

Climate Review for PR and USVI – October 2020



Synopsis: Strong tropical waves and above normal moisture were observed through the month of October, causing periods of rainfall across the local islands. However, most of the rainfall occurred over eastern and western Puerto Rico, while below normal rainfall was observed across most of Puerto Rico. Isolated areas of the U.S. Virgin Islands observed above normal rainfall, but mostly below normal rainfall was also observed. Above normal temperatures were also recorded across the local area. The Saint Croix International Airport (ISX) ended in the top five warmest October on record, while San Juan (SJU) tied a record high daily temperature, reaching 93°F.

Observed Conditions:

October is known to be a rainy and somewhat hot month, with normal rainfall exceeding 6 inches across most of Puerto Rico, and about 3 to 6 inches across the U.S. Virgin Islands; normal daytime high temperatures are in the upper 80s to low 90s, while the highest elevations of Puerto Rico generally observe high temperatures in the low to mid 80s. That said, this October had below normal rainfall across most areas and above average temperatures. The average temperatures were from 0.6°F to 1.6 °F above normal across the main climatological sites (Table 1).

Portions of western and eastern Puerto Rico, as well as western Vieques observed above normal rainfall. However, most of the rest of Puerto Rico had rainfall deficits between 1” - 4”, but some areas had deficits of as much as 6” across central Puerto Rico (Figure 1). In terms of percent of normal rainfall, the areas with the highest percent of normal rainfall were eastern and western Puerto Rico with just over 200%, while the lowest percentage went to portions of northwestern Puerto Rico with about 30% of normal; it is also worth mentioning that most of the rest of Puerto Rico observed about 45 to 65% of normal rainfall. In the Virgin Islands, St. Croix observed 1.89 inches of rain below normal, and St. Thomas observed 1.18” of rain below normal. This translated to a percent of normal of approximately 64% in Saint Croix, and 78% in Saint Thomas.

The total monthly rainfall estimates by the Doppler radar across Puerto Rico ranged from around 2 to 4 inches at some areas of extreme northwestern and southern Puerto Rico, to over 15 inches across portions of western and eastern Puerto Rico; while the total rainfall across the U.S. Virgin Islands ranged from 3 to almost 8 inches, with Saint John receiving the most rainfall of all 3 U.S. Virgin Islands (Figure 2). The only daily rainfall record this month was observed in Saint Croix, with 1.04” on October 17th. A daily record high temperature was tied in San Juan, but otherwise no other high or low temperature records were broken; there were however a few Warmest-Minimum temperatures tied or broken at all the main climate sites. Saint Croix ended the month with the fifth warmest October on record. The overall highest temperature observed this month across our local COOP stations was 94°F at the Ponce 4E and Trujillo Alto stations, and the lowest temperature was 59°F at the Adjuntas Substation station.

The local drought conditions degraded slightly over Puerto Rico, but the U.S. Virgin Islands remained without any changes in drought classification. Around 10% of Puerto Rico is now classified as “Abnormally Dry” (D0) (Figure 3). Meanwhile, the U.S. Virgin Islands continues to be considered to be without any drought (Figure 4).

Looking Ahead:

The latest seasonal outlook issued by the Caribbean Climate Outlook Forum (CariCOF) for the 3-month period of November-December-January (NDJ) favors above normal rainfall (Figure 5) and above normal temperatures (Figure 6). The latest observations indicate that we are currently under La Niña conditions; and the latest forecasts favor a continuation of La Niña through the Northern Hemisphere winter. La Niña does favor above normal rainfall through December, but it generally favors below normal rainfall early in the Spring months.

