



DECEMBER 2010 LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

RICHMOND, VA
RICHMOND INTERNATIONAL AIRPORT (KRIC)
 Lat:37° 30'N Long: 77° 19'W Elev (Ground) 163 Feet
 Time Zone : EASTERN WBAN: 13740 ISSN#: 0198-537X



Date 1	Temperature °F						Deg Days BASE 65°		WEATHER 10	SNOW/ICE ON GND(IN)		PRECIPITATION ON GND(IN)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								Date 24	
	MAXIMUM 2	MINIMUM 3	AVERAGE 4	DEP FROM NORMAL 5	AVERAGE DEW PT 6	AVERAGE WET BULB 7	HEATING 8	COOLING 9		0700 LST	1300 LST	2400 LST	2400 LST	AVERAGE STATION 15	AVERAGE SEA LEVEL 16	RESULTANT SPEED 17	RES DIR 18	AVERAGE SPEED 19	MAXIMUM						
																			3-SEC		2-MIN				
																			SPEED 20	DIR 21	SPEED 22	DIR 23			
01	67*	35	51*	6	42	49	14	0	RA BR	0		0.0	1.33	29.64	29.84	10.8	25	15.9	46	27	38*	26	01		
02	47	27	37	-7	23	33	28	0		0		0.0	0.00	29.97	30.17	4.0	33	5.6	15	33	12	34	02		
03	45	33	39	-5	24	33	26	0		0		0.0	0.00	29.93	30.12	5.8	36	6.3	20	01	16	01	03		
04	43	28	36	-7	20	30	29	0	SN BR	0		0.6	0.05	29.77	30.00	4.9	32	6.5	17	36	13	27	04		
05	43	29	36	-7	19	30	29	0	SN	T		T		29.70	29.90	10.8	33	11.3	33	32	24	33	05		
06	40	26	33	-10	11	25	32	0		0		0.0	0.00	29.67	29.86	11.9	30	12.7	30	31	24	30	06		
07	37	24	31	-12	7	23	34	0		0		0.0	0.00	29.67	29.89	11.9	31	12.7	28	32	22	32	07		
08	37	19	28	-14	9	23	37	0		0		0.0	0.00	29.91	30.13	5.3	30	6.1	18	32	15	29	08		
09	39	18	29	-13	11	23	36	0		0		0.0	0.00	30.12	30.35	1.5	33	2.4		9		29	09		
10	43	21	32	-10	19	27	33	0		0		0.0	0.00	30.15	30.34	1.3	17	1.4	14	18	10	18	10		
11	45	24	35	-6	28	32	30	0	RA FG BR	0		0.0	0.24	30.01	30.18	1.8	05	2.3	14	10	8	04	11		
12	48	38	43	2	41	42	22	0	RA DZ FG+ FG BR	0		0.0	0.78	29.38	29.51	2.9	24	7.3	22	21	17	34	12		
13	39	22	31	-10	22	28	34	0	RA SN FZFG BR	T		1.1	0.30	29.23	29.47	11.7	33	12.2	48*	33	25	32	13		
14	28	20	24	-17	2	18	41	0		1		0.0	0.00	29.61	29.84	13.2	32	13.8	35	32	29	31	14		
15	34	16	25	-15	6	19	40	0		T		0.0	0.00	29.80	30.00	9.0	28	9.2	23	33	17	29	15		
16	28	15*	22*	-18	20	23	43	0	RA FZRA SN PL FG+ FZFG BR	T		2.0	0.20	29.67	29.88	1.6	05	3.0	10	01	9	01	16		
17	37	21	29	-11	22	26	36	0	BR	1		0.0	0.00	29.87	30.08	0.1	25	2.3	12	03	9	03	17		
18	36	23	30	-10	25	29	35	0	BR	T		0.0	0.00	29.93	30.13	1.5	11	2.0	12	13	10	13	18		
19	38	27	33	-7	21	29	32	0		T		0.0	0.00	29.83	30.02	9.6	01	9.8	30	36	21	01	19		
20	40	22	31	-8	15	26	34	0		0		0.0	0.00	29.87	30.07	8.7	34	8.9	27	35	22	35	20		
21	42	27	35	-4	17	29	30	0		0		0.0	0.00	29.86	30.06	7.2	33	7.6	21	33	16	34	21		
22	47	31	39	0	20	31	26	0		0		0.0	0.00	29.76	29.95	3.7	36	4.3	17	02	14	01	22		
23	45	27	36	-3	18	30	29	0		0		0.0	0.00	29.88	30.07	12.9	34	13.0	38	33	30	34	23		
24	43	25	34	-4	17	28	31	0		0		0.0	0.00	29.96	30.16	6.7	35	7.2	24	02	17	03	24		
25	37	30	34	-4	24	29	31	0	SN FG BR	0		2.7	0.22	29.85	30.06	1.9	04	2.2	10	22	8	20	25		
26	30	27	29	-9	25	27	36	0	SN FZFG BR BLSN	3		1.6	0.14	29.52	29.72	12.3	36	13.7	33	34	24	35	26		
27	38	27	33	-5	12	26	32	0	SN	4		T	T	29.57	29.76	14.8	32	15.2	45	33	31	33	27		
28	43	24	34	-4	14	27	31	0		2		0.0	0.00	29.88	30.08	7.5	27	8.1	23	31	17	29	28		
29	45	23	34	-4	17	28	31	0		1		0.0	0.00	29.93	30.12	1.0	30	1.3	10	05	8	05	29		
30	43	22	33	-4	22	29	32	0	RA	0		0.0	T	30.04	30.25	2.4	20	2.5	10	21	9	21	30		
31	57	28	43	6	28	36	22	0		0		0.0	0.00	30.03	30.23	5.0	21	5.2	15	25	12	24	31		
										< MONTHLY AVERAGES TOTALS >								< MONTHLY AVERAGES							
										-8.3 -6.0 -7.1				DEPARTURE FROM NORMAL		0.14		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3							
DEGREE DAYS										GREATEST 24-HR PRECIPITATION : 1.33 DATE : 01				SEA LEVEL PRESSURE				DATE TIME							
MONTHLY										GREATEST 24-HR SNOWFALL : 2.7 DATE : 25				MAXIMUM : 30.41				09 2154							
SEASON TO DATE										GREATEST SNOW DEPTH : 4 DATE : 27				MINIMUM : 29.28				13 0016							
TOTAL DEPARTURE										NUMBER OF -> DAYS WITH				MAXIMUM TEMP >= 90 : 0				MINIMUM TEMP <= 32 : 28				PRECIPITATION >= 0.01 INCH: 8			
HEATING : 976 COOLING : 0														MAXIMUM TEMP <= 32 : 3				MINIMUM TEMP <= 0 : 0				PRECIPITATION >= 0.10 INCH: 7			
														THUNDERSTORMS : 0				HEAVY FOG : 2				SNOWFALL >= 1.0 INCH : 4			

