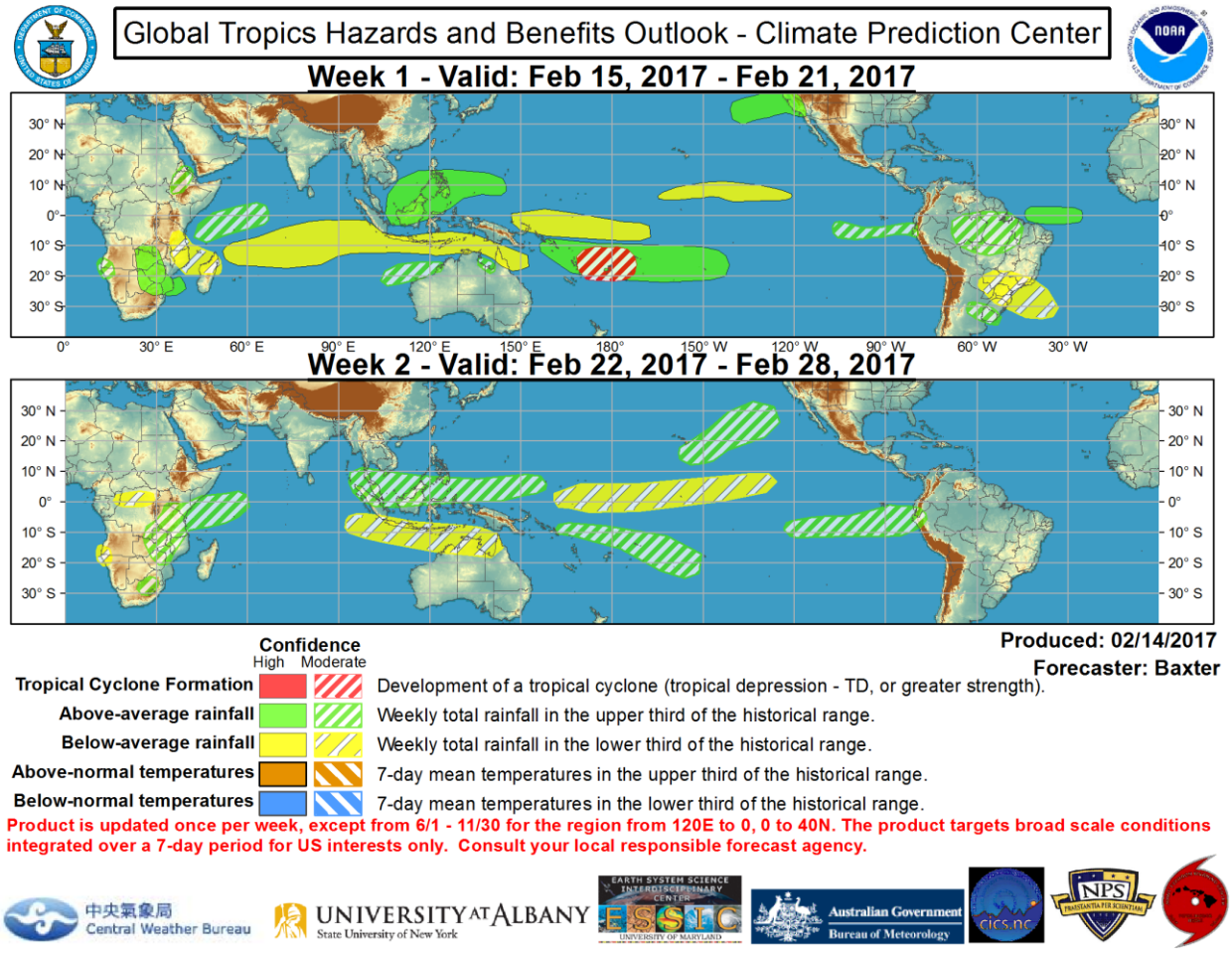

The MJO remained active over the past week as observed by both the RMM index and the CPC velocity potential index. The enhanced convective phase is now centered over the Western Hemisphere, and a high-amplitude dipole of anomalous upper-level convergence/divergence is readily observed associated with this MJO event. Upper-level convergence over the Indian Ocean extends across much of the Maritime Continent, now destructively interfering with the background state. Strongly enhanced convection has developed over the south-central tropical Pacific as the enhanced MJO phase propagated over the Pacific during the past one to two weeks. The southward displacement of this center of action relative to MJO composites appears consistent with the destructive interference near the equator between low-frequency suppression and the subseasonal enhanced convective signal.

The MJO signal is forecast to continue its eastward propagation over the next few days before reducing in amplitude, with the enhanced phase over the Atlantic and Africa. This is where the various dynamical model solutions diverge considerably. The GEFS produces a reemerging signal over the western Pacific, while the ECMWF maintains a more stationary signal over Africa and the western Indian Ocean. This uncertainty is likely due in part to both a changing background state and an equatorial Rossby wave currently over the Maritime Continent.

Tropical cyclone (TC) Dineo formed over the Mozambique Channel during the past week, and is currently forecast to make landfall over southern Mozambique late on 15 February as a Category 1 storm. During Week-1 the best chances for tropical cyclogenesis are over the South Pacific near Fiji, where a moderate risk is indicated. Other areas of interest include the Kimberley Coast of Australia, the Gulf of Carpentaria, and the Southeast Pacific, where a subtropical storm is possible. The odds of TC formation over these three regions, however, are relatively low, precluding depiction on the map at this time. During Week-2 there appear to be only low threats of TC formation over Southern Hemisphere, where accumulated cyclone energy continues to be very low this season relative to normal. In the Northwest Pacific, the GEFS indicates a low risk of TC formation east of the Philippines late in Week-2.

Areas favoring above- or below-average rainfall are depicted in Week-1 based on the consensus of model guidance, which is broadly consistent with MJO phase 8/1 tropical precipitation composites. Parts of South America are expected to be fairly active, as well as a small region of the far eastern Pacific where SSTs remain well above-average. Suppressed convection is favored for much of the central and eastern Indian Ocean, extending eastward across the southern Maritime Continent. Above-average rainfall is more likely over parts of the northern Maritime Continent, the Philippines, and the Northwest Pacific, based on model guidance, the low-frequency state, and the enhanced phase of an equatorial Rossby wave. Enhanced convection is expected to continue over parts of the South Pacific, and another moisture surge into California is expected during the period.

The forecast for Week-2 is more uncertain, with the state of the MJO amidst the evolving background expected to become less clear. Suppressed convection is favored for parts of the far eastern Indian Ocean extending to northern Australia, as well as the central/eastern equatorial Pacific. Above-average rainfall is more likely for parts of the Maritime Continent and West Pacific, as well as over the South Pacific, albeit at reduced confidence. Above-average rainfall is also favored over parts of the far western Indian Ocean and Africa.

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