

# June 2023 Climate Review

## Temperature Overview

June 2023 featured cooler than normal temperatures across the local area, a pattern that began in May, and one that was a rather abrupt change from the much warmer than normal first 4 months of the year. Across the continental US, a rather persistent blocking pattern was in place for much of the month: an upper level trough across the desert SW and southern/central Rockies, an upper level ridge across much of the central part of the nation, and an expansive trough for most of the country east of the Mississippi River (see Figure 1 for national temperature departures). Regionally, the state of Virginia had its 10<sup>th</sup> coolest June on record, North Carolina its 13<sup>th</sup> coolest, and Maryland its 27<sup>th</sup> coolest (period of record is 129 years 1895-2023). Locally, average temperatures were 2 to 4 degrees cooler than the long term means, enough to make 2023 the 9<sup>th</sup> coolest on record at Elizabeth City. While Richmond and Norfolk did not quite rank among the top 10 coolest, both sites still experienced their coolest June since the late 1990s and Salisbury was the coolest since 2007.

Taking a look at daily high temperature departures shows that the entire month was generally cool with no significant above normal days: Richmond had just one day with a daily high 5 or more degrees above normal and Norfolk had none. As for days with a high 5 or more degrees cooler than normal, Richmond had 8 while Norfolk had 15 such days. Heat was generally non-existent and many sites still had not recorded a single day in 2023 with a high of 90+ through the end of June. For the month only 2 days of 90+ were observed at Richmond, 1 at Salisbury and none were recorded at Norfolk and Elizabeth City. Elizabeth City's 1st 90 degree reading for 2023 did not occur until July 2<sup>nd</sup> (tying July 2<sup>nd</sup> in 1972 as the latest on record).

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## Precipitation Overview

Similar to the month prior, June 2023 brought near to below normal precipitation amounts across NWS Wakefield's County Warning Area (CWA). As the area fell into a typical summer scattered thunderstorm pattern, there were some notable exceptions to this as heavy downpours occurred over localized areas, specifically across portions of Hampton Roads, Norfolk, and extreme eastern Virginia. The two wettest reporting locations were Painter, VA, a COOP site in Accomack County, which had 8.67" of rain, or 4.23" above normal for the month, as well as the COOP site at Norfolk-South, VA, which reported a rainfall total of 7.84" for June, coming in at 3.06" above normal. Locations that missed out on the scattered downpours noted below-normal rainfall totals for the month, such as the COOP site in Edenton, NC that reported 2.37" of rain, which was 2.55" below normal for June. Likewise, the COOP sites at Suffolk-Lake Kilby and Wallaceton-Lake Drummond in southeast VA both ended the month at 2.62" below normal after also receiving only 2.00- 2.50" of rain.

Severe weather was observed on a few days of the month, the most notable being on the 8th (lots of hail reports) and the 16th and the 26th when multiple strong wind reports were recorded. A very strong storm passed across the south side of metro Richmond on the afternoon of the 16th, bringing winds in excess of 70 mph to portions of Colonial Heights, leading to widespread power outages and damage.

The following table on page 3 shows detailed temperature and precipitation statistics for June 2023 at many locations within the Wakefield CWA. Page 4 shows national temperature departures and rankings. On page 5, daily high temperature departures are shown at Richmond and Norfolk, followed by monthly precipitation maps (page 6), with daily records set during the month at our 4 main climate sites on the last page.

