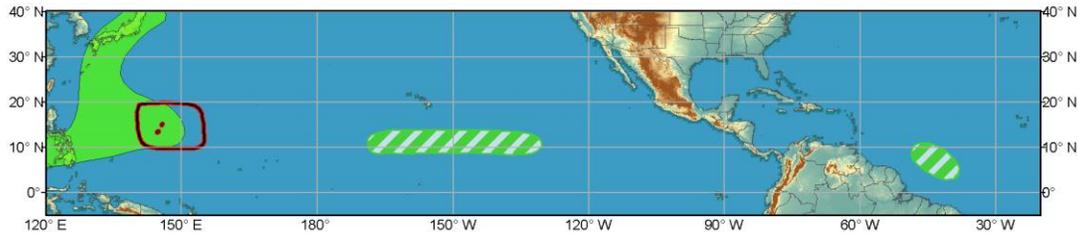




# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



**Week 1 - Valid: Oct 21 2017 - Oct 24 2017**



**Week 2 - Valid: Oct 25 2017 - Oct 31 2017**



**Confidence**  
High Moderate

**Produced: 10/20/2017**  
**Forecaster: Artusa**

- 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.**



According to CPC's 200-hPa velocity potential map, and the latest Wheeler-Hendon RMM plots, the enhanced convective phase of the MJO is currently over the far eastern Maritime Continent (phase 5). This MJO signal is of high-amplitude, and most available dynamical model forecasts depict the continuation of a robust, eastward-propagating signal at least out through the remainder of Week-1 and into early Week-2. Thereafter, notable differences appear. The NCEP GEFS MJO index forecast propagates a strong signal eastward to near the boundary between phases 8 and 1. The ECMWF brings the MJO signal into phase 7 before rapidly weakening it, and the Canadian forecast rapidly weakens the signal as it progresses across phases 5 and 6.

There are currently two tropical cyclones (TCs) in progress over the global tropics, both of which are located in the western North Pacific. Typhoon 25W (Lan) continues to move northward, east of the southwestern islands of Japan. The Joint Typhoon Warning Center (JTWC) indicates maximum sustained winds of 100 knots at this time (12z Oct 20), with gusts to 125 knots. Lan is expected to weaken slightly before making landfall between Tokyo and Kyoto on the island of Honshu in 36-72 hours. Typhoon Lan is then forecast to move off the east coast of Honshu and accelerate northeastward and then eastward, eventually influencing the Aleutians and Bering Sea. Tropical Storm 27W recently formed in the wake of

typhoon Lan near 11N/153E, and is expected to track slowly towards the west-northwest during the next 5 days towards the northern Mariana islands. This track would put more populated locations such as Guam and Saipan at risk. Prospects for additional TC development across the western North Pacific basin in Week-2 are elevated (moderate confidence) from about 9N-22N, 128E-147E. In the far eastern Pacific, there is a moderate confidence TC development region during Week-2 from about 5N-11N, 100W-90W, though it is not clear whether or not this system may strengthen beyond the Depression phase. Both the 6z GFS and 0z ECMWF dynamical models lend modest support for this potential development. Elsewhere, TC development is possible over the western Caribbean during Week-2. This is related to the predicted intrusion of a polar trough and associated surface cold front. Rainfall anomaly patterns were adjusted to accommodate the latest precipitation guidance from the ECMWF and CFS models, as well as the projected TC tracks.

----- The original forecast discussion is shown below -----

MJO activity has picked up during the past two weeks, after an extended lull. The enhanced convective phase of the MJO is currently over the Maritime Continent region. The CPC 200-hPa velocity potential anomaly map clearly shows upper-level divergence from the eastern Indian Ocean to the western North Pacific, and upper-level convergence over most of the Western Hemisphere. At the 850-hPa level, westerly wind anomalies have increased in spatial coverage during the past week to include most of the near-equatorial Indian Ocean, and the Maritime Continent region about as far east as New Guinea. The easterly wind anomalies that had been in place over the Maritime Continent recently have been displaced eastward to at least 150E. Available GFS, CFS, and EWP guidance predicts eastward propagation of the MJO signal during the next two weeks from the Maritime Continent to at least the central Pacific.

