

MARCH 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	1300	2400	2400	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT WIND SPEED	RES DIR	AVERAGE SPEED	MAXIMUM		TOTAL MINUTES	PERCENT POSSIBLE	SR-SS		MN-MN					
										LST	LST	LST	LST						5-SEC	2-MIN			CEILOMETER TENTHS	SATELLITE TENTHS	CEILOMETER TENTHS	SATELLITE TENTHS				
	DEPTH	WATER EQUIV	SNOW-FALL	WATER EQUIV	SPEED	DIR	SPEED	DIR		CEILOMETER TENTHS	SATELLITE TENTHS	CEILOMETER TENTHS	SATELLITE TENTHS																	
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	42	25	34	-9	19	28	31	0	SF	0		T	0.03	29.88	30.09	5.1	11	6.9	16	12	14	12	489	72	3	6	4	7		
02	49	31	40	-3	32	35	25	0	SFH	0		0.6	0.04	29.63	29.84	3.2	18	6.3	18	18	16	18	490	72	6	5	6	5		
03	47	22	35	-9	12	30	30	0					0.00	29.91	30.12	8.8	29	14.0	39	26	30	28		0	0	1	0	0		
04	47	14*	31	-13	9	25	34	0					0.00	30.30	30.52	5.4	20	5.9	18	18	15	17	688	100	0	0	0	0		
05	68	37	53	9	38	46	12	0	RH				T	29.92	30.13	16.6	21	17.2	49	22	37	22	512	74						
06	65	50	58	13	55	57	7	0	RF+				0.15	29.57	29.77	10.3	21	11.2	26	21	23	20	110	16	9	8	6	7		
07	54	30	42	-3	42	43	23	0	RSF+				0.30	29.50	29.70	9.0	3	12.7	32	01	25	01	6	1	10	10	8	3		
08	31	20	26	-19	11	22	39	0	RP-SF	0		T	0.06	29.77	29.98	14.7	32	15.5	31	30	26	32	570	81	2	2	3	0		
09	32	16	24*	-22	4	19	41	0					0.00	30.27	30.49	7.1	31	9.8	21	32	16	26	702	100	0	0	0	0		
10	38	16	27	-19	9	22	38	0					0.00	30.64	30.85	7.0	4	7.3	18	09	16	02	706	100	0	0	0	0		
11	45	19	32	-14	16	26	33	0					0.00	30.43	30.65	10.1	3	10.4	26	02	20	01	701	99	0	1	0	2		
12	56	26	41	-6	17	32	24	0					0.00	30.00	30.21	10.3	1	10.6	25	01	21	02	703	99	0	0	0	0		
13	62	28	45	-2	18	35	20	0					0.00	29.91	30.12	0.8	6	3.5	13	25	9	13	711	100	0	0	0	0		
14	73	34	54	7	28	42	11	0					0.00	29.76	29.96	5.0	21	6.2	20	24	17	25	624	87	2	2	0	1		
15	65	45	55	7	48	52	10	0	TRF				0.19	29.47	29.67	7.7	23	8.8	37	27	29	29	431	60	8					
16	62	36	49	1	34	42	16	0	R				0.11	29.67	29.87	3.9	3	7.6	20	08	17	09	646	90						
17	49	40	45	-3	40	42	20	0	RPH				0.44	29.68	29.89	5.4	7	5.6	20	08	16	04	225	31	5					
