



MARCH 2003

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

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	46	35	41	-2	39	40	24	0	RA BR			0.0	0.03	29.99	30.18	4.2	16	5.0	13	16	12	18	01	
02	59	41	50	-7	42	45	15	0	RA BR			0.0	0.27	29.53	29.72	6.6	32	8.1	21	32	18	32	02	
03	45	26	36	-7	18	29	29	0				0.0	0.00	29.88	30.07	5.8	02	9.6	24	02	22	02	03	
04	55	23*	39	-5	28	35	26	0	RA			0.0	0.01	29.97	30.16	2.6	13	4.6	14	17	12	13	04	
05	71	44	58	14	50	53	7	0	RA BR			0.0	0.51	29.62	29.81	7.1	24	8.5	30	26	25	27	05	
06	66	32	49	5	47	49	16	0	RA BR			0.0	0.44	29.63	29.82	2.6	35	13.2	32	02	28	02	06	
07	37	30	34*	-11	27	31	31	0				0.0	0.00	30.05	30.25	6.0	05	6.4	24	02	18	04	07	
08	61	26	44	-1	34	40	21	0	BR			0.0	0.00	29.94	30.13	6.9	18	8.0	23	20	18	19	08	
09	72	40	56	11	36	47	9	0				0.0	0.00	29.67	29.86	6.4	26	11.6	32	27	24	30	09	
10	47	29	38	-7	21	31	27	0				0.0	0.00	29.95	30.14	4.6	04	6.7	20	09	16	10	10	
11	46	28	37	-9	31	34	28	0	RA			0.0	T	30.02	30.22	3.1	13	4.3	14	13	12	13	11	
12	69	28	49	3	38	44	16	0	FG+ FZFG BR			0.0	0.00	29.90	30.09	7.1	21	7.6	24	22	21	22	12	
13	79	43	61	14	49	54	4	0	TS TSRA RA BR			0.0	0.12	29.78	29.97	0.8	23	9.1	35	32	28	36	13	
14	51	31	41	-6	28	36	24	0				0.0	0.00	30.11	30.31	8.2	05	11.5	31	36	25	02	14	
15	52	27	40	-8	33	38	25	0				0.0	0.00	30.04	30.24	1.8	04	2.3	7	04	7	02	15	
16	60	40	50	2	50	52	15	0	RA DZ FG+ BR			0.0	0.08	29.81	30.00	5.8	03	6.3	17	06	14	06	16	
17	61	54	58	10	56	57	7	0	DZ FG+ BR			0.0	T	29.62	29.81	3.2	36	4.6	14	33	12	33	17	
18	70	52	61	13	54	57	4	0	FG BR			0.0	0.00	29.59	29.78	7.4	05	7.9	21	08	16	06	18	
19	52	41	47	-2	41	44	18	0	RA			0.0	T	29.97	30.16	12.5	07	12.9	28	11	22	10	19	
20	63	39	51	2	48	48	14	0	RA DZ BR			0.0	2.55	29.78	29.97	4.7	08	11.1	31	15	28	15	20	
21	63	46	55	6	53	54	10	0	DZ FG+ BR			0.0	0.02	29.57	29.76	4.6	22	5.5	17	24	14	23	21	
22	70	46	58	8	47	53	7	0	BR			0.0	0.00	29.67	29.85	3.7	25	5.4	23	33	21	34	22	
23	68	40	54	4	43	49	11	0				0.0	0.00	29.77	29.96	1.5	11	4.8	17	13	14	13	23	
24	68	43	56	6	40	48	9	0	HZ			0.0	0.00	29.86	30.04	3.0	03	5.9	22	31	14	03	24	
25	74	40	57	6	43	51	8	0	BR			0.0	0.00	29.84	30.03	9.8	18	10.0	23	19	20	17	25	
26	80*	47	64	13	47	53	1	0	RA BR			0.0	0.11	29.71	29.90	5.4	23	12.5	46*	32	37*	36	26	
27	65	42	54	2	41	46	11	0	BR			0.0	0.00	29.95	30.14	3.9	10	6.0	24	12	18	13	27	
28	72	42	57	5	53	55	8	0	RA			0.0	T	29.95	30.14	5.2	09	7.9	16	10	14	11	28	
29	74	55	65*	13	63	64	0	0	TS TSRA RA BR			0.0	0.60	29.77	29.96	7.6	17	12.0	31	18	24	01	29	
30	55	34	45	-8	38	39	20	0	TSRA RA SN BR			0.1	1.18	29.76	29.95	15.7	35	16.3	32	33	25	34	30	
31	49	30	40	-13	22	33	25	0				0.0	0.00	29.92	30.11	12.6	30	14.3	33	29	25	29	31	

