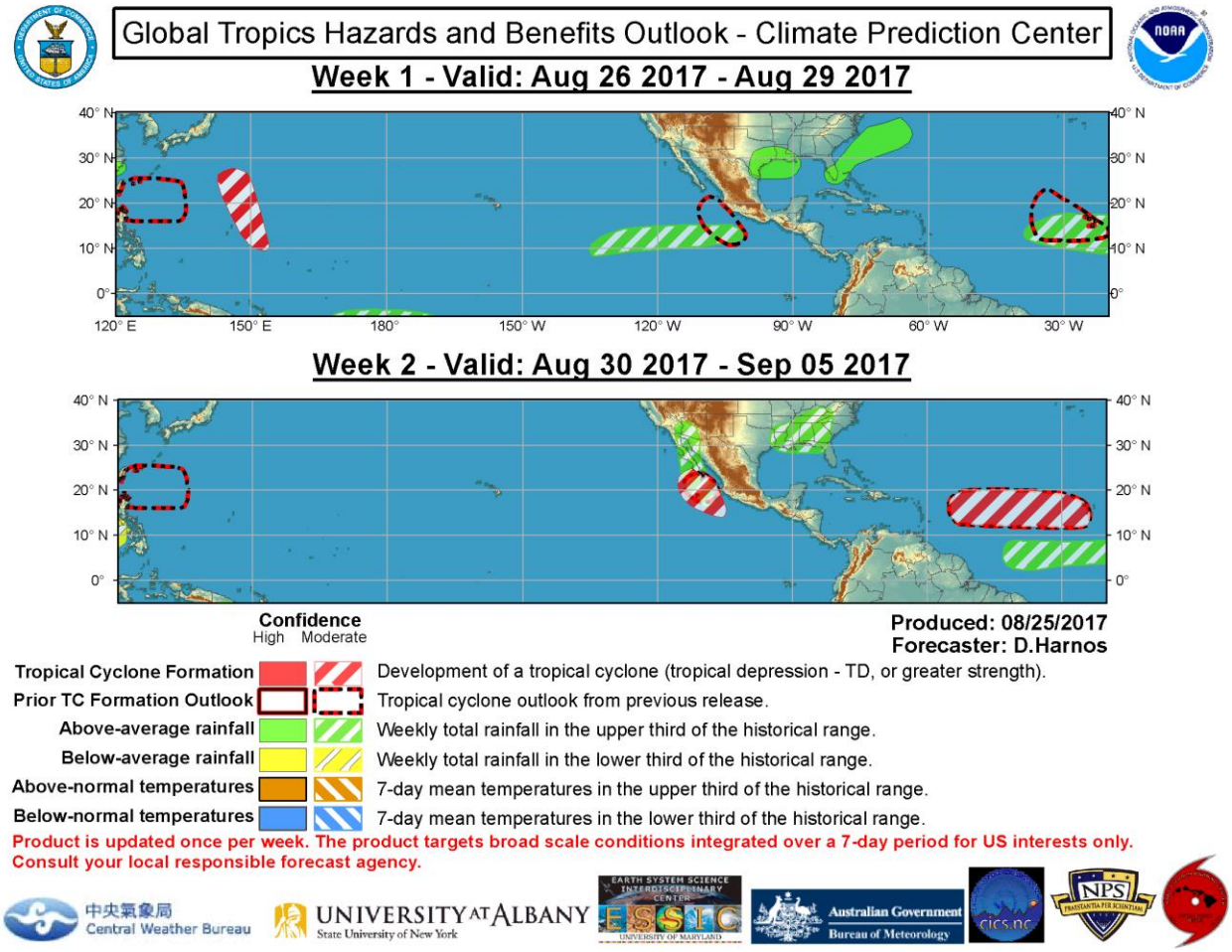

The perspectives from the original forecast below largely remain on track, with adjustments in the updated outlook generally being minor. The RMM index over the last 3 days has trended towards Phase 2 as anticipated, with dynamical models still forecasting an eastward moving signal into Phase 3 during Week-2. The CFS remains the only outlier, but does build an early signal into Phase 2 before uncharacteristic westward propagation towards Africa that may be tied to Rossby wave activity. The CFS solution continuing to be out of step with other models also appears tied to sea surface temperature (SST) biases in the Eastern Indian Ocean. Here the CFS forecast SST anomalies have been consistently too cold for the past several weeks and may be feeding back onto the forecast circulation over the Indian Ocean and Maritime Continent. Given these issues, the CFS continues to be discounted, and instead emergence of the MJO in Phase 2 over the next 5 days is favored, followed by transition to Phase 3 the following week at a relatively low amplitude.

Formation chances for East Pacific and Atlantic tropical cyclones (TCs) from the initial outlook now appear shifted to Week-2, but over similar areas to the inital product. The National Hurricane Center continues to monitor a disturbance presently near Tampa Bay for development, giving 20% formation odds over the next 48 hours and 40% over the next five days as of 2 PM EDT on 25 August. If the system

were to develop it appears likely to be subtropical in nature, and thus the system continues to be left off the updated outlook. The West Pacific tropical cyclogenesis region from the initial outlook is dropped, as Tropical Storm Pakhar formed on 24 August. The Joint Typhoon Warning Center is monitoring a disturbance presently near 10N/153E for development, forecasting a medium chance of TC development in the next 24 hours. Forecast tracks for this system are generally to the north-northwest, with a moderate confidence for TC formation in the updated outlook.