18	58	44	51	2	41	46	14	0					0.00	29.66	29.87	3.9	7	4.7	15	09	11	11	475	66	7		8			
19	57	43	50	1	43	46	15	0	RPH	0			0.56	29.24	29.44	4.9	17	14.0	41	22	33	22	59	8	9	6	8			
20	47	39	43	-6	26	36	22	0	R				T	29.24	29.45	18.8	23	19.0	40	23	32	23	459	63	10	6	8	5		
21	52	34	43	-7	24	36	22	0					0.00	29.39	29.59	10.1	27	11.5	24	32	18	31	451	62	7	2	6	3		
22	46	33	40	-10	17	32	25	0					0.00	29.60	29.80	11.1	29	12.0	30	25	23	27	635	87	5	1	5	1		
23	57	27	42	-8	14	32	23	0					0.00	29.85	30.06	8.3	28	9.6	28	27	22	27	710	96	0	1	0	1		
24	62	27	45	-6	18	36	20	0					0.00	30.06	30.27	2.0	17	4.8	14	16	11	19	728	99	0	0	0	0		
25	73*	43	58	7	44	52	7	0					0.00	29.90	30.10	16.1	20	16.6	39	20	32	20	594	80	2	4	2	3		
26	72	48	60*	9	39	51	5	0					0.00	29.99	30.19	7.0	27	10.1	23	26	20	26	656	88	0	5	1	5		
27	51	39	45	-7	18	35	20	0	R				T	30.30	30.49	7.9	5	9.7	29	01	23	02	593	79	0	5	2			
28	40	35	38	-14	34	36	27	0	RSF	0			0.74	30.05	30.26	9.4	3	10.6	23	01	18	01	0	0	10	10	8			
29	43	36	40	-12	37	39	25	0	RF				0.01	29.86	30.06	9.6	35	10.0	21	36	18	01	279	37	10	1	10	1		
30	60	40	50	-3	39	44	15	0	F				0.00	29.97	30.18	2.4	6	5.7	16	11	14	11	593	79	4	2	6	2		
31	62	38	50	-3	41	46	15	0	RF				0.08	29.82	30.02	6.0	16	6.8	22	14	16	17	553	73	3	5	4	6		
MONTHLY AVERAGES											29.85	30.05	1.8	27	9.8	MONTHLY AVERAGES											4	3	4	3
DEPARTURE		17.4		-7.6		MONTHLY		DEGREE DAYS		TOTAL SNOWFALL: 2.4		TOTAL PRECIPITATION: 2.71		SUNSHINE TOTALS: 15099		PERCENT POSSIBLE: 68														
TOTAL DEPARTURE		669		142		TOTAL DEPARTURE		4122		GREATEST 24-HR PRECIPITATION: 0.74		DATE: 28		WIND		SPEED		DIRECTION		DATE										
HEATING:		669		142		TOTAL DEPARTURE		4122		GREATEST 24-HR SNOWFALL:				MAXIMUM 5-SECOND		: 49		22		5										
COOLING:		0		0		TOTAL DEPARTURE		0		GREATEST SNOW DEPTH:				MAXIMUM 2-MINUTE		: 37		22		5										
NUMBER OF DAYS WITH		CLEAR		PARTLY CLOUDY		CLOUDY		MAXIMUM TEMP ≥ 90 :		0		MINIMUM TEMP ≤ 32 :		13		PRECIPITATION ≥ 0.01 INCH :		12		PRECIPITATION ≥ 0.10 INCH :		7								
		9		5		10		THUNDERSTORMS :		1		HEAVY FOG :		2		SNOWFALL ≥ 1.0 INCH :		1		NUMBER OF DAYS WITH										

