



# MAY 2001

## 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	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
01	82	50	66	4	56	61	0	1			0.0	0.00	29.95	30.13	5.0	17	5.9	16	19	14	17	01		
02	84	58	71	9	60	64	0	6			0.0	0.00	29.93	30.12	5.6	19	6.0	17	19	14	20	02		
03	85	58	72	10	60	65	0	7			0.0	0.00	30.02	30.21	5.1	18	5.8	15	15	13	19	03		
04	87	57	72	9	60	64	0	7			0.0	0.00	29.95	30.14	5.6	19	6.0	15	20	12	15	04		
05	88	58	73	10	61	65	0	8	RA HZ		0.0	T	29.88	30.06	2.4	09	7.8	23	08	20	09	05		
06	68	47	58	-5	52	55	7	0	RA		0.0	T	30.16	30.35	8.8	07	10.0	26	07	20	08	06		
07	68	42*	55	-8	46	50	10	0			0.0	0.00	30.28	30.47	7.2	07	8.2	22	07	15	08	07		
08	73	45	59	-5	51	55	6	0	FG+ BR		0.0	0.00	30.16	30.35	2.3	15	4.2	13	14	10	13	08		
09	77	51	64	0	57	59	1	0	BR		0.0	0.00	30.01	30.20	0.7	11	3.0	15	04	12	05	09		
10	83	52	68	4	56	61	0	3	BR		0.0	0.00	29.94	30.13	1.6	32	4.2	16	33	14	31	10		
11	89*	54	72	7	59	64	0	7			0.0	0.00	29.85	30.03	5.9	22	6.4	25	26	16	24	11		
12	87	61	74	9	60	65	0	9	TSRA BR		0.0	0.34	29.76	29.95	3.3	30	9.0	24	01	20	01	12		
13	70	51	61	-4	44	52	4	0			0.0	0.00	29.93	30.12	9.4	35	9.7	29	01	23	01	13		
14	72	44	58	-7	40	50	7	0			0.0	0.00	29.96	30.15	5.6	35	7.8	28	36	23	36	14		
15	63	45	54*	-12	47	51	11	0	RA BR		0.0	T	29.78	29.97	2.8	27	4.8	17	27	14	27	15		
16	70	47	59	-7	51	54	6	0	RA BR		0.0	0.05	29.74	29.93	5.6	12	7.1	17	11	15	11	16		
17	63	52	58	-8	53	55	7	0	RA BR		0.0	0.01	29.83	30.02	2.7	16	4.4	13	17	10	22	17		
18	73	57	65	-2	61	62	0	0	RA BR HZ		0.0	T	29.74	29.93	4.0	17	5.9	14	17	10	06	18		
19	74	53	64	-3	65	65	1	0	TSRA RA DZ BR		0.0	0.18	29.67	29.85	3.2	04	4.3	24	32	20	31	19		
20	71	61	66	-1	63	64	0	1	RA BR HZ		0.0	0.11	29.76	29.94	6.6	10	7.2	20	12	17	12	20		
21	71	61	66	-1	66	66	0	1	RA DZ FG BR		0.0	0.11	29.73	29.91	4.6	11	6.0	13	17	10	17	21		
22	85	64	75*	7	67	69	0	10	TS RA BR		0.0	0.27	29.60	29.79	8.4	22	10.0	26	28	22	20	22		
23	76	57	67	-1	52	58	0	2			0.0	0.00	29.69	29.88	6.7	36	7.9	25	01	20	01	23		
24	80	50	65	-3	53	59	0	0	BR		0.0	0.00	29.76	29.95	5.0	15	6.0	18	19	15	12	24		
25	85	59	72	3	61	64	0	7	TSRA RA BR		0.0	0.30	29.84	30.02	7.6	15	9.6	36*	18	31*	18	25		
26	67	61	64	-5	63	63	1	0	TSRA RA BR		0.0	0.57	29.80	29.98	2.2	06	6.7	29	25	22	25	26		
27	81	60	71	2	59	63	0	6	FG+ BR		0.0	0.00	29.67	29.86	7.3	22	8.3	26	22	24	24	27		
28	73	58	66	-3	61	63	0	1	TS TSRA RA BR		0.0	0.07	29.70	29.88	5.7	22	7.5	24	29	22	30	28		
29	77	58	68	-2	59	62	0	3	RA BR		0.0	0.02	29.73	29.91	3.1	28	4.6	18	32	13	27	29		
30	75	53	64	-6	54	59	1	0	BR		0.0	0.00	29.83	30.01	5.4	01	6.0	22	02	17	02	30		
31	73	47	60	-10	46	53	5	0			0.0	0.00	29.91	30.10	2.0	34	5.5	21	01	16	02	31		

