



# SEPTEMBER 1999

## 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

SEPTEMBER 1999  
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								
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	76	64	70	-4	56	61	0	5					0.00	29.85	30.06	14.6	36	14.7	26	01	22	01	01						
02	79	64	72	-2	61	65	0	7					0.00	29.80	30.00	13.9	01	14.2	28	01	23	01	02						
03	76	68	72	-2	68	70	0	7	RA				0.02	29.79	29.99	11.7	02	11.9	22	01	17	01	03						
04	75	72	74	0	72	73	0	9	RA DZ BR				1.48	29.72	29.92	14.3	04	14.9	36	08	26	04	04						
05	81	73	77	4	72	73	0	12	TSRA RA BR				0.79	29.60	29.80	13.8	10	14.5	33	10	26	11	05						
06	76	70	73	0	71	72	0	8	RA BR				2.40	29.66	29.86	10.0	15	10.8	24	16	20	15	06						
07	87*	70	79*	6	71	73	0	14	BR HZ				0.00	29.66	29.86	6.3	19	7.5	23	13	18	14	07						
08	85	64	75	2	69	70	0	10	TS TSRA RA FG BR HZ				2.02	29.67	29.87	4.2	16	5.0	39	21	30	21	08						
09	84	68	76	4	72	73	0	11	TS TSRA RA BR HZ				0.20	29.65	29.85	5.9	16	8.4	21	16	18	15	09						
10	82	65	74	2	65	68	0	9	RA BR				0.14	29.63	29.83	5.5	36	6.5	18	36	16	35	10						
11	80	56	68	-4	53	60	0	3					0.00	29.85	30.05	2.5	36	3.8	24	01	15	02	11						
12	80	56	68	-3	56	61	0	3					0.00	29.99	30.20	2.5	11	3.3	14	14	11	13	12						
13	80	56	68	-3	62	64	0	3	BR				0.00	29.95	30.15	2.1	11	3.5	14	12	11	12	13						
14	77	64	71	0	68	69	0	6	RA FG BR				T	29.87	30.07	4.3	06	5.0	13	08	9	10	14						
15	70	68	69	-1	69	69	0	4	RA BR				2.01	29.75	29.95	11.3	02	11.5	32	03	25	04	15						
16	68	59	64	-6	60	62	1	0	RA BR				4.53	29.40		17.6	36	18.6	51*	01	40*	01	16						
17	75	55	65	-5	50	56	0	0					0.00	29.86	30.07	7.0	33	7.5	22	01	20	34	17						
18	74	51	63	-6	53	57	2	0					0.00	29.95	30.16	1.7	02	3.0	13	28	9	36	18						
19	76	51	64	-5	55	59	1	0					0.00	29.93	30.14	3.6	16	4.2	14	15	11	15	19						
20	79	54	67	-2	60	62	0	2					0.00	29.80	30.01	3.9	17	4.6	15	19	13	18	20						
21	69	51	60	-9	61	61	5	0	RA BR				0.95	29.64	29.84	5.5	36	8.4	30	01	24	01	21						
22	65	48	57*	-11	45	50	8	0	RA				T	29.66	29.86	12.4	35	12.7	30	01	25	36	22						
23	73	43*	58	-10	46	52	7	0					0.00	29.81	30.01	5.4	21	5.9	20	22	16	22	23						
24	78	49	64	-3	52	57	1	0					0.00	29.78	29.98	8.6	20	8.8	20	19	16	19	24						
25	84	53	69	2	58	62	0	4					0.00	29.83	30.03	3.8	20	4.7	11	19	10	20	25						
26	82	59	71	5	66	67	0	6	BR				0.00	29.99	30.20	3.5	12	4.0	15	13	13	13	26						
27	77	66	72	6	70	70	0	7	RA FG+ BR				0.47	30.06	30.26	3.7	10	4.0	21	14	16	13	27						
28	71	65	68	3	67	67	0	3	RA DZ BR				1.20	30.06	30.26	6.7	15	7.5	18	13	15	13	28						
29	78	66	72	7	68	69	0	7	RA DZ BR				0.01	29.80	30.00	8.6	16	8.9	25	18	18	17	29						
30	71	51	61	-4	51	56	4	0	RA BR				0.38	29.73	29.93	7.4	32	8.2	40	31	32	31	30						
< MONTHLY AVERAGES										TOTALS-->				<- MONTHLY AVERAGES															
-4.0										1.0				-1.5															
DEPARTURE FROM NORMAL														13.26															
DEGREE DAYS										GREATEST 24-HR PRECIPITATION: 6.52 DATE: 15-16				SEA LEVEL PRESSURE DATE TIME															
MONTHLY TOTAL DEPARTURE										GREATEST 24-HR SNOWFALL: DATE: DATE:				MAXIMUM : 30.31 28 1154															
SEASON TO DATE TOTAL DEPARTURE										GREATEST SNOW DEPTH: DATE: DATE:				MINIMUM : 29.34 16 0954															
HEATING: 29 6 29 6										NUMBER OF DAYS WITH =>				MAXIMUM TEMP ≥ 90: 0				MINIMUM TEMP ≤ 32: 0				PRECIPITATION ≥ 0.01 INCH: 14							
COOLING: 140 -33 1347 33														MAXIMUM TEMP ≤ 32: 0				MINIMUM TEMP ≤ 0: 0				PRECIPITATION ≥ 0.10 INCH: 12							
																		THUNDERSTORMS: 3				HEAVY FOG: 1				SNOWFALL ≥ 1.0 INCH: :			

SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

## RICHMOND, VA

SEPTEMBER 1999 RIC WBAN # 13740

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note)	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		0.00		
02													02												02		0.00		
03													03	T	0.01	0.01									03		0.02		
04													04	0.01	0.01	0.11	0.12	0.01	0.05	0.12	0.14	0.21	0.06	0.12	0.50	04		1.48	
05	0.26	0.28	0.10	0.02	T	0.02	T	T					05	0.05	T	T	T								05		0.79		
06													06	T	T	0.35	0.94	0.09	T	0.91	T				06		2.40		
07													07												07		0.00		
08	0.03	T											08		0.36	T	0.01	1.16	0.23	0.23					08		2.02		
09													09												09		0.20		
10	0.01	T	0.06	0.06	0.01								10								T		0.03	0.13	0.04	10		0.14	
11													11												11		0.00		
12													12												12		0.00		
13													13												13		0.00		
14		0.01											14												14	0.01	T		
15													15	0.06	0.05	0.13	0.10	0.10	0.11	0.06	0.11	0.26	0.24	0.26	0.42	15	1.97	2.01	
16	0.54	0.40	0.10	0.41	0.41	0.42	0.42						16												16	3.06	4.53		
17													17												17		0.00		
18													18												18		0.00		
19													19												19		0.00		
20													20												20		0.00		
21													21	T	0.41	T		T	0.06	0.10	0.18	0.08	0.09	0.02	0.01	21		0.95	
22													22												22	0.00	T		
23													23												23		0.00		
24													24												24		0.00		
25													25												25		0.00		
26													26												26		0.00		
27													27												27		0.47		
28													28		0.19	0.20	0.01	0.04	0.03	T	T				28		1.20		
29	T	T	0.01										29	0.58	0.10	0.04	T	T			T	T	0.01	T	29		0.01		
30	0.02	0.36	T										30	T	T	T									30		0.38		

### MAXIMUM SHORT DURATION PRECIPITATION (See Note)

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 : 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	PL Ice Pellets	HZ Haze	SQ Squalls
PR Partial	RA Rain	PY Spray	SS Sandstorm
SH Shower(s)	SG Snow Grains	SA Sand	GL Glaze
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 SEPTEMBER 1999

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).

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.

