



# NOVEMBER 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): 165 Feet  
 Time Zone: EASTERN WBAN: 13740 ISSN #:0198-537X

NOVEMBER 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	77	52	65	11	57	60	0	0	BR				0.00	29.96	30.15	3.9	12	4.4	13	14	10	13	01																		
02	69	53	61	8	57	60	4	0	RA BR				0.68	29.48	29.67	8.4	18	13.2	46*	16	36*	16	02																		
03	54	34	44	-9	27	39	21	0					0.00	29.74	29.93	13.0	27	13.5	34	29	24	26	03																		
04	59	28	44	-9	28	37	21	0					0.00	30.17	30.36	5.1	23	6.2	17	28	14	25	04																		
05	69	32	51	-2	35	43	14	0					0.00	30.22	30.41	6.9	21	7.5	18	22	16	22	05																		
06	74	40	57	5	47	53	8	0					0.00	30.05	30.25	6.5	24	7.7	17	26	15	26	06																		
07	63	37	50	-2	33	44	15	0					0.00	30.06	30.25	8.1	36	8.9	25	33	20	32	07																		
08	59	32	46	-6	35	41	19	0					0.00	30.09	30.29	1.3	16	3.0	10	02	9	04	08																		
09	73	39	56	4	49	52	9	0					0.00	30.00	30.19	6.6	19	7.2	16	22	14	22	09																		
10	76	51	64	13	55	59	1	0	BR				0.00	29.83	30.02	9.5	24	10.0	24	23	20	24	10																		
11	65	47	56	5	52	53	9	0	TSRA RA DZ BR				0.15	29.97	30.16	4.9	04	7.5	25	05	20	05	11																		
12	54	40	47	-4	43	46	18	0					0.00	30.13	30.32	3.4	02	3.6	13	36	11	01	12																		
13	66	40	53	2	48	50	12	0	BR HZ				0.00	29.92	30.12	1.6	19	4.2	10	01	9	22	13																		
14	78*	46	62	12	50	55	3	0	BR HZ				0.00	29.61	29.80	5.2	28	12.0	44	01	31	36	14																		
15	56	36	46	-4	31	40	19	0					0.00	29.64	29.83	8.1	33	9.5	33	01	25	36	15																		
16	54	31	43	-7	27	37	22	0					0.00	29.63	29.82	10.0	31	10.7	30	30	23	31	16																		
17	51	29	40	-9	26	34	25	0					0.00	29.96	30.16	3.7	34	4.3	21	01	15	36	17																		
18	58	25*	42	-7	31	37	23	0					0.00	30.15	30.34	4.0	18	4.3	20	21	15	18	18																		
19	67	29	48	-1	43	47	17	0					0.00	30.16	30.35	6.8	18	7.1	21	20	17	21	19																		
20	73	48	61	13	54	56	4	0	BR				0.00	30.01	30.20	6.2	19	6.6	18	19	16	18	20																		
21	73	45	59	11	55	57	6	0	FG+ BCFG BR				0.00	30.00	30.19	2.7	15	3.4	13	11	11	11	21																		
