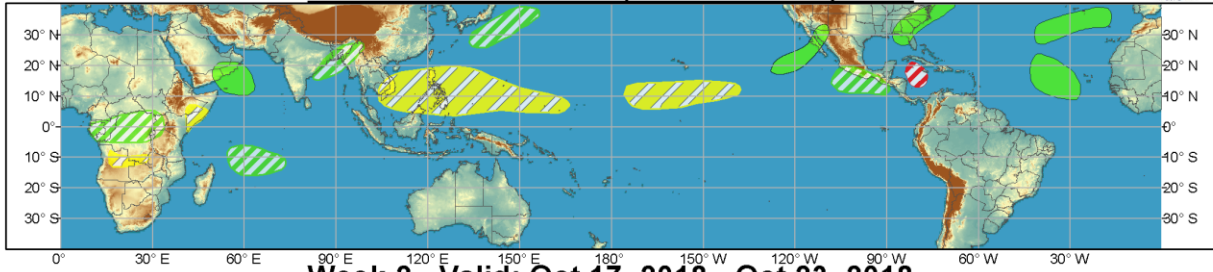




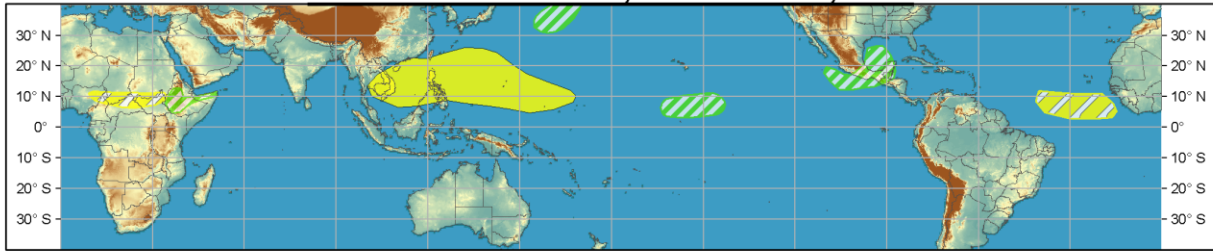
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Oct 10, 2018 - Oct 16, 2018



## Week 2 - Valid: Oct 17, 2018 - Oct 23, 2018



**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.

Produced: 10/09/2018

Forecaster: Finan

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 Madden-Julian Oscillation remained active over the past week, maintaining amplitude on the RMM index and propagating through Phase 1. Observed OLR fields show an enhanced convective signal over the Indian Ocean strengthening and pushing further east, while suppressed convection has remained entrenched over the Maritime Continent, spreading into the Western Pacific. At the 850mb level, anomalous westerlies have shifted eastward, with the largest anomalies centered near 110 W. This westerly windburst continues to increase the availability of warm waters along the equator, increasing the likelihood of a transition to El Niño for boreal winter. The MJO signal is forecast to transition into Phase 2 early in Week-1, with decay in the signal in Week-2 back inside the Unit Circle. As the suppressed convective envelope moves further over the Pacific, it is likely to destructively interfere with the strengthening base state, which could lead to this decay. The weakening seen on the RMM index also should be taken with caution, as El Niño conditions can bias the index toward Phases 7/8. Kelvin wave activity has also been active over the past few weeks, as well as Rossby wave activity over the Pacific. Regardless of if the MJO persists, much of the influence of the tropical signal on the extratropics is likely to be from tropical cyclone activity, not necessarily the MJO signal. Extratropical weather patterns, especially over the U.S., are currently not forecast to be indicative of a Phase 2 MJO event.

