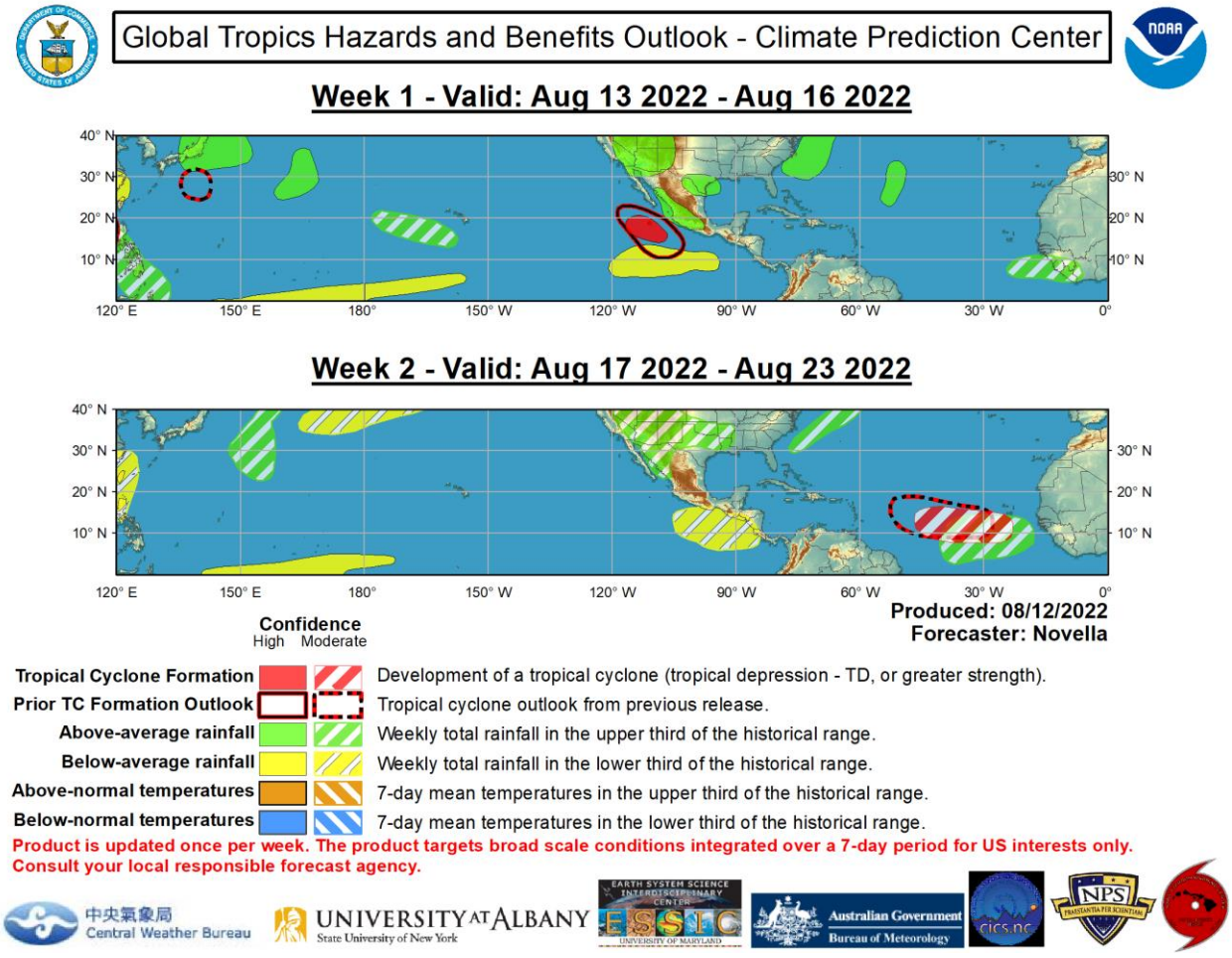

The tropical perspective remains on track since earlier this week. The Madden Julian Oscillation (MJO) continues to be weak and incoherent, where the low frequency state and Kelvin wave activity appear to be contributing most to the convective pattern. There is the potential for renewed intraseasonal activity over the Indian Ocean during the week-2 time frame, with upper-level velocity potential forecasts from the dynamical models showing more of a wave-1 type pattern taking shape across the global tropics later in August. However, RMM forecasts continue to be divided in regards to the strength and evolution of the intraseasonal signal during the next two weeks contributing to uncertainty in the outlook.

During the past few days, a pair of tropical cyclones (TCs) formed in the Eastern Hemisphere. Although no TC formed in the South China Sea as previously forecast, TC Meari formed on 8/11 over the northern Philippine Sea resulting in the corresponding TC area being removed from the outlook. Currently at Tropical Storm strength, the Joint Typhoon Warning Center (JTWC) forecasts Meari to strengthen and make landfall over the Izu Peninsula of Japan within the next 24 hours. Strong winds, high waves, and locally heavy precipitation amounts appear likely over many parts of Honshu, Japan over the weekend. In the northern Indian Ocean, TC Three formed on 8/12 in the Arabian Sea. The JTWC expects this system to meander over open waters under a weak steering environment, and dissipate by this

weekend due to dry air entrainment and high shear conditions tied to the tropical easterly jet being favored to return over the region.

