



JULY 2013 LOCAL CLIMATOLOGICAL DATA NOAA, National Climatic Data Center

RICHMOND, VA
RICHMOND INTERNATIONAL AIRPORT (KRIC)
 Lat:37° 30'N Long: 77° 19'W Elev (Ground) 164 Feet
 Time Zone : EASTERN WBAN: 13740 ISSN#: 0198-537X



**JULY 2013
RICHMOND, VA**

Date 1	Temperature °F						Deg Days BASE 65°		WEATHER 10	SNOW/ICE ON GND(IN)		PRECIPITATION ON GND(IN)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								Date 24	
	MAXIMUM 2	MINIMUM 3	AVERAGE 4	DEP FROM NORMAL 5	AVERAGE DEW PT 6	AVERAGE WET BULB 7	HEATING 8	COOLING 9		0700 LST 11	1300 LST 12	2400 LST 13	2400 LST 14	AVERAGE STATION 15	AVERAGE SEA LEVEL 16	RESULTANT SPEED 17	RES DIR 18	AVERAGE SPEED 19	MAXIMUM						
																			3-SEC		2-MIN				
20	21	22	23	24																					
01	85	73	79	2	72	74	0	14	RA BR	0		0.0	0.28	29.75	29.95	9.2	17	9.5	21	17	17	17	01		
02	84	73	79	2	72	73	0	14	RA BR	0		0.0	0.30	29.93	30.14	7.9	18	8.3	21	18	16	18	02		
03	90	73	82	5	73	75	0	17	TS TSRA RA BR	0		0.0	0.21	30.03	30.23	5.3	17	6.6	23	06	14	28	03		
04	90	74	82	5	71	75	0	17	BR	0		0.0	0.00	30.07	30.26	8.5	18	9.3	24	22	15	17	04		
05	90	72	81	4	71	75	0	16	BR	0		0.0	0.00	30.05	30.23	7.6	20	7.9	21	22	17	20	05		
06	91	74	83	6	71	75	0	18		0		0.0	0.00	30.01	30.19	8.8	21	9.0	22	21	17	19	06		
07	91	74	83	6	72	75	0	18		0		0.0	0.00	29.94	30.11	9.5	22	9.8	23	20	18	21	07		
08	89	74	82	5	71	74	0	17	RA BR	0		0.0	0.18	29.93	30.12	7.1	22	7.7	25	21	18	21	08		
09	90	74	82	5	73	76	0	17	RA	0		0.0	T	29.91	30.10	6.4	20	6.7	17	21	13	20	09		
10	91	72	82	4	73	75	0	17	TS TSRA RA BR	0		0.0	1.84	29.82	30.00	7.4	21	8.6	36*	29	29*	29	10		
11	83	73	78	0	72	74	0	13	TS RA	0		0.0	0.12	29.73	29.92	2.5	21	5.9	25	07	14	22	11		
12	79	70	75	-3	70	71	0	10	RA BR	0		0.0	0.44	29.77	29.97	5.4	36	6.0	21	05	15	36	12		
13	84	70	77	-1	72	73	0	12	TS TSRA RA BR	0		0.0	0.18	29.95	30.17	1.7	09	3.3	25	15	17	15	13		
14	90	73	82	4	72	75	0	17	FG BR	0		0.0	0.00	30.11	30.31	4.3	13	5.0	14	13	10	13	14		
15	93	73	83	5	73	76	0	18	BR	0		0.0	0.00	30.11	30.29	2.7	23	3.5	13	23	10	23	15		
16	96	76	86	8	73	77	0	21	TS RA	0		0.0	T	30.03	30.22	3.5	33	5.6	17	31	15	31	16		
17	96*	75	86	8	73	77	0	21		0		0.0	0.00	29.99	30.17	2.1	01	4.0	16	01	10	34	17		
18	95	76	86	7	74	77	0	21	BR HZ	0		0.0	0.00	29.91	30.09	2.6	21	2.8	17	21	12	19	18		
19	94	77	86	7	75	78	0	21	BR HZ	0		0.0	0.00	29.83	30.00	8.7	21	9.0	29	21	22	21	19		
20	94	78	86*	7	74	77	0	21	TS	0		0.0	0.00	29.75	29.93	11.3	22	11.7	26	22	20	22	20		
21	92	73	83	4	73	75	0	18	TS TSRA RA BR	0		0.0	1.20	29.76	29.94	3.6	20	6.6	25	33	23	33	21		
22	89	72	81	2	73	75	0	16	TS TSRA RA FG BR HZ	0		0.0	0.15	29.71	29.88	3.6	19	4.2	23	20	18	21	22		
23	91	74	83	4	72	75	0	18		0		0.0	0.00	29.55	29.73	7.1	24	8.3	20	26	16	26	23		
24	89	73	81	3	69	73	0	16	TS	0		0.0	0.00	29.59	29.78	5.4	01	6.2	17	28	14	02	24		
25	82	67	75	-3	62	66	0	10	RA	0		0.0	0.04	29.76	29.96	8.8	01	8.9	21	02	16	35	25		
26	86	63*	75*	-3	62	67	0	10		0		0.0	0.00	29.88	30.07	1.5	34	4.1	14	21	9	23	26		
27	86	67	77	-1	67	70	0	12	BR	0		0.0	0.00	29.83	30.01	7.0	16	7.6	18	14	14	13	27		
28	89	71	80	2	69	72	0	15	TS TSRA RA BR	0		0.0	0.63	29.76	29.95	4.4	19	6.3	30	29	23	30	28		
29	86	69	78	0	63	68	0	13	RA BR	0		0.0	0.01	29.89	30.10	2.8	35	4.2	18	02	15	02	29		
30	86	65	76	-2	62	67	0	11		0		0.0	0.00	30.01	30.19	2.1	07	3.2	14	19	10	20	30		
31	84	67	76	-2	67	69	0	11	RA BR	0		0.0	0.30	29.94	30.12	3.9	17	4.6	32	18	24	18	31		
										< MONTHLY AVERAGES TOTALS >				0.0	5.88	29.88	30.07	3.2	20	6.6	< MONTHLY AVERAGES				
										<-----DEPARTURE FROM NORMAL ----->				1.37	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3										
DEGREE DAYS										GREATEST 24-HR PRECIPITATION : 1.96 DATE : 10-11				SEA LEVEL PRESSURE				DATE TIME							
MONTHLY										GREATEST 24-HR SNOWFALL : 0.0 DATE :				MAXIMUM : 30.34				15 0754							
TOTAL DEPARTURE										GREATEST SNOW DEPTH : 0 DATE :				MINIMUM : 29.69				23 1854							
SEASON TO DATE										NUMBER OF ->				MAXIMUM TEMP >= 90 : 16				MINIMUM TEMP <= 32 : 0				PRECIPITATION >= 0.01 INCH: 14			
HEATING : 0 0										DAYS WITH				MAXIMUM TEMP <= 32 : 0				MINIMUM TEMP <= 0 : 0				PRECIPITATION >= 0.10 INCH: 12			
COOLING : 490 47														THUNDERSTORMS : 10				HEAVY FOG : 0				SNOWFALL >= 1.0 INCH : 0			

