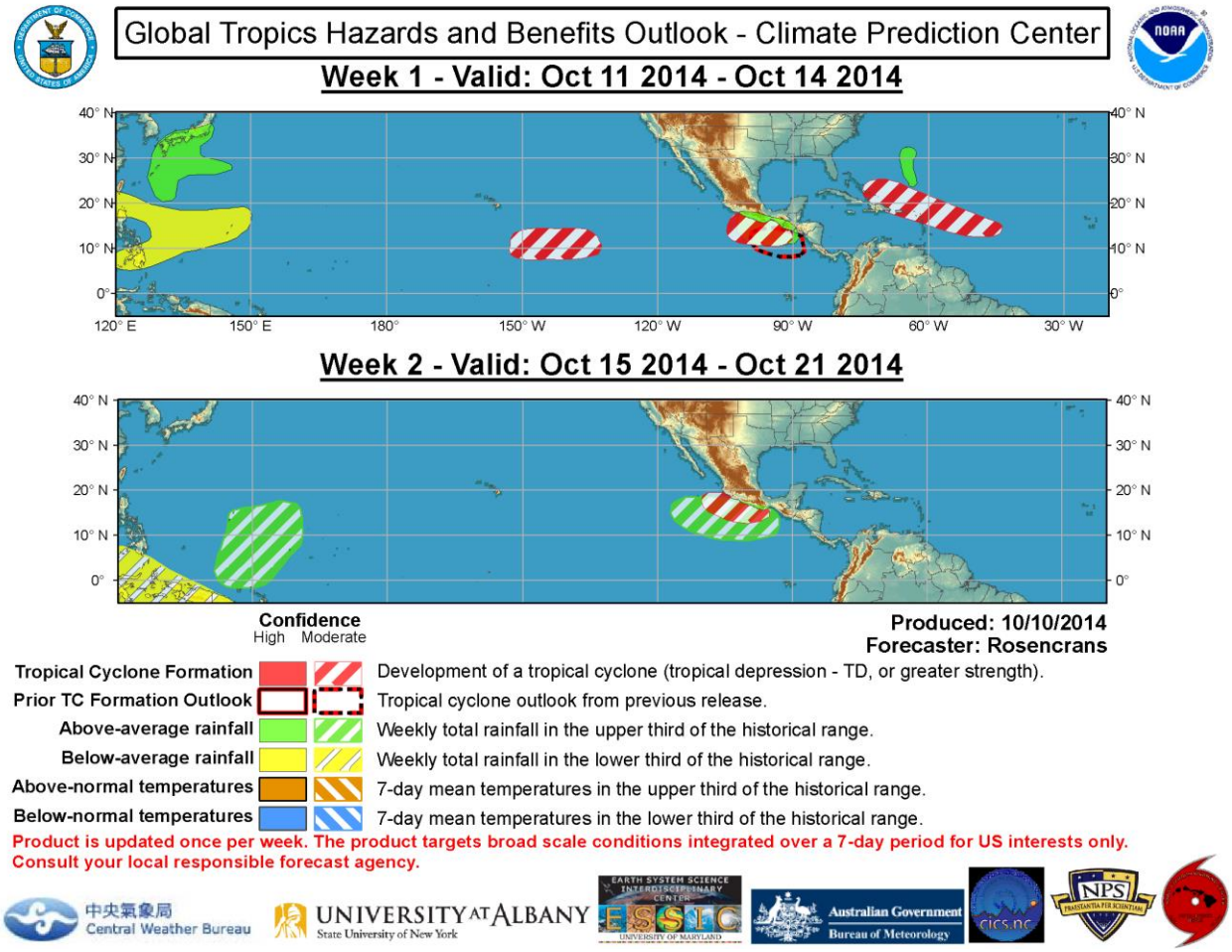

The MJO remained weak, although the upper level circulation pattern is more aligned with a robust MJO than in previous weeks. This is likely due to a confluence of other modes of variability rather the development of a coherent circulation pattern. The convectively enhanced phase of an Equatorial Rossby Wave and a Kelvin wave are likely to constructively interfere over the Americas during Week-1. The influence of another Equatorial Rossby Wave is likely to affect Africa and the Maritime Continent.

