Seasonal Diagnostics of Climate Events for the RCC-Washington Region
January - March

(i) Temperature

During the Jan-Mar (JFM) season in the Caribbean, mean maximum temperatures were warmer than normal across the Lesser Antilles and Jamaica, with 1-2°C positive anomalies recorded (**Fig. 1**). Mean minimum temperatures were also above average in the Lesser Antilles, while near-average temperatures were observed elsewhere (**Fig. 2**).

In Mexico, maximum temperatures were warmer than average across most of the country, except for the Baja California peninsula and a few parts of the Pacific coast and northeastern Mexico, where they were near average. The highest anomalies (2-4°C) were recorded across central portions of Mexico (**Fig. 1**). In Central America, maximum temperatures were mainly near average except for areas of northern Guatemala, Belize, and eastern Honduras registering 1-2°C positive anomalies.

Minimum temperatures were warmer than average by 1-2°C across the southern half of Mexico and cooler than average by 1-4°C across northern Mexico and the Baja California peninsula. Near-average conditions were observed in the center of the country (**Fig. 2**). In Central America, 3-month mean minimum temperatures were warmer than average by 1-2°C in northern Nicaragua, Honduras, El Salvador, Guatemala, and Belize. Near-average temperatures prevailed to the South.

(ii) Precipitation

During the Jan - Mar (JFM) season, rainfall was below average across The Bahamas and Hispaniola, as well as southern portions of the Lesser Antilles. Total rainfall for the season ranged from 100 -150 mm in many local areas to as little as 10-25 mm in Hispaniola (**Fig. 3**). The majority of the region received between 50 and 75 mm. Rainfall deficits across The Bahamas and Hispaniola were generally 25 to 100 mm. The largest surpluses in the region were 50-100mm in several local areas (**Fig. 4**).

In Mexico, the greatest rainfall (over 100 mm) was observed in the South, the Yucatan Peninsula, and along the Gulf of Mexico coast (**Fig. 3**). Conversely, much of the Baja California Peninsula, and other northwestern States observed almost no rainfall. The majority of the northern and western parts of the country experienced below average rainfall. Deficits were widely 10-50 mm but more than 50 mm in local areas of Baja California, Sonora, Chihuahua, Jalisco, and Tamaulipas states near the coasts. Conversely, heavy rain in the South resulted in large positive anomalies of locally more than 300 mm (**Fig. 4**).

In Central America, rainfall during the season ranged from just a few millimeters to more than 300 mm. The Caribbean coastal areas along with portions of southern Costa Rica and southwestern Panama observed the heaviest rainfall. Meanwhile, it was southeastern Guatemala, southern Honduras and northern Nicaragua that remained the driest (**Fig. 3**). These seasonal rainfall totals were higher than average (> 100 mm anomalies) for areas including eastern Belize, eastern Nicaragua, parts of Costa Rica and Panama. Conversely, northern Guatemala registered deficits of more than 50 mm and many parts of southern Guatemala, Honduras and northern Nicaragua registered deficits up to 10-50 mm (**Fig. 4**).

(iii) Notable Events

Repeated heavy rains occurred during January in Central America. The resulting wetness has oversaturated the soil and has resulted in numerous flooding, especially in southern and eastern regions, according to reports. Conversely, strong winds and above-average temperatures over the past several weeks have contributed to environmental conditions, which increased the number of forest fires over many areas, including central and northern Guatemala and Honduras, according to reports.

Significant portions of Mexico, remained under drought during March. Soil moisture percentiles were below 2% in the North and West over the past season (**Fig. 5**). This means that soils are currently among the driest in the 40-year climatological period. The drought is affecting Mexico's north region, including the Baja California Peninsula, Chihuahua, Durango, Sinaloa, and Sonora. The prolonged water shortage affects access to water supply, agricultural production, and livestock farming.

Maximum and minimum temperatures were warmer than average in Guatemala, El Salvador, and Honduras. The lack of rainfall and warmer temperatures helped to increase evapotranspiration and decreased vegetation health in in these countries.

