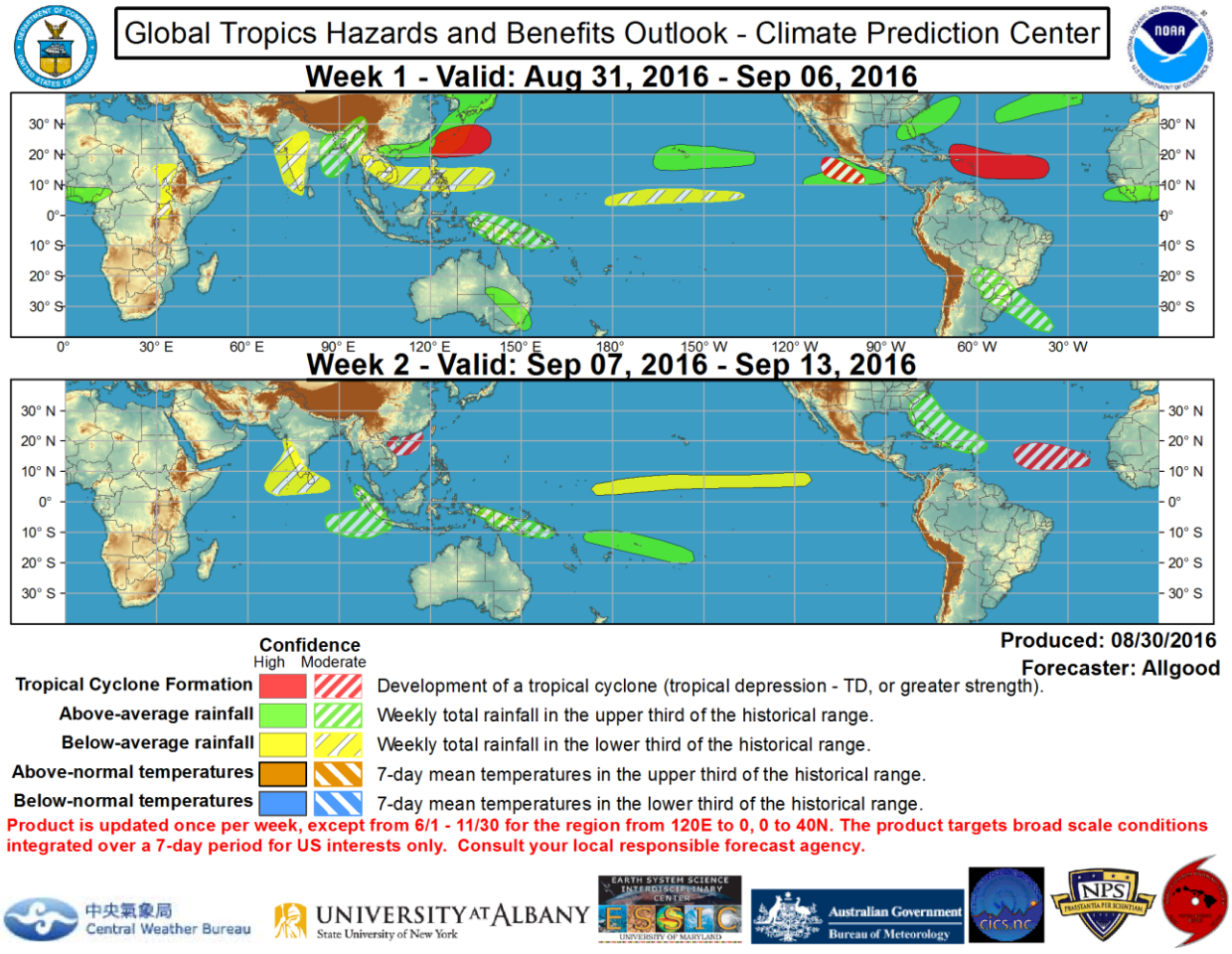

The MJO remained weak during the past week, as other intraseasonal modes strongly influenced the pattern. The upper-level pattern does exhibit a fairly coherent Wave-1 asymmetry, suggesting an enhanced phase over the East Pacific. The OLR pattern is out of phase with the upper-level velocity potential anomalies with respect to canonical MJO activity; however, with widespread enhanced convection over the eastern Indian Ocean and the Maritime Continent. Accordingly, the RMM-based MJO index is weak, as the competing convective and upper-level components destructively interfere with each other. A robust equatorial Rossby Wave is evident in the OLR field, which is contributing to the enhanced convection over the Maritime Continent. Additionally, tropical cyclone activity and an active and northward displaced monsoon trough over the West Pacific continue to influence the overall pattern. Dynamical model RMM-based MJO index forecasts exhibit a wide range of solutions, with the GFS ensembles increasing amplitude over the Western Hemisphere by Week-2, possibly in response to tropical cyclone activity, and the ECMWF ensembles favoring the Maritime Continent. Bias-corrected versions of these model forecasts largely show a weak signal through the end of the period. Therefore, the MJO is not anticipated to play a significant role in the evolution of the global tropical convective pattern during the next two weeks.

