



Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Nov 22 2014 - Nov 25 2014



Week 2 - Valid: Nov 26 2014 - Dec 02 2014



Confidence
High Moderate

Produced: 11/21/2014
Forecaster: Allgood

- Tropical Cyclone Formation** Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Prior TC Formation Outlook** Tropical cyclone outlook from previous release.
- Above-average rainfall** Weekly total rainfall in the upper third of the historical range.
- Below-average rainfall** Weekly total rainfall in the lower third of the historical range.
- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Product is updated once per week. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



The MJO signal remained coherent during the past several days based on the RMM Index, with the enhanced convective phase propagating over the Indian Ocean. The amplitude of the CPC velocity potential index decreased, as the positive anomalies associated with the suppressed phase over the Pacific weakened and became less coherent. Although widespread Indian Ocean convection is present, convective anomalies along the equator remain smaller than expected for a canonical MJO event. Considerable uncertainty remains regarding the future evolution of the MJO as the enhanced phase reaches the Maritime Continent, where the base tropical state favors suppressed convection.

An area of low pressure embedded in the ITCZ well south of the Baja Peninsula is forecast to degenerate into an open wave and is no longer favored for tropical cyclogenesis. Additional disturbances are forecast to emerge over the Gulf of Tehuantepec during late Week-1 or Week-2, and several dynamical models depict the development of a tropical cyclone. Therefore, the moderate Week-1 tropical cyclone shape has been removed from this outlook, and the Week-2 shape has been modified to reflect the latest potential formation regions based on the model guidance. Tropical cyclogenesis is not favored during the next several days over the West Pacific, but dynamical models indicate an increasing potential for tropical cyclone development east of the Philippines during late Week-1 or Week-2.

The original forecast discussion released on 18 November 2014 follows.

A more coherent MJO signal was evident during the previous week, with the RMM Index indicating that the enhanced phase propagated across the Western Hemisphere to the far western Indian Ocean. A coherent Wave-1 upper level zonal wind anomaly structure exists, with equatorial easterly (westerly) anomalies present across the central and eastern Pacific (South America through the Maritime Continent). The low-level wind field is less coherent over the Indian Ocean, and while the upper-level velocity potential pattern continues to exhibit a Wave-1 structure, the anomaly field has weakened during the past several days. Despite the fairly robust MJO signal indicated by the indices, equatorial convection has been weak across the Indian Ocean, with localized areas of enhanced convection displaced from the equator. Anomalous low-level equatorial easterly anomalies across Africa may be helping to inhibit widespread convection, in addition to destructive interference from the base state that favors suppressed (enhanced) convection across the Maritime Continent (western and central Pacific).

Dynamical model MJO index forecasts generally support a continued eastward propagation over the Indian Ocean during Week-1, although most models weaken the signal considerably before the enhanced phase reaches the Maritime Continent by Week-2. Additionally, the Week-1 spatial convective patterns forecast by the CFS and ECMWF are not consistent with typical MJO activity, favoring discrete areas of enhanced convection away from the equator instead of robust equatorial convective anomalies. There is also considerable uncertainty regarding the future evolution of convection across the West Pacific, with the CFS favoring a more robust subseasonal signal overcoming the base state to maintain generally suppressed convection east of New Guinea, while the ECMWF brings enhanced convection back to the West Pacific east of New Guinea by Week-2. Based on recent observations and dynamical model forecasts, therefore, the MJO is anticipated to influence the global tropical pattern during Week-1, although the robust canonical impacts of the enhanced phase are not anticipated over the Indian Ocean.

Cyclone Adjali developed over the southwestern Indian Ocean west of Diego Garcia on 16 November, and briefly reached Category-1 intensity on the Saffir-Simpson scale as it moved southeastward. Adjali is forecast to turn southward and then southwestward over the next several days, weakening substantially before approaching La Reunion Island. No other tropical cyclones developed during the previous week. During Week-1, a disturbance over the eastern Pacific south of Mexico has a moderate

potential for development. Later in Week-1 or during early Week-2, dynamical models indicate a potential for a second tropical cyclone developing over the eastern Pacific. Tropical cyclogenesis is not anticipated over the northwestern Pacific during Week-1, although the potential for tropical cyclogenesis increases east of the Philippines by Week-2. Additionally, a disturbance currently between Fiji and Samoa over the southwestern Pacific has a low potential for development. Some dynamical model forecasts indicate development over the southeastern Indian Ocean during Week-2, although the potential is also too low to indicate a hazard area on this outlook.

Enhanced convection associated with Adjali is forecast over the southwestern Indian Ocean during Week-1, with little agreement among the dynamical models for any areas of large scale convection over the remainder of the Indian Ocean basin. Suppressed convection is favored over parts of the Maritime Continent and western Pacific, including parts of northern Australia, although the primary monsoon season begins during January. Enhanced convection is ongoing along the ITCZ southwest of Hawaii, and dynamical models favor this to continue during Week-1. Over the Western Hemisphere, an arctic airmass is anticipated to bring much below-normal temperatures to the southeastern CONUS, while Gulf moisture along a frontal boundary is forecast to generate enhanced rainfall. Enhanced rainfall is also anticipated along the Atlantic ITCZ north of South America. During Week-2, enhanced (suppressed) convection is anticipated over the southeastern Indian Ocean (central and southeastern Maritime Continent).

Forecasts for enhanced or suppressed precipitation over Africa are based on regional scale considerations and were produced in coordination with CPC's Africa Desk.