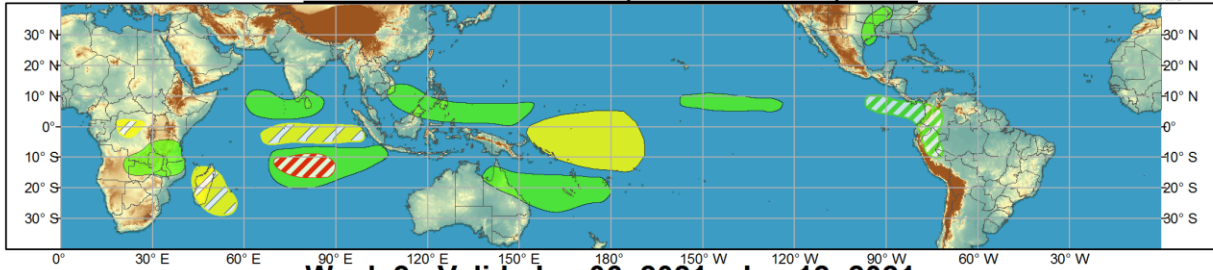




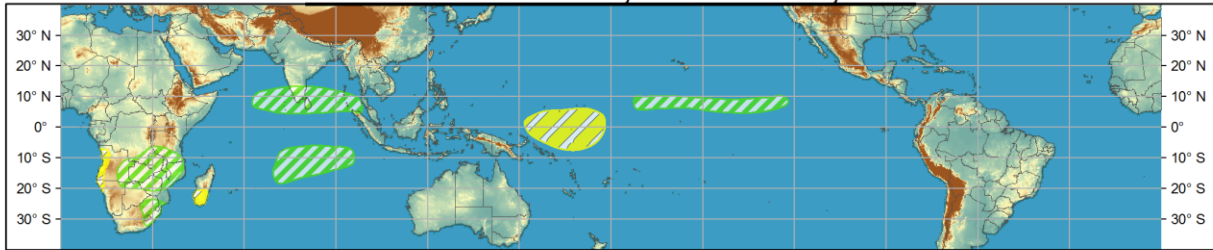
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



**Week 1 - Valid: Dec 30, 2020 - Jan 05, 2021**



**Week 2 - Valid: Jan 06, 2021 - Jan 12, 2021**



**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: 12/29/2020

Forecaster: MacRitchie



The year 2020 ends with an active La Nina and weak MJO signal throughout the Tropics. The zonal sea surface temperature (SST) gradient throughout the Pacific resembles a typical La Nina event. Anomalously cold SSTs extend westward from the west coast of South America to the eastern edge of the Pacific Warm Pool around 150 deg E, and anomalously warm SSTs are found throughout the Pacific Warm Pool. The result of this enhanced zonal gradient is a strong Walker Circulation that is characterized by ascent (enhanced convection) over the Maritime Continent and descent (suppressed convection) over the East Pacific, resulting in anomalous upper level westerlies and low level easterlies. There is anomalous ridging to the northwest of the main area of convection over the Maritime Continent, which has served as a Rossby wave source needed for persistent mid-latitude wave breaking over the Central Pacific, which has helped to maintain the current La Nina state.

The MJO is weak, but dynamical models favor an MJO event beginning over the Indian Ocean during Week-2. Such an event would likely destructively interfere with the current ENSO pattern over the Maritime Continent and lead to a temporarily weakened Walker Circulation as the MJO makes its way eastward. Today's GTH forecast is based primarily on the current state of ENSO as well as the predicted state of the MJO during Week-2. Large scale enhanced convection is likely over the Maritime Continent

and parts of the Indian Ocean due to the low-frequency signal during Week-1, but an MJO event over the Indian Ocean could serve to negate some of the anomalous convection over the Maritime Continent during Week-2.

As of 1800 UTC on Dec. 29, the Joint Typhoon Warning Center is monitoring two disturbances over the southern Indian Ocean around 86E and 70E. The GFS forecasts both lows to become tropical cyclones during Week-1 and then track southward where they are predicted to transition to extratropical storms by Week-2. The GTH forecast has one broad shape depicting a moderate chance of tropical cyclone formation during Week-1 to account for both of these storms. The GEFS has probabilities less than 40% of another tropical cyclone forming over the southern Indian Ocean during Week-2, which is below our threshold for inclusion on the forecast map. The JTWC is also tracking Tropical Storm Chalane, currently over the Mozambique Channel, and forecast to track westward, making landfall in Beira within the next 24 hours where it is expected to quickly diminish.

Forecasts over Africa are made in consultation with the International Desk at CPC, and can represent local-scale conditions in addition to global-scale variability.