

July 2025 Monthly Weather Summary

Temperature Overview

While there were no extended periods of large deviations from normal (above or below), temperatures did reach +5°F sporadically throughout July at all climate sites. Though there were no prolonged large temperature anomalies (i.e. heat waves/“cold” snaps), average temperatures stayed consistently above normal for a majority of the month. At the long-term climate sites, only Elizabeth City, NC ranked among the top 10 warmest on record (coming in at 9th warmest). Several sites with a somewhat shorter period of complete record did rank in the top 10 warmest Julys on record: Wallops Island (8th warmest), Ashland, VA (7th), Louisa, VA (2nd), Williamsburg, VA (5th), and Edenton, NC (9th). No record high temperatures were set in July, but a few long-term climate sites set record high minimums throughout the month which helped keep the monthly average temperatures on the warmer side.

The combination of high humidity and consistent warmth allowed for several days where the heat index exceeded local heat advisory criteria (heat index values of 105°). Some of the more notable dates were 7/8, 7/17, 7/25, and 7/27, with the 27th generally seeing widespread heat indices at or above 110° across southeast Virginia, and northeast North Carolina.

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Precipitation Overview

Monthly rainfall totals were quite significant, with almost all long-term climate and CO-OP sites receiving well above normal precipitation. The most notable sites in terms of monthly rainfall totals were Richmond, VA (10.66”) and Wakefield, VA (12.64”), coming in at the 8th wettest on record for Richmond and the all-time wettest July on record for Wakefield (albeit with a short period of record only going back about 30 years). Elizabeth City, NC was the only long-term climate site to set a daily precipitation record, measuring 1.55” on July 2nd. All sites received monthly rainfall totals of 4.5” or greater, with highest daily amounts ranging from 1.40” to nearly 4”. Many sites saw their highest daily rainfall totals between July 10th through July 20th when the Mid-Atlantic was in a very wet pattern. Precipitable water values during this timeframe were above 2”+ and steering flow was minimal which caused very slow to stationary storm motions. With warm July temperatures helping to destabilize the atmosphere each day, storms developed across the area and trained over areas which lead to a multitude of flash-flood warnings. Despite most areas seeing well above normal rainfall, the VA portion of the Eastern Shore was anomalously dry.

The following table on page 3 shows detailed temperature and precipitation statistics for July 2025 at many locations within the Wakefield CWA. On page 4, daily average temperature departures are shown at Richmond and Norfolk for July, followed by July precipitation maps (page 5), with daily records set during the month at our 4 main long-term sites on the last page.

Tabular Summary of Data for Selected Climate Sites (July):

July 2025 Temperature Summary Data																			* also on other dates			All Normals are 1991-2020		
Site	Avg Max		Avg Min		Avg Temp		Daily Highs						Daily Mins						Remarks					
	(°F)		(°F)		(°F)		Warmest (°F)			Coolest (°F)			Warmest (°F)			Coolest (°F)								
	Actual	Dep	Actual	Dep	Actual	Dep	Actual	Date	Dep	Actual	Date	Dep	Actual	Date	Dep	Actual	Date	Dep						
Richmond	90.2	0.7	72.2	3.0	81.2	1.8	98	27th	-1	81	2nd	3	78	26th	2	65	5th	4	**8th warmest**					
Norfolk	89.3	-0.1	74.9	2.1	82.1	1.0	96	8th	-2	84	2nd	6	80	26th	1	70	5th	5						
Salisbury	89.1	1.6	70.5	2.2	79.8	1.9	96	8th	-1	81	2nd	5	77	*17th	0	59	5th	3						
Wallops Island	87.2	1.1	73.0	2.6	80.1	1.9	93	25th	-3	82	21st	6	80	17th	2	63	5th	2						
Elizabeth City	89.7	1.5	74.5	3.5	82.1	2.5	94	*27th	-2	85	5th	5	78	*17th	0	71	*25th	9						
Ashland, VA	88.4	1.7	71.2	3.6	79.8	2.6	94	*27th	-1	82	10th	6	77	1st	2	64	5th	6	**7th warmest**					
Louisa, VA	90.5	3.8	69.3	4.1	79.9	3.9	96	27th	0	83	10th	6	76	1st	4	60	6th	6	**2nd warmest**					
Wakefield, VA	90.9	1.2	71.4	3.4	81.1	2.3	98	27th	0	79	2nd	2	77	17th	1	60	5th	2	N/A					
Williamsburg, VA	90.0	1.5	72.5	2.3	81.3	2.0	98	27th	1	78	2nd	0	78	17th	1	64	5th	4	**5th warmest**					
Edenton, NC	89.6	0.6	74.7	2.7	82.2	1.7	94	26th	-2	84	*6th	4	79	31st	0	69	*23rd	7	**9th warmest**					

