



JULY 1996

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

RICHMOND, VA

R.E.BYRD INTERNATIONAL AP. (RIC)
 Lat: 37°30' N Long: 77°19' W Elev (Ground): 164 Feet
 Time Zone: EASTERN WBAN: 13740 ISSN #:0198-537X

JULY 1996
RICHMOND, VA

DATE	TEMPERATURE °F						DEG DAYS BASE 65°		WEATHER	SNOW/ICE ON GND(IN)		PRECIPITATION (INCHES)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								DATE	
	MAXIMUM	MINIMUM	AVERAGE	DEP FROM NORMAL	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING		0700 LST	1300 LST	2400 LST	2400 LST	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	MAXIMUM						
																			5-SEC	2-MIN	SPEED	DIR	SPEED		DIR
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	87	75	81	4	74	76	0	16	RA BR HZ				T	29.68	29.87	4.5	04	7.1	22	02	17	02	01		
02	85	72	79	2	73	74	0	14	RA BR HZ				0.07	29.58	29.78	1.2	11	3.5	10	20	9	21	02		
03	83	65	74	-3	62	67	0	9	TS TSRA RA BR				0.04	29.44	29.64	5.0	34	7.9	22	01	18	27	03		
04	78	60	69*	-8	52	59	0	4		0		0.0	0.00	29.63	29.83	8.8	31	9.1	23	32	18	33	04		
05	84	57*	71	-6	56	63	0	6		0		0.0	0.00	29.84	30.04	6.9	28	5.9	22	24	16	22	05		
06	88	65	77	0	66	70	0	12	BR				0.00	29.82	30.02	6.5	20	6.1	16	16	14	15	06		
07	93	68	81	3	68	72	0	16	BR	0		0.0	0.00	29.69	29.88	5.9	22	6.3	18	25	16	24	07		
08	93*	71	82	4	71	74	0	17	TS TSRA RA BR HZ				0.40	29.52	29.71	8.9	21	9.4	37*	29	26	28	08		
09	90	71	81	3	69	73	0	16	BR HZ	0		0.0	0.00	29.53	29.72	6.0	25	8.0	17	26	14	26	09		
10	81	67	74	-4	61	66	0	9					0.00	29.84	30.04	2.8	02	6.0	16	02	14	01	10		
11	83	60	72	-6	59	64	0	7	BR				0.00	30.05	30.25	5.3	10	6.6	18	13	15	12	11		
12	75	67	71	-7	67	68	0	6	RA BR	0		0.0	1.76	29.87	30.07	11.0	05	11.4	30	07	23	06	12		
13	89	69	79	1	68	72	0	14	RA BR				0.49	29.56	29.76	9.8	26	15.3	33	29	23	27	13		
14	90	73	82*	4	72	75	0	17	RA				0.07	29.77	29.97	9.9	20	10.4	25	17	22	17	14		
15	86	70	78	0	73	75	0	13	TS TSRA RA FG+ BR HZ				1.50	29.81	30.01	14.5	20	15.0	33	20	30*	21	15		
16	88	71	80	2	68	71	0	15	BR				0.00	29.94	30.14	7.7	24	7.2	17	24	15	24	16		
17	91	71	81	3	70	73	0	16	BR HZ				0.00	29.97	30.17	4.7	25	4.5	13	24	10	24	17		
18	89	73	81	3	74	76	0	16	TSRA RA BR HZ			0.0	0.08	29.89	30.09	3.1	21	4.3	22	35	17	35	18		
19	88	73	81	3	73	75	0	16	RA BR HZ				0.03	29.62	29.82	8.6	24	10.6	26	25	20	24	19		
20	83	62	73	-5	59	65	0	8					0.00	29.70	29.90	10.0	35	8.9	25	01	21	01	20		
21	83	59	71	-7	56	62	0	6		0		0.0	0.00	29.80	30.00	8.9	35	5.5	16	01	11	28	21		
22	81	62	72	-7	68	70	0	7	RA BR HZ	0		0.0	0.05	29.70	29.90	3.4	10	5.8	18	15	15	15	22		
23	81	68	75	-4	67	69	0	10	BR HZ				0.00	29.71	29.91	6.2	35	6.1	15	33	13	34	23		
24	84	67	76	-3	68	70	0	11	BR HZ				0.00	29.81	30.01	3.2	02	4.1	17	19	15	19	24		
25	86	67	77	-2	71	72	0	12	TSRA RA FG BR HZ				1.24	29.80	30.00	3.4	17	4.8	28	25	23	25	25		
26	85	70	78	-1	67	70	0	13	RA BR	0		0.0	0.14	29.80	30.00	4.3	27	5.8	16	27	14	28	26		
27	84	64	74	-5	63	68	0	9					0.00	29.98	30.18			4.3	13	25	10	29	27		
28	80	65	73	-5	66	69	0	8	RA BR				T	30.04	30.24	3.4	10	4.6	13	10	10	10	28		
29	81	69	75	-3	69	70	0	10	TSRA RA BR	0		0.0	0.50	29.96	30.16	4.5	07	4.4	15	13	13	12	29		
30	85	69	77	-1	70	72	0	12	RA BR				0.12	29.89	30.09	6.1	19	7.0	18	21	16	21	30		
31	88	71	80	2	69	72	0	15	RA				0.02	29.83	30.03	10.7	22	11.3	26	23	22	23	31		
MONTHLY AVERAGES										TOTALS-->				6.51	29.78	29.98			7.3	-- MONTHLY AVERAGES					
DEPARTURE FROM NORMAL														1.48	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3										
DEGREE DAYS										GREATEST 24-HR PRECIPITATION: 1.76 DATE: 12				SEA LEVEL PRESSURE DATE TIME											
MONTHLY TOTAL DEPARTURE										GREATEST 24-HR SNOWFALL: DATE:				MAXIMUM : 30.30 11 1037											
SEASON TO DATE TOTAL DEPARTURE										GREATEST SNOW DEPTH: DATE:				MINIMUM : 29.50 13 0340											
HEATING: 0 0										NUMBER OF DAYS WITH =>				MAXIMUM TEMP ≥ 90: 5				MINIMUM TEMP ≤ 32: 0				PRECIPITATION ≥ 0.01 INCH : 15			
COOLING: 360 -43														MAXIMUM TEMP ≤ 32: 0				MINIMUM TEMP ≤ 0: 0				PRECIPITATION ≥ 0.10 INCH : 8			
														THUNDERSTORMS : 6				HEAVY FOG : 1				SNOWFALL ≥ 1.0 INCH : 0			

