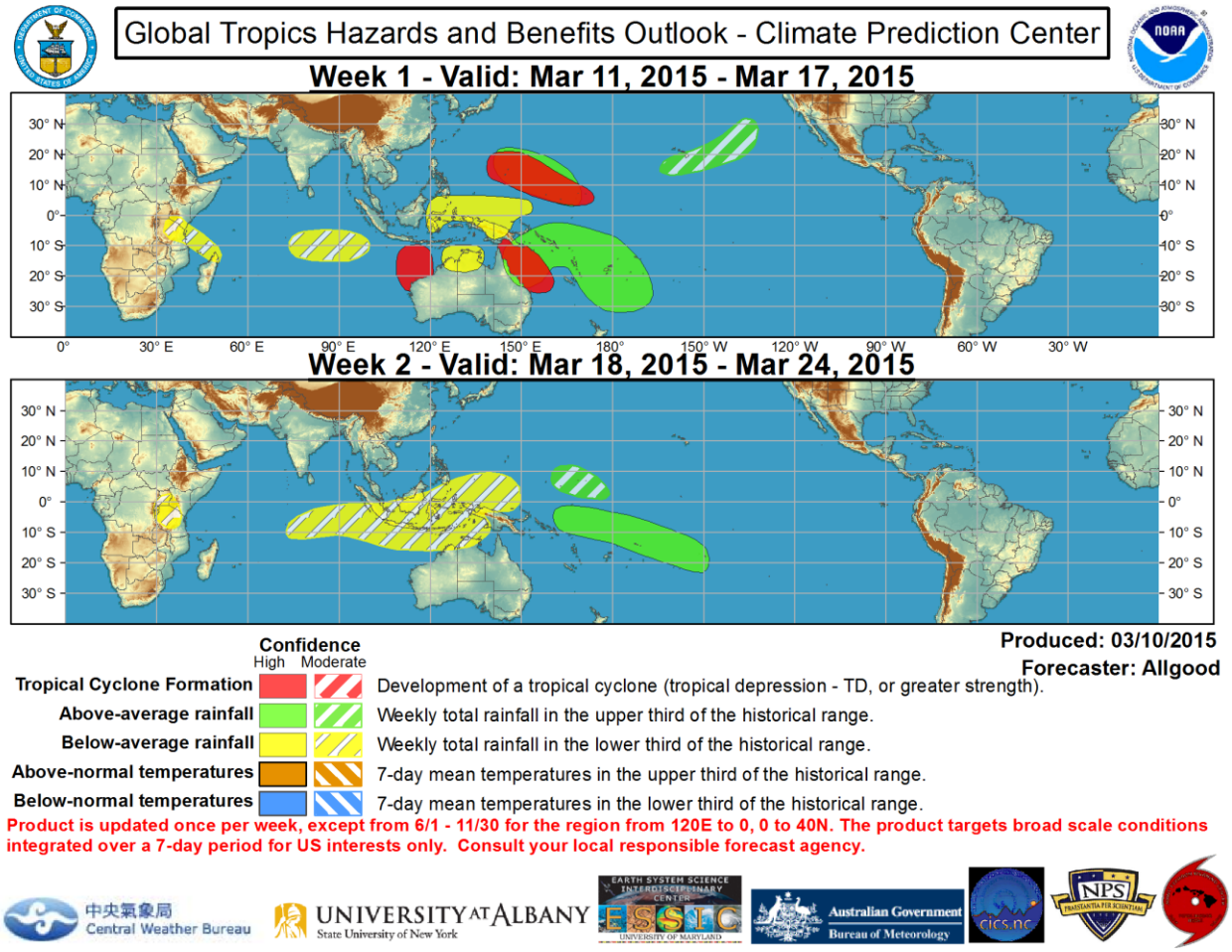


The amplitudes of both the RMM and CPC velocity potential based MJO indices increased during the past week, depicting an enhanced convective phase emerging over the eastern Maritime Continent and West Pacific. Current spatial plots of upper-level velocity potential anomalies exhibit a robust Wave-1 structure, with large negative (positive) anomalies centered over the eastern Maritime Continent and western Pacific (Western Hemisphere). Strongly enhanced convection is currently ongoing east and southeast of New Guinea, associated in part with tropical cyclone activity. At the low levels of the atmosphere, a packet of westerly zonal wind anomalies propagating westward in association with an Equatorial Rossby Wave over the central Pacific passed west of the Date Line during early March, and expanded spatially due to constructive interference with Kelvin Waves and a weak El Nino background state. Easterly low level zonal wind anomalies developed over the eastern Pacific.

Dyanamical model MJO index forecasts are in good agreement that the developing large scale tropical convective anomalies will continue to evolve as a robust MJO event over the West Pacific by the end of the Week-1 period. In fact, the GFS ensemble solutions depict an RMM MJO Index amplitude exceeding 4 standard deviations from normal before weakening somewhat during Week-2. Statistical tools also favor robust MJO activity during the upcoming two week period. Constructive interference between the

emerging MJO signal, an intense and large tropical cyclone over the southwestern Pacific, and the ENSO background state are likely contributing to the forecasted near record projection of the RMM Index. Based on recent observations and consensus of the model guidance, the MJO is anticipated to play a significant role in the evolution of the global tropical convective patterns during the next two weeks. Additionally, the MJO is anticipated to influence global extratropical patterns over the next several weeks, favoring the development of upper-level ridging over Alaska and the northeastern Pacific and troughing over the eastern CONUS.