July 2025 Precipitation Summary Data																			* also on other dates			All Normals are 1991-2020		
Site	Total Pre		# Pre Days		# Pre Days		Greatest		Total Snow		# Snow Days		# Snow Days		Greatest		Remarks							
	(in.)		(≥0.01")		(≥0.10")		(in.)		(in.)		(≥0.1")		(≥1.0")		(in.)									
	Actual	Dep	Actual	Dep	Actual	Dep	Act	Date	Act	Dep	Act	Dep	Act	Dep	Daily	Date		Storm	Date					
Richmond	10.66	6.29	15	4	13	5	2.35	12th										8th wettest						
Norfolk	5.39	-0.69	9	-2	8	1	1.83	10th																
Salisbury	6.01	1.28	12	2	11	4	1.41	31st																
Wallops Island	4.70	0.33	12	1	8	1	1.52	10th																
Elizabeth City	6.27	0.62	12	0	9	1	1.89	10th																
Ashland, VA	7.89	3.60	12	2	7	0	2.36	20th										**8th wettest**						
Louisa, VA	5.01	0.83	11	0	8	1	2.41	9th																
Wakefield, VA	12.64	7.17	14	3	12	4	3.90	15th										**wettest on record**						
Williamsburg, VA	7.60	1.68	15	3	14	5	2.04	31st																
Edenton, NC	5.80	-0.24	13	3	8	0	3.66	2nd																

July 2025 Precipitation Summary Data																			* also on other dates				All Normals are 1991-2020			
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	(in.)		(≥0.01")		(≥0.10")		(in.)		(in.)		(≥0.1")		(≥1.0")		(in.)		(in.)									
	Actual	Dep	Actual	Dep	Actual	Dep	Act	Date	Act	Dep	Act	Dep	Act	Dep	Daily	Date	Storm	Date								
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Wakefield, VA	12.64	7.17	14	3	12	4	3.90	15th																		
Williamsburg, VA	7.60	1.68	15	3	14	5	2.04	31st																		
Edenton, NC	5.80	-0.24	13	3	8	0	3.66	2nd																		

* **"Dep"**= **Departure** from the 30-year normals (1991-2020). Temperature departures are shaded orange for 1 F or more warmer than average (dark red for 4 F or greater anomalies) and blue for 1 F or more cooler than average (dark blue for 4 F or more below normal). Similarly, precipitation departures are shaded green for 0.50" or more wetter than average (dark green for 2.00" or more) and tan for 0.50" or more drier than average (dark brown for 2.00" or more drier). Snowfall departures are shaded purple for 1" or more above average and tan for 1" or more below average. ****Rankings in Remark section are included for Co-op sites where a complete period of record is of sufficient duration.**
N/A in Remarks section indicates sites with a shorter period of record, leading to rankings being of less significance

Monthly Avg. Dew Point & Departure: July 2025

As mentioned in the temperature overview section, July 2025 did not feature extreme heat in terms of actual air temperature as no daily record highs were set at long-term climate stations, and all sites recording a peak temperature for the month that was only in the mid to upper 90s (slightly cooler than normal for most). However, the common saying, “it’s not the heat it’s the humidity” really applied this month. The maps below indicate that the entire local area minus the far NW recorded a monthly average dew pt. of at least 71°-75°, or approximately 3-5° higher than the long-term mean (locally portions of NE NC along the Albemarle sound were in the 75-79° category).