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA

JULY 1996

RIC

WBAN # 13740

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note 2)	2400 LST	
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			Water	Equiv.
01													01												01			T	
02	T												02	0.06											02				0.07
03			T										03			T	0.03								03				0.04
04													04												04				0.00
05													05												05				0.00
06													06												06				0.00
07													07												07				0.00
08													08												08	0.10			0.40
09													09			T									09				0.00
10													10			T									10				0.00
11													11												11				0.00
12													12	0.01											12				1.76
13	0.06		T										13		T									13	1.75			0.49	
14		0.10											14											14	0.50			0.07	
15		0.06											15			T								15				1.50	
16													16											16				0.00	
17													17											17				0.00	
18													18											18	0.06			0.08	
19													19	0.01	0.01	T								19			T	0.03	
20													20											20				0.00	
21													21											21				0.00	
22													22											22				0.05	
23													23											23				0.00	
24													24											24				0.00	
25													25											25				1.24	
26	0.04												26											26				0.14	
27	0.01												27											27				0.00	
28													28											28				T	
29													29											29				0.50	
30													30											30				0.12	
31													31											31	0.01		T	0.02	

MAXIMUM SHORT DURATION PRECIPITATION (See Note 1)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)												
Ending Date												
Ending Time (Hour/Min)												

Date and time are not entered for TRACE amounts.

Note 1: NCDC derives these data from one-minute ASOS values. The table is not printed when inconsistent with ASOS hourly totals.

Note 2: The sum of the hourly totals is given when it differs from the daily total. 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.

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.

Water Equivalent of snow on the ground is reported only when the depth is 2 or more inches.

NORMALS ARE FOR THE YEARS 1961 – 1990

WEATHER NOTATIONS

QUALIFIER	WEATHER PHENOMENA		
	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	PE 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 Unknown Precipitation		

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

RICHMOND, VA JULY 1996

Ceilorometer (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).

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet. Both ceilometer and satellite data must be present to compute Sky Condition. 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.

Dew Point is the temperature to which the air must be cooled to achieve 100% relative humidity. Wet Bulb is the temperature the air would have if cooled at constant pressure by evaporation of moisture into it, to 100% relative humidity.

ADDITIONAL NOTES:

DATE	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR-SS		MN-MN		MINIMUM	MAXIMUM	
			CEILOMETER	SATELLITE	CEILOMETER	SATELLITE			
01	805						2.00	4.00	
02	680						1.25	3.00	
03	656						3.00	10.00	
04	861						10.00	10.00	
05	860						10.00	10.00	
06	869						6.00	10.00	
07	806						5.00	10.00	
08	621						5.00	10.00	
09	771						2.00	10.00	
10	706						8.00	10.00	
11	783						5.00	10.00	
12	547						1.75	10.00	
13	663						2.00	10.00	
14	797						2.50	10.00	
15	587						1.00	10.00	
16	794						5.00	10.00	
17	769						2.00	10.00	
18	623						2.00	10.00	
19	724						1.25	10.00	
20	820						10.00	10.00	
21	703						10.00	10.00	
22	430						1.00	10.00	
23	679						1.75	8.00	
24	714						2.00	6.00	
25	450						.25	7.00	
26	805						2.50	10.00	
27	842						7.00	10.00	
28	713						3.00	10.00	
29							1.50	10.00	
30							1.50	10.00	
31							7.00	10.00	
MONTHLY AVGS							3.94	9.29	
SUNSHINE (MINUTES)									
Total:					Possible:				
					Percent Possible:				
NUMBER OF DAYS WITH:									
SKY CONDITION									
CLR	PTLY	CLDY	CLOUDY	MISSING					
0	0	0	0	31					
MINIMUM VISIBILITY (MILES)									
<=0.25			<=3.0			>=7.0			
1			19			7			