MARCH 1996
 RICHMOND, VA

HOURLY PRECIPITATION (WATER EQUIVALENT IN INCHES)

MARCH 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	0.01	T	0.02	0.01	T	T							02												02		
03													03												03		
04													04												04		
05													05									T			05		
06	T	T	0.01						0.01	0.03	0.05	0.01	0.03	06	0.01	T									06		
07									0.01	T	0.04	0.03	0.08	07	0.12	0.02	T	T	T	T				T	07		
08	T	0.01	T	T	T	T	T	T	T	T	T			08											*	0.01	
09														09													
10														10													
11														11													
12														12													
13														13													
14														14													
15														15	0.16	0.03				T	T						
16														16													
17	0.31	0.15	T	T	T									17										0.01	0.08	16 * 0.09	
18														18												* 0.46	
19		0.02	T			T						0.02	0.03	19	0.22	0.08		0.18	T	T		0.01					
20									T					20													
21														21													
22														22													
23														23													
24														24													
25														25													
26														26													
27														27												* 0.00	
28	T	0.01	T	T	0.03	0.04	0.06	0.06	0.04	0.05	0.06	0.03	28	0.06	0.01	0.03	0.06	0.09	0.03	0.03	0.01	0.02	T	0.01	0.01		
29	T	T		0.01									29														
30													30														
31													31											0.02	0.01	0.05	

