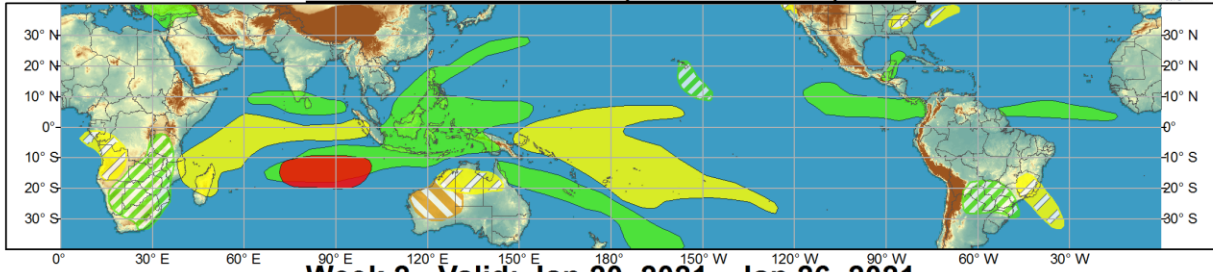




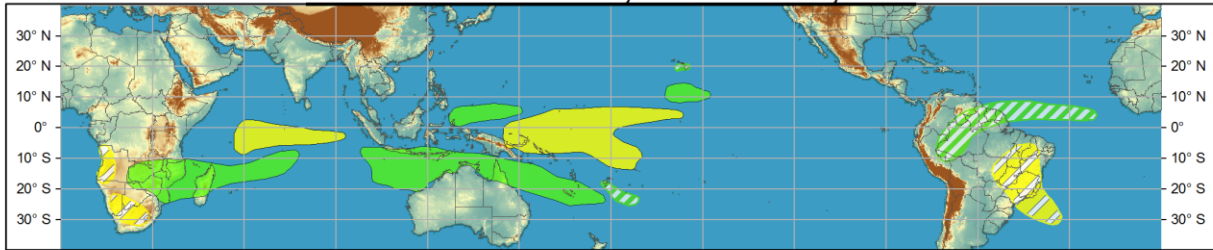
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jan 13, 2021 - Jan 19, 2021



Week 2 - Valid: Jan 20, 2021 - Jan 26, 2021



Produced: 01/12/2021

Forecaster: Allgood

Confidence		
High	Moderate	
		Tropical Cyclone Formation Development of a tropical cyclone (tropical depression - TD, or greater strength).
		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, 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 amplitudes of both the RMM-based and CPC velocity potential-based Madden-Julian Oscillation (MJO) indices increased during the past week, suggesting the initiation of a broad-scale enhanced convective envelope over the Indian Ocean. This enhancement was well forecast by both the GEFS and ECMWF over the past couple of weeks, though the timing of the observed amplification was delayed. The enhanced convection seems to be resulting from constructive interference between a Kelvin wave returning to the Indian Ocean and midlatitude wavebreaking onto the tropics that is helping to generate strong equatorial Rossby wave activity. Based on this complex method of initiation, plus the ongoing La Nina event in the Pacific, it is not clear whether sustained eastward propagation of the enhanced convection will ensue. Both the GEFS and ECMWF ensemble systems favor a fairly rapid weakening of the RMM-index as the suppressed phase of the Rossby wave begins interfering with the enhanced convection over the Maritime Continent. Towards the end of Week-2, however, many ensemble members from both models favor amplification over the West Pacific, suggesting that some Kelvin wave or remnant MJO activity will continue propagating eastward. Given the weak MJO signal during most of the forecast period, however, this outlook is based primarily on climate anomalies associated with the La Nina event, which is well coupled to the atmosphere.

No new tropical cyclones developed during the past week. Due to the aforementioned Rossby wave activity, the southern Indian Ocean has a potential for becoming quite active over the next two weeks. The Joint Typhoon Warning Center is currently monitoring two invests over the southeastern Indian Ocean, 99S, and 90S to the east of the Cocos Islands. Invest 99S has a high potential for formation during Week-1, and dynamical model forecasts indicate that the system may become an intense and long-lived tropical cyclone as it moves westward. Interests in the southern Indian Ocean, including Madagascar, should monitor updates from their local meteorological agencies. The second system, Invest 90S, has a moderate potential for formation as it nears the Cocos Islands moving westward or southwestward. Several model forecasts show this system intensifying robustly as well. During Week-2, there is a slight chance for additional tropical cyclogenesis north of Australia's Kimberley Coast, but confidence was too low to include a hazard on this week's outlook. Elsewhere, dynamical models did not indicate any consistent signals for tropical cyclone development.

Precipitation forecasts for the next two weeks are based on a consensus of bias-corrected CFS and ECMWF forecasts, and closely resemble precipitation anomalies associated with canonical La Nina events. In particular, the strong suppressed (enhanced) convective signal over the equatorial Pacific (Maritime Continent and Southwest Pacific Convergence Zone) are characteristic of La Nina. Anomalously warm sea surface temperatures north of New Guinea may result in very heavy rainfall during late Week-1 and early Week-2. Over the Indian Ocean, enhanced convection appears to be focused north and south of the Equator, with enhanced rainfall affecting southern India and Sri Lanka, and potential tropical cyclone activity bringing heavy rainfall to parts of the southern Indian Ocean.

For hazardous weather concerns during the upcoming two weeks across the U.S. please refer to your local NWS Forecast Office, the Weather Prediction Center's Medium Range Hazards Forecast, and CPC's Week-2 U.S. Hazards Outlook. Heatwave conditions are favored for the early part of the week across northern portions of Western Australia. Forecasts over Africa are made in consultation with the CPC International Desk, and can represent local-scale conditions in addition to global-scale variability.