



DECEMBER 1998

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

DECEMBER 1998
RICHMOND, VA

DATE	TEMPERATURE °F							DEG DAYS BASE 65°		WEATHER	SNOW/ICE ON GND(IN)		PRECIPITATION (INCHES)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								DATE														
	MAXIMUM	MINIMUM	AVERAGE	DEP FROM NORMAL	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	0700 LST		1300 LST	2400 LST	2400 LST	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	MAXIMUM																				
																			5-SEC		2-MIN																		
																			SPEED	DIR	SPEED	DIR																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																
01	73	40	57	12	40	51	8	0					0.00	29.99	30.19	5.4	27	8.9	23	31	18	30	01																
02	69	33	51	7	33	42	14	0					0.00	30.03	30.24	5.4	21	5.8	23	23	18	23	02																
03	70	40	55	11	42	50	10	0					0.00	29.85	30.05	8.1	24	8.5	21	23	17	23	03																
04	77	53	65	22	51	57	0	0	HZ				0.00	29.88		5.3	26	5.6	9	26	9	26	04																
05	76	47	62	19	53	57	3	0	BR				0.00	29.87		5.6	22	5.8	22	24	18	24	05																
06	81	60	71	28	56	61	0	6					0.00	29.81	30.01	8.6	24	9.3	22	23	18	23	06																
07	81*	60	71*	29	57	62	0	6					0.00	29.80	30.00	8.8	22	11.5	25	27	21	26	07																
08	73	56	65	23	58	60	0	0	RA BR HZ				0.51	29.83	30.03	1.9	13	4.6	37*	34	31*	34	08																
09	57	34	46	4	39	43	19	0	RA BR				0.88	30.09	30.29	9.8	01	10.0	30	36	24	36	09																
10	53	33	43	2	31	38	22	0					0.00	30.17	30.38	0.8	32	1.1	8	26	7	25	10																
11	52	35	44	3	30	39	21	0					0.00	30.16	30.37	5.2	02	5.8	17	02	15	02	11																
12	47	34	41	0	34	39	24	0	RA BR				0.22	30.21	30.42	0.9	05	2.7	8	23	7	01	12																
13	44	40	42	1	41	42	23	0	RA DZ BR				1.84	29.82	30.03	8.9	01	9.2	25	01	22	01	13																
14	47	27	37	-3	27	35	28	0					0.00	30.00	30.21	9.1	36	9.4	25	01	20	36	14																
15	51	25	38	-2	26	33	27	0					0.00	30.11	30.32	2.0	35	2.5	10	03	7	01	15																
16	56	38	47	7	27	38	18	0	RA				0.11	29.74	29.95	3.7	35	8.1	22	36	17	35	16																
17	46	34	40	0	29	36	25	0	RA				0.01	29.64	29.84	3.7	27	6.6	22	34	17	35	17																
18	47	32	40	1	21	32	25	0					0.00	30.07	30.28	5.0	24	7.3	17	24	14	25	18																
19	53	33	43	4	32	39	22	0	RA				0.03	30.15	30.36	5.5	19	5.7	16	20	14	19	19																
20	60	40	50	11	44	47	15	0	RA BR				T	30.15	30.35	1.7	08	3.0	10	05	8	06	20																
21	57	38	48	9	48	49	17	0	FG+ BR				0.00	30.07	30.27	6.7	19	7.2	24	19	18	19	21																
22	66	30	48	10	36	47	17	0	RA BR				0.05	29.91	30.12	8.4	28	17.4	33	21	26	20	22																
23	30	23	27	-11	14	23	38	0	RA FZRA FZDZ BR				0.45	30.32	30.53	9.3	02	9.7	23	02	18	02	23																
24	30	26	28	-10	37	0	37	0	RA FZRA FZDZ SN PL BR				0.73	30.20		3.4	01	3.9	12	36	12	36	24																
25	33	25	29	-9	24	27	36	0	BR				0.00	30.28		0.9	36	1.7	5	36	5	36	25																
26	35	20	28	-10	23	25	37	0	BR				0.00	30.07		0.3	27	.6	3	35	3	35	26																
27	39	19*	29	-8	26	28	36	0	FG+ FZFG BR HZ				0.00	30.15	30.36	0.4	30	.7	8	32	7	33	27																
28	40	30	35	-2	34	35	30	0	RA BR				0.06	29.91	30.12	2.7	02	4.2	11	36	10	01	28																
29	38	36	37	0	36	37	28	0	RA DZ FG+ BR				0.02	29.60	29.80	3.0	31	5.5	17	28	11	25	29																
30	40	22	31	-6	18	29	34	0	RA BR				0.04	29.66	29.86	10.1	32	12.3	36	34	28	33	30																
31	32	21	27*	-10	17	23	38	0	SN BR				0.05	29.98	30.19	3.9	21	4.4	14	22	13	19	31																
53.3											35.0	44.2	■ ■	21.0		0.4	< MONTHLY AVERAGES		TOTALS-->		5.00		29.98	1.9		29	6.4	<-- MONTHLY AVERAGES											
3.1											5.1	4.1	■ ■	<----- DEPARTURE FROM NORMAL ----->										1.74	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3														
DEGREE DAYS										GREATEST 24-HR PRECIPITATION: 1.84 DATE: 13										SEA LEVEL PRESSURE DATE TIME																			
MONTHLY					SEASON TO DATE					GREATEST 24-HR SNOWFALL:					DATE:					MAXIMUM					DATE TIME														
TOTAL DEPARTURE					TOTAL DEPARTURE					GREATEST SNOW DEPTH:					DATE:					MINIMUM					DATE TIME														
HEATING: 652					-120					1292					-198					NUMBER OF DAYS WITH →					MAXIMUM TEMP ≥ 90: 0					MINIMUM TEMP ≤ 32: 12					PRECIPITATION ≥ 0.01 INCH: 14				
COOLING: 12					12					1630					282					MAXIMUM TEMP ≤ 32: 3					MINIMUM TEMP ≤ 0: 0					PRECIPITATION ≥ 0.10 INCH: 7									
																				THUNDERSTORMS: 0					HEAVY FOG: 3					SNOWFALL ≥ 1.0 INCH: :									

