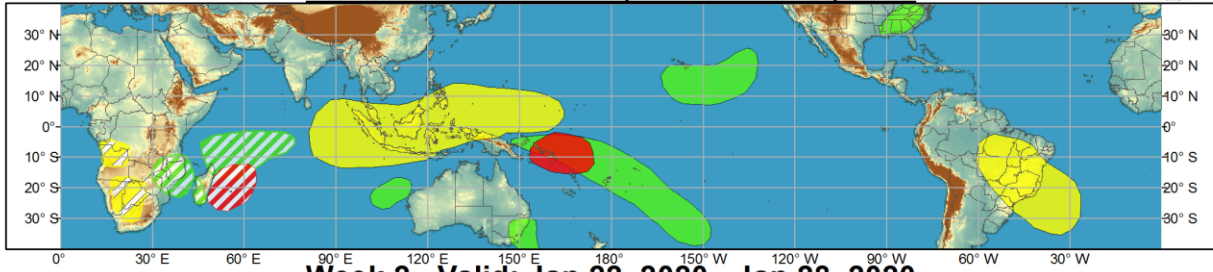




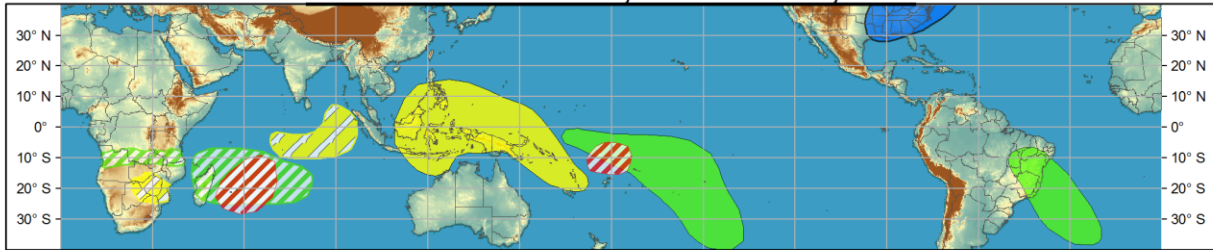
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jan 15, 2020 - Jan 21, 2020



Week 2 - Valid: Jan 22, 2020 - Jan 28, 2020



Produced: 01/14/2020

Forecaster: Maurin

Confidence		
High	Moderate	
		Tropical Cyclone Formation Development of a tropical cyclone (tropical depression - TD, or greater strength).
		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, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. 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 has seen a significant uptick in activity on the RMM index, close to 3 standard deviations above normal, over the past week. It moved out of the unit circle into Phase 4, quickly strengthening and traversing into Phase 5. With the decay of the +IOD, the convective signal of the MJO is clear in the OLR field over the Maritime Continent. This strong MJO is likely to be the dominant forcing in the tropics over the next few weeks, with impacts emanating outward to the mid-latitudes. Dynamical models forecast a maintained high amplitude event propagating eastward a fairly fast phase speed through all of week-1 (phases 5/6/7) and part of week-2 (phases 7/8). Models do indicate a drop in the strength of the signal as it moves toward the Western Hemisphere toward the middle of week-2. With the impact of the anomalously strong +IOD over the past few months dissipating, the RMM index may be biasing toward Phase 3/4, thus impacting the eastward propagation in RMM space.

There has been an uptick in tropical cyclone activity since the beginning of the new year for the South Indian and Pacific basins. Tropical Cyclone Claudia formed over the past week off the Kimberley Coast, similar to Tropical Cyclone Blake, and currently is propagating westward away from the coast. Tropical cyclogenesis over the next two weeks over the Indian Ocean is forecast to be in the western part of the basin, off the coast of Madagascar. There is a moderate chance of development for a similar region for

both week-1 and week-2 due to model guidance indicating a few systems could form during these time periods. In the South Pacific, the active portion of the MJO is forecast to move into the region and should support a few formation chances during the next few weeks as well. JTWC is currently monitoring a region for tropical cyclogenesis near the Solomon Islands, where model guidance is in agreement over development in the next few days. In week-2, the region for tropical cyclogenesis is further east into the Pacific, centered near 175E.

Precipitation forecasts for week-1 focus on both impacts from this strong MJO, as well as tropical cyclone activity for the Indian and South Pacific basins. Strong support from dynamical model guidance and MJO composites for Phases 5-6 give high confidence to much of the forecast. As the MJO propagates through Phase 5 and into Phase 6, the suppressed envelope currently over the Indian Ocean should push eastward, overspreading the Maritime Continent. The convective envelope is forecast to shift further into the western and central Pacific, which should constructively interact with the SPCZ, where above average rainfall is forecast. Cyclonic flow in the 850hPa wind fields in the North Pacific is causing persistent anomalous convergence near Hawaii, leading to above average rainfall. Over the Indian Ocean, with the suppressed envelope propagating eastward, tropical disturbances in the western portion of the basin is likely to cause above average rainfall near the equator and southward over Madagascar and parts of the southeastern coast of Africa. For southwestern Australia, a region heavily impacted by the ongoing bushfires, an extratropical low pressure system is expected to cause above average rainfall during week-1. A dry period over Brazil is likely for week-1, supported by both statistical and dynamical model guidance. Over the U.S., heavy rainfall is forecast over the Mississippi Valley and the Southeast, which is a pattern supported by typical U.S. impacts during a Phase 5/6 MJO (more about this can be found in the WPC 3-7 day forecast).

During week-2, if the MJO retains a consistent speed, conditions should be reflective of Phases 6/7. The suppressed envelope moves further east, encroaching on the western Pacific, which is forecast to have below average rainfall as well as the much of the Maritime Continent. The SPCZ is likely to continue to constructively interfere with MJO convection, though displaced eastward. The South Indian basin remains active in week-2, and above average rainfall is expected to continue for Madagascar. There is a shift away from the coast of Africa and further into the central basin, but a lot of this convection is likely contingent on tropical activity in week-2. Model guidance indicates that frontal activity along the eastern portion of South America is likely to cause above average rainfall for Brazil, which is also a canonical response to Phase 7 MJO. In addition to the precipitation forecasts, it should be noted that this MJO event could lead to a regime change for North America, specifically the contiguous U.S. Phase 7/8 events tend to favor below average temperatures over the eastern U.S., which has currently spent most of the winter above normal. If the event remains strong, the eastern U.S. could fall under persistent below normal temperatures for a few weeks. Currently, week-2 and week 3/4 forecasts from CPC favor cold for the east, which is reflected on this forecast as well. For more information on these forecasts, please refer to the CPC homepage.

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