22	75	51	63	15	57	59	2	0	FG+ BCFG BR				0.00	30.04	30.24	3.3	08	4.4	15	09	13	08	22																		
23	60	56	58	11	58	58	7	0	DZ FG+ BR				T	30.09	30.28	3.6	02	4.0	10	01	9	01	23																		
24	65	55	60	13	59	59	5	0	DZ FG+ BR HZ				0.01	30.03	30.22	1.4	22	2.1	9	15	8	14	24																		
25	69	59	64	17	60	61	1	0	DZ FG+ BR				T	29.94	30.14	3.4	14	4.5	16	13	13	13	25																		
26	76	57	67*	21	60	61	0	2	RA BR				0.17	29.72	29.91	8.9	17	11.0	28	26	24	17	26																		
27	61	43	52	6	42	48	13	0					0.00	29.81	30.00	5.4	35	7.7	23	01	21	02	27																		
28	61	39	50	4	35	43	15	0					0.00	30.04	30.24	4.4	36	5.5	16	01	13	36	28																		
29	54	35	45	0	27	37	20	0					0.00	30.20	30.40	4.5	35	5.9	24	01	20	01	29																		
30	42	30	36*	-9	17	29	29	0					0.00	30.30	30.49	13.4	35	13.7	31	33	23	34	30																		
< MONTHLY AVERAGES										TOTALS-->				1.01	29.97	30.16	1.4	26	7.1	<- MONTHLY AVERAGES																					
3.1										3.4				3.3				<----- DEPARTURE FROM NORMAL ----->								-2.16				SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3											
DEGREE DAYS										GREATEST 24-HR PRECIPITATION: 0.68 DATE: 02										SEA LEVEL PRESSURE										DATE TIME											
MONTHLY TOTAL DEPARTURE										SEASON TO DATE TOTAL DEPARTURE										GREATEST 24-HR SNOWFALL:										MINIMUM				DATE TIME							
HEATING: 362 -100										640 -78										GREATEST SNOW DEPTH:										MAXIMUM				DATE TIME							
COOLING: 2 2										1362 14										NUMBER OF DAYS WITH =>										MAXIMUM TEMP ≥ 90: 0				MINIMUM TEMP ≤ 32: 8				PRECIPITATION ≥ 0.01 INCH: 4			
																														MAXIMUM TEMP ≤ 32: 0				MINIMUM TEMP ≤ 0: 0				PRECIPITATION ≥ 0.10 INCH: 3			
																														THUNDERSTORMS: 1				HEAVY FOG: 5				SNOWFALL ≥ 1.0 INCH: :			

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

## RICHMOND, VA

NOVEMBER 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					0.01	T	T	0.01	0.02	T	0.05	0.01	02	0.21	0.30	0.07									02		0.68		
03													03												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		0.15		
12													12												12		0.00		
13													13												13		0.00		