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)
JULY 2013

WBAN # 13740

Date	FOR HOUR (LST) ENDING AT												Date	FOR HOUR (LST) ENDING AT												Date	Sum of Hourly Data	2400 LST Water Equiv.
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			
01	0.02	0.01	T	0.01	0.07					T	0.10	0.07	01												01	0.28	0.28	
02			0.04	0.10		0.01	T				T	T	02	0.01	0.12	0.02	T	T							02	0.30	0.30	
03													03		0.06	0.15	T	T							03	0.21	0.21	
04													04												04	0.00	0.00	
05													05												05	0.00	0.00	
06													06												06	0.00	0.00	
07													07												07	0.00	0.00	
08		T			0.05	0.09	0.03	0.01		T			08												08	0.18	0.18	
09													09												09	T	T	
10													10		0.71	0.48	0.03	0.05	0.03	0.05	T	0.13	0.14	0.22	10	1.84	1.84	
11	0.08	T						0.01	0.02	0.01			11												11	0.12	0.12	
12	T	T	0.01	0.07	0.13	0.09	0.14	T					12										T	T	12	0.44	0.44	
13				0.02	0.02								13	0.04	0.04	0.06									13	0.18	0.18	
14													14												14	0.00	0.00	
15													15												15	0.00	0.00	
16													16						T						16	T	T	
17													17												17	0.00	0.00	
18													18												18	0.00	0.00	
19													19												19	0.00	0.00	
20													20												20	0.00	0.00	
21													21				T	1.06	0.08	0.06		T			21	1.20	1.20	
22													22				0.15	T							22	0.15	0.15	
23													23												23	0.00	0.00	
24													24												24	0.00	0.00	
25	T				T	0.01	0.03	T					25												25	0.04	0.04	
26													26												26	0.00	0.00	
27													27												27	0.00	0.00	
28				T	0.01								28					0.18	0.44						28	0.63	0.63	
29				0.01									29												29	0.01	0.01	
30													30												30	0.00	0.00	
31													31	0.03	T	0.11	T		0.01	0.02	0.05		0.04	0.04	31	0.30	0.30	

* Indicates sum of Hourly and Daily disagree.

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	0.37	0.54	0.73	0.85	1.04	1.06	1.16	1.19	1.19	1.22	1.22	1.22
Ending Date	28	21	21	21	21	21	10	10	10	10	10	10
Ending Time (Hr/Min)	1803	1740	1744	1747	1750	1806	1535	1543	1543	1624	1624	1624

Note : The hourly and daily precipitation totals are printed in the last 2 columns and hi-lighted in red when they disagree. NWS does not edit ASOS hourly values but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

Date and time are not entered for TRACE amounts.

REFERENCE NOTES & SUPPLEMENTAL SUMMARIES

* = Extreme for the month (last occurrence if more than one).

T = Trace precipitation amount.

+ = also occurs on earlier date.

FG+ = Heavy fog, visibility .25 miles or less.

BLANK entries denote missing or unreported data.

Resultant wind is the vector sum of the wind speeds and directions divided by the number of observations.

Wind direction is recorded in tens of degrees (2 digits) clockwise from true north. '00' = calm, 'VR' = variable.

Precipitation is for the 24-hour period ending at the time indicated in the column heading.

Ceilometer (30-second) data are used to derive cloudiness at or below 12,000 feet. This cloudiness is the mean cloud cover detected during sunrise to sunset (SR-SS), or midnight to midnight (MN-MN).

