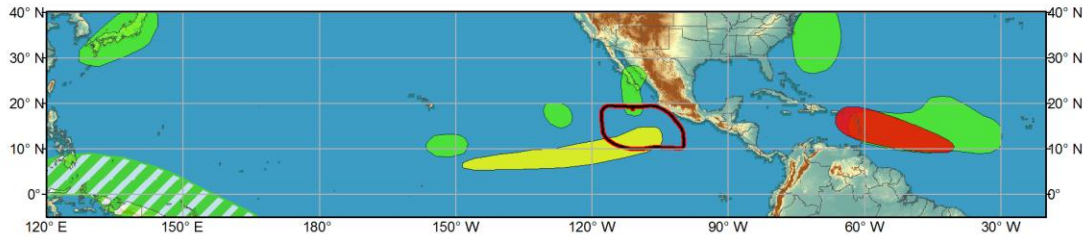




Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Sep 16 2017 - Sep 19 2017



Week 2 - Valid: Sep 20 2017 - Sep 26 2017



Confidence
High Moderate

Produced: 09/15/2017
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 RMM-based and CPC velocity potential based MJO indices continue to reflect an incoherent intraseasonal signal, with other modes, including tropical cyclones and a Rossby Wave over the Maritime Continent, contributing to a noisy tropical convective pattern. Dynamical model MJO index forecasts generally reflect a weak MJO signal over the next two weeks, although the GFS builds a strong signal over the Western Hemisphere during Week-2. This signal may be due to model forecasts for robust tropical cyclone activity over the Atlantic basin, with no model-indicated eastward propagation.

A more active period of tropical cyclone activity is likely over the remainder of the forecast period than model forecasts indicated earlier in the week. Short-lived Hurricane Max developed near the southwest Mexico coastline and quickly made landfall east of Acapulco, Mexico. Tropical Storm Norma and Tropical Depression 15-E formed over the East Pacific, and Tropical Depression 14 formed over the eastern Atlantic. Tropical Storm Norma is intensifying and expected to attain hurricane intensity ahead of a potential landfall over the Baja California Peninsula. The two recently formed tropical depressions are forecast to become tropical storms, but do not appear to be an immediate threat to land. Tropical Storm Jose continues to move slowly east-northeast of the Bahamas, and may move close enough to the northeastern U.S. to bring some wave, wind, or precipitation impacts as it finally recurves. In the West

Pacific, Typhoon Talim is anticipated to move across southern Japan over the next several days. During the remainder of the Week-1 period, there is a high potential for new tropical cyclone development near or east of the northeastern Caribbean, west of Tropical Depression 14. Dynamical model forecasts indicate that this potential tropical cyclone will be located south of a robust midlatitude ridge, and may bring potential impacts to the U.S. Virgin Island, Puerto Rico, and the U.S. East Coast some time next week. During the Week-2 period (Days 5-11 with respect to this update), dynamical model forecasts suggest an area of potential tropical cyclone development over the western Caribbean, with a moderate potential also for formation over the East Pacific. There is also a moderate potential for tropical cyclogenesis over the West Pacific, in the vicinity of Guam or east of the Philippines.

Forecasts for above- or below-normal precipitation were updated in this outlook to reflect the latest model guidance, as well as forecasted tropical cyclone tracks.

The original discussion released on September 12 follows.

The MJO signal has been weak and largely incoherent during the past 7 days. There has been some Kelvin wave activity across the North Pacific basin, as well as some interference from westward-moving modes of tropical variability (such as equatorial Rossby waves). Most dynamical models predict a low-amplitude, subseasonal signal that moves quickly eastward across the Indian Ocean and western Maritime Continent during Week-1, after which the signal (in RMM space) retreats back inside the unit circle. The bias-corrected GEFS solution, which is an outlier, predicts the possible emergence of a weak intraseasonal signal in phase 8 (Western Hemisphere and Africa) in Week-2, which could be associated with Kelvin wave activity. With such a weak MJO signal anticipated during the next two weeks, some tools, such as the Constructed Analog and Ensemble GFS forecasts of outgoing longwave radiation (OLR) anomalies, depict little to no projection of a coherent signal onto the map.

