



# MAY 2004

## LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

# RICHMOND, VA

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

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	79	64	72	11	65	67	0	7	RA BR			0.0	0.04	29.91	30.10	10.2	17	10.9	28	17	23	17	01	
02	84	66	75	14	68	69	0	10	TSRA RA FG BR			0.0	0.88	29.70	29.89	13.7	19	14.0	44*	20	36*	20	02	
03	67	48	58	-3	50	51	7	0	RA DZ BR			0.0	0.35	29.78	29.96	7.4	35	8.9	24	03	20	03	03	
04	64	41*	53*	-8	40	46	12	0				0.0	0.00	29.91	30.10	3.6	32	7.0	23	01	17	01	04	
05	76	46	61	0	50	55	4	0	TS			0.0	0.00	29.82	30.01	5.6	22	6.8	24	25	20	25	05	
06	80	52	66	4	52	58	0	1	BR			0.0	0.00	29.92	30.10	1.3	11	5.3	18	01	12	19	06	
07	90	59	75	12	60	65	0	10				0.0	0.00	29.91	30.10	1.5	26	5.9	33	02	28	01	07	
08	71	55	63	0	54	59	2	0				0.0	0.00	30.09	30.27	7.1	08	10.2	23	07	17	08	08	
09	87	55	71	8	63	65	0	6	BR HZ			0.0	0.00	29.97	30.16	6.3	20	6.9	17	21	15	20	09	
10	89	64	77	13	65	69	0	12	BR			0.0	0.00	29.95	30.14	8.9	21	9.2	20	20	17	22	10	
11	87	64	76	12	63	67	0	11				0.0	0.00	29.98	30.17	8.3	22	8.8	17	20	15	23	11	
12	87	62	75	11	64	68	0	10				0.0	0.00	30.02	30.21	9.0	21	9.6	22	20	18	19	12	
13	86	64	75	11	65	69	0	10	BR			0.0	0.00	30.02	30.21	9.2	21	9.6	22	20	18	20	13	
14	88	68	78	13	66	70	0	13				0.0	0.00	30.02	30.21	10.3	21	10.6	24	23	21	22	14	
15	88	66	77	12	65	69	0	12				0.0	0.00	30.01	30.20	11.2	21	11.5	24	23	20	21	15	
16	87	64	76	11	66	68	0	11	TSRA RA BR			0.0	0.36	30.08	30.27	2.3	22	6.3	21	03	18	03	16	
17	85	64	75	10	68	69	0	10	RA BR			0.0	0.01	30.13	30.32	3.2	18	4.7	16	21	14	19	17	
18	86	67	77	11	66	69	0	12	RA			0.0	T	30.04	30.22	9.5	21	10.4	24	19	20	23	18	
19	85	68	77	11	68	71	0	12	RA BR			0.0	T	29.93	30.12	4.2	25	8.3	21	36	17	01	19	
20	78	68	73	7	68	69	0	8	BR HZ			0.0	0.00	30.01	30.19	5.4	10	7.3	15	15	13	08	20	
21	90	64	77	10	71	73	0	12	TS TSRA FG+ BR HZ			0.0	T	29.89	30.08	3.4	25	7.0	35	01	29	36	21	
22	89	66	78	11	70	72	0	13	TSRA RA BR			0.0	0.21	29.81	29.99	4.3	22	6.3	20	32	17	31	22	
23	91	72	82	14	71	74	0	17				0.0	0.00	29.74	29.92	10.3	22	10.8	25	21	22	21	23	
24	92	71	82	13	69	73	0	17				0.0	0.00	29.72	29.90	11.7	23	11.9	29	22	20	22	24	
25	93*	72	83*	14	69	73	0	18				0.0	0.00	29.69	29.87	5.7	23	7.2	20	24	17	24	25	
26	91	67	79	10	68	72	0	14	TS TSRA RA BR			0.0	0.67	29.60	29.78	4.7	27	7.3	31	27	25	28	26	
27	85	66	76	7	67	70	0	11	RA			0.0	T	29.58	29.76	4.9	23	6.9	17	19	14	23	27	
28	84	67	76	7	68	70	0	11	TSRA RA BR			0.0	0.06	29.53	29.72	6.2	29	9.1	25	25	21	25	28	
29	76	60	68	-2	51	59	0	3				0.0	0.00	29.82	30.00	6.0	02	8.3	24	36	18	01	29	
30	72	57	65	-5	62	64	0	0	RA BR			0.0	0.18	29.80	29.98	4.3	15	4.6	16	14	14	15	30	
31	86	69	78	8	71	73	0	13	TSRA RA BR HZ			0.0	0.30	29.50	29.68	6.6	23	9.3	21	27	17	26	31	

