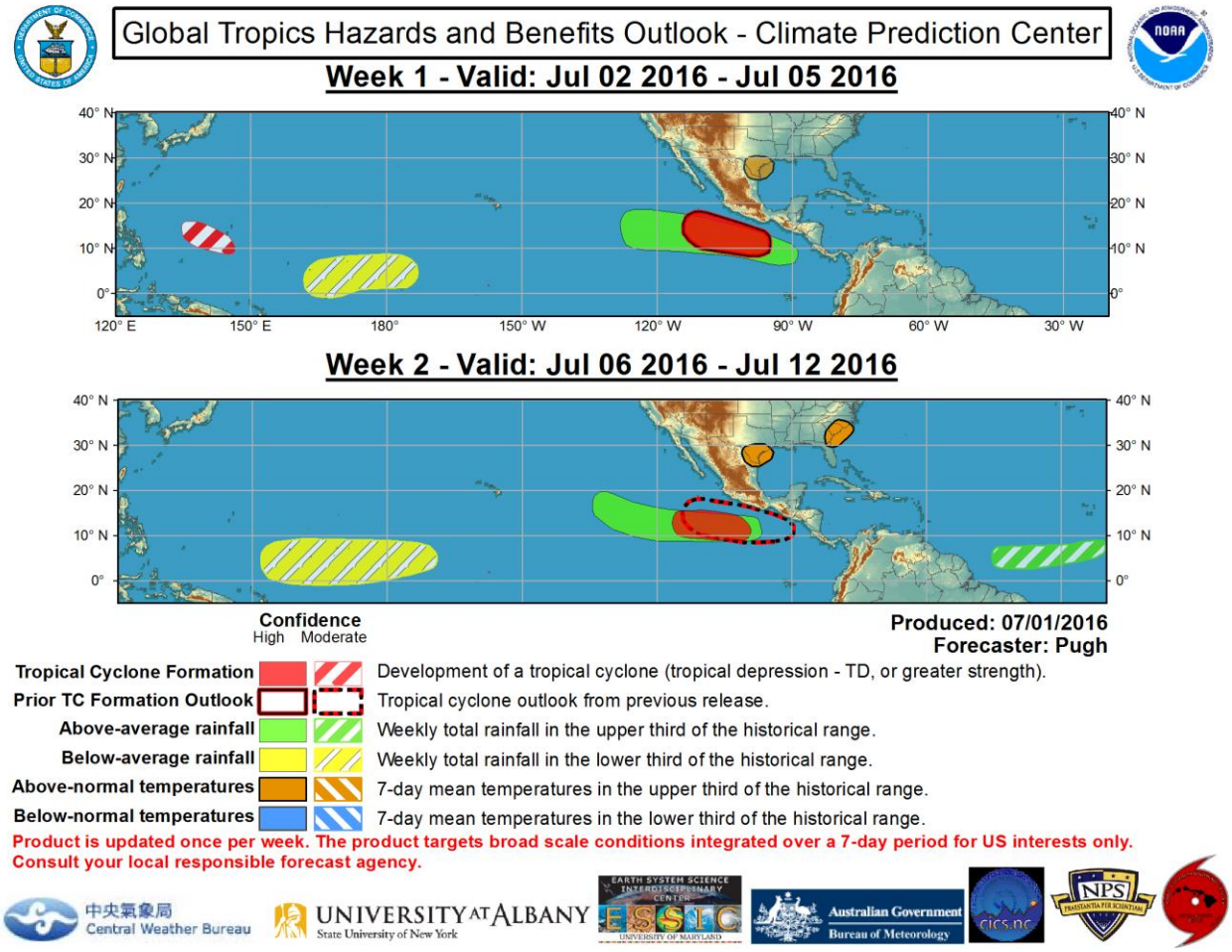

The amplitude of the MJO decreased according to the Wheeler-Hendon RMM index in recent days, while the CPC index based on the 200-hPa velocity potential depicts a continued MJO signal although at a faster eastward propagation. A strong atmospheric Kelvin Wave, progressing east across the Western Hemisphere, is likely affecting these indices. Due to this ongoing atmospheric Kelvin Wave, the evolution of the MJO during early July is uncertain. Precipitation forecasts from the latest GFS, CFS, and ECMWF models were used to modify the favored areas of above and below-median rainfall areas through July 12.

