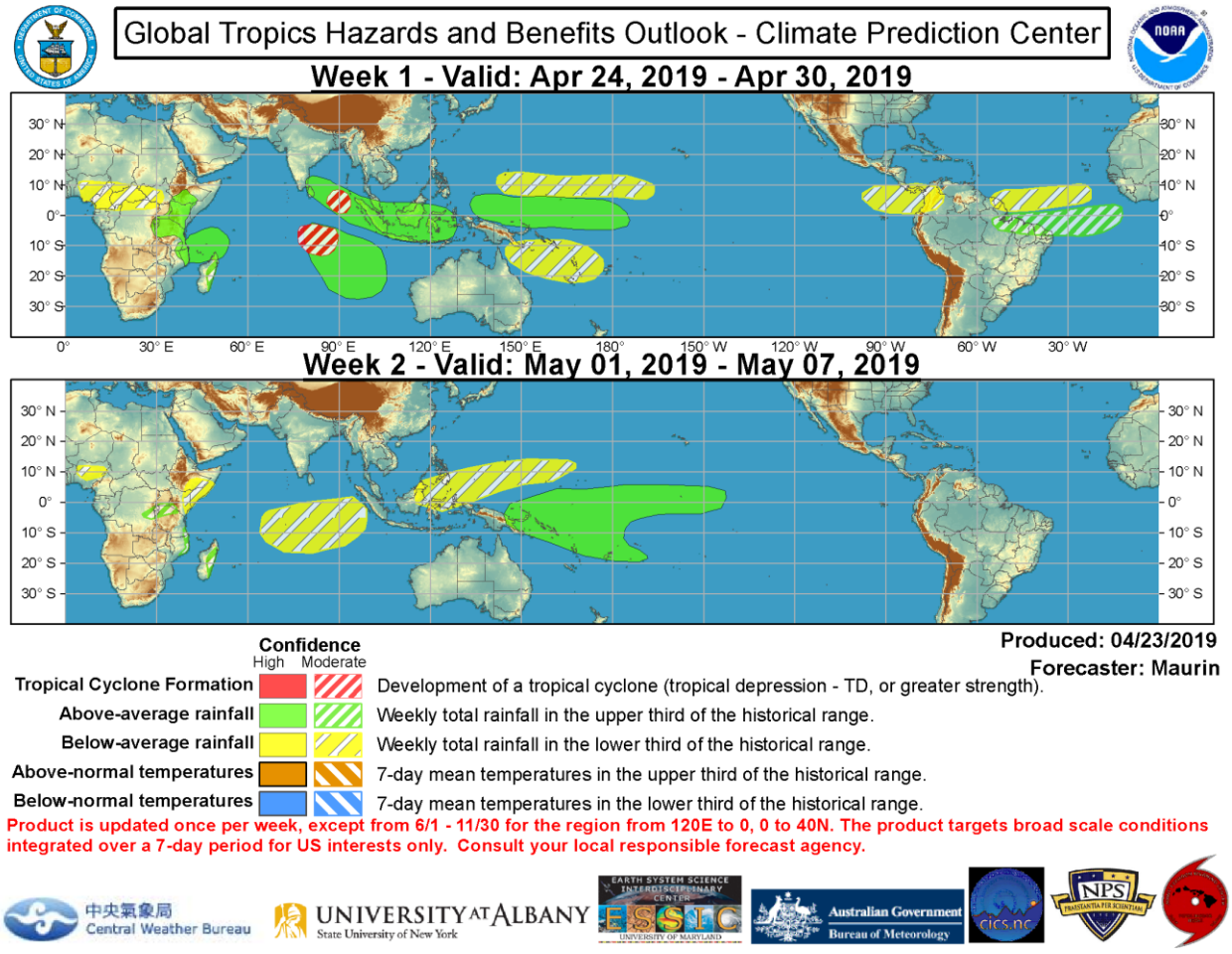

A renewed MJO shows activity over the Indian Ocean, in Phase 2 on the RMM index. The signal does not appear strongly in many of the variable fields; however, the best signal is seen in the 850-hPa wind field with a growing signal of westerly anomalies near the equator in the Indian Ocean. On the RMM index, there has been a rapid amplification of the signal through the past few days. The MJO is expected to propagate eastward quicker than is typical (20-30 days vs. 45 days periodicity), but maintain a consistent phase speed, likely reaching the central Pacific by the end of Week-2. The GEFS shows a more amplified signal than the ECMWF on the RMM index, but with the pace of this event and the disorganized indicators in the variable fields may lead to the RMM index not being the most accurate representation of this event. Ongoing Rossby and Kelvin wave activity are also leading to a very noisy spatial pattern for the 200-hPa velocity potential field, again making it difficult to discern the subseasonal signal. The low-frequency ENSO continues to maintain a persistent convective signal near the Date Line. As the MJO moves eastward, it is likely to constructively and destructively interfere with El Nino, but ENSO is expected to remain the dominant signal for the tropics.

Rossby wave activity over the Indian Ocean is expected to lead to a period of higher than normal tropical cyclone activity. Tropical Storm Kenneth formed earlier today off the north coast of Madagascar and is

likely to track west over Mozambique. Another area of convection in the central Indian Ocean, centered near 10 S and 80 E, has a moderate chance of forming into an organized system early in Week-1. Later in the period, model guidance shows good agreement for the formation of a tropical cyclone in the northern Indian Ocean, in the Bay of Bengal. The enhanced phase of the MJO should aid in supporting some of these tropical formations as the envelope shifts east over the Maritime Continent and Western Pacific. Currently, no strong signals for tropical cyclone activity in Week-2 are forecast in the models.

Precipitation patterns in Week-1 reflect impacts from expected tropical cyclone activity, the stationary ENSO signal and the propagating MJO. With the MJO traveling at a fairly fast pace over the next two weeks, the enhanced envelope is likely to overspread the Maritime Continent in Week-1, before reaching the Western Pacific. Above normal rainfall is expected from the western Maritime Continent east through the Date Line, where enhanced convection has been persistent through the past few months due to the low-frequency signal. Enhanced convection is expected to remain in the western Indian Ocean through Week-1 with the forecast tropical cyclone activity. With TS Kenneth near western Africa, parts of Mozambique, Madagascar and the surrounding areas are likely to experience above average rainfall. Drier than normal conditions north and south of the Equator near the Date Line is forecast with the medium confidence based on model guidance; however, with the speed and spread of this MJO event, the enhanced envelope may interfere with this drying signal. Model guidance also shows good agreement for below normal rainfall off the northwestern coast of South America, as well as the northeastern. Above average rainfall is forecast by the models near the Equator and south through the Atlantic and into northern Brazil.

Model guidance does not indicate many strong signals for the Week-2 forecast. The MJO is expected to be into Phases 6 and 7 on the RMM index. MJO composites show that the enhanced convective envelope will reach the central Pacific in these phases, where it is likely to constructively interfere with the ENSO signal. A region of above normal precipitation is centered on the Date Line and forecast with high confidence due to the expected interaction of the signals and support from the models. West from this region, the suppressed envelope of the MJO is forecast to be over the western Indian Ocean and Maritime Continent, leading to below normal rainfall for these regions.

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