More info: <http://rcc.cimh.edu.bb/climate-outlooks/>

Figures and Tables

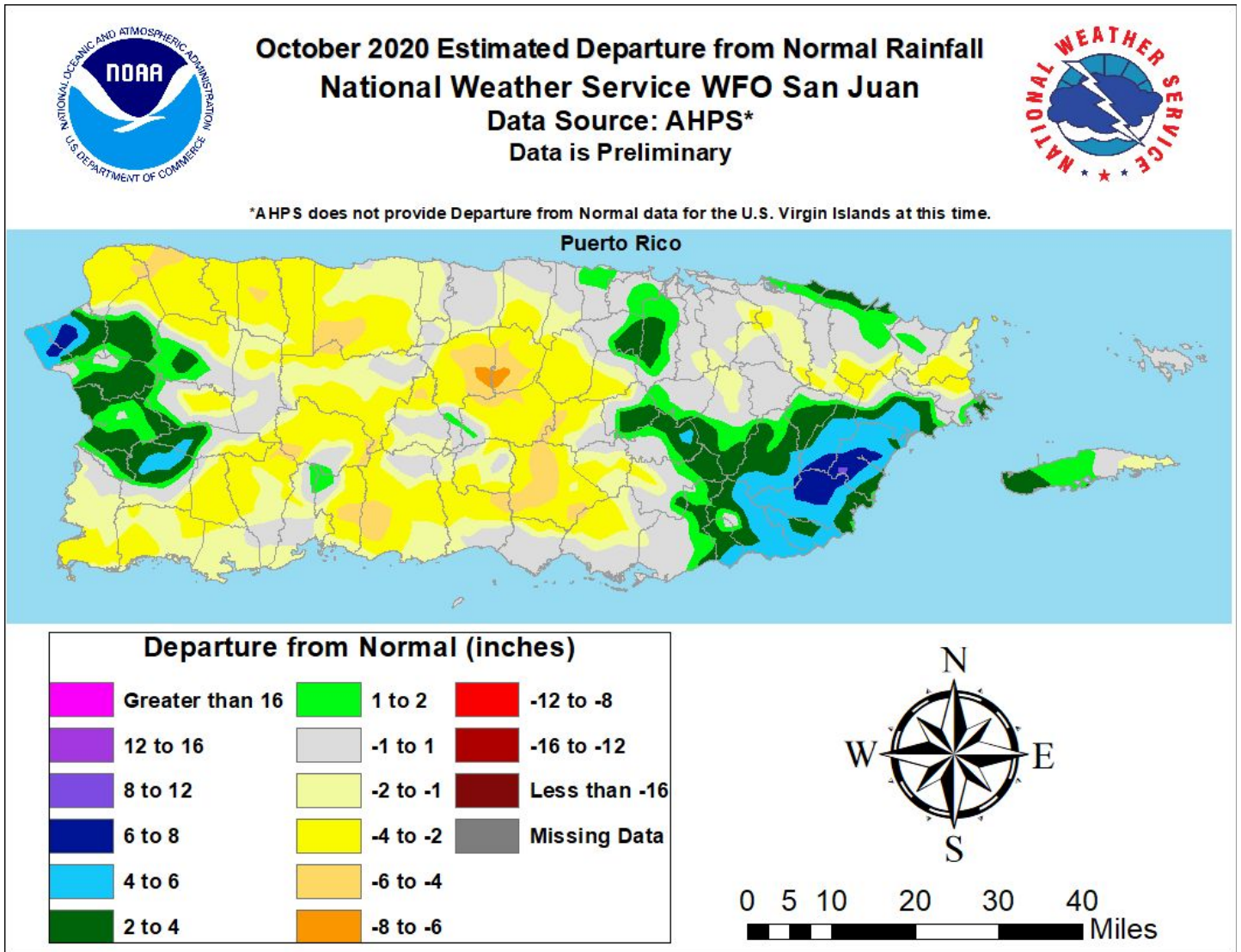


Figure 1. Departure from normal rainfall for the month of October 2020.