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA

DECEMBER 1998

RIC

WBAN # 13740

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note 2)	2400 LST	
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			Water	Equiv.
01													01												01		0.00		
02													02												02		0.00		
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					T								08	0.03			0.10		0.01	T	0.19	0.07	0.02	0.04	08	0.50	0.51		
09	0.09	0.17	0.28	0.08	0.10	0.10	0.02	0.01	0.03	0.01	T	0.04	09												09	0.89	0.88		
10													10												10		0.00		
11													11												11		0.00		
12													12					T	T	T	0.01	0.01	0.05	0.07	12	0.21	0.22		
13	0.04	0.15	0.28	0.19	0.30	0.35	0.12	0.11	0.15	0.05	0.05	0.01	13	0.01	0.01	0.01	0.01			T	T	0.01	T	13	1.85	1.84			
14													14												14		0.00		
15													15												15		0.00		
16					T	0.05	0.04	0.02					16												16		0.11		
17													17				T								17		0.01		
18													18												18		0.00		
19													19					0.03				T			19		0.03		
20	T	T											20											T	20		T		
21													21												21		0.00		
22									T	0.05			22												22		0.05		
23													23				0.01	0.06	0.07		0.05	0.01	0.03	0.05	23	0.37	0.45		
24	0.03	0.07		0.03	0.04	0.11		0.02	0.05			0.01	24											0.09	24	0.36	0.73		
25													25												25		0.00		
26													26												26		0.00		
27													27												27		0.00		
28													28	0.02	0.01	T	T								28		0.06		
29	T				T	T	T	T	0.01	0.01	T	T	29				T								29		0.02		
30					T	0.01	0.02	0.01	T				30												30		0.04		
31						T	T	0.01	T	0.03	T	T	31												31	0.04	0.05		

MAXIMUM SHORT DURATION PRECIPITATION (See Note 1)

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

Date and time are not entered for TRACE amounts.

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

Note 2: The sum of the hourly totals is given when it differs from the daily total. NWS does not edit ASOS hourly values but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