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* The sum of the hourly totals follows the * when it disagrees with 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 DIFERENCE 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					APPARENT TEMPERATURE
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 :

OBSERVATIONS AT 3-HOURLY INTERVALS

MARCH 1996 WBAN # 13740
RICHMOND, VA

HOUR (LST)	≤ 12K FEET				SATELLITE > 12K FT				WEATHER	TEMPERATURE ° F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	≤ 12K FEET				SATELLITE > 12K FT				WEATHER	TEMPERATURE ° F				WIND		PRESSURE (INCHES, HG)		
	CEILOMETER TENTHS	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF. CLD AMT TENTHS	100'S OF FT	HIGHEST CLOUD TOP	VISIBILITY (MILES)	DRY BULB		DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL	CEILOMETER TENTHS		CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF. CLD AMT TENTHS	100'S OF FT	HIGHEST CLOUD TOP	VISIBILITY (MILES)	DRY BULB	DEW POINT		WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL			
																																		LOWEST CLOUD TOP	HIGHEST CLOUD TOP	LOWEST CLOUD TOP
01	0	NC	SUNRISE: 0623				10.00	MAR 13	SUNSET: 1815				01	10	45	SUNRISE: 0614				MAR 19	SUNSET: 1821				01	10	45	10.00	47	41	44	80	0	00	29.57	29.78
04	0	NC	0300	0	NT	NT	10.00	31	19	27	61	0	00	29.93	30.14	04	10	42				7.00	46	43	45	89	8	03	29.49	29.69						
07	0	NC	0600	0	NT	NT	10.00	31	18	27	59	3	33	29.95	30.17	07	10	36				10.00	45	42	44	89	9	07	29.43	29.63						
10	0	NC	0900	0	NT	NT	10.00	51	15	38	24	6	36	29.98	30.18	10	10	4	0900	2	130	190	2.00	48	46	47	93	15	08	29.30	29.50					
13	0	NC	1200	0	NT	NT	10.00	58	17	42	20	5	31	29.91	30.12	13	10	4	1201	9	130	260	2.00	RF	52	50	51	93	13	11	29.09	29.29				
16	0	NC	1500	0	NT	NT	10.00	62	16	44	17	3	08	29.85	30.06	16	10	65	1500	8	130	210	10.00	R	55	51	53	87	15	22	28.99	29.19				
19	0	NC	1800	1	150	440	10.00	53	21	40	29	5	11	29.88	30.08	19	7	40	1800	3	130	190	10.00		49	37	44	64	31	23	29.06	29.26				
22	0	NC	2100	0	NT	NT	10.00	42	21	34	43	6	15	29.88	30.09	22	1	NC	2100	3	130	380	10.00		45	33	40	63	20	22	29.13	29.34				
01	0	NC	SUNRISE: 0621				10.00	MAR 14	SUNSET: 1816				01	6	60	SUNRISE: 0612				MAR 20	SUNSET: 1821				01	6	60	10.00	42	26	36	53	25	23	29.17	29.38
04	0	NC	0300	0	NT	NT	10.00	36	21	31	55	7	13	29.81	30.02	04	10	55	0300	8	130	180	10.00		41	25	35	53	18	23	29.18	29.39				
07	0	NC	0600	0	NT	NT	10.00	36	27	33	70	5	21	29.84	30.05	07	10	43	0600	10	150	260	10.00		40	27	35	60	26	23	29.24	29.44				
10	0	NC	0900	1	130	440	10.00	52	27	42	38	5	21	29.82	30.03	10	9	43	0900	5	130	190	10.00		42	27	36	55	17	23	29.25	29.46				
13	0	NC	1200	0	NT	NT	10.00	67	29	49	24	10	23	29.76	29.96	13	10	50				10.00		45	26	37	47	22	23	29.24	29.44					
16	0	NC	1500	1	130	330	10.00	71	31	52	23	10	24	29.68	29.89	16	10	65	1500	6	130	440	10.00		47	27	39	46	18	23	29.24	29.44				
19	0	NC	1800	8	260	330	10.00	63	32	49	31	6	22	29.70	29.90	19		80	1800	4	130	440	10.00		45	25	37	46	15	24	29.27	29.47				
22	0	NC	2100	0	NT	NT	10.00	54	32	44	43	7	20	29.70	29.90	22	2	NC	2100	0	NT	NT	10.00		41	24	35	51	14	23	29.30	29.51				
01	0	NC	SUNRISE: 0620				10.00	MAR 15	SUNSET: 1817				01	0	NC	SUNRISE: 0611				MAR 21	SUNSET: 1822				01	0	NC	10.00	38	25	33	60	15	24	29.31	29.51
04	0	NC	0359	7	130	300	10.00	51	41	46	69	6	19	29.59	29.79	04	1	NC	0300	1	180	180	10.00		35	25	31	67	13	24	29.29	29.49				