As of July 1, a broad area of low pressure is located several hundred miles southwest of Acapulco, Mexico. Environmental conditions are becoming more conducive for tropical cyclone development across the East Pacific. Therefore, high confidence exists for a tropical depression to form across this region during the next four days. The atmospheric Kelvin Wave likely contributed to initiation of convection, east of the Philippines, this week. Moderate confidence for tropical cyclone development is forecast across the West Pacific (10-15N/135-145E) during the next few days, which is supported by the latest GFS and Navy NOGAPS models.

Model guidance remains consistent that a second tropical cyclone is likely to develop by mid-July across the east Pacific. Due to the excellent model consistency and improving environmental conditions, confidence for tropical cyclone development is increased to high for the east Pacific from July 6 to 12. Since the models have trended towards a more westward track of the tropical cyclones across the east Pacific, above-median rainfall is less likely across the Gulf of California and is removed from the previous outlook.

A strong subtropical ridge is likely to result in above-normal temperatures and the potential for excessive heat (maximum daily heat index values of 110 degrees F, or more) across southeast Texas through July 12. The subtropical ridge is expected to expand east by July 6 and lead to above-normal temperatures and associated excessive heat (maximum daily heat index values of 105 to 110 degrees F, or more) across the eastern Carolinas, southeast Georgia, and northeast Florida.

The previous discussion released on June 28 follows.

A robust MJO signal continued during the past week according to multiple diagnostic tools along with the RMM and 200-hpa Velocity Potential indices. The propagation of the MJO recently slowed as it shifted to the western Maritime Continent and the OLR anomaly field indicates an atmospheric Kelvin wave crossing the Date Line. Current satellite imagery indicates an axis of convection oriented from the Arabian Sea southeast to the Maritime Continent which is typical of a mature MJO signal during the Northern Hemisphere summer. Tropical Cyclone 2A developed across the Arabian Sea on June 27 and is forecast to dissipate during the next 48 hours. Dynamical model forecasts indicate eastward propagation of a MJO signal into early July, but an atmospheric Kelvin Wave and potential tropical cyclones across the east Pacific are likely influencing the RMM index.

The precipitation outlook during Week-1 is based on CFS and ECMWF model guidance, MJO precipitation composites for Phases 5 and 6, and influence from atmospheric Kelvin Wave crossing the Western Hemisphere. Above-median rainfall is favored from India southeast to southern China and

Vietnam. Although there is an elevated risk of tropical cyclone formation across the South China Sea, confidence is too low to depict an area on the map. Below-median rainfall is expected to develop across the eastern Indian Ocean and the western Maritime Continent as convection begins to shift north during the next week. A small region of above-median rainfall is also forecast across the Arabian Sea, associated with the ongoing tropical cyclone. The evolving low-frequency state favors below-median rainfall across parts of the western Pacific. Model guidance generally supports above-median rainfall across the eastern Pacific and remains consistent that a tropical cyclone develops late in Week-1, originating from a westward-moving tropical wave now over Central America.

During Week-2, the remnant MJO signal is expected to result in above-median rainfall across parts of the Bay of Bengal, northern India, and eastern Pakistan, while below-median rainfall expands north to include Sri Lanka and southern India. Below-median rainfall is forecast to persist across parts of the western Pacific although model guidance differs on the most favored area. If the MJO signal remains robust, enhanced convection is likely to intensify across the eastern Pacific later in Week-2. Forecast confidence for this outcome is limited, considering that many of the dynamical model forecasts depict a decrease in the amplitude of the MJO signal. The GFS model remains consistent with an elevated risk of another tropical cyclone to form during Week-2 across the eastern Pacific. The moderate confidence for above-median rainfall across parts of northwest Mexico, the Gulf of California, and Baja Peninsula is related to the likelihood of tropical cyclone activity in the east Pacific during the next two weeks and the increasing potential for an enhancement of low-level moisture.

Forecast over Africa are made in consultation with CPCs international desk, and can represent local-scale conditions in addition to global-scale variability.