DECEMBER 1998

RIC

WBAN # 13740

HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE ° F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE ° F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)			
	DRY BULB	DEW POINT		WET BULB	DRY BULB			DEW POINT	WET BULB	SPEED (MPH)		DIRECTION TENS OF DEG	STATION	SEA LEVEL	DRY BULB		DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG			STATION	SEA LEVEL								
SUNRISE: 0705 DEC 01 SUNSET: 1652																																	
01	CLR	NC				10.00		60	52	56	75	13	21	29.88	30.08	01	CLR	NC				10.00		65	57	60	76	9	21	29.78	29.98		
04	CLR	NC				10.00		58	51	54	78	10	23	29.86	30.06	04	CLR	NC				10.00		65	58	61	78	13	22	29.78	29.98		
07	CLR	NC				10.00		58	50	54	75	9	25	29.91	30.11	07	CLR	NC				10.00		61	56	58	84	10	20	29.79	29.99		
10	CLR	NC				10.00		65	50	57	59	8	29	29.97	30.17	10	CLR	NC				10.00		71	58	63	63	16	22	29.81	30.01		
13	CLR	NC				10.00		73	36	54	26	12	30	29.98	30.18	13	CLR	NC				10.00		79	57	66	47	17	23	29.75	29.95		
16	CLR	NC				10.00		71	30	52	22	8	31	30.02	30.22	16	SCT	NC				10.00		79	57	66	47	12	23	29.76	29.96		
19	CLR	NC				10.00		58	29	45	33	7	05	30.09	30.29	19	OVC	080				10.00		72	58	64	61	9	20	29.81	30.01		
22	CLR	NC				10.00		46	31	40	56	0	00	30.14	30.34	22	BKN	095				10.00		66	58	61	75	8	02	29.88	30.08		
SUNRISE: 0706 DEC 02 SUNSET: 1651																																	
01	CLR	NC				10.00		41	30	37	65	0	00	30.14	30.35	01	OVC	120				10.00		61	56	58	84	0	00	29.87	30.07		
04	CLR	NC				10.00		37	30	34	76	0	00	30.14	30.34	04	OVC	180				10.00		61	56	58	84	0	00	29.87	30.07		
07	CLR	NC				10.00		33	28	31	82	0	00	30.13	30.34	07	BKN	110				10.00		59	56	57	90	3	13	29.87	30.06		
10	FEW	NC				10.00		55	35	46	47	9	20	30.13	30.33	10	OVC	038				10.00		7.00	-RA	65	60	62	84	9	21	29.88	30.08
13	BKN	250				10.00		66	32	50	28	12	22	30.01	30.22	13	OVC	008				10.00		4.00	BR	66	64	65	93	6	17	29.80	30.00
16	SCT	NC				10.00		67	36	52	32	12	22	29.95	30.15	16	BKN	065				10.00		71	64	67	79	5	13	29.74	29.94		
19	SCT	NC				10.00		55	35	46	47	7	19	29.93	30.13	19	OVC	005				10.00		8.00	-RA	57	56	56	96	7	04	29.82	30.02
22	CLR	NC				10.00		49	37	44	64	8	20	29.92	30.12	22	OVC	070				10.00		2.00	-RA BR	57	57	57	100	6	08	29.82	30.02
SUNRISE: 0707 DEC 03 SUNSET: 1651																																	
01	CLR	NC				10.00		48	35	42	61	6	21	29.89	30.09	01	OVC	003				10.00		2.00	RA BR	57	56	56	96	9	04	29.80	30.01
04	BKN	250				10.00		47	34	41	61	3	23	29.87	30.07	04	OVC	011				10.00		10.00	-RA	51	50	51	96	16	02	29.85	30.05
07	BKN	250				10.00		44	37	41	76	7	21	29.85	30.06	07	OVC	025				10.00		9.00		45	43	44	93	16	36	30.01	30.21
10	OVC	250				10.00		60	39	50	46	10	25	29.87	30.07	10	OVC	025				10.00		45	42	44	90	13	01	30.14	30.34		
13	OVC	200				10.00		68	45	56	44	15	27	29.82	30.02	13	FEW	NC				10.00		50	36	44	59	13	01	30.14	30.34		
16	BKN	250				10.00		68	47	57	47	12	25	29.81	30.01	16	CLR	NC				10.00		50	30	42	46	12	01	30.17	30.37		
19	BKN	250				10.00		60	48	54	65	9	23	29.84	30.04	19	CLR	NC				10.00		42	30	37	62	5	34	30.22	30.42		
22	SCT	NC				10.00		60	48	54	65	8	23	29.85	30.05	22	CLR	NC				10.00		37	31	35	79	0	00	30.25	30.45		
SUNRISE: 0708 DEC 04 SUNSET: 1651																																	
01	SCT	NC				10.00		60	48	54	65	8	24	29.85	30.06	01	CLR	NC				10.00		34	31	33	89	5	36	30.24	30.45		
04	SCT	NC				10.00		59	49	54	69	7	27	29.85	30.05	04	CLR	NC				10.00		34	29	32	82	0	00	30.26	30.46		
07	CLR	NC				8.00		59	50	54	72	6	25	29.87	30.08	07	BKN	250				10.00		34	30	32	85	6	32	30.27	30.47		
10	SCT	NC				8.00		68	52	59	57	10	26	29.91	30.11	10	SCT	NC				10.00		45	30	39	56	0	00	30.25	30.45		
13	OVC	250				10.00		76	53	63	45	8	27	29.87	30.07	13	FEW	NC				10.00		51	28	41	41	7	28	30.15	30.36		
16	OVC	250				10.00		76	53	63	45	7	31	29.86	30.06	16	BKN	200				10.00		53	28	42	38	0	00	30.08	30.29		
19	BKN	250				10.00		67	53	59	61	5	29	29.89		19	OVC	150				10.00		45	34	40	66	0	00	30.08	30.29		
22	SCT	NC				8.00		58	51	54	78	0	00	29.91		22	OVC	150				10.00		43	34	39	71	0	00	30.11	30.31		
SUNRISE: 0709 DEC 05 SUNSET: 1651																																	
01	CLR	NC				7.00		55	50	52	83	0	00	29.90		01	OVC	150				10.00		44	38	41	79	0	00	30.07	30.28		
04	CLR	NC				6.00	BR	50	48	49	93	3	23	29.91		04	OVC	100				10.00		45	37	41	74	6	35	30.08	30.28		
07	FEW	NC				6.00	BR	50	47	48	89	0	00	29.93	30.13	07	OVC	140				10.00		44	33	39	65	7	36	30.13	30.33		
10	BKN	250				8.00		63	51	56	65	0	00	29.93	30.13	10	BKN	250				10.00		47	31	40	54	9	02	30.20	30.41		
13	BKN	200				10.00		71	50	59	47	8	22	29.85	30.06	13	OVC	250				10.00		51	27	41	39	10	35	30.17	30.37		
16	OVC	095				10.00		72	54	61	53	10	21	29.82	30.02	16	OVC	250				10.00		49	27	40	43	5	35	30.17	30.38		
19	OVC	065				10.00		68	57	62	68	7	22	29.83	30.03	19	BKN	250				10.00		42	24	35	49	3	04	30.23	30.43		
22	OVC	100				10.00		66	58	61	75	8	23	29.82	30.02	22	BKN	250				10.00		39	24	33	55	7	07	30.25	30.46		
SUNRISE: 0710 DEC 06 SUNSET: 1651																																	
01	OVC	090				9.00		64	59	61	84	7	22	29.82	30.01	01	BKN	250				10.00		35	30	33	82	6	02	30.26	30.47		
04	SCT	NC				8.00		63	58	60	84	7	24	29.82	30.02	04	BKN	250				10.00		37	28	34	70	7	05	30.27	30.47		
07	FEW	NC				7.00		60	56	58	86	8	23	29.83	30.03	07	OVC	150				10.00		39	30	35	70	0	00	30.29	30.50		
10	FEW	NC				10.00		72	58	64	61	9	25	29.85	30.05	10	OVC	250				10.00		43	31	38	63	5	21	30.31	30.52		
13	SCT	NC				10.00		79	55	65	44	13	26	29.78	29.98	13	OVC	090				10.00		46	32	40	58	0	00	30.22	30.43		
16	SCT	NC				10.00		78	53	63	42	12	26	29.77	29.97	16	OVC	080				10.00		47	33	41	59	0	00	30.18	30.38		
19	CLR	NC				10.00		64	53	58	68	8	20	29.79	29.99	19	OVC	055				10.00		9.00	-RA	45	41	43	86	0	00	30.17	30.38
22	CLR	NC				10.00		66	53	59	63	12	22	29.80	30.00	22	OVC	032				10.00		4.00	-RA BR	43	42	43	97	5	04	30.11	30.32