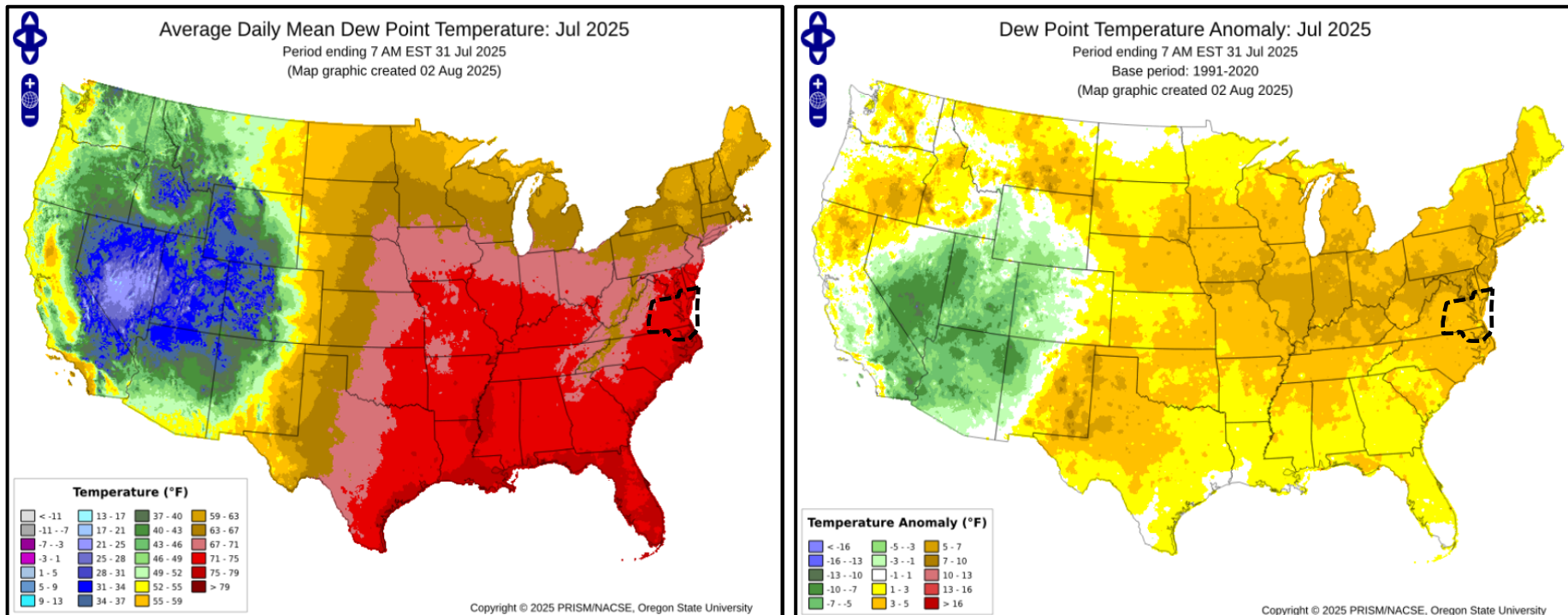


Figure 1: Avg. Dew Pt. Temperature & Departure from Normal Source: NCEI & Oregon St. University

Monthly Avg. Dew Point: July 2025

Long-term detailed dew point data is available from Richmond, VA back through 1948 (a 78-year period of record). July 2025 had an average monthly value of 71.8°, ranking as the highest value on record, just above 71.6° in 1949. The combination of slightly above average temperature with often oppressive humidity made for quite the uncomfortable month across the region.