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

JULY 1996

RIC

WBAN # 13740

HOUR (LST)	≤ 12K FEET		SATELLITE		WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	≤ 12K FEET		SATELLITE		WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)									
	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION		SEA LEVEL	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)		EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL						
SUNRISE: 0452						JUL 01						SUNSET: 1934						SUNRISE: 0455						JUL 07						SUNSET: 1933					
01	BKN	080			2.50 BR	78	75	76	90	3	27	29.65	29.84	01	CLR	NC			8.00	71	66	68	84	0	00	29.77	29.97								
04	CLR	NC			3.00 HZ	77	72	74	85	6	33	29.65	29.84	04	FEW	NC			7.00	69	66	67	90	3	20	29.74	29.93								
07	CLR	NC			2.50 HZ	80	74	76	82	15	02	29.69	29.89	07	CLR	NC			7.00	73	68	70	84	6	22	29.75	29.95								
10	OVC	010			2.50 HZ	78	72	74	82	10	36	29.73	29.93	10	CLR	NC			10.00	86	67	73	53	7	27	29.73	29.93								
13	BKN	020			2.50 HZ	84	75	78	74	7	VR	29.71	29.91	13	CLR	NC			10.00	91	67	75	45	7	24	29.68	29.88								
16	FEW	NC			3.00 HZ	86	75	78	70	8	11	29.66	29.85	16	FEW	NC			10.00	91	66	74	44	9	24	29.64	29.83								
19	CLR	NC			3.00 HZ	82	74	76	77	6	11	29.64	29.84	19	CLR	NC			9.00	86	71	76	61	7	18	29.61	29.81								
22	BKN	080			3.00 BR	77	74	75	90	8	15	29.66	29.86	22	CLR	NC			9.00	78	70	73	76	7	20	29.63	29.82								
SUNRISE: 0453						JUL 02						SUNRISE: 0456						JUL 08						SUNSET: 1933											
01	BKN	060			3.00 BR	74	72	73	94	6	16	29.66	29.85	01	CLR	NC			9.00	74	69	71	85	5	18	29.59	29.79								
04	OVC	065			2.00 BR	73	72	72	96	0	00	29.64	29.83	04	CLR	NC			10.00	75	70	72	84	8	18	29.54	29.74								
07	OVC	008			1.25 BR	74	72	73	94	3	06	29.65	29.85	07	CLR	NC			6.00 HZ	78	70	73	76	8	22	29.56	29.75								
10	OVC	006			1.25 BR	77	73	74	88	0	00	29.63	29.83	10	CLR	NC			5.00 HZ	83	72	75	70	7	21	29.54	29.74								
13	BKN	036			1.25 -RA BR	79	75	76	88	6	15	29.61	29.80	13	CLR	NC			5.00 HZ	92	74	79	56	14	20	29.50	29.70								
16	FEW	NC			1.25 HZ	84	72	76	67	5	14	29.51	29.71	16	CLR	NC			5.00 TS HZ	87	73	77	63	13	21	29.46	29.65								
19	FEW	NC			2.00 HZ	81	75	77	82	5	19	29.51	29.71	19	OVC	024			5.00 -RA BR	73	71	72	94	8	28	29.51	29.71								
22	CLR	NC			3.00 BR	75	73	74	94	0	00	29.49	29.69	22	CLR	NC			9.00	72	70	71	94	10	19	29.51	29.71								
SUNRISE: 0453						JUL 03						SUNRISE: 0456						JUL 09						SUNSET: 1933											
01	CLR	NC			3.00	74	69	71	85	7	28	29.46	29.66	01	CLR	NC			7.00	72	70	71	94	3	18	29.46	29.65								
04	CLR	NC			9.00	71	66	68	84	5	26	29.40	29.60	04	FEW	NC			4.00 BR	71	70	70	96	6	20	29.47	29.66								
07	FEW	NC			8.00	70	66	67	87	8	35	29.43	29.62	07	OVC	005			2.00 BR	74	71	72	91	8	25	29.51	29.71								
10	SCT	NC			10.00	74	62	66	67	7	VR	29.44	29.64	10	CLR	NC			7.00	84	71	75	65	6	27	29.53	29.73								
13	CLR	NC			10.00	81	63	69	54	7	VR	29.40	29.60	13	FEW	NC			8.00	89	69	75	52	13	20	29.51	29.71								
16	CLR	NC			9.00	76	67	70	74	13	36	29.41	29.61	16	SCT	NC			9.00	87	67	73	51	12	26	29.52	29.71								