76.5	53.9	65.2	■ ■	56.2	60.0	2.2	2.5	< MONTHLY AVERAGES	TOTALS-->	0.0	2.03	29.86	30.04	1.0	15	6.6	<- MONTHLY AVERAGES				
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-1.3	-.3	-.8	■ ■	-----DEPARTURE FROM NORMAL-----						-1.81	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3										
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<b>DEGREE DAYS</b>								GREATEST 24-HR PRECIPITATION: 0.86 DATE :25-26				SEA LEVEL PRESSURE DATE TIME			
MONTHLY TOTAL DEPARTURE				SEASON TO DATE TOTAL DEPARTURE				GREATEST 24-HR SNOWFALL: 0.0 DATE :				MAXIMUM MINIMUM : 30.53 07 0854			
HEATING: 67 6 4200 237				COOLING: 79 -13 124 22				NUMBER OF DAYS WITH →				MAXIMUM TEMP ≥ 90: 0 MINIMUM TEMP ≤ 32: 0			
								MAXIMUM TEMP ≤ 32: 0 MINIMUM TEMP ≤ 0: 0				PRECIPITATION ≥ 0.01 INCH : 11			
								THUNDERSTORMS : 6 HEAVY FOG : 2				PRECIPITATION ≥ 0.10 INCH : 7			
												SNOWFALL ≥ 1.0 INCH : 0			

MAY 2001 RICHMOND, VA

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

## RICHMOND, VA

MAY 2001

RIC

WBAN # 13740

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note)	2400 LST	
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			Water	Equiv.
01													01												01		0.00		
02													02												02		0.00		
03													03												03		0.00		
04													04												04		0.00		
05													05												05	T	T		
06	T												06												06		T		
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			0.34	T	T						12		0.34			
13													13											13		0.00			
14													14											14		0.00			
15												T	15		T	T	T	T						15		T			
16													16												16		0.05		
17	T												17					T	0.02	0.01	0.01		T	0.01	17	T	0.01		
18													18												18		T		
19		0.16	0.02	T						T	T	T	19												19	T	0.18		
20	T									T	T	T	20						T	0.02	0.07	0.02			20		0.11		
21	0.01		0.01	0.02	0.01	0.01						T	21	0.05	0.02	T	0.04	T							21	0.13	0.11		
22		0.10	0.09	0.02	0.01	0.01							22							0.01					22	0.24	0.27		
23													23												23		0.00		
24													24												24		0.00		
25													25			0.25	0.01	T					0.04	T	25		0.30		
26		T	0.10	0.17	T		0.01	0.02	0.01	T	T		26	0.18	0.07	T	T	0.01						26		0.57			
27													27												27		0.00		
28	T	0.01	T	T				0.01	T	0.03	0.02		28												28		0.07		
29								0.01	0.01				29												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)	.21	.31	.34	.34	.34	.34	.34	.34	.34	.34	.34	.34
Ending Date	12	12	12	12	12	12	12	12	12	12	12	12
Ending Time (Hour/Min)	1437	1442	1445	1445	1445	1445	1445	1445	1445	1445	1445	1445