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

### ADDITIONAL NOTES:

DATE	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR-SS		MN-MN		MINIMUM	MAXIMUM	
			CEILOMETER	SATELLITE	CEILOMETER	SATELLITE			
01							10.00	10.00	
02							10.00	10.00	
03							7.00	10.00	
04							.75	10.00	
05							1.00	10.00	
06							.75	9.00	
07							1.00	10.00	
08							.50	9.00	
09							1.50	10.00	
10							.50	10.00	
11							10.00	10.00	
12							8.00	10.00	
13							5.00	10.00	
14							.75	10.00	
15							.50	10.00	
16							1.00	10.00	
17							10.00	10.00	
18							10.00	10.00	
19							7.00	10.00	
20							9.00	10.00	
21							1.00	10.00	
22							10.00	10.00	
23							10.00	10.00	
24							9.00	10.00	
25							7.00	10.00	
26							2.50	10.00	
27							<.25	10.00	
28							1.25	10.00	
29							2.50	10.00	
30							3.00	10.00	
<b>MONTHLY AVGS</b>							4.69	9.93	
<b>SUNSHINE (MINUTES)</b>									
Total: Possible: Percent Possible:									
<b>NUMBER OF DAYS WITH:</b>									
<b>SKY CONDITION</b>									
CLR PTLY CLDY CLOUDY MISSING									
30									
<b>MINIMUM VISIBILITY (MILES)</b>									
<=0.25 <=3.0 >=7.0									
1 16 13									

