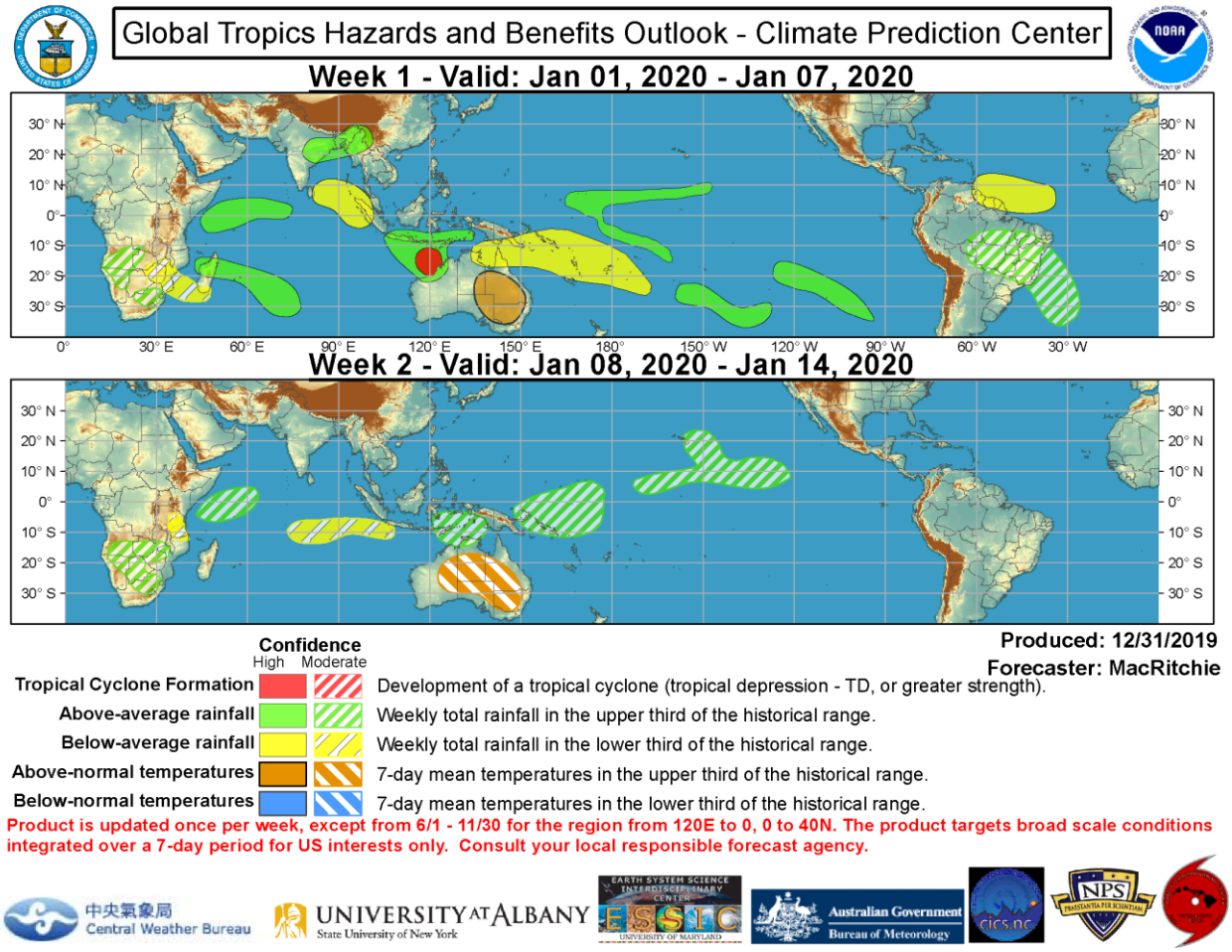

The MJO remains inactive in an RMM and velocity potential sense, and this is not forecast to change much during Week-1. However, there are indications that the MJO could strengthen over the eastern Indian Ocean or Maritime Continent (RMM Phases 4/5) by early Week-2. This forecast is supported by nearly every single GEFS and ECMWF ensemble member, although most of the ensemble members fail to propagate the MJO signal eastward at a reasonable speed throughout the course of Week-2. The Indian Ocean Dipole (IOD) has continued to decay throughout the past seven days and there still isn't a strong ENSO signal, so most of the forecast anomalous rainfall areas are based on model forecast synoptic variability and tropical cyclone activity.

As of Tuesday (12/31) at 1715 UTC, there are two active tropical cyclones. TC Calvinia is located just south of the island of Mauritius and the Joint Typhoon Warning Center (JTWC) forecasts it to track southeast and weaken during the next three days. TC Sarai is located in the South Pacific, northeast of Tonga. The JTWC forecasts it to track eastward towards Niue, but it is disorganized enough that the JTWC does not anticipate issuing another warning on this storm. It is also too weak to contribute substantially to the GTH precipitation forecast in that region. Finally, models indicate that a low pressure system off Australia's Kimberley coast is likely to develop into a tropical cyclone near the end of Week-1.

Models indicate that rain from this system might spread south throughout parts of Western Australia and South Australia over the next five days, but confidence is low. Interested parties are advised to contact their local weather authorities for more information.

Strong subsidence over Australia, partially forced by the weakening positive IOD, has led to significant heat lately, which has in turn led to a number of wildfires. Unfortunately, this heat is forecast to continue throughout the GTH forecast period, especially in the eastern part of the continent. Interested parties are encouraged to monitor up-to-date weather forecasts from the local meteorological agency during this hazardous time.

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