14													14												14		0.00		
15													15												15		0.00		
16													16												16		0.00		
17													17												17		0.00		
18													18												18		0.00		
19													19												19		0.00		
20													20												20		0.00		
21													21												21		0.00		
22													22												22		0.00		
23													23												23		T		
24	0.01	T	T	T	T	T	T	T					24												24		0.01		
25													25												25		T		
26													26				0.09	0.05	0.01	T					26	0.16	0.17		
27													27												27		0.00		
28													28												28		0.00		
29													29												29		0.00		
30													30												30		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)												
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 NOVEMBER 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							4.00	10.00	
02							1.25	10.00	
03							10.00	10.00	
04							10.00	10.00	
05							10.00	10.00	
06							10.00	10.00	
07							10.00	10.00	
08							10.00	10.00	
09							9.00	10.00	
10							6.00	10.00	
11							1.50	10.00	
12							10.00	10.00	
13							3.00	10.00	
14							2.50	10.00	
15							10.00	10.00	
16							10.00	10.00	
17							10.00	10.00	
18							10.00	10.00	
19							8.00	10.00	
20							5.00	10.00	
21							.25	10.00	
22							<.25	10.00	
23							<.25	3.00	
24							<.25	9.00	
25							<.25	10.00	
26							3.00	10.00	
27							10.00	10.00	
28							10.00	10.00	
29							10.00	10.00	
30							10.00	10.00	
<b>MONTHLY AVGS</b>							6.46	9.73	
<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									
5 10 17									

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

NOVEMBER 1999

RIC

WBAN # 13740

HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	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	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	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
<b>SUNRISE: 0634</b>				<b>NOV 01</b>	<b>SUNSET: 1712</b>				<b>SUNRISE: 0640</b>				<b>NOV 07</b>	<b>SUNSET: 1706</b>															
01	SCT	NC	7.00		56	57	57	100	0	00	30.03	30.22	01	CLR	NC	10.00		56	48	52	75	6	27	29.99	30.18				
