



Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Aug 30, 2017 - Sep 05, 2017



Week 2 - Valid: Sep 06, 2017 - Sep 12, 2017



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.

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Forecaster: Artusa



The MJO signal was weak and largely incoherent over the global tropics during the past 7-days. According to the RMM index, there is the potential emergence of a weak subseasonal signal over the western Indian Ocean during Week-1. Dynamical model MJO forecasts from the NCEP GEFS and Canadian Meteorological Center (CMC) predict a weak signal to propagate very rapidly across the eastern Indian Ocean and Maritime Continent over the next two weeks. This may be related, in part, to Kelvin wave activity. Additional Kelvin wave activity is possible across the eastern Pacific. The MJO index forecast from the CFS differs from the other solutions by forecasting a retrograding convective signal, which moves from Phase 2 to Phase 8 during the same period. Westward-moving modes of tropical variability (such as equatorial Rossby waves) appear to be at least partially responsible for the CFS prediction. Despite the weak MJO signal during the past few weeks, tropical cyclone (TC) activity has ramped up over the Northern Hemisphere. In the Atlantic basin, Harvey, at one time a category-4 hurricane, continues to bring extremely heavy, record-breaking rainfall amounts and resultant flooding to eastern Texas and portions of Louisiana. In the eastern Pacific, Hurricane Kenneth developed, eventually topping out at category-4 strength, but was far removed from any landmasses. The western North Pacific basin was even more active during the past 1-2 weeks, with three named storms. The forerunner to what was to become Typhoon Hato formed east of the Luzon Strait, moved westward through the Strait, and intensified over the South China Sea, before making landfall just west of Hong

Kong. At maximum intensity, Hato was a category-2 typhoon. Tropical Storm Pakhar developed next, and ended up making landfall very close to where Hato did only four days earlier. Ongoing Tropical Storm Sanvu, currently southeast of Japan, is forecast to intensify to a category-1 typhoon, but remain well east of Japan.

Several potential TC formation areas are indicated over the next two weeks, each with high confidence. TC activity looks to continue southeast of Japan (about 22N-34N, 140E-150E) in the Week-1 period. Taiwan's Central Weather Bureau Typhoon Tracker tool and the Joint Typhoon Warning Center (JTWC) are focused on this area for possible TC development. Over the eastern North Pacific, the National Hurricane Center (NHC) predicts a 90-percent chance of a TC developing near the Pacific coast of Mexico, and, in the Atlantic basin, a 90-percent chance of a TC developing just south of the Cape Verde islands and heading westward across the lower-latitude Atlantic. Harvey (currently a Tropical Storm) continues to churn near the upper Texas coast, bringing record-breaking rainfall to eastern Texas and portions of Louisiana. During Week-2, there is a moderate chance of TC development over the eastern North Pacific (10N-17.5N, 105W-130W). This is attributed to a forecast of diminishing easterly wind shear in Week-2.

In Week-1, precipitation outlooks are predominantly driven by anticipated TC tracks, possible emergence of an intraseasonal signal over the Indian Ocean/Maritime Continent, an expected continuation of observed Kelvin wave activity over the Pacific (especially eastern Pacific), and consensus between the CFS and ECMWF ensemble systems. High confidence of above-normal rains is forecast over the western North Pacific, related to the potential transit of two separate TCs (one behind the other). Above-normal rains are also forecast with high confidence northeast of New Zealand associated with warm, moist northerly flow associated with low pressure areas approaching from the Tasman Sea. This is also consistent with the recent deamplification of the energetic Southern Hemisphere wavetrain, and poleward retraction of the Southern Annular Mode (SAM). Another area of above-normal rainfall with high confidence (associated with Harvey) is expected from far eastern Texas eastward across the Gulf Coast region to the Florida Panhandle, and northeastward up into the lower Ohio/Tennessee Valleys. The latest (12z) GFS model guidance predicts another tropical system may develop over the western/northwestern Bay of Campeche, and track towards Texas by the end of Week-1. Granted, this is only one model run, but it does bear watching. An update regarding this possibility will be issued on Friday, September 1st. Moderate confidence for above-normal rains are forecast in the vicinity of the Solomon Islands, in association with the emerging intraseasonal signal, and East Pacific where Kelvin wave activity is forecast. Other moderate confidence areas for above-normal rainfall are predicted near the Pacific coast of Mexico and over the lower-latitude Atlantic. Both areas are due to possible TC formation in Week-1.

Shifting to Week-2, precipitation outlooks are driven by several factors. The first is associated with the anticipated continuation of the intraseasonal signal, from about Sri Lanka eastward across parts of the Maritime Continent to just north of Papua New Guinea. Drier-than-normal conditions are forecast just north of this band. Another factor is the expectation of Kelvin waves across the east-central and eastern Pacific basin. These anticipated rainfall anomalies also have some dynamical model support from the CFS and ECMWF precipitation forecasts. All Week-2 precipitation areas are of moderate confidence.

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