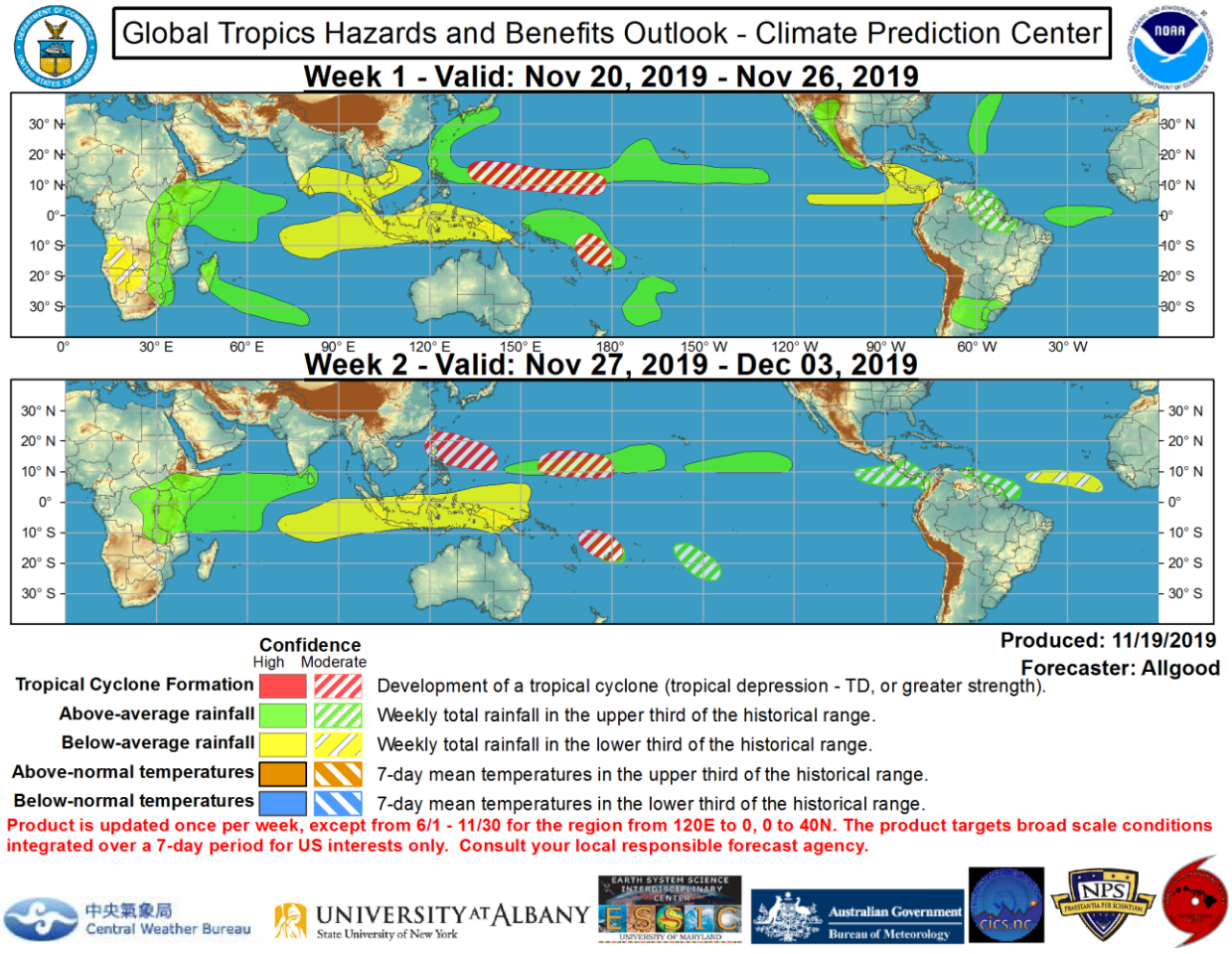

The MJO remained active during the past two weeks, propagating rapidly across the Pacific before returning to the Western Hemisphere. During the past several days, the RMM index stalled over the Western Hemisphere. This slowdown is likely due to constructive interference between the MJO and the strong positive phase of the Indian Ocean Dipole (IOD). Dynamical model forecasts of the RMM index are mixed, although most depict weakening with no additional propagation to the eastern Indian Ocean or Maritime Continent during the next two weeks. In addition to the IOD which favors convection over Africa and the western Indian Ocean, robust Rossby wave activity and above-normal SSTs across the central Pacific may help generate additional convection that is out of phase with the current MJO event. This may be why some GFS and ECMWF ensemble members favor a quick return of the index to the Pacific. Based on these forecasts, the MJO is favored to play a diminishing role in the evolution of the tropical convective pattern over the outlook period. The IOD will likely become the dominant mode of tropical variability, and widespread convection over the western Indian Ocean may teleconnect to the midlatitudes and help change the downstream pattern over North America with more troughing across the West.

Tropical Depression 21-E formed over the East Pacific and dissipated over open waters. The remnants of earlier Tropical Storm Raymond are expected to generate a very late season Gulf moisture surge into the U.S. Southwest. A late-season tropical cyclone also formed over the Atlantic well northeast of the Lesser Antilles: Tropical Storm Sebastian, which is forecast to move generally northward for a couple of days before merging with a frontal system. Over the West Pacific, Tropical Depression 28-W recently formed, and forecasts from the Joint Typhoon Warning Center bring this system towards or just north of Luzon in the Philippines. This path is very close to the current location of Tropical Storm Kalmaegi. During the next two weeks, robust Rossby wave activity over the central Pacific may help generate new tropical cyclones both north and south of the equator. Dynamical models favor the potential for tropical cyclogenesis between Guam and the Philippines, close or east of the current location of TD 28-W. Enhanced convection just west of the Date Line may provide another source for tropical cyclone development as well, so both of these regions are covered in a broad moderate confidence forecast area. Additionally, dynamical models favor tropical cyclone development over the Southwest Pacific west of American Samoa. Should a tropical cyclone form in this area, it may impact Fiji. These same areas are highlighted for potential tropical cyclone formation in Week-2 as well due to the uncertain timing for formation. No new tropical cyclone activity is anticipated for the East Pacific or Atlantic basins.

Precipitation forecasts are reflective of the Western Hemisphere MJO event, a strong atmospheric response to the IOD, and an active Pacific due to Rossby wave activity and above-normal SSTs. Widespread above-normal rainfall is favored across eastern Africa and the western Indian Ocean, and anomalies depicted by the dynamical models are quite high. There is a potential for high impact flooding across affected regions of eastern Africa. Subsidence and below-normal SSTs favor widespread suppressed convection across the Maritime Continent, while an enhanced and northward-displaced ITCZ is favored across the western and central Pacific. Precipitation forecasts across the Western Hemisphere are based on a consensus of the ECMWF and CFS forecasts, and favor suppressed (enhanced) rainfall for Central America (northern South America). Precipitation forecasts for Week-2 are broadly similar to Week-1 due to the low-frequency IOD being the dominant mode, although the ECMWF favors a transition to wetter conditions across Central America.