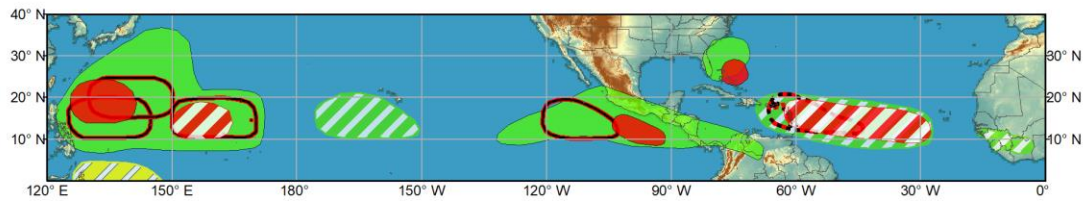




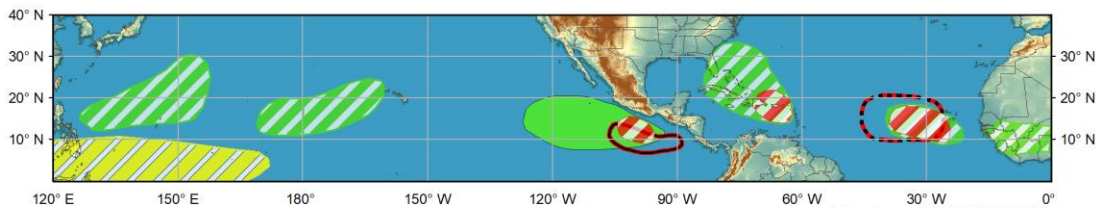
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Sep 14 2019 - Sep 17 2019



Week 2 - Valid: Sep 18 2019 - Sep 24 2019



Confidence
High Moderate

Produced: 09/13/2019
Forecaster: Novella

- 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 main change to the GTH outlook concerns the stronger potential for tropical cyclogenesis in the Caribbean. Latest satellite imagery depicts deep convection developing over the Bahamas, and NHC reports that potential Tropical Cyclone Nine is likely to soon become a named tropical storm. Locally heavy rainfall is expected over an area that has already been adversely impacted from Hurricane Dorian earlier last week, which is likely to exacerbate ground conditions. Over the next few days, model guidance suggests slight to moderate intensification of this disturbance as it is forecast to approach the eastern coast of Florida over the weekend, and begin to turn northeastward. Heavy rainfall and flash flooding is possible over coastal parts of eastern Florida, Georgia, and South Carolina. By early next week, there is some disagreement in the models relative to track and intensity, with the GEFS depicting more of a westerly and weaker solution, and the ECMWF depicting a more easterly and stronger solution as the low rapidly deepens over the Central Atlantic.

Across the northern Atlantic, models have indicated the likelihood of tropical cyclogenesis over the main development region in late Week-1 and early Week-2 over the past several days. NHC is currently monitoring two tropical waves, both with a (50%) chance of becoming a tropical cyclone over the next 5 days. The latest GEFS and GFS guidance suggests formation may occur by early next week, with the

westernmost wave forecast to be stronger while tracking west-northwest towards the Lesser Antilles. During Week-2, both ECMWF and GFS deterministic guidance do not suggest much evidence for tropical cyclogenesis, however CFS and GEFS guidance suggest some potential for formation southwest of the Cape Verde Islands with a reduction of wind shear later and more favorable conditions in Week-2.

Yesterday, Tropical Storm Kiko formed in the eastern Pacific and is forecast to track west-northwestward and slightly strengthen over the next several days before weakening by early next week. NHC is currently monitoring another tropical wave south of the Gulf of Tehuantepec, with a 70% chance of formation over the next 5 days. Once formed, model guidance suggests a track similar to that of Tropical Storm Kiko by the middle of next week. In the western Pacific, both GEFS and ECMWF still maintain a broad area of low pressure and enhanced precipitation in the Philippine Sea. Currently, there are now two areas of interest for cyclogenesis.

