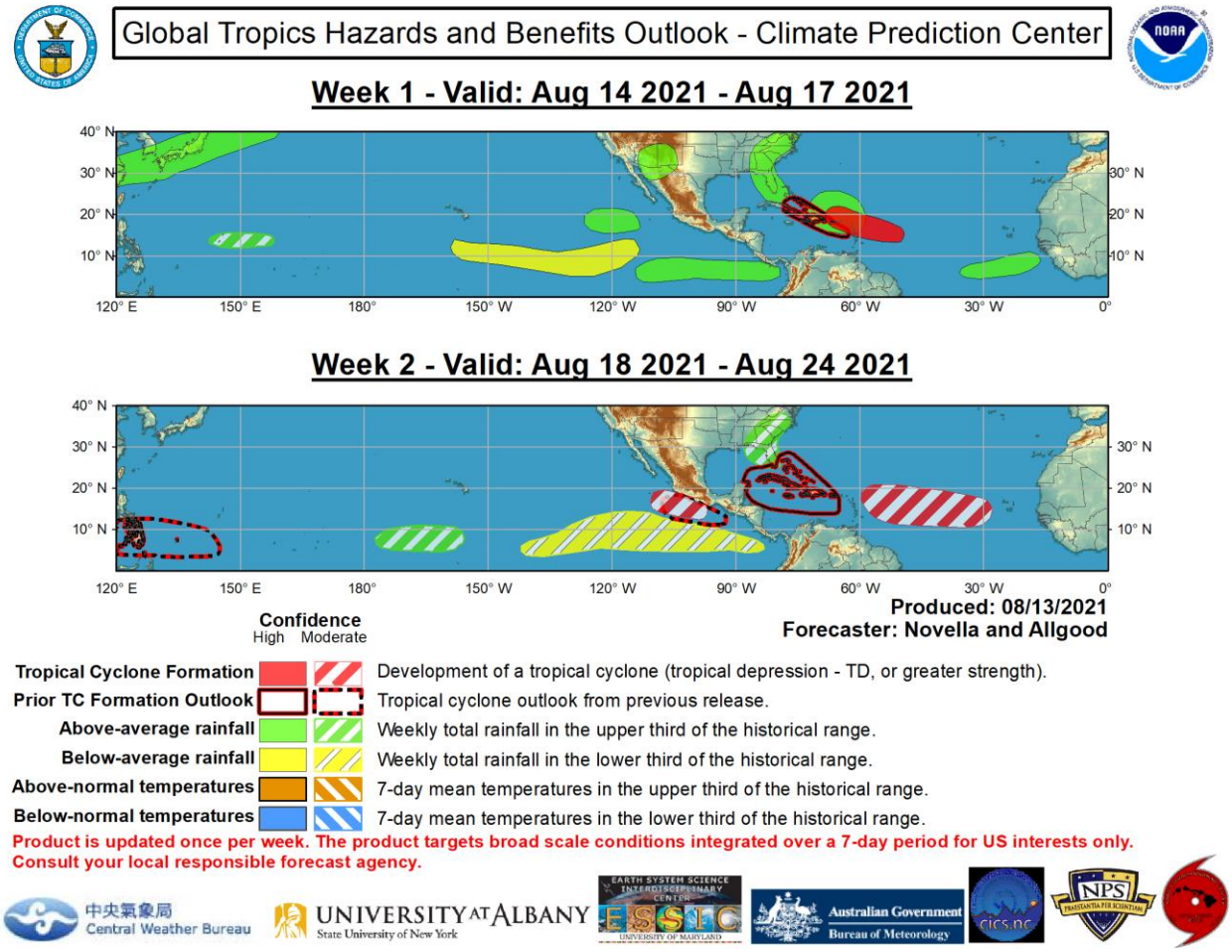

ï»¿The MJO remains active, and consistent with the dynamical model forecasts earlier in the week, the amplitude of the signal on the RMM-based index increased while the eastward propagation ceased. This is likely due to influence from a strong Rossby wave crossing from the Maritime Continent to the eastern Indian Ocean. Dynamical model MJO index forecasts have not changed much, and continue to show resumed eastward propagation of the intraseasonal signal over the next several days. Uncertainty regarding the amplitude of the MJO as it crosses the Maritime Continent has increased, as most of the ECMWF ensemble members bring the index back within the unit circle by the end of Week-2, although several ensemble members continue to depict a robust event. The MJO is anticipated to continue providing a favorable environment for Atlantic tropical cyclogenesis.

Tropical Storm Fred formed south of Puerto Rico on August 10, and weakened to tropical depression intensity due to persistent shear and land interactions. The circulation center is now close to the northern Cuban Coast, and the latest National Hurricane Center (NHC) forecast brings the system over the eastern Gulf of Mexico over the next several days, with some intensification possible ahead of an anticipated landfall along the Florida Panhandle. Over the East Pacific, Tropical Depression 12-E strengthened and is now designated Hurricane Linda. The latest NHC forecasts show further

intensification, and Hurricane Linda is expected to become a major hurricane on the Saffir-Simpson scale. No land impacts are anticipated, as Hurricane Linda will maintain a generally westward course over the next five days, weakening as it encounters colder waters.

