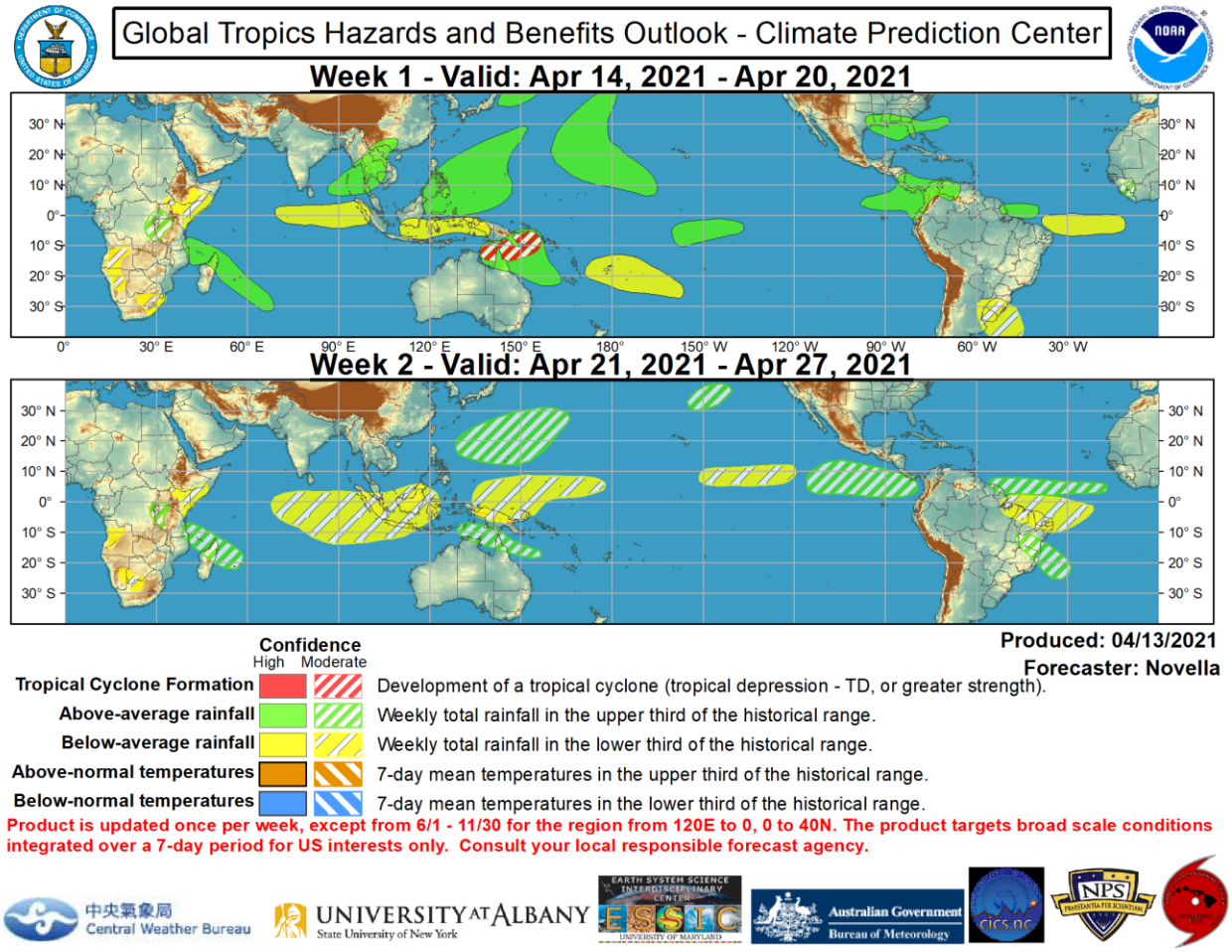

A strong Madden-Julian Oscillation (MJO) remains active as the enhanced (suppressed) phase shifted east from the Maritime Continent into the West Pacific (Indian Ocean) since early April. The intraseasonal signal continues to present itself well in the zonal wind, OLR and velocity potential fields, where notably, a westerly wind burst event appears to be underway in the West Pacific. Tied to Rossby wave activity in the region, this recent surge of anomalous westerly winds is favorable for tropical cyclogenesis and also may trigger another oceanic downwelling Kelvin wave to induce warmer SSTs in the central and eastern Pacific and help further diminish the La Nina conditions later this spring. There is a general consensus in the dynamical models which favor the continued eastward propagation of the intraseasonal signal with some differences with respect to its evolution and amplitude. The ECMWF continues to feature more of an archetypal MJO evolution in RMM space, whereas the GEFS and the Canadian maintain larger spread, with several members favoring an MJO that sharply decreases in amplitude during week-1 before restrengthening in week-2. Despite this, forecast confidence remains high that the MJO will be the predominant driver of global tropical precipitation, as the intraseasonal signal is anticipated to continue propagating through the Pacific and into Western Hemisphere during the next two weeks. Potential extratropical impacts from the ongoing MJO would favor colder than normal conditions across many portions of the central and eastern U.S.heading into late April.

Over this past weekend, tropical cyclone (TC) Seroja made landfall near Geraldton in Western Australia, and brought high sustained winds and widespread damages to infrastructure to the region. Given the favorable large scale environment for TC formation over the Pacific during the last week, a pair of TCs formed in both hemispheres. In the South Pacific, TC 28P developed on 4/10 to the south of New Caledonia. This short lived system peaked at 40kts and tracked southeastward across open waters before dissipating. In the Northwest Pacific, Tropical Depression 02W formed on 4/13 in the Phillippine Sea to the south of Yap. There is good agreement in the dynamical models that 02W will begin tracking northwestward and intensify into a strong system during week-1. Ensemble guidance suggests that 02W will likely remain in the Phillipine Sea before being eventually absorbed in the mid-latitude westerlies later in the outlook period.

For week-1, a broad area of deepening low pressure is favored in the deterministic guidance to the southeast of New Guinea with increased probabilities in TC tools in the region. Though, due to less support from the ECMWF ensembles as well as uncertainty relative to the timing of formation, a broad moderate confidence region is issued extending from the Gulf of Carpentaria to the Solomon Sea. Across the Southern Indian Ocean, there continues to be modest support in the guidance and tools for TC formation from 70E to 85E. However, given that the suppressed phase of the MJO is in place over much of the basin, there is insufficient confidence to issue a TC formation region at this time. As the suppressed phase of the MJO is expected to continue shifting eastward later during week-2, the potential of tropical cyclogenesis is favored to lessen in the Indian Ocean and the Pacific. This is reflected in the latest ensemble and probabilistic guidance and no TC areas are highlighted for the period.

The precipitation outlook during the next two weeks is based on a consensus among the CFS, GEFS, and ECMWF ensemble means, anticipated TC tracks, tropical waves, and MJO precipitation composites. 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.