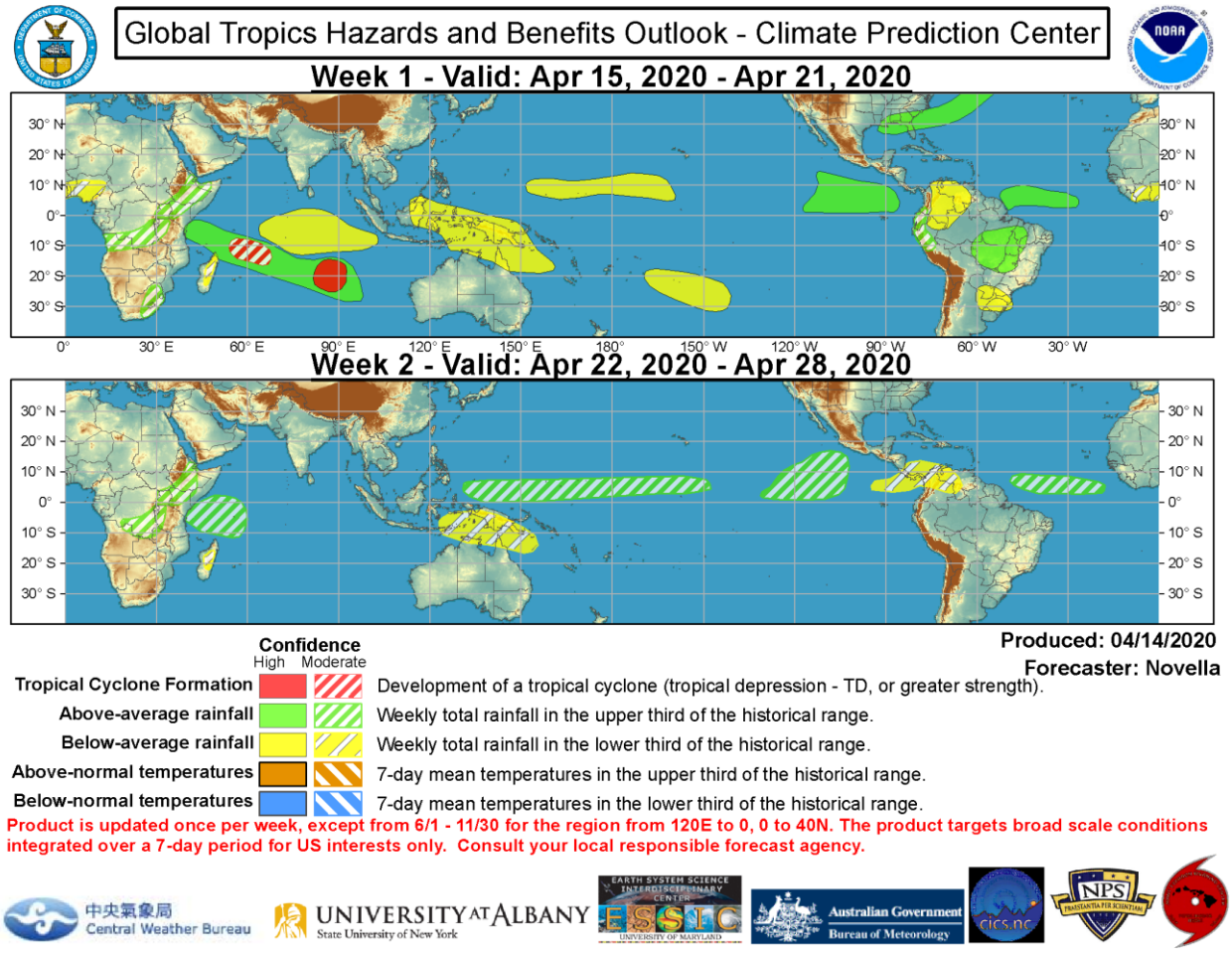

Since early April, upper-level velocity potential anomalies have indicated a rapidly eastward-propagating envelope of convection crossing the Maritime Continent and into the Western Hemisphere, and has since shaped into a robust, well-defined wave-1 pattern during the past few days. According to RMM indices, the phase speed of this envelope suggests this signal is operating more in the Kelvin wave band of the frequency spectrum, as it has propagated 4 phases in a span of just 12 days. Dynamical models depict a continued, but decelerated, eastward propagating envelope of convection over Africa during Week-1 and over the Indian Ocean during Week-2. The slowing of the signal suggests this convectively coupled Kelvin wave becomes more in line with an MJO event, however there is model disagreement relative to its predicted amplitude during the next two weeks. While the GEFS favors a more amplified signal, the ECMWF favors a generally weaker signal with several ensemble members falling into the unit circle in RMM space. Chances for extratropical coupling are low as teleconnections can be weak during the boreal spring due to weakening vorticity gradients.

Following the dissipation of tropical cyclones (TCs) Irondro and Harold in early April, TC activity has been quiet across the global tropics during the last week. For Week-1, the highest confidence for TC development remains in the southern Indian Ocean associated with a broad area of low pressure south

of the equator. Currently, the Joint Typhoon Warning Center (JTWC) is monitoring an area of convection located at approximately 14S/87E that is expected to remain in a favorable environment for gradual development with warm sea surface temperatures (29-31 degrees C) and low vertical wind shear. This results in high confidence for TC genesis in Week-1. Father west, model guidance and probabilistic TC tools favor another area of development to the northeast of Mauritius (approximately 14S/63E), with the latest ensemble solutions beginning to converge on the formation of closed low in the region later in Week-1. Moderate confidence for TC formation during Week-1 exists along the forecast track of this disturbance. No TC development is anticipated during the Week-2 period.

Since last week, both models and probabilistic TC tools have been suggesting the possibility of an unprecedented formation of a TC in the East Pacific basin during mid to late April. There is no record of an April TC west of Panama and the East Pacific TC season doesn't commence until May 15th. Factors that continue to support formation include anomalously warm sea surface temperatures, CFS guidance maintaining a predicted band of anomalous lower-level westerlies north of the equator, and historical composites of TC formation favored over the basin where the RMM index is located mainly in phase 1 (Western Hemisphere and Africa) during Week-1. However, due to run to run discontinuity in the model guidance, and overall decline in the probabilities for genesis in the TC tools, confidence is not high enough to issue a TC development area, and this area is only highlighted as a high confidence for above-normal precipitation during Week-1.

The precipitation outlook during the next two weeks is based on dynamical model consensus from the CFS and ECMWF models. Outside of the enhanced precipitation associated with the forecast TC development in the southern Indian Ocean, suppressed precipitation is generally favored over the equatorial Indian Ocean and throughout many parts of the Maritime Continent. As the enhanced phase of convection is forecast to enter the Indian Ocean by Week-2, increased precipitation is expected to become more favorable, particularly over eastern Africa and the western Indian Ocean. Over the Americas, enhanced precipitation associated with frontal activity is forecast over the southeastern U.S., as well as over the equatorial Atlantic during Week-1. Suppressed precipitation is favored over northern South America throughout the forecast period.

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