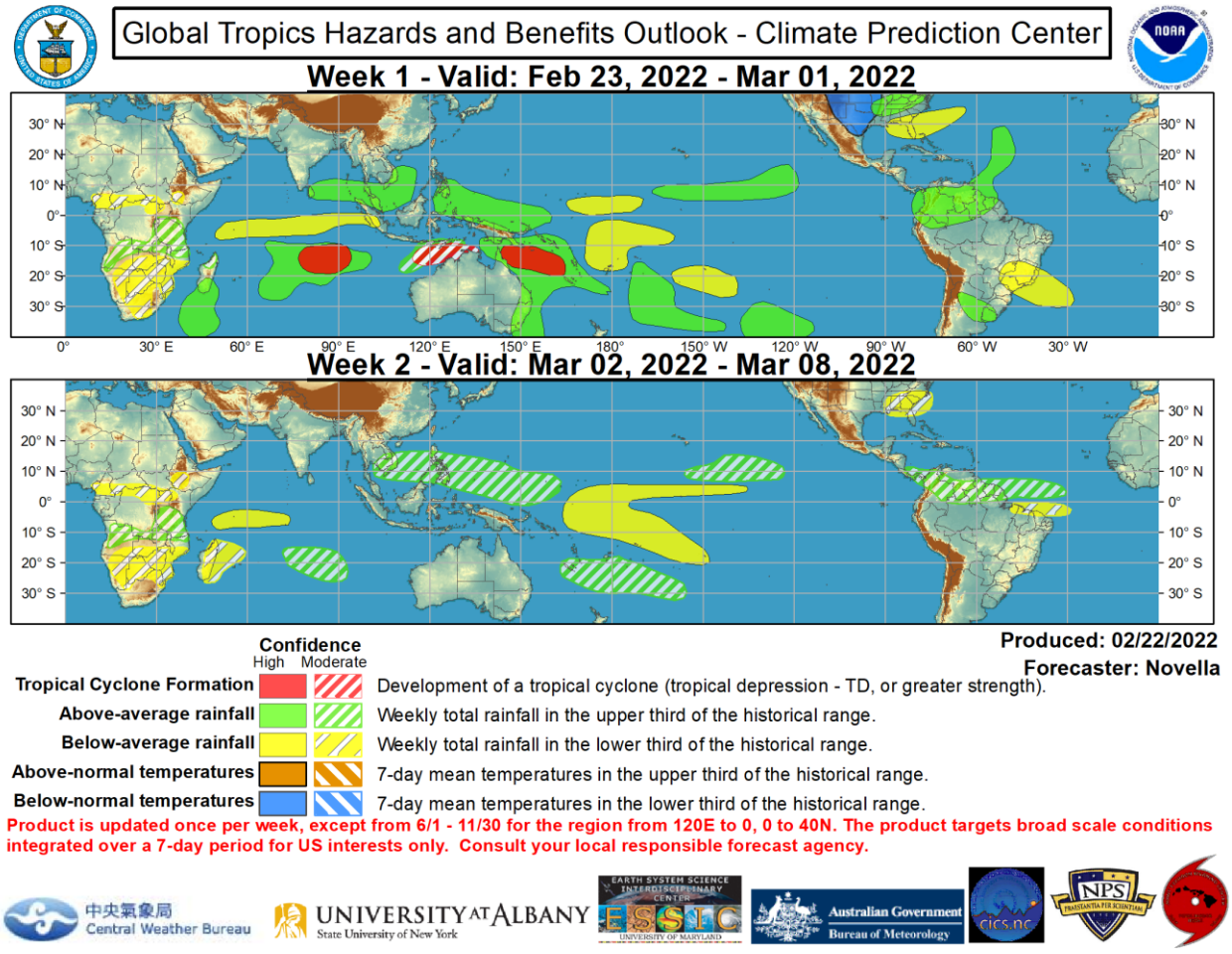

Following the emergence of the Madden Julian Oscillation (MJO) during early February, the intraseasonal signal has since been slow to continuously propagate eastward over the Indian Ocean. Upper level velocity potential anomalies feature a fairly coherent wave-1 pattern, though there has been little evidence of the main convective envelope shifting eastward over the past week as large-scale anomalous divergence (convergence) aloft continues to prevail over the eastern (western) Hemisphere. The sluggish evolution of the MJO is likely tied to tropical cyclone (TC) and equatorial Rossby wave activity observed over the basin during the past several weeks. Looking ahead, RMM forecasts generally favor the MJO to propagate eastward across the Maritime Continent, with differences among the dynamical models in regards to its evolution and amplitude, contributing to some uncertainty in outlook. The GEFS remains the most robust with the intraseasonal signal, with nearly all of its ensemble members maintaining an event of moderate to high amplitude propagating into the western Pacific. However, the ECMWF, CFS and Canadian favor a generally weaker signal, with mean RMM values falling within the unit circle as it approaches the far western Pacific during the next two weeks. Despite these differences, constructive interference with the low frequency base state remains likely during the period, with an anticipated extratropical response typical of La Nina downstream over the mid-latitudes heading into early March.

TC Emnati formed in the southern Indian Ocean (near 14S/67E) on 2/17. Enmati tracked westward towards Madagascar where it peaked as a major category 3 system during the past several days. The Joint Typhoon Warning Center (JTWC) forecasts Enmati to turn southwestward under the influence of subtropical ridge, and make landfall near Mananjary, Madagascar as a category 1 strength system later today (2/22), which would mark the fourth TC to impact the country since late January. Heavy precipitation amounts and high sustained winds are likely to adversely affect southeastern Madagascar, with possible localized flooding, damages to infrastructure, landslides, and the displacement of populations. Emnati is expected to rapidly weaken over the mountainous terrain of the island, and undergo extratropical transition later this week.

For week-1, high confidence exists for TC formation over the south-central Indian Ocean given good agreement in the model guidance and favorable upper-level conditions with an approaching Kelvin wave favored over the region. Farther east, both deterministic and ensemble solutions from the ECMWF favor potential TC development in the Tibor sea, however the GEFS is less supportive of this realization prompting a moderate confidence area for the region during week-1. In the South Pacific, a high confidence area is posted over the Coral Sea where there is better support in the latest ensemble guidance and probabilistic tools for TC development by this weekend. For week-2, the past several runs of the GEFS ensembles continue to favor an area of deepening low pressure over the Philippine Sea, however there is little to no support in the ECMWF guidance, and a corresponding TC area is not included in the outlook. Should an organized MJO reach the western Pacific later in week-2, the chances for TC development would increase in the northwestern Pacific basin later in March.

The precipitation outlook during the next two weeks is based on consensus of GEFS, CFS, and ECMWF guidance, anticipated TC tracks, and contributions from the historical MJO and La Nina conditions. For hazardous weather concerns during the next two weeks across the U.S., please refer to your local NWS Forecast Office, the Weather Prediction Center's Medium Range Hazards Forecast, and CPC's Week-2 Hazards Outlook. Forecasts over Africa are made in consultation with the International Desk at CPC and can represent local-scale conditions in addition to global scale variability.