

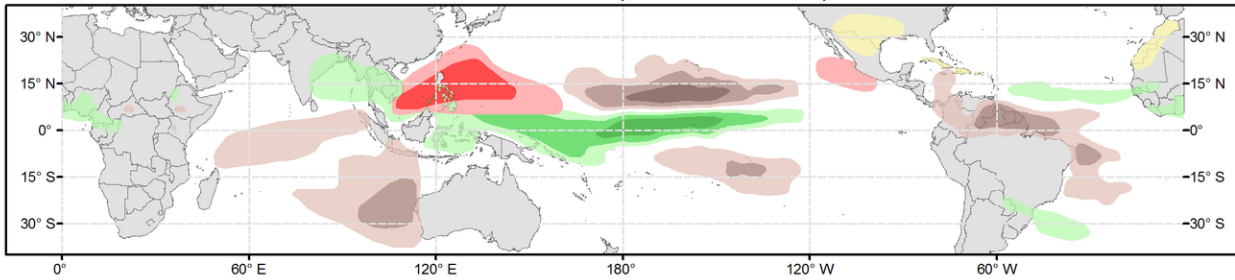


Global Tropics Hazards Outlook

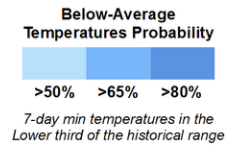
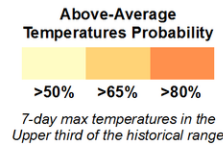
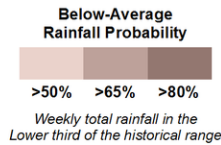
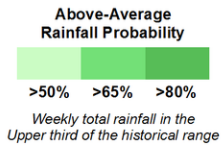
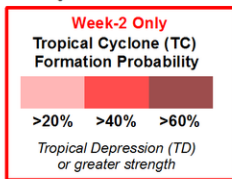
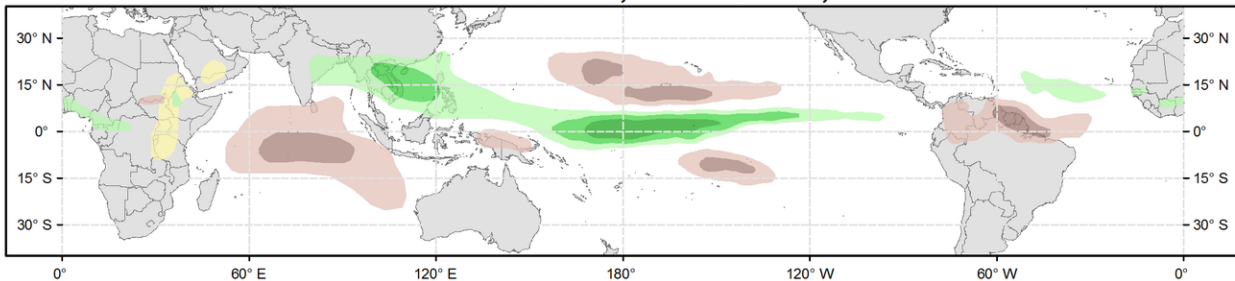
Climate Prediction Center



Week 2 - Valid: Jul 12, 2023 - Jul 18, 2023



Week 3 - Valid: Jul 19, 2023 - Jul 25, 2023



Issued: 07/04/2023
Forecaster: Allgood

This product is updated once per week and 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) remained weak during the past week, with no amplitude reflected on the CPC upper-level velocity potential index and an incoherent pattern overall. Enhanced convection that developed recently near the Date Line appears to be an atmospheric response to warm sea surface temperatures (SSTs) driven by the developing El Niño. The zonal wind pattern across the Pacific is not reflective of a canonical ENSO response, however, with enhanced trades likely driven by a highly amplified pattern in the Southern Hemisphere. Dynamical model forecasts of the realtime multivariate MJO (RMM) Index show an increasing potential for renewed MJO activity during the outlook period, with a developing signal over the Maritime Continent during Week-2 propagating eastward to the West Pacific during Week-3. While considerable uncertainty remains regarding this future evolution of the intraseasonal signal, it would promote generally constructive interference with the ongoing El Niño, and should the signal produce a westerly wind burst (WWB) over the West Pacific, the resulting forcing over the ocean would help reinforce and intensify the ENSO signal. Therefore, this week's Global Tropics Hazards Outlook is based primarily on an anticipated response to El Niño conditions coupled with a developing Maritime Continent and West Pacific MJO event.

Two tropical cyclones (TCs), Hurricanes Adrian and Beatriz, formed over the East Pacific during the last week. Hurricane Adrian developed on June 27, strengthening to Category 2 intensity on the Saffir-Simpson scale well south of the Baja California peninsula before weakening over colder waters. Hurricane Beatriz formed to the east of Adrian on June 29, and passed along Mexico's southern coastline near Manzanillo at Category 1 intensity before rapidly weakening offshore. Climatologically, mid-July formations are most likely to occur over both the West and East Pacific basins. During Week-2, both El Niño

and the potential MJO state favor enhanced chances for TC development over the South China Sea and West Pacific, with dynamical model forecasts indicating potential formation areas both at fairly low latitudes and closer to the Philippines or south of Japan. While a Maritime Continent MJO is not typically favorable for TC development over the East Pacific, dynamical model forecasts indicate a potential for formation just south of Mexico, possibly due to Kelvin wave activity revealed in the objective filtering tools. Across the Atlantic, enhanced rainfall is favored to continue across the main development region (MDR) extending from Africa westward towards the Lesser Antilles; however, climatological activity is still fairly low in mid-July, and there is little dynamical model support for any areas of potential development.

Forecasts for enhanced or suppressed precipitation are based on composites of historical precipitation patterns during boreal Summer El Niño events, composites of Maritime Continent and West Pacific MJO activity, and a skill-weighted consensus of dynamical model guidance. El Niño events strongly favor enhanced rainfall near the Date Line, with subsidence poleward of this enhanced region. MJO activity crossing the Maritime Continent to the West Pacific constructively interferes with this signal, and may bring enhanced convection along a northwest to southeast oriented arc extending from South Asia across Southeast Asia towards the equatorial West Pacific. In contrast, suppressed rainfall tends to overspread the central Indian Ocean. Dynamical model forecasts were quite consistent with these areas of enhanced precipitation, and the signal supporting below-average precipitation was strengthened over the Indian Ocean based on the composite forecasts, particularly in Week-3. Over the Western Hemisphere, dynamical models support suppressed rainfall across northern South America. Periods of excessive heat are possible across northern Mexico and the south-central CONUS during Week-2, as well as parts of western Africa. During Week-3, dynamical models favor a potential for excessive heat along parts of the Nile Valley.

Precipitation forecasts for Africa were made in consultation with CPC's International Desk, and can reflect regional-scale influences as well as the broader pattern. For hazardous weather conditions across the US 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.