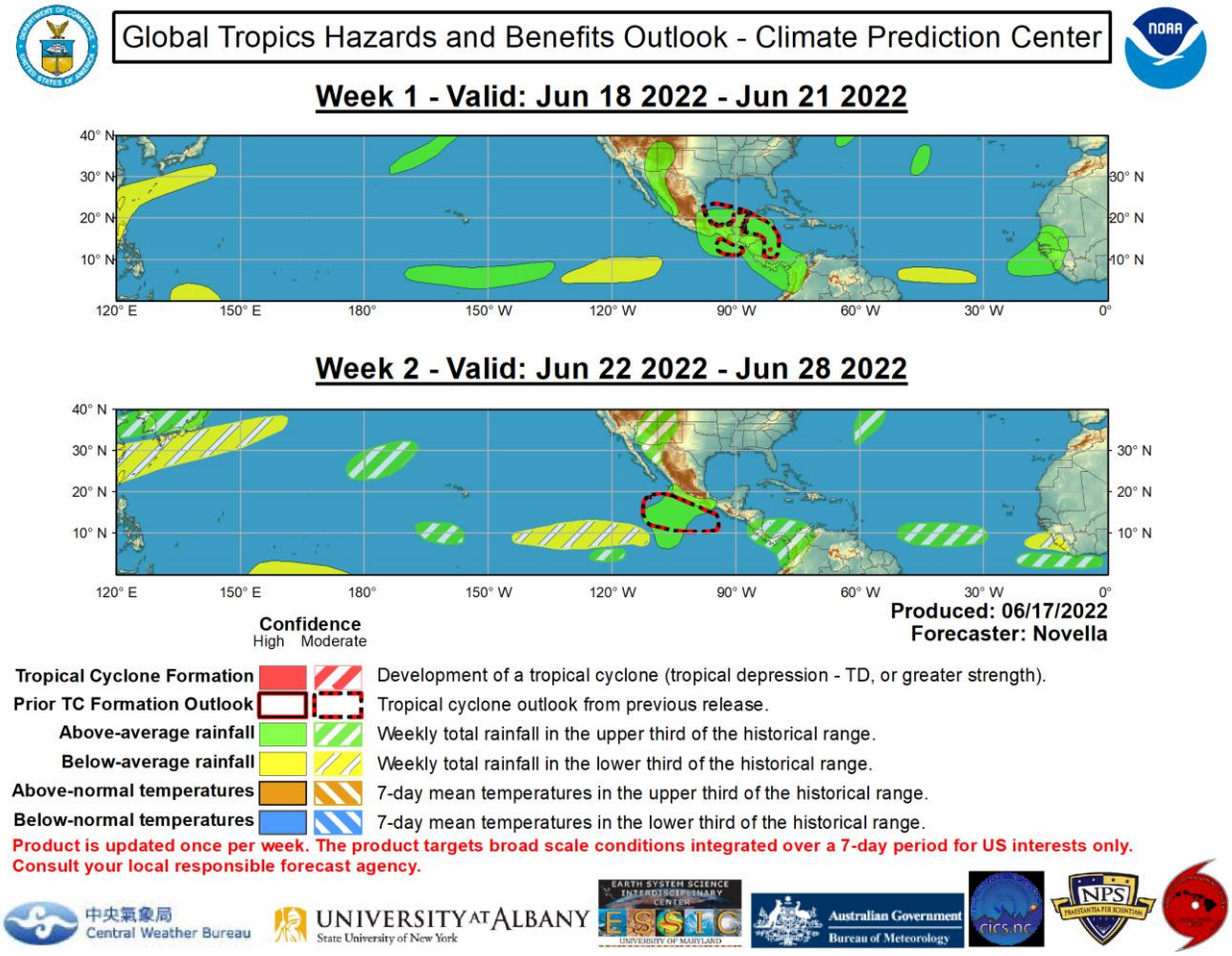

There is little change to the tropical perspective since earlier this week. Time / longitude plots of outgoing longwave radiation (OLR) anomalies show enhanced convection over the western Hemisphere, which has resulted in an increase in amplitude of the RMM index over phase 1 during the past several days. Objective wavenumber-frequency filtering of both OLR and upper-level velocity potential anomaly forecasts continue to depict Rossby wave activity contributing most to the convective pattern over the tropical Americas, where an eastward propagating Kelvin wave approaching from the eastern Pacific is anticipated to further strengthen anomalous divergence aloft and enhance the convective pattern over the region by early next week. Beyond this time, RMM forecasts continue to indicate a weakened signal, suggestive of incoherent MJO through the remainder of the outlook period. However, long-range guidance from the GEFS and ECMWF have been advertising the potential for the MJO to become better organized towards the end of June and early July. This is supported in velocity potential forecasts depicting the emergence of a more coherent wave-1 spatial pattern consisting of enhanced (suppressed) conditions developing over the eastern (western) Hemisphere by the week-3 period.