19	OVC	047			10.00	74	62	66	67	8	36	29.45	29.65	19	CLR	NC			10.00	84	66	72	55	8	24	29.54	29.73								
22	CLR	NC			10.00	70	53	60	55	10	34	29.52	29.72	22	BKN	075			10.00	79	67	71	67	8	23	29.61	29.80								
SUNRISE: 0454						JUL 04						SUNRISE: 0457						JUL 10						SUNSET: 1932											
01	CLR	NC			10.00	63	54	58	73	6	31	29.54	29.74	01	OVC	100			10.00	75	66	69	74	0	00	29.67	29.86								
04	CLR	NC			10.00	62	50	55	65	7	29	29.55	29.75	04	CLR	NC			9.00	70	64	66	82	5	34	29.70	29.90								
07	CLR	NC			10.00	65	49	56	56	10	31	29.57	29.77	07	CLR	NC			10.00	71	59	64	66	9	01	29.78	29.98								
10	CLR	NC			10.00	71	45	57	39	13	28	29.62	29.82	10	CLR	NC			10.00	74	57	64	56	12	01	29.84	30.04								
13	OVC	055			10.00	73	51	60	46	17	33	29.62	29.81	13	CLR	NC			10.00	78	61	67	56	6	14	29.87	30.07								
16	OVC	065			10.00	75	54	63	48	15	34	29.63	29.83	16	FEW	NC			10.00	81	62	69	53	10	12	29.87	30.07								
19	CLR	NC			10.00	73	54	62	51	6	31	29.69	29.89	19	OVC	060			10.00	76	61	67	60	7	08	29.92	30.12								
22	CLR	NC			10.00	69	56	61	63	6	27	29.75	29.95	22	OVC	060			10.00	71	61	65	71	6	07	29.99	30.19								
SUNRISE: 0454						JUL 05						SUNRISE: 0458						JUL 11						SUNSET: 1932											
01	CLR	NC			10.00	64	56	59	75	7	25	29.78	29.97	01	CLR	NC			10.00	65	61	63	87	3	02	29.99	30.19								
04	CLR	NC			10.00	60	55	57	84	0	00	29.80	29.99	04	CLR	NC			5.00 BR	60	59	59	96	3	20	30.01	30.21								
07	CLR	NC			10.00	68	55	60	63	6	31	29.85	30.05	07	CLR	NC			8.00	68	63	65	84	6	01	30.06	30.26								
10	CLR	NC			10.00	79	54	64	42	8	25	29.89	30.09	10	CLR	NC			10.00	78	59	66	52	10	08	30.10	30.30								
13	CLR	NC			10.00	81	54	65	39	10	24	29.87	30.07	13	CLR	NC			10.00	83	58	67	43	10	10	30.07	30.27								
16	CLR	NC			10.00	83	55	66	38	5	VR	29.82	30.02	16	SCT	NC			10.00	80	59	67	49	10	13	30.04	30.24								
19	CLR	NC			10.00	78	60	67	54	8	19	29.85	30.05	19	BKN	080			10.00	74	61	66	64	12	14	30.07	30.27								
22	CLR	NC			10.00	70	60	64	71	5	19	29.86	30.06	22	SCT	NC			10.00	69	57	62	66	5	07	30.06	30.26								
SUNRISE: 0455						JUL 06						SUNRISE: 0458						JUL 12						SUNSET: 1932											
01	BKN	070			10.00	69	62	65	78	0	00	29.88	30.08	01	CLR	NC			10.00	68	60	63	76	5	06	30.02	30.22								
04	CLR	NC			10.00	67	62	64	84	0	00	29.86	30.06	04	OVC	023			10.00	68	61	64	78	8	06	29.99	30.19								
07	CLR	NC			7.00	71	66	68	84	6	19	29.87	30.07	07	OVC	010			7.00 -RA	68	65	66	90	7	02	30.00	30.20								
10	CLR	NC			10.00	82	65	71	56	8	24	29.86	30.06	10	OVC	006			5.00 BR	72	70	71	94	13	06	29.99	30.19								
13	SCT	NC			10.00	85	67	73	55	9	18	29.81	30.01	13	FEW	NC			10.00	74	71	72	91	12	05	29.92	30.11								
16	CLR	NC			10.00	86	68	74	55	13	18	29.76	29.96	16	BKN	014			10.00	72	70	71	94	13	05	29.86	30.06								
19	CLR	NC			10.00	81	69	73	67	9	15	29.76	29.96	19	OVC	014			1.75 RA BR	69	68	68	96	17	04	29.78	29.98								
22	CLR	NC			9.00	73	67	69	81	3	18	29.78	29.98	22	OVC	016			2.00 +RA BR	70	69	69	97	13	03	29.62	29.82								