**DECEMBER 2010
RICHMOND, VA**

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)
DECEMBER 2010

WBAN # 13740

Date	FOR HOUR (LST) ENDING AT												Date	FOR HOUR (LST) ENDING AT												Date	Sum of Hourly Data	2400 LST Water Equiv.
	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	0.01	T	0.01	T	0.01	0.03	0.82	0.41	0.04	T			01											01	1.33	1.33		
02													02											02	0.00	0.00		
03													03											03	0.00	0.00		
04													04											04	0.01*	0.05		
05	T	T											05											05	T	T		
06													06											06	0.00	0.00		
07													07											07	0.00	0.00		
08													08											08	0.00	0.00		
09													09											09	0.00	0.00		
10													10											10	0.00	0.00		
11													11											11	0.24	0.24		
12	0.08	0.07	0.17	T	T	T						T	12	0.07	0.04	0.07	0.01	0.04	0.05	0.05	0.01	0.01	T	0.05	0.02	11	0.24	0.24
13		0.02	0.03	0.04	0.01	0.03	0.03	0.05	0.04	0.02	0.03	T	13	T										12	0.78	0.78		
14													14											13	0.30	0.30		
15													15											14	0.00	0.00		
16										0.02	0.05	0.03	16	0.02	0.04	0.01	T	0.01	0.02	T			15	0.00	0.00			
17													17											16	0.20	0.20		
18													18											17	0.00	0.00		
19													19											18	0.00	0.00		
20													20											19	0.00	0.00		
21													21											20	0.00	0.00		
22													22											21	0.00	0.00		
23													23											22	0.00	0.00		
24													24											23	0.00	0.00		
25													25			T	0.01	0.02	0.04	0.01	0.03	0.03	0.03	0.04	0.01	24	0.00	0.00
26	0.01	T	T	T	T	T	T	T	0.04	0.04	0.01	0.01	26	0.01	T	0.01	0.01	T	T	T	T	T	T	25	0.22	0.22		
27	T	T											27											26	0.14	0.14		
28													28											27	T	T		
29													29											28	0.00	0.00		
30													30	T	T									29	0.00	0.00		
31													31											30	T	T		
																								31	0.00	0.00		

* Indicates sum of Hourly and Daily disagree.