For a time during the past week, there were three hurricanes (Irma, Jose, and Katia) simultaneously in progress over the Atlantic. This is reminiscent of a similar situation in September 2010, when three hurricanes (Igor, Julia, and Karl) were also churning over the Atlantic at the same time. Interestingly, both of these instances (September 2017 and September 2010) included the I, J, and K named storms. Irma developed over the Atlantic Main Development Region (MDR), attained category-5 status (peak sustained winds ultimately topped out near 185 mph), and affected the Leeward Islands, the Greater Antilles, Florida, and then weakened rapidly over the Southeastern U.S. just prior to the start of this GTH

Outlook period. Jose also developed over the Atlantic MDR, attained category-4 status, and grazed the northern Leeward Islands. It is currently (11am AST Sept 12) about 450 miles north-northeast of Grand Turk Island, and maximum sustained winds have decreased to minimal hurricane intensity. Track and intensity projections for Jose will be discussed in the next paragraph. Katia formed over the extreme southwestern Gulf of Mexico, briefly attained category-2 strength, and made landfall in nearby Mexico. The eastern North Pacific was quiet during the past week. In contrast, the western North Pacific experienced Tropical Depression Guchol, Typhoon Talim (peaked at category-1 thus far), and Tropical Depression 21W. The last two systems are still active. Talim is currently (12z Sept 12) near Okinawa, Japan, and TD 21W is just off the west coast of the Philippines.

A less active period for tropical cyclones (TCs) is expected across the global tropics during the next two weeks. The only area of increased odds for tropical cyclogenesis is over the eastern North Pacific during Week-1, where the National Hurricane Center (NHC) predicts a high risk area. This region has the continued benefit of sufficiently warm water and reduced atmospheric wind shear for fostering TC development. Tropical Depression 15E has formed near 16N/116W, and another TC is expected to form well to its east, around 12N/102W. TD-15E is currently (7:45 am PDT on Sept 12) moving westward at 15 mph. In the North Atlantic basin, minimal Hurricane Jose is located (11am AST Sept 12) about 450 miles north-northeast of Grand Turk Island, and is drifting. NHC expects Jose to make a tight clockwise loop and to briefly weaken below hurricane strength, before taking it northwestward. NHC track projections, and most dynamical model guidance keep the center of Jose well off the East Coast of the United States, though coastal areas can still expect ocean swells, dangerous rip currents, and potentially some of the outermost spiral rainbands. No other TCs are foreseen for the next two weeks (with moderate or high confidence) across the Atlantic, but it is important to emphasize that the climatological peak of the Atlantic Hurricane season has just passed (about Sept 10th), and the season is far from over. The potential for Atlantic TC development will be revisited on Friday with the updated GTH outlook. In the western North Pacific, Typhoon Talim is forecast to cross over the southernmost Japanese islands (close to Taiwan), and recurve towards the north and northeast over Honshu. TD-21W (close to the west coast of the Philippines as of 12z, Sept 12th) is predicted to track westward across the South China Sea and Gulf of Tonkin region.

For Week-1, wetter-than-average conditions are expected near the east Asian coast (associated with the two TC's noted above), from the Indian subcontinent east-southeastward across the Maritime Continent region (related to an expected weak subseasonal signal), the far eastern North Pacific (anticipated TC activity), the western Atlantic (associated with Hurricane Jose), and the low-latitude Atlantic (ITCZ and/or easterly waves). Drier-than-average conditions are anticipated over a significant portion of the tropical Indian Ocean, the low-latitude eastern North Pacific, and from parts of Mexico eastward across the Gulf of Mexico and Florida. For Week-2, above-average rainfall is predicted from the Bay of Bengal east-southeastward across portions of the Maritime Continent (related to a weak subseasonal signal), and the central low-latitude Atlantic (ITCZ and/or easterly waves). Below-average rainfall is forecast over

parts of the tropical Indian Ocean, and the eastern North Pacific. The predicted Week-1 and Week-2 rainfall areas are generally consistent with a consensus between CFS and ECMWF model precipitation forecasts. For the eastern North Pacific, the anticipated below-average rainfall is due, in part, to the GEFS forecast of 200-hPa Velocity Potential Anomaly, which favors the convergence of atmospheric mass into this region.

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.