

JUNE 1996
 RICHMOND, VA
 R.E.BYRD INTERNATIONAL AP.

LOCAL CLIMATOLOGICAL DATA

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LATITUDE: 37° 30' N LONGITUDE: 77° 20' W ELEVATION (GROUND): 164 FEET TIME ZONE: EASTERN STANDARD ISSN # 0198-537X WBAN # 13740

DATE	TEMPERATURE ° F							DEG DAYS BASE 65°		SIGNIFICANT WEATHER	SNOW/ICE ON GND (IN)		PRECIPITATION (INCHES)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES					SUNSHINE		CLOUDINESS							
	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 WIND SPEED	RES DIR	AVERAGE SPEED	MAXIMUM				TOTAL MINUTES	PERCENT POSSIBLE	SP-SS		MN-MN				
																			5-SEC		2-MIN				CEILOMETER TENTHS	SATELLITE TENTHS	CEILOMETER TENTHS	SATELLITE TENTHS			
																			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	25	26	27	28	29			
01	76	48	62	-9	48	55	3	0		0		0.0	0.00	30.15	30.35	5.7	17	6.4	16	13	15	13	877	100	1	0	0	0			
02	78	48*	63	-8	50	56	2	0				0.00	0.00	30.10	30.31	4.7	15	5.5	17	13	15	12	702	80	0	0	0	0			
03	73	51	62*	-9	52	57	3	0				0.00	0.00	29.89	30.09	6.0	1	6.7	16	01	14	02			0	7	0	0			
04	83	51	67	-4	61	66	0	2	TRF	0		0.41	0.41	29.82	30.04	7.7	20	11.1					749	85	3						
05	81	61	71	-1	60	64	0	6	F			0.00	0.00	29.93	30.13	1.8	19	5.4	15	23	11	27	818	93	2	2	2	2			
06	83	58	71	-1	59	63	0	6	F+H				0.00	29.96	30.16	5.1	14	5.6	16	11	14	13	770	88	4	0	2	0			
07	88	63	76	4	64	69	0	11	FH	0		0.00	0.00	29.84	30.04	8.1	18	8.7	22	22	17	20	813	92	0	0	1	0			
08	87	67	77	5	67	71	0	12	FH	0		0.00	0.00	29.82	30.02	8.9	17	9.2	21	18	17	17	811	92	1	0	1	0			
09	80	69	75	2	70	71	0	10	TRF			0.88	0.88	29.86	30.06	7.3	16	7.6	34	15	24	16	421	48	7	6	6	5			
10	85	70	78	5	71	73	0	13	RF			0.28	0.28	29.84	30.04	9.6	16	9.9	24	15	21	15	716	81		4					
11	82	69	76	3	70	71	0	11	TRF			0.34	0.34	29.78	29.98	8.4	18	8.8	25	23	22	18	633	72	5		4				
12	87	67	77	4	66	69	0	12	TRFH			0.03	0.03	29.75	29.94	9.2	20	9.5	34	25	30	24	738	84	2	2	1	1			
13	85	65	75	1	65	69	0	10	FH			0.00	0.00	29.75	29.96	3.6	23	5.3	16	23	14	23	801	91	3	0	2	1			
14	88	68	78	4	65	70	0	13	FH	0		0.00	0.00	29.77	29.97	3.4	22	4.5	15	19	13	19	796	90	1	1	1	1			