There are two active tropical cyclones (TCs) in the eastern Pacific. Since forming on 6/14, TC Blas intensified into a category 1 Hurricane. The National Hurricane Center (NHC) expects Blas to continue

tracking westward and gradually weaken over cooler waters. Tropical Storm Celia formed on 6/16 over the eastern Pacific resulting in the removal of the corresponding TC area in the updated outlook. Despite increased shear conditions in the near-term, this system is expected to gradually strengthen under increasingly favorable environmental conditions by early next week and track westward in the wake of Blas. In the western Caribbean, the NHC is continuing to monitor another area of low pressure in the Gulf of Honduras, however its 5-day genesis potential has now decreased to a 10% chance during the past few days. While probabilistic TC tools continue to indicate elevated signals in the eastern Pacific for the days 5-11 period, the latest deterministic and ensemble solutions better show this being tied to the favored strengthening of Celia, with no additional areas favored for development in the eastern Pacific. Therefore, the moderate confidence area of TC formation is likewise removed for the latter outlook period.

Areas of above and below normal precipitation have been modified from the previous outlook release in accordance with the latest model guidance. The highest confidence for enhanced precipitation exists over the tropical Americas associated with ongoing TCs as well as the aforementioned constructive interference with Rossby and Kelvin wave activity predicted in the region. In addition to a more favorable North America monsoon circulation, an active eastern Pacific also increases the potential for Gulf of California moisture surges, with locally heavy precipitation possible across the Desert Southwest and Four Corners region of the U.S. through late June.

---------- Previous Discussion from Jun 14, 2022 is below ----------

The MJO signal has weakened, as previously forecast. This assessment is supported by both upper-level velocity potential anomaly analyses depicting a more incoherent spatial pattern, as well as a slowed and reduced amplitude of the RMM index during the past seven days. Looking ahead, there is good agreement among the dynamical model RMM forecasts favoring an uptick in amplitude over the western Hemisphere and Africa in the near-term. However, this renewed signal is short-lived and is likely tied to Rossby wave activity contributing to an enhanced convective pattern over the western Hemisphere during week-1. Beyond week-1, ensemble mean forecasts of the RMM index show the signal again weakening and becoming quasi-stationary for the remainder of the period. Regardless of a disorganized MJO in the outlook, the combination of a Kelvin wave predicted to propagate eastward across the Pacific (and its interaction with the aforementioned Rossby wave over the Americas), as well as the persistence of anomalous lower-level westerlies favored over the tropical Americas, is expected to increase chances for tropical cyclone (TC) development over the eastern Pacific and western Caribbean during the next two weeks.

During the last week, Tropical Storm Blas formed in the eastern Pacific. As of 6/14, the National Hurricane Center (NHC) forecasts this system to gradually intensify to a category 1 Hurricane during the next few days, before it's expected to weaken over open waters under the influence of an increasing shear environment later this week. For week-1, the NHC is monitoring another potential TC over the eastern Pacific to the south of Central America with a 50% chance of formation during the next 5 days. Both deterministic and ensemble guidance have trended more in favor in developing this disturbance over the past few days, and a moderate confidence area for TC development is issued. In the western Caribbean, there are increased signals for TC development off the coast of Honduras and Nicargua, particularly in the GFS and GEFS, which indicate possible development by this weekend. Although the ECMWF shows more uncertainty with this development due interactions with land, the NHC maintains a 40% chance of development during the next 5 days prompting a moderate confidence area of TC formation in the region for week-1. Regardless of formation associated with these two potential systems, above-normal precipitation is likely throughout many parts of Central America with the possibility of locally heavy precipitation which may induce flooding and other adverse impacts. For the latter period, environmental conditions are expected to remain favorable in the eastern Pacific for TC activity, where models and probabilistic TC genesis tools continue to maintain increased chances for development. Therefore, a broad moderate confidence area is posted to the south of Mexico for week-2. Please refer to the latest updates from the NHC regarding potential TC development in both the East Pacific and Atlantic basins.

The precipitation outlook for the next two weeks is based on a consensus of dynamical model forecasts, the ongoing La Nina response, other modes of tropical variability, and anticipated potential TC tracks. In the eastern Hemisphere, suppressed precipitation is predominantly favored over many parts of southeast Asia, northwestern Pacific, as well as throughout the equatorial western Pacific during the next two weeks. Conversely, there continues to be good model support for enhanced precipitation mainly south of the equator across the Maritime Continent and extending eastward into the South Pacific basin. For hazardous weather conditions during the next two weeks across the U.S., please refer to your local NWS office, the Medium Range Hazards Forecast produced by the Weather Prediction Center, and the CPC Week-2 Hazards Outlook. Forecasts made over Africa are made in coordination with the International Desk at CPC.