Subtropical depression 7 developed over the Central Atlantic, and is forecast to move northward toward Bermuda during the next 3 days. Tropical Cyclone formation over the East Pacific is likely, especially close to the coast of southern Mexico. Some models are showing signals for an enhanced likelihood of tropical cyclone formation southeast of Hawaii, along 10N, from about 155W to 135W. Confidence in formation is moderate. The National Hurricane Center, 5-day graphical tropical weather outlook indicates a 20% chance of formation near the Lesser Antilles. During Week-2, formation odds remain elevated near the south coast of Mexico, with a weaker signal near Guam.

Below average rains are likely across the Maritime Continent and portions of the West Pacific. In contrast, enhanced convection is likely over the East Pacific, especially toward the the middle of next week. Heavy rains are also likely over Japan, associated with Super Typhoon Vongfong. In the wake of the typhoon, below average rains are likely across portions of the Maritime Continent and West Pacific. Through Week-2, above average rains are likely to develop over the Western Pacific, in the area from Guam to Papua New Guinea, and across the East Pacific ITCZ region.

---------- Previous Discussion Follows ----------

The MJO remained generally weak during the past week. The RMM index reflected a very weak signal, recently emerging as a slightly more coherent signal over the Maritime Continent and western Pacific. The CPC velocity potential index suggests a stronger enhanced convective phase over the Maritime Continent and western Pacific, but with little eastward propagation over the past week or so. Dynamical models suggest that a weak signal early in the period may become more coherent as an eastward-propagating MJO event over the Western Hemisphere. Additionally, there is some indication of two atmospheric Kelvin waves over the Maritime Continent and western Hemisphere which are forecast to propagate quickly across the Pacific and the Atlantic, respectively, during Week-1.

As of 12:30 pm on 7 Oct 2014, Tropical Storm Simon is still active over the East Pacific, and is forecast to rapidly weaken over the next day or so as it moves northeastward into the southwestern CONUS, bringing locally heavy rain. Super Typhoon Vongfong is forecast to move northward in the western Pacific over the next several days. Model guidance has been somewhat inconsistent with the forecast track of this system, and so interests in the area should monitor the latest forecasts from the Joint Typhoon Warning Center (JTWC). During the next day or so, a tropical cyclone is forecast to form in the Bay of Bengal, and is expected to track northwestward toward the Indian subcontinent. Tropical cyclogenesis is possible late in Week-1 over the eastern Pacific, with the probabilities possibly being enhanced by an atmospheric Kelvin wave moving through the area. NHC currently has a 20% chance of formation over the next five days associated with this area. There is currently a low risk of tropical cyclone formation over the Caribbean or southern Gulf of Mexico late in Week-1 or early in Week-2. This area is climatologically favored for TC development, and any Kelvin wave activity could be helpful. However, there is significant model disagreement as the ECMWF deterministic run and its ensemble are not as supportive of development as the GEFS system. Also, any large-scale MJO signal, although weak, would not be supportive of development during Week-1.

Tropical cyclone activity is forecast to enhance odds for above-average rainfall over much of the western Pacific and Bay of Bengal during Week-1, while large scale suppression is supported by model guidance and any large-scale MJO signal farther south over the Maritime Continent. Atmospheric Kelvin wave activity is forecast to contribute to enhanced rainfall over parts of Central America during Week-1. The remnants of Tropical Storm Simon are forecast to bring locally heavy rainfall to parts of northwestern Mexico and the southwestern CONUS. A large region of compensating subsidence is forecast to extend from parts of Mexico eastward toward Cuba and Hispaniola.

Rainfall forecasts over Africa during Week-1 are based on local scale circulation features and produced by the CPC International Desk.

During Week-2, enhanced rainfall is favored over the equatorial western Pacific, consistent with above-average SSTs in that region. Lingering tropical moisture enhances the risk of above-average rainfall over parts of eastern India during Week-2. This may be of interest considering the South Asian monsoon generally breaks down in early to mid-October, so climatology is relatively low in that area. The aforementioned potential for tropical cyclone development in the Caribbean is expected to contribute at least to above-average rainfall extending northeastward to near the Florida peninsula. Below-average rainfall is favored over much of the southern Maritime Continent and parts of Brazil, largely based on good numerical model consensus.