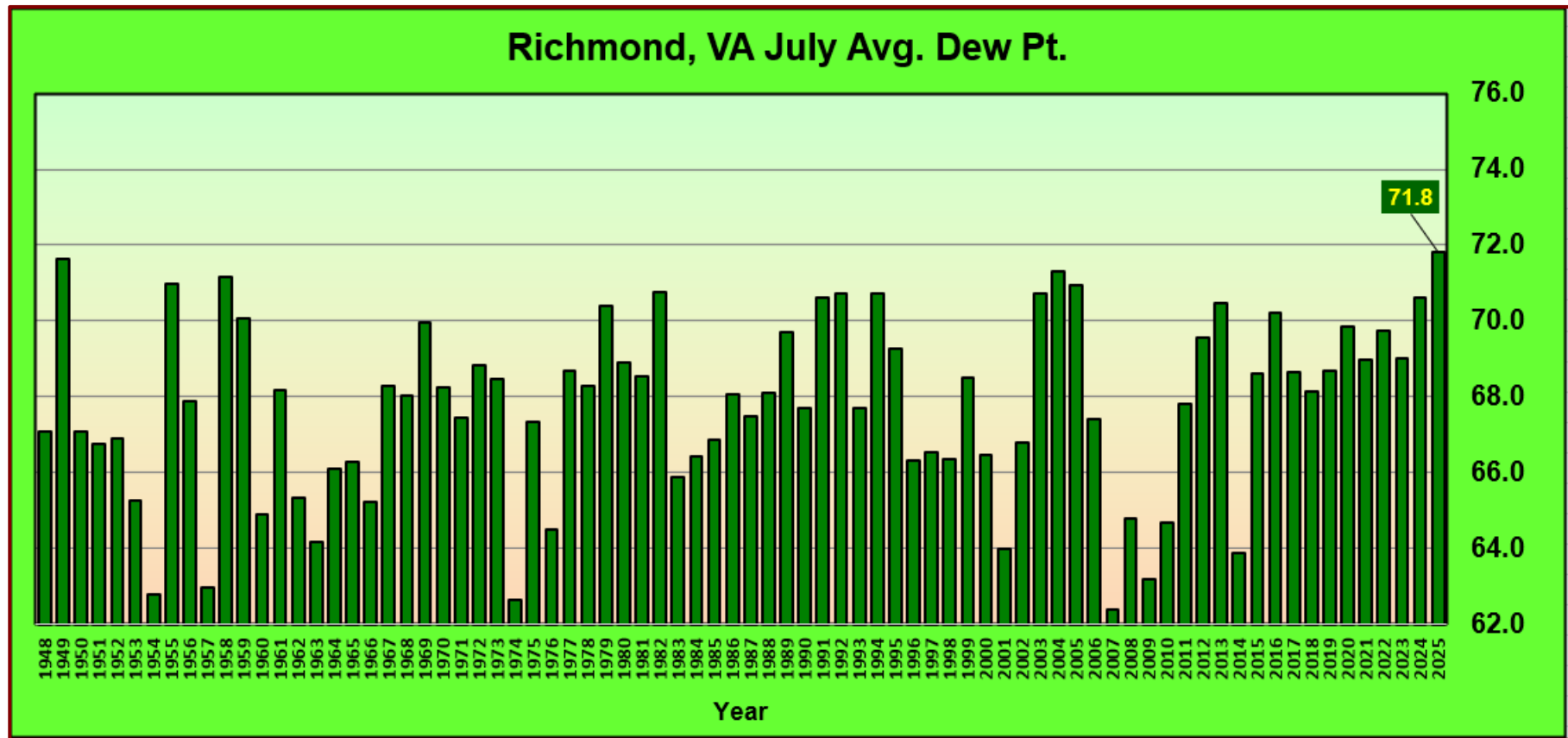


Figure 2: Avg. Dew Pt. Temperature at Richmond Since 1948

Daily Average Temperature Departures at Richmond & Norfolk, VA (July)