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

DECEMBER 1998

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
SUNRISE: 0715				DEC 13				SUNSET: 1652				SUNRISE: 0719				DEC 19				SUNSET: 1654							
01	OVC	026		4.00	RA BR	41	40	41	96	5	04	30.04	30.24	01	BKN	250		10.00	34	25	31	70	7	19	30.20	30.41	
04	OVC	035		2.50	+RA BR	41	41	41	100	8	04	29.95	30.15	04	BKN	250		10.00	38	25	33	60	9	18	30.19	30.40	
07	OVC	003		5.00	RA BR	41	40	41	96	7	01	29.88	30.08	07	BKN	250		10.00	34	24	30	67	5	19	30.18	30.39	
10	OVC	018		6.00	-RA BR	43	43	43	100	10	01	29.84	30.04	10	OVC	043		10.00	43	28	37	56	6	21	30.20	30.40	
13	OVC	004		6.00	-RA BR	43	43	43	100	12	36	29.74	29.95	13	BKN	250		10.00	51	31	42	46	6	20	30.14	30.35	
16	OVC	006		9.00		43	42	43	97	10	01	29.71	29.92	16	BKN	095		10.00	51	32	43	48	7	17	30.12	30.32	
19	OVC	004		2.00	DZ BR	44	43	44	96	9	01	29.73	29.94	19	OVC	070		10.00	47	39	43	75	5	14	30.11	30.32	
22	OVC	055		9.00		43	37	40	80	12	36	29.78	29.98	22	OVC	080		10.00	48	44	46	84	0	00	30.10	30.30	
SUNRISE: 0716				DEC 14				SUNSET: 1652				SUNRISE: 0720				DEC 20				SUNSET: 1654							
01	BKN	085		10.00		40	36	38	86	3	31	29.78	29.99	01	OVC	014		10.00	-RA	48	44	46	86	0	00	30.09	30.30
04	SCT	NC		10.00		40	32	37	73	10	36	29.83	30.03	04	OVC	060		10.00	47	42	45	83	0	00	30.10	30.30	
07	CLR	NC		10.00		37	30	34	76	10	36	29.92	30.12	07	SCT	NC		10.00	48	44	46	86	7	17	30.11	30.32	
10	CLR	NC		10.00		42	31	38	65	16	01	30.01	30.21	10	BKN	250		10.00	53	46	49	76	3	02	30.18	30.38	
13	FEW	NC		10.00		46	28	39	50	13	36	30.00	30.21	13	BKN	250		10.00	59	45	52	60	6	04	30.15	30.35	
16	CLR	NC		10.00		45	20	36	37	12	01	30.05	30.25	16	BKN	250		10.00	60	46	53	60	7	07	30.15	30.35	
19	CLR	NC		10.00		38	18	31	44	7	03	30.13	30.34	19	BKN	200		10.00	51	44	48	77	6	06	30.17	30.37	
22	CLR	NC		10.00		31	22	28	69	0	00	30.17	30.37	22	SCT	NC		10.00	45	42	44	90	0	00	30.20	30.40	
SUNRISE: 0717				DEC 15				SUNSET: 1652				SUNRISE: 0720				DEC 21				SUNSET: 1655							
01	CLR	NC		10.00		29	23	27	78	0	00	30.19	30.40	01	CLR	NC		6.00	BR	40	38	39	93	3	15	30.17	30.37
04	CLR	NC		10.00		28	23	26	81	0	00	30.20	30.40	04	OVC	002		0.75	BR	42	41	42	96	0	00	30.17	30.38
07	CLR	NC		10.00		26	22	25	84	5	34	30.21	30.42	07	VV	001		<.25	FG	47	46	46	99	5	21	30.17	30.38
10	CLR	NC		10.00		39	27	34	62	5	35	30.22	30.43	10	OVC	001		<.25	FG	47	47	47	98	5	VR	30.18	30.39
13	CLR	NC		10.00		47	24	38	41	3	26	30.14	30.35	13	OVC	003		1.50	BR	52	50	51	92	8	18	30.08	30.28
16	CLR	NC		10.00		50	25	40	38	0	00	30.06	30.27	16	OVC	031		7.00		56	52	54	87	7	17	30.02	30.22
19	SCT	NC		10.00		41	30	37	65	0	00	30.03	30.24	19	BKN	110		7.00		55	52	53	90	7	19	29.97	30.17
