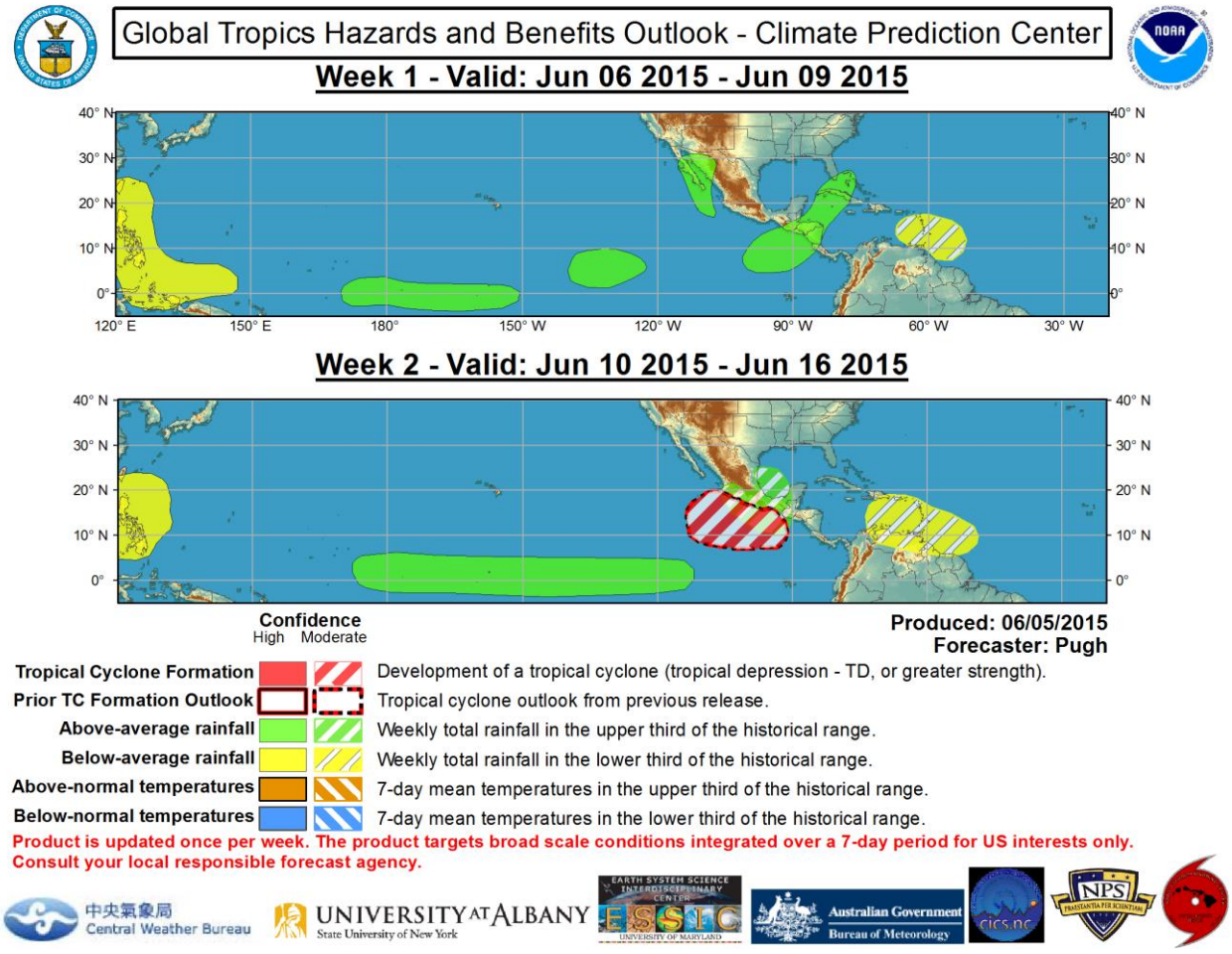

Since the GTH release on June 2, the amplitude of the MJO signal increased. Both the Wheeler-Hendon RMM index and the CPC Velocity Potential based index indicate a strengthening MJO signal, with the CPC index indicating a slight eastward propagation since late May. Although the Canadian and ECMWF models favor a more coherent MJO signal with eastward propagation during the next two weeks, it remains unclear how organized the MJO becomes and its influence on anomalous convection and tropical cyclone activity.