(iv) Sea Surface Temperature and Circulation

During the January –March (JFM) season, La Niña conditions were present, with below-average sea surface temperatures (SSTs) observed across mainly the central equatorial Pacific Ocean during the period. SST anomalies were as much as 1.0-1.5°C below average, especially during January and February. SST began to moderate closer to average during March. The Niño4 index trended negative during January and reached a nadir in early February at -0.9°C. From there, the index increased through the end of the season. Based on observed SST patterns and atmospheric anomalies, NOAA's Climate Prediction Center (CPC) had a 'Final La Niña Advisory ' indicating La Niña conditions have ended. As of writing time, in early April, 'ENSO neutral conditions have returned. ENSO neutral is favored to continue through at least northern hemisphere summer with more than 50% chance through August-October.

In the USRCC region, SSTs were above average across the Caribbean with anomalies generally ranging between 0.5-1.0°C (**Fig. 6**). The western and central thirds of the Gulf of Mexico were also above average with the strongest positive anomalies (1.5-3.0°C) in the northern Gulf. Similarly, the tropical Atlantic showed widespread warmer-than-average SSTs, with anomalies of 0.5-1°C. The East Pacific exhibited near-average to slightly above-average SST. However, waters just to the south and west of the Baja California peninsula were much cooler than average, with negative anomalies as large as 2.0°C.

The 850mb circulation pattern during the JFM season featured anomalous easterly winds over the Caribbean and Central America. Otherwise, wind anomalies were small, with a very typical strength and placement of the subtropical high over the region (**Fig. 7**). At the 200mb level, (**Fig. 8**) the pattern featured a broad anomalous anticyclonic circulation over most of the RCC region. This likely helps explain the broadly suppressed rainfall across northern portions of the region. Associated with the circulation, strongly anomalous upper-level easterly flow was present across the Caribbean, Central America, and into southern Mexico. Anomalies were more southerly over northern Mexico.

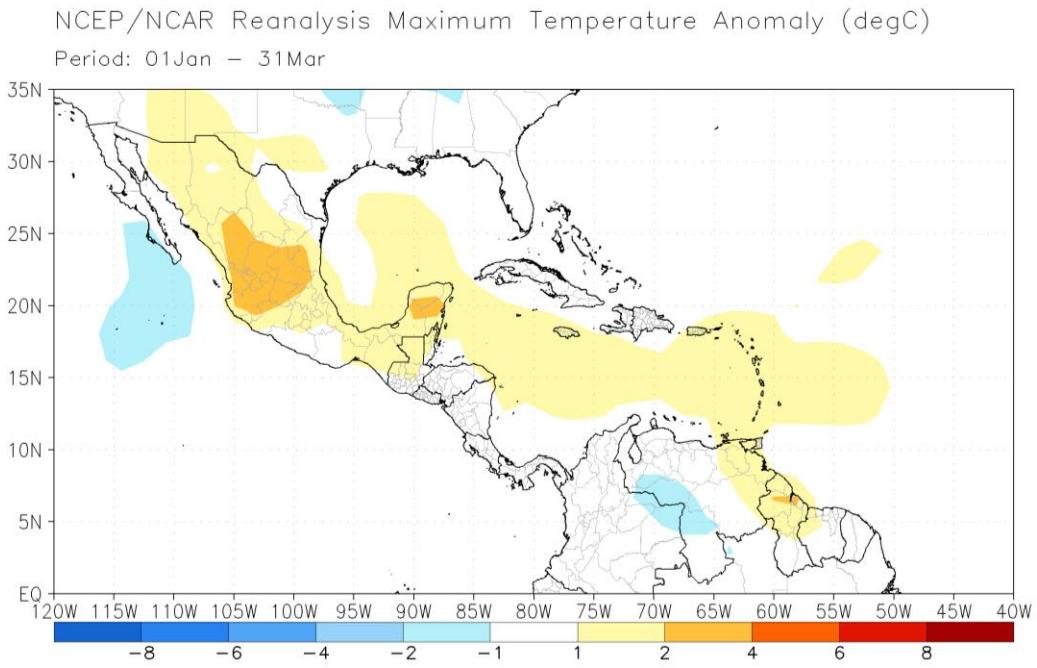

Figure 1. NCEP/NCAR Reanalysis mean maximum temperature anomaly (°C) during the 2025 JFM season. Anomalies are computed with respect to the 1991-2020 base period.

