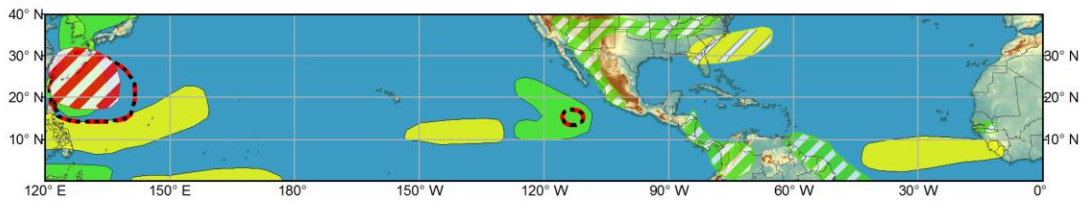




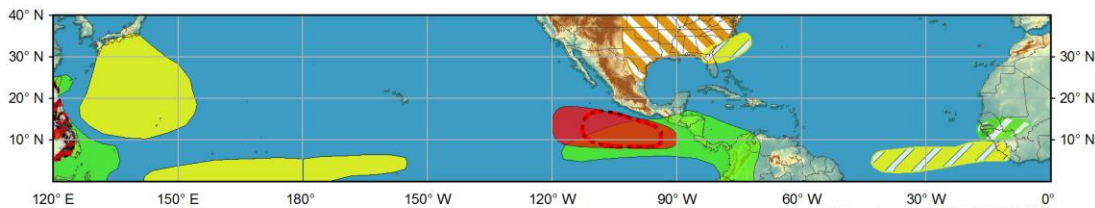
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jul 30 2022 - Aug 02 2022



Week 2 - Valid: Aug 03 2022 - Aug 09 2022



Confidence
High Moderate

Produced: 07/29/2022
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.



The upper-level velocity potential pattern has become increasingly organized over the past few days, resulting in an amplification of the CPC velocity potential based Madden-Julian Oscillation (MJO) index, with the enhanced convective phase over the Indian Ocean. Low-level zonal wind anomalies support this pattern, as does the broad-scale convective pattern. With an unusually strong La Nina response remaining the primary driver of the global tropical pattern, the future evolution of this signal is highly uncertain, and dynamical model MJO index forecasts do not favor its propagation to the Pacific.

The Joint Typhoon Warning Center (JTWC) is issuing advisories for Tropical Storm 01S over the southeastern Indian Ocean just west of the Cocos Islands. Formations in this region are highly unusual, but not unprecedented, in July. Tropical Storm Songda formed south of Japan, and forecasts from the JTWC bring this weak system generally northward to the East China Sea. Additional tropical cyclone formations are possible over the Northwest Pacific in the waters between the Philippines and Japan, with the JTWC currently tracking a new invest, 95W, that has a low potential for formation over the next 24 hours. The South China Sea remains a potential location for tropical cyclone development during the Days 5-11 period. Following the development of Tropical Storm Frank and Tropical Storm Georgette south of Mexico, no additional formations are anticipated across the East Pacific basin over the next 4

days; however, dynamical models are depicting an increasingly favorable environment for new cyclogenesis during Days 5-11. Therefore, the original moderate potential hazard has been expanded and confidence increased to high. Tropical cyclone formation remains unlikely across the Atlantic basin through the end of the forecast period; however, conditions may become increasingly favorable beyond Week-2.

Forecasts for enhanced or suppressed precipitation have been updated to reflect the latest dynamical model guidance.

The original discussion released on 26 July 2022 follows.

The footprint of the Madden-Julian Oscillation (MJO) remained weak as diagnosed by the CPC velocity potential index, but exhibited some amplitude over the Western Hemisphere on the RMM-based MJO index. Following a fairly robust intraseasonal signal through early June, the MJO weakened as the enhanced convective phase reached the Pacific and encountered destructive interference from the unusually robust La Nina base state. Convectively coupled Kelvin wave activity helped bring some enhanced convection across the Western Hemisphere, and may have aided in the formation of Tropical Storm Frank over the East Pacific basin south of Mexico. More recently, the upper-level velocity pattern rapidly shifted, with enhanced divergence aloft overspreading Africa and the Indian Ocean. This rapid transition does not seem to be related to the Kelvin wave activity, and may be reflective of midlatitude influences. Regardless of the origins of this pattern shift, enhanced convection has begun to form across the eastern Indian Ocean, and this signal may result in renewed MJO activity over the next couple of weeks. Dynamical model MJO index forecasts are generally reflective of MJO activity, depicting a signal rapidly crossing the Indian Ocean and Maritime Continent over the next two weeks.

Other than Tropical Storm Frank, which formed recently near 11.4N and 101.8W, no new tropical cyclones developed globally during the past week. During Week-1, dynamical models depict enhanced vorticity both north and south of the Equator over the eastern Indian Ocean tied to potential westerly wind burst. Dynamical model guidance and forecasts from the Joint Typhoon Warning Center indicate that there is a moderate potential for unusual tropical cyclogenesis over an area of the southeastern Indian Ocean between Diego Garcia and the Cocos Islands. Any development, should it occur, is likely to be brief given marginal sea surface temperatures (SSTs) in the region. Elsewhere, there is a broad region of favorability for tropical cyclone development over the Northwest Pacific northeast of the Philippines

and south of Japan. Over the East Pacific, a brief tropical cyclone may form from a disturbance west of Tropical Storm Frank before dissipating due to interference from the stronger system. While Indian Ocean MJO events are typically tied to increased favorability for Atlantic tropical cyclone activity, the presence of a Saharan Air Layer (SAL) precludes any development during Week-1. During Week-2, dynamical models indicate a potential for tropical cyclone formation over the South China Sea, while climatology, a somewhat favorable environment, and support from the GEFS model indicate a moderate potential for new tropical cyclogenesis over the East Pacific south of Mexico. No tropical cyclone development is anticipated across the Atlantic basin, possibly due to additional SAL intrusions.

Forecasts for above- and below-average precipitation reflect tropical cyclone track forecasts, a consensus among the dynamical model guidance, and precipitation composites of boreal summer La Nina events and Indian Ocean and Maritime Continent MJO events. A break in monsoon activity across South and Southeast Asia is favored for Week-1 with enhanced convection shifting towards the Equator. In contrast, enhanced monsoon moisture is favored for northwestern Mexico and the southwestern US, bringing a potential for localized flash flooding. A blocking ridge over western Asia favors continued enhanced rainfall across portions of eastern Africa and southwestern Asia, while a strong dry signal over the Pacific near the Date Line is favored to persist due to the La Nina response. During Week-2, wetter conditions are favored to return to portions of South and Southeast Asia and the Philippines, while increased ridging over North America favors an outbreak of a heatwave event across the central and eastern CONUS.

For hazardous weather concerns during the next tweeks across the U.S., please refer to your local NWS office, the Medium Range Hazards Forecast from the Weather Prediction Center, and the Week-2 Hazards Outlook at CPC. Forecasts over Africa are made in coordination with the International Desk at CPC.