



OCTOBER 2004

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

RICHMOND, VA

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

OCTOBER 2004
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	25
01	76	63	70	6	63	65	0	5	BR HZ			0.0	0.00	30.02	30.20	4.3	11	5.7	15	14	14	13	01	
02	82	63	73	10	65	67	0	8	RA FG BR HZ			0.0	0.03	29.96	30.15	4.3	21	5.3	15	22	12	20	02	
03	73	60	67	4	61	63	0	2	FG+ BR			0.0	0.00	29.97	30.16	3.3	03	4.2	16	02	13	01	03	
04	76	59	68	6	61	63	0	3	FG BR			0.0	0.00	29.91	30.10	2.0	18	2.6	14	18	12	18	04	
05	67	49	58	-4	48	53	7	0				0.0	0.00	30.11	30.29	8.8	02	9.5	25	01	18	01	05	
06	68	44	56	-6	45	50	9	0				0.0	0.00	30.25	30.44	1.5	02	2.6	13	32	9	33	06	
07	75	44	60	-1	49	54	5	0				0.0	0.00	30.25	30.45	0.4	06	.8	9	11	7	05	07	
08	77	49	63	2	53	57	2	0				0.0	0.00	30.16	30.35	1.2	13	2.5	12	10	9	09	08	
09	72	53	63	2	59	60	2	0	FG+ BR			0.0	0.00	29.98	30.17	2.2	20	2.6	10	23	8	22	09	
10	76	55	66	5	52	58	0	1	BR			0.0	0.00	29.87	30.05	7.8	01	8.5	24	01	20	01	10	
11	65	46	56	-4	45	50	9	0				0.0	0.00	29.90	30.09	5.4	36	5.9	23	01	21	01	11	
12	74	44	59	-1	45	51	6	0				0.0	0.00	29.70	29.89	3.2	30	3.8	15	30	13	26	12	
13	61	44	53	-6	51	52	12	0	TSRA RA BR			0.0	0.59	29.51	29.70	3.2	05	4.5	14	10	13	07	13	
14	70	55	63	4	57	59	2	0	RA BR			0.0	0.11	29.41	29.60	2.1	30	6.0	14	32	10	32	14	
15	67	51	59	1	55	57	6	0	RA BR			0.0	0.27	29.34	29.52	6.0	21	8.7	22	26	17	26	15	
16	68	45	57	-1	42	49	8	0				0.0	0.00	29.53	29.72	10.4	24	12.0	33*	22	26	21	16	
17	67	43	55	-3	35	45	10	0				0.0	0.00	29.77	29.96	8.9	25	9.5	32	28	26*	27	17	
18	68	39*	54	-4	47	51	11	0	RA			0.0	T	29.90	30.09	5.4	14	5.6	15	18	13	18	18	
19	72	60	66	8	66	66	0	1	RA FG BR			0.0	0.70	29.75	29.93	3.8	19	8.5	22	19	17	04	19	
20	60	56	58	1	57	58	7	0	RA DZ FG BR			0.0	0.06	29.83	30.02	8.8	02	8.9	17	01	15	01	20	
21	60	56	58	2	56	56	7	0	RA DZ BR			0.0	0.02	29.91	30.10	6.2	03	6.6	13	04	10	03	21	
22	61	51	56	0	50	53	9	0	DZ			0.0	T	30.00	30.19	7.9	03	8.0	17	02	13	03	22	
23	62	43	53	-3	44	48	12	0	RA			0.0	T	29.96	30.15	5.2	02	5.5	16	01	13	01	23	
24	52	44	48*	-7	47	49	17	0	RA BR			0.0	0.14	29.83	30.01	1.4	13	2.1	9	07	8	11	24	
25	59	51	55	0	52	53	10	0	DZ FG BR			0.0	0.01	29.90	30.09	1.1	02	2.1	9	33	8	33	25	
26	69	48	59	4	50	53	6	0	BR			0.0	0.00	29.99	30.18	3.4	01	4.2	16	01	12	01	26	
27	65	47	56	2	50	53	9	0	RA BR			0.0	T	30.03	30.22	2.4	01	3.6	13	34	9	03	27	
28	67	53	60	6	44	52	5	0				0.0	0.00	30.07	30.26	1.7	09	4.5	12	09	9	05	28	
29	63	52	58	4	56	57	7	0	RA BR			0.0	0.02	29.90	30.09	4.9	17	5.3	14	17	13	18	29	
30	82	63	73	19	64	66	0	8	BR HZ			0.0	0.00	29.71	29.89	10.7	21	10.8	23	20	20	20	30	
31	83*	62	73*	19	52	61	0	8	BR HZ			0.0	0.00	29.73	29.92	10.0	24	10.4	25	24	21	25	31	
MONTHLY AVERAGES										TOTALS-->				<-- MONTHLY AVERAGES										
DEPARTURE FROM NORMAL														-1.65										
SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3																								
DEGREE DAYS									GREATEST 24-HR PRECIPITATION: 0.71 DATE: 19-20				SEA LEVEL PRESSURE				DATE TIME							
MONTHLY TOTAL DEPARTURE									GREATEST 24-HR SNOWFALL: 0.0 DATE:				MAXIMUM				: 30.50 07 0954							
SEASON TO DATE TOTAL DEPARTURE									GREATEST SNOW DEPTH:				MINIMUM				: 29.40 15 1454							
HEATING: 178 -47 184 -69									NUMBER OF DAYS WITH				MAXIMUM TEMP ≥ 90: 0				MINIMUM TEMP ≤ 32: 0				PRECIPITATION ≥ 0.01 INCH: 10			
COOLING: 36 3 1661 233									MAXIMUM TEMP ≤ 32: 0				MINIMUM TEMP ≤ 0: 0				PRECIPITATION ≥ 0.10 INCH: 5							
									THUNDERSTORMS: 1				HEAVY FOG: 2				SNOWFALL ≥ 1.0 INCH: 0							