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	0.32	0.45	0.50	0.59	0.83	1.08	1.13	1.15	1.25	1.26	1.27	1.29
Ending Date	01	01	01	01	01	01	01	01	01	01	01	01
Ending Time (Hr/Min)	0638	0640	0646	0650	0701	0712	0716	0733	0803	0814	0833	0814

Note : The hourly and daily precipitation totals are printed in the last 2 columns and hi-lighted in red when they disagree. 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.

Date and time are not entered for TRACE amounts.

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		
DESCRIPTOR	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	
PR Partial	RA Rain	PY Spray	SQ Squalls
SH Shower(s)	SG Snow Grains	SA Sand	SS Sandstorm
TS Thunderstorm	SN Snow	VA Volcanic Ash	GL Glaze
VC In the Vicinity	UP Unkown Precipitation		

Intensity (as indicated on pages 4 to 6):
'+' = Heavy '' = Moderate '-' = Light

RICHMOND, VA DECEMBER 2010

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:

Station Augmentation-SANDSTON COOP
Lat/Lon:37.54417/-77.27583 Elevation:165
Distance:4 MI Dir:E
Augmented Elements:Temp, Precip, Snow
Equipment:MMTS, SRG, Snowboard

Date	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR-SS		MN-MN		MINIMUM	MAXIMUM	
			Sky Cover	Satellite	Sky Cover	Satellite			
01							1.50	10.00	
02							10.00	10.00	
03							10.00	10.00	
04							3.00	10.00	
05							4.00	10.00	
06							10.00	10.00	
07							10.00	10.00	
08							10.00	10.00	
09							9.00	10.00	
10							9.00	10.00	
11							0.50	10.00	
12							0.25	10.00	
13							0.50	10.00	
14							10.00	10.00	
15							10.00	10.00	
16							0.25	10.00	
17							6.00	10.00	
18							5.00	10.00	
19							9.00	10.00	
20							10.00	10.00	
21							10.00	10.00	
22							10.00	10.00	
23							10.00	10.00	
24							10.00	10.00	
25							0.50	10.00	
26							0.50	9.00	
27							9.00	10.00	
28							10.00	10.00	
29							8.00	10.00	
30							10.00	10.00	
31							10.00	10.00	
MONTHLY AVGS							6.97	9.97	
SUNSHINE (Minutes)									
Total : 0					Possible : 17909				
Percent Possible : 0									
NUMBER OF DAYS WITH : SKY CONDITION									
Clear		Partly CLDY			Cloudy			Missing	
MINIMUM VISIBILITY (MILES)									
<= .25		<= 3.0			>= 7.0				
2		8			20				