61.3	37.9	49.6	■ ■	40.7	45.5	15.2	0.0	< MONTHLY AVERAGES	TOTALS->	0.1	5.92	29.83	30.02	0.7	04	8.4	<- MONTHLY AVERAGES					
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2.9	0.9	1.9	■ ■	<-----DEPARTURE FROM NORMAL----->						1.83	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3													
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DEGREE DAYS								GREATEST 24-HR PRECIPITATION: 2.55 DATE :20				SEA LEVEL PRESSURE DATE TIME																			
MONTHLY TOTAL DEPARTURE								GREATEST 24-HR SNOWFALL: 0.1 DATE :30				MAXIMUM : 30.40 14 1054																			
SEASON TO DATE TOTAL DEPARTURE								GREATEST SNOW DEPTH: DATE :				MINIMUM : 29.59 02 1354																			
HEATING:	470	-58	3757	180	NUMBER OF DAYS WITH	MAXIMUM TEMP ≥ 90: 0	MINIMUM TEMP ≤ 32: 11	PRECIPITATION ≥ 0.01 INCH : 12	HEATING:	470	-58	3757	180	NUMBER OF DAYS WITH	MAXIMUM TEMP ≤ 32 : 0	MINIMUM TEMP ≤ 0 : 0	PRECIPITATION ≥ 0.10 INCH : 8	COOLING:	0	-8	0	-9	HEATING:	470	-58	3757	180	NUMBER OF DAYS WITH	THUNDERSTORMS : 3	HEAVY FOG : 4	SNOWFALL ≥ 1.0 INCH : 0

MARCH 2003 RICHMOND, VA

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA

MARCH 2003

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			0.03	
02	T	T	0.01	0.14	0.08	0.01	T	0.01	0.02	T			02								T	T	0.01	0.02	02			0.27	
03													03												03			0.00	
04													04											0.01	04			0.01	
05	0.05	0.10	0.04	0.05	0.05	0.12	0.10	T	T				05												05			0.51	
06		T	0.04	0.04	0.13	0.05	0.10	0.06	0.02	T			06												06			0.44	
07													07												07			0.00	
08													08												08			0.00	
09													09												09			0.00	
10													10												10			0.00	
11													11	T											11			T	
12													12												12			0.00	
13													13								0.07	0.05			13			0.12	
14													14												14			0.00	
15													15												15			0.00	
16											T	0.02	16	0.05	0.01						T	T			16			0.08	
17	T	T											17												17			T	
18													18												18			0.00	
19													19			T	T				T	T	T	T	19			T	
20	T	0.12	0.02	T	0.22	0.18	0.18	0.41	0.19	0.18	0.16	0.19	20	0.30	0.09	0.08	0.05	T	0.17	T	0.01	T	T	T	20			2.55	
21	T	T	T	0.01								0.01	21	T											21			0.02	
22													22												22			0.00	
23													23												23			0.00	
24													24												24			0.00	
25													25												25			0.00	
26													26						T		0.01	0.07	0.03		26			0.11	
27													27												27			0.00	
28													28			T									28			T	
29			T							T		0.03	29	0.02	T	0.03	T				0.22	0.06	0.03	0.21	29			0.60	
30	T	T	0.11	0.54	0.09	0.01	0.02	0.03	0.03	0.08	0.07	0.03	30	0.06	0.02	0.04					T	T	T		30	1.14		1.18	
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)	.25	.37	.42	.44	.50	.54	.56	.59	.63	.65	.71	.81
Ending Date	30	30	30	30	30	30	30	30	30	30	20	20
Ending Time (Hour/Min)	0311	0313	0315	0317	0329	0333	0349	0333	0333	0449	0834	0743

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 MARCH 2003

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							.75	10.00	
02							1.50	10.00	
03							10.00	10.00	
04							10.00	10.00	
05							1.50	10.00	
06							1.75	10.00	
07							10.00	10.00	
08							5.00	10.00	
09							10.00	10.00	
10							10.00	10.00	
11							8.00	10.00	
12							<.25	10.00	
13							2.50	10.00	
14							8.00	10.00	
15							10.00	10.00	
16							.50	10.00	
17							.75	10.00	
18							.50	10.00	
19							7.00	10.00	
20							.75	10.00	
21							.13	10.00	
22							.75	10.00	
23							7.00	10.00	
24							10.00	10.00	
25							6.00	10.00	
26							5.00	10.00	
27							3.00	10.00	
28							10.00	10.00	
29							1.25	10.00	
30							.75	10.00	
31							10.00	10.00	
MONTHLY AVGS							4.98	10.00	
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 15 13									

