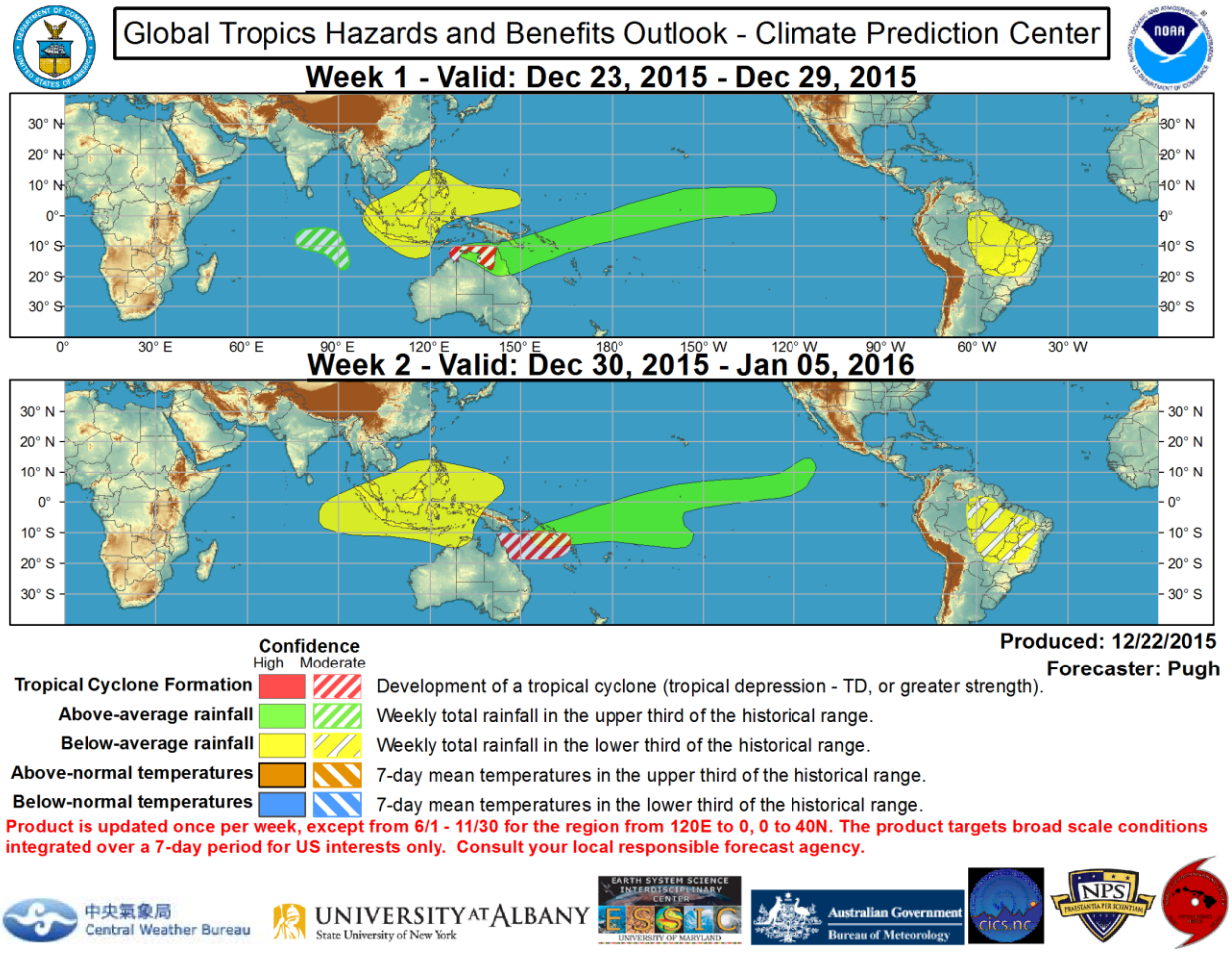

The MJO strengthened during mid-December with a coherent pattern of upper-level divergence (convergence) developing over the Maritime Continent and west-central Pacific (Atlantic Ocean). The upper-level divergence observed over the Maritime Continent during the past week is the strongest in more than six months, indicating how robust the MJO signal is during the ongoing strong El Nino. The Wheeler-Hendon RMM index features an increase in amplitude of the MJO signal with an eastward propagation during the past week. Dynamical models are in good agreement that this MJO signal is likely to continue during the next two weeks. Constructive interference between the MJO and background El Nino is expected during Week-2.

The outlook during the next two weeks is based on MJO precipitation composites for Phases 6 and 7 along with continued influence from the strong El Nino. CFS and ECMWF model guidance is consistent with the expected outcome from these primary influences on anomalous convection. Above-average rainfall is likely from northern Australia east to eastern Pacific during Week-1, while below-average rainfall is expected to return to the Maritime Continent. During Week-2, above-average rainfall is likely to continue from the Solomon Islands to the eastern Pacific. Convection is expected to diminish across northern Australia by the beginning of Week-2. Constructive interference between the suppressed

phase of the MJO and El Nino is likely to result in an expanding area of below-average rainfall centered on the Maritime Continent. Below-average rainfall is also expected to persist across much of Brazil during the next two weeks, but forecast confidence decreases during Week-2 as the enhanced phase of the MJO propagates into the Western Hemisphere.

Although tropical cyclone development is not expected with a disturbance over the southern Indian Ocean, above-average rainfall is favored for this region (5-15S/80-90E) during Week-1. The most likely area for tropical cyclone development during the next week is across the Gulf of Carpentaria due to enhanced convection across this region. Also, the GFS model indicates a closed surface low across the Gulf of Carpentaria which could become a tropical cyclone if it remains over water. During the early part of Week-2, the increased risk of tropical cyclone development is expected to shift east to the Coral Sea region which is consistent with the likely evolution of the MJO.