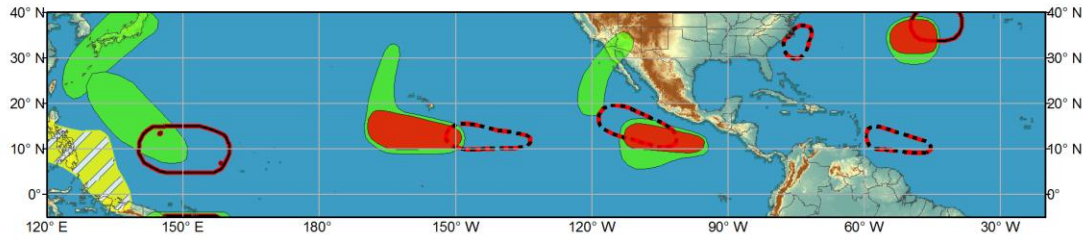




Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Sep 29 2018 - Oct 02 2018



Week 2 - Valid: Oct 03 2018 - Oct 09 2018



Confidence
High Moderate

Produced: 09/28/2018
Forecaster: Artusa

- 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 global tropics continue to be active, with named Tropical Cyclones (TCs) in the western and eastern Pacific basins, and the Atlantic basin at this time. Beginning with the western North Pacific, typhoon Trami (TY 28W) currently (12z, 28 Sep) has maximum sustained winds of 90 knots and gusts to 110 knots, as it moves over the southern Japanese islands of Okinawa. The Joint Typhoon Warning Center (JTWC) forecasts Trami to slowly recurve northeastward over Japan during the next few days, before heading out to sea. Above-average rainfall is expected to accompany this tropical system along its path, with high confidence. Tropical Depression 30W recently formed over the western Pacific, and is forecast to track northwestward, perhaps reaching the islands of Okinawa as a powerful typhoon in the next 5 days. Very heavy rainfall associated with this system, especially right on the heels of Trami, could result in widespread, catastrophic flooding for these southern Japanese islands near the end of the shortened Week-1 period or early in Week-2. As of 2 AM Hawaiian Standard time, 28 Sep, the Central Pacific Hurricane Center is predicting a 90% chance of tropical cyclone development within the next 5 days for an area well south of Hawaii. The 6z deterministic GFS run then takes this system northward at about 170W sometime around the end of the abbreviated Week-1 period, and predicts its central pressure to bottom out in the 930-940 hPa range. At this time (28 Sep), it looks like the main concern for the Hawaiian Islands with this system could be large ocean swells, high surf and dangerous rip currents. In the eastern Pacific (8am PDT), Hurricane Rosa is generating maximum sustained winds of 140 mph, and

has a minimum central pressure of 942-hPa. Over the next five days, Rosa is forecast to slowly weaken as it tracks northward over cooler water, perhaps coming ashore in far northern Baja Monday evening or Tuesday morning. If correct, heavy tropical rainfall can be expected to move across portions of the U.S. Desert Southwest, with the potential for flash flooding. In addition to Rosa, there is another system trying to organize over the eastern Pacific. The National Hurricane Center (NHC) gives this system a 70% chance of development in the next 2-days, and a 90% chance in the next 5-days. In the central Atlantic, post-TC Leslie is currently a powerful Low that is producing storm-force winds that extend several hundred miles from the center, and NHC predicts Leslie has a 90% chance of transitioning into a subtropical cyclone within the next 48 hours. In the eastern Caribbean, briefly re-energized Tropical Storm Kirk is predicted to weaken to a tropical depression in the next 24 hours.

For the front-loaded Week-2 period, above-average rainfall is predicted across Japan, the eastern Pacific, and the western Caribbean, all of moderate confidence, and related to TCs that already formed, or are expected to form during this period. For Week-1 and Week-2, rainfall areas were based primarily on areas of agreement between the ECMWF and CFS precipitation forecasts, and on the latest GFS model precipitation forecast.

----- The original forecast discussion (issued 25 Sep) follows -----

RMM-based MJO index values indicate the MJO has been weak and incoherent during the past 40 days, with values mostly confined within the unit circle. The very latest observations depict the emergence of an intraseasonal signal in Phase 8 (Western Hemisphere). Though there are variations on this theme, the GEFS, ECMWF, CFS, and JMAN dynamical models generally favor some increase in signal amplitude, as well as eastward propagation of the signal across Phases 8 and 1 (Western Hemisphere and Africa). The CFS predicts the largest amplitude of all these solutions. The CMET (Canadian model) predicts weakening of the intraseasonal signal back into the unit circle with eastward propagation across Phases 8 and 1, though there is very large spread among ensemble members. CPC's Velocity Potential-based MJO index indicates upper-level divergence and associated enhanced convection from about 150E eastward across the Americas to near the Prime Meridian, and upper-level convergence and associated suppressed convection over the Indian Ocean. CFS forecasts that use modal decomposition to separate signals into their various components indicate likely continuation of destructive interference from equatorial Rossby Waves (ERWs). Additional interference is expected from westward-moving tropical cyclones (TCs).

There are a number of areas ripe for TC development during Week-1. According to the Joint Typhoon Warning Center (JTWC), twin TC development is possible in the far western Pacific, straddling the

equator, both with high confidence. The predicted coordinates are 5N-15N, 140E-160E and 5S-15S, 140E-160E. In the east-central Pacific, the National Hurricane Center (NHC) and the Central Pacific Hurricane Center (CPHC) are monitoring the potential for TC development between about 10N-15N, and 133W-153W (moderate confidence). Over the far eastern Pacific, TC formation is possible (10N-20N, 102W-118W) with moderate confidence. These last two areas of potential formation may be associated with the budding MJO signal expected over the Western Hemisphere. In the Atlantic basin, three areas of potential TC development are anticipated. One is over the central Atlantic (near Post-Tropical Cyclone Leslie) between 34N-42N, 38W-48W (high confidence). A second area of possible development is off the Southeast U.S. coast (30N-37N, 72W-78W, moderate confidence), and a third area is east of the Windward Islands (9N-15N, 45W-60W). In Week-2, JTWC favors TC development, again in the far western Pacific, between 5N-15N, 135E-155E, with moderate confidence. There is a high risk of TC development in the eastern Pacific between 10N-17N, 93W-115W. Finally, there is a moderate risk of TC formation for the western Caribbean Sea later in Week-2.

Week-1 and Week-2 rainfall forecasts are generally consistent with areas of agreement between the CFS and ECMWF models, areas of expected TC development, and expected MJO impacts. In Week-1, the predicted area of above average rainfall in the vicinity of Japan (high confidence) is related to the forecast track of what is currently Super-typhoon Trami, which currently has maximum sustained winds of about 130 knots. Across the southern United States, from Texas to Tennessee, there is high confidence for above-average rainfall (2-4 inches, locally heavier), related to the approach of several cold fronts. The predicted Week-2 rainfall areas are generally tied to anticipated TC activity, the intraseasonal signal, and a broad area of low pressure predicted over the western Indian Ocean.

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