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

DECEMBER 2010

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)					
			Observation Time (LST)	Eff Cld Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg				STATION	SEA LEVEL		Observation Time (LST)	Eff Cld Amt Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
SUNRISE: 0705 DEC 01						SUNSET: 1652						SUNRISE: 0710 DEC 07						SUNSET: 1651											
01	OVC	050			4.00	-RA BR	64	60	62	87	17	18	29.67	29.87	01	OVC	180			10.00		28	9	23	45	9	27	29.61	29.81
04	OVC	011			6.00	-RA BR	65	62	63	90	21	18	29.54	29.73	04	FEW	100			10.00		26	9	21	48	8	26	29.61	29.80
07	OVC	020			1.50	+RA BR	65	64	64	97	6	22	29.48	29.67	07	FEW	100			10.00		24	10	20	55	9	28	29.64	29.84
10	BKN	110			10.00		60	54	57	81	23	25	29.50	29.69	10	FEW	110			10.00		31	5	24	33	18	32	29.68	29.88
13	SCT	150			10.00		59	37	48	44	20	27	29.57	29.76	13	FEW	250			10.00		36	5	27	27	16	31	29.65	29.85
16	SCT	060			10.00		50	27	40	41	16	27	29.69	29.88	16	CLR	NC			10.00		35	5	26	28	13	34	29.68	29.88
19	CLR	NC			10.00		42	21	34	43	16	30	29.83	30.02	19	CLR	NC			10.00		32	6	25	33	11	31	29.75	29.95
22	CLR	NC			10.00		38	21	32	50	9	29	29.88	30.08	22	CLR	NC			10.00		28	7	22	41	15	33	29.81	30.01
SUNRISE: 0706 DEC 02						SUNSET: 1651						SUNRISE: 0711 DEC 08						SUNSET: 1651											
01	CLR	NC			10.00		35	23	31	62	8	27	29.92	30.11	01	CLR	NC			10.00		25	8	20	48	7	30	29.84	30.04
04	CLR	NC			10.00		32	23	29	69	3	28	29.96	30.15	04	CLR	NC			10.00		22	9	19	57	7	27	29.87	30.07
07	FEW	060			10.00		32	23	29	69	6	30	30.00	30.20	07	CLR	NC			10.00		21	8	18	57	3	27	29.91	30.11
10	BKN	250			10.00		43	23	35	45	6	35	30.02	30.22	10	FEW	250			10.00		31	8	24	38	5	27	29.94	30.14
13	OVC	250			10.00		46	21	37	37	8	33	29.97	30.17	13	SCT	250			10.00		35	7	27	31	10	33	29.91	30.11
16	BKN	250			10.00		45	22	36	40	6	29	29.96	30.16	16	FEW	250			10.00		36	8	28	31	11	28	29.92	30.11
19	OVC	130			10.00		42	25	35	51	6	02	29.98	30.18	19	SCT	250			10.00		30	10	24	43	0	00	29.96	30.16
22	OVC	110			10.00		39	26	34	60	7	03	29.98	30.18	22	FEW	250			10.00		28	9	23	45	5	35	30.03	30.23
SUNRISE: 0707 DEC 03						SUNSET: 1651						SUNRISE: 0712 DEC 09						SUNSET: 1651											
01	OVC	110			10.00		37	24	32	59	10	04	29.96	30.16	01	FEW	250			10.00		24	11	20	58	0	00	30.05	30.25
04	OVC	085			10.00		36	23	31	59	6	02	29.96	30.16	04	CLR	NC			10.00		22	12	19	65	0	00	30.08	30.28
07	BKN	250			10.00		34	23	30	64	5	35	29.96	30.15	07	FEW	090			10.00		20	12	18	71	0	00	30.13	30.32
10	FEW	250			10.00		41	23	34	49	8	04	29.96	30.16	10	CLR	NC			10.00		33	14	27	46	6	31	30.19	30.39
13	BKN	250			10.00		44	22	36	42	7	34	29.88	30.08	13	FEW	250			10.00		37	8	28	30	5	31	30.14	30.34
16	OVC	055			10.00		43	24	36	47	9	34	29.86	30.05	16	FEW	250			10.00		38	8	29	29	0	00	30.15	30.35
19	OVC	065			10.00		41	25	35	53	3	35	29.89	30.09	19	FEW	250			10.00		28	10	23	47	0	00	30.18	30.38