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 MAY 2001

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							8.00	10.00	
02							9.00	10.00	
03							10.00	10.00	
04							10.00	10.00	
05							5.00	10.00	
06							10.00	10.00	
07							10.00	10.00	
08							.25	10.00	
09							6.00	10.00	
10							1.75	10.00	
11							7.00	10.00	
12							.75	10.00	
13							10.00	10.00	
14							9.00	10.00	
15							6.00	10.00	
16							2.50	10.00	
17							6.00	10.00	
18							2.00	7.00	
19							1.25	10.00	
20							1.50	6.00	
21							.50	4.00	
22							5.00	10.00	
23							10.00	10.00	
24							6.00	10.00	
25							.75	10.00	
26							1.50	10.00	
27							.13	10.00	
28							5.00	10.00	
29							2.00	10.00	
30							6.00	10.00	
31							10.00	10.00	
<b>MONTHLY AVGS</b>							5.42	9.58	
<b>SUNSHINE (MINUTES)</b>									
Total:                      Possible: Percent Possible:									
<b>NUMBER OF DAYS WITH:</b>									
<b>SKY CONDITION</b>									
CLR   PTLY CLDY   CLOUDY   MISSING 31									
<b>MINIMUM VISIBILITY (MILES)</b>									
<=0.25    <=3.0    >=7.0 2            11           11									





# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

MAY 2001

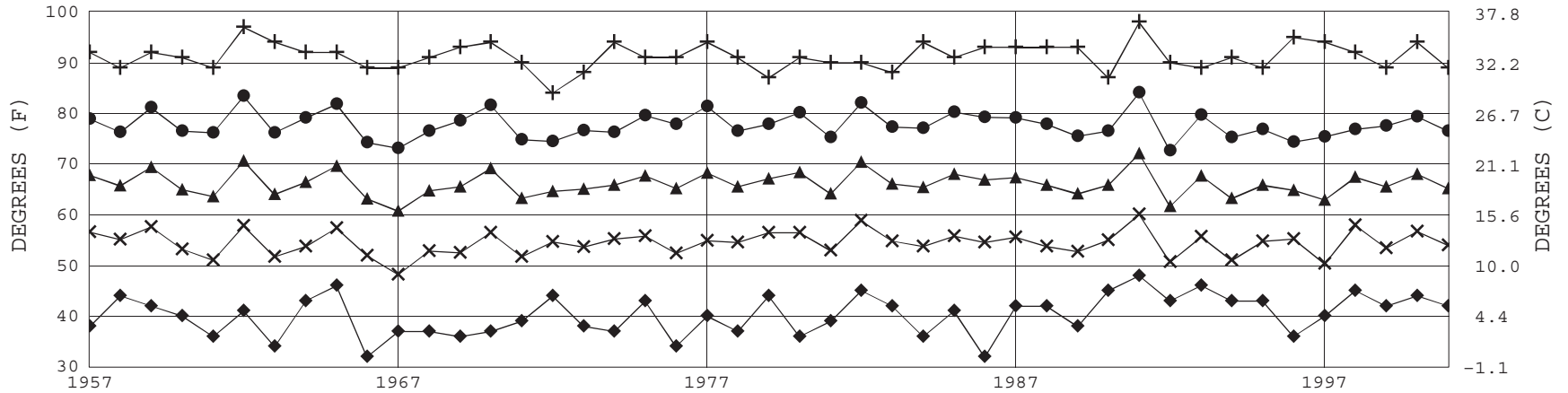
RIC

WBAN # 13740

HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		OBSERVATION TIME (LST)	EFF CLD AMT Okta	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		OBSERVATION TIME (LST)	EFF CLD AMT Okta	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																
<b>SUNRISE: 0453</b>										<b>MAY 25</b>				<b>SUNSET: 1919</b>						<b>SUNRISE: 0450</b>										<b>MAY 31</b>				<b>SUNSET: 1924</b>					
01	BKN	150						10.00		64	54	58	70	12	12	29.82	30.01	01	SCT	NC						10.00		51	49	50	92	0	00	29.91	30.10				
04	SCT	NC						10.00		60	55	57	84	10	12	29.81	30.00	04	SCT	NC						10.00		47	46	47	97	5	36	29.93	30.12				
07	BKN	250						9.00		65	58	61	78	8	13	29.84	30.03	07	OVC	250					10.00		54	44	49	69	9	02	29.96	30.15					
10	BKN	250						10.00		73	62	66	69	10	16	29.84	30.03	10	BKN	250					10.00		62	37	50	40	9	35	29.97	30.16					
13	BKN	110						10.00		81	60	68	49	15	16	29.80	29.98	13	OVC	250					10.00		69	43	55	39	7	36	29.92	30.11					
16	BKN	200						10.00	-RA	73	65	68	76	7	22	29.78	29.97	16	OVC	250					10.00		71	47	58	42	6	28	29.87	30.06					
19	OVC	110						10.00		70	67	68	90	9	14	29.87	30.06	19	OVC	200					10.00		67	48	57	51	5	24	29.86	30.05					
22	OVC	130						9.00		64	63	63	96	3	15	29.87	30.06	22	OVC	150					10.00		61	54	57	78	3	14	29.86	30.06					
<b>SUNRISE: 0453</b>										<b>MAY 26</b>				<b>SUNSET: 1920</b>						<b>3-HOURLY OBSERVATION NOTES</b>																			
										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. Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC = No ceiling detected. & = Original observation contained additional weather elements. See page 3 for additional notes.																													
01	OVC	005						3.00	BR	64	64	64	100	9	13	29.81	30.00	01	OVC	005					3.00	BR	64	64	64	100	9	13	29.81	30.00					
04	OVC	040						6.00	-RA BR	61	60	60	97	5	07	29.81	30.00	04	OVC	040					6.00	-RA BR	61	60	60	97	5	07	29.81	30.00					
07	OVC	010						7.00	-RA	62	62	62	100	7	30	29.85	30.04	07	OVC	010					7.00	-RA	62	62	62	100	7	30	29.85	30.04					
10	OVC	045						10.00		64	63	63	96	6	05	29.83	30.03	10	OVC	045					10.00		64	63	63	96	6	05	29.83	30.03					
13	OVC	035						2.50	+RA BR	63	63	63	100	7	11	29.82	30.01	13	OVC	035					2.50	+RA BR	63	63	63	100	7	11	29.82	30.01					
16	OVC	014						10.00	-RA	65	63	64	93	9	09	29.76	29.95	16	OVC	014					10.00	-RA	65	63	64	93	9	09	29.76	29.95					
19	BKN	014						10.00		64	63	63	96	8	10	29.73	29.92	19	BKN	014					10.00		64	63	63	96	8	10	29.73	29.92					
22	OVC	005						7.00		63	63	63	100	0	00	29.75	29.95	22	OVC	005					7.00		63	63	63	100	0	00	29.75	29.95					
<b>SUNRISE: 0452</b>										<b>MAY 27</b>				<b>SUNSET: 1921</b>						<b>SUMMARY BY HOUR</b>																			
										AVERAGES										RESULTANT WIND (MPH)																			
HOUR (LST)	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (INCHES, HG)		VISIBILITY (MILES)	WIND SPEED (MPH)	WIND DIRECTION																												
							STATION	SEA LEVEL			SPEED	DIRECTION																											
01			59	55	57	88	29.86	30.04	8.11	5	1	14																											
02			58	54	56	89	29.85	30.04	7.67	5	1	17																											
03			57	54	56	90	29.85	30.04	7.60	6	1	25																											
04			56	54	55	93	29.85	30.04	7.62	4	0	0																											
05			56	54	55	93	29.86	30.05	7.35	5	1	13																											
06			57	55	56	93	29.87	30.06	6.90	5	0	0																											
07			60	56	57	87	29.88	30.07	7.21	6	0	0																											
08			63	56	59	80	29.89	30.07	7.73	8	0	0																											
09			66	57	61	74	29.89	30.08	8.68	8	0	0																											
10			68	57	62	69	29.89	30.08	8.90	7	1	5																											
11			71	57	63	64	29.88	30.07	9.10	7	1	10																											
12			73	57	64	60	29.87	30.06	9.05	8	2	16																											
13			74	57	64	58	29.85	30.04	8.87	9	2	22																											
14			75	57	64	56	29.84	30.03	9.24	8	2	22																											
15			74	57	64	59	29.82	30.01	8.79	7	1	18																											
16			74	57	64	58	29.81	30.00	9.27	9	2	14																											
17			73	57	63	58	29.81	30.00	9.24	8	1	14																											
18			72	57	63	63	29.82	30.01	9.16	8	2	12																											
19			68	58	62	71	29.83	30.02	9.21	7	2	12																											
20			65	57	61	79	29.84	30.03	9.21	6	3	12																											
21			63	57	60	83	29.85	30.04	9.18	5	3	14																											
22			62	57	59	86	29.86	30.05	9.06	5	2	14																											
23			60	56	58	86	29.86	30.05	8.31	5	2	14																											
24			60	56	57	87	29.86	30.05	8.00	5	1	13																											