The NHC is currently monitoring a disturbance near 50W that has a high potential for formation over the next five days. This development would be somewhat earlier than anticipated on the original forecast release, therefore the Week-2 formation hazard over the Caribbean Sea and near Florida was shifted to Days 1-4 and shifted eastward to reflect this potential tropical cyclone. While dynamical models do not strongly favor additional development during the Days 5-11 time frame, moderate confidence for development was introduced over the main development region of the tropical Atlantic (MDR) due to the favorable environment promoted by the MJO and increasing climatological probabilities of formation. Tropical cyclogenesis during Days 5-11 also remains possible across the East Pacific, while the potential for development has decreased across the West Pacific.

Forecasts for above- and below-average precipitation were adjusted to reflect the latest model guidance for the remaining outlook period.

The original discussion released on 10 August 2021 follows.

The CPC velocity potential based and RMM-based MJO indices continue to reflect an active Madden Julian Oscillation (MJO) event, with the enhanced convective phase now over the Western Hemisphere. Time-longitude analyses of anomalous outgoing longwave radiation (OLR) and zonal winds reveal several Rossby waves along the Equator initiated from midlatitude wavebreaking onto the tropics, both over the east-central Pacific and the Maritime Continent. Easterly waves coming off of Africa and crossing the tropical Atlantic are also showing up on these analyses. Due in part to interference from these Rossby waves, the dynamical model MJO index forecasts consistently depict a slowdown of the signal's eastward propagation during Week-1, with some enhancement of the amplitude due to constructive interference with the Rossby wave crossing the Indian Ocean and possibly Atlantic tropical cyclone activity. Both the ECMWF and GEFS ensemble means suggest a resumption of eastward propagation across the Indian Ocean during Week-2, although there is uncertainty with respect to the MJO signal's amplitude. Based on the current and projected state of the large scale tropical convective pattern, an active Atlantic tropical cyclone basin is favored during the next two weeks.

The National Hurricane Center (NHC) is currently monitoring a disturbance over the northeastern Caribbean (Potential Tropical Cyclone Six) that has a high potential for formation at the start of the outlook period. The projected track of this system brings it close to or over Puerto Rico and Hispaniola over the next several days, which will limit the potential for intensification, but will present a threat for heavy rainfall, flash flooding, and mudslides. Intensification becomes more likely as the system approaches the Florida Peninsula or the eastern Gulf of Mexico, and interests in the southeastern U.S. should monitor the latest NHC and local NWS forecasts. Across the East Pacific, Tropical Storm Kevin formed south of Mexico and is forecast to gradually weaken as it moves northwestward over colder ocean waters. Tropical Depression 12-E formed south of Mexico, as well to the east of Tropical Storm Kevin, and NHC forecasts show gradual strengthening to hurricane intensity as the system tracks towards the west or west-northwest well south of the Baja California Peninsula. Across the West Pacific, Tropical Depression 16-W f Normed just west of the Date Line and is forecast by the Joint Typhoon Warning Center (JTWC) to weaken over the next few days as it moves westward. Tropical Storm Lupit is also forecast to dissipate after crossing Japan.

During Week-2, an active pattern is favored for the Atlantic basin as several easterly waves move through or north of the Caribbean Sea. Recent runs of the GFS show a tropical cyclone forming in the vicinity of Cuba and tracking westward across the Gulf of Mexico while intensifying. Additional tropical cyclogenesis is possible over the Caribbean Sea or just east of Florida within a broad area favorable for development. Due to the current position of the MJO and dynamical models indicating a low shear environment, a high potential for formation is indicated on the outlook for Week-2 across much of the Caribbean and in the vicinity of Florida. Across the East Pacific, dynamical models have shown a decreasing potential for additional development, but based on climatology and a lack of a clear suppressed signal, a moderate confidence formation area remains issued to the south of Mexico. Across the West Pacific, a rapid weakening of the northward-displaced monsoon trough is anticipated, limiting the chance for additional development between 20N and 30N northeast of the Philippines. Enhanced convection closer to the Equator may provide some opportunities for a tropical cyclone to form further south,so a moderate potential area for development was introduced closer to the Philippines.

The precipitation outlook during the next two weeks is based on anticipated tropical cyclone tracks, a consensus of GEFS, CFS, and ECMWF guidance, and some consideration given to precipitation composites based on prior MJO events. For hazardous weather concerns during the next two weeks across the U.S., please refer to your local NWS Forecast Office, the Weather Prediction Center's Medium Range Hazards Forecast, and CPC's Week-2 Hazards Outlook. Forecasts over Africa are made in consultation with the International Desk at CPC and can represent local-scale conditions in addition to global scale variability.