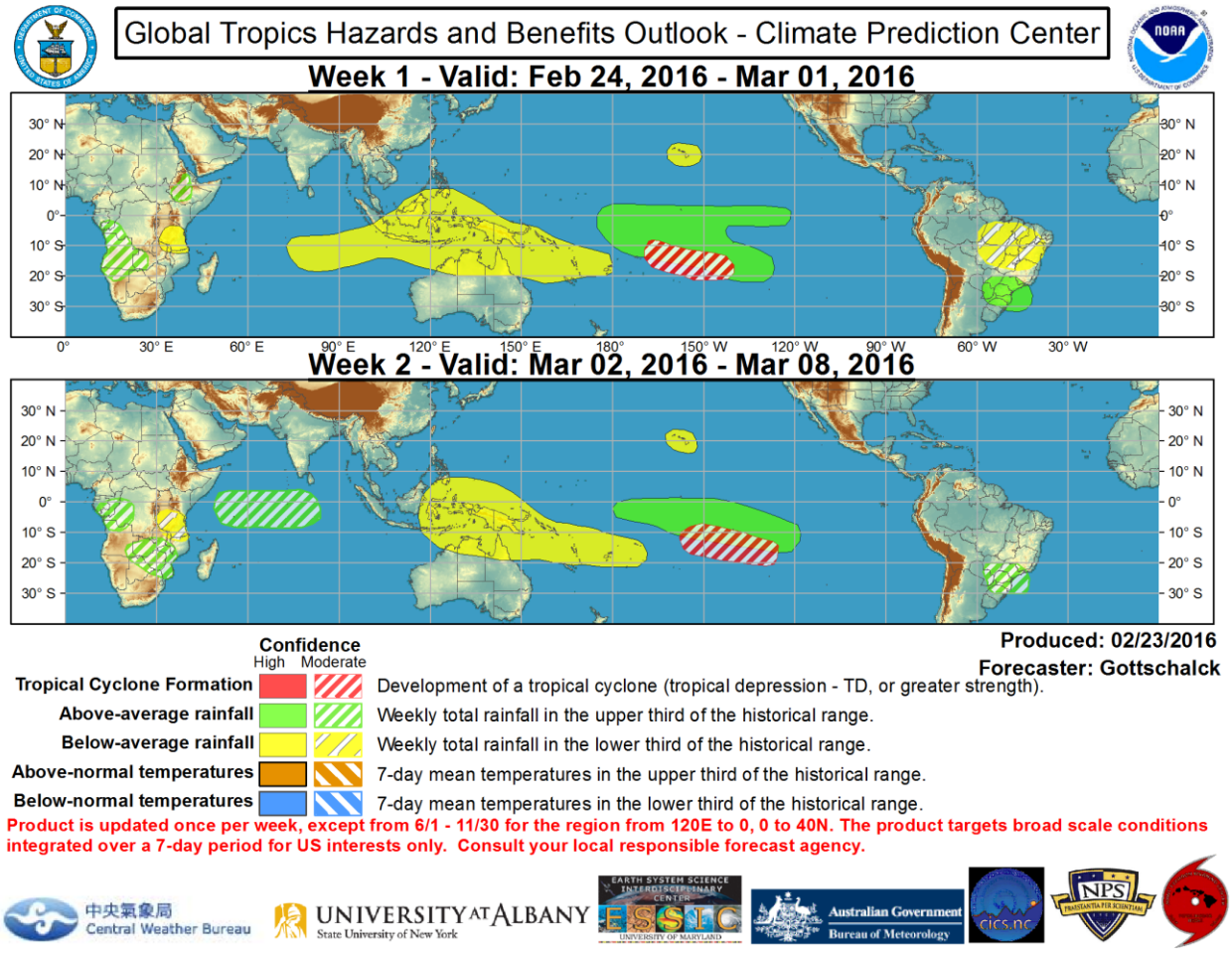

A brief review of the pattern of anomalous tropical convection over the past week depicts very strong enhanced convection centered near and just east of the Date Line along and south of the equator. Suppressed convection was observed across parts of southeast Africa, northeast Brazil, northern Australia and much of the Maritime continent (MC). No new tropical cyclone development occurred over the past week, although intense Cyclone Winston made landfall across Fiji resulting in considerable damage and numerous deaths.

The MJO continued to become better organized during the past week with the enhanced convective phase shifting to the central Pacific while the suppressed convective phase is becoming centered across the eastern Indian Ocean (IO). A coherent Wave-1 structure is indicated in depictions in 200-hPa velocity potential. Although the latest observations indicate a generally robust MJO signal, there is considerable uncertainty for the future evolution of this event as it continues to interact with the El Nino low frequency base state. There is considerable forecast spread in dynamical model forecasts of the RMM index over the next couple of weeks with some models forecasting a more coherent signal propagating eastward (albeit at varying amplitudes) while others weaken the signal.

The MJO and El Nino will continue to constructively interfere during much of the forecast period and it would not be unusual for the MJO signal to propagate more slowly under such circumstances as indicated by some of the model forecasts.

The MJO is forecast to remain active and along with El Nino conditions favors above-median rainfall for areas of the central Pacific during both Week-1 and Week-2. The highlighted area during Week-2 is reduced as the MJO signal is forecast to continue to shift east and some influence from the suppressed phase of the MJO impacts the western Pacific and areas north of the equator in the central Pacific. Also, tropical cyclone development is elevated across the south-central Pacific at moderate confidence as this area is likely to remain quite convectively active and is consistent with the phase of the MJO. Confidence is high for suppressed rainfall stretching from the eastern IO to the western Pacific over the course of the forecast period related to constructive interference of the MJO and El Nino for much of the period. El Nino and later the MJO supports drier-than-average conditions for Hawaii throughtout the period.

El Nino conditions and model guidance both support suppressed rainfall for parts of Brazil but confidence is moderate due to the ongoing MJO activity which typically would favor above average rainfall in this region. The area is removed for Week-2 as uncertainty further increases as the MJO forecast phase for above-average rainfall is expected to maximize. Model guidance supports enhanced rainfall associated with frontal activity for areas across southern Brazil during the period.

The MJO favors the potential return of enhanced rainfall to some areas of the western and central equatorial IO by the end of Week-2. Additional highlighted areas over Africa are made in consultation with CPC's international desk, and can represent local-scale conditions in addition to global-scale climate variability.

It is a complicated situation to assess clear, confident impacts to the U.S. at the current time as there are many players active. The ongoing El Nino base state, current MJO activity and strong higher latitude variability (persistent positive phases of the PNA and NAO) are all likely to play some role in evolution across the Pacific North America sector over the next 2-4 weeks. Lagged 200-hPa height composites based on RMM phase 7, support a tendency for anomalous troughing (ridging) across eastern (northwest) North America and below (above) average temperatures. The MJO may allow further enhanced convection farther east in the Pacific than has been the case to date in February and allow a more energized southern stream from the Pacific into the southwest CONUS, potentially undercutting the strong amplified ridge that has been in place on average for much of Febraury. Uncertainty for this scenario, however, remains high given the strong +PNA pattern currently in place.