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

JULY 1996

RIC

WBAN # 13740

HOUR (LST)	≤ 12K FEET		SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)		HOUR (LST)	≤ 12K FEET		SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)			
	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG		STATION	SEA LEVEL	SKY COVER	CEILING 100'S OF FT		OBSERVATION TIME (LST)	EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG
SUNRISE: 0459						JUL 13						SUNSET: 1931															
01	OVC	012			6.00 -RA BR	72	70	71	94	18	04	29.42	29.62	01	OVC	003			2.00 BR	73	73	73	100	7	18	29.76	29.95
04	OVC	009			10.00 -RA	71	70	70	96	14	32	29.31	29.51	04	SCT	NC			3.00 BR	74	72	73	94	8	20	29.70	29.90
07	OVC	009			2.00 -RA BR	70	68	69	93	18	29	29.47	29.67	07	CLR	NC			6.00 BR	76	72	73	88	8	22	29.67	29.86
10	CLR	NC			10.00	77	67	70	71	20	27	29.60	29.80	10	CLR	NC			9.00	81	72	75	74	10	24	29.64	29.84
13	FEW	NC			10.00	85	67	73	55	16	26	29.63	29.83	13	BKN	055			7.00 -RA	81	75	77	82	7	25	29.65	29.84
16	CLR	NC			10.00	89	69	75	52	15	22	29.63	29.82	16	CLR	NC			10.00	87	73	77	63	18	26	29.53	29.73
19	FEW	NC			10.00	85	70	75	61	14	22	29.66	29.86	19	CLR	NC			10.00	85	73	77	68	13	25	29.54	29.73
22	CLR	NC			10.00	78	68	71	71	12	20	29.71	29.91	22	OVC	050			10.00	82	73	76	74	7	29	29.57	29.76
SUNRISE: 0460						JUL 14						SUNSET: 1931															
01	CLR	NC			10.00	76	70	72	82	10	19	29.73	29.92	01	CLR	NC			10.00	77	65	69	66	12	36	29.60	29.80
04	CLR	NC			10.00	74	70	71	88	8	20	29.73	29.93	04	CLR	NC			10.00	68	62	64	81	8	36	29.63	29.83
07	CLR	NC			9.00	77	71	73	82	10	22	29.77	29.97	07	CLR	NC			10.00	73	60	65	64	13	36	29.69	29.89
10	CLR	NC			10.00	82	71	75	69	10	22	29.79	29.99	10	CLR	NC			10.00	77	60	66	56	9	34	29.72	29.92
13	FEW	NC			8.00	89	74	78	61	13	19	29.77	29.96	13	CLR	NC			10.00	81	57	66	44	12	34	29.71	29.91
16	FEW	NC			10.00	88	72	77	59	13	20	29.74	29.94	16	CLR	NC			10.00	83	52	64	34	12	35	29.69	29.89
19	CLR	NC			7.00	79	74	75	85	10	17	29.78	29.98	19	CLR	NC			10.00	77	57	65	50	5	04	29.69	29.89
22	CLR	NC			10.00	76	72	73	88	10	19	29.81	30.01	22	CLR	NC			10.00	64	59	61	84	0	00	29.77	29.96
SUNRISE: 0500						JUL 15						SUNSET: 1930															
01	BKN	015			9.00	76	73	74	91	9	20	29.81	30.01	01	CLR	NC			10.00	62	56	59	81	0	00	29.79	29.99
04	OVC	021			7.00	77	73	74	88	12	19	29.79	29.99	04	CLR	NC			10.00	61	52	56	72	9	36	29.79	29.98
07	OVC	016			5.00 HZ	78	73	75	85	15	20	29.81	30.01	07	CLR	NC			10.00	65	55	59	70	7	35	29.84	30.03
10	SCT	NC			10.00	83	74	77	74	22	21	29.82	30.01	10	CLR	NC			10.00	74	54	62	50	3	VR	29.85	30.05
13	BKN	024			10.00	82	74	76	77	20	20	29.82	30.02	13	CLR	NC			10.00	79	55	65	44	7	28	29.81	30.01
16	BKN	033			2.00 -TSRA	80	73	75	79	28	21	29.79	29.98	16	CLR	NC			10.00	82	56	66	41	8	28	29.77	29.97