October 2020 Estimated Rainfall

National Weather Service WFO San Juan

Data Source: AHPs, COOP
Data is Preliminary

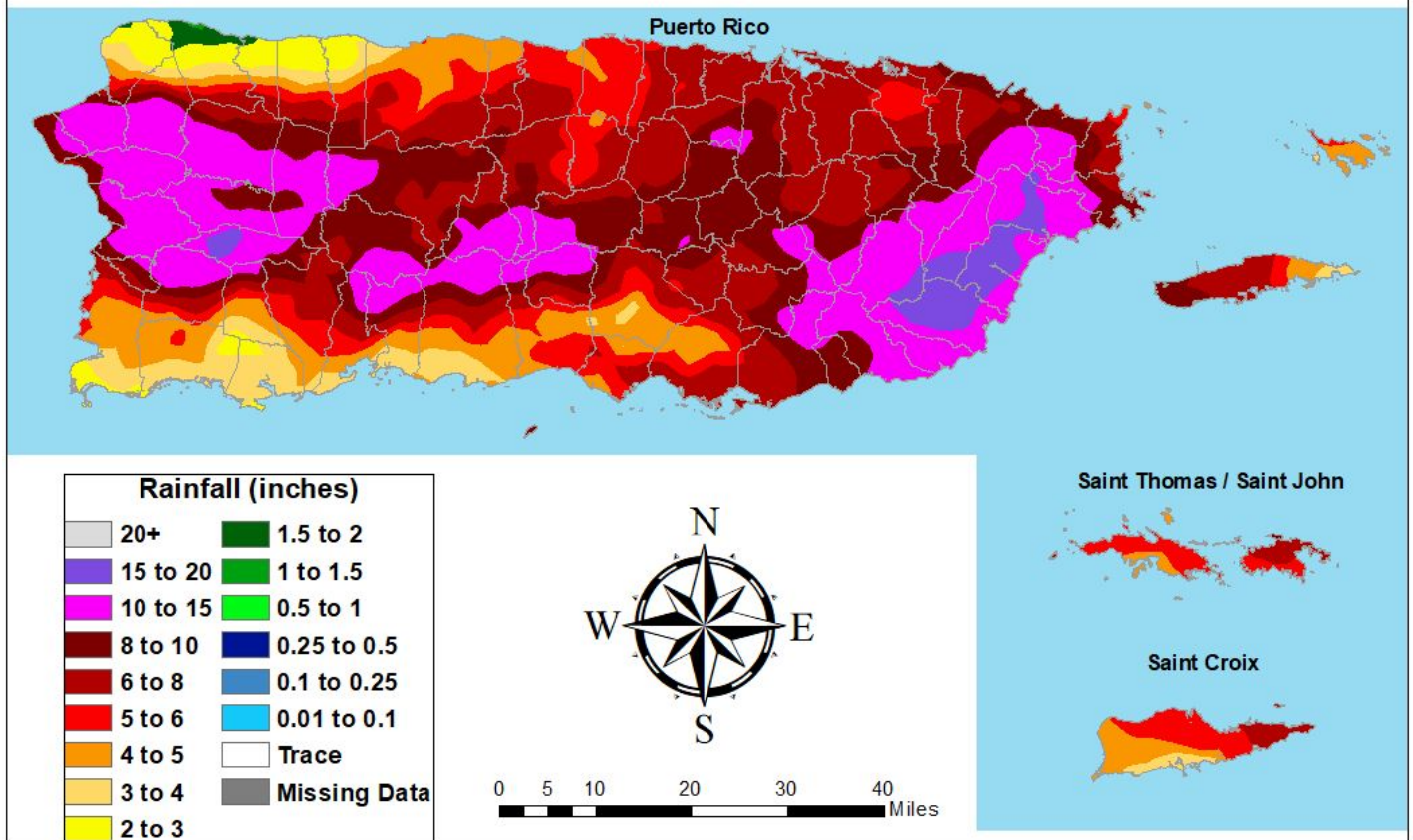


Figure 2. Total estimated rainfall for the month of October 2020.

U.S. Drought Monitor Puerto Rico

November 3, 2020
(Released Thursday, Nov. 5, 2020)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	89.93	10.07	0.00	0.00	0.00	0.00
Last Week <i>10-27-2020</i>	82.89	17.11	0.00	0.00	0.00	0.00
3 Months Ago <i>08-04-2020</i>	82.63	17.37	0.00	0.00	0.00	0.00
Start of Calendar Year <i>12-31-2019</i>	63.82	36.18	10.86	0.00	0.00	0.00
Start of Water Year <i>09-29-2020</i>	94.94	5.06	0.00	0.00	0.00	0.00
One Year Ago <i>11-05-2019</i>	69.37	30.63	0.00	0.00	0.00	0.00



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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droughtmonitor.unl.edu

Figure 3. U.S. Drought Monitor for Puerto Rico. Released November 5th, 2020

U.S. Drought Monitor U.S. Virgin Islands

November 3, 2020
(Released Thursday, Nov. 5, 2020)
Valid 7 a.m. EST



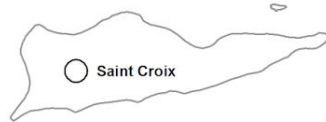
Intensity:

- ⊗ No Data
- No Drought or Dryness
- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought
- D3 - Extreme Drought
- D4 - Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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Figure 4. U.S. Drought Monitor for the U.S. Virgin Islands. Released November 5th, 2020.