The MJO signal continues to appear weak and disorganized, however models suggest the potential for some reemergence of the MJO late in Week-1 and through Week-2. The ECMWF depicts a more robust signal than GEFS with several ensemble members outside the RMM unit circle while propagating the signal eastward into phases 8 and 1. If the signal does re-emerge over North America, this would create more favorable conditions over the main development region.

Forecasts for suppressed and enhanced rainfall have been adjusted using a consensus of updated dynamical model forecasts and anticipated tropical cyclone tracks.

----- Original Discussion from Tuesday, September 10, 2019 follows: -----

The recent transition from El Nino to ENSO-neutral has allowed other modes of tropical variability to dominate the global tropics, such as Kelvin waves (KW), equatorial Rossby waves (ERW), and tropical cyclones (TC). During the past several weeks, the MJO signal has been weak and disorganized, with the projection in RMM space remaining near or within the unit circle. Dynamical model forecasts from the ECMWF, GEFS, CFS, and Canadian Met Center predict the weak signal (currently over the Maritime Continent/Western Pacific) will continue during week-1 and into much of week-2. The CFS, and especially the ECMWF, predict the signal will re-emerge from the unit circle across the Western Pacific/Western Hemisphere (Phases 7,8) later in week-2, which is suggestive of KW activity.

Approximately half of the ensemble members from the Canadian solution show the subseasonal signal re-emerging over the eastern Indian Ocean/Western Maritime Continent region (Phases 3,4) during week-2, which is suggestive of continued interference from ERWs.

The tropical North Atlantic has been very active during the past 1-2 weeks. Though several tropical systems formed in the Atlantic basin during this period, the most impactful by far was Hurricane Dorian. This Category 5 hurricane reached peak intensity in the northwestern Bahamas with sustained winds of 185 mph (gusts in excess of 200 mph), and a minimum central pressure of 910-hPa, causing fatalities and catastrophic damage to the region. Dorian is likely the strongest hurricane to impact the northwestern Bahamas since modern records began. This system later made landfall at Cape Hatteras, NC, as a Category 1 hurricane, before heading northeast and transitioning to a powerful extratropical cyclone that made landfall in both Nova Scotia and Newfoundland. During week-1, TC development is favored from the Central Atlantic westward and northwestward towards the eastern Greater Antilles (moderate confidence) associated with a tropical wave moving off the coast of West Africa. A separate tropical wave may bring above average rainfall across a band stretching from the northern Bahamas and southern Florida across the northern Gulf of Mexico towards Louisiana. In the East Pacific, there is high confidence of TC formation during week-1. For the western North Pacific, the Joint Typhoon Warning Center has three areas of potential TC development during the same period. For week-2, there is a moderate chance of TC formation within the Main Development Region (MDR) of the Atlantic basin, and a high chance of TC formation across the far eastern Pacific. Some of the TC's predicted to form during week-1 and week-2 are thought to be associated with atmospheric KWs, ERWs, and possible MJO strengthening (week-2).

Tropical rainfall forecasts are based on areas of overlap between ECMWF and CFS rainfall predictions, and in consideration of the primary tropical modes of variability (ERWs, KWs, TCs, MJO). During week-1, tropical rainfall is forecast to be above average over portions of the Indian subcontinent and Bay of Bengal (associated with a KW and/or ERW), the western North Pacific (TCs, ERWs), the Central Pacific (related to the ITCZ), the Eastern Pacific (a TC), and parts of the Atlantic basin as described above. Areas of predicted below average rainfall are indicated over the Eastern Indian Ocean and adjacent Western Maritime Continent, and portions of the Eastern Maritime Continent (based on CFS/ECMWF precipitation forecasts). During week-2, areas of enhanced rainfall are depicted in similar regions to that of week-1, including the Bay of Bengal, the Western North Pacific, the Eastern Pacific, and from the Leeward Islands northwestward across the Greater Antilles, the Bahamas, and much of Florida. With large uncertainty regarding possible TC development in the Atlantic MDR region during week-2, it was decided not to include an accompanying area of enhanced rainfall. Below average rainfall is predicted from the tropical Central Indian Ocean east-northeastward across much of the Maritime Continent region.

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