19	FEW	NC			4.00 HZ	74	73	73	97	7	16	29.78	29.98	19	CLR	NC			10.00	78	57	65	48	6	22	29.77	29.97
22	BKN	065			8.00	75	73	74	94	13	20	29.85	30.05	22	CLR	NC			10.00	70	61	64	73	3	14	29.80	30.00
SUNRISE: 0501						JUL 16						SUNSET: 1930															
01	OVC	013			10.00	72	70	71	94	8	23	29.87	30.07	01	CLR	NC			10.00	66	62	64	87	0	00	29.78	29.98
04	SCT	NC			8.00	72	70	71	94	8	24	29.89	30.09	04	CLR	NC			10.00	63	60	61	90	0	00	29.75	29.95
07	FEW	NC			7.00	73	70	71	90	8	23	29.97	30.16	07	OVC	070			10.00	69	62	65	78	7	15	29.74	29.94
10	CLR	NC			10.00	82	67	72	60	9	25	29.99	30.18	10	BKN	055			8.00	72	69	70	91	6	16	29.73	29.93
13	FEW	NC			10.00	86	66	73	51	13	23	29.97	30.16	13	OVC	042			9.00	78	70	73	76	13	15	29.67	29.87
16	FEW	NC			10.00	87	64	72	46	10	23	29.94	30.14	16	OVC	021			7.00 -RA	78	73	75	85	7	06	29.63	29.83
19	CLR	NC			10.00	82	65	71	56	5	23	29.94	30.14	19	CLR	NC			6.00 BR	78	74	75	87	5	07	29.63	29.83
22	CLR	NC			10.00	74	68	70	82	0	00	29.96	30.16	22	OVC	004			5.00 BR	75	73	74	94	7	01	29.68	29.88
SUNRISE: 0502						JUL 17						SUNSET: 1929															
01	CLR	NC			6.00 BR	72	70	71	94	3	17	29.96	30.16	01	OVC	002			2.00 BR	72	71	71	97	6	01	29.65	29.85
04	CLR	NC			3.00 BR	71	70	70	96	3	20	29.97	30.16	04	OVC	002			1.75 BR	69	68	68	96	10	32	29.65	29.85
07	FEW	NC			2.00 BR	75	72	73	90	8	25	29.99	30.19	07	OVC	002			2.00 BR	69	67	68	93	8	35	29.70	29.90
10	CLR	NC			10.00	86	69	74	57	7	30	29.99	30.19	10	CLR	NC			8.00	77	67	70	71	10	36	29.73	29.93
13	CLR	NC			10.00	90	66	74	45	6	VR	29.98	30.17	13	SCT	NC			7.00	81	67	72	62	7	VR	29.71	29.91
16	CLR	NC			10.00	90	66	74	45	6	23	29.95	30.14	16	CLR	NC			7.00	79	65	70	62	8	33	29.71	29.91
19	CLR	NC			10.00	85	72	76	65	5	19	29.95	30.14	19	CLR	NC			7.00	79	64	69	60			29.72	29.92
22	CLR	NC			7.00	80	72	75	76	3	12	29.98	30.17	22	CLR	NC			5.00 BR	71	68	69	90	3	16	29.77	29.97
SUNRISE: 0503						JUL 18						SUNSET: 1929															
01	CLR	NC			10.00	79	74	76	85	0	00	29.98	30.17	01	BKN	065			6.00 BR	71	68	69	90	0	00	29.77	29.97
04	CLR	NC			10.00	75	73	74	94	0	00	29.95	30.14	04	FEW	NC			4.00 BR	68	66	67	93	0	00	29.76	29.96
07	FEW	NC			7.00	77	69	72	77	6	18	29.95	30.14	07	FEW	NC			2.00 BR	71	68	69	90	0	00	29.81	30.01
10	BKN	100			9.00	88	74	78	63	3	17	29.93	30.12	10	CLR	NC			6.00 HZ	81	68	72	65	6	VR	29.83	30.03
13	SCT	NC			5.00 HZ	88	75	79	66	9	20	29.89	30.09	13	BKN	035			6.00 HZ	81	67	72	62	7	16	29.83	30.03
16	SCT	NC			5.00 HZ	83	77	79	82	6	35	29.85	30.05	16	FEW	NC			6.00 HZ	83	68	73	61	9	16	29.80	30.00
19	CLR	NC			2.00 -RA BR	78	76	77	93	6	13	29.82	30.02	19	CLR	NC			4.00 HZ	77	69	72	77	5	15	29.80	30.00
22	BKN	100			6.00 -TSRA BR	74	72	73	94	9	21	29.85	30.04	22	CLR	NC			4.00 BR	71	68	69	90	3	16	29.84	30.03