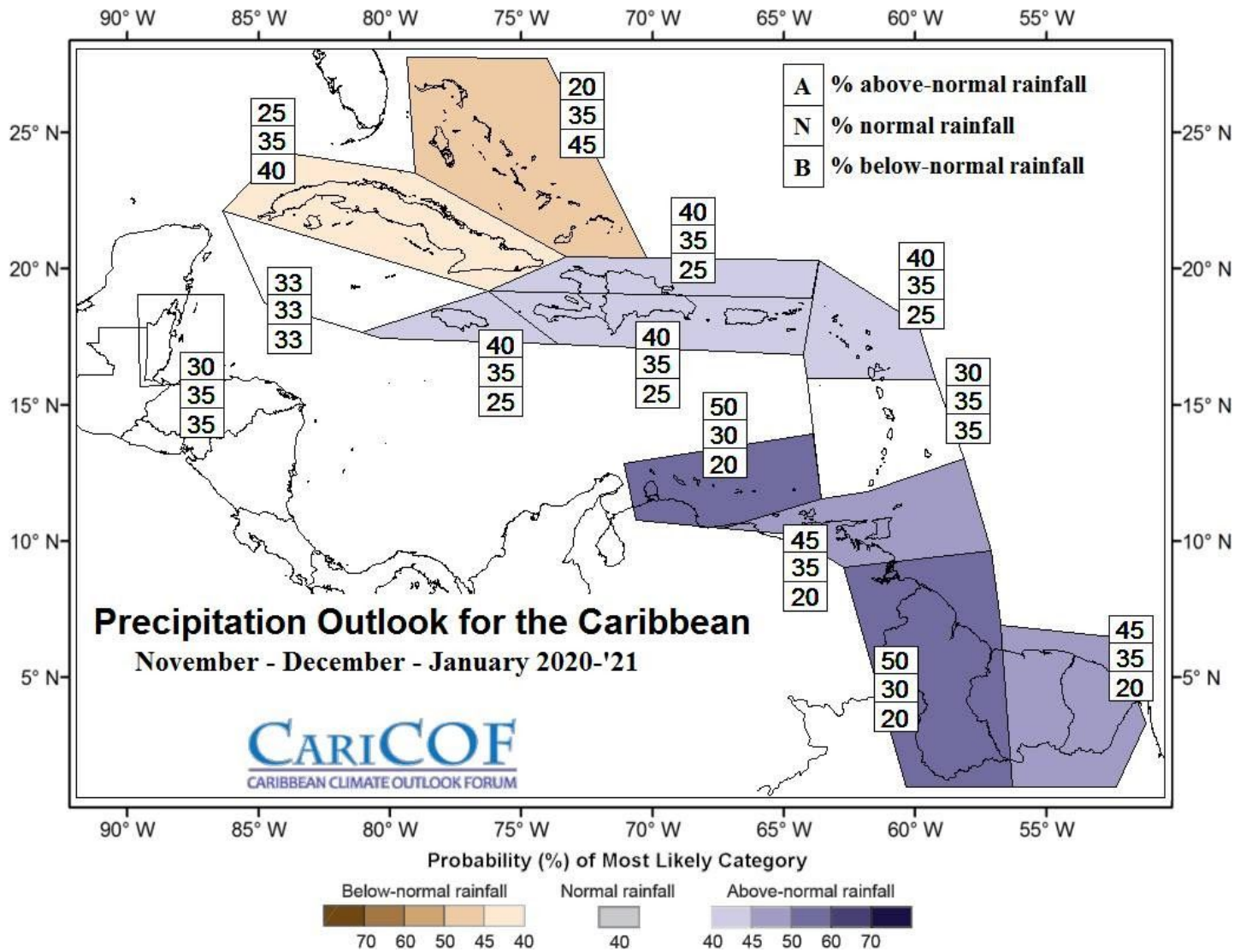


Figure 5. CariCOF 3-month rainfall forecast.

