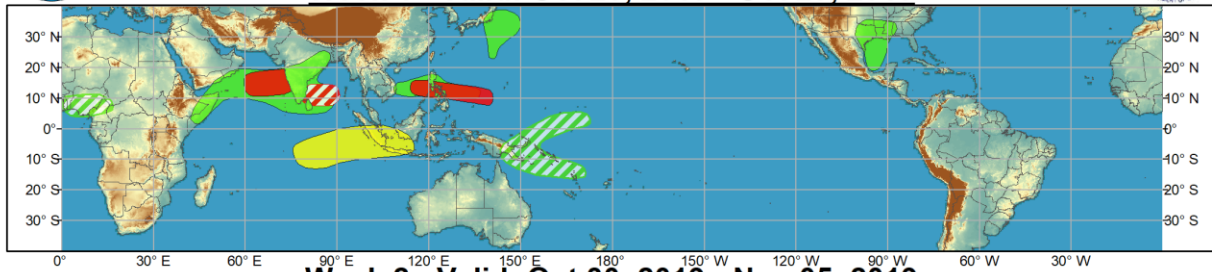




## Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



**Week 1 - Valid: Oct 23, 2019 - Oct 29, 2019**



**Week 2 - Valid: Oct 30, 2019 - Nov 05, 2019**



**Confidence**  
High Moderate

- |                                   |  |  |  |
|-----------------------------------|--|--|--|
| <b>Tropical Cyclone Formation</b> |  |  | Development of a tropical cyclone (tropical depression - TD, or greater strength). |
| <b>Above-average rainfall</b>     |  |  | Weekly total rainfall in the upper third of the historical range.                  |
| <b>Below-average rainfall</b>     |  |  | Weekly total rainfall in the lower third of the historical range.                  |
| <b>Above-normal temperatures</b>  |  |  | 7-day mean temperatures in the upper third of the historical range.                |
| <b>Below-normal temperatures</b>  |  |  | 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.

Produced: 10/22/2019

Forecaster: Pugh



The Madden-Julian Oscillation (MJO) became more coherent during mid-October with its enhanced phase shifting east from Africa to the Indian Ocean. The strong positive phase of the Indian Ocean Dipole (IOD) continues to be a major factor in anomalous tropical convection across the Indian Ocean and Maritime Continent. Recently, the enhanced phase of the MJO is constructively interfering with the positive IOD, resulting in enhanced convection across the northern Indian Ocean. Dynamical models continue to have difficulty in how much the MJO weakens as it begins to destructively interfere with the positive IOD during Week-2. Many of the ECMWF ensemble members maintain eastward propagation to the West Pacific (phase 6 in the RMM space) late in Week-2, while the GFS model indicates a rapid weakening of the MJO by the end of October. Although uncertainty is high, the outlook is based on the expectation that a remnant enhanced phase of the MJO emerges over the West Pacific during the first week of November with the positive IOD also remaining a major contributor to anomalous tropical convection.

On October 18, Tropical Storm Nestor developed in the Gulf of Mexico and tracked rapidly northeast. Nestor brought much-needed rainfall to short-term drought areas of the southeastern United States. A couple of short-lived tropical cyclones (Octave and Priscilla) developed in the East Pacific from October

18 to 20. There are no signs of tropical cyclone development in the East Pacific or Atlantic basins with the suppressed phase of the MJO over the Western Hemisphere.

A couple of tropical cyclones developed over the Northwest Pacific during the past week. Typhoon Neoguri weakened to a Tropical Storm but brought heavy rainfall to Tokyo, Japan. Typhoon Bualoi (maximum sustained winds of 120 knots) is forecast to track north and eventually turn northeast as it moves closer to Japan. Model solutions remain consistent and in excellent agreement that a tropical cyclone develops either just east of the Philippines or in the South China Sea during Week-1 with a likely track west to Vietnam during Week-2. Another tropical cyclone, albeit with moderate confidence, is forecast to form over the West Pacific during Week-2. The Central Pacific Hurricane Center is monitoring an elongated area of low pressure south of the Hawaiian Island. As of 8am HST, there is a 30 percent chance of development within the next five days.

A broad area of low pressure is located over the Arabian Sea. The GFS and ECMWF models are in excellent agreement that this low pressure system develops into a tropical cyclone and rapidly intensifies as it tracks west across the Arabian Sea during Week-1. There are increasing chances that this tropical cyclone approaches Oman or Yemen early in Week-2. Based on the predicted evolution of the MJO, model guidance, and climatology, moderate confidence exists that another tropical cyclone forms in either the southwest Bay of Bengal or Arabian Sea during late Week-1 or Week-2.

The precipitation outlook during the next two weeks is based on predicted tracks of tropical cyclones, the low frequency positive IOD, MJO precipitation composites for phases 2 through 5, and the model consensus among the CFS, ECMWF, and GFS models. If a coherent MJO advances east of the Maritime Continent during early November, chances for above (below) average rainfall increase across parts of the West Pacific (South America). Forecasts over Africa are made in consultation with CPCs international desk, and can represent local-scale conditions in addition to global-scale variability.

The above average rainfall area forecast across the south-central U.S. and parts of the Gulf of Mexico during Week-1 is related to the increasing chance that a 500-hPa low becomes separated from the northern stream flow and closes off over the southern Great Plains. High confidence exists for below normal temperatures to spread south to the Rio Grande River by Week-2 due to an amplified upper-level trough. At this time, freezing temperatures are expected to remain north of the Rio Grande.

