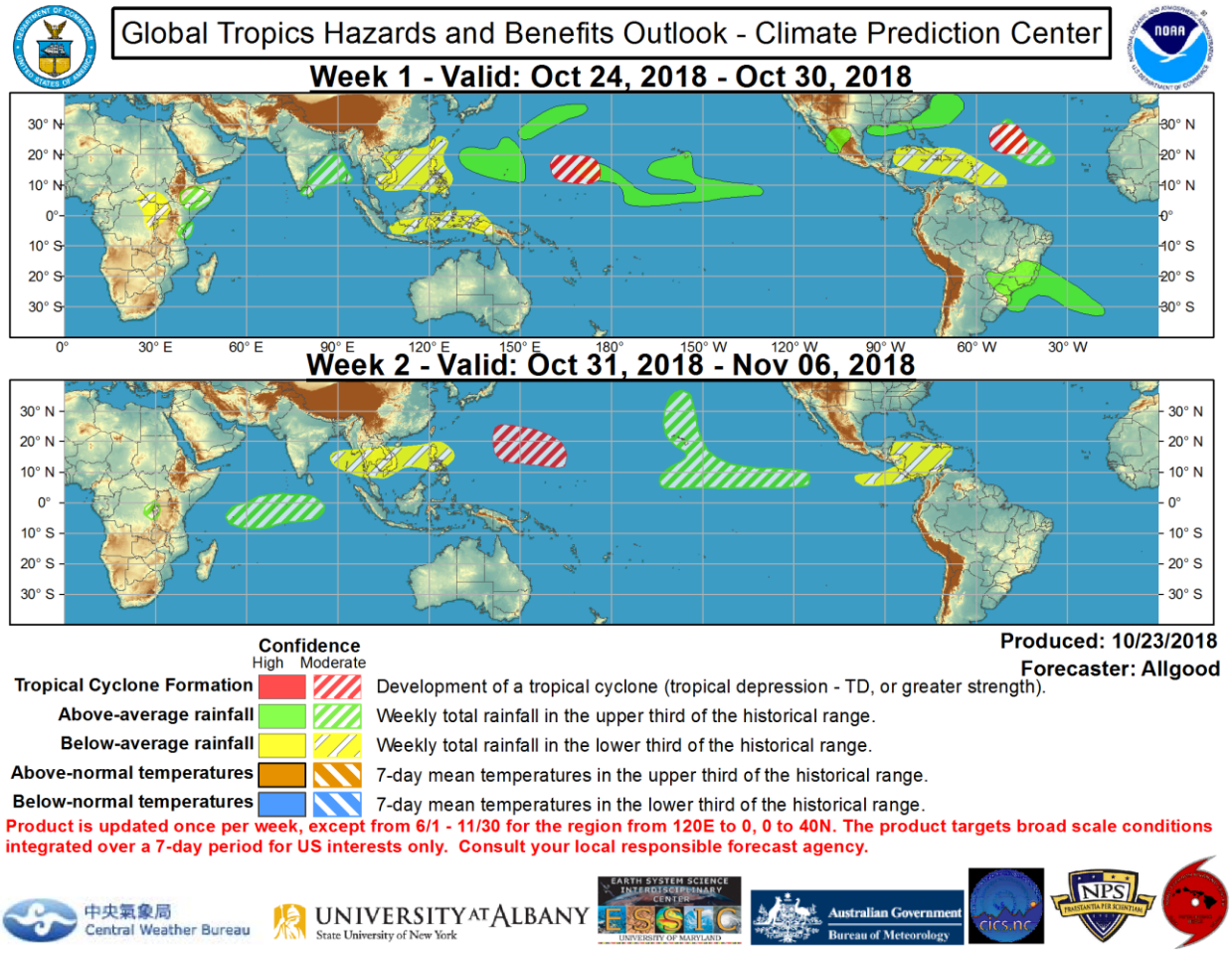

As anticipated, the MJO weakened over the past week, with little signal apparent in either the RMM-based or CPC velocity potential based indices. Any remnant MJO circulation would currently be over the Maritime Continent, but this signal is destructively interfering with the low frequency base state that is gradually trending towards El Nino conditions and favors suppressed convection over the Indo-Pacific Warm Pool. As the low-level easterly anomalies associated with the suppressed phase of the MJO relaxed across the Pacific, the base state began restrengthening, which has resulted in the RMM-based MJO index getting pulled back towards Phases 8 and 1. Additionally, Kelvin wave activity over the Pacific last week helped generate tropical cyclone activity, but Atlantic tropical cyclone activity this week is more likely to be influenced by a highly amplified midlatitude pattern. Dynamical model MJO index forecasts generally favor an amplifying signal over the Pacific, which is consistent with the re-emergence of the base state, and most models propagate this signal eastward to the Western Hemisphere during Week-2. Given that these solutions are out of phase with the previous MJO event and the ongoing interference with the base state, the MJO is not anticipated to play a substantial role in the global tropical convective pattern during the outlook period.

Three tropical cyclones developed over the Pacific during the past week. Tropical Storm Vicente formed on 19 October near the southern coast of Mexico and is anticipated to weaken. Hurricane Willa developed the following day, and quickly strengthened to Category 5 intensity on the Saffir-Simpson scale. Still a major hurricane, landfall along the southern coast of Sinaloa state or northern coast of Nayarit state is imminent. Further west, Typhoon Yutu formed on 21 October over the Northwest Pacific, and may bring substantial impacts to Guam and the Northern Mariana Islands as it moves generally west-northwestward. During the next two weeks, there is a moderate potential for additional tropical cyclone development near or east of the current location of Typhoon Yutu. Dynamical models had been depicting additional development over the western part of the East Pacific basin, but the most recent runs have indicated a reduced potential. There is a low to moderate potential for subtropical or tropical cyclone development over the north-central Atlantic well northeast of the Leeward Islands, which is not typical for this time of year. Additionally, a disturbance over the Bay of Bengal may bring widespread precipitation to Sri Lanka and areas to the northeast, but an unfavorable shear environment keeps the potential for tropical cyclogenesis low. Several models have depicted a potential formation somewhere over the Arabian Sea as well, but the number of ensemble members developing a cyclone in this region have decreased over the past couple of days.

During Week-1, widespread heavy precipitation associated with Typhoon Yutu is forecast for the Northwest Pacific, and enhanced precipitation associated with the aforementioned disturbance is favored across the Bay of Bengal. Elsewhere, the base state favors enhanced (suppressed) convection across the central Pacific (Maritime Continent), although the remnant MJO circulation may interfere with the dry signal along the equatorial Maritime Continent. The remnants of Hurricane Willa are anticipated to interact with a midlatitude trough and generate a potent storm system that emerges from the Gulf of Mexico and moves up the east coast of the CONUS, while suppressed convection is favored for much of the Caribbean. Dynamical models depict enhanced rainfall across much of southeastern and southern Brazil.

During Week-2, the low frequency state is likely to continue favoring enhanced (suppressed) rainfall for parts of the central Pacific (Maritime Continent), while dynamical models indicate increasing rainfall across the equatorial Indian Ocean. Suppressed convection is anticipated to persist over the western Caribbean and Central America.

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