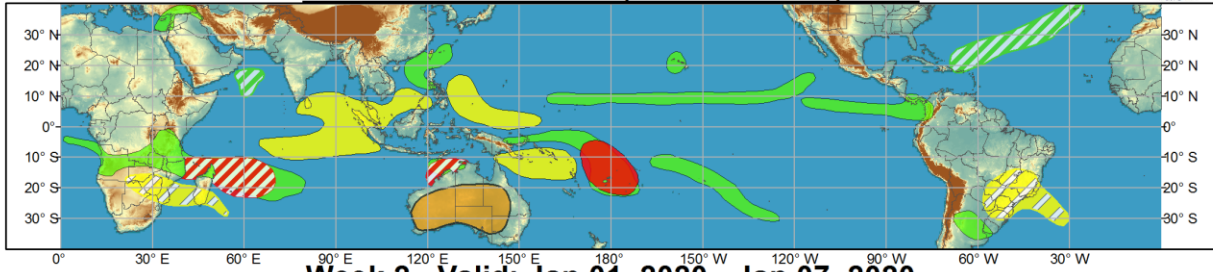




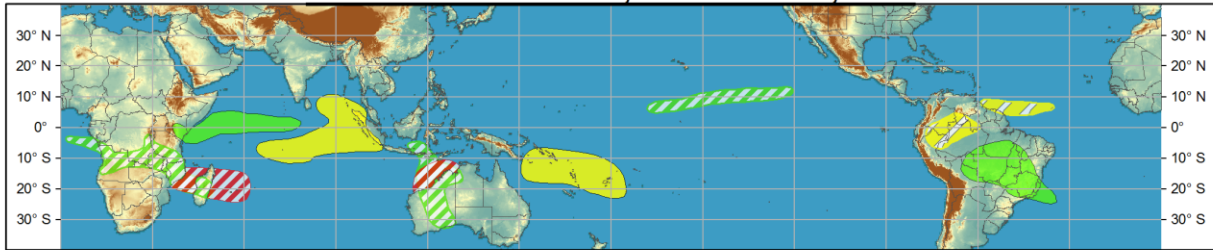
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Dec 25, 2019 - Dec 31, 2019



Week 2 - Valid: Jan 01, 2020 - Jan 07, 2020



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.

Produced: 12/24/2019
Forecaster: Allgood



The MJO remains weak, with both the CPC velocity potential and RMM-based MJO indices remaining low-amplitude during the past week. The ongoing positive Indian Ocean Dipole (IOD) event has been the primary driver of anomalous tropical convection throughout the Boreal Fall and early Winter seasons, but recently the amplitude of this feature has decreased, and there has been a notable eastward shift in the center of low-level wind convergence over the Indian Ocean during December. While the convective field remains largely incoherent outside of the Indian Ocean and Maritime Continent, there is some evidence of an eastward propagating signal in the upper-levels, most notably seen in the velocity potential field. This signal, albeit weak, has emerged over the West Pacific and is generally consistent with dynamical model MJO index forecasts showing an increase in amplitude over the West Pacific over the next several days. It is possible, therefore, that a coherent MJO may emerge over the West Pacific, and the CFS shows coherent eastward propagation of this signal to the Western Hemisphere over the next two weeks. Other dynamical models, however, including the GEFS and ECMWF, depict a rapid weakening of this Pacific signal and a rapid return of the RMM index to the Maritime Continent. Tropical cyclone activity depicted in the models, particularly north of Australia, may be helping to drive this reversal of the index, especially given the long-term suppressed convection in the region that is removed in the computation of the RMM index. Based on these forecasts and the lack of any clear large-scale convective anomalies driven by an intraseasonal signal, the MJO is not anticipated to play a

substantial role in the evolution of the tropical or extra-tropical pattern. Other modes, including tropical cyclones and the weakening IOD will continue to strongly influence the overall circulation.

There is one active tropical cyclone that developed during the past week. Typhoon Phanfone (30W) is currently approaching the Philippines, and is expected to maintain typhoon intensity as it crosses the archipelago and enters the South China Sea over the next several days on a west-northwestward track. After crossing 115E, however, forecasts from the Joint Typhoon Warning Center depict a rapid weakening of the system. During the upcoming week, an active pattern over the Southern Hemisphere is anticipated. The Joint Typhoon Warning Center is currently monitoring a disturbance over the Southwest Pacific (99P), and dynamical models favor development of this system into a tropical cyclone over the next several days. Most models bring the potential cyclone south-southeastward, with potential impacts to Fiji. Over the Maritime Continent, the GEFS and ECMWF both show the potential for tropical cyclone formation just north of Australia, with the favored area gradually shifting from the central Timor Sea to the Kimberley Coast during late Week-1 and early Week-2. Over the Indian Ocean basin, the GEFS ensemble forecasts highlight two areas of potential formation during late Week-1 or early Week-2: the Mozambique Channel and the southwestern Indian Ocean near Reunion Island.

Due to the uncertain evolution of the MJO, the precipitation outlook is based on dynamical model consensus, the ongoing but weakening positive IOD, and ongoing or potential tropical cyclone activity. Enhanced (suppressed) precipitation is favored across south-central Africa and the southwestern Indian Ocean (eastern Indian Ocean) during Week-1. An active pattern may bring heavy precipitation to parts of the Middle East, and dynamical models generally favor above-average precipitation over the Arabian Sea, although tropical cyclogenesis is not currently anticipated. Typhoon Phanfone will bring widespread heavy rainfall to the central Philippines and the South China Sea, while suppressed rainfall is favored further east, including Guam. Active ITCZ activity is favored for both hemispheres across the Pacific, with dynamical models favoring enhanced rainfall for Hawaii. Across the Western Hemisphere, frontal activity favors wetness extending from the Northern Caribbean (including Puerto Rico) northeastward to the Azores, and enhanced (suppressed) rainfall is forecast for northern Argentina (southeastern Brazil).

During Week-2, the dipole of enhanced (suppressed) precipitation over Africa and the western Indian Ocean (eastern Indian Ocean and western Maritime Continent) is favored to continue. Potential tropical cyclone activity near the Kimberley Coast may bring enhanced moisture to Western Australia, while quieter conditions are favored to return to the Southwest Pacific. The Pacific ITCZ pattern is more uncertain during Week-2, but dynamical models generally favor enhanced rainfall near 10N south and southeast of Hawaii. Across South America, a pattern shift favors enhanced monsoonal moisture across central and southeastern Brazil, while below-average rainfall is anticipated for parts of northern South America.

Forecasts over Africa are made in consultation with CPCs international desk, and can represent local-scale conditions in addition to global-scale variability.