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

MARCH 2003

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: 0641				MAR 01				SUNSET: 1803				SUNRISE: 0633				MAR 07				SUNSET: 1809							
01	OVC	010		3.00	BR	36	35	36	97	0	00	30.07	30.27	01	OVC	250		10.00	32	23	29	69	14	04	30.01	30.20	
04	OVC	005		2.00	BR	36	36	36	100	3	19	30.04	30.24	04	OVC	200		10.00	30	22	27	72	9	04	30.06	30.26	
07	OVC	002		1.50	BR	36	36	36	100	6	14	30.04	30.24	07	OVC	026		10.00	30	23	28	75	5	04	30.12	30.32	
10	OVC	005		2.00	BR	39	38	39	96	7	17	30.07	30.26	10	OVC	020		10.00	32	25	29	75	7	05	30.12	30.32	
13	OVC	011		8.00		43	40	42	89	7	17	30.01	30.21	13	OVC	024		10.00	35	28	32	76	10	01	30.07	30.27	
16	OVC	015		10.00		45	41	43	86	6	17	29.96	30.16	16	OVC	038		10.00	37	28	34	70	5	08	30.01	30.21	
19	OVC	017		10.00		44	41	43	89	3	15	29.92	30.12	19	OVC	029		10.00	36	31	34	82	5	08	30.00	30.19	
22	OVC	026		8.00		43	41	42	93	3	09	29.88	30.08	22	OVC	024		10.00	36	30	34	79	3	06	30.01	30.21	
SUNRISE: 0640				MAR 02				SUNSET: 1804				SUNRISE: 0631				MAR 08				SUNSET: 1810							
01	OVC	015		4.00	-RA BR	41	41	41	100	3	08	29.76	29.96	01	SCT	NC		10.00	34	30	32	85	0	00	29.99	30.19	
04	OVC	003		2.00	RA BR	41	41	41	100	6	36	29.64	29.83	04	CLR	NC		7.00	29	28	29	96	0	00	29.98	30.18	
07	OVC	003		3.00	-RA BR	41	41	41	100	8	34	29.55	29.75	07	FEW	NC		5.00	BR	27	26	27	96	3	14	30.03	30.23
10	OVC	003		5.00	BR	43	43	43	100	5	32	29.51	29.70	10	BKN	250		10.00	43	34	39	71	3	VR	30.01	30.21	
13	SCT	NC		10.00		53	48	50	83	9	29	29.42	29.60	13	SCT	NC		10.00	55	34	45	45	7	21	29.97	30.16	
16	BKN	045		10.00		59	49	54	69	8	29	29.40	29.59	16	OVC	250		10.00	60	35	48	39	15	18	29.88	30.08	
19	SCT	NC		10.00		52	47	49	83	7	31	29.47	29.65	19	OVC	250		10.00	53	39	46	59	13	17	29.86	30.05	
22	SCT	NC		10.00		49	35	43	59	14	32	29.54	29.72	22	OVC	250		10.00	51	40	46	66	14	19	29.82	30.02	
SUNRISE: 0638				MAR 03				SUNSET: 1805				SUNRISE: 0630				MAR 09				SUNSET: 1810							
01	FEW	NC		10.00		44	30	38	58	9	28	29.59	29.78	01	OVC	250		10.00	50	39	45	66	15	20	29.71	29.90	
04	FEW	NC		10.00		40	25	34	55	12	28	29.65	29.84	04	BKN	250		10.00	49	40	45	71	14	21	29.64	29.84	
07	FEW	NC		10.00		32	23	29	69	15	01	29.81	30.00	07	SCT	NC		10.00	47	42	45	83	9	21	29.61	29.80	
10	CLR	NC		10.00		32	16	27	52	13	03	29.94	30.13	10	FEW	NC		10.00	60	44	52	56	7	24	29.64	29.83	
13	CLR	NC		10.00		35	14	28	42	9	07	29.93	30.13	13	SCT	NC		10.00	69	41	54	36	13	26	29.62	29.81	
16	CLR	NC		10.00		39	14	31	36	0	00	29.92	30.12	16	FEW	NC		10.00	71	26	50	19	24	30	29.60	29.80	
19	CLR	NC		10.00		33	13	27	43	10	07	29.98	30.17	19	FEW	NC		10.00	61	29	47	30	7	32	29.69	29.88	
