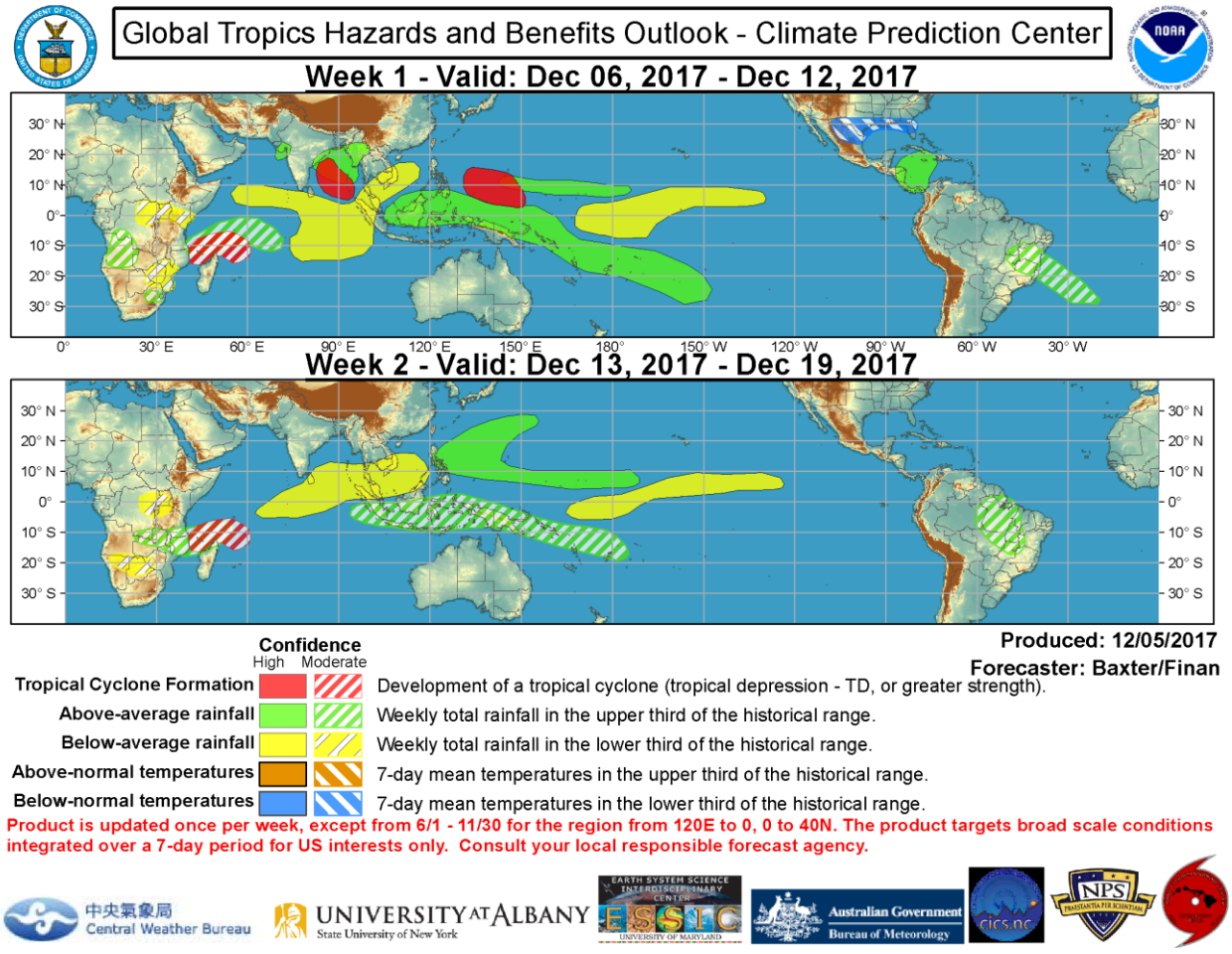

The MJO signal discussed in the previous week's outlook has continued to develop an area of enhanced convection over the Maritime Continent. The OLR anomalies depict an eastward propagation of the envelope of enhanced convection, starting in late November. Forecasts of the RMM-based MJO indices show a decrease in amplitude as the signal shifts eastward from the Maritime continent in Phase 5 pattern to the Western Pacific and into Phase 6 over the next two weeks. This is most likely due to destructive interference from a Kelvin wave that will slow propagation of the pattern. With the La Nina event in the Pacific, the low frequency base state will also destructively interfere with the area of enhanced convection as the MJO pattern moves across the Pacific. The upper-level fields show an apparent wave-1 pattern, with only some noise over the Indian Ocean, most likely due to tropical disturbances. Models show the MJO signal rebounding in late Week-2 and continuing into the Western Hemisphere. Statistical guidance supports the evolution seen in the dynamical forecast guidance.

There are a few areas of possible tropical cyclone (TC) formation over the next two weeks. Model guidance shows probable formation in the Bay of Bengal, as well as the Northwest Pacific for Week-1. Dynamical guidance shows uncertainty for the forecast tracks. Another area of interest is in the southwestern Indian Ocean. For Week-1, there is a possible formation in the Mozambique Channel

supported by the models. Later, in Week-2, the area of formation highlighted by the models is northeast of Madagascar. Statistical guidance and some dynamical tools also showed the Coral Sea as an area of interest for TC formation. However, the low-pressure system did not organize well in the model guidance and looks to be part of an existing larger trough.

Precipitation patterns for week 1 are largely supported by the ongoing MJO signal, as well as tropical cyclone activity. The enhanced area of convection is expected to bring above-average rainfall to parts of the Maritime Continent, as well as the western Pacific. At the beginning of the period, remnants of TC Ockhi are expected to bring heavy precipitation to western Indian coast, northwest of Mumbai. The Bay of Bengal is likely to be affected by the possible TC, land falling either in India or parts of Bangladesh and Myanmar, depending on the timing of the recurvature. In the southwestern Indian Ocean, possible TC activity supports enhanced rainfall. In the Atlantic, above-average rainfall is likely to occur from a frontal intrusion. Cooler temperatures are forecast to affect the Gulf Coast region, as well as parts of Florida and Northern Mexico. Below-freezing temperatures are possible in some of the central Gulf Coast region. Above-average rainfall in South America, moving over Brazil, is supported by dynamical model guidance. Below-average rainfall is expected in the central Pacific, consistent with current La Nina state. The enhanced suppression over the Indian Ocean and western Maritime continent is consistent with the MJO pattern.

For Week-2, patterns are similar to those seen in Week-1, though shifted eastward with the propagation of the MJO event. In the northwest Pacific, the area of above-average rainfall extends further into the Pacific, due to eastward shift of the area of enhanced convection, as well as the effects of TC activity. Suppressed convection is favored to remain in parts of the Indian Ocean and moving over parts of the Maritime Continent. In South America, the area of above-average rainfall moves over Brazil and shifts to the northwest. Impacts from current and forecast MJO activity are likely to favor anomalous troughing over the central and eastern United States through the end of the month, supported by the Phase 6 and 7 lagged MJO composites.

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