22	BKN	200		10.00		42	30	37	62	3	36	29.97	30.17	22	BKN	060		5.00	BR	56	54	55	93	16	18	29.90	30.10
SUNRISE: 0717				DEC 16				SUNSET: 1653				SUNRISE: 0721				DEC 22				SUNSET: 1655							
01	OVC	200		10.00		42	28	36	58	9	35	29.88	30.08	01	OVC	012		7.00		61	58	59	90	25	20	29.80	30.00
04	OVC	080		10.00		42	28	36	58	12	36	29.78	29.99	04	OVC	019		10.00		64	60	62	87	21	20	29.72	29.92
07	OVC	060		9.00	-RA	39	30	35	70	12	01	29.79	29.99	07	OVC	026		10.00		66	60	62	81	15	22	29.68	29.88
10	OVC	140		10.00		45	27	38	49	9	02	29.79	30.00	10	OVC	060		10.00		64	52	57	65	10	27	29.76	29.96
13	BKN	250		10.00		55	26	43	33	12	36	29.71	29.92	13	OVC	150		10.00		57	24	43	28	21	30	29.85	30.05
16	FEW	NC		10.00		55	22	42	28	7	27	29.71	29.91	16	BKN	180		10.00		51	22	40	32	16	31	29.99	30.19
19	FEW	NC		10.00		41	27	35	57	5	18	29.69	29.90	19	CLR	NC		10.00		45	18	35	34	10	32	30.12	30.32
22	CLR	NC		10.00		42	29	37	60	8	22	29.67	29.88	22	SCT	NC		10.00		34	9	27	35	16	02	30.26	30.46
SUNRISE: 0718				DEC 17				SUNSET: 1653				SUNRISE: 0721				DEC 23				SUNSET: 1656							
01	CLR	NC		10.00		39	28	35	65	6	18	29.63	29.83	01	BKN	150		10.00		28	5	22	37	14	03	30.29	30.50
04	SCT	NC		10.00		35	28	32	76	7	19	29.57	29.78	04	BKN	150		10.00		24	5	19	44	16	02	30.35	30.55
07	BKN	250		10.00		36	28	33	73	5	23	29.57	29.77	07	OVC	250		10.00		23	6	19	48	12	01	30.40	30.61
10	OVC	050		10.00		46	31	40	56	6	28	29.61	29.81	10	OVC	030		10.00		25	8	20	48	9	01	30.45	30.66
13	OVC	055		10.00		46	31	40	56	0	00	29.57	29.77	13	OVC	026		10.00		28	12	23	51	10	06	30.33	30.54
16	BKN	065		10.00		45	37	41	72	6	13	29.61	29.81	16	OVC	026		7.00	-FZRAPL	27	18	24	69	8	02	30.30	30.51
19	BKN	100		10.00		43	29	37	59	9	31	29.70	29.91	19	OVC	014		4.00	FZRA BR	27	25	26	92	8	02	30.26	30.47
22	CLR	NC		10.00		39	24	33	55	9	29	29.79	29.99	22	OVC	010		5.00	-FZRA BR	27	25	26	92	10	02	30.20	30.40
SUNRISE: 0718				DEC 18				SUNSET: 1654				SUNRISE: 0722				DEC 24				SUNSET: 1656							
01	CLR	NC		10.00		35	22	30	59	3	26	29.84	30.05	01	OVC	006		4.00	-FZRA BR	30	28	29	92	10	36	30.15	30.36
04	FEW	NC		10.00		34	22	30	61	10	25	29.92	30.13	04	OVC	006		9.00	FZDZ	29	27	28	92	10	01	30.14	30.35
07	CLR	NC		10.00		33	21	29	61	9	27	30.01	30.22	07	OVC	010		5.00	FZRA BR	30	28	29	92	0	00	30.14	30.35
10	CLR	NC		10.00		40	21	33	47	10	30	30.11	30.32	10	OVC	030		5.00	FZRA PL	28	25	27	88	7	03	30.24	
13	CLR	NC		10.00		44	18	35	35	8	24	30.10	30.30	13	OVC	015		4.00	-PL -SN	28	24	27	87	5	VR	30.21	
16	SCT	NC		10.00		45	18	35	34	5	21	30.13	30.34	16	OVC	040		6.00	BR					0	00	30.21	
19	BKN	250		10.00		36	22	31	57	5	14	30.14	30.35	19	OVC	060		7.00		28	25	27	89	0	00	30.24	
22	SCT	NC		10.00		33	24	30	70	3	16	30.18	30.39	22	OVC	070		7.00		29	26	28	88	0	00	30.25	

