Week 1 - Valid: Nov 03 2018 - Nov 06 2018
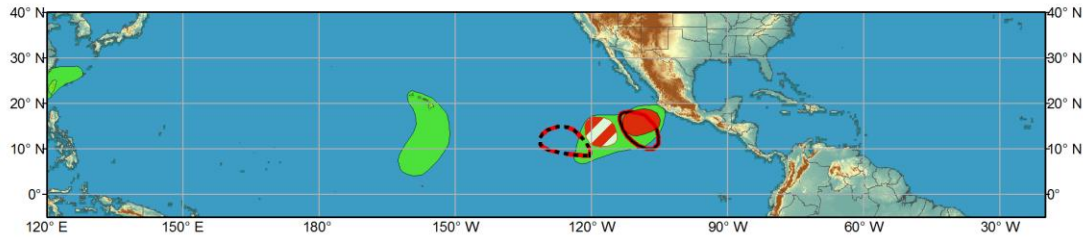
Week 2 - Valid: Nov 07 2018 - Nov 13 2018
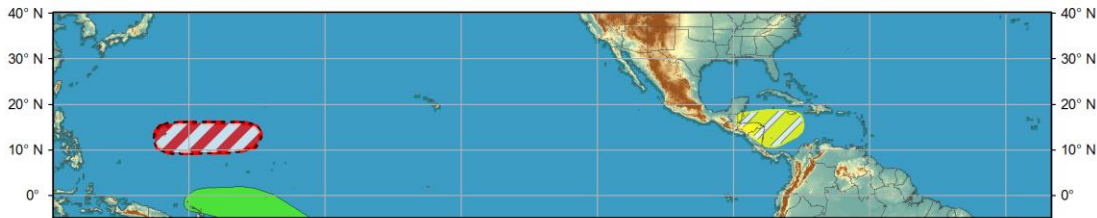
Confidence
High   Moderate

Produced: 11/02/2018
Forecaster: Pugh

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 Central Weather Bureau   UNIVERSITY AT ALBANY State University of New York   EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND   Australian Government Bureau of Meteorology   cics.nc   NPS PRAESTANTIA PER SCIENTIAM

The MJO strengthened at the end of October as a more coherent Wave-1 pattern of 200-hpa velocity potential anomalies developed. Upper-level divergence is becoming centered over the Western Hemisphere, while upper-level convergence shifts from the Maritime Continent to the West Pacific. Dynamical models are in good agreement during Week-1 with eastward propagation of an MJO from the Western Hemisphere to the Indian Ocean. As the enhanced phase of the MJO begins to destructively interfere with the emerging El Nino, dynamical models diverge on the amplitude of the MJO and its eastward propagation.

Enhanced convection continues across the east Pacific with three potential sources of tropical cyclone development. As of 2pm on November 2, a well-defined area of low pressure is located about 600 miles to the south of the southern tip of the Baja California peninsula. Based on current satellite imagery, it is likely that a tropical depression forms within the next 24 hours. To the west of this area, the National Hurricane Center is monitoring an area of convection between 115-120W but tropical cyclone development may be limited due to its proximity to the well-defined low pressure system near 15N/110W. Beyond the remainder of the Week-1 period (November 3-6), tropical cyclone formation is not expected across the east Pacific. The GFS model indicates that a subtropical cyclone may develop

along a surface trough over the Southwest Atlantic during early November, but wind shear is likely to inhibit development. During early November, there are no signs of tropical cyclone development in the western Caribbean Sea which is the typical region for genesis at this time of year. Although the model solutions are not too bullish on TC development across the West Pacific from November 7 to 13, this area is maintained since any Kelvin wave ahead of the MJO may initiate development in this region.

The favored areas for above- and below-normal rainfall were modified to reflect the latest GFS, CFS, and ECMWF precipitation forecasts. Below-average rainfall is introduced to the western Caribbean along with parts of Belize, Honduras, and Nicaragua during the November 7-13 period. Convection is expected to become more enhanced along the South Pacific convergence zone. These areas are consistent with predicted MJO evolution.

The previous discussion released on October 30 follows.

The MJO was incoherent during mid to late October with the spatial pattern of 200-hPa velocity potential (VP) anomalies remaining disorganized and small in magnitude. However, during the final days of October, a more coherent pattern of 200-hPa anomalies developed with upper-level divergence (convergence) centered over the central Pacific (western Maritime Continent). The MJO RMM index depicted a slight increase in its amplitude in Phase 8 during the final week of October.

Dynamical model forecasts are in good agreement in a strengthening of the MJO as it propagates east over the Western Hemisphere during Week-1. Spread among the GFS and ECMWF ensemble members is small during the next week but increases on the amplitude of the MJO when it enters the Indian Ocean during Week-2. This increasing spread may be due to destructive interference later in Week-2 with the emerging El Nino. Based on good model agreement and relatively low spread among ensemble members, forecast confidence is high in a robust MJO propagating east from the Western Hemisphere to the Indian Ocean during early to mid-November.

The precipitation outlook during the next two weeks is based on guidance from the CFS, ECMWF, and GFS models, MJO composites for phases 8/ 1 for Week-1 and 2/3 for Week-2 , and influence from ongoing and predicted tropical cyclones. Based on these factors, above-average rainfall is favored across parts of Africa, South America, the central and east Pacific, southeast China, Taiwan, and the Indian

Ocean during Week-1. Below-average rainfall, albeit with moderate confidence, is forecast for parts of the Maritime Continent and South China Sea during the first week of November. Above-average rainfall is forecast to persist across parts of South America and the Indian Ocean through Week-2. Coverage of predicted anomalous convection during Week-2 is less than MJO precipitation composites since destructive interference with the emerging El Nino is expected to occur later in Week-2.

On October 23, Major Hurricane Willa (Category-3 with maximum sustained winds of 120mph) made landfall near Isla Del Bosque in the Sinaloa state of Mexico. Willa weakened as it tracked inland across the Sierra Madre range. Meanwhile, Super Typhoon Yutu became the strongest tropical cyclone to date in 2018. Yutu reached its maximum intensity with sustained winds of 180mph on October 24 and its eyewall passed over Saipan and Tinian of the Northern Mariana Islands. Yutu continued on a westward track but weakened as it made landfall in Luzon of the Philippines on October 29. A tropical cyclone developed in the subtropical Atlantic (25.7N/51.4W) on October 28, and Oscar became the 8th hurricane of the 2018 Atlantic season.

The enhanced phase of a developing MJO along with above normal sea surface temperatures favors tropical cyclone development in the east Pacific during Week-1. The National Hurricane Center is currently monitoring three distinct disturbances along 10N and between 130-105W. Highest confidence exists with the easternmost disturbance. The GFS model remains consistent that there is an elevated chance of that a pair of tropical cyclones developing in the eastern half of the Indian Ocean during the first week of November. Confidence is higher that a tropical cyclone develops to the southeast of Sri Lanka. During Week-2, the elevated chance of tropical cyclone development shifts to the southwest Indian Ocean. The west Pacific is expected to become more favorable for tropical cyclone development by mid-November if a Kelvin wave progresses east ahead of the MJO entering the Indian Ocean.

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