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA

OCTOBER 2004

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		0.03		
03													03				0.03	T							03		0.00		
04													04												04		0.00		
05													05												05		0.00		
06													06												06		0.00		
07													07												07		0.00		
08													08												08		0.00		
09													09												09		0.00		
10													10												10		0.00		
11													11												11		0.00		
12													12												12		0.00		
13													13	0.13	T								T	T	13		0.59		
14	0.07	0.02			0.01	0.01			0.13	0.09	0.03	0.21	14												14		0.11		
15							T	0.01	0.02	0.01	T	0.01	15	0.19	0.03			T							15		0.27		
16													16												16		0.00		
17													17												17		0.00		
18													18											T	18		T		
19	T				T	T			T	T	0.01	T	19	T	0.01	0.01	T		0.03	0.03	0.13	0.05	0.03	0.28	0.12	0.70			
20	0.01	T			T	T		T	T	T	T	T	20	0.01	T	T	T	T	T	0.01	0.01	T	T	0.02	20		0.06		
21	T	0.01	T	T	T	T	0.01	T	T				21												21		0.02		
22							T						22												22		T		
23													23			T									23		T		
24					0.01	0.03	0.01	T	0.02	0.02	0.01	0.04	24												24		0.14		
25					0.01		T						25												25		0.01		
26													26												26		0.00		
27													27						T				T		27		T		
28													28						T				T		28		0.00		
29												T	29	0.02	T	T									29		0.02		
30													30												30		0.00		
31													31												31		0.00		

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	.07	.10	.12	.17	.21	.28	.29	.30	.38	.41	.42	.43
Ending Date	19	19	19	19	19	19	19	19	19	20	20	19
Ending Time (Hour/Min)	2239	2242	2239	2239	2247	2247	2255	2313	2342	0003	0003	2346

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 1971–2000

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 OCTOBER 2004

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 to saturation at constant pressure by evaporation of water into it.

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							2.50	9.00	
02							.50	7.00	
03							.25	10.00	
04							.25	10.00	
05							10.00	10.00	
06							10.00	10.00	
07							8.00	10.00	
08							8.00	10.00	
09							<.25	10.00	
10							5.00	10.00	
11							10.00	10.00	
12							10.00	10.00	
13							1.50	10.00	
14							1.75	10.00	
15							.75	10.00	
16							10.00	10.00	
17							10.00	10.00	
18							10.00	10.00	
19							.50	10.00	
20							.50	10.00	
21							1.00	10.00	
22							10.00	10.00	
23							7.00	10.00	
24							1.50	10.00	
25							.50	10.00	
26							1.25	10.00	
27							3.00	10.00	
28							8.00	10.00	
29							1.75	10.00	
30							2.50	10.00	
31							5.00	10.00	
MONTHLY AVGS							4.65	9.87	
SUNSHINE (MINUTES)									
Total: Possible: Percent Possible:									
NUMBER OF DAYS WITH:									
SKY CONDITION									
CLR PTLY CLDY CLOUDY MISSING 31									
MINIMUM VISIBILITY (MILES)									
<=0.25 <=3.0 >=7.0 2 17 12									

