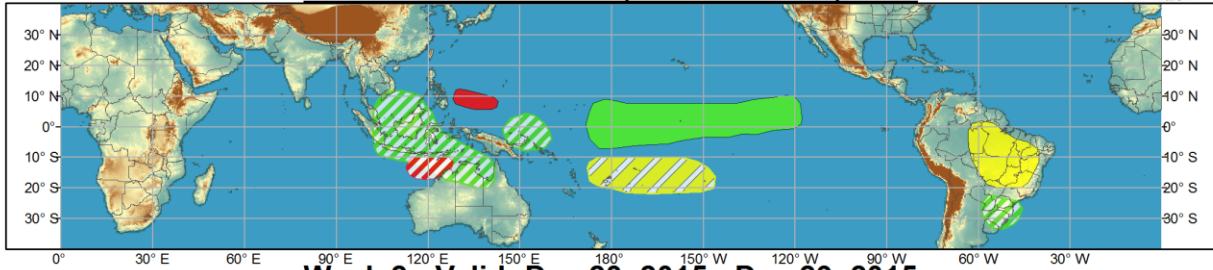




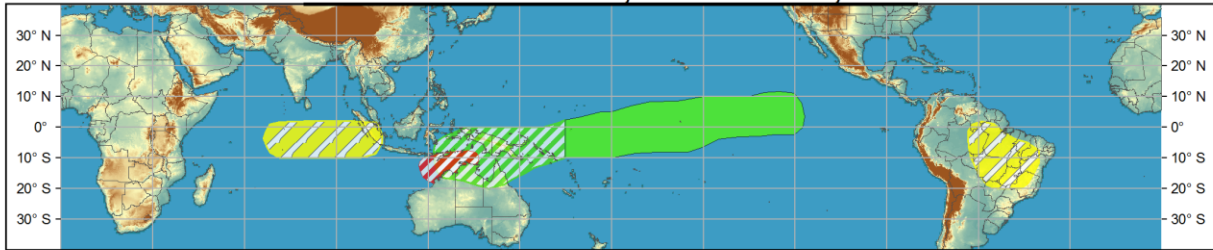
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



**Week 1 - Valid: Dec 16, 2015 - Dec 22, 2015**



**Week 2 - Valid: Dec 23, 2015 - Dec 29, 2015**



**Produced: 12/15/2015**  
**Forecaster: Gottschalck**

| 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 pattern of anomalous tropical convection over the past week was consistent with El Niño conditions to first order. Enhanced convection was evident from just east of the Date Line eastward to the eastern Pacific where some tropical moisture was entrained across Mexico into the interior continental U.S., the Caribbean and south Florida. Suppressed convection was observed for much of the Maritime continent (MC), Hawaii, the south central Pacific Islands, northern South America and parts of southeast Africa. Typhoon Melor developed in the western Pacific during the period and made landfall in the northern Philippines on December 14th.

The MJO remained generally incoherent during the past week but some observational data in recent days, however, indicates that the MJO may be becoming more organized. These features remain subtle at the current time and are superimposed on the continued pattern of anomalous tropical convection consistent with El Niño. Some dynamical model forecasts of the MJO index, namely the ECMWF and the UK Metoffice, indicate a strengthening signal across the western MC with eastward propagation to the far western Pacific by the end of the period. Alternatively, other models such as JMA and the Canadian, and to a lesser extent the ensemble GFS, weaken this signal over the MC somewhat quickly. Historically, the ECMWF and UK Metoffice have the best forecast skill in predictions of the RMM index. This along

with some observational evidence of eastward movement in some key atmospheric fields, leads us to favor some strengthening of the MJO in the official outlook. There is considerable uncertainty at the current time and it is unclear if the predicted evolution will in fact emerge as more robust, long lived MJO activity in the coming weeks. But the MJO is favored to substantially modulate the background pattern of anomalous tropical convection across much of the global Tropics over the period.

The outlooks maps are based on a strengthening, eastward propagating MJO signal superimposed on background El Nino conditions with adjustments by model forecast guidance from the GFS, CFS and ECMWF. During Week-1, enhanced convection is favored at moderate confidence for two regions near the Maritime continent where model guidance agrees with MJO composites. The confidence is lower due to the likely counteracting influence of background El Nino conditions. El Nino conditions and MJO composites, to a lesser extent, favor enhanced convection from the Date Line to the eastern Pacific. Model guidance and MJO composites support suppressed convection for the south central Pacific Islands. El Nino conditions, MJO composites and model guidance all favor a couplet of suppressed and enhanced rainfall over eastern South America.

The influence of an eastward propagating MJO signal favors an extensive area of highlighted enhanced convection during Week-2 from the MC and northern Australia to the eastern Pacific as well as favored suppressed convection developing in the eastern Indian Ocean. Suppressed convection is forecast to persist across Brazil during the Week-2 period.

The MJO and model guidance support the potential for tropical cyclone development at moderate confidence during both weeks for waters north-northwest of Australia. Very early in the period, tropical development is also likely just east of the Philippines.