07	0	NC	0659	9	210	260	10.00	48	44	46	86	8	20	29.57	29.77	07	10	60	0600	1	130	190	10.00		36	25	32	64	12	26	29.35	29.55				
10	0	NC	0959	8	210	460	10.00	64	48	55	56	16	23	29.50	29.70	10	8	55	0900	0	NT	NT	10.00		44	25	37	47	12	28	29.39	29.59				
13	32	32	1200	10	290	440	.50	RF	52	52	52	100	12	26	29.48	29.69	13	3	NC	1200	0	NT	NT	10.00		50	25	40	38	10	23	29.37	29.58			
16	0	NC	1500	9	260	460	10.00	61	57	59	87	9	27	29.32	29.52	16	10	70				10.00		50	24	40	36	8	31	29.38	29.58					
19	0	NC	1800	2	130	440	10.00	56	53	54	90	8	25	29.35	29.55	19		65	1800	9	190	260	10.00		49	25	39	39	12	28	29.45	29.65				
22	0	NC	2100	0	NT	NT	10.00	56	51	53	83	10	26	29.41	29.61	22		60	2100	8	180	230	10.00		42	20	34	41	15	31	29.53	29.73				
01	1	NC	SUNRISE: 0618				10.00	MAR 16	SUNSET: 1818				01	10	70	SUNRISE: 0609				MAR 22	SUNSET: 1823				01	10	70	10.00	40	21	33	47	14	33	29.55	29.75
04	0	NC					10.00	42	36	39	79	9	01	29.57	29.78	04	10	85	0300	6	130	150	10.00		36	18	30	48	12	30	29.54	29.75				
07	0	NC					10.00	39	31	36	73	3	01	29.68	29.88	07	0	NC	0600	0	NT	NT	10.00		33	17	28	52		26	29.59	29.80				
10	0	NC					10.00	46	30	39	54	0	00	29.73	29.93	10	0	NC	0900	0	NT	NT	10.00		41	19	33	41	12	26	29.59	29.80				
13	0	NC					10.00	59	33	47	38	3	22	29.71	29.91	13	7	60	1201	1	150	230	10.00		44	19	35	37	13	28	29.55	29.76				
16	0	NC	1500	3	180	460	10.00	61	33	48	35	6	04	29.66	29.86	16	9	75	1500	2	130	210	10.00		45	16	35	31	20	25	29.55	29.76				
19	0	NC	1800	6	180	300	10.00	52	33	44	49	9	11	29.70	29.91	19	10	70	1800	1	130	330	10.00		42	16	33	35	13	30	29.63	29.84				
22	0	NC	2100	9	190	260	10.00	47	30	40	52	14	10	29.70	29.91	22	0	NC	2100	0	NT	NT	10.00		37	14	29	39	8	28	29.71	29.91				
01	0	55	SUNRISE: 0617				4.00	MAR 17	SUNSET: 1819				01	0	NC	SUNRISE: 0608				MAR 23	SUNSET: 1824				01	0	NC	10.00	34	17	28	50	7	27	29.75	29.95
04	0	7	0359	7	130	260	7.00	RF	41	38	40	89	8	07	29.68	29.88	04	0	NC	0300	0	NT	NT	10.00		31	19	27	61	8	26	29.78	29.98			
07	0	9	0659	1	240	330	5.00	F	40	38	39	93	7	08	29.69	29.90	07	0	NC	0600	0	NT	NT	10.00		32	18	27	56	7	26	29.83	30.04			
10	0	15	0900	1	130	210	7.00		43	40	42	89	6	05	29.70	29.90	10	0	NC	0900	2	130	230	10.00		42	14	33	32	17	27	29.86	30.07			
13	0	15	1200	9	230	300	10.00		47	41	44	80	7	10	29.67	29.87	13	0	NC	1200	0	NT	NT	10.00		51	11	37	20	18	29	29.84	30.05			
16	0	17	1500	10	270	300	10.00		49	41	45	74	3	09	29.64	29.84	16	0	NC	1500	0	NT	NT	10.00		56	6	39	13	15	27	29.82	30.02			
19	0	19	1800	0	NT	NT	10.00		47	40	44	77	6	05	29.66	29.87	19	0	NC	1800	0	NT	NT	10.00		51	9	37	18	8	31	29.88	30.09			
22	0	15					10.00		46	39	43	77	0	00	29.69	29.90	22	0	NC	2100	2	130	330	10.00		40	16	32	38	5	34	29.96	30.17			
01	0	22	SUNRISE: 0615				10.00	MAR 18	SUNSET: 1820				01	0	NC	SUNRISE: 0606				MAR 24	SUNSET: 1825				01	0	NC	10.00	32	17	27	54	0	00	30.00	30.22
04	0	18					10.00		45	39	42	80	0	00	29.69	29.90	04	0	NC	0359	2	130	260	10.00		28	17	25	63	0	00	30.05	30.26			
07	10	16					10.00		44	39	42	83	5	01	29.71	29.91	07	0	NC	0659	0	NT	NT	10.00		29	20	26	69	0	00	30.11	30.32			
10	10	16					10.00		48	40	44	74	5	05	29.73	29.93	10	0	NC	0959	0	NT	NT	10.00		50	13	37	23	6	01	30.14	30.35			
13	4	NC					10.00		56	43	50	62	0	00	29.69	29.89	13	0	NC	1200	0	NT	NT	10.00		56	12	40	17	3	15	30.11	30.32			
16	0	NC					10.00		57	42	50	58	7	07	29.61	29.82	16	0	NC	1500	0	NT	NT	10.00		62	17	44	17	8	14	30.02	30.23			
19	10	48	1800	8	180	300																														

