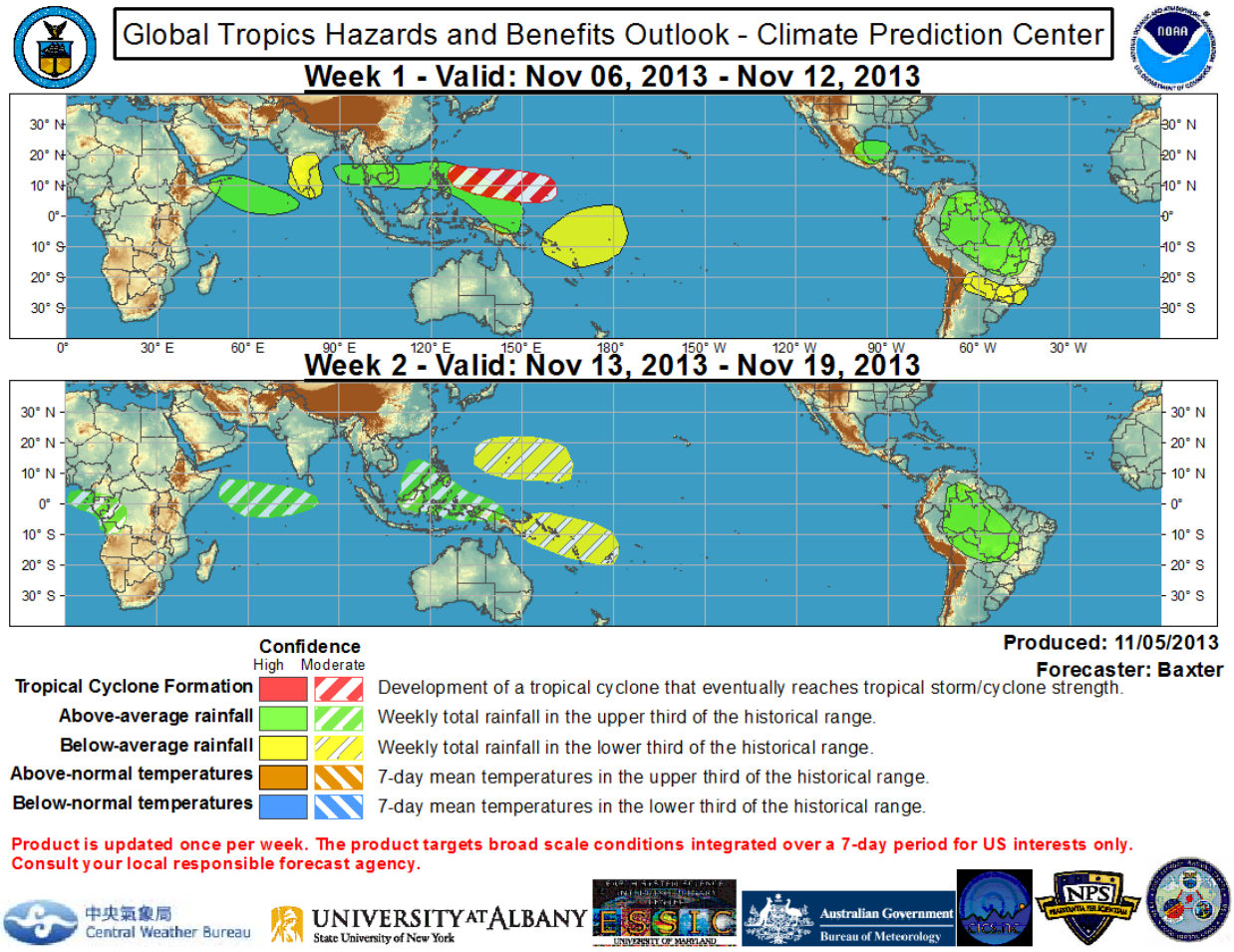

The MJO showed signs of reorganization over the past week, largely unpredicted by the global models. As observed in both the Wheeler and Hendon MJO index as well as the CPC velocity potential index, the enhanced phase of the MJO is currently centered over Africa. During the past six days, a nearly canonical wave-1 velocity potential structure has propagated eastward from the far eastern Pacific toward the Prime Meridian. Enhanced tropical cyclone (TC) activity continues to partially interfere, contributing to enhanced convection across parts of the West Pacific. Other subseasonal modes of variability, including an equatorial Rossby Wave (ERW) near the Maritime Continent are influecing the pattern of tropical convection. Additionally, one or more atmospheric Kelvin waves are moving eastward across the Pacific, emanating from persistent convection near 140E.

Typhoon Haiyan formed in the West Pacific and is forecast to move westward, likely making landfall in the Philippines late this week as a super typhoon. Tropical Storm 30W crossed the Philippines this past week as a tropical depression, moving into the South China Sea before strengthening to tropical storm status. This system is forecast to move westward across far southeast Asia and into the Bay of Bengal over the next several days. Tropical Storm Sonia formed in the East Pacific last week and moved generally northward. Though it was a weak system, its remnants likely contributed to enhanced rainfall

over parts of the central US. During this forecast period, there is a moderate risk for TC formation in the West Pacific during Week-1. While this system is not expected to be as strong as Haiyan at this time, it is forecast to track generally towards the Philippines.

There is a large amount of uncertainty regarding the MJO forecast over the next two weeks. The dynamical models are in reasonable agreement for some eastward propagation of a weak signal. The models are likely having difficulty reconciling any enhanced convection developing in the Indian Ocean with the generally persistent convective anomaly near 140E. Additionally, the CFSv2 and the GFS suggest anomalous rainfall continuing over parts of South America even after the MJO active phase moves eastward. At this time, a blend of ECMWF 32-day ensemble forecast and the constructed analog statistical tool is favored, suggesting a low to moderate amplitude event moving through phases 2 and 3 over the next two weeks.

Therefore, the outlooks attempt to combine this season's MJO composites with the more robust precipitation signals from the CFSv2 ensemble and GFS forecasts. Above-average rainfall is favored across parts of the western and central Indian Ocean during both weeks, as well as across much of northern South America. Enhanced convection is also favored near 140E during both weeks in an area extending northwestward based on model guidance. Enhanced convection across parts of Africa is favored due to the expected evolution of the MJO and is supported by model guidance. Suppressed convection in parts of the West Pacific is supported by MJO composites and tweaked based on model guidance. Above-average rainfall is favored during Week-1 across parts of Mexico and its namesake Gulf due to a frontal instrusion.

While extratropical impacts of the MJO are not expected to be strong over the next two weeks, the potential evolution of this event could have substantial ramifications for early winter climate across the CONUS. More about these potential impacts will be discussed over the coming weeks as the evolution of the MJO becomes more clear.