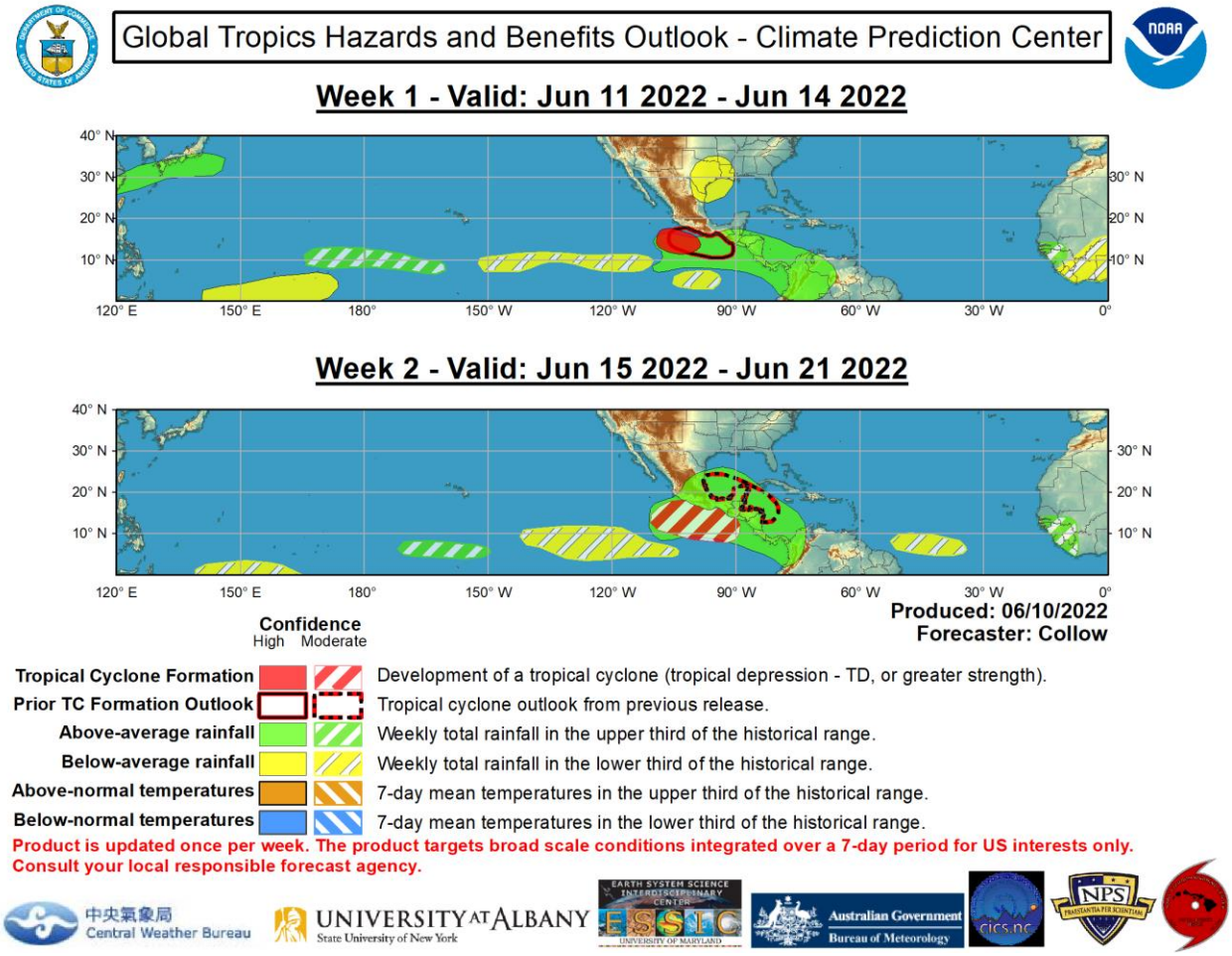

A transient wave-1 asymmetry pattern continues to be noted in the spatial upper-level velocity potential field, consistent with Kelvin Wave activity propagating around the globe during the past several weeks. However, consistent with the previous forecast, the main convective signal across the Atlantic has weakened, with a slowing of the phase speed. The weakening is apparent in the RMM-based Madden Julian Oscillation (MJO) index which indicates that the magnitude of the signal is near the RMM unit circle and located in phase 1 (Atlantic and Africa). Dynamical model ensembles from the ECMWF, GEFS, and JMA generally indicate a slow moving or meandering convective envelope during the next two weeks.