# Tabular Summary of Data for Selected Climate Sites (June):

June 2023 Temperature Summary Data <small>* also on other dates</small> <small>All Normals are 1991-2020</small>																			
Site	Avg Max		Avg Min		Avg Temp		Daily Highs					Daily Mins					Remarks		
	(°F)		(°F)		(°F)		Warmest (°F)			Coldest (°F)		Warmest (°F)			Coldest (°F)				
	Actual	Dep	Actual	Dep	Actual	Dep	Actual	Date	Dep	Actual	Date	Dep	Actual	Date	Dep	Actual		Date	Dep
Richmond	82.9	-2.7	61.7	-2.8	72.3	-2.7	90	*26th	-7	69	21st	-2	69	*28th	-5	51	5th	-2	coolest June since 1999
Norfolk	80.7	-4.5	65.0	-3.1	72.9	-3.8	89	*27th	-7	66	4th	-4	74	26th	-2	52	5th	-4	coolest June since 1997
Salisbury	81.7	-1.2	60.0	-2.6	70.9	-1.8	92	26th	-2	68	22nd	0	71	24th	-3	50	9th	4	coolest June since 2007
Wallops Island	78.7	-2.6	63.3	-1.8	71.0	-2.2	88	25th	-5	65	4th	-3	72	25th	-3	52	5th	0	coolest June since 1999
Elizabeth City	82.4	-3.0	63.2	-3.9	72.8	-3.4	89	*26th	-6	67	4th	-6	73	26th	-3	46	5th	-8	9th coolest June on record/coolest since 1997
Ashland, VA	81.0	-1.9	58.6	-4.6	69.8	-3.3	88	26th	-5	68	22nd	-2	70	26th	-2	51	6th	0	coolest June since 1992
Corbin, VA	81.4	-1.7	58.7	-3.7	70.1	-2.7	90	27th	-4	66	22nd	-3	71	26th	-1	49	*9th	1	coolest June since 1997
Louisa, VA	80.5	-2.7	54.9	-5.8	67.7	-4.2	88	25th	-6	64	22nd	-7	68	26th	-3	44	9th	-2	2nd coolest June on record/coolest since 1927
Painter, VA	79.9	-3.5	62.4	-2.2	71.1	-2.9	87	26th	-7	72	21st	2	73	26th	-3	49	5th	-3	coolest June since 1997
Wakefield, VA	82.7	-3.1	60.9	-2.4	71.8	-2.7	92	26th	-4	70	21st	-1	71	24th	-2	49	5th	0	coolest June since 1997
Williamsburg, VA	81.5	-2.9	62.6	-2.7	72.0	-2.9	89	26th	-6	73	23rd	1	72	12th	-2	51	5th	-1	coolest June since 1997
Edenton, NC	82.6	-3.5	64.6	-3.3	73.6	-3.4	89	*26th	-5	73	4th	-1	74	26th	-1	49	5th	-5	coolest June since 1997

June 2022 Precipitation & Snowfall Summary Data <small>* also on other dates</small> <small>All Normals are 1991-2020</small>																		
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
Richmond	3.64	-1.00	12	1	5	-2	0.91	23rd										
Norfolk	7.10	2.67	10	0	7	1	2.18	23rd										
Salisbury	3.52	-0.51	8	-3	6	-1	1.11	21st										
Wallops Island	4.19	0.80	11	1	7	1	1.74	21st										
Elizabeth City	2.40	-2.31	11	1	6	-1	0.66	27th										
Ashland, VA	2.89	-1.69	6	-3	5	-2	0.98	27th										
Corbin, VA	2.76	-1.21	9	2	5	-2	1.17	22nd										
Louisa, VA	4.77	0.44	11	0	7	-1	1.53	20th										
Painter, VA	8.67	4.23	10	0	10	3	2.85	20th										
Wakefield, VA	6.11	1.34	12	1	9	2	1.57	23rd										
Williamsburg, VA	5.00	0.84	11	0	6	-1	2.44	21st										
Edenton, NC	2.37	-2.55	10	2	7	0	0.88	23rd										

\* **“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.

