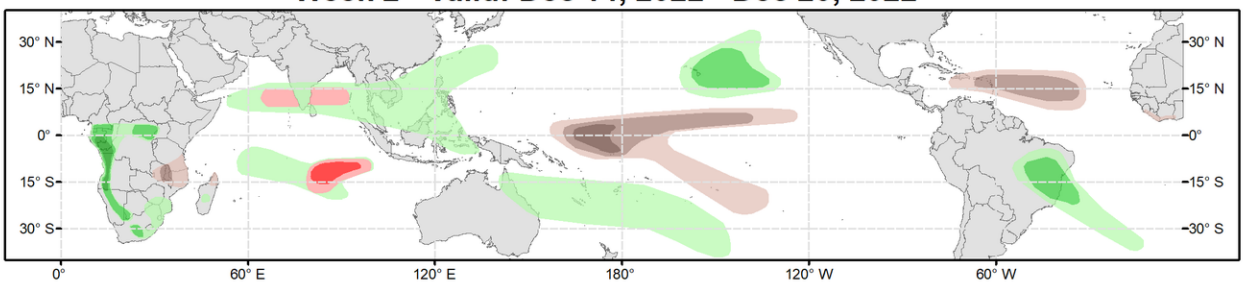
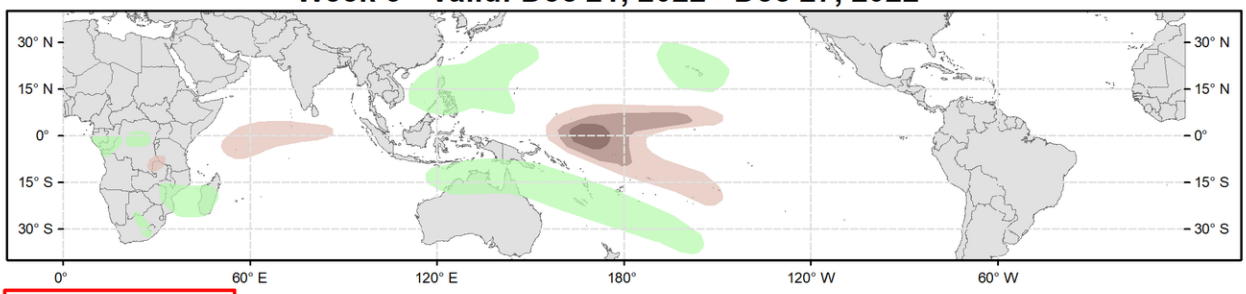
Global Tropics Hazards Outlook

Climate Prediction Center

Week 2 - Valid: Dec 14, 2022 - Dec 20, 2022



Week 3 - Valid: Dec 21, 2022 - Dec 27, 2022



Week-2 Only
Tropical Cyclone (TC) Formation Probability
>20% >40% >60%
Tropical Depression (TD) or greater strength

Above-Average Rainfall Probability
>50% >65% >80%
Weekly total rainfall in the Upper third of the historical range

Below-Average Rainfall Probability
>50% >65% >80%
Weekly total rainfall in the Lower third of the historical range

Above-Average Temperatures Probability
>50% >65% >80%
7-day mean temperatures in the Upper third of the historical range

Below-Average Temperatures Probability
>50% >65% >80%
7-day mean temperatures in the Lower third of the historical range

Issued: 12/06/2022
Forecaster: Pugh

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.

La Nina continues to be the major influence on anomalous rainfall across the global tropics, but a relatively strong MJO propagated eastward from the Pacific to the Western Hemisphere during late November. The MJO began to weaken at the beginning of December with the RMM index decreasing in amplitude and the 200-hPa velocity potential field becoming less coherent. Dynamical models diverge on the future MJO evolution with the CFS most bullish with a continued eastward propagation from the Indian to Pacific Ocean during the next three weeks. The GFS and ECMWF models depict an eastward propagation of anomalous upper-level divergence through mid-December, but those model solutions favor La Nina likely becoming the dominant factor in global tropical rainfall by week-3. It is noteworthy that there is a very large dispersion in the ensemble members, as early as week-2, of the predicted MJO phase in RMM space.

No tropical cyclones (TCs) formed over the West Pacific or Indian Ocean since mid-November, which is consistent with the suppressed phase of the MJO over the Eastern Hemisphere. As a remnant MJO signal shifts eastward over the Indian Ocean to the West Pacific during the next two weeks, a more favorable large-scale environment for TC development is expected across the Indian Ocean basin for at least week 2. Although a TC may form earlier, a 20 percent chance of TC genesis is posted for the Arabian Sea and Bay of Bengal during week-2. The highest forecast confidence for week-2 formation exists across the South Indian Ocean.

The precipitation outlook for weeks 2 and 3 is based on potential TC tracks, ongoing La Nina conditions, and the consensus of GEFS, CFS, and ECMWF ensemble mean solutions. The remnant MJO signal along with dynamical models increase probabilities of above-average rainfall for parts of the Indian Ocean through week-2 with this favored wetness shifting east to the West Pacific and northern

Australia by week-3. For week-2, the dynamical model consensus supports above-average rainfall for southern Brazil while a dry signal is forecast for the eastern Caribbean region. During weeks 2 and 3, La Nina supports increased probabilities of below (above)-average rainfall across the equatorial central Pacific (Hawaii).

For hazardous weather conditions in your area 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. Forecasts made over Africa are made in coordination with the International Desk at CPC.