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

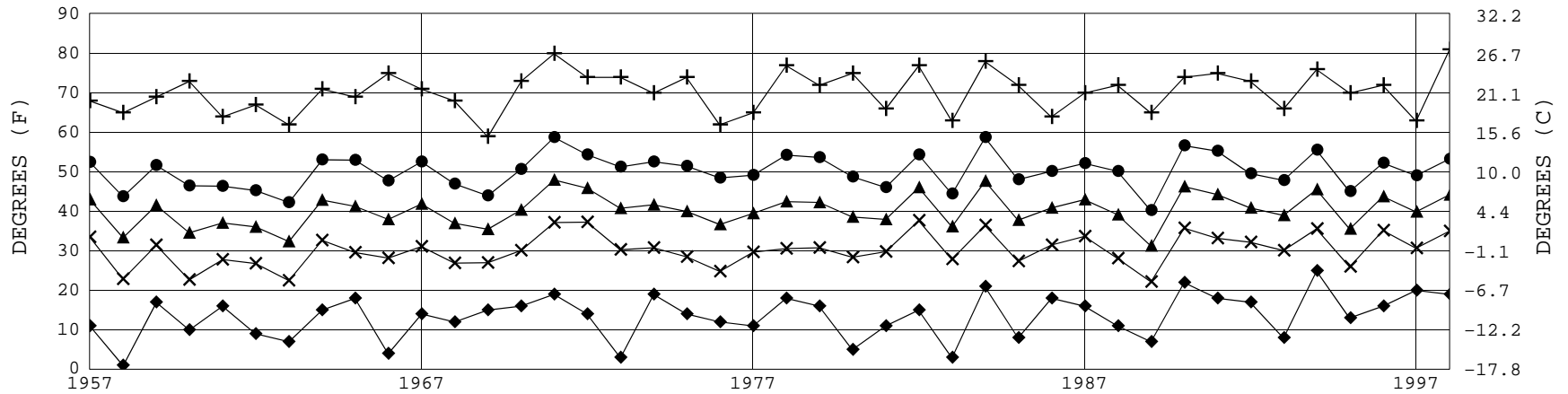
DECEMBER 1998

RIC

WBAN # 13740

HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		OBSERVATION TIME (LST)	EFF CLD AMT Okltas	VISIBILITY (MILES)	WEATHER	TEMPERATURE ° F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		OBSERVATION TIME (LST)	EFF CLD AMT Okltas	VISIBILITY (MILES)	WEATHER	TEMPERATURE ° F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
	DRY BULB	DEW POINT		WET BULB	DRY BULB					DEW POINT	WET BULB	SPEED (MPH)		DIRECTION TENS OF DEG	STATION	SEA LEVEL	DRY BULB		DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG					STATION	SEA LEVEL						
SUNRISE: 0722										DEC 25			SUNSET: 1657					SUNRISE: 0724										DEC 31			SUNSET: 1701				
01	BKN	200						7.00		29	27	28	93	3	34	30.24		01	BKN	250						10.00		22	6	18	50	0	00	30.01	30.22
04	OVC	200						7.00		28	26	27	92	3	VR	30.29		04	OVC	095						10.00		23	11	20	60	5	19	30.02	30.23
07	OVC	250						10.00		25	22	24	89	0	00	30.30		07	OVC	011					1.50	-SN	22	16	20	78	5	18	30.05	30.26	
10	BKN	250						10.00		27	18	24	70	3	VR	30.34		10	OVC	022					2.50	-SN BR	23	20	22	88	7	19	30.05	30.26	
13	BKN	250						10.00						6	36	30.29		13	OVC	100					10.00		28	21	26	75	8	23	29.94	30.15	
16	BKN	250						10.00		33	26	30	75	3	07	30.27		16	FEW	NC					10.00		31	20	27	64	8	23	29.91	30.12	
19	OVC	250						7.00		28	24	26	86	0	00	30.26		19	SCT	NC					10.00		26	20	24	78	6	21	29.95	30.16	
22	OVC	200						6.00 BR		27	25	26	91	0	00	30.25		22	FEW	NC					10.00		26	18	24	71	0	00	29.95	30.16	
SUNRISE: 0722										DEC 26			SUNSET: 1658					3-HOURLY OBSERVATION NOTES																	
01	SCT	NC						7.00		23	21	22	94	2	25	30.19		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	SCT	NC						5.00 BR		20	18	19	92	2	26	30.14		Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.																	
07	SCT	NC						7.00		20	18	19	93	0	00	30.09		NC = No ceiling detected.																	
10	OVC	200						7.00		27	25	26	92	0	00	30.09		& = Original observation contained additional weather elements.																	
13	OVC	200						7.00		34	29	32	84	0	00	30.00		See page 3 for additional notes.																	
16	BKN	180						7.00		33	27	31	77	3	VR	29.97																			
19	SCT	NC						5.00 BR		28	25	27	88	0	00	30.01	30.22																		
22	CLR	NC						3.00 BR		25	23	24	92	0	00	30.07	30.27																		
SUNRISE: 0723										DEC 27			SUNSET: 1658					SUMMARY BY HOUR																	
01	CLR	NC						2.00 BR		23	22	23	96	0	00	30.10	30.31	AVERAGES																	
04	FEW	NC						3.00 BR		20	18	19	92	0	00	30.14	30.35	RESULTANT WIND (MPH)																	
