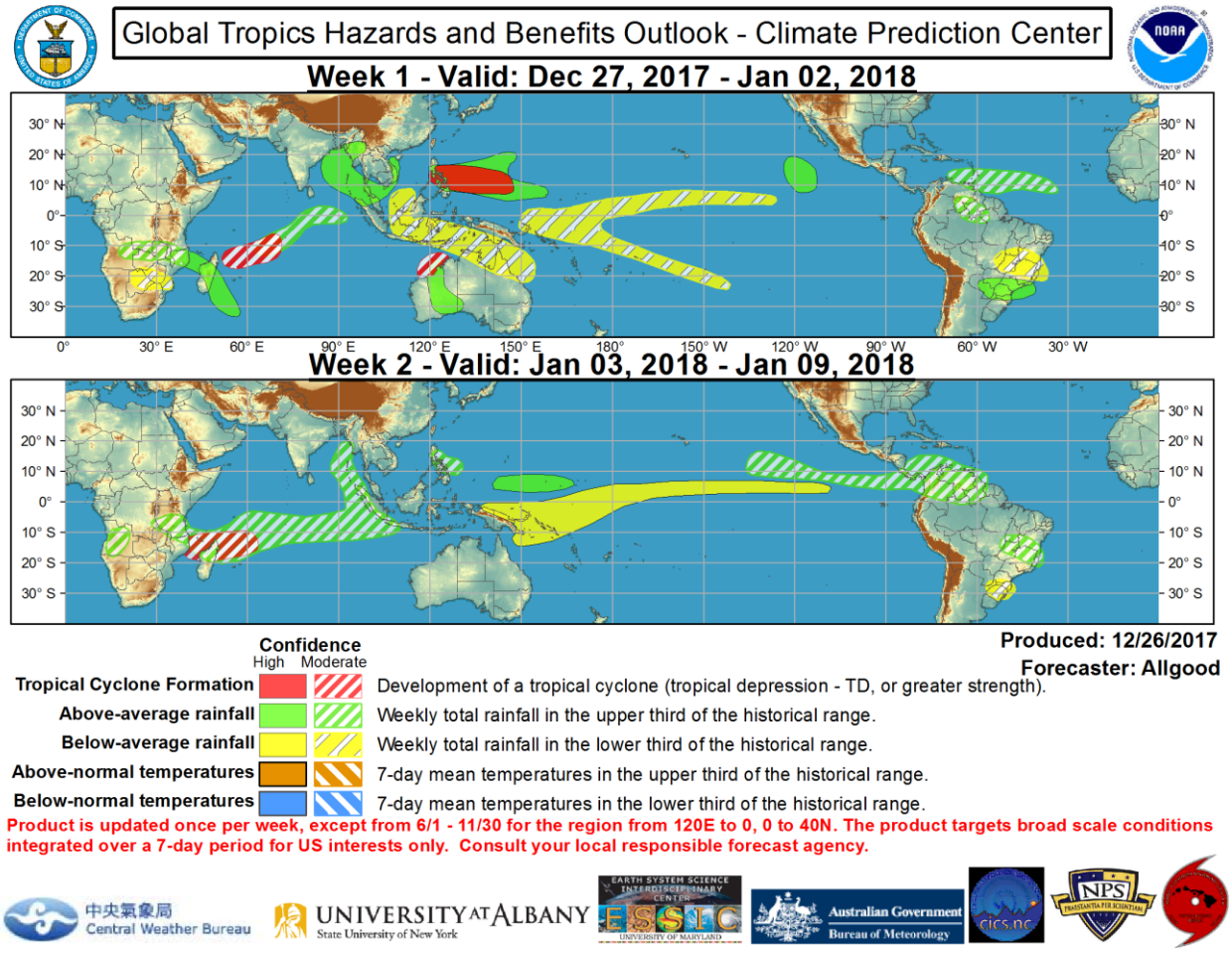

The CPC velocity potential and RMM-based MJO indices both exhibited a weakening signal during the past few days as the enhanced phase of the intraseasonal signal began propagating over the East Pacific and Western Hemisphere. The upper-level velocity potential anomaly field, usually a good indicator of MJO activity, has remained fairly disorganized since around 8 December. A large contributor to the weakened amplitude of the MJO is destructive interference from the La Nina base state, which favors enhanced (suppressed) convection in regions co-located with the recent positions of the suppressed (enhanced) MJO envelopes. Low-level tropical easterly anomalies weakened or reversed sign across the Pacific basin in recent days, and a divergent pattern aloft emerged over the East Pacific as the intraseasonal signal managed to overcome the base state to some extent. Dynamical model MJO index forecasts quite consistently show a re-amplification of the MJO signal as it enters the Indian Ocean, moving away from peak destructive interference with the La Nina signal. Should this occur, Indian Ocean MJO events teleconnect well with the North American midlatitude circulation, and the MJO may therefore help effect a pattern change in the late Week-2 or Week-3/4 period.

Typhoon Tembin formed on 20 December and is currently passing just south of Vietnam at tropical storm intensity. Further weakening is anticipated, but the tropical cyclone or its remnants will likely

contribute to enhanced convection over Southeast Asia and the Bay of Bengal during the next several days. Elsewhere, recent satellite imagery does not reveal any areas of imminent risk for tropical cyclone development. Dynamical models highlight three regions for development during Week-1: the southwestern Indian Ocean (moderate confidence), Australia's Kimberley Coast (moderate confidence), and the Northwest Pacific between Guam and the Philippines (high confidence). There is less model predictability in Week-2, which precludes additional shapes on the outlook, but if tropical cyclone development does not occur over the southwestern Indian Ocean in Week-1, the area favored for development shifts westward towards Madagascar and the Mozambique Channel.

Forecasts for above- and below-average rainfall were made using the consensus among dynamical model forecasts and composites showing canonical patterns associated with MJO and La Nina activity. During Week-1, suppressed convection is favored across the central Maritime Continent as the MJO suppressed phase continues to interfere with the base state. Suppressed convection is also favored across much of the western and central Pacific, as the enhanced phase of the MJO crosses the Western Hemisphere and the suppressed phase and La Nina signal begin to constructively interfere. Areas of enhanced convection were indicated by dynamical model guidance across parts of the Indian Ocean basin and Western Australia, partly due to potential tropical cyclone activity. Across the Western Hemisphere, enhanced (suppressed) convection is favored over the tropical Atlantic, northern South America, Paraguay, and southern Brazil (southeastern Brazil).

The region of highest confidence during Week-2 is the Pacific Basin, where suppressed convection is favored as the suppressed phase of the MJO is anticipated to constructively interact with the La Nina signal. Unlike most other dynamical models, the CFS does not depict widespread enhanced convection across the Indian Ocean, so MJO composites and the ECMWF were favored. The ECMWF did depict enhanced convection over the Indian Ocean, but the region was primarily limited to a region south of the Equator. Elsewhere, the CFS and ECMWF both depicted enhanced convection over the East Pacific, and a reversal of the wet-dry dipole across eastern South America.

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