With the previously forecasted break in anomalous westerlies over the main development region (MDR) in the Atlantic, the basin is currently active with two named storms and one tropical disturbance. As of

2PM EDT, Hurricane Michael is a Category 2 storm northwest of Cuba in the Gulf of Mexico. Michael is forecast to become a major hurricane before making landfall along the Florida Panhandle midday Wednesday, Oct 10. The system is expected to rapidly degrade as it moves over land, becoming a tropical storm and tracking over the southeast and southern Mid-Atlantic, before exiting off the coast Friday, Oct 11. Storm surge and hurricane or tropical storm force winds are forecast to be hazards along the eastern Gulf Coast, as well as parts of the Atlantic coast. For continued updates on Hurricane Michael, please see the National Hurricane Center's website. Tropical Storm Leslie remains far out in the central Atlantic and is forecast to track eastward toward Funchal and the Strait of Gibraltar, south of the Azores. Early Tuesday morning, Tropical Storm Nadine formed in the MDR. Forecasts for this system indicate that it will likely degrade into a tropical depression by Saturday. The system is expected to remain out in the central Atlantic and dissipate before reaching land. For Week-1, an area for tropical cyclogenesis has been forecast with moderate confidence for the southern Gulf, similar to where Michael formed. Deterministic model guidance indicates a possibility for formation. For the Eastern Pacific, Hurricane Sergio is tracking toward the Baja Peninsula, and is likely to degrade to a tropical storm before making landfall Friday due to cooler ocean waters near the peninsula. The Western Pacific has been quiet for the past week and is currently expected to remain so. In the Indian Ocean, as the enhanced convective envelope re-emerged over the past week, two systems are currently active - Tropical Storm Luban, which is tracking toward the Arabian Peninsula, and Tropical Cyclone 6, which formed yesterday in the Bay of Bengal. With the continued propagation of the MJO convective envelope eastward, chances for tropical cyclogenesis are higher for the Indian Ocean; however, no other systems are currently forecast to form within the next two weeks.

Most of the areas of above normal precipitation for Week-1 are related to tropical cyclone activity. Confidence is high for above normal precipitation over the central and eastern Atlantic, where Tropical Storm Leslie and Tropical Storm Nadine are forecast to track. The Eastern Seaboard, from the Southeast through the Mid-Atlantic, is likely to receive heavy rainfall with the passing remnants of Hurricane Michael after it makes landfall. For the western U.S., impacts from the remnants of Hurricane Sergio are likely to cause above normal precipitation in parts of the Southwest. Another region of above normal precipitation is forecast along Central America where model consensus is good; however, confidence is moderate as there is no indication of an organized tropical system forming. Over the Western Pacific, a tropical wave northeast off the coast of Japan has a low probability of cyclogenesis; however, above normal precipitation is still forecast with the increase in moisture availability from the system. Ongoing tropical cyclones in the Bay of Bengal and Arabian Sea are expected to track over land during Week-1, causing heavy rains for Bangladesh/India and Oman/Yemen. In the Southern Indian Ocean, surface convergence is forecast to cause above normal precipitation south of the Equator. Model guidance is in good agreement for this region of above average rainfall. Two large areas of below average precipitation are expected over the Maritime Continent and the central Pacific. Phase 2 of the MJO places the suppressed convective envelope over these regions, and model guidance supports also this solution.

Forecasts for Week-2 stem from model guidance and typical patterns seen during Phase 2 of the MJO. Continued suppressed convection is likely over the western Pacific and parts of the Maritime Continent as the MJO signal propagates through Phase 2. The CFS model supports this widespread below normal

precipitation, while the ECMWF focuses the dryness in the eastern part of the highlighted region. Above normal rainfall is forecast by both models east of Japan, likely from the surface system from Week-1 moving northeast. Model guidance shows a forecast for above normal precipitation over the central Pacific. While Phase 2 MJO typically corresponds with drying over the Pacific, availability of warmer waters and influence from the base state supports the above normal precipitation forecast. Over Central America, models indicate that above normal precipitation is expected to continue over southern Mexico and the Yucatan Peninsula. The CFS model shows a large dry signal over the equatorial Atlantic. Phase 2 would typically lead to a wet signal in this region; however, with the possible decay of the MJO signal, increased influences from the base state, and the lack of tropical cyclogenesis seen in the models, below-normal precipitation is currently forecast with moderate confidence.

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