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

SEPTEMBER 1999

RIC

WBAN # 13740

HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)		HOUR (LST)	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: 0539				SEP 01				SUNSET: 1839				SUNRISE: 0544				SEP 07				SUNSET: 1830							
01	OVC	150		10.00		66	50	57	56	16	35	29.86	30.06	01	OVC	005		4.00	BR	72	71	71	97	8	20	29.64	29.84
04	OVC	150		10.00		64	52	57	65	15	01	29.85	30.05	04	OVC	005		4.00	BR	71	70	70	96	7	19	29.63	29.83
07	OVC	040		10.00		65	54	59	68	17	36	29.88	30.08	07	BKN	160		1.00	BR	72	71	71	98	7	18	29.68	29.88
10	OVC	025		10.00		68	57	62	68	16	01	29.88	30.08	10	FEW	NC		8.00		77	72	74	86	7	20	29.70	29.90
13	OVC	025		10.00		71	60	64	68	14	36	29.87	30.06	13	SCT	NC		10.00		85	71	75	63	9	19	29.66	29.86
16	OVC	032		10.00		74	60	65	62	14	36	29.85	30.05	16	BKN	250		7.00		86	72	76	63	5	20	29.63	29.82
19	BKN	060		10.00		73	56	63	55	14	36	29.83	30.03	19	FEW	NC		10.00		76	71	73	85	7	15	29.64	29.84
22	SCT	NC		10.00		70	54	61	57	14	01	29.83	30.03	22	SCT	NC		8.00		72	70	71	94	6	14	29.68	29.88
SUNRISE: 0540				SEP 02				SUNSET: 1837				SUNRISE: 0545				SEP 08				SUNSET: 1828							
01	CLR	NC		10.00		67	57	61	71	15	01	29.81	30.01	01	OVC	200		9.00		70	67	68	90	5	15	29.65	29.85
04	CLR	NC		10.00		66	55	60	68	14	36	29.79	29.99	04	SCT	NC		4.00	BR	65	65	65	100	0	00	29.65	29.85
07	BKN	100		10.00		64	54	58	70	15	01	29.82	30.02	07	CLR	NC		4.00	BR	67	66	66	97	3	13	29.71	29.91
10	BKN	120		10.00		70	59	63	68	17	01	29.83	30.03	10	FEW	NC		8.00		77	70	72	79	6	19	29.71	29.91
13	OVC	140		10.00		76	66	70	72	17	02	29.81	30.01	13	BKN	030		7.00		83	73	76	72	8	18	29.67	29.86
16	OVC	023		10.00		76	66	70	72	18	02	29.78	29.98	16	OVC	110		8.00	-RA	73	70	71	90	3	14	29.64	29.84
19	BKN	200		10.00		75	65	69	71	10	03	29.79	29.99	19	OVC	050		7.00		73	70	71	90	3	11	29.64	29.84
22	BKN	200		10.00		72	60	65	66	12	01	29.79	29.99	22	SCT	NC		4.00	BR	69	69	69	100	5	14	29.68	29.88
SUNRISE: 0541				SEP 03				SUNSET: 1836				SUNRISE: 0546				SEP 09				SUNSET: 1827							
01	OVC	017		10.00		71	62	65	73	12	01	29.78	29.98	01	CLR	NC		2.50	BR	72	72	72	100	6	19	29.67	29.87
04	OVC	015		10.00		70	64	66	82	12	01	29.77	29.96	04	BKN	006		3.00	BR	73	73	73	100	5	22	29.66	29.86
07	OVC	250		10.00		68	65	66	90	15	01	29.79	29.99	07	BKN	010		1.50	BR	74	74	74	100	7	17	29.68	29.88
10	OVC	015		10.00		73	68	70	84	12	02	29.81	30.01	10	OVC	009		1.50	BR	76	74	75	94	10	18	29.69	29.89
13	OVC	019		10.00	-RA	74	70	71	88	10	05	29.80	30.00	13	BKN	014		6.00	HZ	79	74	75	85	9	16	29.65	29.85
16	OVC	090		10.00		75	71	72	88	13	01	29.79	29.98	16	BKN	150		10.00		81	73	75	77	15	15	29.61	29.80
19	OVC	030		10.00		74	71	72	91	10	02	29.78	29.98	19	OVC	150		10.00		75	71	72	88	5	15	29.63	29.83
