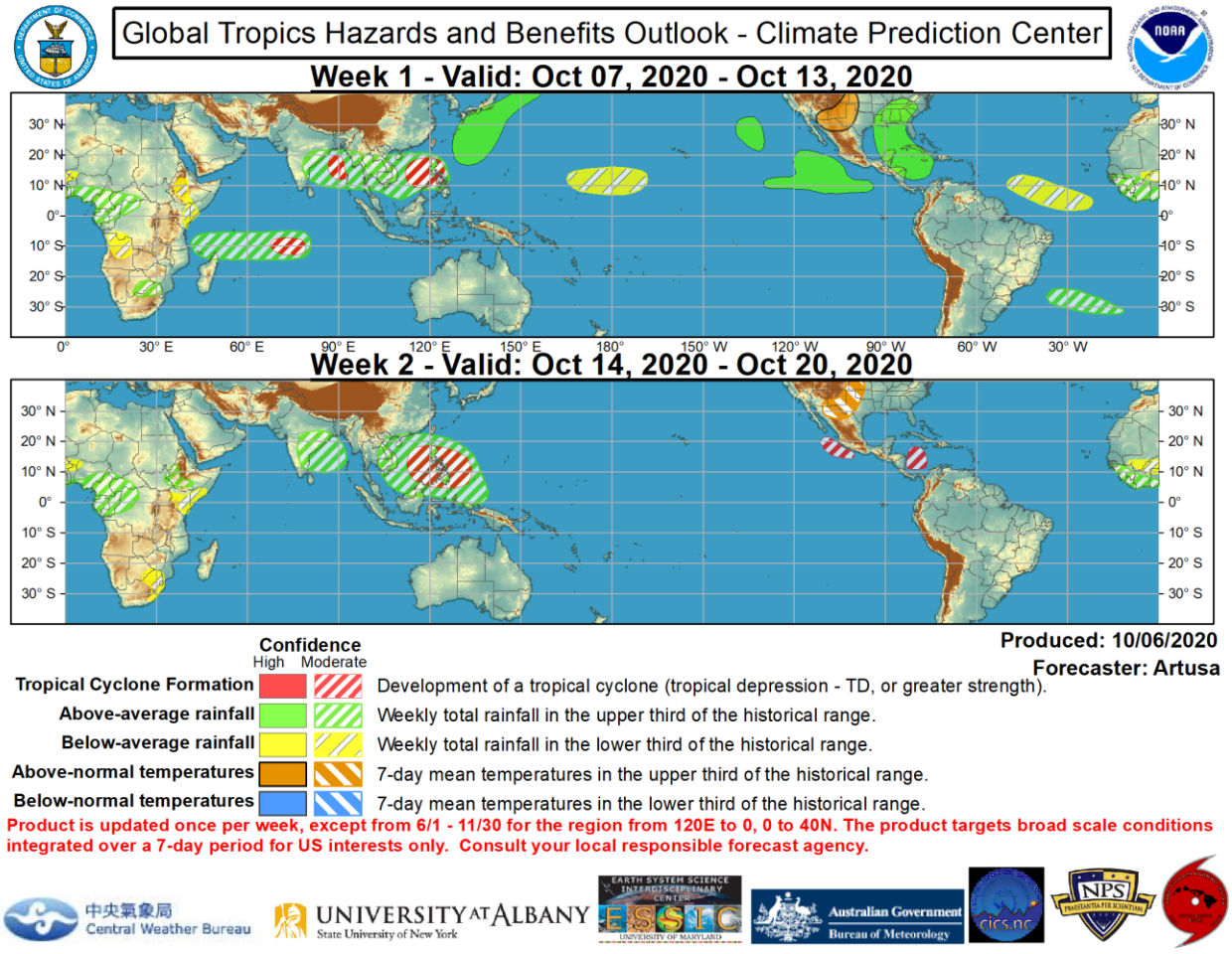


ï»¿From mid-August to mid-September 2020, a robust MJO propagated eastward across the Indian Ocean. The MJO signal destructively interfered with several equatorial Rossby waves during September, with the signal becoming weak and stationary late in the month over the vicinity of the Maritime Continent (in Phase 5 in RMM space). The Indian Ocean Dipole (IOD) is in its negative phase, characterized by warmer-than-normal sea surface temperatures (SSTs) in the eastern Indian Ocean. Combined with the climatological warm pool near New Guinea, the MJO signal and its associated convection is predicted to undergo some amplification, as well as limited eastward propagation. Farther east, the descending branch of the atmospheric Walker Circulation is shifted eastward from the Central Pacific to the Eastern Pacific, aligning with suppressed anomalous convection forced by negative SST anomalies. In the tropical wind fields, this is evidenced by the recent invigoration of 200-hPa westerly anomalies over the eastern equatorial Pacific, and enhanced trade winds at 850-hPa over the same area.

Dynamical model MJO forecasts generally predict the subseasonal signal to be either weak (ECMWF and CFS) or moderate (NCEP GEFS and Canadian) in strength. Nearly all models forecast the signal to remain nearly stationary over the Maritime Continent region (Phases 4,5 in RMM space) during Week-1, with some eastward propagation of the signal predominantly during the Week-2 period, and with varying

amplitude. The global tropics are predicted to be very active during this two-week period. Post-Tropical Cyclone Gamma continues to decay over the Yucatan Peninsula. As of 8am EDT, Oct 6, Hurricane Delta is 115 miles south-southwest of Grand Cayman Island in the western Caribbean Sea, and is predicted to move northwestward toward the northern tip of the Yucatan Peninsula and into the Gulf of Mexico over the next 1-2 days. The official track from the National Hurricane Center (NHC) takes Delta to the Louisiana coast by Thursday evening and Friday, continuing thereafter across the Tennessee Valley and Mid-Atlantic states. A swath of heavy rain is likely to accompany the hurricane along its projected track. In the East Pacific, Tropical Storm Marie (at one time a major hurricane) is anticipated to weaken and dissipate far from any landmass during the next 48 hours. As of 3am MDT, Tropical Storm Norbert is located about 385 miles south-southwest of Manzanillo, Mexico. During the next 5 days, NHC forecasts Norbert to continue at tropical storm intensity as it moves towards the northwest over open ocean.