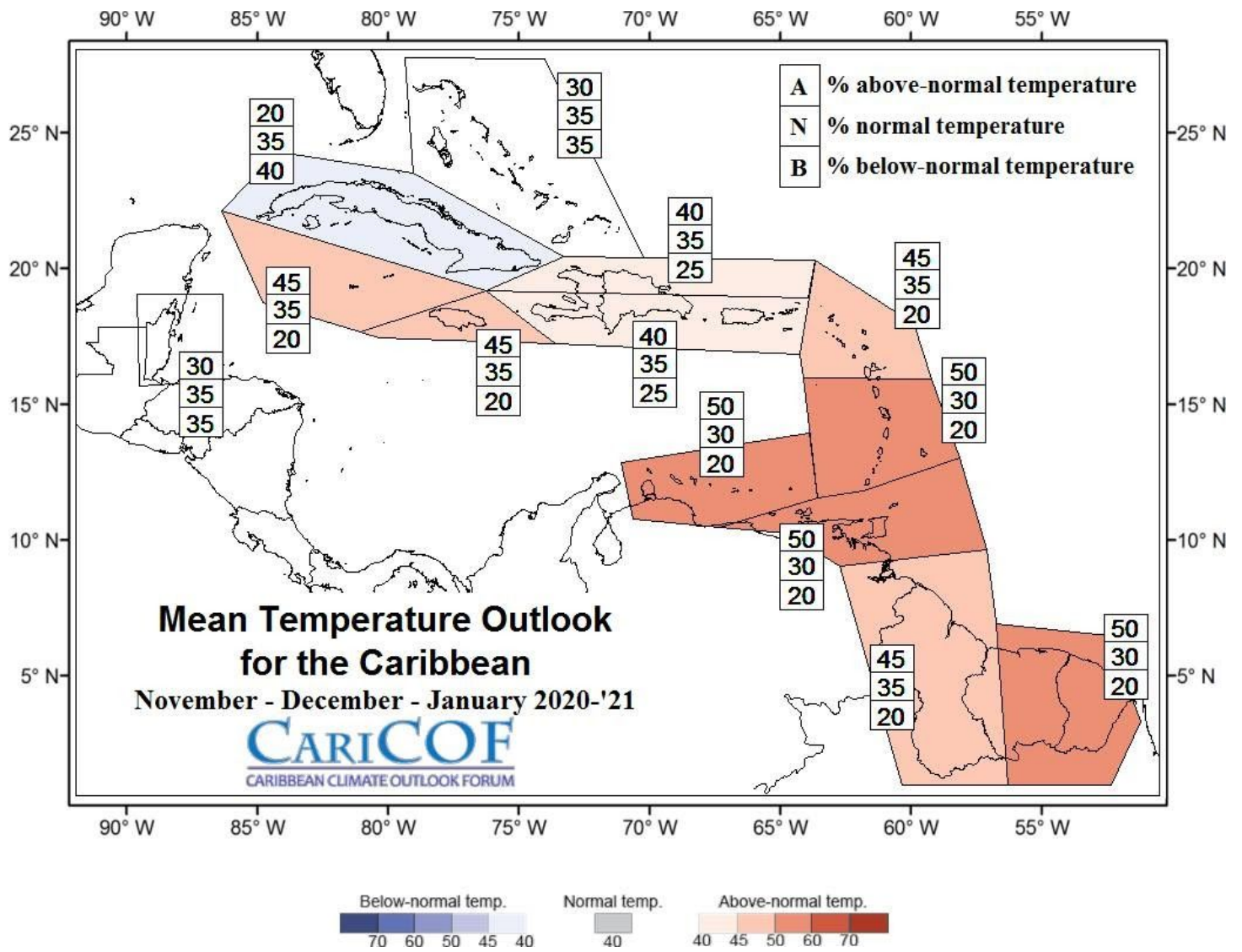


Figure 6. CariCOF 3-month temperature forecast

	Max Temp (°F)	Min Temp (°F)	Mean Temp (°F)	Monthly departure from normal Mean Temp (°F)
JSJ	93 – Oct 24 th *	75 – Oct 1 st *	83.2	0.6
IST	91 – Oct 25 th	75 – Oct 4 th *	83.2	0.4
ISX	92 – Oct 15 th	73 – Oct 19 th	83.7	1.6

Table 1. Temperature highlights for the local international airports.

*Date of last occurrence. This temperature was observed in more than one day.

	Total Monthly Rainfall	Monthly departure from normal rainfall	Year-To-Date departure from normal rainfall.
JSJ	6.50''	0.91	12.61''
IST	4.24''	-1.18''	-3.61''*
ISX	3.36''	-1.89''	-5.19''

Table 2. Rainfall highlights for the local international airports.

*Due to missing data in May, this value includes the estimated rainfall for the month of May which was estimated to be 1.55'', based on an average between nearby stations and Doppler Radar Estimates.

	Records Set or Tied This Month	Previous Record and Year
JSJ	Daily Max Temp – Oct 22 nd – 93°F	93°F – 2015
IST	-No Records-	N/A
ISX	Daily Rainfall – Oct 17 th – 1.04''	0.85'' - 1954

Table 3. Temperature or Rainfall records that were set or tied in the month of October 2020