07	VV	001						< .25 FZFG		21	20	21	96	0	00	30.19	30.40	HOUR (LST)																	
10	BKN	250						1.50 BR		29	27	28	92	0	00	30.24	30.45	CEILOMETER																	
13	OVC	250						5.00 HZ		36	30	34	79	0	00	30.19	30.40	EFF CLD AMT																	
16	OVC	200						5.00 HZ		38	31	35	76	0	00	30.16	30.37	DRY BULB																	
19	OVC	200						3.00 BR		33	30	32	89	0	00	30.12	30.33	DEW POINT																	
22	OVC	200						2.00 BR		32	30	31	92	0	00	30.09	30.30	WET BULB																	
SUNRISE: 0723										DEC 28			SUNSET: 1659					PRESSURE (INCHES, HG)																	
01	OVC	028						3.00 BR		35	31	34	86	3	36	30.04	30.25	STATION																	
04	FEW	NC						1.50 BR		33	32	33	96	0	00	29.99	30.19	SEA LEVEL																	
07	OVC	250						1.50 BR		30	29	30	96	0	00	29.94	30.15	VISIBILITY (MILES)																	
10	OVC	085						1.50 BR		35	34	35	96	5	17	29.98	30.19	WIND SPEED (MPH)																	
13	OVC	025						1.25 -RA BR		39	37	38	93	5	33	29.89	30.09	SPEED																	
16	BKN	070						2.00 BR		39	37	38	93	6	02	29.85	30.06	DIRECTION																	
19	OVC	110						5.00 BR		38	36	37	93	6	02	29.87	30.08																		
22	OVC	250						5.00 BR		37	35	36	93	6	35	29.85	30.06																		
SUNRISE: 0723										DEC 29			SUNSET: 1660					HOUR (LST)																	
01	OVC	110						5.00 BR		36	34	35	93	7	02	29.82	30.02	CEILOMETER																	
04	OVC	032						5.00 BR		37	34	36	89	7	02	29.77	29.97	EFF CLD AMT																	
07	OVC	020						4.00 BR		37	35	36	93	6	34	29.74	29.95	DRY BULB																	
10	OVC	004						1.50 BR		37	36	37	96	5	35	29.69	29.90	DEW POINT																	
13	OVC	001						0.50 FG		37	37	37	100	5	31	29.57	29.78	WET BULB																	
16	OVC	001						0.25 FG		38	37	38	97	5	31	29.51	29.71	RELATIVE HUMIDITY																	
19	OVC	003						1.00 BR		38	37	38	97	7	24	29.45	29.65	PRESSURE (INCHES, HG)																	
22	OVC	005						2.50 BR		37	36	37	96	9	26	29.41	29.62	STATION																	
SUNRISE: 0723										DEC 30			SUNSET: 1700					SEA LEVEL																	
01	OVC	005						2.50 BR		37	36	37	96	12	24	29.36	29.57	VISIBILITY (MILES)																	
04	OVC	004						2.50 BR		38	37	38	97	7	25	29.33	29.54	WIND SPEED (MPH)																	
07	OVC	044						2.50 -RA BR		40	37	39	89	9	30	29.39	29.60	SPEED																	
10	OVC	090						10.00		34	18	29	52	23	34	29.57	29.78	DIRECTION																	
13	CLR	NC						10.00		35	9	27	34	21	34	29.66	29.87																		
16	CLR	NC						10.00		33	5	25	30	12	33	29.80	30.01																		
19	CLR	NC						10.00		29	7	23	39	13	34	29.93	30.14																		
22	CLR	NC						10.00		24	6	19	46	9	34	29.97	30.18																		