83.6	62.5	73.1	■ ■	63.3	66.7	0.8	9.2	< MONTHLY AVERAGES	TOTALS-->	0.0	3.06	29.87	30.05	3.0	24	8.4	<-- MONTHLY AVERAGES					
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7.4	7.9	7.7	■ ■	<-----DEPARTURE FROM NORMAL----->						- .90	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3													
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<b>DEGREE DAYS</b>								GREATEST 24-HR PRECIPITATION: 1.22 DATE :02-03				SEA LEVEL PRESSURE DATE TIME			
MONTHLY TOTAL DEPARTURE				SEASON TO DATE TOTAL DEPARTURE				GREATEST 24-HR SNOWFALL: 0.0 DATE :				MAXIMUM : 30.37 17 0954			
HEATING: 25 -55 3803 -108				GREATEST SNOW DEPTH:				MINIMUM : 29.59 31 1654				PRECIPITATION ≥ 0.01 INCH : 10			
COOLING: 284 177 353 204				NUMBER OF DAYS WITH →				MAXIMUM TEMP ≥ 90: 6				PRECIPITATION ≥ 0.10 INCH : 7			
								MAXIMUM TEMP ≤ 32 : 0				THUNDERSTORMS : 8			
								MINIMUM TEMP ≤ 32 : 0				HEAVY FOG : 1			
												SNOWFALL ≥ 1.0 INCH : 0			

MAY 2004 RICHMOND, VA

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

## RICHMOND, VA

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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	T			T	T	0.02	T	0.01	0.01	T		01			0.04	
02					T								02												02			0.88	
03	0.02	T		0.03	0.04	0.02	0.12	0.02	T	T		0.01	T		0.04	0.03	0.01	0.01		0.33	0.05	0.13	0.28	0.05	0.03	03			0.35
04													04	0.01	T										04			0.00	
05													05												05			0.00	
06													06												06			0.00	
07													07												07			0.00	
08													08												08			0.00	
09													09												09			0.00	
10													10												10			0.00	
11													11												11			0.00	
12													12												12			0.00	
13													13												13			0.00	
14													14												14			0.00	
15													15												15			0.00	
16													16			T	0.32	T	0.01	0.03	T				16			0.36	
17		T			0.01								17					T							17			0.01	
18													18					T							18			T	
19													19						T						19			T	
20													20												20			0.00	
21													21												21		T	T	
22	0.17	0.04											22												22			0.21	
23													23												23			0.00	
24													24												24			0.00	
25													25												25			0.00	
26													26							T	0.58	0.08	T		26		0.01	0.67	
27													27												27			T	
28		0.01	0.01	T	T	0.01							28												28			0.06	
29													29	T										0.01	29			0.00	
30													30												30			0.18	
31	0.01						0.13	0.11	T	T		0.02	0.04			T	0.05	T	0.11	0.01	T	T		31			0.30		

### MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	.28	.36	.44	.49	.56	.60	.63	.66	.66	.66	.66	.66
Ending Date	02	26	26	26	26	26	26	26	26	26	26	26
Ending Time (Hour/Min)	1823	1939	1942	1947	1950	2003	2021	2025	2025	2025	2025	2025

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 MAY 2004

Ceilometer (30-second) data are used to derive cloudiness at or below 12,000 feet. This cloudiness is the mean cloud cover detected during sunrise to sunset (SR–SS), or midnight to midnight (MN–MN).