OBSERVATIONS AT 3-HOURLY INTERVALS

MARCH 1996 WBAN # 13740
RICHMOND, VA

HOUR (LST)	12K FEET			SATELLITE > 12K FT			VISIBILITY (MILES)	WEATHER	TEMPERATURE ° F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	12K FEET			SATELLITE > 12K FT			VISIBILITY (MILES)	WEATHER	TEMPERATURE ° F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)																																																																																																																																																																																																																
	CEILOMETER TENTHS	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT TENTHS	100'S OF FT	LOWEST CLOUD TOP			HIGHEST CLOUD TOP	DRY BULB	DEW POINT		WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION		SEA LEVEL	CEILOMETER TENTHS	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT TENTHS	100'S OF FT			LOWEST CLOUD TOP	HIGHEST CLOUD TOP	DRY BULB		DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL																																																																																																																																																																																																													
																																				CEILOMETER TENTHS	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT TENTHS	100'S OF FT	LOWEST CLOUD TOP	HIGHEST CLOUD TOP	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL																																																																																																																																																																																														
SUNRISE: 0605 MAR 25 SUNSET: 1826																		SUNRISE: 0556 MAR 31 SUNSET: 1831																																																																																																																																																																																																																														
01	0	NC					10.00		47	31	40	54	12	17	29.98	30.19	01	0	NC					10.00		43	37	40	80	6	14	29.92	30.12																																																																																																																																																																																																															
04	0	NC					10.00		45	32	40	61	10	18	29.95	30.15	04	0	NC				10.00		40	37	39	89	3	11	29.87	30.08																																																																																																																																																																																																																
07	0	NC	0300	0	NT	NT	10.00		46	35	41	66	13	20	29.98	30.20	07	2	NC	0600	5	130	260	10.00		39	37	38	93	3	18	29.89	30.09																																																																																																																																																																																																															
10	0	NC	0900	0	NT	NT	10.00		62	46	54	56	17	19	29.95	30.15	10	0	NC	0900	2	130	330	10.00		56	38	47	51	6	16	29.87	30.08																																																																																																																																																																																																															
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16	1	NC	1500	8	230	300	10.00		69	48	58	47	16	20	29.83	30.03	16	8	48	1500	5	130	210	10.00		58	43	51	58	15	17	29.75	29.95																																																																																																																																																																																																															
19	3	NC	1800	9	300	380	10.00		67	49	57	53	18	20	29.81	30.01	19	10	28				10.00		53	48	50	83	9	15	29.76	29.96																																																																																																																																																																																																																
22	4	NC	2100	5	210	380	10.00		64	52	57	65	17	19	29.82	30.02	22			2100	9	150	260	10.00	R	49	46	48	90	7	13	29.76	29.96																																																																																																																																																																																																															
SUNRISE: 0603 MAR 26 SUNSET: 1827																		HOURLY SUMMARY NOTES																																																																																																																																																																																																																														
																		CEILING IS REPORTED IN HUNDREDS OF FEET (ABOVE GROUND LEVEL) FOR CLOUDS AT OR BELOW 12,000 FEET. CLOUD TOPS ARE REPORTED IN HUNDREDS OF FEET (ABOVE MEAN SEA LEVEL) FOR CLOUDS ABOVE 12,000 FEET. NC = A CEILING WAS NOT DETECTED AT OR BELOW 12,000 FEET. NT = CLOUD TOPS WERE NOT DETECTED ABOVE 12,000 FEET. SEE PAGE 3 FOR ADDITIONAL NOTES.																																																																																																																																																																																																																														
01	2	55					10.00		62	55	58	78	15	20	29.84	30.04																																																																																																																																																																																																																																
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SUNRISE: 0602 MAR 27 SUNSET: 1828																		SUMMARY BY HOURS																																																																																																																																																																																																																														
