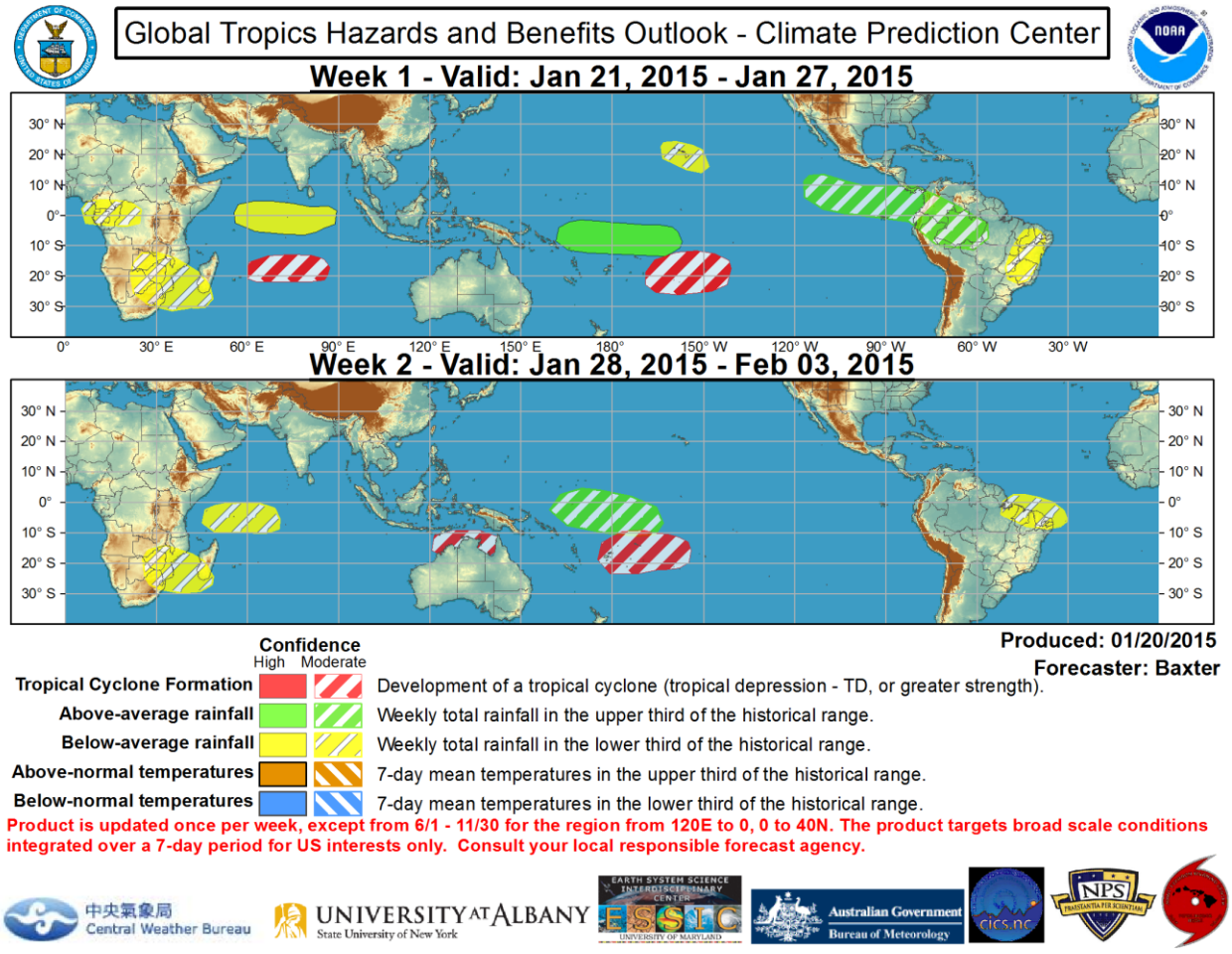

The MJO was active during the past week, but decreased substantially in amplitude over the last few days. This reduction in amplitude is readily observed in both the RMM index and the CPC velocity potential index. The remnant enhanced phase is centered over the eastern Pacific, though the canonical wave-1 velocity potential structure has clearly broken down. Statistical techniques indicate that other variability is interfering with the large-scale MJO signal, including westward-moving Rossby waves and eastward-moving atmospheric Kelvin waves.

All dynamical model forecasts suggest a weak MJO during Week-1, with only the GEFS suggesting renewed MJO activity over the West Pacific during Week-2.

The outlooks for the next two weeks are therefore based largely on model guidance from the coupled ECMWF system as well as the CFS. Forecast shapes are of higher confidence where the expected shift from climatology is consistent with the remnant MJO phase. Any ongoing equatorial Rossby wave or Kelvin wave activity generally serves to reduce forecast confidence since any prolonged periods of constructive interference seem unlikely.

There is good agreement between the CFS and ECMWF that enhanced convection will develop over the central Pacific just south of the Equator. This is somewhat out of phase with the remnant MJO and more consistent with constructive interference between an equatorial Rossby wave and Kelvin wave. This feature is forecast to persist with time and slowly shift westward over the next few weeks. This is mentioned here since this location of enhanced convection could have important extratropical ramifications for the rest of the meteorological winter.

The enhanced rainfall forecast for parts of South America and the East Pacific during Week-1 is consistent with the current weak MJO phase, as is suppressed convection over parts of Africa and the Indian Ocean. During Week-2, the forecast generally depicts only the lower-frequency signals seen in the CFS and ECMWF forecasts.

Tropical cyclogenesis is most likely in the South Pacific and South Indian Ocean over the next seven days. These threats are consistent with guidance from the GEFS and ECMWF. For Week-2, enhanced odds for TC formation linger in the South Pacific, while climatology and the GEFS favor the inclusion of a moderate shape near northern Australia.