22	OVC	080			10.00		37	26	33	65	5	36	29.92	30.11	22	FEW	150			10.00		25	13	22	60	0	00	30.21	30.41
SUNRISE: 0708 DEC 04						SUNSET: 1651						SUNRISE: 0713 DEC 10						SUNSET: 1651											
01	FEW	065			10.00		33	21	29	61	8	01	29.91	30.11	01	BKN	250			10.00		27	14	23	58	0	00	30.20	30.40
04	CLR	NC			10.00		30	21	27	69	6	33	29.91	30.11	04	BKN	250			10.00		27	18	24	69	0	00	30.19	30.39
07	SCT	250			10.00		29	17	25	61	5	32	29.91	30.11	07	SCT	250			10.00		22	16	20	78	0	00	30.20	30.40
10	BKN	250			10.00		37	16	30	42	9	01	29.89	30.09	10	BKN	250			10.00		30	20	27	66	0	00	30.19	30.39
13	BKN	250			10.00		42	16	33	35	8	28	29.77	29.96	13	OVC	250			10.00		40	22	33	49	6	17	30.11	30.31
16	OVC	250			10.00		41	15	32	35	5	24	29.71	29.91	16	SCT	250			10.00		42	21	34	43	5	18	30.08	30.28
19	OVC	090			10.00		36	23	31	59	10	25	29.70	29.90	19	SCT	250			10.00		30	21	27	69	0	00	30.10	30.29
22	OVC	065			3.00	-SN BR	33	30	32	89	5	32	29.68	29.88	22	SCT	250			10.00		28	21	26	75	0	00	30.09	30.29
SUNRISE: 0709 DEC 05						SUNSET: 1651						SUNRISE: 0714 DEC 11						SUNSET: 1651											
01	OVC	070			4.00	-SN BR	32	29	31	89	8	35	29.65	29.85	01	FEW	250			7.00		25	21	24	85	0	00	30.07	30.27
04	BKN	250			10.00		31	27	30	85	8	32	29.64	29.84	04	CLR	NC			8.00		24	20	23	85	0	00	30.06	30.26
07	FEW	050			10.00		32	26	30	79	9	30	29.67	29.87	07	OVC	250			7.00		26	23	25	88	0	00	30.07	30.27
10	SCT	150			10.00		37	20	31	50	16	36	29.72	29.91	10	OVC	200			8.00		35	30	33	82	0	00	30.08	30.28
13	BKN	055			10.00		41	16	32	36	16	34	29.67	29.87	13	OVC	200			10.00		45	23	37	42	5	01	30.01	30.21
16	BKN	065			10.00		41	15	32	35	11	32	29.69	29.89	16	OVC	016			8.00	-RA	40	34	37	79	3	11	29.97	30.17
19	FEW	060			10.00		36	13	29	39	15	33	29.74	29.94	19	OVC	021			5.00	-RA BR	38	36	37	93	0	00	29.92	30.12
22	FEW	060			10.00		32	12	26	43	10	33	29.78	29.98	22	OVC	002			2.00	BR	38	37	38	96	6	04	29.81	30.01
SUNRISE: 0709 DEC 06						SUNSET: 1651						SUNRISE: 0714 DEC 12						SUNSET: 1652											
01	CLR	NC			10.00		29	12	24	49	8	26	29.75	29.95	01	OVC	002			0.50	-RA FG	39	38	39	96	8	36	29.65	29.85
04	CLR	NC			10.00		27	14	23	58	7	27	29.73	29.93	04	OVC	003			0.50	-DZ FG	39	39	39	100	5	36	29.52	29.70
07	FEW	060			10.00		26	15	23	63	8	26	29.71	29.91	07	OVC	001			0.25	FG	39	39	39	100	8	24	29.44	29.64
10	FEW	060			10.00		36	11	28	35	17	30	29.70	29.90	10	OVC	003			9.00		41	40	41	96	16	21	29.45	29.65
13	SCT	250			10.00		40	10	30	29	20	29	29.62	29.82	13	OVC	070			2.50	-RA BR	44	43	44	96	8	18	29.28	29.47
16	SCT	250			10.00		37	8	28	30	18	32	29.59	29.79	16	OVC	010			2.50	-RA BR	47	45	46	93	7	16	29.17	29.36
19	CLR	NC			10.00		32	9	25	38	14	32	29.61	29.81	19	BKN	044			9.00	-RA	43	42	43	96	8	35	29.13	29.32
22	FEW	200			10.00		29	8	23	41	8	30	29.63	29.82	22	OVC	100			9.00		42	40	41	93	7	28	29.10	29.28