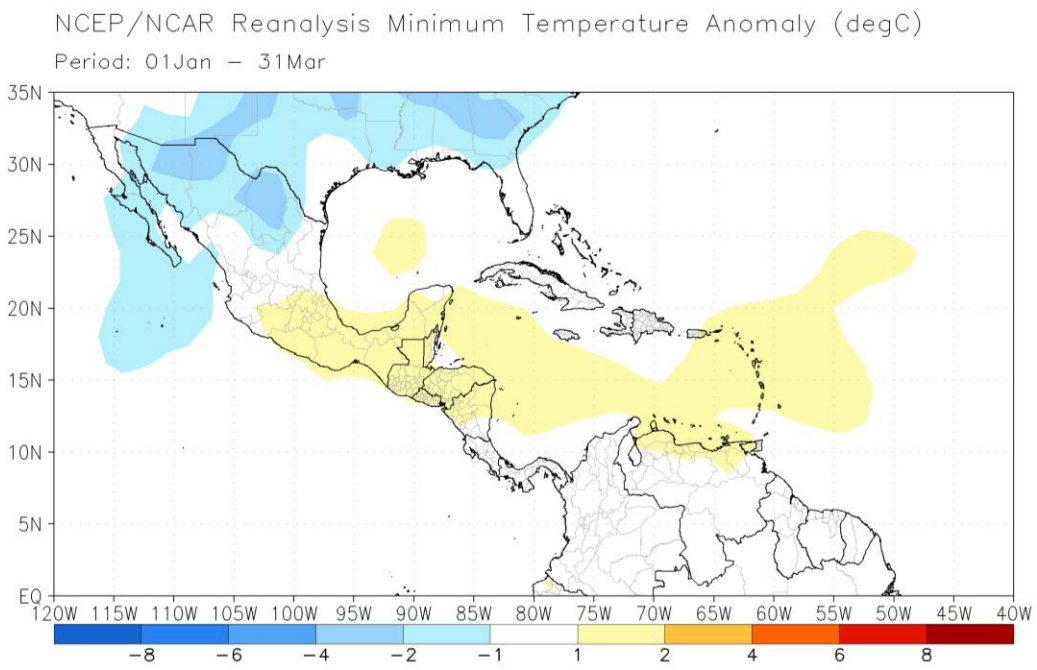

Figure 2. NCEP/NCAR Reanalysis mean minimum temperature anomaly (°C) during the 2025 JFM season. Anomalies are computed with respect to the 1991-2020 base period.

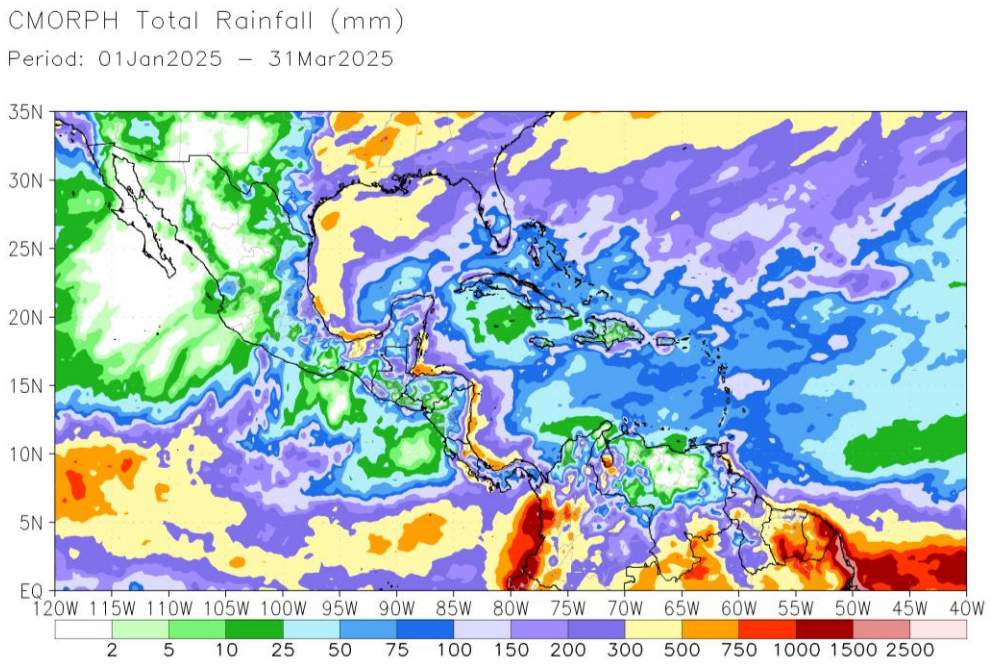

Figure 3. Satellite-estimated rainfall total (mm) during the 2025 JFM season.