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

OCTOBER 2004

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	STATION	SEA LEVEL
SUNRISE: 0605				OCT 01	SUNSET: 1752				SUNRISE: 0610				OCT 07	SUNSET: 1743															
01	OVC	022		4.00	BR	66	65	65	96	0	00	29.97	30.15	01	CLR	NC		10.00	52	49	50	89	0	00	30.25	30.44			
04	SCT	NC		3.00	BR	64	64	64	100	0	00	29.97	30.16	04	CLR	NC		10.00	49	46	48	87	3	13	30.25	30.44			
07	SCT	NC		4.00	BR	64	62	63	93	6	06	30.02	30.21	07	CLR	NC		10.00	47	43	45	86	0	00	30.28	30.47			
10	BKN	080		7.00		71	64	67	79	6	VR	30.04	30.23	10	CLR	NC		10.00	66	50	57	57	3	VR	30.31	30.50			
13	OVC	050		7.00		75	65	69	71	6	09	30.03	30.22	13	CLR	NC		10.00	72	48	59	43	0	00	30.26	30.45			
16	OVC	045		7.00		73	65	68	76	10	13	30.01	30.20	16	FEW	NC		10.00	74	49	60	41	3	VR	30.22	30.41			
19	BKN	090		8.00		67	62	64	84	6	12	30.02	30.21	19	SCT	NC		10.00	62	55	58	78	0	00	30.23	30.42			
22	BKN	046		8.00		65	61	63	87	7	15	30.03	30.22	22	CLR	NC		10.00	57	54	55	90	0	00	30.23	30.43			
SUNRISE: 0606				OCT 02	SUNSET: 1750				SUNRISE: 0611				OCT 08	SUNSET: 1741															
01	OVC	040		7.00		65	60	62	84	7	16	30.01	30.20	01	CLR	NC		10.00	53	52	52	96	0	00	30.23	30.42			
04	BKN	015		7.00		65	61	63	87	3	16	29.99	30.18	04	CLR	NC		10.00	50	49	49	96	0	00	30.19	30.38			
07	BKN	020		4.00	BR	64	62	63	93	0	00	30.00	30.19	07	FEW	NC		8.00	51	49	50	92	0	00	30.22	30.41			
10	OVC	014		6.00	BR	72	68	69	87	9	21	29.99	30.18	10	FEW	NC		10.00	70	52	60	53	0	00	30.22	30.41			
13	OVC	250		7.00		80	68	72	67	10	19	29.93	30.12	13	FEW	NC		10.00	76	53	63	45	3	VR	30.13	30.32			
16	OVC	120		7.00		80	66	71	62	6	27	29.91	30.09	16	BKN	250		10.00	76	54	63	47	5	15	30.09	30.28			
19	OVC	150		5.00	BR	68	66	67	93	5	23	29.94	30.13	19	BKN	250		10.00	65	57	60	76	5	12	30.10	30.29			
22	CLR	NC		3.00	BR	66	66	66	100	6	20	29.94	30.13	22	SCT	NC		10.00	59	55	57	87	0	00	30.11	30.30			
SUNRISE: 0607				OCT 03	SUNSET: 1749				SUNRISE: 0612				OCT 09	SUNSET: 1740															
01	BKN	100		0.50	FG	63	63	63	100	0	00	29.94	30.13	01	FEW	NC		6.00	BR	57	56	56	96	0	00	30.07	30.26		
04	CLR	NC		2.00	BR	63	62	62	97	5	34	29.94	30.13	04	VV	001		0.25	FG	54	54	54	100	0	00	30.02	30.21		
07	FEW	NC		3.00	BR	63	61	62	93	8	01	29.99	30.18	07	VV	001		0.13	FG	57	57	57	100	0	00	30.05	30.24		
10	OVC	013		7.00		65	62	63	90	13	01	30.03	30.22	10	OVC	003		1.25	BR	61	61	61	100	5	23	30.04	30.24		
13	SCT	NC		10.00		70	60	64	71	0	00	29.99	30.18	13	OVC	250		10.00	71	60	64	68	5	22	29.97	30.16			
16	SCT	NC		10.00		71	59	64	66	5	10	29.95	30.14	16	OVC	150		10.00	71	60	64	68	5	18	29.93	30.12			
19	FEW	NC		10.00		65	61	63	87	0	00	29.95	30.14	19	OVC	140		10.00	64	61	62	90	0	00	29.92	30.11			