A pair of tropical depressions (TDs) formed over the western Atlantic basin during the past week. TD-8 formed off the US South Atlantic coast on 28 August, and is currently near the North Carolina Outer Banks. A brief period of tropical storm conditions is possible along the Outer Banks before TD-8 recurves to the northeast. TD-9 formed from an easterly wave over the Florida Straits and is currently producing extremely heavy rainfall across western Cuba. Official track and intensity forecasts from the National Hurricane Center (NHC) bring TD-8 to the eastern Gulf of Mexico and across North Florida as a tropical storm. Ongoing Hurricane Gaston briefly attained Category-3 intensity on the Saffir-Simpson scale as it began recurving well east of Bermuda. Over the East Pacific, two major hurricanes developed in the past week, Lester and Madeline, and are both moving westward over the east-central Pacific. With a low shear environment and above-average SSTs in place, both storms are forecast to pass near or over the Hawaiian Islands at hurricane intensity over the next several days, with significant wind, rainfall, and wave or storm surge hazards likely, particularly for the Big Island. Elsewhere, long-lived Typhoon Lionrock made landfall as a tropical storm over northern Japan, and is forecast to continue weakening before making a second landfall over Russia's Primorsky Krai province.

Over the next several days, a tropical wave currently near the Cape Verde Islands is anticipated to encounter conditions more favorable for tropical cyclone formation as it moves westward across the Atlantic MDR. The NHC currently forecasts a 40 percent chance of TD formation over the next five days in association with this wave. Given strong dynamical model support for a tropical cyclone, a high potential for tropical cyclone formation is indicated on this outlook for the Week-1 period. Most GFS and ECMWF ensemble forecast tracks for this system bring it near or just offshore the southeastern CONUS during Week-2, with a wide range of solutions extending from the eastern Gulf of Mexico to off the coast of the Carolinas. There is also considerable uncertainty regarding the intensity of the system, should it develop. Therefore, a broad area of moderate confidence enhanced rainfall in association with this system is indicated for Week-2 extending from the Lesser Antilles through parts of the US Southeast coastline. Tropical cyclogenesis is also favored just south of Mexico over the East Pacific, although confidence is moderate. Over the West Pacific, dynamical models strongly favor tropical cyclone formation northeast of the Philippines in association with the Monsoon Trough. During Week-2, there is moderate confidence for additional tropical cyclone formation over the Atlantic MDR, due both to dynamical model guidance and climatology. There is also moderate confidence for tropical cyclone formation over the South China Sea, although development may be limited due to proximity to land.

Forecasts for regions of enhanced or suppressed rainfall were informed largely by a consensus between the CFS and ECMWF precipitation outlooks. During Week-1, suppressed (enhanced) rainfall is anticipated across western India (the Bay of Bengal and parts of Myanmar and Thailand). Further east, the Monsoon Trough is forecast to remain displaced northward with respect to climatology, resulting in enhanced rainfall extending from southeastern China through southern Japan, and suppressed rainfall across much of Southeast Asia, the South China Sea, the Phillipines, and parts of the Northwest Pacific. In part due to continued ERW influence, enhanced rainfall is forecast for the eastern Maritime

Continent, including a potential for unusual off-season precipitation across central and southeastern Australia. Suppressed ITCZ precipitation is favored across the equatorial central Pacific, while enhanced precipitation along a frontal boundary is forecast for south-central and southern Brazil.

During Week-2, suppressed (enhanced) rainfall is anticipated across parts of India and the north-central Indian Ocean (eastern Indian Ocean and western Maritime Continent, the eastern Maritime Continent, and the southwestern Pacific, including American Samoa). An evolving low-frequency base state continues to favor suppressed convection across the central Pacific just north of the equator. Elsewhere, precipitation shapes on this outlook coincide with the forecasted tropical cylone activity mentioned above.

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