The Atlantic Hurricane season has been very active in the past one to two months, with the "O" storm (Ophelia, which completed its tropical-to-extratropical transition) still producing hurricane-force winds as it moved into Ireland during the past 24-48 hours. In the southwest Atlantic, a broad area of low pressure several hundred miles east of the central Bahamas is producing showers and thunderstorms. This region of disturbed weather is forecast to become absorbed into a frontal system approaching from the west on Wednesday. With the suspected decrease in tropical activity across the Atlantic during the next week to ten days comes an expected uptick in activity over the western North Pacific. This predicted rise in tropical cyclone (TC) activity is associated with a robust MJO signal in this general area, and the presence of the Monsoon Trough. For Week-1, an area of potential TC development is indicated between 10N-20N and 140E-155E. Northerly winds streaming southward off the coast of China are likely to preclude TC development across the South China Sea. With the anticipated eastward propagation of

the MJO signal into the central Pacific during Week-2, there is less of a reason for continuing this TC threat over the western North Pacific during Week-2. Elsewhere, TC development is indicated by both the ECMWF and GFS models over the Bay of Bengal early in Week-1. This system is expected to drift northward and make landfall along the northeastern coast of India. During the second half of the Week-2 period, there is an elevated chance of TC development over the western Caribbean Sea. This is indicated primarily by the GFS model (the ECMWF model still offers some support), and the active base state across the Atlantic.

In Week-1, above-average rainfall is predicted with high confidence from the Bay of Bengal eastward across Southeast Asia, the South China Sea, the Philippines, and the western Pacific, with a poleward extension towards Japan. This last feature describes the forecast track of what is currently Tropical Storm 25W (Lan). According to the Joint Typhoon Warning Center (JTWC), Lan is expected to deepen rapidly during the next few days, becoming a major typhoon with maximum sustained winds possibly reaching 130 knots with significantly higher gusts as the center passes east of the Ryukyu islands (including Okinawa) of far southern Japan. The latest track forecast takes Lan near or over southern Japan late on Oct 22 or early on Oct 23, before the typhoon gets absorbed into the prevailing westerlies/East Asian jet and steered eastward. Lan is expected to transition to a powerful extratropical storm as it moves towards the Bering Sea and Aleutians about one week from now. The widespread area of expected above-average rainfall mentioned earlier is due to two predicted tropical cyclones (one in the Bay of Bengal, the other in the western North Pacific), and the enhanced phase of the MJO. Another area of above-average rainfall is forecast with high confidence over the southwest Atlantic, in association with the area of disturbed weather noted earlier. Moderate confidence regions of above-average rainfall are indicated over eastern Queensland, Australia (related to onshore flow from high pressure over the Tasman Sea), central low-latitude portions of both the Pacific and Atlantic basins (due in part to the expected presence of the InterTropical Convergence zone (ITCZ), and over the vicinity of the Yucatan Peninsula (related to a stalled frontal boundary). Below-average rainfall is indicated with moderate confidence over the central and eastern tropical Indian Ocean, the east-central Pacific, and just off the West African coast. These areas are generally consistent with CFS and ECMWF precipitation forecasts for Week-1.

In Week-2, above-average rainfall is predicted with moderate confidence over the far eastern Pacific and western Caribbean Sea, and over the low-latitude Atlantic. These are related to the ITCZ, and, for the western Caribbean Sea, potential development of a TC late in the Week-2 time frame. A broad area of subsidence and below-average rainfall is anticipated over the central equatorial Indian Ocean, perhaps due to the suppressed phase of the MJO signal. Late in Week-2, there is the possibility of a subseasonal signal emerging over the western Indian Ocean.

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