04	CLR	NC	7.00		54	54	54	100	3	18	30.01	30.20	04	FEW	NC	10.00		52	40	46	64	9	36	30.03	30.23				
07	BKN	250	4.00	BR	56	55	56	97	0	00	30.02	30.21	07	FEW	NC	10.00		48	27	39	44	12	01	30.07	30.27				
10	BKN	250	10.00		66	60	62	81	0	00	30.03	30.22	10	CLR	NC	10.00		56	28	44	34	17	01	30.12	30.31				
13	BKN	250	10.00		76	59	66	56	7	15	29.96	30.15	13	BKN	220	10.00		61	27	46	27	16	34	30.06	30.25				
16	FEW	NC	10.00		75	56	64	52	8	11	29.90	30.09	16	BKN	250	10.00		62	29	47	29	10	33	30.02	30.21				
19	BKN	250	10.00		64	59	61	84	7	10	29.90	30.09	19	BKN	250	10.00		49	34	42	57	6	03	30.05	30.24				
22	OVC	250	8.00		60	60	60	100	7	12	29.88	30.08	22	SCT	NC	10.00		43	33	39	68	9	03	30.07	30.27				
<b>SUNRISE: 0635</b>				<b>NOV 02</b>	<b>SUNSET: 1711</b>				<b>SUNRISE: 0641</b>				<b>NOV 08</b>	<b>SUNSET: 1705</b>															
01	OVC	250	5.00	BR	58	58	58	100	5	10	29.82	30.01	01	CLR	NC	10.00		39	32	36	76	0	00	30.08	30.27				
04	OVC	250	4.00	BR	58	58	58	100	5	09	29.73	29.92	04	CLR	NC	10.00		36	33	35	89	0	00	30.09	30.29				
07	OVC	060	2.50	BR	61	61	61	100	8	09	29.64	29.83	07	FEW	NC	10.00		34	32	33	92	0	00	30.13	30.33				
10	OVC	008	2.50	BR	67	66	66	97	13	14	29.53	29.72	10	CLR	NC	10.00		49	31	41	50	6	09	30.15	30.35				
13	OVC	020	2.50	+RA BR	69	68	68	96	22	15	29.32	29.51	13	CLR	NC	10.00		56	33	46	42	5	32	30.09	30.28				
16	FEW	NC	10.00		69	65	66	87	21	19	29.22	29.41	16	CLR	NC	10.00		58	34	47	41	0	00	30.05	30.24				
19	FEW	NC	10.00		65	50	57	59	17	20	29.30	29.49	19	CLR	NC	10.00		46	39	43	77	3	14	30.06	30.25				
22	OVC	050	10.00		57	43	50	60	18	25	29.40	29.59	22	CLR	NC	10.00		44	38	41	79	6	15	30.07	30.27				
<b>SUNRISE: 0636</b>				<b>NOV 03</b>	<b>SUNSET: 1710</b>				<b>SUNRISE: 0642</b>				<b>NOV 09</b>	<b>SUNSET: 1704</b>															
01	OVC	090	10.00		52	36	45	55	13	28	29.47	29.66	01	CLR	NC	10.00		40	36	38	86	3	17	30.05	30.25				
04	CLR	NC	10.00		45	32	39	61	13	27	29.54	29.73	04	CLR	NC	10.00		42	37	40	82	5	20	30.06	30.25				
07	CLR	NC	10.00		42	31	37	65	14	26	29.64	29.83	07	CLR	NC	10.00		42	39	41	89	6	18	30.06	30.25				
10	CLR	NC	10.00		50	30	41	46	18	27	29.70	29.90	10	FEW	NC	10.00		54	45	49	72	6	22	30.07	30.26				