WEATHER NOTATIONS

QUALIFIER	WEATHER PHENOMENA		
DESCRIPTOR	PRECIPITATION	OBSCURATION	OTHER
BC Patches	DZ Drizzle	BR Mist	DS Duststorm
BL Blowing	GR Hail	DU Widespread Dust	FC Funnel Cloud
DR Low Drifting	GS Small Hail and/or Snow Pellets	FG Fog	+FC Tornado Waterspout
FZ Freezing	IC Ice Crystals	FU Smoke	PO Well-Developed Dust/Sand Whirls
MI Shallow	PL Ice Pellets	HZ Haze	
PR Partial	RA Rain	PY Spray	SQ Squalls
SH Shower(s)	SG Snow Grains	SA Sand	SS Sandstorm
TS Thunderstorm	SN Snow	VA Volcanic Ash	
VC In the Vicinity	UP Unkown Precipitation		GL Glaze

Intensity (as indicated on pages 4 to 6):
'+' = Heavy '' = Moderate '-' = Light

RICHMOND, VA JULY 2013

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet.

Clear = 0-2 oktas, Partly Cloudy = 3-6 oktas, Cloudy = 7-8 oktas.

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Snow Depth, Snowfall, and Sunshine data may come from nearby sites that the National Weather Service deems Climatologically representative of this site.

NORMALS ARE FOR THE YEARS 1981-2010

ADDITIONAL NOTES & ERRATA:

Station Augmentation-SANDSTON COOP
Lat/Lon:37.54417/-77.27583 Elevation:165
Distance:4 MI Dir:E
Augmented Elements:Temp, Precip, Snow
Equipment:MMTS, SRG, Snowboard

Beginning with the January 2013 LCD, monthly mean temperature calculations have changed to the National Data Stewardship Team standard. Monthly maximum and minimum temperature are not rounded until after monthly mean temperature is calculated. This is the most accurate outcome, but may be slightly different from the mean derived from rounded monthly maximum and minimum.

Date	VISIBILITY (MILES)	
	MINIMUM	MAXIMUM
01	6.00	10.00
02	4.00	10.00
03	3.00	10.00
04	6.00	10.00
05	6.00	10.00
06	10.00	10.00
07	9.00	10.00
08	3.00	10.00
09	10.00	10.00
10	1.50	10.00
11	7.00	10.00
12	3.00	10.00
13	5.00	10.00
14	0.50	10.00
15	6.00	10.00
16	10.00	10.00
17	7.00	10.00
18	4.00	10.00
19	3.00	10.00
20	8.00	10.00
21	2.00	10.00
22	0.50	10.00
23	7.00	10.00
24	8.00	10.00
25	10.00	10.00
26	10.00	10.00
27	5.00	10.00
28	0.75	10.00
29	6.00	10.00
30	10.00	10.00
31	2.50	10.00
AVGS	5.60	10.00
MINIMUM VISIBILITY (MILES)		
<= .25	<= 3.0	>= 7.0
0	10	12