22	SCT	NC		10.00		62	61	61	96	3	08	29.95	30.15	22	OVC	130		10.00	63	61	62	93	0	00	29.92	30.11			
SUNRISE: 0608				OCT 04	SUNSET: 1747				SUNRISE: 0613				OCT 10	SUNSET: 1739															
01	OVC	028		9.00		62	61	61	96	0	00	29.94	30.13	01	SCT	NC		10.00	61	59	60	93	3	20	29.87	30.06			
04	OVC	015		7.00		61	61	61	100	3	01	29.92	30.11	04	OVC	110		10.00	61	58	59	90	0	00	29.84	30.03			
07	OVC	004		0.25	FG	61	60	60	97	0	00	29.93	30.13	07	BKN	090		5.00	BR	62	58	60	86	6	36	29.87	30.06		
10	OVC	025		3.00		66	63	64	90	0	00	29.95	30.14	10	SCT	NC		10.00	72	57	63	60	16	36	29.88	30.07			
13	SCT	NC		10.00		72	63	66	73	5	15	29.88	30.07	13	FEW	NC		10.00	75	47	59	37	12	01	29.84	30.03			
16	FEW	NC		10.00		75	62	67	64	9	17	29.84	30.03	16	CLR	NC		10.00	73	44	57	36	8	36	29.83	30.01			
19	CLR	NC		10.00		67	59	62	76	0	00	29.88	30.07	19	FEW	NC		10.00	62	48	55	60	7	01	29.85	30.04			
22	CLR	NC		10.00		60	58	59	93	0	00	29.90	30.09	22	CLR	NC		10.00	58	48	53	70	12	01	29.91	30.10			
SUNRISE: 0609				OCT 05	SUNSET: 1746				SUNRISE: 0614				OCT 11	SUNSET: 1737															
01	CLR	NC		10.00		61	56	58	84	12	32	29.94	30.13	01	CLR	NC		10.00	54	45	49	72	9	36	29.93	30.11			
04	CLR	NC		10.00		58	49	53	72	16	02	29.99	30.18	04	CLR	NC		10.00	50	44	47	80	10	01	29.91	30.11			
07	FEW	NC		10.00		54	46	50	75	13	01	30.08	30.28	07	FEW	NC		10.00	49	45	47	86	7	36	29.95	30.14			
10	FEW	NC		10.00		62	48	55	60	14	04	30.14	30.33	10	SCT	NC		10.00	58	43	50	58	12	01	29.96	30.15			
13	SCT	NC		10.00		64	47	55	54	10	02	30.11	30.31	13	SCT	NC		10.00	62	43	52	50	6	31	29.89	30.08			
16	SCT	NC		10.00		65	45	54	49	10	03	30.11	30.31	16	SCT	NC		10.00	63	44	53	50	6	35	29.84	30.03			
19	CLR	NC		10.00		54	46	50	75	6	05	30.15	30.35	19	BKN	250		10.00	53	49	51	86	0	00	29.85	30.04			
22	CLR	NC		10.00		49	46	48	90	6	04	30.19	30.38	22	FEW	NC		10.00	50	47	48	89	0	00	29.86	30.06			
SUNRISE: 0610				OCT 06	SUNSET: 1744				SUNRISE: 0615				OCT 12	SUNSET: 1736															
01	CLR	NC		10.00		47	46	47	97	0	00	30.20	30.39	01	FEW	NC		10.00	47	45	46	93	0	00	29.81	30.01			
04	CLR	NC		10.00		46	42	44	86	3	36	30.20	30.40	04	CLR	NC		10.00	45	44	45	97	6	01	29.79	29.98			
07	CLR	NC		10.00		47	44	46	90	3	36	30.25	30.44	07	CLR	NC		10.00	46	44	45	93	0	00	29.78	29.97			
10	CLR	NC		10.00		61	44	52	54	5	02	30.30	30.49	10	CLR	NC		10.00	59	46	52	62	6	33	29.75	29.94			
13	CLR	NC		10.00		65	42	53	44	6	31	30.27	30.46	13	SCT	NC		10.00	70	46	57	42	7	28	29.66	29.85			
16	CLR	NC		10.00		68	43	55	41	5	VR	30.23	30.43	16	FEW	NC		10.00	73	42	57	33	8	27	29.61	29.80			
19	FEW	NC		10.00		56	48	52	75	0	00	30.23	30.42	19	CLR	NC		10.00	58	46	52	65	0	00	29.62	29.81			
22	CLR	NC		10.00		50	47	48	89	0	00	30.25	30.44	22	CLR	NC		10.00	51	47	49	86	0	00	29.62	29.82			