13	BKN	065	10.00		51	26	41	38	20	24	29.72	29.91	13	FEW	NC	10.00		49	53	60	57	6	18	29.99	30.18				
16	SCT	NC	10.00		51	23	40	33	16	28	29.76	29.96	16	SCT	NC	10.00		72	58	64	61	7	16	29.94	30.14				
19	FEW	NC	10.00		45	21	36	39	13	28	29.91	30.10	19	SCT	NC	10.00		61	59	60	93	8	17	29.94	30.13				
22	CLR	NC	10.00		40	22	33	49	9	27	30.00	30.19	22	FEW	NC	10.00		61	59	60	93	10	21	29.92	30.11				
<b>SUNRISE: 0637</b>				<b>NOV 04</b>	<b>SUNSET: 1709</b>				<b>SUNRISE: 0643</b>				<b>NOV 10</b>	<b>SUNSET: 1703</b>															
01	CLR	NC	10.00		31	27	29	85	5	20	30.04	30.23	01	FEW	NC	9.00		60	56	58	86	9	22	29.90	30.09				
04	CLR	NC	10.00		30	25	28	82	0	00	30.08	30.28	04	CLR	NC	7.00		56	54	55	93	8	22	29.89	30.09				
07	CLR	NC	10.00		30	25	28	82	6	22	30.15	30.34	07	CLR	NC	7.00		52	52	52	100	5	20	29.91	30.10				
10	FEW	NC	10.00		49	24	39	38	13	26	30.20	30.39	10	FEW	NC	10.00		69	55	61	61	13	26	29.90	30.09				
13	CLR	NC	10.00		57	22	43	26	10	25	30.16	30.36	13	OVC	250	10.00		75	55	63	50	13	23	29.80	29.98				
16	CLR	NC	10.00		57	27	44	32	9	22	30.17	30.37	16	OVC	250	10.00		74	53	62	48	15	24	29.76	29.95				
19	CLR	NC	10.00		45	32	40	61	3	14	30.22	30.41	19	OVC	250	10.00		63	54	58	73	7	22	29.76	29.95				
22	CLR	NC	10.00		42	33	38	71	5	16	30.25	30.44	22	BKN	250	9.00		63	56	59	78	10	23	29.77	29.96				
<b>SUNRISE: 0638</b>				<b>NOV 05</b>	<b>SUNSET: 1708</b>				<b>SUNRISE: 0644</b>				<b>NOV 11</b>	<b>SUNSET: 1702</b>															
01	CLR	NC	10.00		37	31	35	79	3	13	30.25	30.45	01	SCT	NC	10.00		61	50	55	67	7	27	29.78	29.96				
04	CLR	NC	10.00		35	31	33	85	3	16	30.25	30.45	04	SCT	NC	10.00		57	50	53	78	6	19	29.79	29.98				
07	CLR	NC	10.00		32	32	32	100	5	17	30.29	30.48	07	OVC	090	9.00		55	53	54	93	6	20	29.82	30.01				
10	CLR	NC	10.00		54	36	46	51	6	22	30.29	30.49	10	OVC	060	8.00		64	55	59	73	0	00	29.89	30.08				
13	CLR	NC	10.00		66	34	51	31	9	24	30.22	30.41	13	OVC	140	3.00	BR	59	59	59	100	10	07	29.95	30.14				
16	FEW	NC	10.00		67	35	51	31	12	21	30.16	30.35	16	OVC	017	10.00		53	51	52	93	13	05	30.04	30.24				
19	CLR	NC	10.00		52	38	45	59	8	20	30.17	30.37	19	OVC	013	10.00		50	49	49	96	9	04	30.13	30.32				
22	CLR	NC	10.00		51	41	46	69	10	21	30.17	30.36	22	OVC	012	10.00		48	47	47	96	8	02	30.18	30.37				