Tropical Cyclone Pam developed east of the Solomon Islands on 9 March, and is currently moving southward with sustained winds of 80kt. Pam is anticipated to strengthen rapidly, with current forecasts from the Joint Typhoon Warning Center indicating a potential for Category-5 intensity on the Saffir-Simpson scale over the next several days. Pam is forecast to pass between Fiji and New Caledonia, although the cyclone's circulation is likely to be large, with significant impacts far from the center of circulation. Elsewhere, Tropical Storm Haliba developed over the southwestern Indian Ocean east of Madagascar on 8 March, and is currently weakening over open water. An active tropical cyclone pattern is anticipated during the Week-1 period. Near term cyclogenesis is likely over the northwestern Coral Sea in association with a tropical disturbance south of Papa New Guinea. A second disturbance has a high potential for development during Week-1 north of Australia's Kimberley Coast. Additionally, there is a high potential for tropical cyclone development over the northwestern Pacific during Week-1. During Week-2, conditions may become increasingly favorable for tropical cyclone development northeast of Madagascar, but there is too little signal among the dynamical models to warrant a shape on the outlook map at this time.

During Week-1, enhanced convection associated with the MJO and tropical cyclone activity is favored over the southwestern Pacific, extending from eastern Queensland and the Coral Sea eastward and southeastward past the Date Line along the SPCZ. Enhanced convection is also possible north of the equator over the western Pacific, associated in part with tropical cyclone activity. A plume of moisture over the north-central Pacific is anticipated to extend from southern Hawaii northeastward. In contrast, below-normal rainfall is favored over southeastern Africa, northern Madagascar, the eastern Indian Ocean, and parts of the central Maritime Continent in association with the suppressed phase of the MJO.

During Week-2, enhanced convection is favored to persist and extend eastward over the SPCZ region over the southwestern and south-central Pacific, while the GFS, CFS, and ECMWF favor an area of enhanced convection over the northwestern Pacific west of the Date Line. Suppressed convection is forecast across much of the eastern Indian Ocean and Maritime Continent in association with both the MJO and the weak El Nino background state. MJO composites favor enhanced precipitation over much of Brazil as the signal propagates towards the eastern Pacific and Western Hemisphere. While some

models such as the GFS and CFS favor enhanced convection over parts of Colombia, Peru, and Bolivia during Week-2, the dynamical models currently do not favor significant areas of enhanced convection over Brazil's core agricultural areas.