15	89	67	78	4	68	71	0	13	FH			0.00	0.00	29.78	29.98	1.4	1	4.0	17	19	13	20	884	100	0	0	0	0			
16	90	67	79	5	69	72	0	14	FH	0		0.00	0.00	29.86	30.06	2.5	15	4.0	20	14	17	14	822	93	1		2				
17	89	70	80	6	70	73	0	15				0.00	0.00	29.83	30.03	6.9	19	7.2	16	18	14	17	887	100		1					
18	92	71	82	7	70	73	0	17	RH			T	29.73	29.92	4.8	20	8.3	21	02	18	02	820	93	2		2					
19	90	70	80	5	71	74	0	15	F			0.00	0.00	29.70	29.89	5.5	15	6.3	20	13	16	12	841	95		0		2			
20	92	71	82	7	72	75	0	17	F+H			0.00	0.00	29.61	29.80	2.4	25	4.8	18	27	13	29	807	91	3	1	3	1			
21	90	69	80	5	66	71	0	15	FH			0.00	0.00	29.65	29.85	7.0	0	7.5	24	36	20	36	871	98	1	0	0	0			
22	94*	67	81	6	68	73	0	16	FH			0.00	0.00	29.63	29.83	7.8	21	8.3	23	20	18	22	843	95	0		0				
23	90	74	82	6	67	72	0	17		0		0.00	0.00	29.70	29.90	3.4	3	6.8	17	03	15	02	754	85		4		4			
24	93	71	82*	6	71	73	0	17	TRFH			2.14	2.14	29.72	29.91	5.5	17	9.5	38	25	31	25	660	75	4	0	5	1			
25	90	70	80	4	68	72	0	15	RFH			T	29.70	29.89	4.3	33	7.7	26	01	21	36	798	90	3	2	4	3				
26	81	62	72	-4	56	62	0	7				0.00	0.00	29.94	30.14	7.4	2	7.8	22	36	18	36	836	95	0	0	1	0			
27	83	59	71	-5	59	64	0	6				0.00	0.00	29.95	30.15	1.8	1	3.5	14	01	10	05	826	93	1	0	1	0			
28	86	62	74	-2	63	67	0	9	FH			0.00	0.00	29.93	30.13	2.1	3	5.7	17	10	14	10	852	96	1	1	1	1			
29	80	64	72	-4	60	65	0	7				0.00	0.00	29.97	30.17	5.2	13	5.8	14	13	11	13	762	86	2	3	2	3			
30	88	60	74	-3	67	69	0	9	RFH			0.27	0.27	29.78	29.98	6.7	18	8.1	18	19	16	18	731	83		6		6			
											MONTHLY AVERAGES																				
DEPARTURE		85.8		64.3		75.1		1.2		64.4		68.3				29.82		30.02		2.9		18		7.0		<- MONTHLY AVERAGES ->		2		2	
DEPARTURE		23.1		-2.0				MONTHLY		DEGREE DAYS		SEASON TO DATE		TOTAL SNOWFALL:		TOTAL PRECIPITATION:		4.35		SUNSHINE TOTALS:		22639		PERCENT		TOTAL POSSIBLE:		18845		20	
HEATING:		8		8		4499		536		GREATEST 24-HR PRECIPITATION:		2.14		25		WIND		SPEED		DIRECTION		DATE		MAXIMUM 5-SECOND		38		24			
COOLING:		315		45		478		106		GREATEST SNOW DEPTH:						MAXIMUM 2-MINUTE		31		25		24		PRECIPITATION ≥ 0.01 INCH		7		6			
NUMBER OF DAYS WITH ->		10		8		1				MAXIMUM TEMP ≥ 90 :		9		MINIMUM TEMP ≤ 32 :		0		PRECIPITATION ≥ 0.10 INCH		6		0		NUMBER OF DAYS WITH		0		2			