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

JULY 2013

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL						DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
SUNRISE: 0452 JUL 01					SUNSET: 1934					SUNRISE: 0455 JUL 07					SUNSET: 1933										
01	OVC	130	7.00	-RA	73	71	72	94	5	13	29.70	29.88	01	CLR	NC	10.00		79	71	74	77	9	21	29.97	30.15
04	OVC	060	10.00	-RA	73	71	72	94	5	17	29.70	29.89	04	FEW	100	10.00		76	71	73	85	6	21	29.95	30.14
07	OVC	055	6.00	BR	74	71	72	91	7	14	29.73	29.92	07	SCT	250	10.00		79	72	74	79	10	21	29.97	30.16
10	OVC	050	9.00	-RA	77	73	74	88	13	20	29.77	29.96	10	BKN	250	10.00		86	72	76	63	15	23	29.96	30.14
13	OVC	300	10.00		81	73	75	77	9	19	29.76	29.95	13	BKN	250	10.00		88	72	77	59	13	22	29.93	30.12
16	OVC	300	10.00		83	74	77	74	13	17	29.75	29.94	16	BKN	300	10.00		90	72	77	56	16	22	29.87	30.06
19	OVC	300	10.00		79	73	75	82	8	18	29.79	29.98	19	OVC	300	10.00		85	73	77	68	8	21	29.89	30.07
22	OVC	250	10.00		77	71	73	82	13	18	29.83	30.02	22	BKN	300	10.00		82	74	76	77	9	22	29.91	30.09
SUNRISE: 0452 JUL 02					SUNSET: 1934					SUNRISE: 0455 JUL 08					SUNSET: 1933										
01	BKN	095	10.00		75	71	72	88	8	17	29.85	30.04	01	OVC	220	10.00		78	73	75	85	9	22	29.91	30.09
04	BKN	035	4.00	-RA BR	75	72	73	90	5	14	29.87	30.05	04	BKN	180	10.00		77	71	73	82	7	25	29.93	30.11
07	BKN	045	6.00	BR	76	73	74	91	9	19	29.92	30.11	07	BKN	120	10.00		75	72	73	90	6	20	29.95	30.14
10	OVC	048	10.00		79	73	75	82	14	18	29.96	30.15	10	OVC	100	10.00		76	72	73	88	9	22	29.97	30.16
13	OVC	300	10.00		83	72	75	70	10	19	29.96	30.14	13	BKN	250	10.00		85	69	74	59	8	24	29.94	30.13
16	BKN	110	10.00	-RA	76	71	73	85	13	18	29.99	30.18	16	BKN	250	10.00		86	69	74	57	10	23	29.90	30.08
19	BKN	130	10.00		75	72	73	90	3	15	30.01	30.20	19	BKN	250	10.00		81	72	75	74	6	19	29.90	30.09
22	BKN	040	10.00		73	71	72	94	6	16	30.03	30.22	22	FEW	250	10.00		77	72	74	85	3	20	29.94	30.13
SUNRISE: 0453 JUL 03					SUNSET: 1934					SUNRISE: 0456 JUL 09					SUNSET: 1933										
01	BKN	021	6.00	BR	73	70	71	90	0	00	30.02	30.21	01	SCT	250	10.00		75	73	74	94	3	19	29.94	30.13
04	OVC	017	10.00		75	72	73	90	5	16	30.01	30.20	04	SCT	250	10.00		75	72	73	90	6	21	29.93	30.11
07	OVC	011	8.00		78	74	75	87	7	19	30.05	30.24	07	OVC	250	10.00		77	73	74	88	5	21	29.94	30.13
10	BKN	250	10.00		82	73	76	74	9	18	30.07	30.26	10	OVC	250	10.00		81	74	76	79	6	19	29.95	30.14
13	BKN	250	10.00		89	73	78	59	11	17	30.04	30.22	13	BKN	250	10.00		89	74	78	61	10	22	29.92	30.11
16	OVC	110	10.00		78	75	76	90	0	00	30.05	30.24	16	BKN	160	10.00		90	72	77	56	7	22	29.87	30.06
19	BKN	200	10.00		79	75	76	88	5	12	30.04	30.23	19	BKN	120	10.00		83	73	76	72	6	18	29.86	30.05