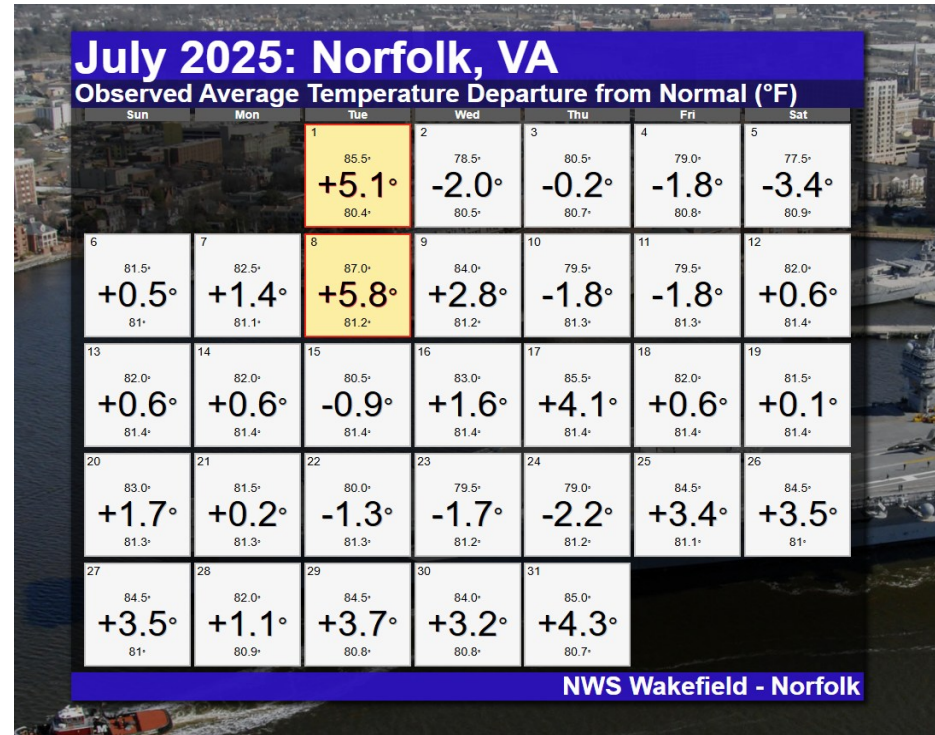
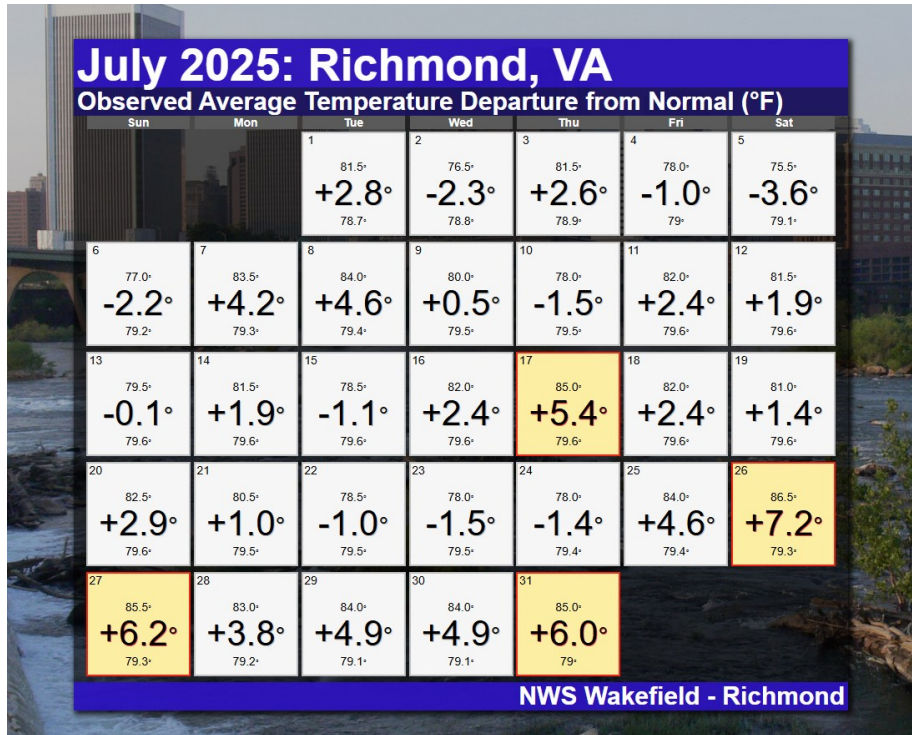


