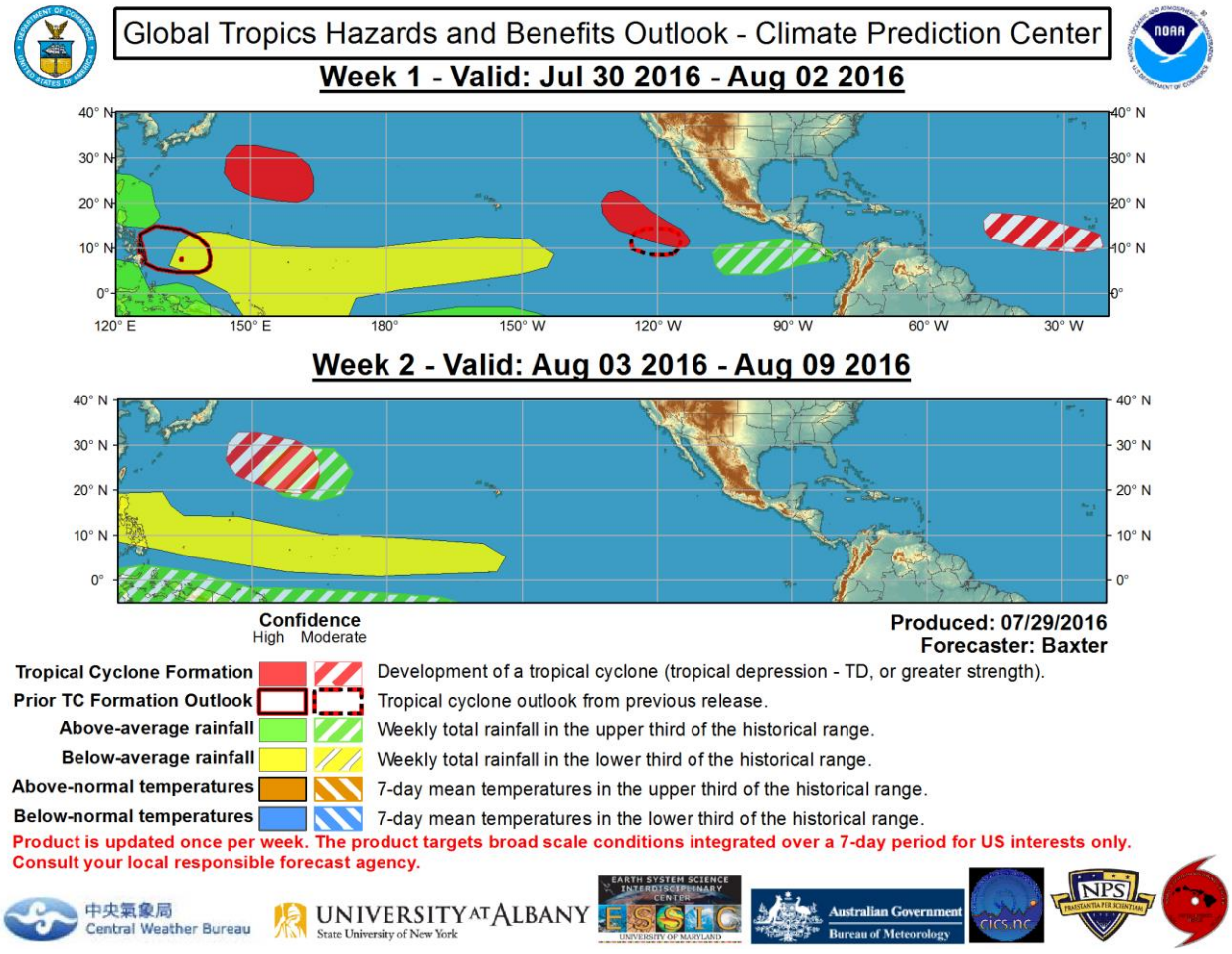

The overall pattern of tropical variability has evolved as expected over the past few days, with destructive interference occurring between the MJO signal and low-frequency variability and atmospheric Kelvin waves. The enhanced phase of the MJO is now over the Maritime Continent, though lower-frequency variability over Africa and a Kelvin wave over the eastern Pacific serve to disrupt the coherent pattern of MJO-related variability. The robust wave-1 velocity potential structure has weakened substantially this week, and dynamical model forecasts diverge in their respective solutions over the next two weeks.