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

OCTOBER 2004

RIC

WBAN # 13740

HOUR (LST)	SATELLITE						TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE						TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)	
	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT Oktas	VISIBILITY (MILES)	WEATHER	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)	WEATHER	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
SUNRISE: 0616						OCT 13	SUNSET: 1734						SUNRISE: 0622						OCT 19	SUNSET: 1726									
01	FEW	NC			10.00		48	46	47	93	0	00	29.60	29.79	01	OVC	140			10.00		67	63	64	87	13	19	29.77	29.96
04	FEW	NC			10.00		46	44	45	93	0	00	29.58	29.77	04	OVC	021			8.00		66	64	65	93	9	20	29.76	29.95
07	OVC	250			10.00		53	51	52	93	3	06	29.57	29.76	07	BKN	006			3.00	BR	66	65	65	96	10	19	29.73	29.92
10	OVC	034			5.00	RA BR	53	51	52	93	0	00	29.56	29.75	10	OVC	090			8.00		69	67	68	93	10	19	29.76	29.95
13	BKN	120			10.00	-RA	55	54	54	96	7	07	29.49	29.67	13	OVC	080			9.00	-RA	72	69	70	91	10	22	29.72	29.91
16	OVC	020			10.00		60	54	57	80	7	10	29.47	29.65	16	BKN	070			3.00	BR	71	70	70	96	3	09	29.71	29.90
19	OVC	019			10.00		58	52	55	81	7	04	29.44	29.62	19	BKN	002			1.00	BR	69	68	68	96	0	00	29.72	29.91
22	OVC	013			10.00		57	54	55	90	8	01	29.42	29.60	22	OVC	002			0.50	-RA BR	61	60	60	97	13	02	29.76	29.95
SUNRISE: 0617						OCT 14	SUNSET: 1733						SUNRISE: 0623						OCT 20	SUNSET: 1725									
01	OVC	011			5.00	-RA BR	56	55	55	97	10	36	29.38	29.57	01	OVC	003			0.50	FG	60	60	60	100	9	01	29.77	29.95
04	OVC	004			1.75	BR	55	54	54	96	8	33	29.38	29.56	04	OVC	003			0.50	FG	58	58	58	100	8	01	29.77	29.96
07	OVC	006			4.00	BR	55	54	54	96	8	32	29.41	29.59	07	OVC	005			2.00	BR	58	57	57	97	9	04	29.82	30.01
10	OVC	009			9.00		60	56	58	86	8	31	29.44	29.62	10	OVC	003			2.00	-RA BR	58	57	57	97	12	01	29.85	30.04
13	SCT	NC			10.00		68	56	61	66	0	00	29.42	29.60	13	OVC	007			1.00	BR	59	58	58	96	10	02	29.83	30.02
16	BKN	031			10.00		69	57	62	66	0	00	29.42	29.60	16	OVC	007			9.00		59	58	58	96	9	01	29.84	30.03
19	OVC	060			10.00		63	59	61	87	7	18	29.43	29.62	19	OVC	004			2.00	-DZ BR	57	57	57	100	7	01	29.86	30.05
22	OVC	050			10.00		62	59	60	90	5	16	29.46	29.64	22	OVC	004			2.00	-DZ BR	56	56	56	100	8	01	29.87	30.06
SUNRISE: 0618						OCT 15	SUNSET: 1732						SUNRISE: 0624						OCT 21	SUNSET: 1724									
01	OVC	150			10.00		61	59	60	93	6	16	29.43	29.61	01	OVC	004			2.00	-DZ BR	56	56	56	100	5	36	29.87	30.06
04	OVC	150			7.00		60	59	59	96	8	15	29.38	29.56	04	OVC	004			2.00	BR	56	56	56	100	7	35	29.87	30.06
07	OVC	090			6.00	-RA BR	60	59	59	96	8	18	29.37	29.55	07	OVC	002			2.00	-DZ BR	56	56	56	100	7	36	29.90	30.09
10	BKN	080			9.00	-RA	61	59	60	93	12	16	29.32	29.50	10	OVC	005			10.00		58	57	57	97	10	03	29.92	30.11
13	OVC	012			1.50	-RA BR	61	60	60	97	3	28	29.25	29.43	13	OVC	014			10.00		59	56	57	90	6	05	29.90	30.09