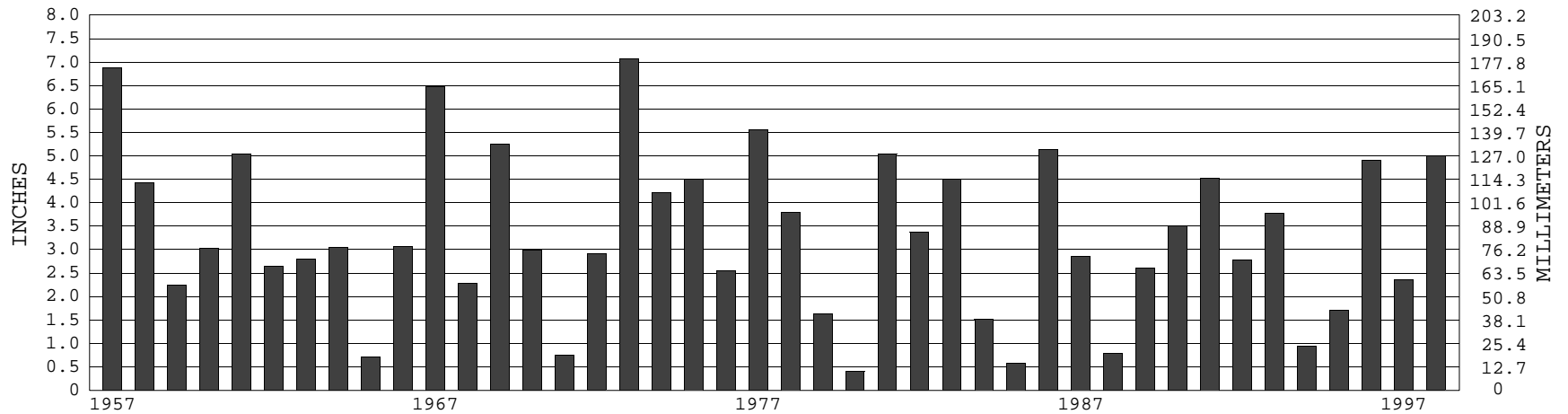
RICHMOND, VA DECEMBER TEMPERATURES



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

Long-Term (1957-1998) Mean: 40.3 1961-1990 Normal: 40.1

RICHMOND, VA DECEMBER PRECIPITATION



Long-Term (1957-1998) Mean Monthly Total: 3.34

1961-1990 Normal: 3.26



**DECEMBER 1998
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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