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

DECEMBER 2010

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)											
			Observation Time (LST)	Eff Cld Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg				STATION	SEA LEVEL		Observation Time (LST)	Eff Cld Amt Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL						
SUNRISE: 0715						DEC 13						SUNSET: 1652						SUNRISE: 0719						DEC 19						SUNSET: 1654					
01	OVC	010			7.00		39	38	39	96	5	27	29.12	29.30	01	OVC	090			10.00		32	25	29	75	3	04	29.85	30.05						
04	OVC	030			7.00	-RASN	35	33	34	92	5	34	29.13	29.31	04	OVC	080			9.00		31	25	29	78	5	03	29.83	30.03						
07	OVC	018			1.00	-SN BR	32	31	32	96	10	32	29.18	29.36	07	OVC	140			9.00		31	25	29	78	8	36	29.83	30.03						
10	OVC	024			0.75	-SN BR	30	27	29	89	9	35	29.26	29.44	10	BKN	080			10.00		35	25	31	67	14	03	29.86	30.06						
13	OVC	080			10.00		31	25	29	78	10	31	29.25	29.44	13	FEW	080			10.00		37	22	32	55	13	36	29.81	30.00						
16	OVC	080			10.00		32	18	27	56	17	33	29.31	29.49	16	FEW	150			10.00		37	19	31	48	10	01	29.81	30.01						
19	BKN	250			10.00		26	9	21	48	21	32	29.41	29.60	19	CLR	NC			10.00		29	19	26	66	7	36	29.81	30.01						
22	BKN	250			10.00		24	6	19	46	14	32	29.47	29.66	22	CLR	NC			10.00		29	17	25	61	11	01	29.82	30.01						
SUNRISE: 0716						DEC 14						SUNSET: 1652						SUNRISE: 0719						DEC 20						SUNSET: 1654					
01	FEW	250			10.00		22	6	18	50	10	30	29.49	29.68	01	CLR	NC			10.00		27	14	23	58	9	36	29.82	30.02						
04	CLR	NC			10.00		21	4	17	48	13	31	29.53	29.73	04	CLR	NC			10.00		24	14	21	66	8	35	29.84	30.04						
07	FEW	050			10.00		20	3	16	47	16	30	29.59	29.80	07	FEW	150			10.00		22	14	20	71	5	32	29.86	30.06						
10	FEW	050			10.00		23	3	18	42	21	32	29.65	29.85	10	SCT	250			10.00		32	17	27	54	11	36	29.90	30.10						
13	FEW	050			10.00		27	3	21	35	23	32	29.62	29.82	13	FEW	050			10.00		39	17	31	41	11	34	29.86	30.06						
16	FEW	050			10.00		28	-0	21	30	17	32	29.66	29.85	16	SCT	250			10.00		39	15	31	38	14	33	29.85	30.05						
19	CLR	NC			10.00		24	-0	18	35	11	34	29.73	29.93	19	CLR	NC			10.00		33	14	27	46	10	36	29.89	30.09						
22	CLR	NC			10.00		22	-0	17	38	8	32	29.78	29.98	22	CLR	NC			10.00		30	14	25	51	11	35	29.90	30.10						
SUNRISE: 0716						DEC 15						SUNSET: 1652						SUNRISE: 0720						DEC 21						SUNSET: 1655					
01	CLR	NC			10.00		19	2	15	47	6	28	29.79	29.99	01	BKN	150			10.00		29	15	25	56	10	33	29.92	30.12						
04	CLR	NC			10.00		17	4	14	56	7	26	29.81	30.01	04	SCT	200			10.00		30	15	25	54	10	33	29.90	30.10						
07	CLR	NC			10.00		18	6	15	59	10	28	29.82	30.03	07	BKN	200			10.00		28	16	24	61	7	33	29.90	30.10						
10	CLR	NC			10.00		25	7	20	46	11	29	29.84	30.04	10	SCT	250			10.00		36	16	29	44	11	34	29.92	30.12						
13	CLR	NC			10.00		31	6	24	35	14	28	29.77	29.97	13	BKN	250			10.00		42	16	33	35	9	34	29.83	30.03						
16	CLR	NC			10.00		32	6	25	33	13	26	29.77	29.97	16	OVC	250			10.00		39	16	31	39	11	33	29.81	30.01						
