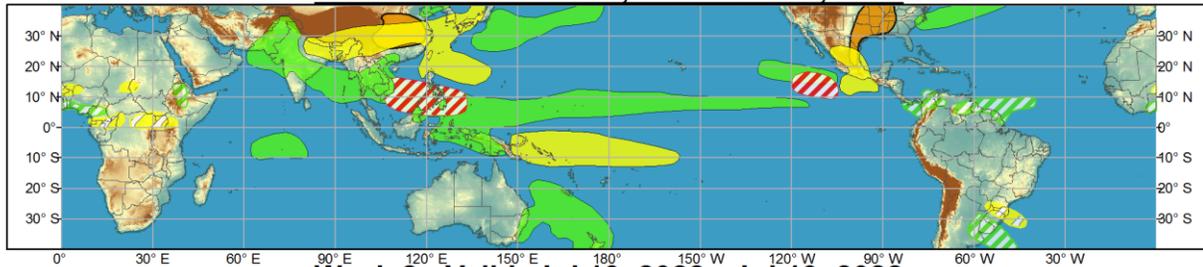




Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jul 06, 2022 - Jul 12, 2022



Week 2 - Valid: Jul 13, 2022 - Jul 19, 2022



Produced: 07/05/2022

Forecaster: Allgood

Confidence		
High	Moderate	
		Development of a tropical cyclone (tropical depression - TD, or greater strength).
		Weekly total rainfall in the upper third of the historical range.
		Weekly total rainfall in the lower third of the historical range.
		7-day mean temperatures in the upper third of the historical range.
		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.



The Madden-Julian Oscillation (MJO) signal, based on both the RMM-based and CPC velocity potential indices, became more amplified during the past week with a signal propagating from the Indian Ocean to the Maritime Continent. The upper-level velocity potential field currently exhibits a robust Wave -1 pattern, consistent with MJO activity, and other fields such as zonal wind anomalies and OLR anomalies are also broadly consistent with a propagating MJO signal. The MJO is currently constructively interfering with the La Niña base state, with strongly enhanced trade winds now extending across the entire tropical Pacific basin. Despite the enhanced trade winds, enhanced convection was recently observed across the tropical North Pacific near 10N, aided in part by strong equatorial Rossby wave activity. Enhanced convection associated with both La Niña and the MJO is feeding into the Asian monsoon, and is sparking widespread flooding across southeastern Australia, including the Sydney metropolitan area.

Dynamical model MJO index forecasts indicate uncertainty, with multiple GFS ensemble members depicting robust MJO activity propagating to the West Pacific, but others showing a rapid weakening of the signal. The ECMWF is generally slower and weaker with the signal, with interference from equatorial Rossby wave activity and the La Niña base state preventing robust eastward propagation. As the

suppressed phase of the MJO crosses the Western Hemisphere, conditions may become broadly less favorable for tropical cyclone (TC) development, while a healthy monsoon trough extending into the West Pacific may provide opportunities for TC formations.

During the past week, four tropical cyclones formed globally. Typhoon Chaba developed over the South China Sea and made landfall over southern China. Tropical Storm Aere formed northeast of the Philippines and brought flooding rains to parts of Japan. Hurricane Bonnie formed over the southwestern Caribbean and crossed westward over Central America, emerging over the East Pacific and strengthening to hurricane intensity. Hurricane Bonnie is expected to remain well south of Mexico as it moves generally westward towards cooler waters. Tropical Storm Colin formed briefly near the coast of South Carolina, bringing spotty convection and some gusty winds to the South Atlantic coast. During Week-1, no additional tropical cyclones are favored to develop across the Atlantic basin. Across the West Pacific, an enhanced monsoon trough may provide a favorable environment for tropical cyclogenesis, with the best chances for formations at a fairly low latitude east of the Philippines or across the South China Sea. This region may remain active into Week-2. Dynamical models indicate a potential for tropical cyclone development further east in the vicinity of Guam during Week-2 as well. Across the East Pacific, conditions may become increasingly favorable for TC formation across the East Pacific during late Week-1 into Week-2, with dynamical models indicating one or more potential TCs forming south of Mexico.

Forecasts for above- and below-average rainfall are based on tropical cyclone forecast tracks, dynamical model consensus, and precipitation composites of canonical MJO events with convectively active phase over the Maritime Continent and West Pacific. An enhanced monsoon trough is favored to extend from South Asia southeastward across Southeast Asia, the equatorial Maritime Continent, and across the western and central North Pacific. North of this region, dry, hot conditions are favored across mainland China. Widespread heavy rainfall is favored to continue across eastern Australia, the Coral Sea, and New Zealand, particularly during Week-1. This rainfall may aggravate the ongoing serious flooding situation in New South Wales. Enhanced rainfall across the western North Atlantic is expected to continue for the next two weeks, while hot conditions will persist across the central CONUS.

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.