In the western North Pacific during the last week of September, a disturbance strengthened into Category-1 Typhoon Kujira far removed from the Commonwealth of the Northern Mariana Islands (CNMI). Kujira then dissipated as it moved into an unfavorable environment of high shear and cooler SSTs. As of 12z on Oct 6, Tropical Storm 16W (Chan-Hom) is located approximately halfway between Guam and Japan. The Joint Typhoon Warning Center (JTWC) predicts Chan-Hom will recurve northeastward, passing well east of Japan. Several tropical waves are forecast to move across the Philippine and South China Seas, and one or two of these waves could develop into a tropical cyclone (TC). After these systems bring heavy rainfall to Southeast Asia, they are expected to re-emerge over the Bay of Bengal, and could regenerate into a tropical cyclone or monsoon depression. In the central South Indian Ocean, a tropical cyclone is forecast to form early in Week-1, and track westward towards northern Madagascar. During Week-2, the ECMWF and GFS ensembles predict additional tropical cyclogenesis for the same basins, with the possible exception of the Indian Ocean. Although each of these areas is assigned moderate confidence in Week-2, the Eastern Hemisphere is considered to be the most likely region for tropical cyclogenesis, given the broad upper-level divergence, unusually warm SSTs, and indications from the Taiwan TC tracker tool.

Anomalous rainfall patterns are based on a consensus between GEFS, CFS, and ECMWF rainfall predictions. Above average rainfall areas coincide with existing, and predicted TC's. In the East Pacific, the east-west elongated area of predicted above average rainfall is associated with the InterTropical Convergence Zone (ITCZ). In the Maritime Continent region, some of the predicted rainfall is associated with the stationary subseasonal signal. In southwestern and south-central portions of the Lower 48 states, warmer than average temperatures are forecast, based on dynamical model guidance and is supported by MJO teleconnections with enhanced convection in the Maritime Continent vicinity (centered on Phase 5 in RMM space). The area of predicted above average rainfall southeast of Brazil is likely related to mid-latitude baroclinic activity.

Forecasts over Africa are made in consultation with CPCâ€™s International Desk, and can represent local-scale conditions in addition to global-scale variability.