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

JULY 1996

RIC

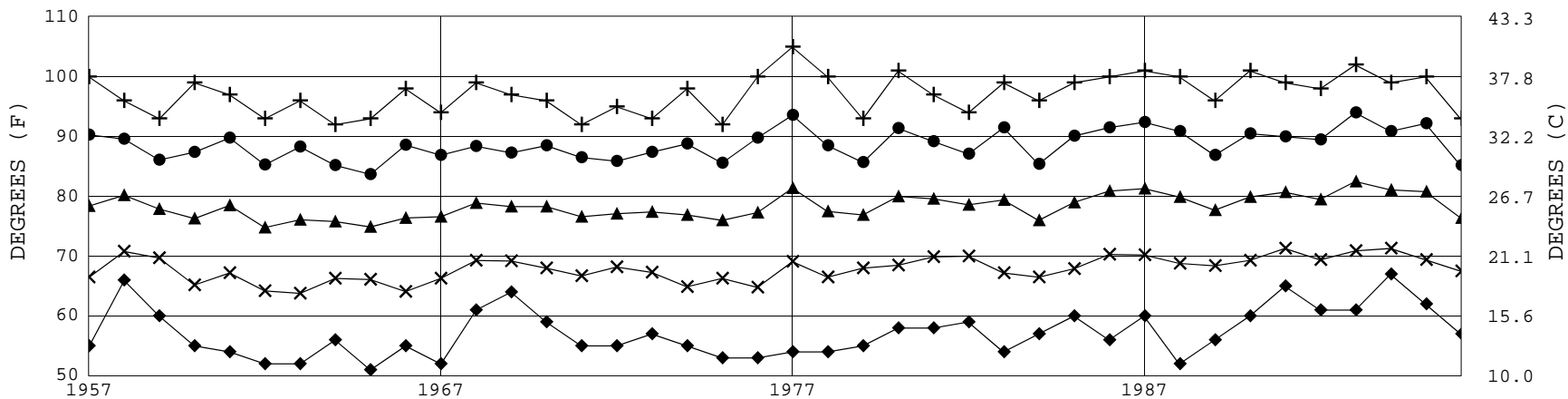
WBAN # 13740

HOUR (LST)	≤ 12K FEET		SATELLITE		WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	≤ 12K FEET		SATELLITE		WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)									
	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION		SEA LEVEL	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)		EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL						
SUNRISE: 0508						JUL 25						SUNSET: 1924						SUNRISE: 0513						JUL 31						SUNSET: 1919					
01	CLR	NC			2.50 BR	68	67	67	96	0	00	29.83	30.02	01	CLR	NC			7.00	73	71	72	94	7	19	29.85	30.05								
04	OVC	001			0.25 BR	70	69	69	97	8	23	29.82	30.02	04	OVC	110			8.00	73	70	71	90	12	20	29.84	30.03								
07	OVC	001			0.50 FG	70	70	70	100	6	21	29.84	30.04	07	CLR	NC			8.00	74	71	72	91	6	17	29.85	30.05								
10	OVC	007			1.50 HZ	77	72	74	85	5	16	29.84	30.04	10	CLR	NC			9.00	83	71	75	67	9	24	29.85	30.04								
13	FEW	NC			5.00 HZ	85	73	77	68	9	14	29.79	29.99	13	FEW	NC			9.00	87	72	77	61	15	25	29.84	30.03								
16	OVC	020			1.00 +TSRA BR	78	76	77	93	5	28	29.77	29.97	16	FEW	NC			10.00	84	65	71	53	15	24	29.81	30.01								
19	OVC	016			1.50 BR	72	70	71	94	10	15	29.78	29.98	19	BKN	110			10.00	79	68	72	69	12	19	29.79	29.99								
22	BKN	055			3.00 -RA BR	71	70	70	96	6	19	29.78	29.98	22	BKN	110			10.00 -RA	72	68	69	87	9	20	29.82	30.02								
SUNRISE: 0509						JUL 26						SUNSET: 1923						3-HOURLY OBSERVATION NOTES																	
01	OVC	009			3.00 -RA BR	71	70	70	96	0	00	29.71	29.91	Sky Cover is the amount of the sky obscured. CLR = 0, FEW = 1/8-2/8, SCT = 3/8-4/8, BKN = 5/8-7/8, OVC = 8/8, VV = Vertical Visibility = 8/8.																					
04	OVC	004			3.00 RA BR	71	70	70	96	6	34	29.72	29.92	Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.																					
07	SCT	NC			5.00 BR	72	70	71	94	8	27	29.78	29.98	NC = No ceiling detected.																					
10	FEW	NC			9.00	79	67	71	67	7	VR	29.81	30.01	& = Original observation contained additional weather elements.																					
13	SCT	NC			10.00	83	65	71	55	7	27	29.82	30.01	See page 3 for additional notes.																					
16	CLR	NC			10.00	84	62	70	48	8	25	29.82	30.02																						
19	CLR	NC			10.00	79	65	70	62	7	22	29.84	30.04																						
22	CLR	NC			9.00	72	66	68	82	3	20	29.87	30.07																						
SUNRISE: 0510						JUL 27						SUNSET: 1922																							
01	CLR	NC			7.00	68	65	66	90	5	34	29.91	30.11																						
04	CLR	NC			7.00	66	64	65	93	3	33	29.92	30.12																						
07	CLR	NC			10.00	72	63	66	73	3	34	29.97	30.17																						
10	CLR	NC			10.00	80	60	68	51	5	36	30.01	30.22																						
13	SCT	NC			10.00	85	59	69	42			30.00	30.20																						
16					10.00	83	61	69	48	7	22	29.97	30.17																						
19	CLR	NC			10.00	78	65	70	64	3	17	29.99	30.19																						
22	CLR	NC			10.00	71	66	68	84	3	09	30.04	30.24																						
SUNRISE: 0510						JUL 28						SUNSET: 1921																							
01	CLR	NC			6.00 BR	69	66	67	90	6	13	30.04	30.24																						
04	CLR	NC			5.00 BR	68	65	66	90	0	00	30.04	30.24																						
07	CLR	NC			5.00 BR	71	67	68	87	3	07	30.07	30.27																						
10	FEW	NC			10.00	78	66	70	67	8	09	30.07	30.27																						
13	FEW	NC			10.00	79	67	71	67	6	12	30.04	30.24																						
16	FEW	NC			10.00	79	68	72	69	5	14	30.02	30.22																						
19	OVC	100			10.00	75	66	69	74	6	08	30.01	30.21																						
22	OVC	100			8.00	72	68	69	87	5	11	30.04	30.24																						
SUNRISE: 0511						JUL 29						SUNSET: 1921																							
01	BKN	095			6.00 BR	71	68	69	90	0	00	30.00	30.20																						
04	OVC	090			3.00 -RA BR	70	68	69	93	6	03	29.97	30.16																						
07	OVC	027			1.50 TSRA BR	69	68	68	96	5	04	29.98	30.18																						
10	OVC	008			4.00 -RA BR	71	69	70	94	0	00	29.99	30.19																						
13	BKN	050			10.00	80	69	73	69	0	00	29.96	30.16																						
16	SCT	NC			9.00	78	70	73	76	8	08	29.93	30.13																						
19	OVC	042			6.00 -RA BR	72	70	71	94	8	14	29.95	30.15																						
22	FEW	NC			5.00 BR	70	69	69	97	6	12	29.96	30.15																						
SUNRISE: 0512						JUL 30						SUNSET: 1920																							
01	BKN	070			4.00 BR	69	68	68	96	7	15	29.93	30.12																						
04	OVC	004			4.00 BR	70	69	69	97	5	20	29.90	30.10																						
07	OVC	015			1.50 RA BR	71	69	70	94	7	21	29.93	30.12																						
10	FEW	NC			8.00	75	71	72	88	6	18	29.92	30.12																						
13	CLR	NC			10.00	82	69	73	65	7	24	29.89	30.09																						
16	CLR	NC			10.00	84	71	75	65	10	20	29.85	30.04																						
19	FEW	NC			10.00	78	71	73	79	6	19	29.85	30.05																						
22	CLR	NC			10.00	74	71	72	91	6	18	29.87	30.07																						