																		<table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th rowspan="3">HOUR (LST)</th> <th colspan="11">AVERAGES</th> <th colspan="2">RESULTANT WIND (MPH)</th> </tr> <tr> <th rowspan="2">CEILOMETER</th> <th rowspan="2">EFF CLD AMT</th> <th rowspan="2">DRY BULB</th> <th rowspan="2">DEW POINT</th> <th rowspan="2">WET BULB</th> <th rowspan="2">RELATIVE HUMIDITY</th> <th colspan="2">PRESSURE (INCHES, HG)</th> <th rowspan="2">VISIBILITY (MILES)</th> <th rowspan="2">WIND SPEED (MPH)</th> <th rowspan="2">WIND DIRECTION</th> <th rowspan="2">SPEED</th> <th rowspan="2">DIRECTION</th> </tr> <tr> <th>STATION</th> <th>SEA LEVEL</th> </tr> </thead> <tbody> <tr><td>01</td><td>0</td><td>NC</td><td></td><td></td><td></td><td></td><td>10.00</td><td></td><td>46</td><td>21</td><td>37</td><td>37</td><td>13</td><td>02</td><td>30.18</td><td>30.39</td><td colspan="5"></td></tr> <tr><td>04</td><td>3</td><td>NC</td><td>0359</td><td>2</td><td>150</td><td>380</td><td>10.00</td><td></td><td>41</td><td>17</td><td>33</td><td>38</td><td>9</td><td>04</td><td>30.21</td><td>30.42</td><td colspan="5"></td></tr> <tr><td>07</td><td>0</td><td>NC</td><td>0659</td><td>9</td><td>130</td><td>300</td><td>10.00</td><td></td><td>39</td><td>13</td><td>31</td><td>34</td><td>13</td><td>03</td><td>30.30</td><td>30.51</td><td colspan="5"></td></tr> <tr><td>10</td><td>0</td><td>NC</td><td>0900</td><td>0</td><td>NT</td><td>NT</td><td>10.00</td><td></td><td>45</td><td>14</td><td>34</td><td>29</td><td>15</td><td>03</td><td>30.38</td><td>30.58</td><td colspan="5"></td></tr> <tr><td>13</td><td></td><td></td><td>1200</td><td>4</td><td>180</td><td>440</td><td>10.00</td><td></td><td>50</td><td>15</td><td>37</td><td>25</td><td>9</td><td>04</td><td></td><td></td><td colspan="5"></td></tr> <tr><td>16</td><td>0</td><td>NC</td><td>1500</td><td>8</td><td>230</td><td>300</td><td>10.00</td><td></td><td>50</td><td>14</td><td>37</td><td>24</td><td>5</td><td>05</td><td>30.29</td><td></td><td colspan="5"></td></tr> <tr><td>19</td><td>0</td><td>NC</td><td></td><td></td><td></td><td></td><td>10.00</td><td></td><td>44</td><td>16</td><td>34</td><td>32</td><td>9</td><td>10</td><td>30.32</td><td></td><td colspan="5"></td></tr> <tr><td>22</td><td>10</td><td>60</td><td></td><td></td><td></td><td></td><td>10.00</td><td></td><td>42</td><td>25</td><td>36</td><td>51</td><td>8</td><td>10</td><td>30.34</td><td></td><td colspan="5"></td></tr> </tbody> </table>																		HOUR (LST)	AVERAGES											RESULTANT WIND (MPH)		CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (INCHES, HG)		VISIBILITY (MILES)	WIND SPEED (MPH)	WIND DIRECTION	SPEED	DIRECTION	STATION	SEA LEVEL	01	0	NC					10.00		46	21	37	37	13	02	30.18	30.39						04	3	NC	0359	2	150	380	10.00		41	17	33	38	9	04	30.21	30.42						07	0	NC	0659	9	130	300	10.00		39	13	31	34	13	03	30.30	30.51						10	0	NC	0900	0	NT	NT	10.00		45	14	34	29	15	03	30.38	30.58						13			1200	4	180	440	10.00		50	15	37	25	9	04								16	0	NC	1500	8	230	300	10.00		50	14	37	24	5	05	30.29							19	0	NC					10.00		44	16	34	32	9	10	30.32							22	10	60					10.00		42	25	36	51	8	10	30.34						
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	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (INCHES, HG)		VISIBILITY (MILES)	WIND SPEED (MPH)	WIND DIRECTION	SPEED	DIRECTION																																																																																																																																																																																																																																			
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22	10	6	2100	1	150	300	2.00	SF	38	36	37	93	16	36	29.82	30.03																																																																																																																																																																																																																																
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16	10	16	1500	3	130	150	10.00		43	37	40	80	10	01	29.85	30.05																																																																																																																																																																																																																																
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SUNRISE: 0557 MAR 30 SUNSET: 1831																																																																																																																																																																																																																																																
01	10	9					7.00		41	39	40	93	8	03	29.98	30.19																																																																																																																																																																																																																																
04	10	7	0300	3	130	300	7.00		40	38	39	93	8	01	29.98	30.20																																																																																																																																																																																																																																
07	10	9	0600	0	NT	NT	7.00		41	37	39	86	5	36	30.04	30.25																																																																																																																																																																																																																																
10	1	NC	0901	0	NT	NT	10.00		46	38	42	74	0	00	30.05	30.25																																																																																																																																																																																																																																
13	2	NC	1200	0	NT	NT	10.00		55	40	48	57	5	19	30.00	30.22																																																																																																																																																																																																																																
16	0	NC	1500	3	190	330	10.00		59	40	50	50	3	31	29.92	30.12																																																																																																																																																																																																																																
19	10	46	1800	6	210	300	10.00		55	43	49	64	6	17	29.92	30.13																																																																																																																																																																																																																																
22	8	46	2100	3	210	440	10.00		47	39	43	74	8	14	29.93	30.13																																																																																																																																																																																																																																