22	SCT	250	10.00		76	73	74	91	5	18	30.07	30.26	22	OVC	120	10.00		81	75	77	82	9	20	29.89	30.08
SUNRISE: 0453 JUL 04					SUNSET: 1934					SUNRISE: 0457 JUL 10					SUNSET: 1933										
01	FEW	027	10.00		75	72	73	90	5	17	30.07	30.26	01	OVC	150	10.00		78	72	74	82	11	20	29.86	30.05
04	OVC	007	9.00		75	73	74	94	8	20	30.08	30.27	04	FEW	250	10.00		75	72	73	90	8	19	29.85	30.04
07	BKN	028	9.00		78	73	75	85	8	19	30.11	30.29	07	BKN	250	10.00		77	72	74	85	10	20	29.84	30.03
10	SCT	041	10.00		82	70	74	67	14	23	30.11	30.30	10	BKN	250	10.00		85	74	77	70	11	20	29.84	30.03
13	SCT	040	10.00		87	70	75	57	7	VR	30.08	30.27	13	BKN	250	10.00		89	75	79	63	10	20	29.81	29.99
16	SCT	250	10.00		88	70	76	55	11	16	30.03	30.22	16	OVC	110	8.00	-TSRA	78	74	75	87	13	17	29.76	29.95
19	FEW	250	10.00		85	70	75	61	7	16	30.03	30.22	19	OVC	110	8.00	-TSRA	75	72	73	90	0	00	29.78	29.97
22	CLR	NC	10.00		80	72	75	76	9	17	30.06	30.24	22	BKN	050	4.00	TSRA BR	74	71	72	91	11	24	29.79	29.97
SUNRISE: 0454 JUL 05					SUNSET: 1934					SUNRISE: 0457 JUL 11					SUNSET: 1932										
01	CLR	NC	10.00		76	71	73	85	6	19	30.07	30.26	01	OVC	150	10.00	-RA	73	71	72	94	5	19	29.72	29.91
04	CLR	NC	10.00		73	70	71	90	3	20	30.06	30.25	04	OVC	180	10.00		73	71	72	94	7	19	29.73	29.92
07	BKN	007	8.00		77	72	74	85	10	20	30.09	30.27	07	OVC	090	7.00	-RA	75	72	73	90	8	21	29.75	29.94
10	BKN	020	10.00		82	73	76	74	10	20	30.10	30.29	10	OVC	017	8.00		78	73	75	85	5	24	29.76	29.95
13	BKN	200	10.00		88	71	76	57	11	21	30.07	30.25	13	OVC	150	10.00		81	72	75	74	10	35	29.74	29.93
16	SCT	250	10.00		90	70	76	52	9	18	30.01	30.19	16	BKN	190	10.00		81	71	74	72	6	05	29.72	29.91
19	SCT	250	10.00		85	72	76	65	7	19	29.99	30.18	19	BKN	190	9.00		78	72	74	82	0	00	29.73	29.92
22	SCT	250	10.00		78	72	74	82	6	20	30.02	30.20	22	OVC	160	10.00		75	71	72	88	6	22	29.73	29.92
SUNRISE: 0454 JUL 06					SUNSET: 1934					SUNRISE: 0458 JUL 12					SUNSET: 1932										
01	SCT	250	10.00		79	73	75	82	8	20	30.03	30.21	01	OVC	140	10.00	-RA	73	71	72	94	5	19	29.74	29.93
04	FEW	250	10.00		75	72	73	90	5	19	30.03	30.22	04	OVC	090	4.00	RA BR	73	71	72	94	3	03	29.72	29.91
07	SCT	040	10.00		78	73	75	85	9	21	30.05	30.24	07	OVC	030	4.00	-RA BR	70	68	69	93	14	35	29.74	29.93
10	SCT	023	10.00		85	72	76	65	10	21	30.04	30.23	10	OVC	011	10.00		74	69	71	85	8	04	29.78	29.96
13	SCT	030	10.00		90	72	77	56	11	22	30.01	30.20	13	OVC	026	10.00		78	70	73	76	6	34	29.78	29.97
16	SCT	045	10.00		90	68	75	48	11	22	29.96	30.14	16	BKN	130	8.00		78	70	73	76	9	36	29.78	29.97
19	FEW	045	10.00		85	70	75	61	7	20	29.94	30.13	19	OVC	150	9.00		75	69	71	82	8	36	29.81	30.00
22	CLR	NC	10.00		77	71	73	82	6	20	29.98	30.17	22	OVC	210	9.00		73	69	70	87	0	00	29.85	30.04