<b>SUNRISE: 0639</b>				<b>NOV 06</b>	<b>SUNSET: 1707</b>				<b>SUNRISE: 0645</b>				<b>NOV 12</b>	<b>SUNSET: 1701</b>															
01	CLR	NC	10.00		49	37	44	64	7	23	30.14	30.33	01	OVC	023	10.00		48	45	47	89	7	02	30.18	30.37				
04	CLR	NC	10.00		42	37	40	82	6	19	30.12	30.31	04	OVC	026	10.00		47	42	45	83	6	04	30.18	30.37				
07	CLR	NC	10.00		43	37	40	80	5	18	30.12	30.32	07	OVC	032	10.00		47	41	44	80	7	01	30.19	30.38				
10	CLR	NC	10.00		65	47	55	52	10	25	30.13	30.32	10	OVC	030	10.00		49	42	46	77	7	35	30.22	30.41				
13	CLR	NC	10.00		73	53	61	50	12	23	30.03	30.22	13	OVC	035	10.00		52	44	48	75	5	03	30.14	30.33				
16	CLR	NC	10.00		73	54	62	51	9	26	29.98	30.17	16	OVC	029	10.00		54	45	49	72	0	00	30.08	30.27				
19	CLR	NC	10.00		62	55	58	78	8	23	29.96	30.16	19	FEW	NC	10.00		47	46	47	97	0	00	30.06	30.26				
22	CLR	NC	10.00		58	54	56	87	7	30	29.98	30.17	22	CLR	NC	10.00		42	42	42	100	0	00	30.04	30.24				

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

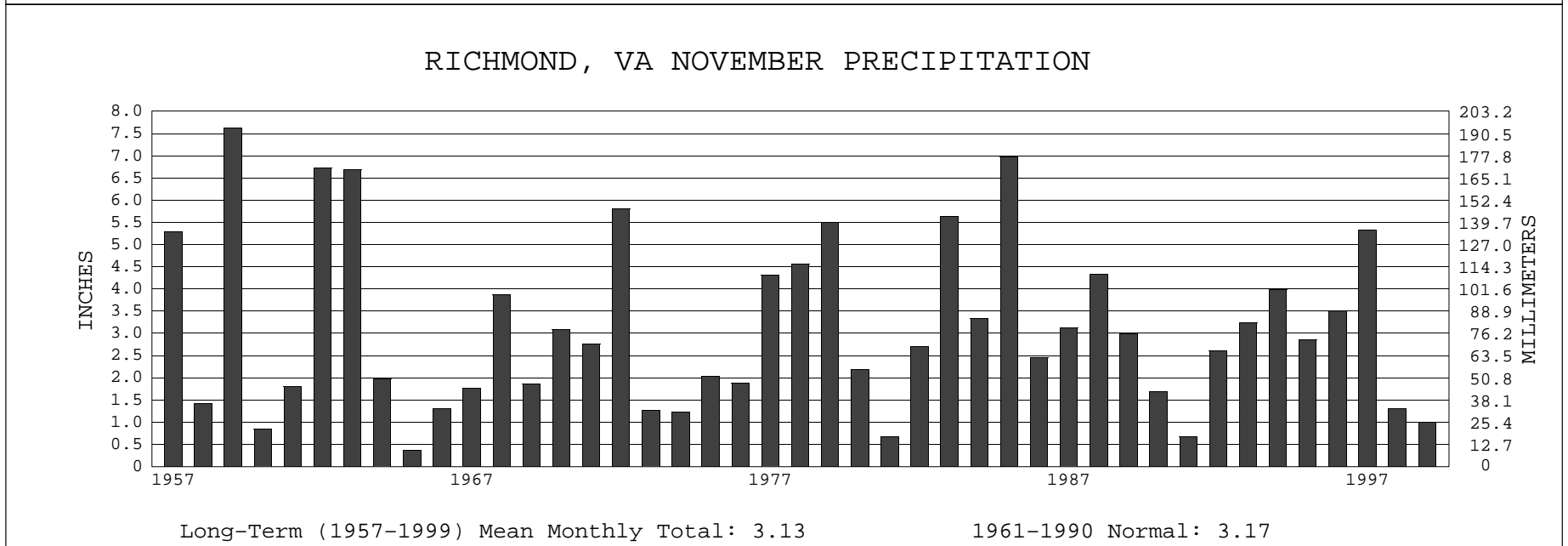
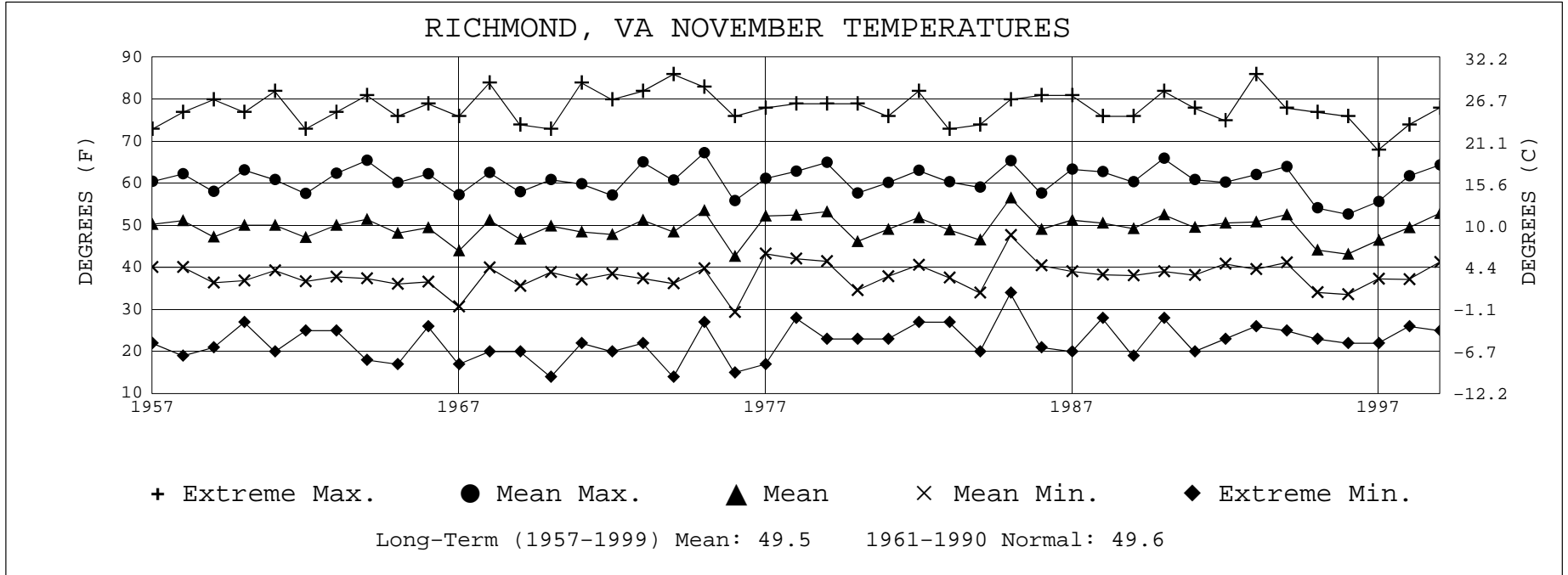
NOVEMBER 1999

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	STATION	SEA LEVEL
<b>SUNRISE: 0646</b>						<b>NOV 13</b>						<b>SUNSET: 1700</b>																	
01	CLR	NC			9.00	42	42	42	100	5	22	29.99	30.19	01	CLR	NC			10.00	37	32	35	82	3	17	30.19	30.39		
04	SCT	NC			7.00	43	43	43	100	5	21	29.94	30.13	04	CLR	NC			10.00	35	32	34	89	3	20	30.19	30.38		
07	SCT	NC			3.00	42	42	42	100	5	24	29.94	30.14	07	CLR	NC			10.00	31	30	31	96	3	15	30.20	30.40		
10	CLR	NC			5.00	53	49	51	86	0	00	29.98	30.18	10	CLR	NC			10.00	53	40	47	61	5	23	30.23	30.42		
13	CLR	NC			10.00	65	50	57	59	0	00	29.92	30.11	13	CLR	NC			10.00	64	48	55	56	13	19	30.16	30.35		
16	FEW	NC			9.00	65	49	56	56	3	28	29.89	30.08	16	SCT	NC			10.00	65	55	59	70	10	18	30.12	30.31		
19	FEW	NC			8.00	52	50	51	93	5	14	29.89	30.09	19	FEW	NC			10.00	58	52	55	81	7	16	30.12	30.32		
22	CLR	NC			7.00	52	50	51	93	5	16	29.87	30.07	22	CLR	NC			10.00	56	51	53	84	12	17	30.11	30.30		
<b>SUNRISE: 0648</b>						<b>NOV 14</b>						<b>SUNSET: 1660</b>																	
01	CLR	NC			5.00	50	49	49	96	5	16	29.82	30.01	01	CLR	NC			10.00	52	49	50	89	9	18	30.08	30.28		