Tropical Storm Blanca located in the east Pacific strengthened to a Category-2 Hurricane since June 2. Blanca is forecast to track north-northwest and weaken to a Tropical Storm when it approaches the southern Baja California peninsula on Sunday. Above-average rainfall is likely along its track and also across inland areas of northwest Mexico.

As of June 5, satellite imagery indicates enhanced convection along a trough axis extending from south Florida southwest across the western Caribbean and Central America. Above-average rainfall is favored along this trough axis from Central America northeast to Cuba, the Florida Straits, and parts of the

Bahamas which is consistent with model guidance. An area of low pressure is expected to develop during the next 96 hours a few hundred miles south of El Salvador and Guatemala. The odds for tropical cyclone development across this region by June 9 are too low to depict a shape on the map. However, environmental conditions are expected to be favorable for slow development.

The medium confidence for tropical cyclone development across the east Pacific is maintained for the June 10-16 period. Recent high-resolution GFS and ECMWF models have indicated the development of a weak area of low pressure across the Bay of Campeche by mid-June. Above-average rainfall was expanded from the previous outlook to include parts of the Bay of Campeche, southwest Gulf of Mexico, and the states of Veracruz and Tamaulipas in northeast Mexico.

---------- Previous discussion follows ----------

According to the Wheeler-Hendon RMM based MJO index, the MJO strengthened slightly during the past week. The CPC Velocity Potential based index indicates little to no change from the previous weeks, with only a slight eastward shift during the entire month of May. The subseasonal coherent tropical variability continues to be dominated by atmospheric Kelvin wave activity, and now tropical cyclones in the Northern Hemisphere are impacting the overall circulation.

Enhanced convection remained in place over the eastern Pacific, with some connection to North America. Suppressed convection was evident from the Indian Ocean to the western North Pacific. The placement of enhanced/suppressed convection is consistent with the low-frequency state. A couple of robust Kelvin waves have also traversed the globe, and are likely responsible for a portion of the convection over the East Pacific.

Two tropical cyclones formed over the East Pacific, and are forecast to strengthen during the next 2-5 days. During the next week, most models are depicting the development of an area of low pressure near the west coast of India. Some models develop a tropical cyclone out of that feature, despite the hostile environmental conditions. During Week-2, the most likely area for tropical cyclone development shifts back to the East Pacific.

Dynamical model guidance indicates a strengthening signal during Week-1, with eastward propagation. During Week-2, the models generally indicate a weakening signal over the Indian Ocean. The current thinking of the forecast team is that the evolution of those index values is the result of other modes being aliased onto the RMMs. The Constructed Analog statistical model depicts a weaker signal, while other statistical models predict little to no signal beyond Week-1.

Given the uncertainty in Week-1, the forecast relies on the low-frequency state, Kelvin wave activity, tropical cyclone activity, and model output, resulting in below-average rains from Southeast Asia to the western North Pacific. The low-frequency state favors continued above-average rains near the Date Line and portions of the East Pacific, while tropical cyclone activity favors heavy rains for the southern coast of Mexico. Anomalously high vertical wind shear and the low-frequency state also favor below-average rains for the Caribbean and tropical Atlantic.

During Week-2, the focus for the area of below-average rains near Southeast Asia shifts slightly northward. The status of faster modes (Kelvin waves and tropical cyclones) is less certain, so the signal for above-average rains over the central Pacific relies more on the low-frequency state and model output. Below-average rains are again expected over much of the Caribbean and northern South America.

Depicted areas of suppressed or enhanced rainfall over Africa are produced in collaboration with CPC's Africa Desk.