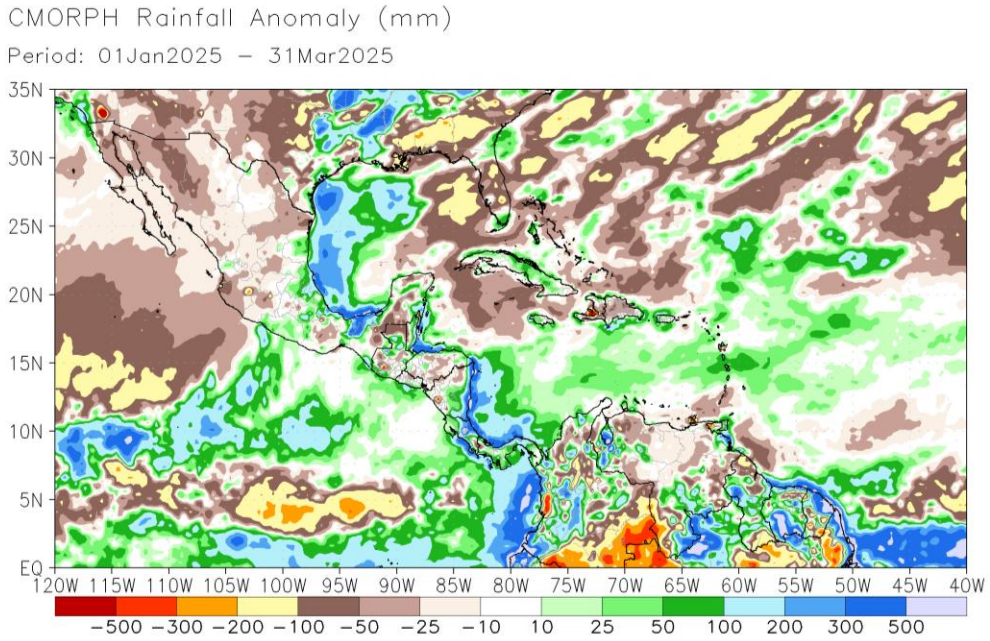

Figure 4. Satellite-estimated rainfall anomaly (mm) during the 2025 JFM season. Anomalies are computed with respect to the 1998-2012 base period.