22	CLR	NC		10.00		27	14	23	58	8	10	30.03	30.23	22	CLR	NC		10.00	45	32	39	61	9	04	29.77	29.96	
SUNRISE: 0637				MAR 04				SUNSET: 1806				SUNRISE: 0628				MAR 10				SUNSET: 1811							
01	CLR	NC		10.00		26	13	22	57	0	00	30.03	30.23	01	CLR	NC		10.00	38	23	32	55	10	05	29.79	29.98	
04	FEW	NC		10.00		24	15	21	68	5	02	30.02	30.22	04	SCT	NC		10.00	32	23	29	69	6	05	29.83	30.02	
07	BKN	029		10.00		25	18	23	75	0	00	30.05	30.25	07	BKN	250		10.00	31	22	28	69	6	04	29.93	30.12	
10	BKN	025		10.00		37	26	33	65	3	12	30.05	30.25	10	CLR	NC		10.00	37	19	31	48	10	05	29.97	30.16	
13	OVC	250		10.00		47	33	41	59	3	VR	30.00	30.19	13	OVC	250		10.00	43	21	35	42	9	35	29.96	30.15	
16	BKN	250		10.00		54	36	46	51	9	18	29.91	30.11	16	CLR	NC		10.00	47	18	36	31	10	30	29.93	30.13	
19	OVC	150		10.00		48	37	43	66	9	12	29.89	30.09	19	CLR	NC		10.00	40	20	33	45	6	06	29.98	30.18	
22	OVC	120		10.00		45	39	42	80	6	12	29.86	30.06	22	CLR	NC		10.00	32	23	29	69	5	10	30.07	30.27	
SUNRISE: 0635				MAR 05				SUNSET: 1807				SUNRISE: 0627				MAR 11				SUNSET: 1812							
01	OVC	029		3.00	-RA BR	45	45	45	100	0	00	29.78	29.98	01	FEW	NC		10.00	29	23	27	78	6	09	30.06	30.26	
04	OVC	010		2.50	-RA BR	45	45	45	100	0	00	29.66	29.85	04	OVC	080		10.00	31	26	29	82	5	06	30.05	30.24	
07	OVC	012		1.50	-RA BR	46	46	46	100	3	28	29.62	29.82	07	OVC	085		10.00	32	25	29	75	0	00	30.08	30.27	
10	BKN	250		7.00		52	52	52	100	8	20	29.60	29.79	10	OVC	070		10.00	37	29	34	73	8	11	30.07	30.27	
13	BKN	250		10.00		67	53	59	61	14	25	29.55	29.74	13	OVC	055		10.00	42	34	39	73	3	17	30.01	30.21	
16	OVC	200		10.00		68	51	58	55	15	26	29.56	29.75	16	OVC	030		10.00	44	36	41	73	7	14	29.95	30.15	
19	OVC	200		10.00		61	51	56	70	7	21	29.59	29.79	19	BKN	019		10.00	40	36	38	86	6	14	29.96	30.16	
22	OVC	200		10.00		62	56	59	81	12	22	29.62	29.81	22	CLR	NC		10.00	35	34	35	96	3	19	29.99	30.19	
SUNRISE: 0634				MAR 06				SUNSET: 1808				SUNRISE: 0625				MAR 12				SUNSET: 1813							
01	OVC	130		10.00		59	54	56	83	12	21	29.61	29.80	01	CLR	NC		4.00	BR	34	34	34	100	3	23	29.97	30.17
04	OVC	085		4.00	-RA BR	55	55	55	100	8	19	29.54	29.72	04	VV	001		<.25	FZFG	30	30	30	100	3	16	29.93	30.12
07	OVC	014		2.00	RA BR	55	55	55	100	6	18	29.54	29.72	07	VV	001		<.25	FG	32	32	32	100	7	19	29.96	30.16
10	OVC	006		9.00		57	57	57	100	10	21	29.45	29.64	10	CLR	NC		10.00	46	41	44	83	6	21	29.96	30.16	
13	OVC	020		10.00		62	58	60	86	17	25	29.46	29.65	13	CLR	NC		10.00	64	42	53	45	15	22	29.87	30.06	
16	OVC	011		10.00		47	45	46	93	15	01	29.60	29.79	16	FEW	NC		10.00	68	40	54	36	18	22	29.81	30.00	
19	OVC	023		10.00		42	36	39	79	21	03	29.78	29.98	19	FEW	NC		10.00	61	42	51	50	5	19	29.86	30.05	
22	OVC	250		10.00		36	29	33	76	15	02	29.92	30.12	22	BKN	100		10.00	55	44	50	67	7	18	29.87	30.06	