For the updated outlook, high confidence still exists for TC formation in the eastern Pacific where the National Hurricane Center (NHC) maintains a 70% chance of development to the south of Baja California, Mexico during the next 5 days. Although odds of formation have slightly reduced during the past 24 hours, the NHC expects a short-lived TC to develop by this weekend which is supported by the latest ensembles. In the Atlantic, the NHC is also monitoring a surface trough in the western Gulf of Mexico with a low chance (10%) of development and no TC areas are included in the updated outlook. During the later period, there is less support from the dynamical models and probabilistic TC tools for additional formation in the eastern Pacific, however a moderate confidence area for TC genesis is maintained over the tropical Atlantic. Good multi-model agreement still exists between CFS, GEFS and ECMWF OLR forecasts favoring the development of enhanced convection tied to Rossby wave activity over the Main Development Region (MDR). In the western Pacific, there are some indications of additional TC development across the Philippine Sea in the ensemble guidance however, there is not enough support in the probabilistic tools to include a TC formation area at this time.

Forecasts for above- and below-normal precipitation are updated based on the latest dynamical model guidance, anticipated TC tracks and various modes of tropical variability. Over the southwestern CONUS, above-normal precipitation is predominately favored associated with a robust North America monsoon circulation.

---------- Previous discussion from Aug 9, 2022 is below ----------

Consistent with the previous model solutions, the Madden Julian Oscillation (MJO) continues to be ill-defined during the past week which is reflected in CPCs velocity potential anomaly based MJO index as well as RMM observations showing a low amplitude signal over the western Pacific. Looking ahead, there is fair agreement in dynamical models depicting a fast eastward propagation of the intraseasonal signal across the Western Hemisphere and reaching the Indian Ocean, though several RMM forecasts predominantly maintain a low amplitude signal (remaining within the RMM unit circle) during the next two weeks. The rapid phase speed of the model solutions are suggestive of a convectively coupled Kelvin wave projecting onto the RMM index as it crosses the Pacific, which is supported by objective wavenumber-frequency filtering of upper-level velocity potential forecast fields. However, an eastward propagating Kelvin wave reaching the Eastern Hemisphere may incite a more coherent MJO over the Indian Ocean, as depicted by some models (CFS, BOM) later in August. In the absence of a coherent MJO, at least through the middle of August, other modes of variability are more likely to be the primary

contributors to tropical precipitation as well as tropical cyclone (TC) development in the Pacific and Atlantic.

During the past week, one TC formed in the global tropics. In the eastern Pacific, TC Howard formed on 8/6 and strengthened to a category 1 Hurricane to the southwest of Cabo, Mexico. The National Hurricane Center (NHC) expects Howard to begin weakening under the influence of cooler sea surface temperatures and degenerate into a post-tropical cyclone over open waters later this week. Its proximity to the Gulf of California may trigger a gulf surge event and bring ample amounts of moisture into the Desert Southwest where enhanced precipitation amounts are favored during week-1 across much of the western CONUS.

For the next two weeks, there are several areas of interest for potential TC development. In the eastern Pacific, the NHC is monitoring a trough of low pressure to the southwest of Mexico with a 60% chance of formation during the next five days. Given the aforementioned Kelvin wave activity favored to traverse the Pacific, and support from the model guidance depicting an area of deepening low pressure later this week, a high confidence area for TC formation is posted in the wake of TC Howard. Continued TC activity in this region of the eastern Pacific may initiate another Gulf of California surge event and reinforce an enhanced moisture regime as part of the North America monsoon circulation later in the period. Farther west, the Central Pacific Hurricane Center (CPHC) continues to monitor a tropical wave to the south of Hawaii with a 30% chance of formation during the next five days. Chances of development have decreased since earlier this week and there is not enough confidence to include a corresponding TC area in the outlook. However, increased precipitation amounts and elevated winds are possible for parts of Hawaii early in week-1 associated with this disturbance as it tracks westward away from the state.

Across the Atlantic, the NHC continues to monitor a tropical wave in the Main Development Region (MDR) with a 30% chance of formation during the next five days. While models favor some deepening of low pressure in the near-term tied to this wave, environmental conditions are expected to become less conducive for development by this weekend, prompting no corresponding TC area for week-1 in the MDR. Later in the period, one or more easterly waves propagating over West Africa remain favored in ensemble guidance, where there is also multi-model agreement indicating Rossby wave activity and enhanced convection in the OLR anomaly fields over the tropical Atlantic. While some probabilistic TC tools are less supportive of TC potential in the MDR, a moderate confidence area is posted over the MDR for week-2, which coincides with a sharp climatological uptick in TC activity over the Atlantic by mid-August. Should the MJO show better signs or organization over the Indian Ocean later in August, this also historically favors increased chances for TC development in the Atlantic basin.

In the eastern Hemisphere, the JTWC is monitoring a disturbance with a high chance of formation in the South China Sea during the next day or so, and a high confidence area of TC formation in the outlook for week-1. Due to its proximity to land, locally heavy precipitation amounts and high winds are possible over parts of Vietnam and China early in the period. Farther east, the JTWC is also monitoring an area of convection over the northern Philippine Sea that has shown better signs of organization recently. A moderate confidence area is posted where there is increased support in the latest GFS and ECMWF deterministic solutions favoring the development of a closed low during the next day or so. Beyond week-1, conditions are largely expected to be quiet in the western Pacific. The deterministic GFS continues to favor TC formation in the Philippine Sea next week, though this is much less supported in other model solutions and tools resulting in no TC related areas in the western Pacific. Across the northern Indian Ocean, probabilistic TC tools continue to signal elevated chances of development in the Arabian Sea during week-1. Although TC formation is possible, no TC areas are issued due to an increasingly unfavorable shear environment associated with the Indian monsoon circulation. Regardless of formation, enhanced precipitation amounts are favored across portions of northwestern India and Pakistan.

For hazardous weather concerns in your area during the next two weeks, please refer to your local NWS office, the Medium Range Hazards Forecast from the Weather Prediction Center (WPC) and the CPC Week-2 Hazards Outlook. Forecasts issued over Africa are made in coordination with the International Desk at CPC.