Increasing tropical cyclone (TC) activity is likely across the East Pacific, where the National Hurricane Center has noted a 70 percent chance of a tropical cyclone developing in the next 5 days off the coast of southwest Mexico, corresponding to a high risk area in todayâ€™s outlook. The GEFS and ECMWF ensembles also indicate increased potential for another disturbance to develop over the same region during week-2 tied to Rossby Wave activity, and as a result, a moderate risk area for TC formation is now designated off the southern coast of Mexico in todayâ€™s outlook for the week-2 period. Over the Atlantic, uncertainty is greater. The deterministic GFS along with some of its ensemble members

continue to develop a TC over the Western Caribbean or Gulf of Mexico, but support from the ECMWF remains limited. Therefore, the moderate risk is removed over the region, with probabilities for TC formation lower compared to the previous outlook.

The temperature and precipitation forecast across the domain remains similar, with the heaviest rainfall forecast in the vicinity of southern Mexico and Central America during the next 2 weeks.

---------- Previous discussion from Jun 7, 2022 is below ----------

Fast moving Kelvin Wave activity has been the dominant signal across the equatorial regions of the globe during the past month. This has projected onto the RMM-based Madden Julian Oscillation (MJO) index, where the signal has completed a full circumnavigation, and now resides over the Atlantic. Constructive interference with Rossby Wave activity is resulting in an enhancement of the convective signal over the region, but both the ECMWF and GEFS ensembles both depict the signal weakening during the next week, with the JMA ensemble depicting faster eastward propagation of the signal toward Africa. While a meandering convective envelope over the Western Hemisphere is more likely in the next 2 weeks, there are indications in some of the longer range guidance of the signal eventually becoming more MJO-like in terms of phase speed. This is apparent in wave filtering analyses of the ECMWF upper-level velocity potential forecast, which depicts a coherent MJO signal returning to the Indian Ocean towards the end of June and into early July.

The aforementioned enhanced convective activity increased tropical cyclone (TC) development across the East Pacific and Atlantic basins. In the East Pacific, Hurricane Agatha was the strongest system to make landfall in May across southern Mexico as a high-end category 2 storm. The remnant circulation of Hurricane Agatha contributed to the development of a new area of low pressure over the Gulf of Mexico that resulted in flooding rains over south Florida during the past week. After moving east of Florida, the disturbance was able to further organize into the Atlantic hurricane seasonâ€™s first tropical storm of 2022, Alex, on June 5th. Alex was a short-lived system, rapidly moving east-northeastward, skirting Bermuda, before becoming extratropical.

Environmental conditions are expected to remain favorable for additional TC development across the East Pacific beginning later in week-1, with several ECMWF and GEFS ensemble members indicating a TC forming to the south of Mexico. A high confidence area for TC formation is depicted in todayâ€™s outlook over the East Pacific. There are also increasing signals for TC development in the northwest Caribbean and southern Gulf of Mexico, particularly in the GEFS, which indicates possible development

late in week-1 into week-2. The ECMWF is not as robust, and generally delays any potential development until week-2, and is more focused across the Bay of Campeche with the lowest surface pressures displaced more to the west compared to the GEFS. However, given the favorable convective environment, a moderate risk for TC development is highlighted across parts of the northwest Caribbean and southern Gulf of Mexico during week-2. Please refer to the latest updates from the National Hurricane Center 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, Kelvin wave activity, and ongoing Central American Gyre and Meiyu front activity. Enhanced convection over the next two weeks will be primarily off-equator across the Maritime Continent, with late season enhanced precipitation forecast across northern Australia. The Meiyu front has shifted a bit northward compared to last week, but widespread heavy rainfall remains forecast across parts of eastern Asia and northern Taiwan, and suppressed rainfall to the south of this feature. A delayed monsoon onset across South Asia remains favored, with areas of dryness and extreme temperatures likely across portions of India, although relatively cooler conditions are indicated during week-2, particularly in the ECMWF ensemble. Across the CONUS, above normal temperatures are favored for much of the western and south-central CONUS during week-1.

For hazardous weather conditions in your area during the coming two-week period, 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.