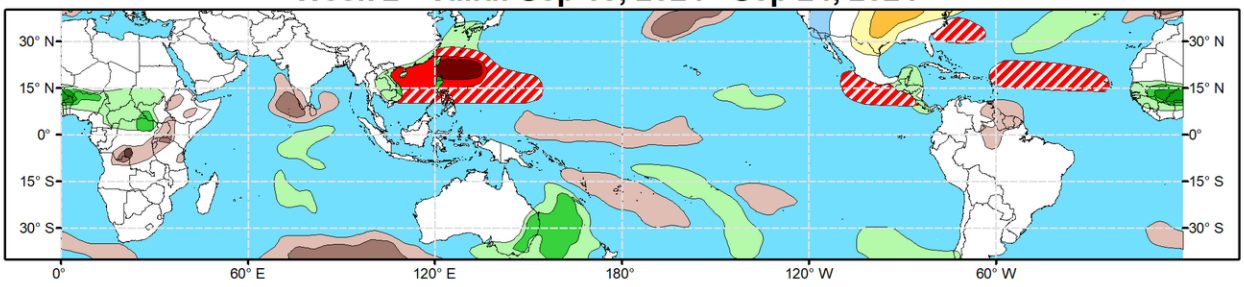
Global Tropics Hazards Outlook

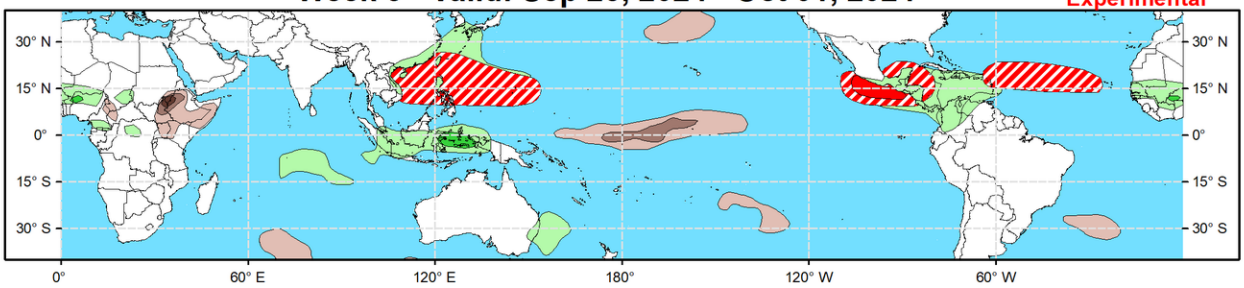
Climate Prediction Center

Week 2 - Valid: Sep 18, 2024 - Sep 24, 2024



Week 3 - Valid: Sep 25, 2024 - Oct 01, 2024

** Experimental **



Tropical Cyclone (TC) Formation Probability
>20% >40% >60%
Tropical Depression (TD) or greater strength

Above-Average Rainfall Probability
>50% >65% >80%
Weekly total rainfall in the Upper third of the historical range

Below-Average Rainfall Probability
>50% >65% >80%
Weekly total rainfall in the Lower third of the historical range

Above-Average Temperatures Probability
>50% >65% >80%
7-day max temperatures in the Upper third of the historical range

Below-Average Temperatures Probability
>50% >65% >80%
7-day min temperatures in the Lower third of the historical range

Issued: 09/10/2024
Forecaster: Pugh

This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only.
Consult your local responsible forecast agency.

A well-defined Madden Julian Oscillation (MJO) propagated eastward from the Indian Ocean to the Maritime Continent during the latter half of August. By early September, the eastward propagation of the MJO slowed due to interaction with Equatorial Rossby waves. The emerging low-frequency state with a transition to La Nina is also likely contributing to this slower progression. Dynamical models diverge on the MJO evolution during the next two to three weeks. The ECMWF and CFS models maintain a coherent MJO with it resuming eastward propagation to the Western Hemisphere, while the GEFS depicts a weaker MJO. The weeks 2 and 3 GTH outlook leaned towards the ECMWF and CFS model solutions.

Tropical Storm Francine developed in the southwestern Gulf of Mexico on September 9 and is forecast to make landfall as a hurricane along the Louisiana Gulf Coast on September 11. Francine was the 1st tropical cyclone to form over the Atlantic basin since Hurricane Ernesto which developed on August 12. Please refer to the National Hurricane Center (NHC) for the latest updates and forecasts on Francine. The NHC is monitoring a pair of tropical waves over the Central Tropical Atlantic and at least one of these is likely to become a tropical cyclone (TC) during the next week. An amplified 500-hPa trough over the Central Atlantic would favor a north to northeastward track (east of 70W) of this potential TC. Many GFS and ECMWF ensemble members continue to spin up a subtropical low pressure system or TC between the East Coast of the United States and Bermuda from September 18 to 24. This would be consistent with the predicted longwave pattern that features an anomalous 500-hPa ridge over the higher latitudes of eastern North American to the north of a mid-level trough. Therefore, from September 18 to 24, a 20 to 40 percent chance of TC development is posted for portions of the western Atlantic. Climatology and the expectation for atmospheric Kelvin waves to cross the western Hemisphere support a 20 to 40

percent chance of TC genesis across the Main Development Region of the Atlantic for both weeks 2 and 3. By the end of September, the MJO is expected to also provide a more favorable large-scale environment for TC development across the southern Gulf of Mexico and western Caribbean Sea.

Over the East Pacific, a TC may form near the southern Baja Peninsula prior to week-2. Regardless of development, it is forecast to bring a northward surge of enhanced low to mid-level moisture to the west-central United States. A continued eastward propagation of the MJO, per the ECMWF and CFS models, would result in an elevated chance (20-40 percent) of TC formation across the East Pacific during week-2 with chances increasing to 40-60 percent by week-3 (September 25-October 1).

On September 6, Super Typhoon Yagi made landfall on Hainan Island in southern China and then tracked westward into northern Vietnam. Yagi was the 2nd strongest tropical cyclone globally of 2024, behind Hurricane Beryl in the Atlantic. Another TC (Tropical Depression 14W) developed in the West Pacific on September 10. The Joint Typhoon Warning Center forecasts this TC to strengthen as it tracks northwestward, between Taiwan and southern Japan. Based on MJO composites and dynamical model guidance, the West Pacific is forecast to remain active through mid to late September. A greater than 60 percent chance of TC development is posted for the West Pacific from September 18 to 24 with a broader 40 to 60 percent chance area covering the South China Sea. By week-3 (September 25 to October 1), MJO composites and dynamical model probabilities favor a decreasing chance (20-40 percent) of TC formation for the West Pacific.

The precipitation outlook for weeks 2 and 3 was based on the historical skill weighted blend of the GEFS, CFS, ECCC along with MJO precipitation composites for phases 7, 8, and 1, and the low-frequency base state with enhanced (suppressed) rainfall over the Maritime Continent (equatorial Central Pacific). Since the MJO is expected to propagate eastward to the western Hemisphere, a trend towards wetter conditions is forecast for Central America and the Caribbean Sea region from weeks 2 to 3.

For hazardous weather conditions in your area during the coming two-week period, please refer to your local NWS office, the Medium Range Hazards Forecast produced by the Weather Prediction Center, and the CPC Week-2 Hazards Outlook.