16	SCT	NC			10.00		66	60	62	81	8	18	29.22	29.41	16	OVC	019			10.00		59	56	57	90	5	06	29.91	30.10
19	CLR	NC			10.00		61	47	54	60	13	26	29.31	29.49	19	OVC	017			10.00		58	55	56	90	5	05	29.94	30.13
22	CLR	NC			10.00		55	42	49	62	12	27	29.41	29.59	22	OVC	019			10.00		57	55	56	93	5	02	29.95	30.14
SUNRISE: 0619						OCT 16	SUNSET: 1730						SUNRISE: 0625						OCT 22	SUNSET: 1722									
01	CLR	NC			10.00		50	43	47	77	7	25	29.44	29.62	01	OVC	050			10.00		55	54	54	96	7	02	29.95	30.14
04	CLR	NC			10.00		47	43	45	86	7	20	29.52	29.71	04	OVC	040			10.00		54	52	53	93	7	03	29.95	30.14
07	BKN	140			10.00		49	44	47	83	12	23	29.54	29.73	07	OVC	030			10.00		54	52	53	93	6	02	30.00	30.19
10	CLR	NC			10.00		61	43	52	52	15	23	29.54	29.72	10	OVC	018			10.00		57	52	54	83	8	03	30.03	30.22
13	OVC	070			10.00		64	42	53	45	15	25	29.48	29.66	13	OVC	030			10.00		58	50	54	75	8	05	29.99	30.18
16	SCT	NC			10.00		66	42	54	42	21	24	29.47	29.65	16	OVC	042			10.00		59	49	54	69	13	02	29.98	30.18
19	CLR	NC			10.00		57	42	50	58	9	32	29.56	29.75	19	OVC	042			10.00		55	49	52	80	7	03	30.02	30.21
22	CLR	NC			10.00		52	36	45	55	8	31	29.64	29.83	22	OVC	047			10.00		53	47	50	80	7	01	30.03	30.22
SUNRISE: 0620						OCT 17	SUNSET: 1729						SUNRISE: 0626						OCT 23	SUNSET: 1721									
01	FEW	NC			10.00		47	40	44	77	7	25	29.68	29.87	01	SCT	NC			10.00		48	47	47	96	7	01	30.02	30.22
04	SCT	NC			10.00		47	36	42	66	7	26	29.72	29.91	04	CLR	NC			10.00		46	44	45	93	9	01	30.00	30.19
07	CLR	NC			10.00		45	36	41	71	8	24	29.77	29.96	07	CLR	NC			7.00		44	43	44	96	5	36	30.01	30.20
10	CLR	NC			10.00		58	30	45	35	20	25	29.78	29.97	10	FEW	NC			10.00		55	46	50	72	5	03	30.02	30.22
13	BKN	250			10.00		64	29	48	27	16	27	29.75	29.94	13	BKN	040			10.00		58	43	50	58	7	34	29.98	30.17
16	SCT	NC			10.00		67	28	49	23	14	26	29.73	29.93	16	BKN	200			10.00		59	42	51	54	7	04	29.91	30.10
19	FEW	NC			10.00		53	39	46	59	5	16	29.77	29.96	19	BKN	250			10.00		51	44	48	77	3	04	29.90	30.09
22	CLR	NC			10.00		46	40	43	79	0	00	29.83	30.02	22	OVC	250			10.00		47	44	46	90	0	00	29.89	30.09
SUNRISE: 0621						OCT 18	SUNSET: 1728						SUNRISE: 0627						OCT 24	SUNSET: 1720									
01	CLR	NC			10.00		44	41	43	89	0	00	29.88	30.07	01	OVC	150			10.00		47	39	43	74	0	00	29.85	30.04
04	CLR	NC			10.00		41	39	40	93	0	00	29.91	30.10	04	OVC	040			10.00		49	41	45	74	0	00	29.82	30.01
07	FEW	NC			10.00		42	40	41	92	0	00	29.94	30.13	07	OVC	050			10.00		48	43	46	83	5	22	29.83	30.03
10	SCT	NC			10.00		62	43	52	50	8	15	29.95	30.14	10	OVC	050			6.00	-RA BR	50	48	49	92	0	00	29.84	30.03
13	OVC	120			10.00		67	43	54	42	8	14	29.91	30.10	13	OVC	012			2.50	BR	51	50	51	97	5	14	29.78	29.97
16	OVC	060			10.00		65	50	57	59	8	12	29.88	30.07	16	OVC	009			1.50	BR	51	50	51	96	5	15	29.78	29.98
19	CLR	NC			10.00		59	53	56	81	6	12	29.88	30.07	19	OVC	005			1.50	BR	51	50	51	96	3	09	29.83	30.03
22	BKN	100			10.00		63	56	59	78	10	16	29.83	30.02	22	OVC	005			1.50	BR	51	50	51	96	0	00	29.85	30.04