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

MARCH 2003

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	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: 0624 MAR 13 SUNSET: 1814																											
01	OVC	100		10.00	53	45	49	74	5	11	29.87	30.06	01	OVC	150		10.00	51	46	49	83	10	06	29.77	29.97		
04	OVC	110		10.00	52	45	48	77	8	15	29.83	30.03	04	BKN	150		9.00	47	47	47	100	9	08	29.84	30.03		
07	SCT	NC		6.00 BR	44	42	43	93	0	00	29.85	30.05	07	BKN	150		7.00	45	44	45	97	14	05	29.92	30.11		
10	SCT	NC		8.00	60	48	54	65	0	00	29.82	30.01	10	BKN	250		10.00	50	41	46	71	18	09	29.98	30.18		
13	CLR	NC		10.00	74	49	60	41	8	21	29.74	29.93	13	OVC	030		10.00	50	39	45	66	15	09	30.04	30.23		
16	SCT	NC		10.00	77	50	61	39	14	21	29.62	29.81	16	OVC	027		10.00 -RA	47	38	43	71	18	08	30.01	30.21		
19	BKN	250		10.00	69	58	62	68	14	22	29.61	29.80	19	OVC	021		10.00	44	38	41	79	16	08	30.03	30.23		
22	OVC	045		6.00 BR	52	51	52	97	10	02	29.77	29.96	22	OVC	019		10.00 -RA	42	39	41	89	10	05	30.06	30.25		
SUNRISE: 0622 MAR 14 SUNSET: 1815																											
01	OVC	020		8.00	48	43	46	83	21	01	29.92	30.11	01	OVC	014		8.00 -RA	41	39	40	93	12	04	30.02	30.22		
04	BKN	031		10.00	40	32	37	73	17	01	30.00	30.20	04	OVC	007		8.00	40	40	40	100	12	03	29.95	30.14		
07	SCT	NC		10.00	35	27	32	72	13	02	30.11	30.30	07	OVC	005		4.00 RA BR	41	41	41	100	8	03	29.92	30.12		
10	FEW	NC		10.00	40	26	35	58	12	04	30.19	30.39	10	OVC	022		2.00 +RA BR	46	46	46	100	16	09	29.83	30.02		
13	FEW	NC		10.00	45	21	36	39	8	04	30.17	30.37	13	OVC	006		2.00 RA BR	54	54	54	100	12	12	29.72	29.91		
16	BKN	250		10.00	48	21	38	34	6	07	30.13	30.32	16	OVC	010		10.00	62	61	61	96	20	16	29.59	29.78		
19	BKN	250		10.00	42	29	37	60	12	14	30.13	30.32	19	OVC	004		3.00 -RA BR	49	49	49	100	9	30	29.63	29.83		
22	SCT	NC		10.00	34	29	32	82	8	16	30.15	30.35	22	OVC	005		3.00 -DZ BR	47	47	47	100	0	00	29.65	29.85		
SUNRISE: 0621 MAR 15 SUNSET: 1816																											
01	FEW	NC		10.00	31	28	30	89	3	11	30.14	30.34	01	OVC	002		0.50 -DZ BR	47	47	47	100	5	21	29.65	29.84		
04	SCT	NC		10.00	28	27	28	96	3	04	30.10	30.29	04	OVC	002		0.25 FG	47	47	47	100	0	00	29.60	29.79		
07	BKN	250		10.00	30	30	30	100	0	00	30.09	30.29	07	OVC	004		0.75 BR	48	48	48	100	0	00	29.61	29.81		
10	BKN	041		10.00	42	35	39	76	0	00	30.11	30.30	10	OVC	001		0.50 FG	52	52	52	100	0	00	29.60	29.79		
13	OVC	032		10.00	47	31	40	54	0	00	30.04	30.24	13	OVC	001		0.25 FG	54	54	54	100	5	17	29.55	29.74		
16	OVC	040		10.00	51	34	43	52	5	07	29.99	30.19	16	OVC	004		1.00 BR	60	60	60	100	13	20	29.49	29.67		
19	OVC	060		10.00	51	34	43	52	0	00	29.96	30.16	19	SCT	NC		10.00	60	58	59	93	8	21	29.52	29.70		
