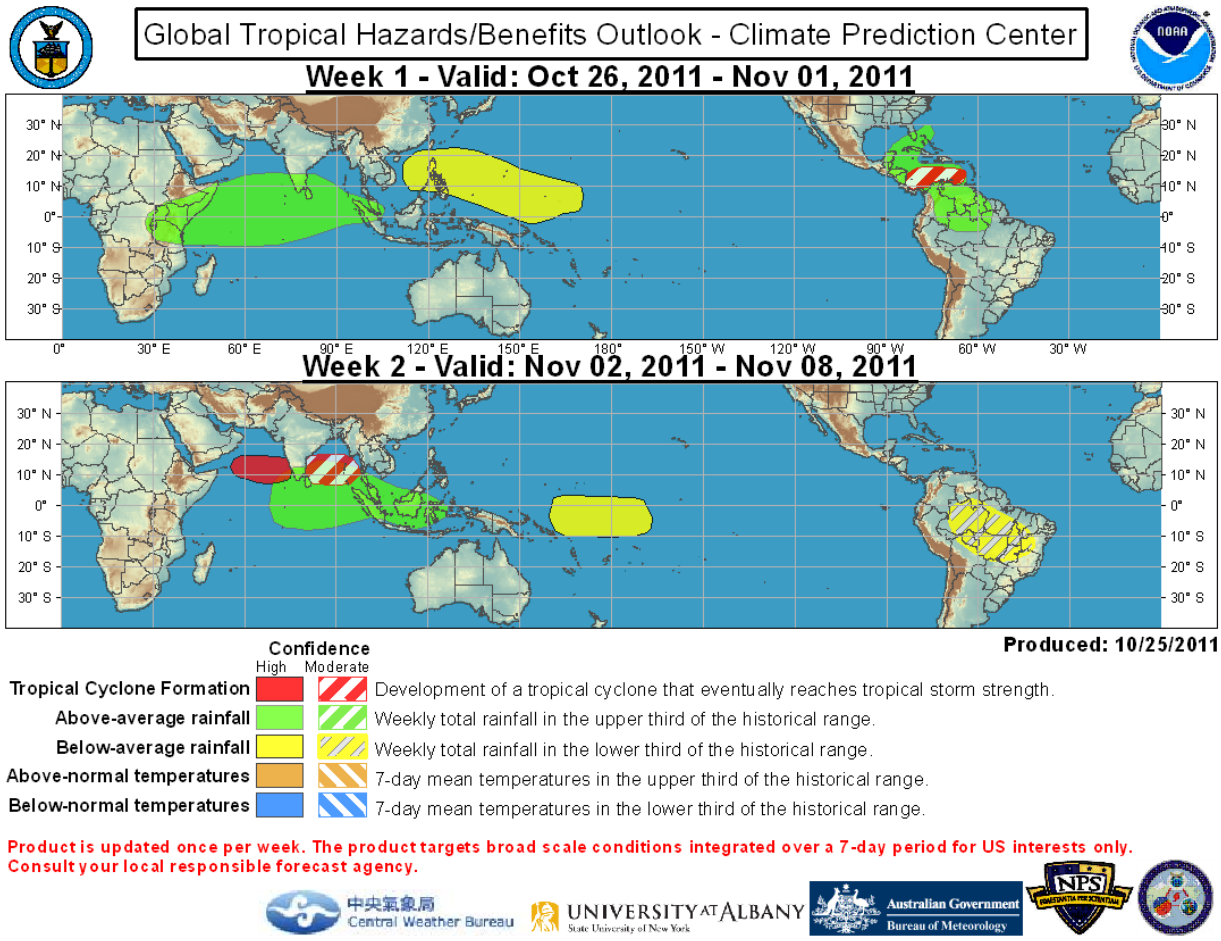

The Madden Julain Oscillation (MJO) remained active during the past week with enhanced convection stretching from the Americas and Africa to the Indian Ocean (IO). An atmospheric Kelvin wave (KW) shifted eastward through the IO early during the past week and also contributed to enhanced rainfall over the region. Another KW developed over the western hemisphere in recent days and is shifting eastward and entering Africa at the current time.

Weekly averaged OLR anomalies show enhanced convection during the past week across much of the western IO, toward southern India, and also along the equator over the central and eastern IO. Suppressed convection was observed across the southeast Indian Ocean and many areas in the western Pacific with easterly wind anomalies at low levels observed from the central equatorial IO to the western Pacific. Upper-level westerly anomalies have shifted eastward during the past week with large amplitude anomalies over the Maritime Continent. Positive SST anomalies are now present across most of the equatorial Indian Ocean with below-normal SST anomalies confined to the extreme southern Sumatra coast.

Two tropical cyclones formed during the past week. Hurricane Rina developed over the western Caribbean and is forecast to have significant impacts on Mexico, Belize, Cuba, U.S., and the Bahamas. Tropical Storm Two had a short life span, developing near the coast of Bangladesh, then decaying to tropical depression strength within 24 hours.

The WH MJO index showed a decrease in both amplitude and eastward propagation during the past week as the enhanced convective phase shifted to Phase 2. The observed evolution of the MJO index was well forecast by most models one week ago, but model forecasts from two weeks ago were too slow in the eastward progression. Model solutions are indicating a high amount of spread with respect to the MJO during Week-2. Some model solutions show the signal retrograding to the western IO and other models indicate continued progression, with enhanced convective activity across the Maritime Continet and southern Asia. The official forecast leans toward continued eastward progression.

During Week-1, the MJO and other modes of tropcial variability are expected to contribuite to above-average rainfall across the IO. The suppressed phase of the MJO and an equatorial Rossby wave are expected to support below-normal rainfall from the South china Sea (where below-normal sea surface temperatures should reinforce the atmospheric signal) to the western equatorial Pacific. Above-average rainfall is expected along the path of Hurrican Rina, and along the path of a tropical wave currently located over the South-central Caribbean Sea. Along with that tropical wave is an enhanced threat of tropical cyclogenesis across the southern Caribbean Sea.

With the tropical wave moving to the west, the forecast for above-average rainfall across northern South America during Week-1 switches to a forecast of below-normal rainfall for the central Amazaon Basin during Week-2. Additional eastward progression of the MJO signal and support from other modes of variability including ENSO, favor increased odds of precipitation across the eastern IO and Maritime Continent. Tropical cyclogenesis across the Arabian Sea and Bay of Bengal is also likely during Week-2. The available statistical and dynamical tools indicated slightly higher odds of formation across the Arabian Sea.