19	FEW	250			10.00		28	7	22	41	7	25	29.77	29.98	19	BKN	250			10.00		35	17	29	48	3	30	29.84	30.03						
22	FEW	250			10.00		27	7	22	43	8	27	29.79	29.98	22	OVC	070			10.00		35	21	30	57	3	01	29.83	30.03						
SUNRISE: 0717						DEC 16						SUNSET: 1653						SUNRISE: 0721						DEC 22						SUNSET: 1655					
01	OVC	250			10.00		18	9	16	68	3	13	29.80	30.00	01	OVC	060			10.00		35	23	31	62	0	00	29.81	30.00						
04	OVC	180			10.00		19	13	17	77	0	00	29.79	29.98	04	OVC	060			10.00		34	23	30	64	0	00	29.77	29.96						
07	OVC	055			10.00		22	14	20	71	5	17	29.77	29.96	07	BKN	140			10.00		34	22	30	62	0	00	29.75	29.95						
10	VV	008			0.25	SN FZFG	24	20	23	85	0	00	29.74	29.94	10	BKN	140			10.00		38	19	31	46	3	06	29.75	29.95						
13	VV	005			0.50	-SN FZFG	26	24	25	92	6	15	29.61	29.81	13	BKN	150			10.00		42	19	34	40	6	35	29.70	29.90						
16	OVC	007			7.00	-FZRAPL	28	26	27	92	0	00	29.56	29.76	16	BKN	055			10.00		43	18	34	37	9	35	29.71	29.90						
19	OVC	005			10.00		27	25	26	92	5	36	29.59	29.79	19	BKN	075			10.00		36	19	30	50	5	01	29.74	29.94						
22	OVC	070			10.00		26	24	25	92	5	03	29.63	29.82	22	CLR	NC			10.00		35	19	30	52	9	36	29.80	29.99						
SUNRISE: 0718						DEC 17						SUNSET: 1653						SUNRISE: 0721						DEC 23						SUNSET: 1656					
01	BKN	006			10.00		22	20	21	92	9	03	29.70	29.90	01	CLR	NC			10.00		31	21	28	66	5	33	29.82	30.01						
04	OVC	045			9.00		24	22	23	92	5	36	29.76	29.96	04																				
07	BKN	250			9.00		23	20	22	88	0	00	29.82	30.02	07	CLR	NC			10.00		28	18	25	66	8	32	29.86	30.06						
10	OVC	200			10.00		28	22	26	78	0	00	29.92	30.12	10	FEW	040			10.00		37	18	30	46	17	34	29.89	30.09						
13	SCT	250			10.00		34	20	29	57	0	00	29.88	30.08	13	FEW	050			10.00		44	19	35	37	21	35	29.85	30.05						
16	BKN	250			10.00		34	26	31	73	6	19	29.91	30.11	16	FEW	050			10.00		43	17	34	35	17	34	29.86	30.06						
19	BKN	250			9.00		29	25	28	85	0	00	29.95	30.15	19	CLR	NC			10.00		36	18	30	48	11	33	29.90	30.10						
22	BKN	250			8.00		26	24	25	92	0	00	29.98	30.18	22	CLR	NC			10.00		33	18	28	54	9	34	29.92	30.12						
SUNRISE: 0718						DEC 18						SUNSET: 1653						SUNRISE: 0721						DEC 24						SUNSET: 1656					
01	BKN	250			6.00	BR	25	23	24	92	0	00	29.98	30.18	01	CLR	NC			10.00		29	18	25	63	6	33	29.93	30.13						
04	OVC	150			7.00		27	24	26	88	0	00	29.98	30.18	04	CLR	NC			10.00		28	18	25	66	6	35	29.96	30.16						
07	OVC	150			7.00		29	26	28	89	0	00	29.99	30.19	07	CLR	NC			10.00		26	16	23	66	9	02	29.98	30.18						
10	OVC	140			6.00	BR	32	28	31	85	0	00	29.99	30.19	10	CLR	NC			10.00		36	16	29	44	11	02	30.01	30.21						
13	OVC	110			10.00		35	24	31	64	3	14	29.94	30.14	13	SCT	250			10.00		41	16	32	36	13	32	29.96	30.16						
16	OVC	130			10.00		36	25	32	64	3	11	29.89	30.09	16	BKN	250			10.00		42	16	33	35	10	33	29.93	30.13						
19	OVC	120			10.00		34	24	30	67	5	08	29.88	30.08	19	BKN	250			10.00		34	16	28	48	0	00	29.95	30.15						
22	OVC	095			10.00		33	25	30	72	3	04	29.87	30.06	22	OVC	200			10.00		31	18	27	59	0	00	29.95	30.15						