22	BKN	050		10.00	48	38	43	68	3	04	29.96	30.16	22	CLR	NC		7.00	59	58	58	96	9	24	29.56	29.75		
SUNRISE: 0619 MAR 16 SUNSET: 1817																											
01	BKN	250		10.00	42	36	39	79	6	01	29.93	30.12	01	FEW	NC		7.00	55	54	54	96	5	30	29.61	29.80		
04	BKN	150		10.00	42	38	40	85	5	02	29.88	30.08	04	FEW	NC		1.00 BR	46	46	46	100	0	00	29.64	29.83		
07	SCT	NC		10.00	42	42	42	100	5	04	29.89	30.08	07	BKN	080		1.50 BR	48	48	48	100	3	11	29.68	29.87		
10	OVC	110		10.00	55	50	52	83	5	08	29.87	30.06	10	BKN	075		10.00	62	49	55	62	0	00	29.71	29.90		
13	OVC	024		5.00 RA BR	57	57	57	100	7	04	29.81	30.00	13	BKN	080		10.00	67	47	56	49	7	21	29.65	29.84		
16	OVC	011		10.00	60	58	59	93	8	05	29.75	29.94	16	BKN	070		10.00	68	45	56	44	13	24	29.60	29.80		
19	OVC	004		10.00	58	58	58	100	9	02	29.73	29.92	19	FEW	NC		10.00	64	45	54	50	7	25	29.64	29.83		
22	OVC	003		0.50 FG	57	57	57	100	8	01	29.70	29.89	22	CLR	NC		10.00	59	45	52	60	6	26	29.69	29.88		
SUNRISE: 0618 MAR 17 SUNSET: 1818																											
01	OVC	003		3.00 BR	56	56	56	98	7	07	29.67	29.86	01	CLR	NC		10.00	50	45	48	83	7	35	29.75	29.94		
04	OVC	001		1.25 BR	55	55	55	100	7	02	29.64	29.83	04	CLR	NC		10.00	46	44	45	93	0	00	29.77	29.96		
07	OVC	003		2.00 BR	55	55	55	100	5	31	29.67	29.86	07	FEW	NC		7.00	42	42	42	100	5	20	29.79	29.98		
10	OVC	005		7.00	56	56	56	100	7	36	29.66	29.85	10	FEW	NC		10.00	60	43	51	53	3	VR	29.82	30.01		
13	OVC	009		10.00	59	55	57	87	0	00	29.62	29.81	13	SCT	NC		10.00	65	43	54	45	5	VR	29.76	29.95		
16	OVC	015		10.00	61	56	58	84	6	01	29.57	29.76	16	BKN	200		10.00	68	39	53	35	3	VR	29.70	29.89		
19	OVC	015		10.00	59	56	57	90	3	08	29.59	29.78	19	BKN	200		10.00	56	43	49	62	9	12	29.74	29.93		
22	OVC	013		8.00	58	56	57	93	3	08	29.57	29.76	22	SCT	NC		10.00	51	42	47	71	6	09	29.79	29.98		
SUNRISE: 0616 MAR 18 SUNSET: 1819																											
01	OVC	013		6.00 BR	57	57	57	100	0	00	29.55	29.74	01	SCT	NC		10.00	49	44	47	83	5	06	29.80	30.00		
04	OVC	001		0.75 BR	56	56	56	100	7	02	29.52	29.70	04	SCT	NC		10.00	45	43	44	93	3	35	29.81	30.00		
07	OVC	003		2.00 BR	57	57	57	100	6	03	29.55	29.73	07	SCT	NC		10.00	46	43	45	89	3	36	29.86	30.05		
10	OVC	055		7.00	61	57	59	87	9	06	29.57	29.76	10	CLR	NC		10.00	61	42	51	50	10	36	29.89	30.09		
13	OVC	030		10.00	68	56	61	66	8	03	29.55	29.74	13	FEW	NC		10.00	65	36	51	34	0	00	29.85	30.04		
16	OVC	055		10.00	68	54	60	61	10	07	29.55	29.74	16	CLR	NC		10.00	68	37	53	32	6	06	29.82	30.01		
19	BKN	250		10.00	62	55	58	78	9	07	29.63	29.83	19	CLR	NC		10.00	59	37	48	44	6	11	29.84	30.03		
22	OVC	150		10.00	55	47	51	74	10	05	29.71	29.91	22	CLR	NC		10.00	51	40	46	66	5	15	29.90	30.09		