22	BKN	200		7.00		72	70	71	94	12	02	29.79	29.99	22	OVC	018		6.00	TSRA BR	69	68	68	96	13	36	29.67	29.86
SUNRISE: 0542				SEP 04				SUNSET: 1834				SUNRISE: 0547				SEP 10				SUNSET: 1825							
01	OVC	008		7.00		72	70	71	94	8	04	29.78	29.98	01	BKN	055		7.00	-RA	68	67	68	100	8	09	29.60	29.80
04	OVC	014		7.00		72	70	71	94	13	02	29.75	29.95	04	OVC	003		4.00	-RA BR	67	67	67	100	3	02	29.59	29.79
07	OVC	008		8.00		72	71	71	97	13	02	29.78	29.98	07	OVC	004		2.50	BR	68	67	67	96	5	04	29.62	29.82
10	OVC	010		10.00		75	73	74	94	15	03	29.78	29.98	10	OVC	150		10.00		75	69	71	82	13	36	29.63	29.83
13	OVC	016		9.00		75	73	74	94	14	04	29.76	29.96	13	BKN	150		10.00		80	65	70	60	12	35	29.61	29.80
16	OVC	016		1.50	RA BR	74	74	74	100	17	02	29.70	29.90	16	SCT	NC		10.00		81	59	67	47	6	VR	29.59	29.79
19	BKN	016		4.00	+RA BR	74	73	73	97	18	04	29.64	29.84	19	BKN	050		10.00		75	64	68	69	0	00	29.64	29.83
22	OVC	015		6.00	-RA BR	73	71	72	94	18	06	29.62	29.82	22	CLR	NC		10.00		67	63	64	87	6	29	29.70	29.90
SUNRISE: 0543				SEP 05				SUNSET: 1833				SUNRISE: 0548				SEP 11				SUNSET: 1824							
01	OVC	007		1.00	+RA BR	74	73	73	97	17	09	29.55	29.75	01	CLR	NC		10.00		63	56	59	78	6	31	29.73	29.93
04	OVC	014		3.00	-RA BR	75	73	74	94	17	09	29.53	29.73	04	CLR	NC		10.00		60	52	56	75	3	34	29.76	29.96
07	OVC	014		9.00		75	73	74	94	20	09	29.57	29.77	07	CLR	NC		10.00		61	53	57	75	6	01	29.83	30.03
10	BKN	028		10.00		78	73	75	85	21	11	29.59	29.78	10	CLR	NC		10.00		75	50	61	42	7	02	29.88	30.08
13	OVC	030		7.00	-RA	75	73	74	94	15	14	29.61	29.81	13	CLR	NC		10.00		78	48	61	35	5	VR	29.86	30.06
16	BKN	060		10.00		77	71	73	82	6	12	29.62	29.81	16	BKN	250		10.00		79	49	62	35	7	02	29.84	30.04
19	BKN	060		10.00		77	73	74	88	12	08	29.64	29.83	19	BKN	250		10.00		69	59	63	70	3	15	29.88	30.09
22	BKN	015		10.00		74	71	72	91	12	10	29.68	29.87	22	BKN	250		10.00		62	58	60	86	0	00	29.93	30.13
SUNRISE: 0543				SEP 06				SUNSET: 1831				SUNRISE: 0548				SEP 12				SUNSET: 1822							
01	OVC	026		7.00		76	73	74	91	13	13	29.67	29.87	01	SCT	NC		10.00		58	56	57	93	0	00	29.93	30.13
04	OVC	019		7.00		76	73	74	91	14	13	29.66	29.86	04	BKN	250		10.00		58	56	57	93	0	00	29.96	30.16
07	OVC	140		7.00	-RA	72	68	69	87	14	14	29.68	29.88	07	BKN	200		9.00		60	58	59	93	0	00	30.01	30.21
10	OVC	060		8.00		72	69	70	91	14	17	29.70	29.91	10	SCT	NC		10.00		77	55	64	47	3	34	30.04	30.24
13	OVC	050		8.00		75	70	72	84	10	12	29.67	29.87	13	BKN	150		10.00		79	53	64	41	7	09	30.01	30.21
16	OVC	025		0.75	+RA BR	71	69	70	94	13	19	29.64	29.84	16	SCT	NC		10.00		79	55	65	44	10	13	29.98	30.18
19	OVC	013		1.75	-RA BR	72	72	72	100	15	20	29.63	29.83	19	FEW	NC		10.00		69	58	62	68	5	13	29.99	30.19
22	OVC	006		4.00	BR	73	72	72	96	8	16	29.66	29.85	22	CLR	NC		10.00		64	58	60	81	0	00	30.02	30.22