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA
JULY 2013

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL						DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL	
SUNRISE: 0459 JUL 13					SUNSET: 1931					SUNRISE: 0503 JUL 19					SUNSET: 1928											
01	BKN	210	9.00		72	69	70	91	5	32	29.87	30.06	01	CLR	NC	7.00			80	75	77	85	5	18	29.87	30.06
04	OVC	017	7.00		71	68	69	90	5	02	29.88	30.06	04	CLR	NC	5.00	HZ		77	74	75	90	5	20	29.85	30.04
07	OVC	015	8.00		72	69	70	91	5	03	29.95	30.14	07	CLR	NC	4.00	BR		80	76	77	87	7	19	29.87	30.05
10	OVC	200	10.00		77	71	73	82	3	07	29.99	30.18	10	FEW	030	7.00			89	77	80	68	10	18	29.86	30.05
13	OVC	055	10.00		83	73	76	72	5	12	29.99	30.18	13	SCT	038	9.00			94	75	80	54	15	22	29.82	30.01
16	SCT	085	10.00		80	75	77	85	0	00	29.99	30.18	16	SCT	065	6.00	HZ		93	73	79	52	16	23	29.76	29.95
19	SCT	300	9.00		81	76	77	85	3	09	30.00	30.19	19	SCT	300	6.00	HZ		86	75	78	70	8	19	29.75	29.94
22	SCT	300	10.00		78	73	75	85	7	15	30.06	30.25	22	BKN	300	7.00			83	75	77	77	10	21	29.79	29.97
SUNRISE: 0459 JUL 14					SUNSET: 1931					SUNRISE: 0504 JUL 20					SUNSET: 1928											
01	FEW	300	10.00		74	72	73	94	5	12	30.08	30.27	01	BKN	300	10.00			82	73	76	74	10	21	29.76	29.95
04	FEW	300	9.00		75	73	74	94	6	09	30.10	30.29	04	SCT	300	10.00			79	73	75	82	10	21	29.75	29.93
07	OVC	300	0.50	FG	76	75	75	97	6	13	30.13	30.32	07	SCT	250	10.00			81	73	75	77	16	22	29.77	29.96
10	OVC	300	10.00		85	71	75	63	6	17	30.15	30.34	10	OVC	300	10.00			87	74	78	65	14	25	29.77	29.96
13	OVC	300	10.00		88	68	74	52	9	20	30.13	30.32	13	BKN	300	10.00			93	74	79	54	9	22	29.73	29.91
16	OVC	300	10.00		88	71	76	57	7	12	30.10	30.28	16	BKN	300	8.00			90	75	79	62	15	21	29.69	29.87
19	BKN	300	10.00		83	73	76	72	7	12	30.11	30.29	19	BKN	220	9.00			85	75	78	72	11	20	29.71	29.90
22	BKN	300	10.00		76	71	73	85	5	12	30.14	30.32	22	OVC	300	9.00			83	74	77	74	11	22	29.73	29.92
SUNRISE: 0460 JUL 15					SUNSET: 1931					SUNRISE: 0504 JUL 21					SUNSET: 1927											
01	SCT	250	10.00		75	72	73	90	0	00	30.13	30.32	01	BKN	300	10.00			79	75	76	88	9	21	29.76	29.95
04	SCT	250	6.00	BR	73	71	72	94	0	00	30.13	30.32	04	SCT	300	10.00			77	74	75	90	6	21	29.74	29.92
07	BKN	005	6.00	BR	76	73	74	91	6	23	30.15	30.34	07	OVC	250	10.00			78	73	75	85	7	25	29.77	29.96
10	SCT	021	10.00		86	73	77	65	6	29	30.14	30.32	10	BKN	250	10.00			84	73	76	70	5	18	29.77	29.96
13	SCT	060	10.00		90	72	77	56	0	00	30.10	30.29	13	BKN	250	10.00			89	74	78	61	8	16	29.76	29.94
16	SCT	250	10.00		91	72	78	54	5	16	30.06	30.25	16	BKN	300	7.00			88	75	79	66	9	16	29.70	29.88
19	SCT	250	10.00		86	75	78	70	7	19	30.04	30.23	19	BKN	110	5.00	-TSRA BR		74	72	73	94	5	14	29.76	29.95
22	FEW	250	10.00		85	73	77	68	7	26	30.06	30.24	22	OVC	230	8.00			74	71	72	91	3	27	29.77	29.96
SUNRISE: 0501 JUL 16					SUNSET: 1930					SUNRISE: 0505 JUL 22					SUNSET: 1927											
01	CLR	NC	10.00		81	72	75	74	3	26	30.05	30.23	01	OVC	002	1.50	BR		73	72	72	96	0	00	29.76	29.95
04	CLR	NC	10.00		79	71	74	77	7	28	30.04	30.23	04	OVC	003	3.00	BR		73	71	72	94	0	00	29.74	29.93
07	SCT	250	10.00		82	72	75	72	6	30	30.05	30.24	07	BKN	250	4.00	BR		74	72	73	94	0	00	29.75	29.93
10	BKN	250	10.00		91	73	78	56	10	34	30.05	30.24	10	OVC	250	10.00			82	73	76	74	5	24	29.75	29.94
13	BKN	250	10.00		94	74	80	52	6	02	30.02	30.21	13	OVC	250	10.00			86	74	78	67	6	20	29.71	29.90
16	SCT	250	10.00		91	76	80	61	5	36	29.99	30.18	16	BKN	250	10.00			86	73	77	65	10	16	29.64	29.83
19	BKN	250	10.00	TS	88	77	80	70	8	26	30.00	30.19	19	BKN	250	10.00			80	74	76	82	7	17	29.63	29.82
22	SCT	250	10.00		79	71	74	77	0	00	30.04	30.22	22	FEW	250	8.00			77	75	76	94	6	20	29.63	29.81
SUNRISE: 0501 JUL 17					SUNSET: 1930					SUNRISE: 0506 JUL 23					SUNSET: 1926											
01	FEW	250	10.00		78	71	73	79	0	00	30.00	30.19	01	CLR	NC	9.00			77	74	75	90	8	20	29.59	29.78
04	FEW	250	10.00		75	71	72	88	0	00	30.01	30.20	04	CLR	NC	8.00			75	72	73	90	7	19	29.55	29.74
07	SCT	250	9.00		82	75	77	79	6	32	30.03	30.22	07	BKN	200	10.00			79	74	76	85	11	23	29.57	29.75
10	BKN	250	10.00		92	71	77	51	9	36	30.03	30.22	10	BKN	250	10.00			86	72	76	63	8	25	29.55	29.74
13	SCT	250	10.00		94	71	78	48	9	34	30.00	30.19	13	BKN	250	10.00			90	69	76	50	11	25	29.54	29.72
16	SCT	250	10.00		93	74	79	54	5	05	29.94	30.13	16	BKN	250	10.00			91	68	75	47	14	26	29.50	29.69
19	BKN	250	10.00		89	73	78	59	0	00	29.94	30.13	19	SCT	250	10.00			87	70	75	57	8	24	29.52	29.69
22	BKN	250	9.00		82	75	77	79	0	00	29.96	30.14	22	SCT	250	10.00			79	73	75	82	5	19	29.55	29.73
SUNRISE: 0502 JUL 18					SUNSET: 1929					SUNRISE: 0507 JUL 24					SUNSET: 1925											
01	BKN	250	7.00		82	75	77	79	3	27	29.94	30.13	01	SCT	250	10.00			78	73	75	85	3	21	29.54	29.72
04	BKN	250	4.00	BR	76	74	75	94	0	00	29.92	30.11	04	FEW	250	10.00			77	70	72	79	0	00	29.52	29.70
07	SCT	250	6.00	HZ	81	76	77	85	3	18	29.94	30.13	07	BKN	250	8.00			78	72	74	82	0	00	29.57	29.75
10	SCT	250	9.00		91	74	79	57	0	00	29.95	30.14	10	SCT	250	10.00			87	70	75	57	7	36	29.60	29.79
13	SCT	250	10.00		94	72	78	49	6	21	29.92	30.10	13	BKN	250	10.00			87	69	75	55	9	36	29.61	29.80
16	FEW	050	6.00	HZ	93	71	78	49	3	25	29.87	30.05	16	OVC	300	10.00			84	69	74	61	7	01	29.60	29.78
19	SCT	300	6.00	HZ	88	74	78	63	5	24	29.87	30.05	19	BKN	250	9.00			82	69	73	65	6	03	29.63	29.82
22	SCT	300	7.00		82	75	77	79	3	18	29.89	30.07	22	OVC	110	10.00			78	67	71	69	7	02	29.69	29.87