JUNE 1996
 RICHMOND, VA

HOURLY PRECIPITATION (WATER EQUIVALENT IN INCHES)

JUNE 1996
RICHMOND, VA

WBAN # 13740

DATE	A.M. HOUR (L.S.T.) ENDING AT												DATE	P.M. HOUR (L.S.T.) ENDING AT												DATE
	1	2	3	4	5	6	7	8	9	10	11	12		1	2	3	4	5	6	7	8	9	10	11	12	
01													01											01		
02													02											02		
03													03											03		
04													04							0.28	0.09	T		04		
05													05											05		
06						0.01							06											06		
07													07											07		
08													08											08		
09											0.12	0.23	09	0.02	0.01		T	0.12	T					09		
10					0.12	0.16	T						10											10		
11				T							0.26	0.07	0.01	11										11		
12													12						T					12		
13													13											13		
14													14											14		
15													15											15		
16													16											16		
17													17											17		
18													18									T		18		
19													19											19		
20													20											20		
21													21											21		
22													22											22		
23													23											23		
24													24							0.08	1.17	0.84	0.03	24		
25													25			T	T							25		
26													26											26		
27													27											27		
28													28											28		
29													29											29		
30	T	0.01	0.21	0.04			T	T				0.01	30											30		

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* The sum of the hourly totals follows the daily total on page 1. NWS does not edit ASOS hourly precipitation but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

MAXIMUM SHORT DURATION PRECIPITATION (MSDP) **

TIME PERIOD (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180
PRECIPITATION (INCHES)												
ENDED: DATE												
ENDED: TIME												

** NCDC derives MSDP data from one-minute ASOS data. The MSDP data are not printed when inconsistent with ASOS hourly totals.

The time indicated is the ending time of the interval.
Date and time are not entered for trace amounts.

REFERENCE NOTES :

WFO = WEATHER FORECAST OFFICE.
 ASOS = AUTOMATED SURFACE OBSERVING SYSTEM.
 * = EXTREME FOR THE MONTH (LAST OCCURRENCE IF MORE THAN ONE).
 T = TRACE PRECIPITATION AMOUNT.
 + = ALSO OCCURS ON EARLIER DATES.
 F+ = HEAVY FOG, VISIBILITY .25 MILES OR LESS.
 BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA.
 THE HEATING DEGREE DAY SEASON BEGINS JULY 1.
 THE COOLING DEGREE DAY SEASON BEGINS JANUARY 1.
 CEILOMETER (30-SECOND) DATA ARE USED TO DERIVE CLOUDINESS AT OR BELOW 12,000 FEET. THIS CLOUDINESS IS THE MEAN CLOUD COVER DETECTED DURING THE TIME INTERVAL (HOUR, SUNRISE TO SUNSET, OR MIDNIGHT TO MIDNIGHT).
 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. 50 x 50 KM).
 SKY CONDITION IS BASED ON THE SUM (NOT TO EXCEED 10) 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 - 3 TENTHS, PARTLY CLOUDY = 4 - 7 TENTHS, AND CLOUDY = 8 - 10 TENTHS.
 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' INDICATES CALM.
 SR-SS = SUNRISE TO SUNSET. MN-MN = MIDNIGHT TO MIDNIGHT.
 SNOWFALL IS FOR THE 24-HOUR PERIOD ENDING AT THE TIME INDICATED IN COLUMN HEADING.
 WATER EQUIVALENT OF SNOW ON THE GROUND IS REPORTED ONLY WHEN THE DEPTH IS 2 OR MORE INCHES.
 H, F, F+, P-, R, S, AND ZR ARE REPORTED FROM ASOS AUTOMATED SENSORS. OTHER WEATHER TYPES MAY BE ADDED TO THE REPORT BY STATION PERSONNEL OR BE PROVIDED BY THE WEATHER FORECAST OFFICE (WFO).

A HAIL	GL GLAZE	SG SNOW GRAINS
BD BLOWING DUST	H HAZE	SP SNOW PELLETS
BN BLOWING SAND	IC ICE CRYSTALS	T THUNDER
BS BLOWING SNOW	IF ICE FOG	V VOLCANIC ASH
BY BLOWING SPRAY	IP ICE PELLETS	ZL FREEZING DRIZZLE
D DUST	K SMOKE	ZR FREEZING RAIN
F FOG	L DRIZZLE	& TORNADO
F+ HEAVY FOG	P- UNKN. PRECIP.	&C FUNNEL CLOUD
GF GROUND FOG	R RAIN	&W WATERSPOUT
	S SNOW	

NORMALS ARE FOR THE YEARS 1961 - 1990.
 A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65°F.
 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 THE MOISTURE CONTENT WAS INCREASED TO 100% RELATIVE HUMIDITY.