Figure 3: Daily Average Temperature Departures at RIC and ORF

Regional Precipitation Maps: July 2025

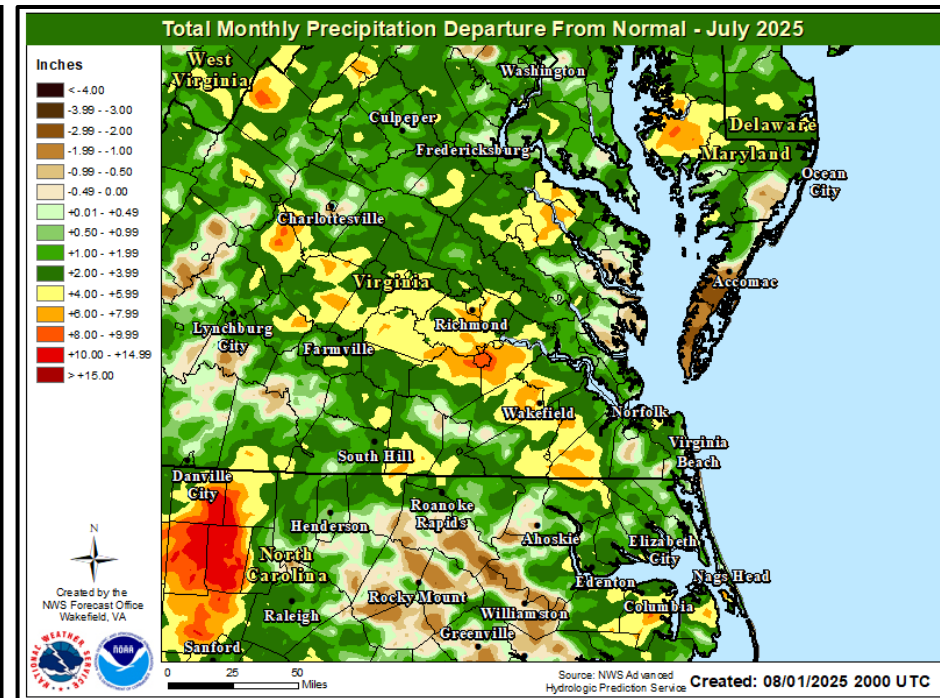
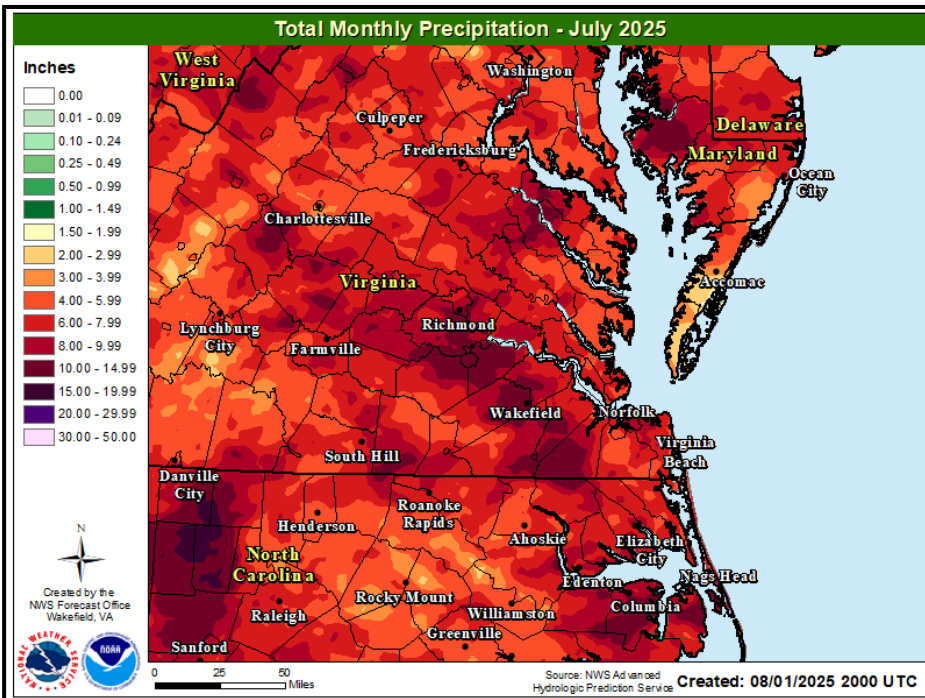


Figure 4: *Total Precipitation* for the month is shown in the map on the left. *Departure* from the 30-year normals (1991-2020) is shown on the map on the right.

Daily Records for Long Term Sites (July):

Norfolk, VA Records (Period of Record 152 yrs./1874-2025) **tie*

Record Highs: none set.

Record Low Maximums: none set.

Record Lows: none set.

Record High Minimums: *80° (26th)

Daily Precipitation: none set.

Richmond, VA Records (Period of Record 129 yrs./1897-2025) **tie*

Record Highs: none set.

Record Low Maximums: none set.

Record Lows: none set.

Record High Minimums: 77° (17th), *76° (31st)

Daily Precipitation: none set.

Salisbury, MD Records (Period of Record 119 yrs./1907-2025) **tie*

Record Highs: none set.

Record Low Maximums: none set.

Record Lows: none set.

Record High Minimums: none set.

Daily Precipitation: none set.

Elizabeth City, NC Records (Period of Record 92 yrs./1934-2025) **tie*

Record Highs: none set.

Record Low Maximums: none set.

Record Lows: none set.

Record High Minimums: *78° (1st).

Daily Precipitation: 1.55" (2nd).