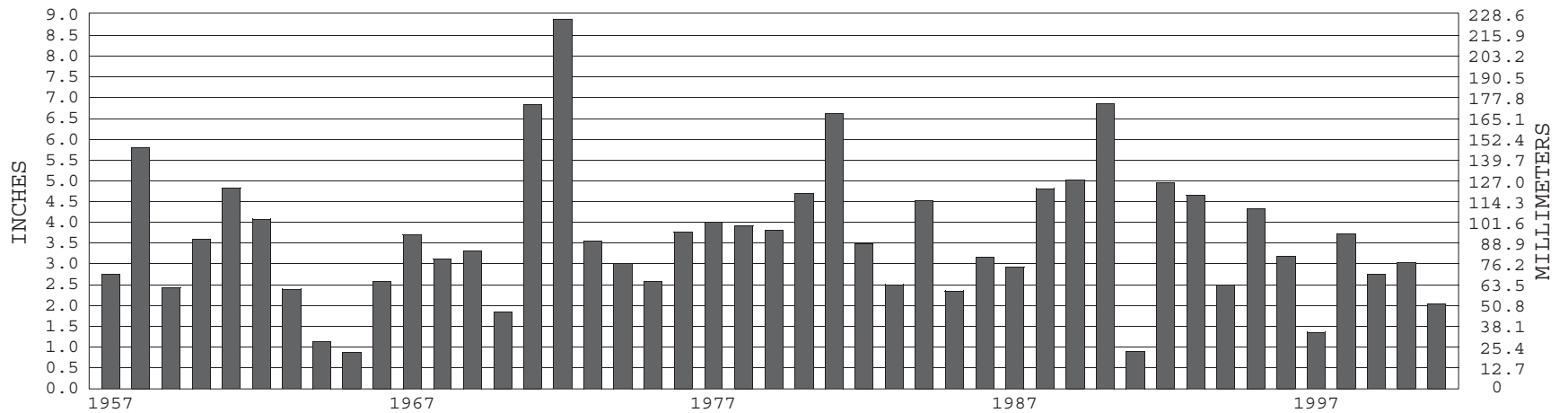
### RICHMOND, VA MAY TEMPERATURES



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

Long-Term (1957-2001) Mean: 66.1      1961-1990 Normal: 66.0

### RICHMOND, VA MAY PRECIPITATION



Long-Term (1957-2001) Mean Monthly Total: 3.63

1961-1990 Normal: 3.84



MAY 2001  
RICHMOND, VA

# LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

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