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet. Both ceilometer and satellite data must be present to compute Sky Condition. Clear = 0–2 oktas, Partly Cloudy = 3–6 oktas, Cloudy = 7–8 oktas.

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Dew Point is the temperature to which the air must be cooled to achieve 100% relative humidity. Wet Bulb is the temperature the air would have if cooled to saturation at constant pressure by evaporation of water into it.

Snow Depth, Snowfall, and Sunshine data may come from nearby sites that the National Weather Service deems Climatologically representative of this site.

### ADDITIONAL NOTES:

DATE	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR–SS		MN–MN		MINIMUM	MAXIMUM	
			CEILOMETER	SATELLITE	CEILOMETER	SATELLITE			
01							2.00	10.00	
02							.50	10.00	
03							1.50	10.00	
04							10.00	10.00	
05							10.00	10.00	
06							6.00	10.00	
07							10.00	10.00	
08							7.00	10.00	
09							5.00	10.00	
10							5.00	10.00	
11							10.00	10.00	
12							7.00	10.00	
13							6.00	10.00	
14							7.00	10.00	
15							10.00	10.00	
16							3.00	10.00	
17							3.00	10.00	
18							10.00	10.00	
19							5.00	10.00	
20							2.00	10.00	
21							.25	10.00	
22							4.00	10.00	
23							7.00	10.00	
24							9.00	10.00	
25							7.00	10.00	
26							1.25	10.00	
27							10.00	10.00	
28							6.00	10.00	
29							10.00	10.00	
30							1.00	10.00	
31							.75	10.00	
<b>MONTHLY AVGS</b>							6.03	9.97	
<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 1                                      8                                      14									



OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

MAY 2004

RIC

WBAN # 13740

Table with columns for HOUR (LST), SKY COVER, CEILING, OBSERVATION, EFF CLD AMT, VISIBILITY, WEATHER, TEMPERATURE (DRY BULB, DEW POINT, WET BULB), RELATIVE HUMIDITY, WIND (SPEED, DIRECTION), PRESSURE (STATION, SEA LEVEL), and repeating columns for each parameter.