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

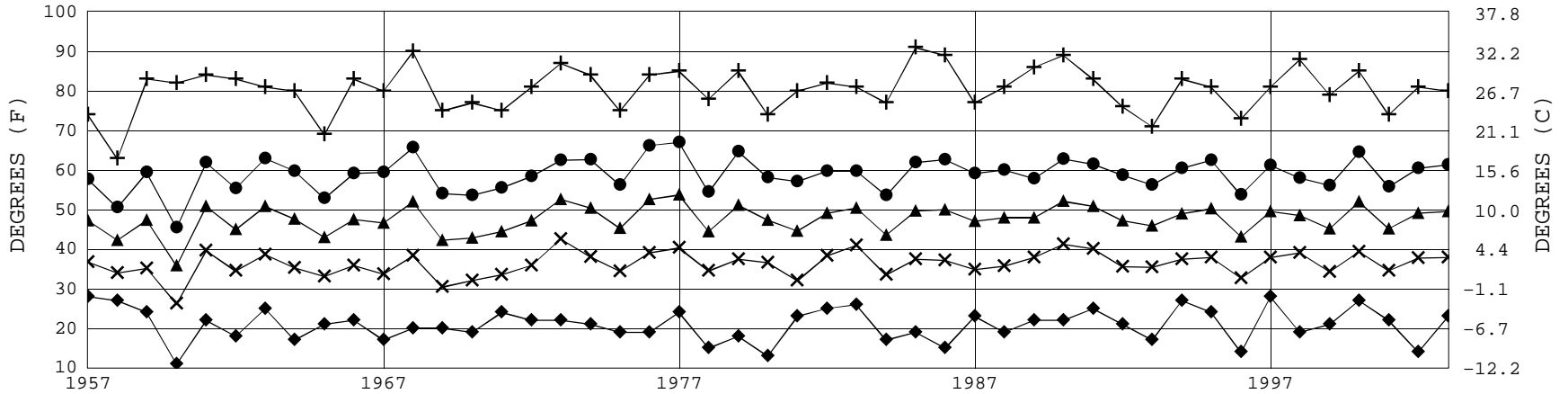
MARCH 2003

RIC

WBAN # 13740

HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)																	
	DRY BULB	DEW POINT		WET BULB	RELATIVE HUMIDITY (PCT)			SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)		SPEED (MPH)	DIRECTION TENS OF DEG		STATION	SEA LEVEL																										
SUNRISE: 0606								MAR 25								SUNSET: 1825								SUNRISE: 0557								MAR 31								SUNSET: 1831							
01	CLR	NC				10.00		48	39	44	71	0	00	29.90	30.09	01	OVC	080				10.00		35	21	30	57	17	33	29.80	29.99																
04	CLR	NC				10.00		42	39	41	89	3	17	29.90	30.09	04	OVC	055				10.00		33	19	28	56	15	34	29.81	30.01																
07	CLR	NC				6.00	BR	42	40	41	92	0	00	29.93	30.12	07	CLR	NC				10.00		33	20	29	59	10	31	29.91	30.10																
10	CLR	NC				10.00		60	42	51	52	13	17	29.92	30.11	10	FEW	NC				10.00		39	21	33	48	14	30	29.95	30.14																
13	CLR	NC				10.00		70	45	57	41	17	20	29.83	30.02	13	SCT	NC				10.00		45	21	36	39	12	29	29.93	30.12																
16	CLR	NC				10.00		73	46	58	38	12	17	29.74	29.93	16	SCT	NC				10.00		48	20	37	33	17	27	29.90	30.09																
19	FEW	NC				10.00		66	46	55	49	10	17	29.74	29.93	19	FEW	NC				10.00		45	22	36	40	16	27	29.95	30.15																
22	FEW	NC				10.00		62	46	54	56	13	18	29.76	29.95	22	CLR	NC				10.00		41	26	35	55	9	27	30.02	30.22																
SUNRISE: 0604								MAR 26								SUNSET: 1826								3-HOURLY OBSERVATION NOTES																							
01	CLR	NC				10.00		58	47	52	67	15	19	29.75	29.94	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				10.00		56	44	50	65	12	20	29.71	29.90	Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.																															
07	SCT	NC				10.00		54	42	48	64	8	21	29.72	29.91	NC = No ceiling detected.																															
10	FEW	NC				10.00		67	47	56	49	9	22	29.70	29.89	& = Original observation contained additional weather elements.																															
13	CLR	NC				10.00		76	51	62	42	13	19	29.60	29.79	See page 3 for additional notes.																															
16	OVC	250				10.00		79	48	61	34	22	22	29.56	29.75																																
19	OVC	017				10.00		52	49	50	89	18	36	29.75	29.95																																
22	BKN	085				10.00		48	48	48	100	6	01	29.83	30.02																																
SUNRISE: 0603								MAR 27								SUNSET: 1827								SUMMARY BY HOUR																							
01	BKN	150				5.00	BR	45	45	45	100	0	00	29.85	30.04	AVERAGES																															
04	BKN	150				5.00	BR	45	45	45	100	5	36	29.87	30.06	HOUR (LST)																															
07	BKN	200				3.00	BR	44	44	44	100	0	00	29.95	30.15	CEILOMETER																															
10	OVC	250				10.00		55	42	49	62	7	VR	29.97	30.16	EFF CLD AMT																															
13	OVC	250				10.00		63	42	52	47	9	12	29.96	30.15	DRY BULB																															
16	BKN	250				10.00		63	40	51	43	15	14	29.96	30.15	DEW POINT																															
19	FEW	NC				10.00		53	32	44	45	9	12	29.98	30.17	WET BULB																															
22	CLR	NC				10.00		46	38	42	73	3	12	30.00	30.19	RELATIVE HUMIDITY																															
SUNRISE: 0601								MAR 28								SUNSET: 1828								PRESSURE (INCHES, HG)																							
01	BKN	200				10.00		43	41	42	93	6	05	29.97	30.16	STATION																															
04	OVC	030				10.00		47	43	45	86	6	07	29.97	30.16	SEA LEVEL																															
07	BKN	040				10.00		48	44	46	86	8	01	30.00	30.19	VISIBILITY (MILES)																															
10	OVC	013				10.00		55	49	52	80	6	05	30.02	30.21	WIND SPEED (MPH)																															
13	SCT	NC				10.00		67	57	61	71	7	05	29.98	30.17	SPEED																															
16	BKN	090				10.00		71	61	65	71	9	11	29.90	30.09	DIRECTION																															
19	SCT	NC				10.00		66	60	62	81	10	11	29.88	30.08																																
22	SCT	NC				10.00		65	59	61	81	10	15	29.91	30.10																																
SUNRISE: 0560								MAR 29								SUNSET: 1829								RESULTANT WIND (MPH)																							
01	BKN	035				10.00		62	59	60	90	10	15	29.88	30.07	SPEED																															
04	OVC	020				10.00		61	59	60	93	6	16	29.83	30.02	DIRECTION																															
07	SCT	NC				10.00		63	61	62	93	14	17	29.82	30.01																																
10	OVC	023				10.00		72	64	67	76	17	18	29.79	29.98																																
13	OVC	029				1.50	-RA BR	68	67	67	96	16	19	29.76	29.94																																
16	OVC	050				6.00	-RA BR	70	69	69	97	13	18	29.70	29.88																																
19	SCT	NC				10.00	TS	68	67	67	96	9	16	29.68	29.86																																
22	OVC	050				10.00	-TSRA	61	60	60	97	15	03	29.71	29.90																																
SUNRISE: 0558								MAR 30								SUNSET: 1830								PUBLISHED BY: NCDC, ASHEVILLE, NC.																							
01	OVC	030				10.00	-RA	54	51	52	90	14	02	29.76	29.95	PAGE 6																															
04	OVC	013				3.00	RA BR	47	46	46	97	21	36	29.75	29.95																																
07	OVC	012				2.00	-RA BR	43	42	43	97	24	34	29.78	29.98																																
10	OVC	011				2.00	-RA BR	39	38	39	96	17	35	29.72	29.91																																
13	OVC	008				2.00	-SNRA BR	35	35	35	100	16	35	29.71	29.91																																
16	OVC	008				1.50	-SNRA BR					16	34	29.73																																	
19	OVC	065				10.00		37	33	35	86	14	33	29.74	29.94																																
22	OVC	065				9.00	-SN	35	30	33	82	17	36	29.79	29.98																																

