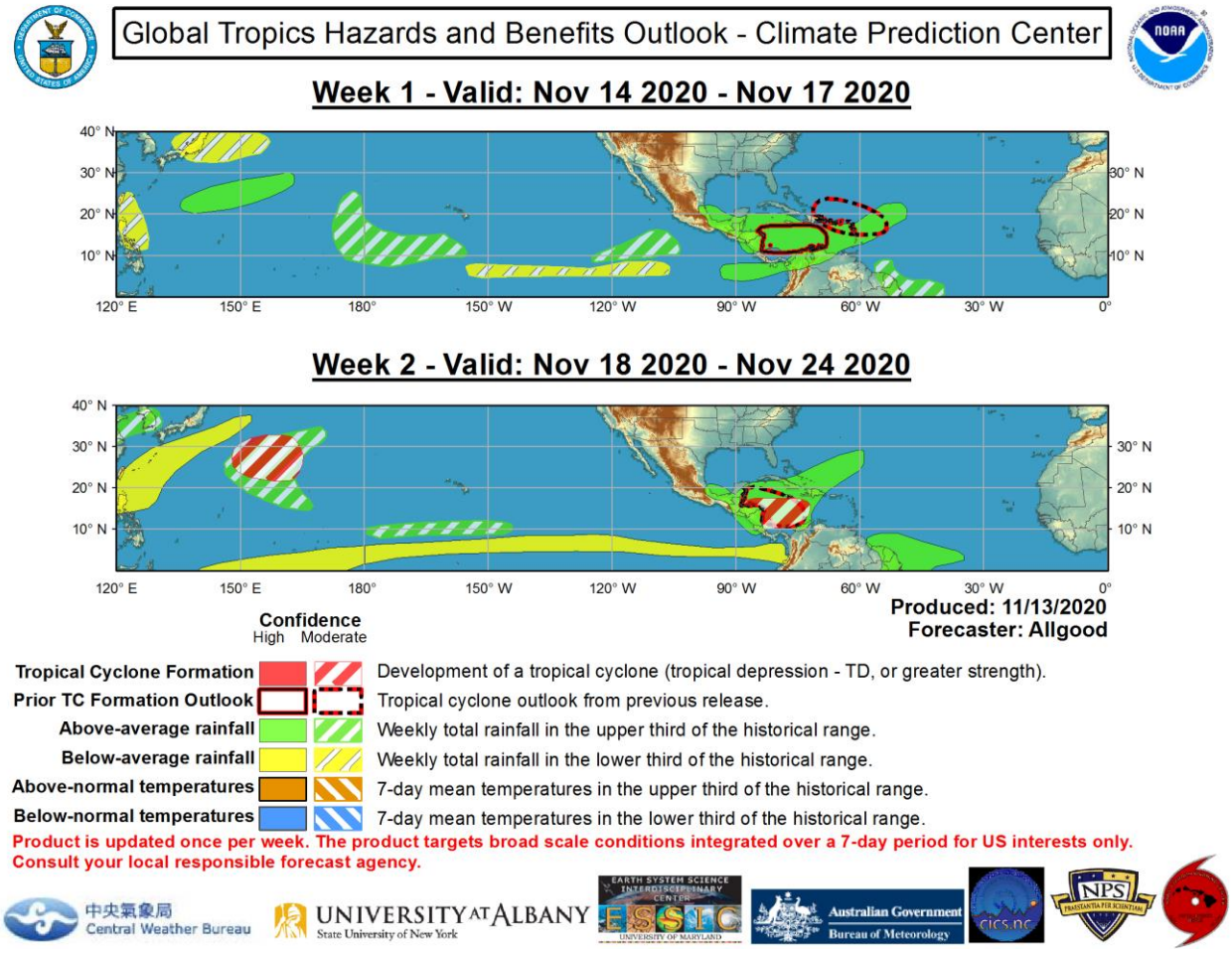

Recent observations suggest that renewed MJO activity is beginning to initiate, with widespread convection over the Indian Ocean and parts of the Atlantic basin. The RMM-based MJO index is reflecting this activity, while the upper-level velocity potential pattern is still somewhat disorganized partly due to a robust Kelvin wave over the Pacific. As this Kelvin wave crosses the Atlantic and enters the Indian Ocean, the pattern is likely to more closely resemble a canonical MJO event. However, there is still model uncertainty regarding the evolution of this event beyond the Indian Ocean, with the ECMWF in particular weakening the signal by the end of Week-2.