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

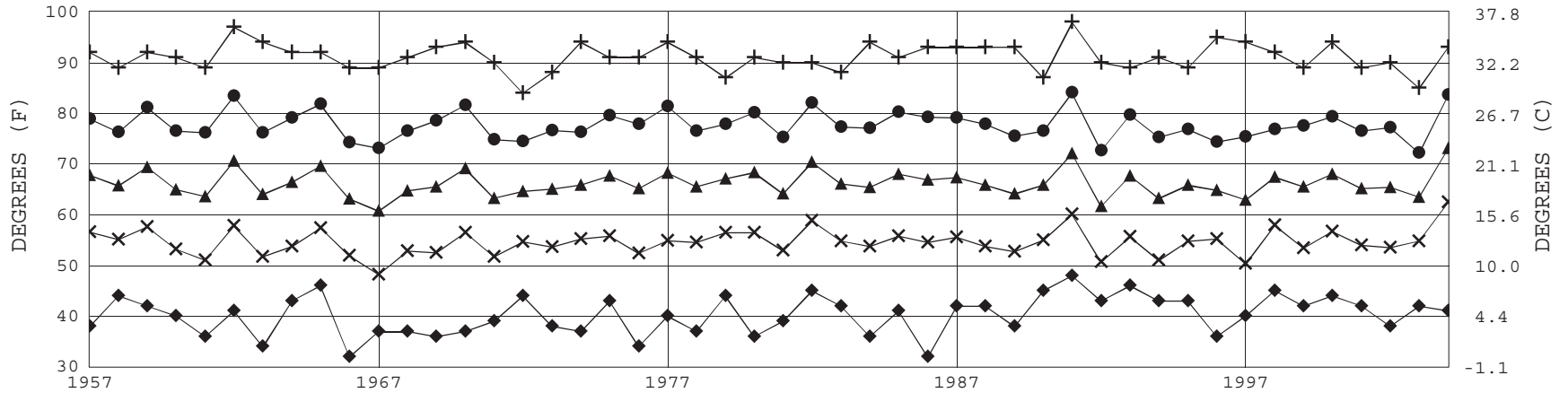
MAY 2004

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
<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	FEW	NC			9.00	79	69	72	72	10	25	29.69	29.88	01	OVC	006			5.00	BR	69	69	69	100	5	14	29.63	29.82
04	CLR	NC			8.00	75	69	71	82	7	21	29.70	29.88	04	OVC	002			1.75	BR	70	70	70	100	8	20	29.59	29.78
07	OVC	130			9.00	78	69	72	74	7	27	29.73	29.92	07	OVC	006			1.00	TSRA BR	71	71	71	100	10	21	29.57	29.76
10	CLR	NC			10.00	85	69	74	59	0	00	29.72	29.91	10	OVC	200			4.00	BR	76	74	75	94	9	19	29.50	29.68
13	SCT	NC			10.00	91	70	76	50	9	19	29.69	29.88	13	OVC	250			7.00		84	75	78	74	10	28	29.43	29.61
16	SCT	NC			10.00	92	67	75	44	12	25	29.65	29.84	16	BKN	250			10.00		81	76	77	85	8	21	29.41	29.59
19	BKN	250			10.00	86	68	74	55	9	23	29.65	29.83	19	BKN	080			10.00		82	71	75	69	8	25	29.43	29.61
22	FEW	NC			10.00	79	70	73	74	3	22	29.68	29.86	22	BKN	250			10.00		78	66	70	67	9	28	29.50	29.67
<b>SUNRISE: 0452</b>				<b>MAY 26</b>				<b>SUNSET: 1920</b>				<b>3-HOURLY OBSERVATION NOTES</b>																
01	OVC	060			10.00	76	70	72	82	8	15	29.64	29.83	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	BKN	150		TS	10.00	73	71	72	94	5	19	29.61	29.80	Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.														
07	OVC	200			10.00	76	70	72	82	6	27	29.62	29.81	NC = No ceiling detected.														
10	SCT	NC			10.00	85	69	74	59	8	30	29.63	29.81	& = Original observation contained additional weather elements.														
13	BKN	250			10.00	91	65	73	42	13	31	29.59	29.78	See page 3 for additional notes.														
16	OVC	250			10.00	88	66	73	48	10	28	29.55	29.72															
19	OVC	180		TSRA	10.00	83	67	72	59	3	30	29.55	29.73															
22	OVC	150			10.00	69	69	69	100	7	20	29.56	29.75															
<b>SUNRISE: 0452</b>				<b>MAY 27</b>				<b>SUNSET: 1921</b>																				
01	SCT	NC			10.00	67	67	67	100	5	17	29.55	29.73															
04	CLR	NC			10.00	67	67	67	100	7	26	29.57	29.76															
07	OVC	120			10.00	69	68	68	96	5	21	29.60	29.79															
10	BKN	250			10.00	76	68	71	77	7	VR	29.60	29.79															
13	BKN	250			10.00	83	64	71	53	9	18	29.58	29.77															
16	BKN	250			10.00	83	65	71	55	9	29	29.56	29.74															
19	FEW	NC			10.00	78	68	71	71	7	19	29.55	29.74															
22	OVC	200			10.00	75	69	71	82	6	17	29.56	29.75															
<b>SUNRISE: 0451</b>				<b>MAY 28</b>				<b>SUNSET: 1922</b>																				
01	OVC	200			10.00	73	67	69	81	6	16	29.52	29.70															
04	OVC	130			10.00	70	70	70	100	3	06	29.48	29.66															
07	OVC	140			7.00	71	70	70	96	5	20	29.48	29.66															
10	OVC	140			10.00	76	69	71	79	20	25	29.50	29.68															
13	BKN	250			10.00	80	70	73	71	14	32	29.50	29.68															
16	BKN	100			10.00	80	63	69	56	10	33	29.53	29.71															
19	BKN	250			10.00	78	66	70	67	5	28	29.57	29.75															
22	BKN	090			10.00	72	64	67	76	7	26	29.63	29.82															
<b>SUNRISE: 0451</b>				<b>MAY 29</b>				<b>SUNSET: 1922</b>																				
01	BKN	250			10.00	66	62	64	87	7	34	29.66	29.85															
04	BKN	250			10.00	62	59	60	90	8	01	29.72	29.91															
07	SCT	NC			10.00	63	55	58	76	9	05	29.81	30.00															
10	SCT	NC			10.00	70	45	57	41	15	34	29.85	30.04															
13	BKN	200			10.00	73	48	59	41	10	01	29.84	30.03															
16	SCT	NC			10.00	76	48	60	37	9	02	29.83	30.01															
19	FEW	NC			10.00	70	49	58	47	5	07	29.83	30.02															
22	SCT	NC			10.00	62	49	55	62	6	10	29.87	30.06															
<b>SUNRISE: 0451</b>				<b>MAY 30</b>				<b>SUNSET: 1923</b>																				
01	BKN	250			10.00	59	55	57	87	0	00	29.86	30.05															
04	OVC	250			10.00	58	56	57	93	0	00	29.84	30.03															
07	OVC	035			10.00	62	60	61	93	8	13	29.86	30.05															
10	OVC	035			10.00	67	61	63	81	10	16	29.85	30.04															
13	OVC	025			10.00	69	61	64	76	9	16	29.80	29.99															
16	OVC	024			10.00	71	64	67	79	5	17	29.76	29.94															
19	OVC	016			8.00	69	68	68	96	5	11	29.71	29.90															
22	OVC	011			6.00	69	69	69	100	0	00	29.71	29.90															