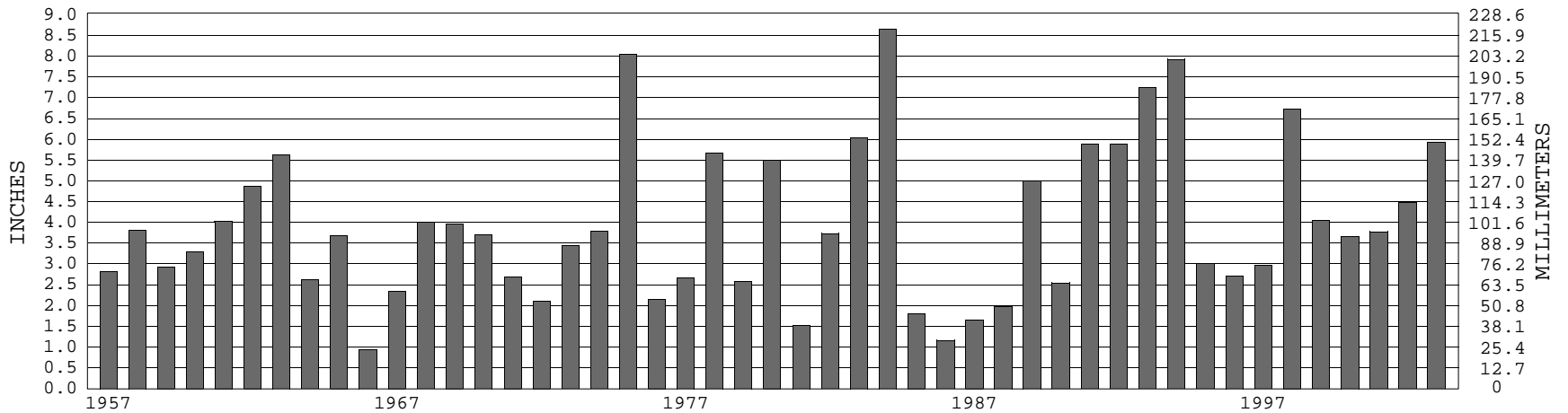
RICHMOND, VA MARCH TEMPERATURES



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

Long-Term (1957-2003) Mean: 47.6 1961-1990 Normal: 47.7

RICHMOND, VA MARCH PRECIPITATION



Long-Term (1957-2003) Mean Monthly Total: 3.95

1961-1990 Normal: 4.09



MARCH 2003
 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

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