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA
JULY 2013

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
SUNRISE: 0507 JUL 25 SUNSET: 1924					75	63	67	66	7	02	29.68	29.87
01	OVC	150	10.00		73	63	67	71	13	01	29.69	29.88
04	BKN	250	10.00		67	62	64	84	10	35	29.74	29.93
07	OVC	130	10.00		73	61	66	66	13	03	29.78	29.97
10	SCT	170	10.00		78	64	69	62	14	35	29.79	29.98
13	OVC	065	10.00		80	61	68	52	13	01	29.78	29.97
16	BKN	300	10.00		76	60	66	58	5	01	29.82	30.01
19	BKN	065	10.00		70	62	65	76	5	36	29.84	30.03
22	FEW	075	10.00									
SUNRISE: 0508 JUL 26 SUNSET: 1924					66	61	63	84	3	02	29.85	30.04
01	CLR	NC	10.00		64	61	62	90	5	31	29.86	30.05
04	CLR	NC	10.00		68	62	64	81	3	33	29.90	30.09
07	CLR	NC	10.00		77	63	68	62	3	VR	29.93	30.12
10	SCT	026	10.00		83	61	69	48	7	35	29.90	30.09
13	SCT	044	10.00		85	60	69	43	5	02	29.87	30.06
16	BKN	300	10.00		78	65	70	64	6	19	29.86	30.05
19	BKN	300	10.00		72	65	68	79	3	12	29.89	30.08
22	SCT	300	10.00									
SUNRISE: 0509 JUL 27 SUNSET: 1923					68	64	66	87	5	14	29.88	30.07
01	SCT	300	10.00	BR	68	66	67	93	3	15	29.86	30.05
04	BKN	300	5.00		71	68	69	90	9	18	29.88	30.06
07	BKN	300	8.00		80	69	73	69	10	21	29.87	30.06
10	OVC	300	10.00		83	68	73	61	9	16	29.82	30.01
13	OVC	300	10.00		85	68	74	57	10	16	29.78	29.97
16	OVC	300	9.00		80	68	72	67	8	14	29.77	29.96
19	OVC	300	8.00		76	65	69	69	8	16	29.79	29.98
22	OVC	210	10.00									
SUNRISE: 0510 JUL 28 SUNSET: 1922					73	65	68	76	9	14	29.76	29.95
01	BKN	220	10.00		73	69	70	87	3	18	29.75	29.93
04	OVC	110	10.00		73	70	71	90	5	16	29.77	29.96
07	OVC	160	7.00		80	71	74	74	6	18	29.77	29.96
10	BKN	200	10.00		86	70	75	59	6	VR	29.75	29.93
13	BKN	200	10.00		88	71	76	57	13	19	29.72	29.91
16	BKN	300	10.00		73	69	70	87	5	18	29.77	29.96
19	BKN	100	10.00		72	69	70	91	3	15	29.81	29.99
22	OVC	110	10.00									
SUNRISE: 0511 JUL 29 SUNSET: 1921					71	69	70	94	5	12	29.81	30.00
01	SCT	200	8.00		73	70	71	90	0	00	29.84	30.02
04	OVC	100	8.00		72	66	68	82	6	35	29.89	30.08
07	BKN	200	10.00		76	61	67	60	10	02	29.94	30.13
10	BKN	250	10.00		81	57	66	44	0	00	29.93	30.12
13	SCT	200	10.00		84	59	68	43	0	00	29.91	30.09
16	SCT	200	10.00		81	60	68	49	6	29	29.93	30.12
19	SCT	200	10.00		72	65	68	79	0	00	29.98	30.17
22	FEW	060	10.00									
SUNRISE: 0511 JUL 30 SUNSET: 1920					68	64	66	87	0	00	29.99	30.18
01	BKN	060	10.00		67	63	65	87	0	00	30.00	30.19
04	SCT	055	10.00		71	63	66	76	0	00	30.04	30.23
07	SCT	250	10.00		80	59	67	49	6	04	30.05	30.24
10	OVC	250	10.00		83	60	68	46	8	16	30.01	30.20
13	BKN	250	10.00		85	60	69	43	0	00	29.97	30.16
16	BKN	250	10.00		78	64	69	62	5	05	29.98	30.17
19	BKN	250	10.00		72	65	68	79	3	10	29.98	30.17
22	SCT	250	10.00									

HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
SUNRISE: 0512 JUL 31 SUNSET: 1919					70	64	66	82	0	00	29.97	30.16
01	FEW	250	10.00		68	64	66	87	0	00	29.96	30.15
04	SCT	250	10.00		70	66	67	87	0	00	29.97	30.16
07	OVC	210	8.00		79	70	73	74	3	VR	29.96	30.15
10	OVC	180	10.00		75	66	69	74	21	18	29.93	30.12
13	OVC	170	10.00		73	69	70	87	5	22	29.90	30.09
16	OVC	110	4.00	-RA BR	72	69	70	91	5	20	29.88	30.07
19	BKN	100	6.00	-RA BR	71	69	70	94	3	13	29.88	30.07
22	OVC	075	7.00									

3-HOURLY OBSERVATION NOTES

Sky Cover is the amount of the sky obscured. CLR or SKC = 0, FEW = 1/8-2/8, SCT = 3/8-4/8, BKN = 5/8-7/8, OVC = 8/8, W = Vertical Visibility = 8/8

Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC = No Ceiling detected.

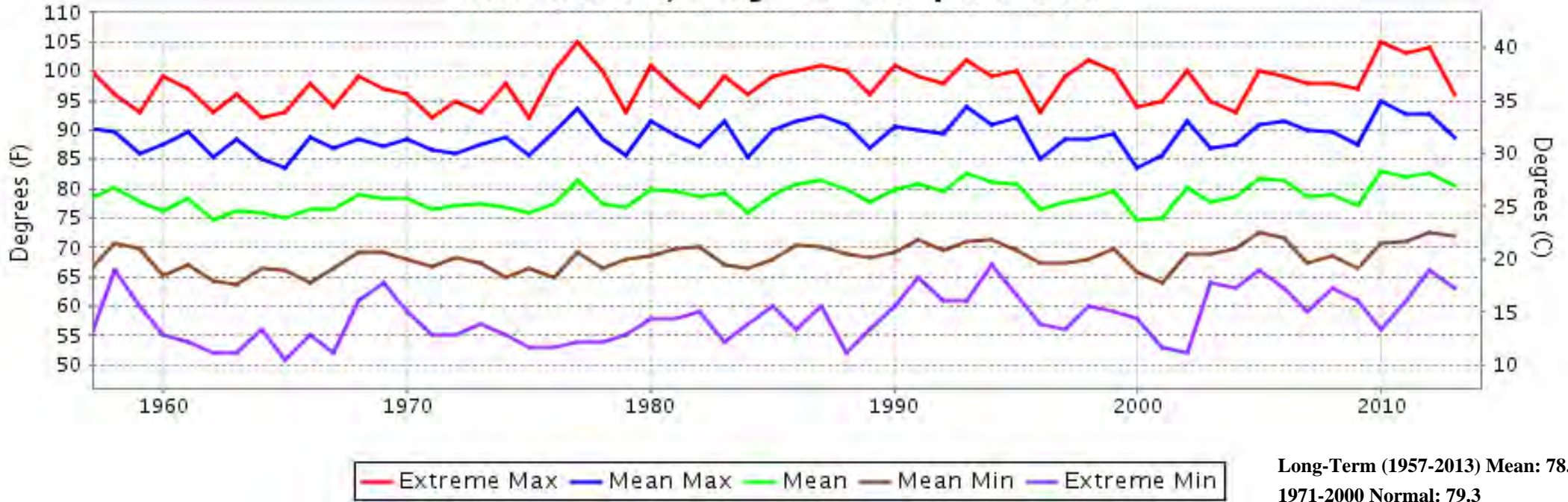
& = Original observation contained additional weather elements.