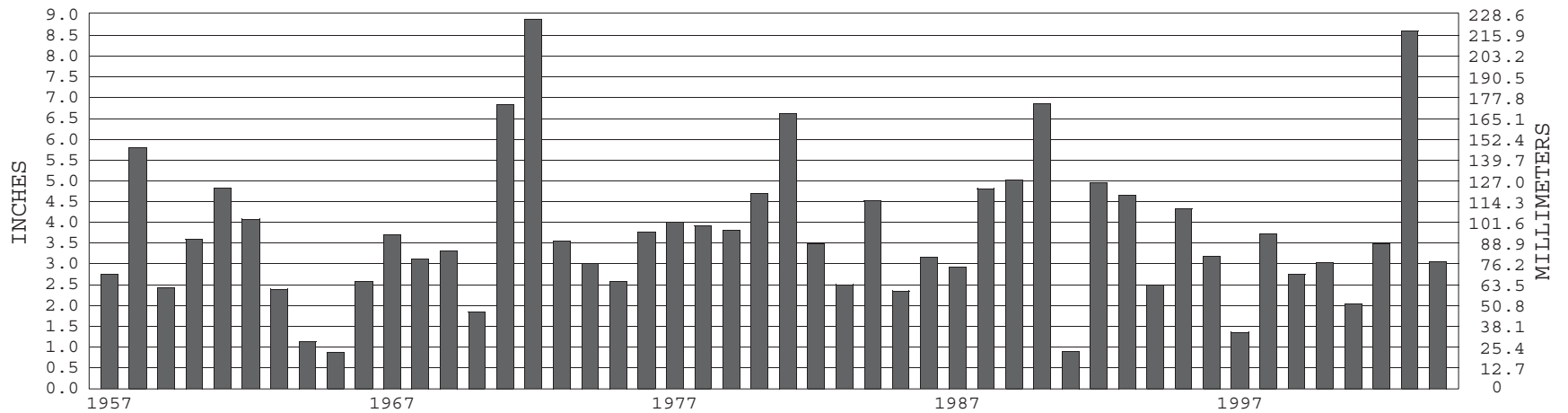
### RICHMOND, VA MAY TEMPERATURES



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

Long-Term (1957-2004) Mean: 66.2      1971-2000 Normal: 65.4

### RICHMOND, VA MAY PRECIPITATION



Long-Term (1957-2004) Mean Monthly Total: 3.71

1971-2000 Normal: 3.96



MAY 2004

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.*

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