miles east of the Windward Islands is given a 20% chance of becoming a TC over both the next 2 and next 5 days by the NHC's 2 PM EDT outlook on June 22nd. While development appears unlikely with this system, it could bring needed precipitation to the Virgin Islands and Puerto Rico to help drought-stricken areas. Elsewhere in the Atlantic, while climatologically early easterly waves exiting Africa have been strong thus far during 2021, with a nonzero chance of something developing over the Main Development Region late in Week-1 or during Week-2. A handful of GEFS members also support the possibility of a disturbance tracking from the southwestern Caribbean to near the Yucatan Channel by the end of Week-1, although this remains an outlier among guidance. A disturbance over the East Pacific is anticipated to have more favorable odds to develop by the NHC, with a 30% (80%) chance of forming during the next 48 hours (5 days) as of 2 PM EDT on the 22nd. This translates to high confidence for genesis during Week-1. Later in Week-2, the presence of an atmospheric Kelvin wave is likely to bring a favorable large-scale environment, which when coupled with the typical East Pacific climatology supports moderate confidence for TC formation similar to the region being monitored during Week-1. The presence of a Kelvin wave and forecast Rossby wave activity also result in moderate confidence for TC formation over the Philippine Sea during Week-2. While not on the forecast map, a handful of GEFS members do show surface troughing possibly developing into a closed circulation over the far southwestern Caribbean this weekend while drifting toward the northwest. This system could be in the vicinity of the Yucatan Channel by the start of Week-2 if it were to develop, but confidence is low for such a scenario.

The precipitation outlook during the next two weeks is largely based on a consensus among the CFS, GEFS, and ECMWF ensemble means, anticipated TC tracks, and large-scale modes of tropical variability. Reforecast guidance supports the potential for above-normal temperatures across portions of the northwestern U.S. the next two weeks (high confidence), parts of Africa and Europe during Week-1 (high confidence), and parts of Africa, Europe and the Middle East during Week-2 (moderate confidence). This is in addition to reforecast guidance supporting a high risk for much below-normal temperatures that could lead to a frost or freeze across portions of Argentina, Bolivia, Brazil, Paraguay, and Uruguay during Week-2. Some of the cold weather anticipated could impact coffee-growing regions across parts of southern Brazil, while ECMWF reforecast guidance gives up to an 80% chance for daily record lows to be

observed in portions of Bolivia. For hazardous weather concerns across the U.S., please refer to regular tropical updates from the NHC, as well as 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.