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

OCTOBER 2004

RIC

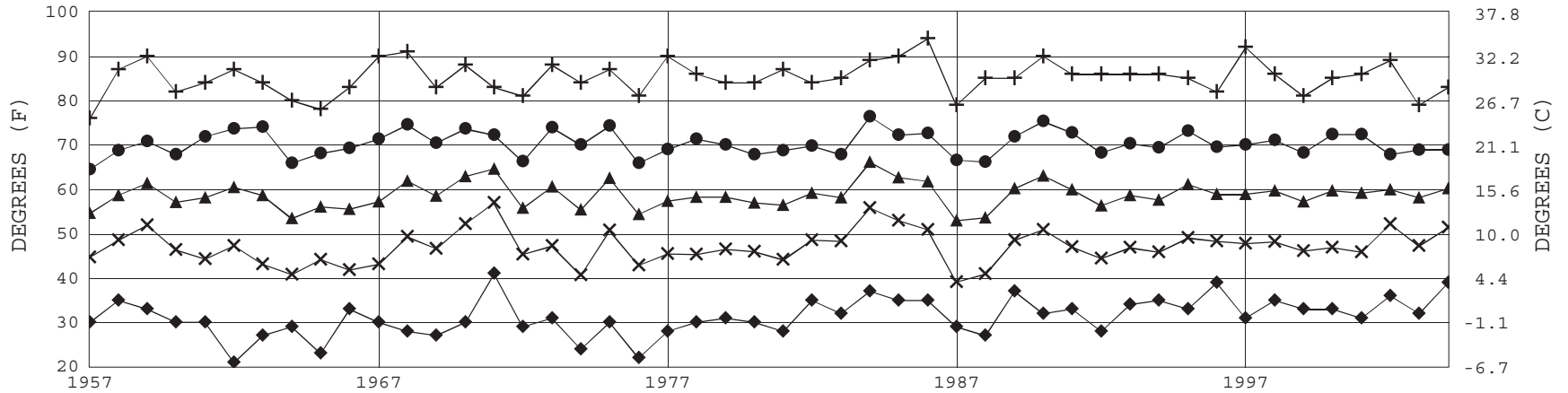
WBAN # 13740

HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)					
	SKY COVER	CEILING 100'S OF FT			OBSERVATION TIME (LST)	EFF CLD AMT Oktas	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	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
SUNRISE: 0628					OCT 25					SUNSET: 1719					SUNRISE: 0634					OCT 31					SUNSET: 1712				
01	OVC	008	1.50	BR	52	51	52	97	0	00	29.85	30.04	01	BKN	200	5.00	BR	69	65	66	87	10	22	29.65	29.84				
04	OVC	003	0.50	FG	51	51	51	100	0	00	29.85	30.04	04	BKN	250	6.00	HZ	68	63	65	84	9	23	29.66	29.85				
07	OVC	012	1.50	BR	51	51	51	100	5	05	29.89	30.08	07	BKN	250	6.00	BR	65	61	63	87	8	23	29.71	29.90				
10	OVC	006	7.00		53	51	52	93	3	06	29.91	30.10	10	BKN	250	10.00		76	56	64	50	16	26	29.76	29.94				
13	OVC	010	10.00		56	51	53	84	5	VR	29.89	30.08	13	BKN	250	10.00		83	44	61	26	10	25	29.71	29.90				
16	BKN	020	10.00		59	52	55	78	0	00	29.88	30.07	16	BKN	250	10.00		80	41	59	25	15	25	29.72	29.91				
19	BKN	045	9.00		54	52	53	93	0	00	29.92	30.11	19	BKN	250	10.00		73	43	57	34	8	23	29.76	29.95				
22	OVC	043	8.00		55	53	54	93	0	00	29.95	30.14	22	SCT	NC	10.00		68	48	57	49	8	26	29.80	29.98				
SUNRISE: 0629					OCT 26					SUNSET: 1718					3-HOURLY OBSERVATION NOTES														
01	FEW	NC	4.00	BR	51	50	51	96	0	00	29.95	30.14	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, VV = Vertical Visibility = 8/8.																
04	CLR	NC	2.00	BR	50	50	50	100	0	00	29.95	30.15	Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.																
07	BKN	250	3.00	BR	49	49	49	100	5	34	29.99	30.18	NC = No ceiling detected.																
10	OVC	250	10.00		62	51	56	67	5	01	30.01	30.21	& = Original observation contained additional weather elements.																
13	BKN	250	10.00		66	49	57	54	7	02	29.98	30.17	See page 3 for additional notes.																
16	CLR	NC	10.00		68	49	58	51	7	02	29.95	30.14																	
19	SCT	NC	10.00		55	51	53	87	0	00	29.99	30.18																	
22	FEW	NC	10.00		52	50	51	93	5	07	30.02	30.22																	
SUNRISE: 0630					OCT 27					SUNSET: 1716																			
01	BKN	250	5.00	BR	49	48	48	97	0	00	30.01	30.21																	
04	SCT	NC	5.00	BR	48	47	47	96	3	36	30.00	30.20																	
07	BKN	150	3.00	BR	49	49	49	100	6	32	30.04	30.24																	
10	OVC	120	9.00		55	50	52	83	3	05	30.05	30.24																	
13	OVC	120	10.00		62	47	54	58	5	VR	30.01	30.20																	
16	OVC	090	10.00		63	50	56	63	5	31	30.00	30.19																	
19	OVC	070	10.00	-RA	58	54	56	87	6	04	30.02	30.22																	
22	OVC	065	10.00		57	53	55	87	3	34	30.05	30.24																	
SUNRISE: 0631					OCT 28					SUNSET: 1715																			
01	OVC	075	10.00		56	53	54	90	5	33	30.06	30.25																	
04	OVC	075	10.00		55	52	53	90	3	03	30.06	30.25																	
07	BKN	080	8.00		54	51	52	90	3	36	30.09	30.28																	
10	BKN	075	10.00		61	48	54	63	8	07	30.12	30.31																	
13	SCT	NC	10.00		65	46	55	51	0	00	30.06	30.26																	
16	OVC	045	10.00		63	32	49	31	6	21	30.05	30.24																	
19	OVC	080	10.00		60	31	47	33	3	11	30.07	30.26																	
22	OVC	075	10.00		58	32	46	38	7	15	30.06	30.25																	
SUNRISE: 0632					OCT 29					SUNSET: 1714																			
01	OVC	080	10.00		56	53	54	90	0	00	30.03	30.22																	
04	OVC	075	10.00		55	52	53	90	3	16	29.98	30.18																	
07	OVC	032	9.00		56	52	54	87	6	18	29.97	30.16																	
10	OVC	032	6.00	BR	57	53	55	87	7	13	29.95	30.14																	
13	OVC	040	5.00	-RA BR	58	56	57	93	8	17	29.86	30.05																	
16	OVC	009	7.00		60	57	58	90	6	18	29.83	30.02																	
19	OVC	014	5.00	BR	60	58	59	93	6	18	29.82	30.02																	
22	OVC	010	4.00	BR	63	60	61	90	3	22	29.82	30.01																	
SUNRISE: 0633					OCT 30					SUNSET: 1713																			
01	OVC	007	2.50	BR	63	61	62	93	9	22	29.76	29.95																	
04	OVC	005	3.00	BR	63	62	62	97	7	20	29.75	29.94																	
07	OVC	007	2.50	BR	64	62	63	93	8	21	29.76	29.95																	
10	OVC	009	5.00	HZ	68	63	65	84	10	21	29.78	29.96																	
13	SCT	NC	8.00		78	65	70	64	13	22	29.69	29.88																	
16	BKN	250	8.00		79	64	69	60	14	20	29.63	29.82																	
19	OVC	250	7.00		73	65	68	76	12	20	29.65	29.84																	
22	SCT	NC	5.00	BR	70	66	67	87	12	21	29.66	29.85																	

