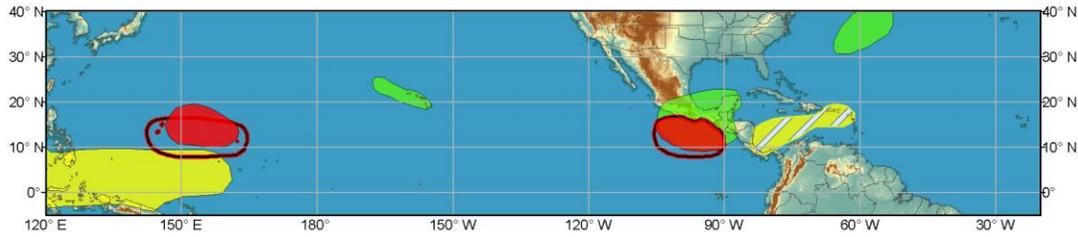




# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



**Week 1 - Valid: Oct 18 2014 - Oct 21 2014**



**Week 2 - Valid: Oct 22 2014 - Oct 28 2014**



**Confidence**  
High Moderate

**Produced: 10/17/2014**  
**Forecaster: Rosencrans**

- Tropical Cyclone Formation** Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Prior TC Formation Outlook** Tropical cyclone outlook from previous release.
- 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. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.**



The atmospheric circulation remained inconsistent with robust MJO activity. Tropical cyclone activity is skewing the RMM-based MJO index, while the CPC Velocity Potential index is showing rapid progression. Spatial plots of velocity potential indicate a Wave-2 structure, and OLR based diagnostics indicate the presence of 2 Kelvin Waves (near 60E and near 180E) and an Equatorial Rossby Wave (near 60W). The emerging background state seems to be supporting more convection near the Date Line than what many statistical models predict in the next 2 weeks.

A Kelvin Wave is likely to impact the East Pacific and Caribbean, so the threat of tropical cyclone formation is elevated for those regions through Week-2, with a shift in the formation area from the Caribbean to the Gulf of Mexico. Tools based on the CFS support the relocation. The GFS tropical cyclone formation tool was not available at the time of production. The other areas of enhanced threat of tropical cyclone formation remain virtually unchanged from Tuesday.

Above-average rains are likely across Central America and the Caribbean, potentially extending into Florida during Week-2. Above-average rains are also likely during the next 4 days over Hawaii due to Tropical Storm Ana and over Bermuda due to Hurricane Gonzalo.

Below-average rains are likely during Week-1 across the Western Pacific. During Week-2, the ECMWF and CFS models predict below average rains for that area, but the presence of a Kelvin Wave near 60E at the present time introduces uncertainty into that outcome, so the confidence is dropped to moderate.

----- Previous Discussion Follows -----

The MJO remained generally weak during the past week. The CPC Velocity Potential Index indicates a stronger signal than the RMM based index. The upper-level pattern is close to a wave-1 structure while the lower-level wind field has weak anomalies, so the difference in the strengths of the indices is not abnormal. Many dynamical models indicate a strengthening signal over the East Pacific/Americas, likely linked to a Kelvin Wave moving through that region and constructive interference from other modes. An Equatorial Rossby Wave is also moving across the Indian Ocean. Some monitoring tools are picking up on an Equatorial Rossby Wave over the Atlantic as well, but that is less well defined.

Tropical Storms Fay and Gonzalo developed over the tropical Atlantic while Super Typhoon Vongfong moved northward to impact Japan before recurving over the North Pacific. Tropical Storm Ana developed about 1100 miles east-southeast of Honolulu and is forecast to move directly toward the island chain. Through Week-1, the Kelvin wave moving across the East Pacific is likely to support tropical cyclone formation there. A low confidence, enhanced threat of tropical cyclone formation (20% chance) is indicated by NHC over the central tropical Atlantic, most likely to develop later this week. A moderate confidence threat of tropical cyclone formation is also indicated over the Western North Pacific in response to the projected location of an equatorial Rossby Wave. For Week-2, the threat continues over the East Pacific, while the most likely area for formation over the Atlantic shifts to near Central America and the Bay of Campeche. Additionally, later in Week-2, some dynamical models indicate a threat of tropical cyclone formation over the Southwest Indian Ocean. A formation during Week-2 would be among the earlier formations, but not unprecedented in the historical record.

During Week-1, heavy rains are favored over Hawaii along the track of what is currently Tropical Depression Two-C. Above average rains are likely across Central America and portions of the Caribbean, likely associated with a Kelvin Wave moving through the area. Below average rains are likely from the Bay of Bengal to Papua New Guinea, and also across Brazil, Bolivia, Paraguay, and Peru.

The Week-2 outlook reflects little to no influence from coherent MJO related features, but rather the positions of other modes of variability. An equatorial Rossby Wave is likely to suppress convection over the Indian Ocean, while a Kelvin wave and local circulation features are forecast to support convection over west-central Africa.

An Equatorial Rossby Wave is likely to enhance precipitation over central Africa during Week-1. The remaining areal forecasts over Africa are largely based on local conditions.