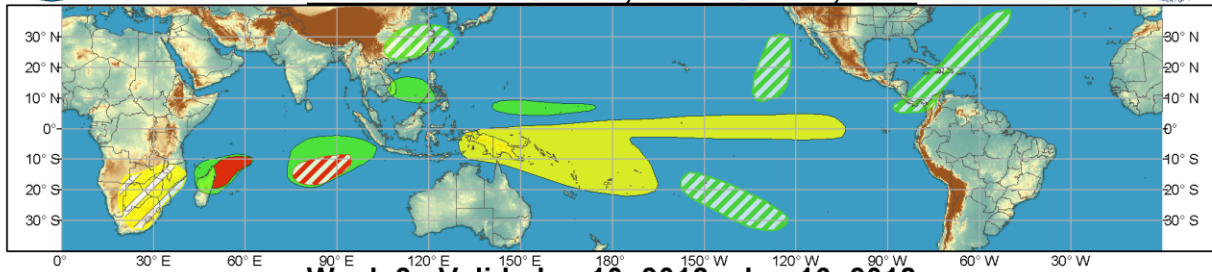




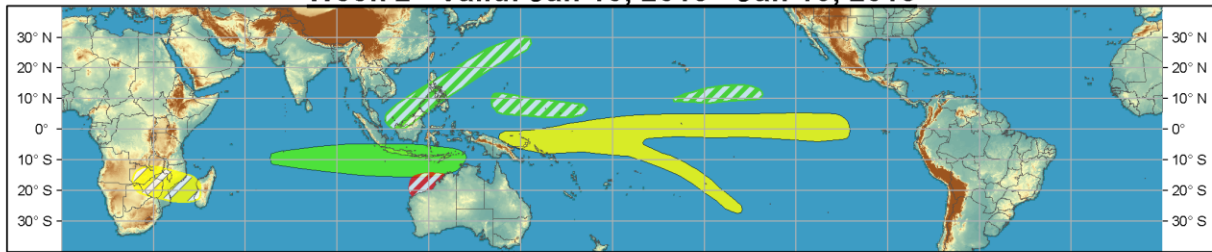
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jan 03, 2018 - Jan 09, 2018



Week 2 - Valid: Jan 10, 2018 - Jan 16, 2018



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: 01/02/2018

Forecaster: D.Harnos



Indices used to monitor the Madden-Julian Oscillation (MJO) indicate that its active phase crossed over Africa during the previous week and has re-emerged over the western Indian Ocean. The 200-hPa velocity potential field has improved in its spatial coherence relative to last week, revealing a robust wave-1 signature that favors enhanced (suppressed) convection over Africa through the Indian Ocean (Pacific, Americas, and Atlantic). Dynamical models forecast the MJO to shift eastward through Phase-2 and reach Phase-3 by the end of Week-1, while approaching the Maritime Continent during Week-2. Models consistently forecast a brief dip in amplitude of the RMM index near the start of Week-1, with this behavior tied to equatorial Rossby wave activity interfering with the signal over the Indian Ocean. While the extratropical response over North America tied to the MJO presence over the Indian Ocean is generally one of the more robust teleconnections during boreal winter, dynamical model guidance during the next two weeks fails to conform to the typical structure of troughing developing over Alaska and the West, with ridging amplifying over the East. As such, it appears any tropical impacts on sensible weather over North America are likely to be predominantly driven by the low frequency state coupled with extratropical influences.

Short-lived Tropical Storm Hilda developed near the Kimberley Coast of Australia at 19S/122E on the 27th before quickly dissipating. While Hilda brought heavy rains and a period of high winds to Western Australia, no injuries or deaths were immediately attributed to the system. More recently, the Joint Typhoon Warning Center (JTWC) initiated advisories on Tropical Depression 1 on New Year's Day. The system is presently near 9N/121E with estimated winds of 30 knots, and forecast to remain a marginal tropical cyclone over the next several days while tracking towards southern Vietnam. This tropical depression has already been responsible for at least two deaths in the Philippines as flooding and landslides have been occurring across regions previously impacted over the last month by Tropical Storm Kai-Tek and Typhoon Tembin.

JTWC has issued a tropical cyclone formation alert for a disturbance presently near 16S/55E. This system is forecast to drift to the west-southwest over the next few days and make landfall over eastern Madagascar as a tropical storm. High confidence of tropical cyclogenesis is forecast here relating to this system, assuming it does not develop prior to the forecast period. Later in Week-1, dynamical models suggest tropical cyclogenesis potential focused approximately along 10S in the Southern Indian Ocean as a cyclonic disturbance tracks westward. Moderate confidence exists for this system to become a tropical cyclone during Week-1. Each of the two aforementioned areas for potential tropical cyclogenesis is consistent with the MJO traversing the Indian Ocean. Very late in Week-1 or during Week-2 dynamical models indicate the possibility for tropical cyclone formation near the Kimberley Coast of Australia. Moderate confidence of tropical cyclogenesis exists during Week-2 tied to this potential along the Kimberley Coast.

Forecasts for above- and below-average rainfall during Week-1 with high confidence are tied to either tropical cyclone activity or the low-frequency state. Above-normal rains are favored with high confidence for the South China Sea, Madagascar, and Southern Indian Ocean in relation to ongoing or forecast tropical cyclone activity. The active phase of the MJO being present across the Indian Ocean further favors above-normal rains for that basin. High confidence of below-normal rains across the Maritime Continent are tied to the suppressed phase of the MJO being present here, with further eastward extension of this area linked to anomalously cold sea surface temperatures associated with La Nina aiding to suppress convection. Above-average rains are favored between 140E-170E in the West Pacific with high confidence due to persistent sea surface temperature anomalies of +1 degree C or greater. Remaining areas favored with moderate confidence for above- or below-normal rains during Week-1 are tied to dynamical model guidance and lack obvious ties to tropical modes of variability.

The highest confidence for above- and below-average rains during Week-2 are tied to the active phase of the MJO approaching the Maritime Continent and its suppressed phase further east constructively interfering with La Nina's suppression of Central Pacific convection. Moderate confidence exists once more between roughly 140E-165E off the equator in the Northern Hemisphere for above-normal rains

tied to anomalously warm ocean conditions. Remaining areas of above- or below-normal precipitation given moderate confidence in Week-2 across southern Africa, the South China Sea through West Pacific, and South of Hawaii once more are consistently indicated by the CFS and ECMWF model guidance. The anomalously wet conditions south of Hawaii are also consistent with the background La Nina state.

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