TEMPERATURE - HUMIDITY INDEX (STEADMAN, 1979)

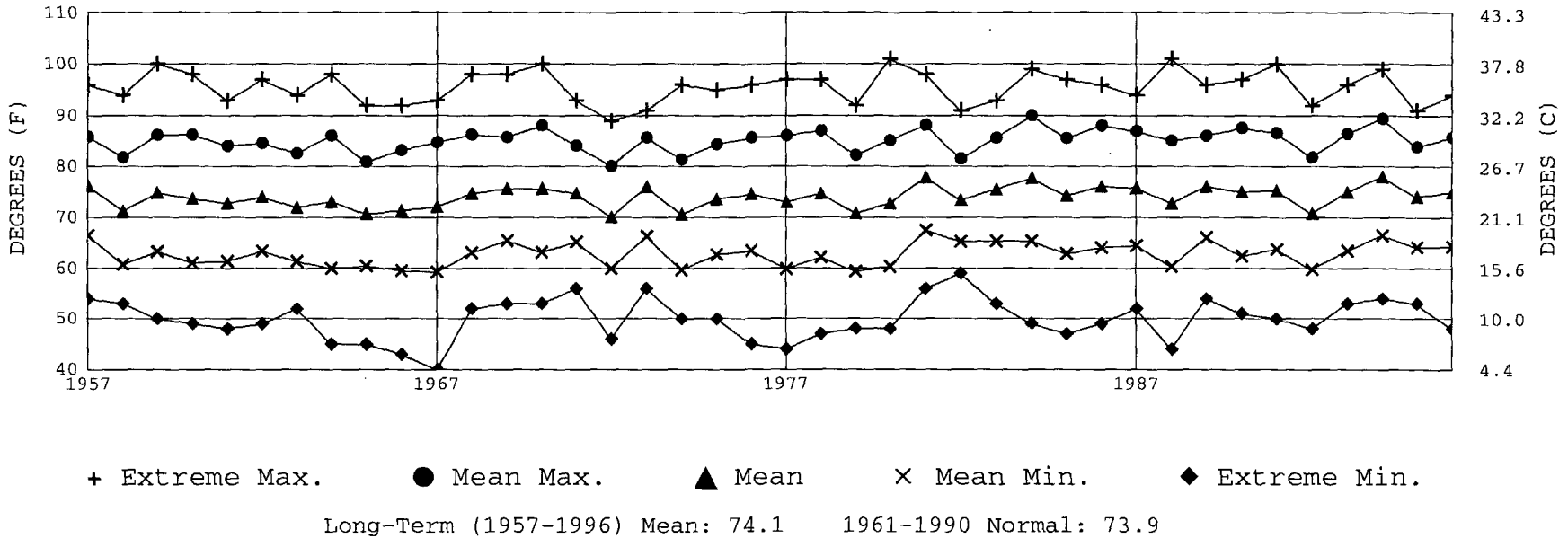
TEMPERATURE ° F	RELATIVE HUMIDITY (PERCENT)										
	0	10	20	30	40	50	60	70	80	90	100
120	107	116	130	148							
115	103	111	120	135	151						
110	99	105	112	123	137	150					
105	95	100	105	113	123	135	149				
100	91	95	99	104	110	120	132	144			
95	87	90	93	96	101	107	114	124	136		
90	83	85	87	90	93	96	100	106	113	122	
85	78	80	82	84	86	88	90	93	97	102	108
80	73	75	77	78	79	81	82	85	86	88	91
75	69	70	72	73	74	75	76	77	78	79	80
70	64	65	66	67	68	69	70	70	71	71	72

WIND CHILL EQUIVALENT TEMPERATURE (SIPLE & PASSEL, 1945)