See page 3 for additional notes.

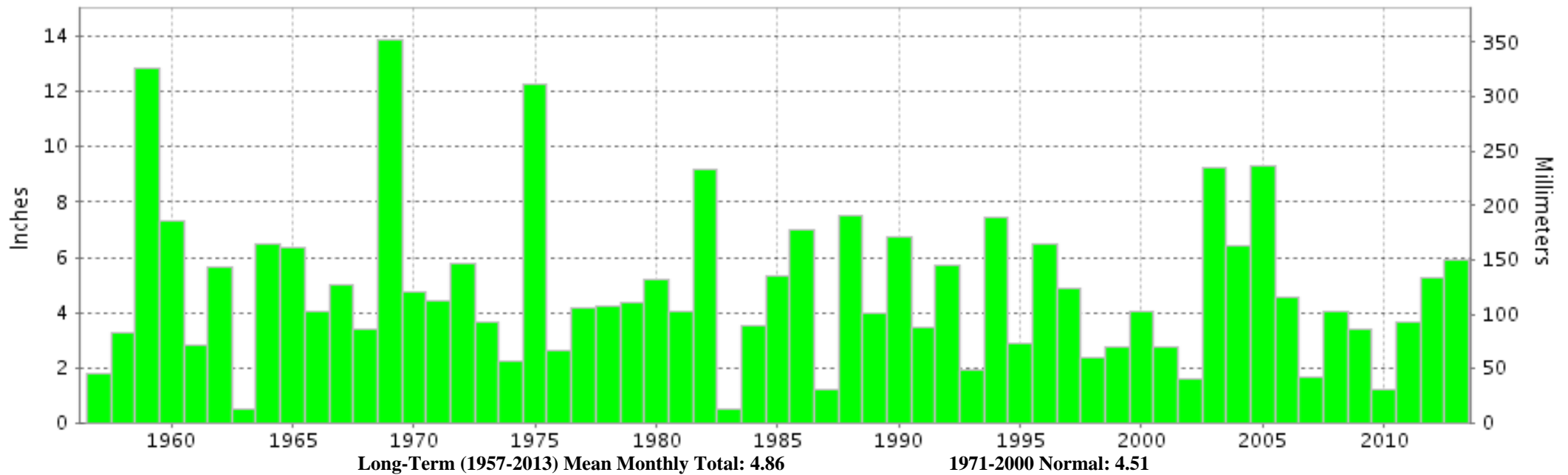
SUMMARY BY HOUR

HOUR (LST)	AVERAGES								RESULTANT WIND (MPH)	
	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (Inches, HG)		VISIBILITY (Miles)	WIND SPEED (MPH)	SPEED	DIRECTION
					STATION	SEA LEVEL				
01	75	70	72	86	29.88	30.06	9.18	5	5	19
02	75	70	72	87	29.87	30.06	9.19	5	5	20
03	74	70	72	87	29.87	30.06	8.90	5	5	20
04	74	70	72	89	29.87	30.06	8.45	4	5	19
05	73	70	71	90	29.88	30.07	7.82	4	5	19
06	74	71	72	90	29.89	30.08	7.24	5	5	19
07	76	71	73	86	29.90	30.09	7.95	7	5	21
08	78	71	74	80	29.91	30.09	9.27	7	5	21
09	80	71	74	74	29.91	30.10	9.68	8	5	22
10	82	71	74	69	29.91	30.10	9.77	8	5	21
11	84	71	75	65	29.91	30.10	9.81	7	5	20
12	85	71	75	62	29.90	30.09	9.94	8	5	20
13	86	70	75	59	29.89	30.07	9.97	9	5	21
14	87	70	75	59	29.87	30.06	9.65	9	5	21
15	86	70	75	61	29.86	30.05	9.40	9	4	19
16	86	70	75	61	29.85	30.04	9.23	8	4	19
17	85	70	75	63	29.85	30.04	9.10	9	4	20
18	83	70	74	66	29.86	30.04	8.64	8	4	19
19	81	71	74	73	29.86	30.05	9.16	6	4	18
20	79	71	73	76	29.87	30.06	9.16	6	4	17
21	78	71	73	81	29.88	30.07	9.42	6	4	18
22	77	71	73	82	29.89	30.08	9.29	6	4	19
23	76	71	73	84	29.89	30.08	9.21	5	5	19
24	76	71	72	84	29.89	30.07	9.00	6	5	19

RICHMOND, VA JULY Temperatures



RICHMOND, VA JULY Precipitation





JULY 2013
RICHMOND, VA

LOCAL CLIMATOLOGICAL DATA
NOAA, National Climatic Data Center

I certify that this is an official publication of the National Oceanic and Atmospheric Administration (NOAA). It is compiled using information from weather observing sites operated by NOAA-National Weather Service / Department Of Transportation-Federal Aviation Administration and received at the National Climatic Data Center (NCDC), Asheville, North Carolina 28801.

A handwritten signature in black ink, appearing to read "Thomas R. Karl".

DIRECTOR

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