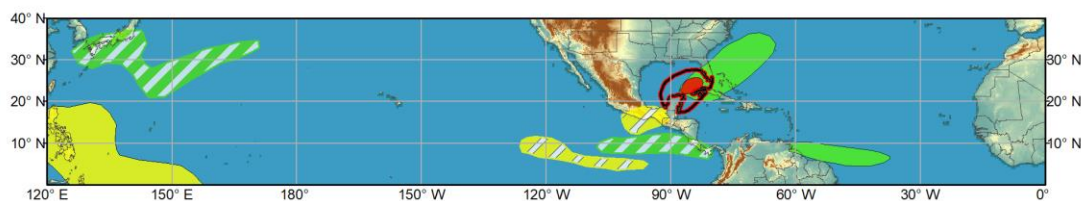




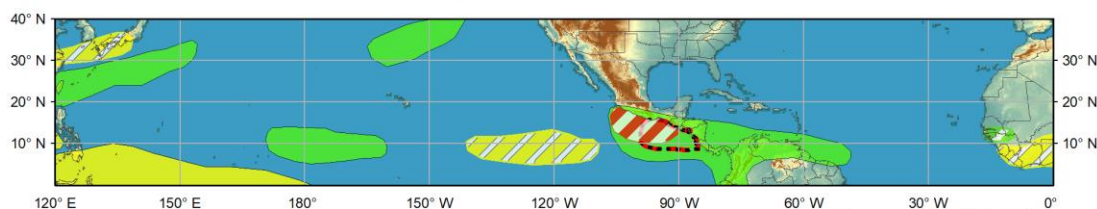
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jun 04 2022 - Jun 07 2022



Week 2 - Valid: Jun 08 2022 - Jun 14 2022



Confidence
High Moderate

Produced: 06/03/2022
Forecaster: Barandiaran

- 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 main tropical convective envelope is moving out of the Pacific Ocean and into the Americas where it is interacting with the Central American Gyre, which has helped form another area of low pressure in the southeastern Gulf of Mexico. The RMM index is currently moving into phase 8 consistent with the current location of the enhanced tropical convection, and latest dynamical forecasts call for a slowing eastward propagation, moving into phase 1 in the next 7-10 days.

As noted above, a tropical disturbance near the Yucatan Peninsula is quickly organizing and the National Hurricane Center (NHC) maintains a 90% chance of formation during the next 48 hours. . The NHC has issued Tropical Storm Warnings for western Cuba, southern and central Florida, and the northern Bahamas as well as Tropical Storm Watches for portions of central Cuba and Isla de la Juventud. Heavy rain is expected across western Cuba, south and central Florida, the Florida Keys, and the northwestern Bahamas. Across the western Atlantic, the NHC is also monitoring another area of low pressure, however its potential remains limited with a 10% chance of formation during the next five days, precluding a TC area in the updated map.

For days 5-11, there is moderate confidence for TC formation off the southern coast of Mexico, consistent with dynamical model guidance. This area has been shifted westward from the Tuesday forecast map as a result of evolving model solutions.

Areas of forecast above and below normal precipitation have been tweaked slightly from the Tuesday map as well, consistent with model guidance, but are broadly the same as before. For the latter outlook period, an area of below average precipitation was added in the eastern tropical Pacific, as well as an area of above normal precipitation north of Hawaii.

The CPC upper-level velocity potential based Madden-Julian Oscillation (MJO) index and the RMM-based MJO index have both exhibited high amplitude and eastward propagation over the past several days, suggestive of an enhanced intraseasonal convective envelope over the West Pacific. Time-longitude analyses of various atmospheric variables reveal a coherent series of strong Kelvin waves that have been circumnavigating the globe during most of May. Recently, a strong convectively coupled Kelvin wave that crossed the Pacific during mid-May, and helped spark the development of Hurricane Agatha over the East Pacific, crossed the Western Hemisphere and has now returned to the West Pacific. Constructive interference among this feature, weak Rossby wave activity, and the low frequency La Nina response has resulted in a broad region of enhanced divergence aloft, with a Wave-1 pattern globally that aliases well with MJO events. More recently, the Kelvin wave has begun to separate from the standing enhanced signal over the Maritime Continent as it traverses the Pacific. Dynamical model MJO index forecasts depict a fairly fast progression across the Pacific, with enhanced convection returning to the East Pacific and Western Hemisphere, where both the GEFS and ECMWF suggest a slowdown of the signal. This slowdown may be due to Kelvin wave activity promoting an enhancement of the Central American Gyre (CAG), as well as model forecasted tropical cyclone activity over both the western Atlantic and eastern Pacific basins. Other climate signals are impacting the overall pattern as well, including a well-defined Meiyu Front extending from eastern Asia into the northwestern Pacific, and a delayed monsoon onset over South Asia promoting dryness and excessive heat.

One tropical cyclone (TC) formed during the past week. Hurricane Agatha formed on 28 May over the East Pacific, and strengthened to Category-2 intensity on the Saffir-Simpson scale before making landfall near Puerto Angel in southern Mexico. Hurricane Agatha was the earliest Category-2 TC to strike Mexico's Pacific coast. Looking ahead, there is a moderate to high potential for tropical cyclogenesis over the Gulf of Mexico or far western Caribbean in association with the CAG and the remnants of Hurricane Agatha. The National Hurricane Center (NHC) currently has a 70-percent chance of tropical

depression formation over the next 5 days. Dynamical model forecasts show a general northeastward track of any system that develops in this region, which could bring tropical cyclone related impacts to Florida or other parts of the U.S. Southeast. During Week-2, additional KW activity and the enhanced CAG may promote new TC development over the East Pacific, with dynamical models favoring development over the far eastern part of the basin, near where Hurricane Agatha made landfall. Elsewhere, tropical cyclone development potential is fairly low, though brief cyclogenesis from Mesoscale Convective Systems (MCS) activity along the Meiyu front is possible, though any such system would be brief and rapidly move northeastward over the northwestern Pacific.

The precipitation outlook for the next two weeks is based on a consensus of dynamical model forecasts, the ongoing La Nina response, Kelvin wave activity, and ongoing CAG and Meiyu front activity. Enhanced convection over the next two weeks will be primarily off-equator across the Maritime Continent, with late season enhanced precipitation across northern Australia, and widespread heavy rainfall along the Meiyu front across parts of East Asia, the northern Philippines, and Taiwan, and suppressed rainfall to the north and south of this feature. A delayed monsoon onset across South Asia remains favored, with areas of dryness and extreme temperatures likely across portions of India. Across the CONUS, potential tropical cyclone activity may bring excessive rainfall to portions of Florida and the extreme coastal Carolinas.

For hazardous weather conditions in your area during the coming two-week period, please refer to your local NWS office, the Medium Range Hazards Forecast produced by the Weather Prediction Center, and the CPC Week-2 Hazards Outlook. Forecasts made over Africa are made in coordination with the International Desk at CPC.