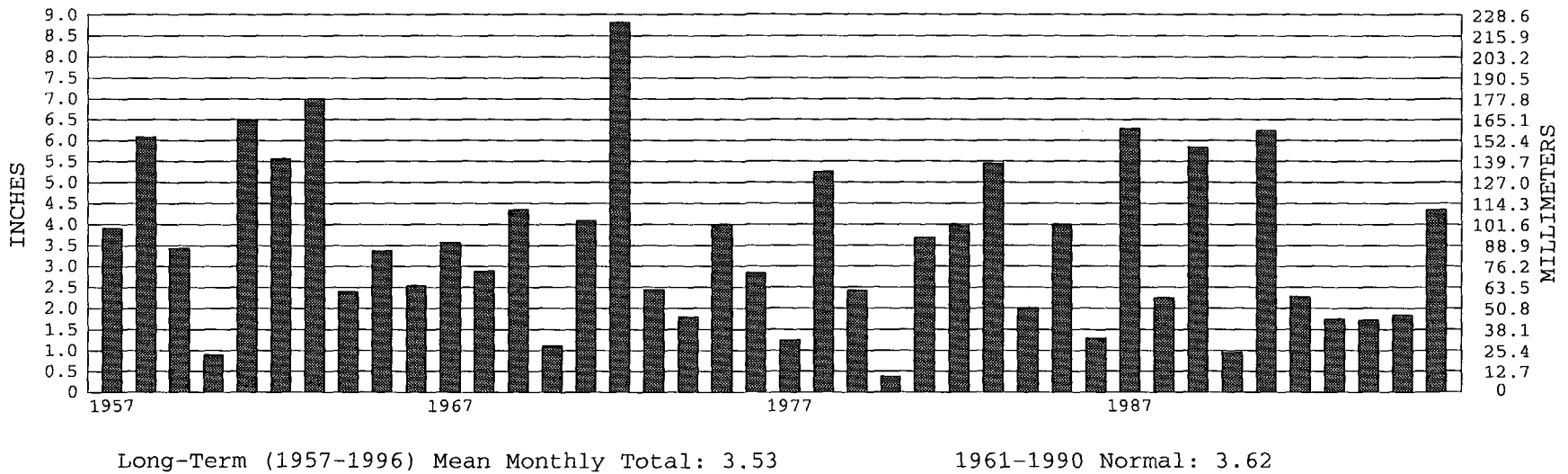
TEMPERATURE ° F	WIND VELOCITY (MPH)									
	4	5	10	15	20	25	30	35	40	45
45	45	43	34	29	26	23	21	20	19	18
40	40	37	26	23	19	16	13	12	11	10
35	35	32	22	16	12	8	6	4	3	2
30	30	27	16	9	4	1	-2	-4	-5	-6
25	25	22	10	2	-3	-7	-10	-12	-13	-14
20	20	16	3	-5	-10	-15	-18	-20	-21	-22
15	15	11	-3	-11	-17	-22	-25	-27	-29	-30
10	10	6	-9	-18	-24	-29	-33	-35	-37	-38
5	5	0	-15	-25	-31	-36	-41	-43	-45	-46
0	0	-5	-22	-31	-39	-44	-49	-52	-53	-54
-5	-5	-10	-27	-38	-46	-51	-56	-58	-60	-62
-10	-10	-15	-34	-45	-53	-59	-64	-67	-69	-70
-15	-15	-21	-40	-51	-60	-66	-71	-74	-76	-78
-20	-20	-26	-46	-58	-67	-74	-79	-82	-84	-85
-25	-25	-31	-52	-65	-74	-81	-86	-89	-92	-93
-30	-30	-36	-58	-72	-81	-88	-93	-97	-100	-102

ADDITIONAL INFORMATION :

RICHMOND, VA JUNE TEMPERATURES



RICHMOND, VA JUNE PRECIPITATION



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