04	CLR	NC			4.00	49	49	49	100	5	18	29.75	29.94	04	BKN	080			10.00	51	50	51	96	8	18	30.06	30.25		
07	CLR	NC			2.50	47	47	47	100	5	21	29.69	29.88	07	BKN	080			9.00	51	51	51	100	3	22	30.06	30.25		
10	CLR	NC			10.00	65	52	58	63	12	23	29.63	29.83	10	BKN	080			10.00	60	57	58	90	10	20	30.06	30.26		
13	CLR	NC			10.00	76	55	63	48	16	24	29.50	29.69	13	SCT	NC			10.00	72	58	64	61	14	19	29.97	30.16		
16	SCT	NC			10.00	77	56	64	48	13	25	29.43	29.63	16	BKN	250			10.00	70	59	63	68	12	17	29.94	30.13		
19	BKN	200			10.00	67	54	59	63	7	35	29.49	29.68	19	BKN	250			10.00	57	55	56	93	3	15	29.97	30.16		
22	FEW	NC			10.00	57	40	49	53	20	01	29.60	29.80	22	SCT	NC			10.00	55	55	55	100	0	00	29.98	30.17		
<b>SUNRISE: 0649</b>						<b>NOV 15</b>						<b>SUNSET: 1659</b>																	
01	CLR	NC			10.00	50	31	42	48	21	36	29.66	29.85	01	BKN	250			3.00	BR	49	49	49	100	5	16	29.97	30.16	
04	CLR	NC			10.00	45	29	38	54	10	36	29.69	29.88	04	OVC	250			3.00	BR	52	52	52	100	3	20	29.97	30.16	
07	CLR	NC			10.00	39	31	36	73	5	35	29.73	29.92	07	BKN	001			0.50	FG	46	46	46	100	6	14	30.01	30.20	
10	CLR	NC			10.00	50	31	42	48	20	33	29.72	29.91	10	BKN	250			9.00		60	58	59	93	0	00	30.03	30.22	
13	CLR	NC			10.00	54	31	44	42	13	31	29.62	29.81	13	OVC	250			10.00	71	59	64	66	7	18	29.98	30.17		
16	CLR	NC			10.00	55	29	44	37	12	33	29.57	29.77	16	BKN	075			10.00	70	60	64	71	3	16	29.96	30.15		
19	CLR	NC			10.00	45	32	39	61	0	00	29.56	29.75	19	BKN	085			10.00	64	59	61	84	8	13	30.00	30.19		
22	CLR	NC			10.00	37	33	35	86	6	34	29.58	29.77	22	SCT	NC			10.00	57	57	57	100	3	09	30.02	30.21		
<b>SUNRISE: 0650</b>						<b>NOV 16</b>						<b>SUNSET: 1658</b>																	
01	CLR	NC			10.00	37	29	34	73	8	35	29.59	29.78	01	BKN	130			9.00	BCFG	54	54	54	100	3	04	30.01	30.20	
04	CLR	NC			10.00	37	28	34	70	7	28	29.57	29.77	04	OVC	085			7.00	BCFG	52	52	52	100	5	36	30.02	30.22	
07	SCT	NC			10.00	39	27	34	62	7	28	29.59	29.79	07	BKN	110			7.00	BCFG	53	53	53	100	0	00	30.05	30.24	
10	CLR	NC			10.00	48	29	40	48	9	33	29.61	29.80	10	CLR	NC			10.00	68	61	64	78	6	09	30.07	30.27		
13	SCT	NC			10.00	52	27	41	38	16	29	29.57	29.76	13	BKN	045			10.00	73	60	65	64	5	03	30.03	30.22		
