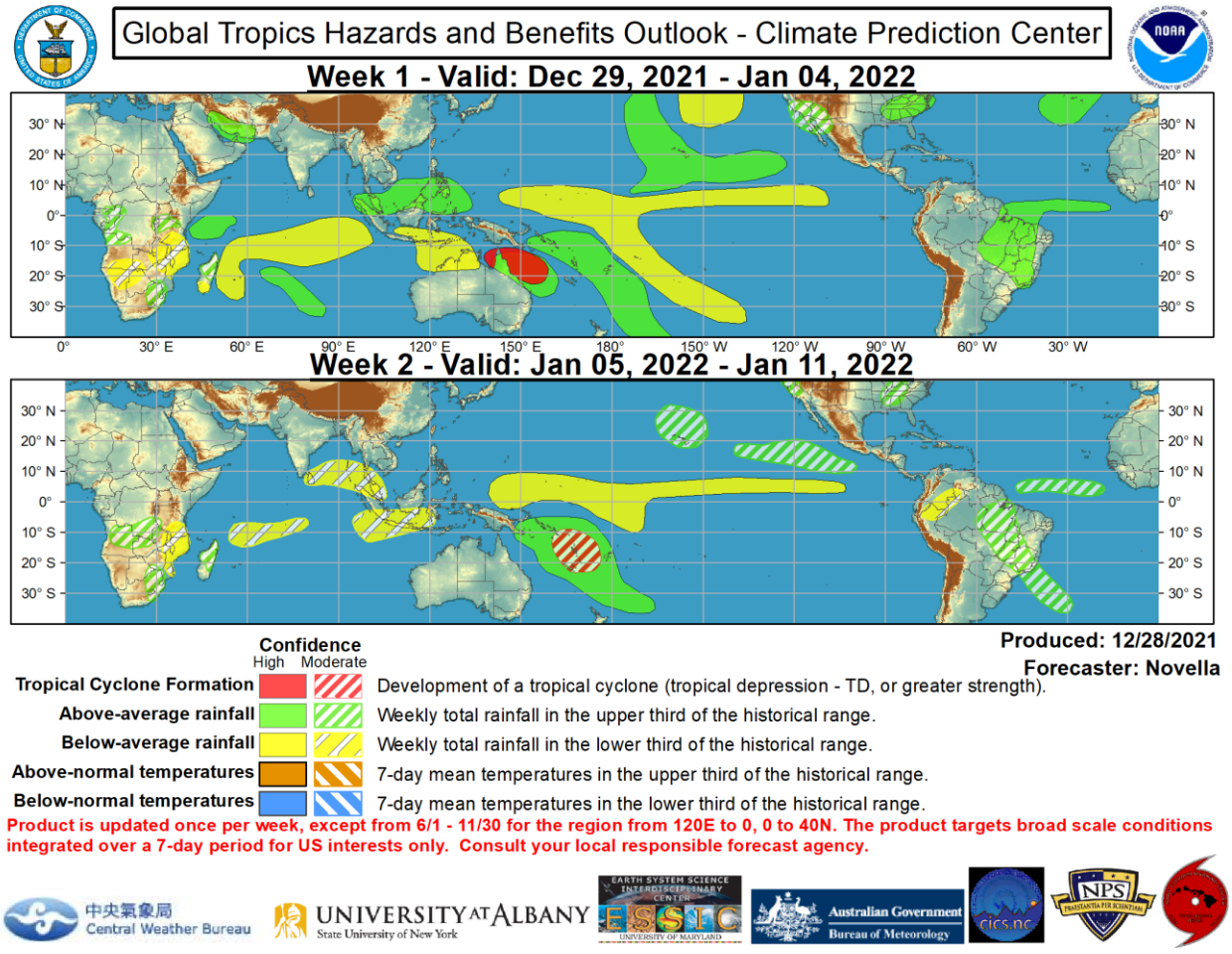

RMM observations show that the enhanced phase of the Madden Julian Oscillation (MJO) remains in phase 7 over the West Pacific, where the intraseasonal signal has been fairly stagnant with little evidence of a canonical evolution in recent weeks. An incoherent spatial pattern remains evident in the upper-level velocity potential anomalies which is likely due to ongoing competing interference with other modes of tropical variability. While the amplitude of the MJO waned following a westerly wind burst event in early December, zonal wind observations show the redevelopment of anomalous lower-level westerlies across the Maritime Continent and West Pacific suggestive of renewed intraseasonal activity, with more suppressed convection and anomalous upper-level convergence strengthening over the Indian Ocean. However, this renewed activity looks to be short lived based on the RMM forecasts, which generally favor a westward retreat of the signal into phase 7 and a decrease in amplitude during week-1. Another period of renewed eastward propagation is possible during week-2, however there is still much uncertainty in this realization given the continued destructive interference with the La Nina background state. Velocity potential forecasts from the dynamical models suggest any coherent MJO signal is more likely to manifest itself in the southern Hemisphere, as an enhanced SPCZ forecast and a reduced shear environment is expected favor tropical cyclone (TC) formation in the South Pacific during the next two weeks. Downstream, impacts tied to the MJO remain uncertain, with extended range

guidance continuing to mimic a negative Pacific North American pattern, suggestive of La Nina dominating the extratropical response over North America well into January.

Since last week, no TCs formed in global tropics. An area of low pressure to the north of Australia, that was favored to develop into a TC in the previous outlook, weakened while moving onland near Darwin, Australia. However, there is good agreement between the GEFS and ECMWF ensembles depicting this low restrengthening over the Gulf of Carpentaria and track eastward into the Coral Sea later this week, supporting a high confidence area for TC formation in the region for week-1. For week-2, there has been good continuity in the ECMWF ensembles and probabilistic guidance favoring an increased potential for additional TC formation near Vanuatu and New Caledonia. Given less support from the GEFS, a moderate confidence area is posted for week-2. Over the Indian Ocean, dynamical models favor largely suppressed convection tied to the persistence of anomalous upper-level convergence throughout the basin, limiting chances for TC formation during the next two weeks. Similarly, TC activity looks to remain quiet in the northwestern Pacific based on the latest guidance, and in accordance with climatology during this time of year.

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 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.