# OBSERVATIONS AT 3-HOURLY INTERVALS

## RICHMOND, VA SEPTEMBER 1999

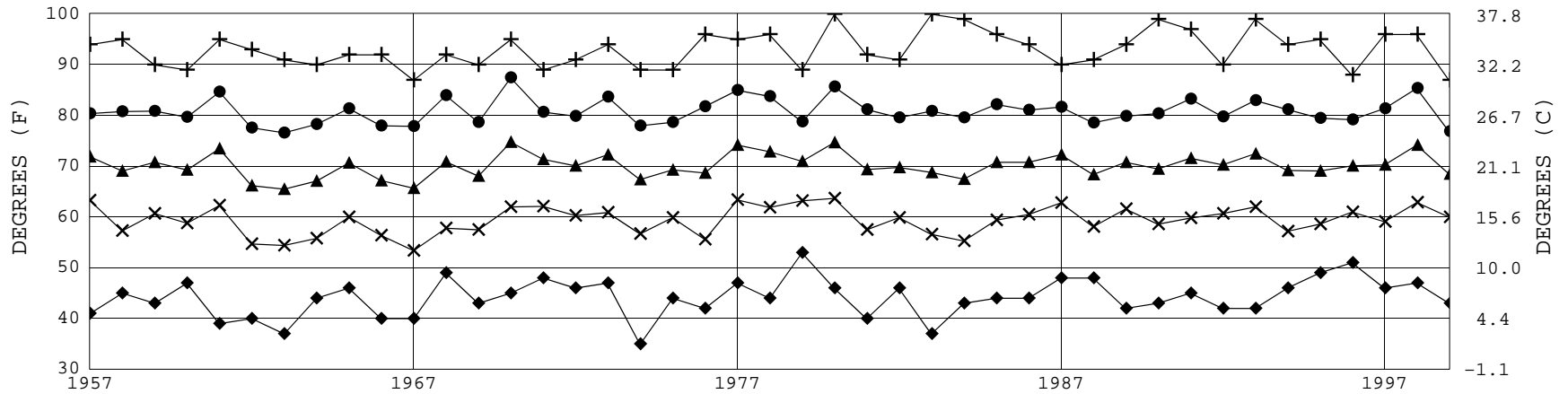
RIC

WBAN # 13740

HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)					
	SKY COVER	CEILING 100'S OF FT			OBSERVATION TIME (LST)	EFF CLD AMT Oktas	DRY BULB		DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG		STATION	SEA LEVEL			SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)		EFF CLD AMT Oktas	DRY BULB	DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
SUNRISE: 0549					SEP 13					SUNSET: 1821					SUNRISE: 0554					SEP 19					SUNSET: 1811				
01	CLR	NC	10.00		59	56	57	90	0	00	29.99	30.19	01	SCT	NC	10.00		55	53	54	93	0	00	29.95	30.15				
04	CLR	NC	9.00		57	56	56	96	0	00	29.97	30.17	04	FEW	NC	7.00		53	51	52	93	0	00	29.95	30.15				
07	SCT	NC	7.00		60	58	59	93	0	00	29.99	30.19	07	BKN	250	10.00		56	54	55	93	0	00	29.98	30.18				
10	SCT	NC	10.00		74	62	67	67	8	07	29.99	30.19	10	BKN	250	10.00		70	59	63	68	7	19	29.98	30.18				
13	SCT	NC	10.00		78	62	68	58	8	13	29.95	30.14	13	BKN	050	10.00		74	55	63	52	7	18	29.93	30.13				
16	SCT	NC	10.00		79	64	69	60	6	13	29.90	30.10	16	BKN	250	10.00		74	55	63	52	6	VR	29.89	30.09				
19	FEW	NC	10.00		70	67	68	90	5	11	29.91	30.11	19	BKN	150	10.00		65	60	62	84	5	15	29.90	30.10				
22	CLR	NC	8.00		67	66	66	97	0	00	29.92	30.12	22	CLR	NC	10.00		63	57	60	81	8	15	29.91	30.11				
SUNRISE: 0550					SEP 14					SUNSET: 1819					SUNRISE: 0555					SEP 20					SUNSET: 1810				
01	CLR	NC	5.00	BR	65	65	65	100	3	02	29.90	30.10	01	CLR	NC	10.00		58	57	57	97	0	00	29.90	30.10				
04	BKN	001	3.00	BR	65	65	65	100	0	00	29.88	30.08	04	CLR	NC	10.00		55	54	54	96	0	00	29.87	30.07				
07	BKN	150	0.75	BR	66	66	66	100	6	05	29.87	30.07	07	CLR	NC	9.00		58	57	57	97	0	00	29.87	30.08				
10	OVC	070	5.00	BR	71	69	70	94	3	03	29.91	30.11	10	CLR	NC	10.00		71	61	65	71	8	20	29.86	30.06				
13	BKN	150	10.00		76	69	71	79	9	08	29.87	30.07	13	SCT	NC	10.00		76	60	66	58	6	VR	29.79	29.99				
16	OVC	055	10.00		75	68	70	79	9	09	29.84	30.04	16	SCT	NC	10.00		78	60	67	54	9	20	29.74	29.94				
19	OVC	065	10.00		72	68	69	87	5	07	29.85	30.05	19	BKN	250	10.00		69	62	65	78	3	13	29.73	29.93				
22	OVC	075	10.00		70	68	69	93	5	06	29.85	30.05	22	BKN	250	9.00		65	63	64	93	6	15	29.74	29.93				
SUNRISE: 0551					SEP 15					SUNSET: 1818					SUNRISE: 0556					SEP 21					SUNSET: 1808				
01	OVC	010	9.00		70	69	69	97	6	04	29.83	30.03	01	OVC	250	10.00		64	63	63	96	3	12	29.70	29.89				
04	OVC	004	6.00	BR	69	69	69	100	9	02	29.80	30.00	04	OVC	250	6.00	BR	65	64	64	97	3	19	29.66	29.85				
07	OVC	004	2.00	BR	70	70	70	100	8	02	29.81	30.01	07	OVC	003	2.00	BR	64	64	64	100	0	00	29.65	29.85				
10	OVC	004	1.50	-RA BR	70	70	70	100	12	01	29.81	30.01	10	OVC	007	2.50	BR	67	65	66	93	3	VR	29.66	29.86				
13	OVC	007	6.00	-RA BR	69	69	69	100	12	01	29.77	29.97	13	OVC	009	3.00	BR	68	65	66	90	5	36	29.60	29.80				
16	OVC	007	6.00	-RA BR	69	69	69	100	12	02	29.74	29.94	16	OVC	010	10.00		61	59	60	93	18	36	29.59	29.80				