16	FEW	NC			10.00	52	24	41	34	14	32	29.59	29.78	16	FEW	NC			10.00	72	57	63	60	8	14	30.01	30.21		
19	CLR	NC			10.00	45	25	37	46	12	33	29.69	29.88	19	CLR	NC			10.00	62	57	59	84	5	07	30.06	30.25		
22	CLR	NC			10.00	42	26	36	53	15	31	29.74	29.93	22	CLR	NC			10.00	58	57	57	97	5	05	30.08	30.27		
<b>SUNRISE: 0651</b>						<b>NOV 17</b>						<b>SUNSET: 1658</b>																	
01	CLR	NC			10.00	37	24	32	60	5	35	29.79	29.99	01	VV	001			<.25	FG	56	56	56	100	8	03	30.08	30.27	
04	CLR	NC			10.00	33	24	30	70	6	33	29.84	30.04	04	OVC	001			0.25	DZ FG	56	56	56	100	6	07	30.09	30.28	
07	FEW	NC			10.00	29	25	28	85	6	34	29.92	30.12	07	OVC	001			0.25	BR	56	56	56	100	5	04	30.10	30.29	
10	FEW	NC			10.00	43	25	36	49	13	34	29.97	30.17	10	OVC	003			1.50	BR	57	57	57	100	6	04	30.12	30.32	
13	FEW	NC			10.00	48	25	39	41	0	00	29.96	30.16	13	OVC	004			2.00	BR	59	58	58	96	8	33	30.09	30.28	
16	SCT	NC			10.00	50	25	40	38	6	35	29.97	30.17	16	OVC	003			1.50	BR	60	59	59	96	3	36	30.07	30.26	
19	BKN	250			10.00	40	29	36	65	0	00	30.04	30.23	19	OVC	005			1.00	BR	59	59	59	100	0	00	30.07	30.26	
22	CLR	NC			10.00	36	27	33	70	3	11	30.08	30.27	22	OVC	008			0.75	BR	59	59	59	100	0	00	30.07	30.26	
<b>SUNRISE: 0652</b>						<b>NOV 18</b>						<b>SUNSET: 1657</b>																	
01	CLR	NC			10.00	31	27	29	85	0	00	30.09	30.29	01	OVC	002			0.50	DZ FG	58	58	58	100	0	00	30.05	30.24	
04	FEW	NC			10.00	31	29	30	92	0	00	30.11	30.30	04	OVC	002			0.50	DZ FG	59	59	59	100	0	00	30.04	30.24	
07	CLR	NC			10.00	25	25	25	100	5	15	30.15	30.35	07	OVC	004			0.50	DZ FG	58	58	58	100	3	28	30.05	30.24	
10	CLR	NC			10.00	47	33	41	59	8	20	30.18	30.37	10	OVC	002			0.50	BR	59	59	59	100	3	18	30.06	30.25	
13	CLR	NC			10.00	56	31	45	39	8	20	30.13	30.33	13	OVC	003			0.50	BR	60	60	60	100	3	29	30.02	30.22	
16	CLR	NC			10.00	57	31	45	37	10	19	30.12	30.32	16	SCT	NC			7.00		64	60	62	87	0	00	29.99	30.19	
19	CLR	NC			10.00	44	33	39	65	3	15	30.16	30.36	19	BKN	075			5.00	BR	58	58	58	100	0	00	30.00	30.20	
22	CLR	NC			10.00	40	33	37	77	3	13	30.20	30.39	22	BKN	250			1.25	BR	56	56	56	100	0	00	30.00	30.20	







**NOVEMBER 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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