

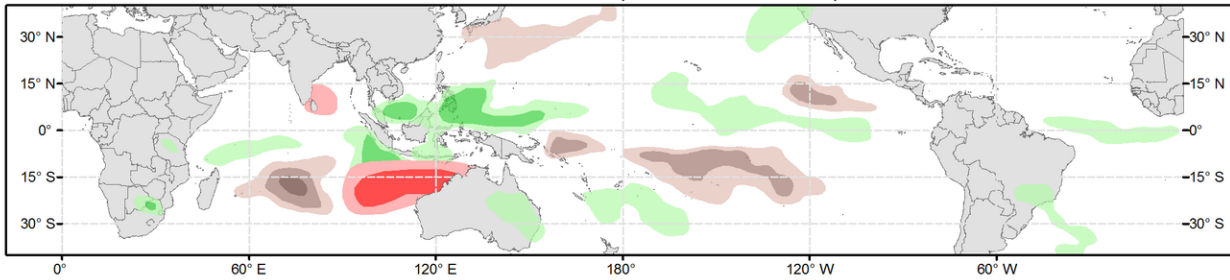


Global Tropics Hazards Outlook

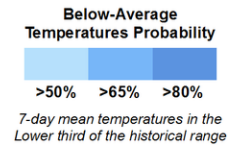
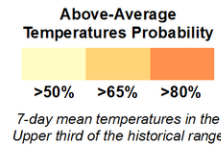
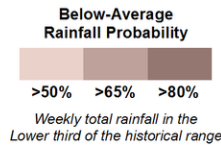
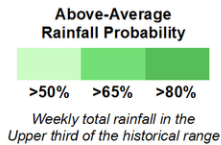
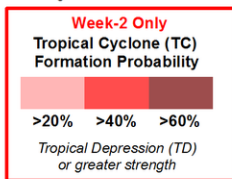
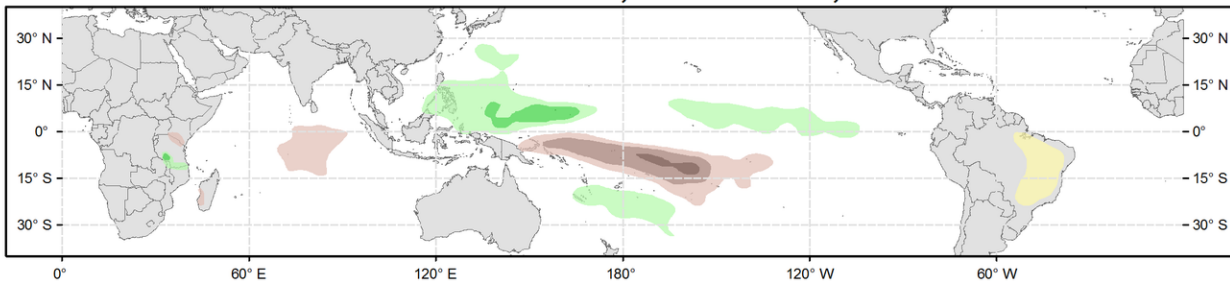
Climate Prediction Center



Week 2 - Valid: Feb 01, 2023 - Feb 07, 2023



Week 3 - Valid: Feb 08, 2023 - Feb 14, 2023



Issued: 01/24/2023
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 amplitude of the Madden-Julian Oscillation (MJO) RMM-based index increased substantially over the past few days, indicating that the enhanced phase of the MJO is located over the Indian Ocean. This recent amplification was well forecasted by the suite of dynamical model guidance as discussed in the previous outlook last week. As the intraseasonal signal increasingly interferes constructively with the ongoing La Niña base state, widespread enhanced convection has developed across the Maritime Continent. Over the equatorial Pacific, the trade wind regime has strengthened and expanded, and the previously extended East Asian jet has retracted, reducing the extent of Pacific moisture flow over western North America. The MJO has been active over the past several months, and dynamical model MJO index forecasts indicate a continuation of this pattern. Following a stationary period of enhancement over the Indian Ocean during Week-1, the GEFs depicts robust MJO activity crossing the Maritime Continent during Week-2, and entering the Pacific basin during Week-3. The ECMWF shows a similar evolution, albeit with a weaker progression across the Maritime Continent that may be due to aliasing with the low frequency base state that is removed from the analysis. Many GEFs and ECMWF ensemble members depict a strong Pacific MJO event. While previous MJO events have not succeeded in producing a substantial low-level westerly wind burst along the Equator over the West Pacific, the West Pacific Warm Pool has grown considerably, and a strong MJO event has the potential to initiate a strong downwelling oceanic Kelvin wave that could erode the ongoing La Niña. Therefore, both La Niña and the MJO are favored to strongly influence the evolution of the global tropical convective anomalies, which teleconnects well into the northern hemisphere midlatitude pattern this time of year. Indian Ocean and Maritime Continent MJO events are associated with downstream pattern changes favoring increased ridging and warmer temperatures across eastern North America, which is generally consistent with dynamical model forecasts for the

Week-3 period. The anticipated height anomaly pattern across North America during the upcoming two weeks is also largely consistent with the cold ENSO response.

During the past week, a pair of tropical cyclones formed over the eastern Coral Sea. Tropical Storm Irene developed on January 18, strengthening to near hurricane intensity as it tracked southeastward to the east of New Caledonia. On January 20, Tropical Depression 10 formed just west of New Caledonia, but quickly dissipated in an unfavorable regime. Elsewhere, Tropical Storm Cheneso, which initially formed prior to last week's outlook period on January 17, made landfall over northern Madagascar, bringing substantial flooding impacts. With an active MJO favored to progress from the Indian Ocean to the West Pacific over the next three weeks, the areas of potential tropical cyclone formation are also expected to progress gradually eastward. During Week-2, tropical cyclogenesis is possible over the southwestern Indian Ocean in the vicinity of the Cocos Islands, or north of Australia's Kimberley Coast. While climatology does not favor much tropical cyclone activity over the northern Indian Ocean, both the GEFs and ECMWF favor tropical cyclogenesis near southern India or Sri Lanka during Week-2, meriting a 20-percent probability for formation.

Forecasts for above- and below-median precipitation are based on a skill-weighted consensus of operational dynamical model guidance, with an anticipated continuation of La Niña conditions and a MJO event propagating from the Maritime Continent to the West Pacific. While the forecasted MJO event is depicted as stronger than the previous event that moved through the West Pacific during late December and early January, dynamical models do not show a robust breakdown in the trade winds over the West Pacific. Therefore, enhanced precipitation due to the MJO will likely be more pronounced to the north and south of the Equator over the Pacific. While cold air outbreaks over the contiguous United States are likely during Week-2, a strong temperature gradient is favored to set up close to the Gulf Coast, and there is uncertainty about how far south the cold air penetrates into regions with subtropical and tropical agriculture. Elsewhere, dynamical models favor increased chances for above-average temperatures across portions of Brazil, which could have a negative impact on agriculture.

For hazardous weather concerns in your area during the next two weeks, please refer to your local NWS office, the Medium Range Hazards Forecast for the Weather Prediction Center (WPC), and CPC Week-2 Hazards Outlook. Forecasts over Africa are made in coordination with the International Desk at CPC.