



## Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Dec 17, 2014 - Dec 23, 2014



Week 2 - Valid: Dec 24, 2014 - Dec 30, 2014



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Forecaster: Gottschalck

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.



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The latest observations indicate the MJO weakened over the past week. Although the MJO remains active, it is currently considerably less coherent than during November and early December. Enhanced convection did not shift eastward toward the central Pacific and the low level wind structure is not organized and in any way consistent with MJO activity. The upper-level signal is better defined, although the propagation speed is quite high for canonical MJO activity. Nevertheless, velocity potential anomalies does continue to indicate some MJO activity ongoing with the enhanced phase currently centered across the Atlantic Ocean. The RMM index has lost amplitude. Atmospheric Kelvin (KW) and Equatorial Rossby (ERW) activity is generally minimal. We continue to see above average SST's in the central and eastern Pacific consistent with El Nino like conditions.

Over the past week, suppressed convection was observed across parts of the northern Maritime continent (MC), western Pacific south of the equator east of Papua New Guinea as well as for parts of east Africa. Enhanced rainfall was evident for areas in southern Africa, northern Australia and southwest of Hawaii north of the equator. Tropical cyclone Bakung developed in the southern Indian Ocean over the course of the week, but has since dissipated. No other tropical cyclones developed during the past week.

Looking ahead, the majority of the dynamical model RMM forecasts of the MJO indicate a weak signal during the upcoming week before some potential strengthening of the signal in generally Phase 3 during the Week-2 period. Agreement is good for this evolution, although some models propagate this signal toward the MC more quickly than others thereafter. Longer term forecast models of the RMM index, show a continuation of eastward propagation once again to the western Pacific by early-to-mid January.

The outlook favors continued eastward movement of the upper-level signal consistent with weak MJO activity, although impacts attributed to the MJO are primarily confined to the Week-2 period. The Week-1 outlook is primarily based on GFS, CFS and ECMWF model guidance given the weak signals of most of the modes of subseasonal tropical variability during this upcoming week. The dynamical model precipitation forecasts favor generally small areas of anomalous rainfall during Week-1. Above median precipitation is favored for parts of southern Africa associated with continued frontal activity. Wet conditions are most likely for northeast Brazil and for a narrow area stretching from the Philippines eastward to Sri Lanka as a series of disturbances with traverse these longitudes. A remaining disturbance in the eastern Indian Ocean has moderate confidence for regeneration into a tropical cyclone during the period as it shifts eastward.

Suppressed rainfall is favored for an area stretching from just north of Australia into the southwest Pacific east and southeast of Papua New Guinea and for areas across eastern Africa. Frontal activity and associated convergence favors above median rainfall for areas in the south Pacific east of the Date Line. There exists a low risk for tropical cyclone development in this active area as well.

For Week-2, the only highlighted area this week is for favored enhanced rainfall in association with an increase in MJO amplitude across the eastern Indian Ocean. Uncertainty in how fast this variability shifts east in the model forecasts and above average SSTs precludes the designation of suppressed convection over the western Pacific, normally observed when the MJO is active in Phase 3.

It is quite difficult to ascertain impacts to the U.S. moving forward until we see if and how organized renewed enhanced convection in the Indian Ocean becomes during Week-2.