Tropical Depression 31 developed over the western Caribbean, continuing to add to the record breaking 2020 Atlantic hurricane season. This system is favored to strengthen steadily to hurricane intensity before making landfall over Nicaragua or Honduras. Dynamical models continue to show the potential for a second western Caribbean TC during the Week-2 period; therefore a moderate potential for formation is maintained on the updated outlook. The predicted TC activity in the western Caribbean is expected to exacerbate ground conditions across parts of Central America, which has been adversely affected by flooding, landslides, and damages to infrastructure following the passage of TC Eta. Further north, the potential for TC formation near the Lesser Antilles or north of Hispaniola has decreased;

therefore the moderate potential area is removed. In the western Pacific, Typhoon Vamco crossed the Philippines to the South China Sea. Dynamical models indicate a moderate potential for tropical or subtropical cyclogenesis over the northwestern Pacific, well southeast of Japan, and this is reflected in the updated outlook.

The original forecast discussion released on 10 November 2020 follows.

The MJO remains weak, and La Nina conditions continue to dominate the overall tropical convective pattern. There is evidence of a subseasonal signal, however, with an enhanced convective envelope rapidly propagating across the Western Hemisphere. Combined with the low frequency signal favoring persistently enhanced convection across the eastern Maritime Continent and far West Pacific, the spatial pattern of upper-level velocity potential anomalies has exhibited a Wave-2 asymmetry over the past week. This resulted in a poor projection of the MJO onto the CPC velocity potential based index, but an eastward propagating Western Hemisphere signal remains evident on the RMM-based index, albeit weak. In conjunction with the La Nina conditions, this intraseasonal signal promotes a continued favorable environment for tropical cyclogenesis across the western Atlantic basin. Dynamical model MJO index forecasts favor continued eastward propagation, with a potential new Indian Ocean MJO event materializing during Week-2. Should this occur, conditions would become increasingly favorable for Indian Ocean tropical cyclogenesis during the outlook period, and may promote renewed West Pacific activity beyond the two-week outlook period. Indian Ocean MJO events also teleconnect well with a two-week lagged midlatitude pattern featuring troughing over western North America and ridging over eastern North America, which is consistent with model guidance for the Week 3-4 period.

Tropical Storm Eta is currently meandering over the eastern Gulf of Mexico after bringing widespread flooding rainfall to southern Florida. Forecasts from the National Hurricane Center show very slow northward movement of this system, with gradual weakening before the cyclone is absorbed into an advancing cold front. Tropical moisture associated with Eta or its remnants is expected to generate widespread heavy rainfall along the U.S. Eastern Seaboard. Elsewhere, Subtropical Storm Theta developed over the north Atlantic well west of the Canary Islands, and is moving east-northeastward over open waters. Following typhoons Goni and Atsani over the West Pacific and South China Sea, tropical storms Etau and Vamco formed in similar locations. Tropical Storm Etau is currently making

landfall over central Vietnam, while Vamco is favored to strengthen to typhoon intensity before making landfall over the northern Philippines. Underneath a persistent ridge, Vamco is forecast to move westward across the South China Sea and make yet another landfall over central Vietnam.

During Week-1, additional tropical cyclogenesis is favored over the western Caribbean, in a location close to where Hurricane Eta formed. As of 1 pm EST, the National Hurricane Center forecasts a 70-percent chance of a tropical depression forming over the next 5 days. Dynamical model track guidance is mixed, with some models favoring landfall over Central America, and others depicting a northward turn towards Cuba. Additionally, a disturbance passing near the Lesser Antilles during Week-1 has a low to moderate potential for development, though recent runs of the GFS show a closed low forming for only a brief time before dissipating. During Week-2, favorable conditions are anticipated to continue across the western Caribbean, and there is a moderate potential for a second tropical cyclone to develop near Central America. Elsewhere, dynamical models, supported by the forecasted MJO evolution, favor tropical cyclone development over the south-central Indian Ocean, either during late Week-1 or early Week-2.

Precipitation forecasts are based on track guidance for existing tropical cyclones, dynamical model consensus, the low frequency La Nina base state, and MJO composites given a potential event developing over the Indian Ocean by Week-2. The overall pattern favors a suppressed North Pacific ITCZ, with enhanced convection over parts of South America, Africa south of the Equator, and the central Indian Ocean. Precipitation forecasts over Africa were made in consultation with the International Desk at CPC, and can represent local-scale conditions in addition to global-scale variability.