A few important changes are made in the Friday update with respect to forecast tropical cyclone (TC) formation from July 30 to August 2. A high risk of TC formation is now indicated over the East Pacific, associated with a convectively coupled Kelvin wave. A low risk of TC formation is forecast later over the East Pacific, but conditions are generally forecast to become less favorable with time. Atmospheric conditions appear favorable for some development of a tropical disturbance over the tropical Atlantic early in the period, with a moderate confidence indicated. Over the West Pacific, a tropical depression has formed east of the Philippines, forecast by the Joint Typhoon Warning Center to track across the far northern Philippines before taking aim at southeastern China as a weak typhoon. Additional TC

formation is likely farther north over the West Pacific, associated with persistent troughing in that region. This system is expected to form by early next week, and a second system could develop over the same region later in the week. During the later period, there is a low risk of TC formation over the western Caribbean and Bay of Campeche.

Some changes were made with respect to areas favoring above- or below-average rainfall in accordance with the latest model guidance from the CFS and ECMWF.

The original forecast discussion follows:

The MJO has been active over the past week, with both the RMM and CPC velocity potential indices showing the enhanced phase moving over the western Maritime continent. In fact, by examining the time-longitude diagrams of the different variables at play, as well as the RMM phase diagram, we can say with some confidence that the MJO has been a significant component of subseasonal tropical variability for much of the summer. Today's dynamical model guidance has come into somewhat better agreement, with the MJO forecast to propagate across the Maritime continent over the next one to two weeks. However, interference with other patterns of variability, including the slowly-evolving base state, increases uncertainty, especially with respect to forecast regions of enhanced and suppressed rainfall.

During the last week, Tropical Storm Frank and Hurricane Georgette formed over the East Pacific. Both are forecast to weaken over the next couple of days as they drift generally westward. Currently, the accumulated cyclone energy in the eastern and central Pacific is 237 percent of normal, and there is a moderate chance of tropical cyclone (TC) formation during the next week in this region, associated with a convectively coupled Kelvin wave. Beyond that, however, it appears that the East Pacific will become less active as the suppressed phase of the MJO propagates across the Western Hemisphere. The western North Pacific basin is at 40 percent of normal ACE for this time of year, and there is little support from the various model guidance for a broad increase in activity over the next two weeks. That said, Tropical Storm Mirinae formed over the South China Sea, and TC formation is likely east of the Philippines during Week-1. In the Atlantic basin, some models are indicating an increase in the chances for tropical cyclone formation during late Week-1 or early Week-2, though this threat is best classified as low potential for the time being. This will be revisited in the Friday update.

Enhanced convection is forecast from parts of Southeast Asia, through the Maritime Continent, into parts of the South Pacific during Week-1. This signal is broadly consistent with ongoing and forecast MJO activity, as is the tendency toward below-average rainfall across parts of the tropical Indian Ocean. Model guidance and the low-frequency state strongly favor below-average rainfall across parts of the central and western equatorial Pacific. A subtropical low could break off from the midlatitude flow over the North Pacific, increasing the odds of above-average rainfall. There is a low probability that this system could transition to a tropical cyclone later in Week-1 or Week-2.

During Week-2, there is less coverage due to increased uncertainty. Only the regions in which the ECMWF and CFS agree are highlighted; these regions are somewhat consistent with eastward propagation of the MJO signal and the low-frequency dry signal forecast over the central Pacific.

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