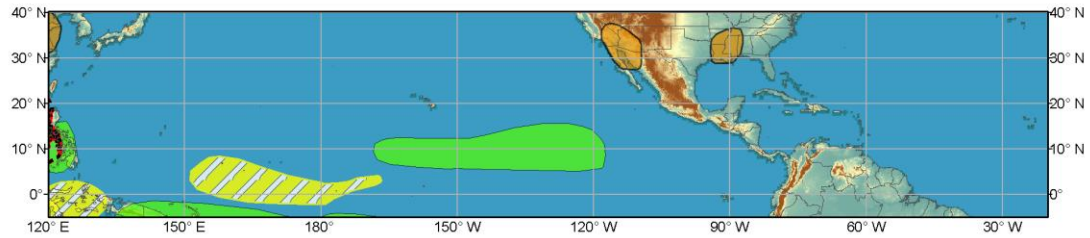




# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

**Week 1 - Valid: Jun 25 2016 - Jun 28 2016**



**Week 2 - Valid: Jun 29 2016 - Jul 05 2016**



**Confidence**  
High Moderate

**Produced: 06/24/2016**  
**Forecaster: Allgood**

- 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.**



中央氣象局  
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The MJO remains active, with the enhanced convective phase over the Maritime Continent. Dynamical model MJO index forecasts are quite divergent, with the GFS rapidly weakening the MJO signal, and the ECMWF depicting continued propagation to the Pacific, albeit with weaker amplitude. The GFS and CFS solutions suggest an evolution of two separate centers of enhanced convection: one in association with a pair of Kelvin Waves traversing the Pacific, and the other related to a potential Rossby Wave over the Indian Ocean. Based on these forecasts, there is considerable uncertainty regarding the future evolution of the MJO.

During the next four days, there is a low potential for tropical cyclogenesis related to a pair of disturbances over the South China Sea and east of the Philippines. Tropical cyclogenesis is not anticipated over the East Pacific or Atlantic basins through Day-4. A disturbance currently over the Bay of Campeche is anticipated to move over land before it has a chance to develop. A second disturbance has formed southwest of the Yucatan Peninsula over the eastern Pacific, but conditions are marginally conducive for development during the short term. There is a greater potential for development of this system during the Day 5-11 period as it moves west-northwestward. Additionally, as the Kelvin Waves now over the West Pacific reach the Western Hemisphere next week, there is an increased potential for

new tropical cyclone formation in the vicinity of Mexico. The GFS ensembles have indicated a potential for development over the Bay of Campeche for the past several days; however, recent runs have begun shifting the favored area to the East Pacific, near the Mexican coastline.

Forecasts for areas of above or below normal precipitation were adjusted to reflect the latest dynamical model guidance. Excessive heat is anticipated to continue during the next several days over the U.S. Desert Southwest. Additionally, a multi-day period of excessive heat is possible over the lower Mississippi Valley.

The previous discussion released on 21 June follows.

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The MJO signal remained active with respect to the RMM based MJO index and the upper-level velocity potential pattern, with the enhanced phase currently over the western Maritime Continent. OLR anomalies during the past few days indicate the presence of widespread convection over parts of South Asia, the eastern Indian Ocean, and the western Maritime Continent, which is consistent with MJO precipitation composites. There is little enhanced convection over the West Pacific, however, which is not consistent with the typical MJO anomaly pattern. There appears to be a low-frequency signal favoring suppressed convection over the West Pacific that is currently being enhanced by the suppressed phase of an equatorial Rossby Wave. Additionally, the enhanced convection over the Maritime Continent may be partly due to a pair of Kelvin Waves. Due to the complex interactions between the MJO signal and other modes of tropical variability, there is uncertainty regarding the evolution of the MJO as it propagates to the Pacific.

Most dynamical model MJO index forecasts weaken the RMM amplitude substantially during the next two weeks, with neither the ECMWF nor the GFS ensemble means reaching Phase 6. The GFS solution is very fast, with an enhanced signal emerging over the Western Hemisphere by the end of Week-2, while the ECMWF depicts a slower evolution of the pattern more consistent with an MJO phase speed. It is possible that the GFS is picking up on the Kelvin Wave activity. Additionally, due to the removal of the 120-day mean from the indices, which includes a long period before the El Nino event weakened, the RMM index forecasts may present a bias towards Maritime Continent enhancement due to the change in the low frequency base state. This may partly explain the amplitude reduction of the RMM index among the forecast tools as the forecast signal emerges over the Pacific. Statistical tools generally depict continued MJO propagation to the Pacific over the next two weeks. Based on these forecasts, therefore,

the MJO is anticipated to continue playing a role in the global tropical convective pattern, but other modes will destructively interfere with the signal, particularly over the West Pacific.

Tropical Storm Danielle formed briefly over the Bay of Campeche before making landfall over eastern Mexico on 20 June. Elsewhere, no tropical cyclones developed during the past week. During the Week-1 forecast period, tropical cyclogenesis is favored over the South China Sea, with most GFS ensemble members bringing the potential tropical cyclone northwestward towards southern China. Towards the end of Week-1, as Kelvin Wave activity over the Maritime Continent propagates eastward, there is a slight probability for tropical cyclone development over the eastern Pacific, although confidence in formation is too low to depict a shape on this outlook. During the Week-2 period, there is moderate confidence for tropical cyclone formation near the Bay of Campeche or the far western Caribbean as the Kelvin Wave continues moving eastward.

During Week-1, enhanced convection is favored over much of South and Southeast Asia, including areas as far north as Nepal. Dynamical model guidance indicates that monsoon precipitation will not penetrate as far west as northwestern India and Pakistan; therefore, above-average temperatures are anticipated for those regions. Enhanced convection is also favored across the central and eastern Maritime Continent, primarily south of the equator, as well as along the north-central Pacific ITCZ and the south-central Pacific where SSTs are well above average. Suppressed convection is favored to continue across the northwestern Pacific and across southern Mexico. During the early part of Week-1, there is a potential for significant heat across eastern China and the U.S. Southwest.

During Week-2, dynamical models depict enhanced (suppressed) rainfall across central and southern India, parts of Southeast Asia, the south-central Maritime Continent, and the south-central Pacific (northwestern Maritime Continent and the equatorial West Pacific). Enhanced precipitation is also favored to return to the East Pacific, possibly in association with Kelvin Wave activity. Above-normal temperatures are favored for parts of Southeast Asia.

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