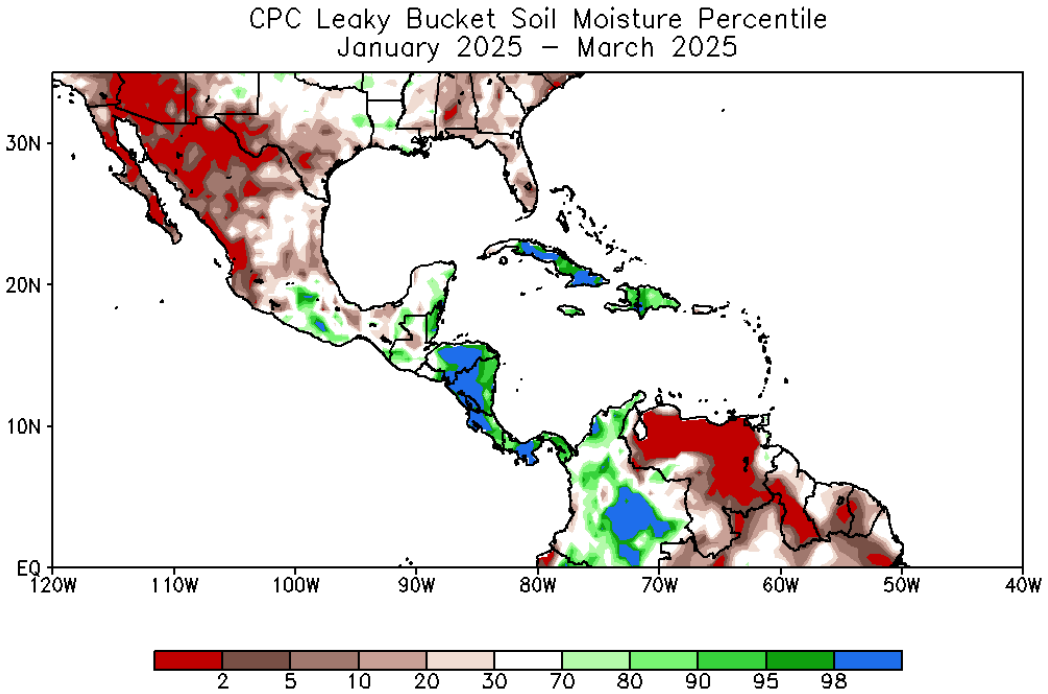

Figure 5. CPC Leaky bucket Soil Moisture Percentile for the 3-month period from 1 January to 31 March 2025 utilizing a climatology period of 1979-2019.

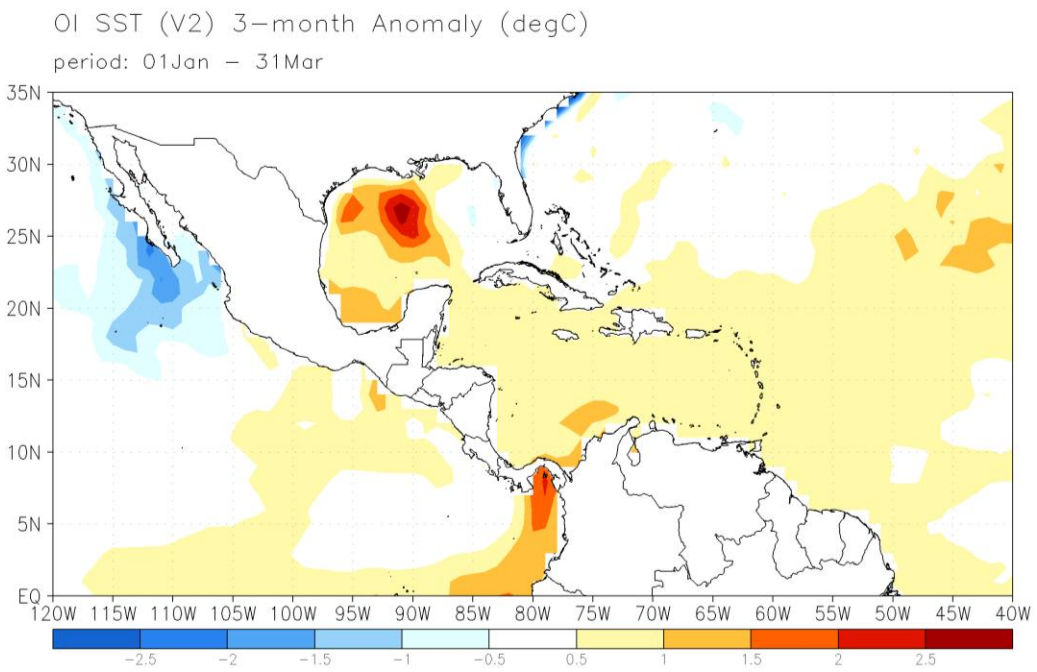

Figure 6. Average sea surface temperature (SST) anomalies (°C) for the 2025 JFM season. Anomalies are computed with respect to the 1991-2020.

