



Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Dec 31, 2014 - Jan 06, 2015



Week 2 - Valid: Jan 07, 2015 - Jan 13, 2015



Produced: 12/30/2014

Forecaster: Rosencrans

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|-----------------------------------|----------|--|
| 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.



The MJO persisted this past week, with some eastward propagation of the enhanced convection phase across the Maritime Continent. The upper-level velocity potential pattern is coherent with MJO activity, while other modes are evident as well. An atmospheric Kelvin wave is likely located over the East Pacific, near 120W, although there is some evidence of another enhancement to convection due to Kelvin wave activity near the Date Line. Above average SSTs in the central Pacific remain consistent with El Nino like conditions, though nearer the coast of South America, anomalies are near normal.

The majority of dynamical models favor the continuation of a moderate strength MJO event across the Maritime Continent to the West Pacific. The models vary in strength over the Maritime Continent, but this region is where the models typically have a problem with MJO forecasts, so uncertainty is not necessarily higher than normal given this situation. Longer range models (out through 32 days) depict a signal continuing through the middle of January, then weakening over the West Pacific.

Convection was enhanced over the Indian Ocean and Maritime Continent during the past week. Tropical Storm Jang-Mi developed on Dec 28 near the Philippines, while a much stronger storm, Tropical

Cyclone-3 Kate moved across the South Indian Ocean. During the next week, tropical cyclone formation is favored near the Kimberly Coast and most of northwest Australia. Later in Week-1, formation odds are slightly increased over the Mozambique Channel. The Week-2 outlook, supported by statistical and dynamical models, indicates tropical cyclone formation is favored across the Timor Sea, Gulf of Carpentaria, and portions of the Coral Sea near Australia, the Mozambique Channel, and West Pacific.

The outlook adheres to model consensus in terms of both the forecast MJO evolution and the direct precipitation signals output by the dynamical guidance. CFS and GFS guidance were predominantly used, along with composites, and statistical model outputs. Enhanced convection is likely over the Maritime Continent. A low-level circulation center is located just east of the Indian peninsula, approximately 256 nm southeast of Chennai, India, and is likely to support above average precipitation over the Bay of Bengal and into Burma. Some models are also depicting precipitation developing over northern Australia as well. Dynamical model guidance, predicted MJO phases, and the background state favor below average precipitation over large portions of Brazil.

Early in Week-1, a deep trough is forecast over the Southwest U.S., potentially bringing much below normal temperatures to northwest Mexico and the Southwest CONUS.

During Week-2, above average rains are forecast to move eastward to the West Pacific from the Maritime Continent, while below average rains developing over the Central Indian Ocean. Below average rains are likely to persist over portions of eastern Brazil. Some tools indicate below average rains for Hawaii during Week-2.

Precipitation forecast shapes over Africa for both weeks are made through coordination with CPC's Africa Desk, and are supported by dynamical model consensus.