SUPPLEMENTARY HOURLY PRECIPITATION

UNIVERSAL RAIN GAUGE (WATER EQUIVALENT IN INCHES)

MARCH 1996
RICHMOND, VA

LATITUDE 37° 30'N
LONGITUDE 77° 19'W

DATE	A.M. HOUR (L.S.T.) ENDING AT												DATE	P.M. HOUR (L.S.T.) ENDING AT												DATE	DAILY TOTAL
	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	0.00		
02													02				0.01	0.01	T	0.01	T	T	0.01	0.05	02	0.09	
03	T	0.01	0.03	0.01									03											03	0.05		
04													04											04	0.00		
05													05											05	0.00		
06													06											06	0.00		
07		0.01	0.02	T	T	0.01	T	T	0.02	0.05	T	0.02	07											07	0.14		
08	T	T	0.01	T	T	T	T	0.02	T	0.04	0.02	0.09	08	0.10	0.01									08	0.29		
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										0.02			15	0.15	0.02									15	0.19		
16													16											16	0.09		
17	0.32	0.11		T	0.01	0.01							17											17	0.45		
18													18											18	0.00		
19		0.01	T	T	T	T	T	T	T	T	0.02	0.03	19	0.23	0.06	T	0.15							19	0.50		
20													20											20	0.00		
21													21											21	0.00		
22													22											22	0.00		
23													23											23	0.00		
24													24											24	0.00		
25													25											25	0.00		
26													26											26	0.00		
27													27											27	0.00		
28					0.02	0.06	0.07	0.05	0.02	0.04	0.07	0.03	28	0.06	0.01	0.04	0.06	0.10	0.03	0.04	0.03	0.04	0.01	0.01	0.03	28	0.82
29	0.02												29											29	0.02		
30													30											30	0.00		
31													31											31	0.08		
MONTHLY TOTAL																							2.72				

PUBLISHED BY: NCDC, ASHEVILLE, NC.

SUPPLEMENTARY MAXIMUM SHORT DURATION PRECIPITATION (MSDP)

TIME PERIOD (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180
PRECIPITATION (INCHES)	0.08	0.11	0.12	0.13	0.17	0.26	0.32	0.40	0.45	0.49	0.52	0.52
ENDED: DATE	19	19	19	19	17	17	17	17	17	17	17	17
ENDED: TIME	1543	1543	1543	1551	0110	0110	0125	0125	0139	0146	0202	0202

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

The National Weather Service has determined that the ASOS Heated Tipping-Bucket (HTB) rain gauge may not measure water equivalent precipitation accurately during frozen precipitation events. Precipitation data from a nearby site is provided on this page to supplement the ASOS HTB data.
M = Missing Data.

* = Data distribution unknown.
First HPD value that follows is the total accumulated amount.

I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,
AND IS COMPILED FROM RECORDS ON FILE AT THE NATIONAL CLIMATIC DATA CENTER.

Kenneth D Haden

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL ENVIRONMENTAL, SATELLITE, DATA, AND INFORMATION SERVICE NATIONAL CLIMATIC DATA CENTER DIRECTOR
ASHEVILLE, NORTH CAROLINA NATIONAL CLIMATIC DATA CENTER

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