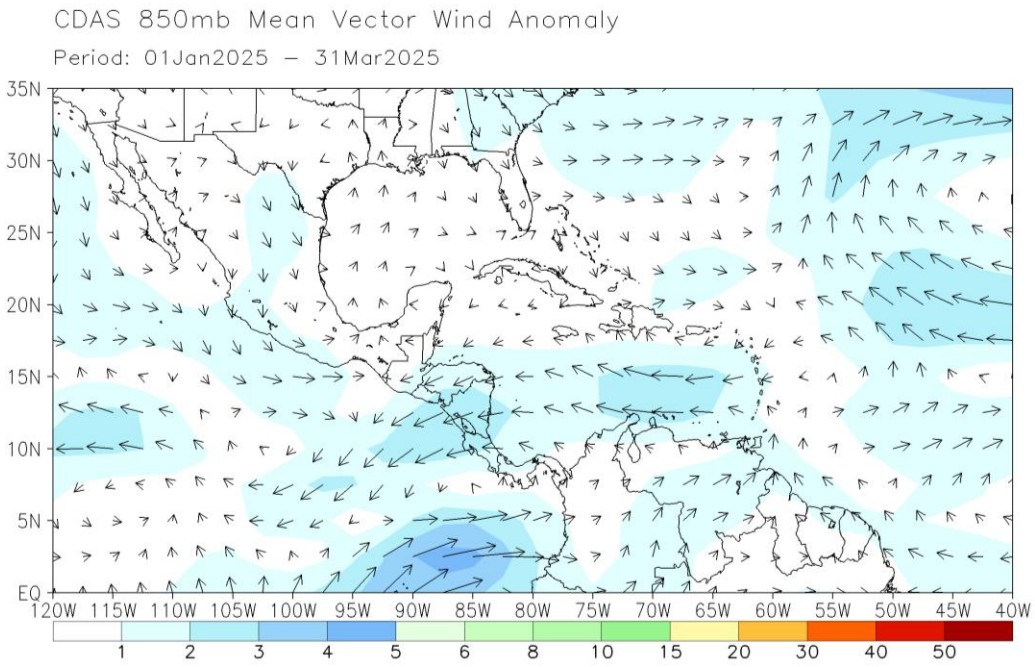

Figure 7. 850mb mean vector wind anomalies for the 2025 JFM season. Anomalies are computed with respect to the 1991-2020.

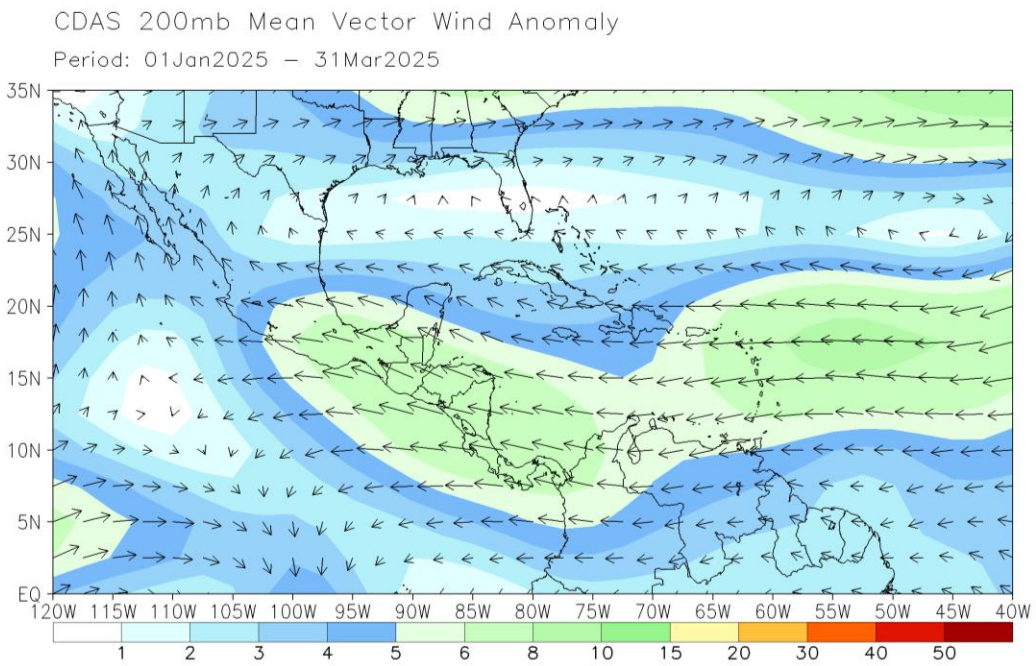

Figure 8. 200mb wind vector anomaly for the 2025 JFM season. Anomalies are computed with respect to the 1991-2020.

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Update prepared by Climate Prediction Center / NOAA