# National Temperature Departure & State Ranking Maps: June 2023

Mean Temp (F) Anomaly  
30-day mean ending Jun 30 2023

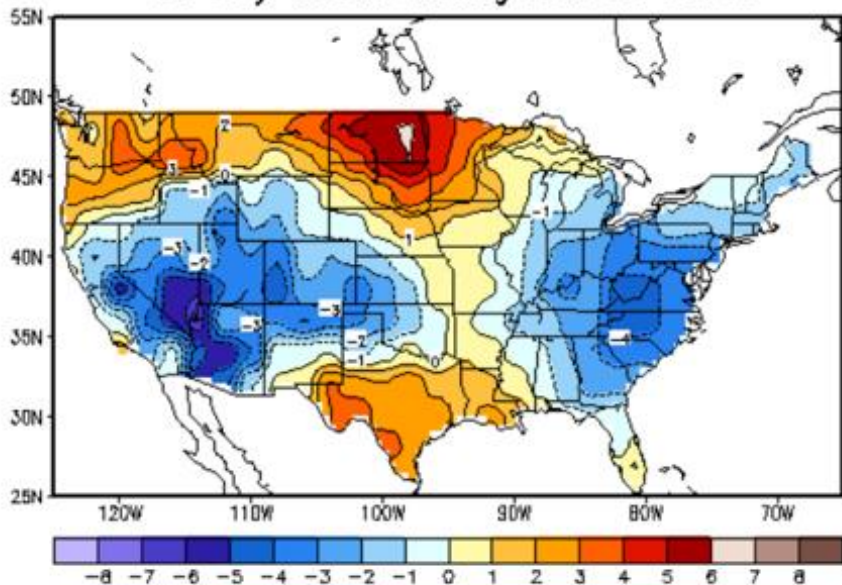


Figure 1: (source: CPC)