SUMMARY BY HOUR

HOUR (LST)	AVERAGES											RESULTANT WIND (MPH)	
	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (INCHES, HG)		VISIBILITY (MILES)	WIND SPEED (MPH)	SPEED	DIRECTION	
							STATION	SEA LEVEL					
01			71	67	69	87	29.77	29.97	7.06	6	1	27	
02			70	66	68	88	29.76	29.96	7.28	6	2	27	
03			70	66	67	89	29.76	29.96	7.06	6	1	27	
04			70	66	67	89	29.76	29.95	6.65	6	2	26	
05			69	66	67	89	29.77	29.96	6.31	6	2	27	
06			70	65	67	85	29.78	29.97	5.74	6	2	27	
07			72	67	69	84	29.79	29.99	5.88	7	2	27	
08			75	67	70	78	29.80	30.00	7.21	8	2	27	
09			77	66	70	72	29.81	30.00	7.70	8	2	28	
10			79	66	71	67	29.81	30.01	8.14	8	3	26	
11			81	67	71	64	29.80	30.00	7.96	8	3	27	
12			82	66	72	61	29.80	29.99	8.25	9	3	27	
13			83	67	72	60	29.79	29.98	8.48	9	4	27	
14			84	67	73	58	29.77	29.97	8.70	10	4	27	
15			84	67	72	58	29.76	29.96	8.64	9	3	27	
16			83	67	72	60	29.75	29.95	8.20	9	3	27	
17			81	67	71	64	29.75	29.94	7.69	9	3	27	
18			80	67	69	63	29.75	29.95	7.93	7	2	27	
19			78	67	71	71	29.76	29.96	7.69	7	3	27	
20			75	67	70	77	29.77	29.97	8.10	7	3	27	
21			74	68	70	82	29.78	29.98	8.00	6	2	27	
22			73	67	69	83	29.79	29.99	7.90	6	3	27	
23			72	67	69	84	29.78	29.98	7.95	6	2	27	
24			72	67	69	86	29.78	29.98	7.45	6	1	27	

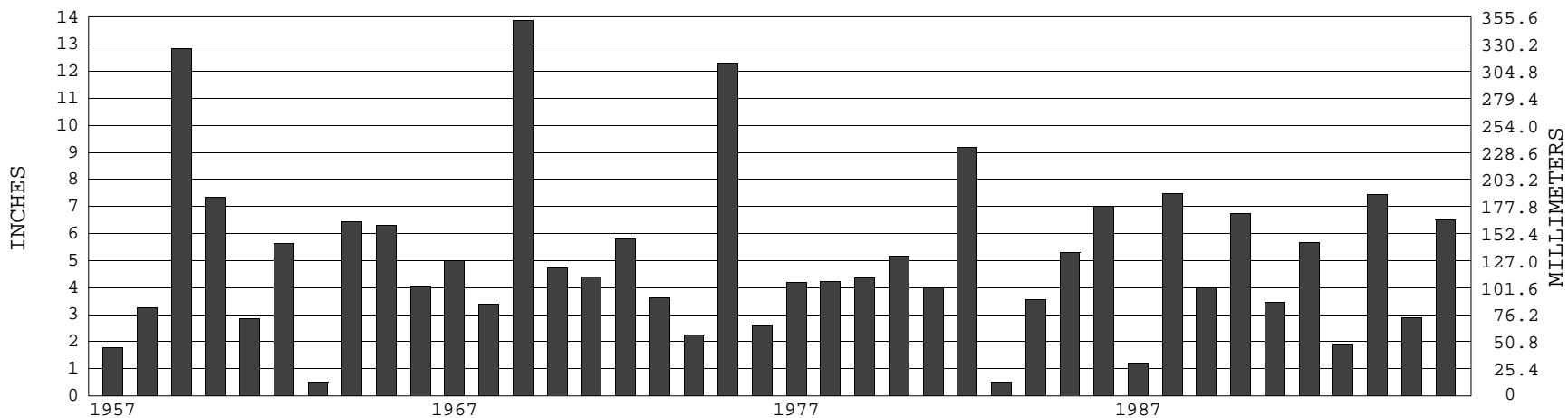
RICHMOND, VA JULY TEMPERATURES



+ Extreme Max. ● Mean Max. ▲ Mean × Mean Min. ◆ Extreme Min.

Long-Term (1957-1996) Mean: 78.3 1961-1990 Normal: 78.0

RICHMOND, VA JULY PRECIPITATION



Long-Term (1957-1996) Mean Monthly Total: 5.10

1961-1990 Normal: 5.03



**JULY 1996
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 and is compiled from records on file at the National Climatic Data Center, Asheville, North Carolina.

Kenneth D Haden

DIRECTOR

NOTICE

Effective July 1, 1996, the National Weather Service began using the METAR format for Hourly Observations.

We welcome your questions or comments, please contact us at
704-271-4800 (voice), 704-271-4876 (fax),
704-271-4010(TDD)
or orders@ncdc.noaa.gov

For address correction, please return a photocopy of this page to Subscription Services indicating changes

NATIONAL CLIMATIC DATA CENTER
151 PATTON AVE
ASHEVILLE, NORTH CAROLINA 28801 -5001

OFFICIAL BUSINESS. PENALTY FOR PRIVATE USE \$300

FIRST CLASS
POSTAGE AND FEES PAID
NOAA
PERMIT G-19