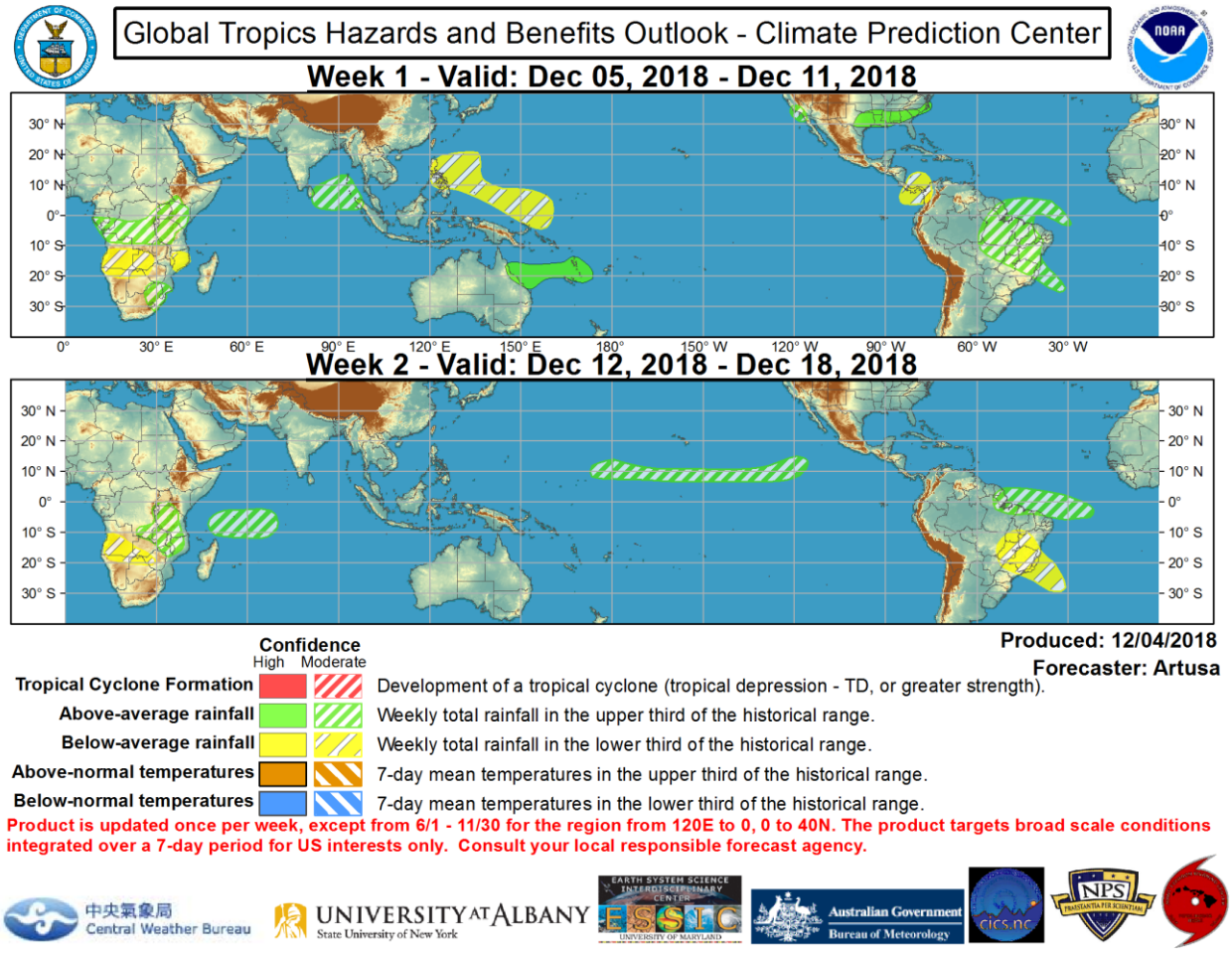

The MJO increased in amplitude during the past week, and is quite robust at the current time both in the OLR and 200-hPa velocity potential fields. The stationary signal (related to ENSO) is minimal, perhaps because the sea-surface temperature (SST) anomalies are uniformly positive across the Pacific, with the warmest water still in the western Pacific. The enhanced convective phase is now located in phase 1 (Western Hemisphere and Africa). The dynamical models differ in their predictions of how far east the MJO signal will propagate, ranging anywhere from phases 2-6 (western Indian Ocean to the western Pacific Ocean) during the next two weeks. The bias-corrected GEFS and the ECMWF model propagate the subseasonal signal into phases 4 and 5 (Maritime Continent), and the Canadian model (the fastest solution) forecasts the signal will race eastward into phase 6 (western Pacific). In contrast, the non-bias-corrected GEFS, the Japanese model (JMA), and the CFS predict the signal will remain over the Indian Ocean. The very limited eastward propagation of the MJO signal associated with the CFS model appears to be related to destructive interference with a strong equatorial Rossby wave. The MJO is expected to play a role in the tropical-extratropical teleconnections over the next few weeks. Short-term colder-than-normal temperatures over east-central CONUS is consistent with MJO forcing, while the enhanced phase over the Indian Ocean during the next 1-2 weeks favors a warmer pattern during the second half of December. This is consistent with positive Arctic Oscillation (AO) index predictions over the next two weeks.

There is minimal tropical cyclone (TC) activity over the global tropics at this time, with the official Atlantic and East Pacific hurricane seasons now over. TC 05P Owen (about 520 nautical miles east of Cairns, Australia, at 15z on Dec 4), has fizzled in a high wind-shear environment, with maximum sustained winds down to 30 knots. Areas that require monitoring include: a) the southern Bay of Bengal in Week-1, and b) along the South Pacific Convergence Zone (SPCZ) which is forecast to become more active during Week-2.

During Week-1, above-average rainfall is predicted over the eastern Indian Ocean/southern Bay of Bengal region. This may be related to possible TC development in this area, and the anticipated eastward propagation of the MJO signal. Above-average rainfall is also forecast across the Coral Sea vicinity (TC Owen), and over the U.S. Gulf Coast states, where 2-5 inches of rain (or greater) are expected during the latter portion of Week-1 (associated with baroclinic activity). Above-average rainfall is also anticipated for southern California, where according to the ECMWF model, rainfall amounts may reach 2 to 3 times their climatological normal. Another area of above-average rainfall is expected over Brazil, where the active phase of an MJO signal is located. This wet signal is at odds with typical El Nino conditions, which normally result in abnormally dry conditions there. An area of below-average rainfall is forecast to extend from the eastern Maritime Continent region into the western North Pacific (associated with the lower-frequency base state of the developing El Nino). Below-average rainfall is also anticipated over portions of Costa Rica and Panama.

For Week-2, predicted areas of above-average rainfall are indicated just northeast of Madagascar, a zonally extensive area of the low-latitude central and eastern North Pacific (related to the InterTropical Convergence Zone), and near the northern Brazilian coast (residual MJO signal). An area of below-average rainfall is depicted over southern portions of Brazil.

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