June 2023 Statewide Temperature Ranks Map

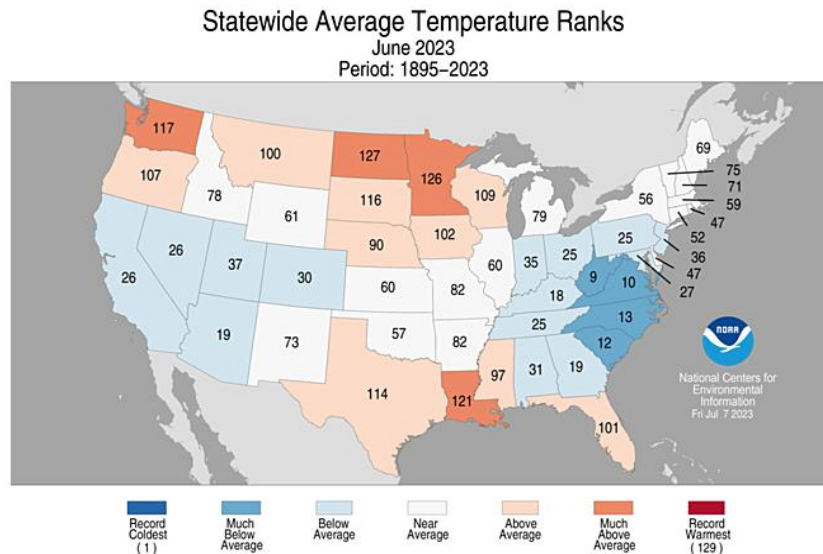
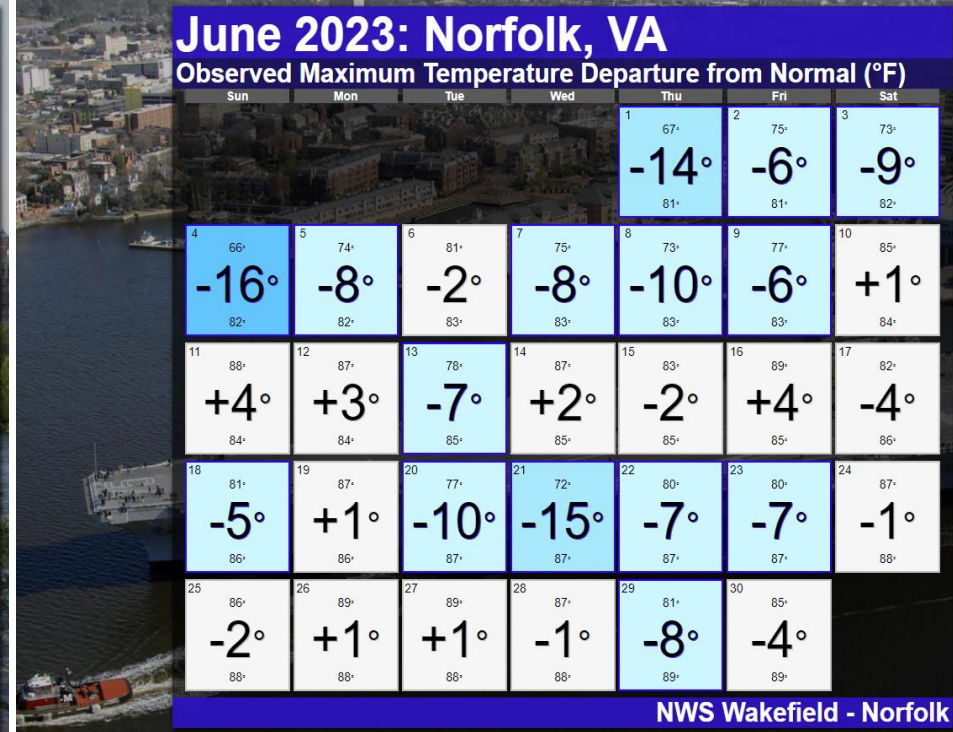
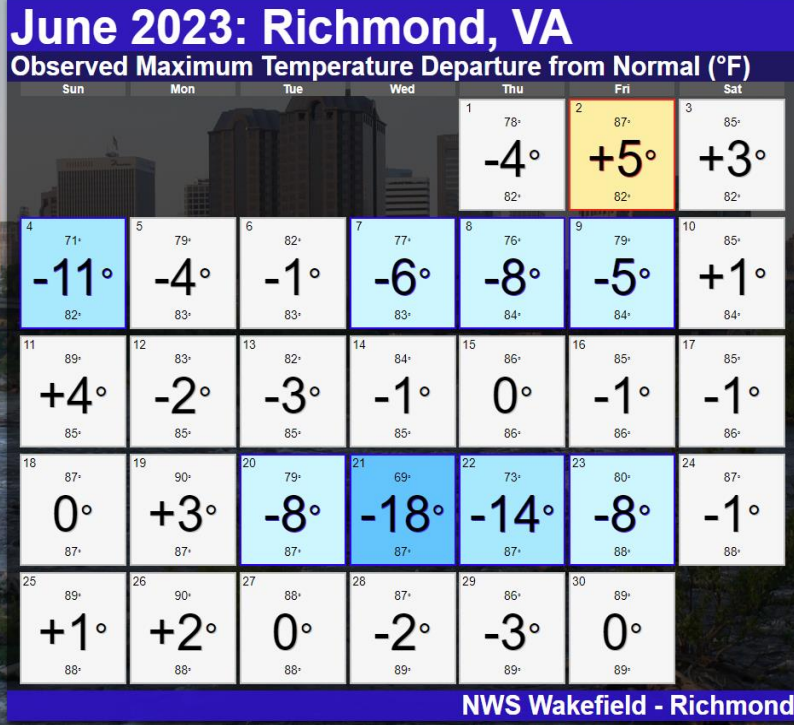