Precipitation areas are generally similar to the initial outlook, but have been adjusted to reflect the latest forecast TC tracks. Most noteworthy is the chance for over 30 inches of rain from Hurricane Harvey across portions of Texas during the next several days.

---------- The prior discussion from 18 August follows below. ----------

Reviewing the past week saw a continuation of a weak signal from the Madden-Julian Oscillation (MJO). Outgoing longwave radiation analyses indicate the only apparent mode of tropical variability was a pair of Kelvin waves, with one presently over the Maritime Continent and another in the Central Pacific. Dynamical models are indicating the development of an eastward propagating intraseasonal signal in the Indian Ocean over the next two weeks, that does project into the RMM index. Models disagree however regarding the amplitude of the event, from remaining at a low amplitude (ECMWF) to a moderate intensity MJO (Canadian). An emerging intraseasonal signal in Phase 2 during Week-1 and advancing into Phase 3 near the start of Week-2 is favored in the current outlook, with ensemble guidance forecasting above-average rains in the Indian Ocean that mirror expectations based on the RMM index forecasts. Models generally weaken the MJO prior to reaching the Maritime Continent, although historical difficulty in model propagation across this region has been noted.

Even with the lack of observed intraseasonal variability last week, tropical cyclone (TC) activity was widespread in the Northern Hemisphere. Typhoon Hato developed east of the Luzon Strait on 20 August, linked to the passage of a Kelvin wave. Hato is presently approaching Hong Kong, where landfall as a Category 1 typhoon is forecast near the beginning of the outlook period by the Joint Typhoon Warning Center. Kenneth developed in the East Pacific near 15N/116W on 18 August and rapidly intensified to a category 4 hurricane shortly thereafter. Kenneth is currently near 20N/133W and forecast to continue weakening while drifting northward over the next few days, such that it will be no threat to land. Tropical Storm Harvey developed from an African Easterly Wave near 13N/56W on 17 August. Two days later, Harvey had dissipated, but the National Hurricane Center (NHC) continues to track the remnants, placing them currently near the Yucatan Peninsula and giving a 90% chance of redevelopment in the Bay of Campeche in the next 48 hours and near 100% over the next 5 days (note

NHC's forecast development area is not indicated in the current Global Tropical Hazards outlook as it reflects the redevelopment of Harvey, as opposed to its initial formation). NHC's forecast redevelopment area for this system does approach south Texas, with interests in that region advised to follow NHC's advisories for the latest information.

Several potential TC formation areas are indicated over the next two weeks. TC activity looks to continue near 20N from Vietnam through 135E in both outlook periods. Both the GEFS and ECMWF ensembles indicate development by the weekend near the Phillipines of a system that then tracks towards Hainan and Vietnam. The ECMWF ensembles indicate a second system developing to the west of the Mariana Islands late in Week-1 or early in Week-2, leading to identical areas of moderate confidence for formation over the next two weeks. The GEFS and ECMWF both indicate formation potential in the East Pacific off the southwestern coast of Mexico late in Week-1 or early in Week-2, with a moderate confidence area for cyclogenesis shifting north from off Jalisco in Week-1 towards Baja California in Week-2. Tropical cyclogenesis is also possible in the Atlantic over both outlook periods with moderate confidence. The Week-1 region targets an easterly wave that is forecast to develop near Cape Verde towards the end of Week-1. The Week-2 area in the Atlantic is due to broadly favorable conditions and approaching the climatological peak in Atlantic TC activity. While not indicated on the map, NHC gives a region over the Bahamas a 30% chance of developing over the next 5 days but model guidance has been trending away from supporting development over the last several days, and thus it is left off the outlook here.

In Week-1, precipitation outlooks are predominantly driven by anticipated TC tracks, emergence of an intraseasonal signal over the Indian Ocean, a continuation of observed Kelvin wave activity, and consensus between the CFS and ECMWF ensemble systems. High confidence of above-average rains is forecast in eastern China, the southern U.S., and Florida in association with potential tropical systems. Moderate confidence for above-median rains are forecast in the equatorial Indian Ocean in association with the emerging intraseasonal signal and East Pacific where Kelvin wave activity is forecast. Frontal activity leads to forecasts of above-normal rains for parts of Brazil and Argentina. Remaining forecast areas in Week-1 result from consensus between the CFS and ECMWF models.

Shifting to Week-2, precipitation outlooks are driven mostly by anticipated continuation of the intraseasonal signal in the Indian Ocean towards the Maritime Continent. This is likely to support a wet-dry dipole between the western Maritime Continent and Southeast Asia. Dynamical models agree on above-median rains from New Guinea eastward toward the Date Line, which appears tied to Kelvin wave activity which could radiate eastward from the primary intraseasonal envelope. Elsewhere, TC activity south of the Baja Peninsula could generate a surge of moisture to its north reaching into the Southwest. Remaining forecast areas in Week-2 once more result from model consensus, here among the CFS, GEFS, and ECMWF.

The outlooks over Africa are produced through consultation with CPC's international desk, and can represent local-scale conditions in addition to global-scale variability.