19	OVC	006	5.00	RA BR	68	68	68	100	13	03	29.70	29.90	19	OVC	013	7.00	RA	56	56	56	100	15	36	29.64	29.84				
22	OVC	006	6.00	RA BR	69	69	69	100	16	02	29.60	29.80	22	OVC	043	10.00	-RA	53	51	52	93	18	36	29.67	29.87				
SUNRISE: 0552					SEP 16					SUNSET: 1816					SUNRISE: 0557					SEP 22					SUNSET: 1807				
01	OVC	013	1.75	+RA BR	67	67	67	100	21	02	29.48	29.68	01	OVC	049	10.00		51	49	50	92	17	02	29.65	29.85				
04	OVC	013	1.50	+RA BR	66	65	65	96	29	01	29.37	29.57	04	OVC	013	10.00		51	49	50	92	14	35	29.62	29.82				
07			1.25	+RA BR	66	64	65	93	31	01	29.25	29.44	07	BKN	250	10.00		50	45	48	83	14	35	29.67	29.87				
10	OVC	021	2.50	+RA BR	66	64	65	93	30	36	29.14	29.34	10	SCT	NC	10.00		57	46	51	67	21	36	29.66	29.86				
13	OVC	004	1.00	+RA BR	66	65	65	97	30	07	29.19		13	OVC	250	10.00		62	44	53	52	16	36	29.66	29.86				
16	OVC	036	10.00		66	56	60	70	23	30	29.40	29.60	16	BKN	250	10.00		63	42	52	47	16	34	29.63	29.83				
19	OVC	050	10.00		65	51	57	61	18	31	29.57	29.77	19	FEW	NC	10.00		56	44	50	65	5	34	29.66	29.86				
22	FEW	NC	10.00		61	51	56	70	10	28	29.67	29.88	22	CLR	NC	10.00		52	43	48	72	6	33	29.72	29.93				
SUNRISE: 0553					SEP 17					SUNSET: 1815					SUNRISE: 0558					SEP 23					SUNSET: 1805				
01	CLR	NC	10.00		57	52	54	83	6	27	29.73	29.93	01	CLR	NC	10.00		46	44	45	93	0	00	29.76	29.96				
04	CLR	NC	10.00		57	50	53	78	9	29	29.78	29.98	04	CLR	NC	10.00		44	43	44	96	0	00	29.78	29.98				
07	CLR	NC	10.00		58	50	54	75	5	33	29.84	30.04	07	CLR	NC	10.00		47	45	46	93	0	00	29.83	30.03				
10	CLR	NC	10.00		69	49	58	49	18	34	29.90	30.10	10	CLR	NC	10.00		66	46	55	49	10	23	29.86	30.06				
13	CLR	NC	10.00		73	49	59	43	7	33	29.88	30.08	13	CLR	NC	10.00		72	42	56	34	13	24	29.82	30.03				
16	FEW	NC	10.00		74	50	60	43	10	36	29.86	30.06	16	CLR	NC	10.00		72	47	58	41	12	20	29.78	29.98				
19	FEW	NC	10.00		66	50	57	56	0	00	29.90	30.10	19	CLR	NC	10.00		58	53	55	84	7	19	29.79	29.99				
22	CLR	NC	10.00		56	53	54	90	0	00	29.93	30.14	22	CLR	NC	10.00		55	50	52	83	7	20	29.82	30.02				
SUNRISE: 0553					SEP 18					SUNSET: 1813					SUNRISE: 0558					SEP 24					SUNSET: 1804				
01	CLR	NC	10.00		54	52	53	93	5	36	29.94	30.15	01	CLR	NC	10.00		54	49	51	83	3	19	29.81	30.01				
04	CLR	NC	10.00		54	50	52	87	0	00	29.96	30.16	04	CLR	NC	10.00		50	48	49	93	6	20	29.80	30.00				
07	CLR	NC	10.00		55	51	53	87	7	01	29.99	30.20	07	CLR	NC	9.00		52	49	50	89	0	00	29.82	30.03				
10	SCT	NC	10.00		67	53	59	61	3	VR	30.01	30.21	10	CLR	NC	10.00		69	52	59	55	14	19	29.81	30.01				
13	BKN	250	10.00		71	49	59	46	0	00	29.97	30.17	13	FEW	NC	10.00		77	52	62	42	13	23	29.76	29.96				
16	OVC	250	10.00		72	51	60	48	0	00	29.91	30.12	16	SCT	NC	10.00		77	55	64	47	14	18	29.72	29.92				
19	BKN	250	10.00		63	58	60	84	0	00	29.92	30.12	19	SCT	NC	10.00		65	56	60	73	8	18	29.74	29.94				
22	BKN	250	10.00		59	57	58	93	0	00	29.94	30.14	22	SCT	NC	10.00		61	55	58	81	9	19	29.78	29.98				