Figure 2: (source: NCEI)

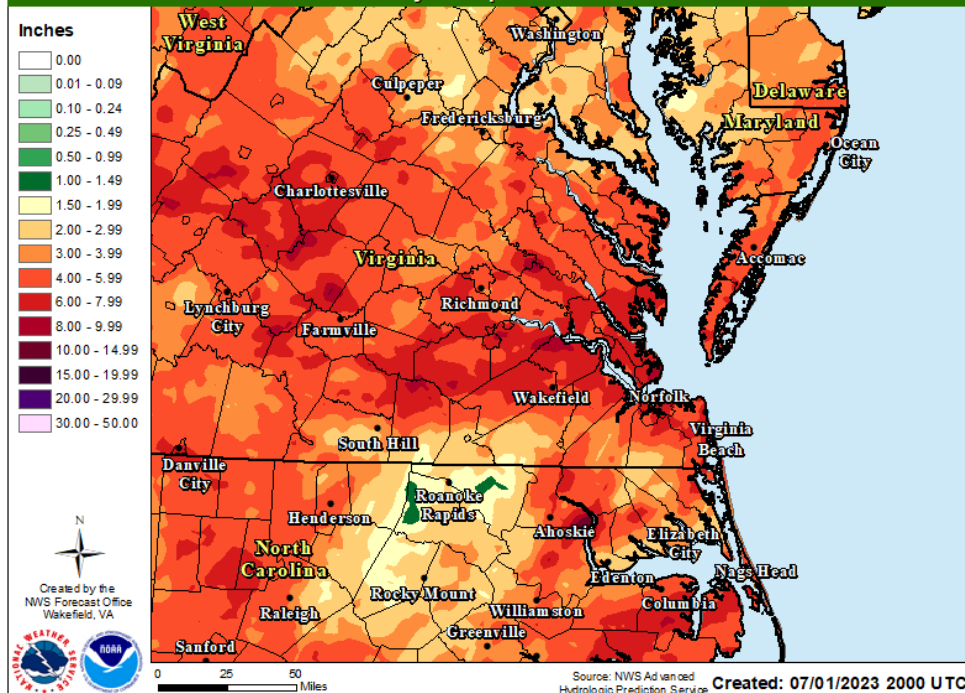


# Daily High Temperature Departures at Richmond & Norfolk, VA

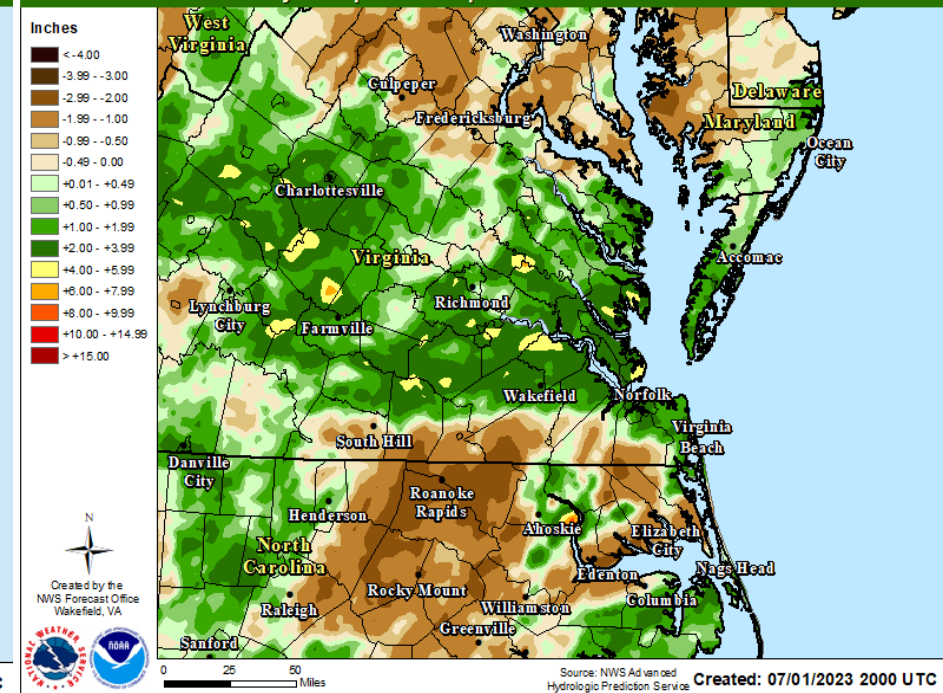


# Regional Precipitation Maps: June 2023

Total Monthly Precipitation - June 2023



Total Monthly Precipitation Departure From Normal - June 2023



**Total Precipitation** for the month is shown in the map on the left. **Departures** from the 30-year normals (1991-2020) are shown on the map on the right.

# Daily Records for Long Term Climate Sites (June):

## Norfolk, VA Records (Period of Record 150 yrs./1874-2023)

*\*tie*

**Record Highs:** none set.

**Record Low Maximums:** none set.

**Record Lows:** none set.

**Record High Minimums:** none set.

**Daily Precipitation:** 2.18" (23<sup>rd</sup>).

## Richmond, VA Daily Records (Period of Record 127 yrs./1897-2023)

*\*tie*

**Record Highs:** none set.

**Record Low Maximums:** none set.

**Record Lows:** none set.

**Record High Minimums:** none set.

**Daily Precipitation:** none set.

## Salisbury, MD Daily Records (Period of Record 117 yrs./1907-2023)

*\*tie*

**Record Highs:** none set.

**Record Low Maximums:** 68 (22<sup>nd</sup>).

**Record Lows:** none set.

**Record High Minimums:** none set.

**Daily Precipitation:** none set.

## Elizabeth City, NC Daily Records (Period of Record 90 yrs./1934-2023)

*\*tie*

**Record Highs:** none set.

**Record Low Maximums:** none set.

**Record Lows:** 48 (9<sup>th</sup>).

**Record High Minimums:** none set.

**Daily Precipitation:** none set.