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			56	53	54	91	29.87	30.06	7.48	4	1	29
02			55	52	54	91	29.87	30.06	7.56	5	1	34
03			55	52	53	91	29.87	30.06	7.27	5	1	34
04			54	52	53	91	29.87	30.06	6.94	5	1	36
05			54	51	52	92	29.88	30.07	6.90	4	1	35
06			54	51	52	92	29.89	30.08	6.76	5	1	34
07			54	52	53	92	29.90	30.09	6.17	5	1	33
08			57	53	55	88	29.91	30.10	7.04	7	1	33
09			60	54	56	81	29.91	30.10	7.65	8	2	36
10			62	53	57	75	29.91	30.10	8.07	8	1	34
11			64	52	58	70	29.90	30.09	8.56	8	0	0
12			65	52	58	66	29.88	30.07	8.53	7	1	29
13			66	52	58	64	29.86	30.05	8.74	6	1	27
14			67	52	59	62	29.84	30.03	8.92	8	1	20
15			68	51	59	60	29.84	30.03	9.31	8	1	25
16			67	51	59	61	29.84	30.03	9.11	7	1	21
17			66	52	58	65	29.84	30.03	8.73	6	1	24
18			62	52	57	72	29.85	30.04	8.79	5	0	0
19			60	52	56	78	29.86	30.05	8.66	4	0	0
20			59	52	55	81	29.87	30.06	8.56	5	1	12
21			58	52	55	83	29.88	30.07	8.58	5	0	0
22			57	52	55	84	29.88	30.07	8.45	5	1	36
23			57	52	54	86	29.88	30.05	8.32	4	0	0
24			56	52	54	86	29.87	30.06	8.06	4	1	26

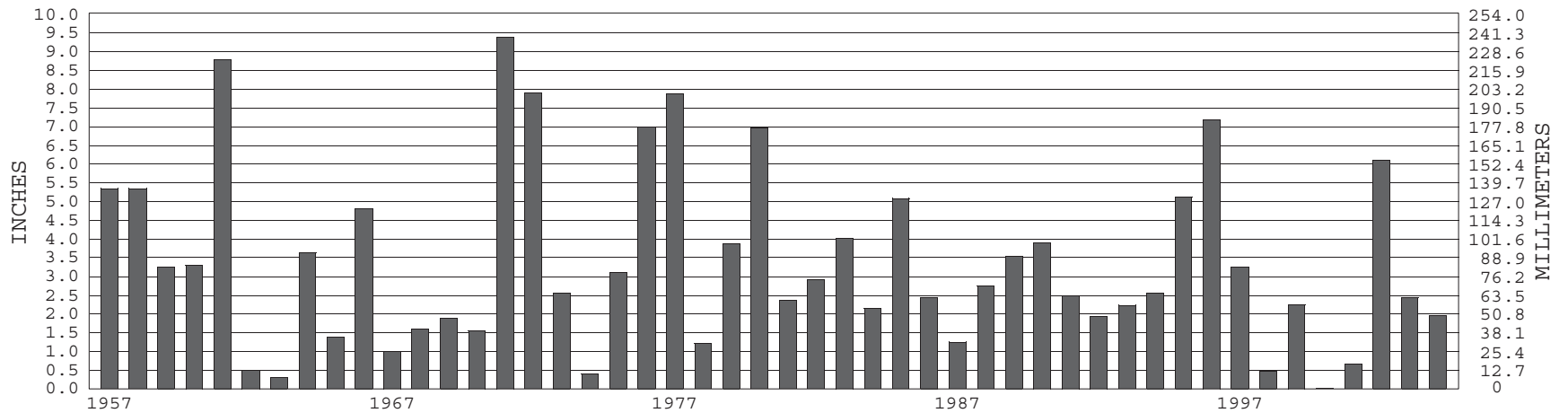
RICHMOND, VA OCTOBER TEMPERATURES



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

Long-Term (1957-2004) Mean: 58.7 1971-2000 Normal: 58.3

RICHMOND, VA OCTOBER PRECIPITATION



Long-Term (1957-2004) Mean Monthly Total: 3.37

1971-2000 Normal: 3.60



OCTOBER 2004

RICHMOND, VA

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

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