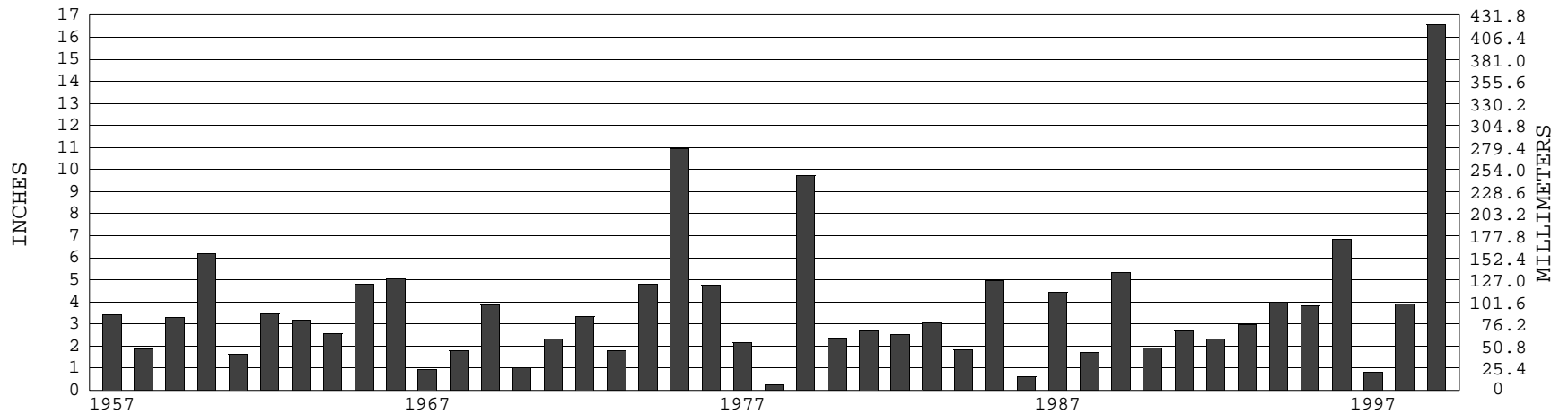
### RICHMOND, VA SEPTEMBER TEMPERATURES



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

Long-Term (1957-1999) Mean: 70.2      1961-1990 Normal: 70.0

### RICHMOND, VA SEPTEMBER PRECIPITATION



Long-Term (1957-1999) Mean Monthly Total: 3.70

1961-1990 Normal: 3.34



**SEPTEMBER 1999  
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.*

DIRECTOR

## NOTICE

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

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