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

DECEMBER 2010

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)			
			Observation Time (LST)	Eff Cld Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
SUNRISE: 0722 DEC 25						SUNSET: 1657								
01	OVC	110				32	19	28	59	3	34	29.94	30.14	
04	OVC	100				31	20	27	64	0	00	29.92	30.11	
07	OVC	085				32	20	28	61	0	00	29.92	30.11	
10	OVC	075				35	20	30	54	6	05	29.91	30.11	
13	OVC	060				37	21	31	52	3	01	29.84	30.03	
16	OVC	019			SN	32	30	31	92	3	14	29.82	30.02	
19	OVC	021			-SN BR	32	30	31	92	3	05	29.81	30.01	
22	OVC	023			-SN BR	31	29	30	92	6	05	29.80	30.00	
SUNRISE: 0722 DEC 26						SUNSET: 1657								
01	OVC	030			-SN BR	30	28	29	92	7	03	29.74	29.93	
04	OVC	008			-SN BR	30	27	29	89	11	03	29.66	29.86	
07	OVC	011			-SN BR	29	27	28	92	11	03	29.60	29.80	
10	OVC	012			SN FZFG	29	26	28	89	16	01	29.55	29.75	
13	OVC	017			-SN BR	28	24	27	85	21	36	29.45	29.65	
16	OVC	030			-SN BR	28	24	27	85	15	35	29.44	29.62	
19	OVC	100				28	22	26	78	17	35	29.42	29.62	
22	OVC	050			-SN BR	27	23	26	85	14	32	29.44	29.63	
SUNRISE: 0723 DEC 27						SUNSET: 1658								
01	OVC	095			-SN	28	20	25	72	11	32	29.42	29.62	
04	BKN	060				28	15	24	58	11	32	29.41	29.61	
07	BKN	110				29	12	24	49	13	32	29.45	29.65	
10	OVC	250				31	11	25	43	18	32	29.53	29.72	
13	BKN	250				36	6	27	28	26	34	29.55	29.74	
16	FEW	250				38	9	29	30	23	32	29.60	29.80	
19	FEW	250				34	10	27	37	11	30	29.68	29.88	
22	FEW	160				32	13	26	45	15	30	29.77	29.97	
SUNRISE: 0723 DEC 28						SUNSET: 1659								
01	SCT	150				30	14	25	51	13	29	29.84	30.03	
04	BKN	150				28	13	23	53	10	29	29.90	30.10	
07	SCT	250				27	11	22	51	8	30	29.91	30.11	
10	SCT	250				31	13	25	47	8	25	29.95	30.15	
13	FEW	250				38	17	31	43	11	23	29.86	30.06	
16	FEW	250				42	16	33	35	10	28	29.84	30.03	
19	CLR	NC				32	16	27	52	5	25	29.86	30.06	
22	CLR	NC				34	15	28	46	6	28	29.88	30.08	
SUNRISE: 0723 DEC 29						SUNSET: 1659								
01	CLR	NC				31	14	26	49	5	28	29.88	30.08	
04	SCT	150				30	13	25	49	6	32	29.88	30.08	
07	SCT	250				29	11	24	47	0	00	29.90	30.10	
10	SCT	250				38	15	30	39	0	00	29.93	30.13	
13	SCT	250				44	18	35	35	0	00	29.91	30.10	
16	BKN	250				44	19	35	37	3	27	29.92	30.11	
19	SCT	250				32	21	28	64	0	00	29.96	30.15	
22	FEW	250				27	21	25	78	0	00	29.99	30.19	
SUNRISE: 0723 DEC 30						SUNSET: 1700								
01	FEW	250				26	20	24	78	0	00	30.00	30.19	
04	FEW	250				24	20	23	85	0	00	30.02	30.22	
07	SCT	250				23	18	21	81	0	00	30.07	30.27	
10	OVC	250				37	24	32	59	3	21	30.12	30.32	
13	OVC	250				41	23	34	49	5	22	30.06	30.26	
16	BKN	250				41	24	35	51	6	20	30.04	30.24	
19	BKN	250				38	24	33	57	5	23	30.06	30.26	
22	SCT	250				32	23	29	69	5	18	30.05	30.25	

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)			
			Observation Time (LST)	Eff Cld Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
SUNRISE: 0724 DEC 31						SUNSET: 1701								
01	CLR	NC				32	22	29	67	3	21	30.05	30.24	
04	CLR	NC				29	21	26	72	5	22	30.05	30.24	
07	SCT	080				29	22	27	75	3	18	30.05	30.25	
10	BKN	250				42	28	36	58	8	24	30.06	30.26	
13	BKN	250				54	29	43	38	9	24	30.01	30.21	
16	BKN	250				54	34	45	47	6	19	30.01	30.21	
19	BKN	250				46	33	40	61	0	00	30.04	30.23	
22	FEW	250				42	33	38	71	5	20	30.03	30.22	

3-HOURLY OBSERVATION NOTES

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, W = 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.

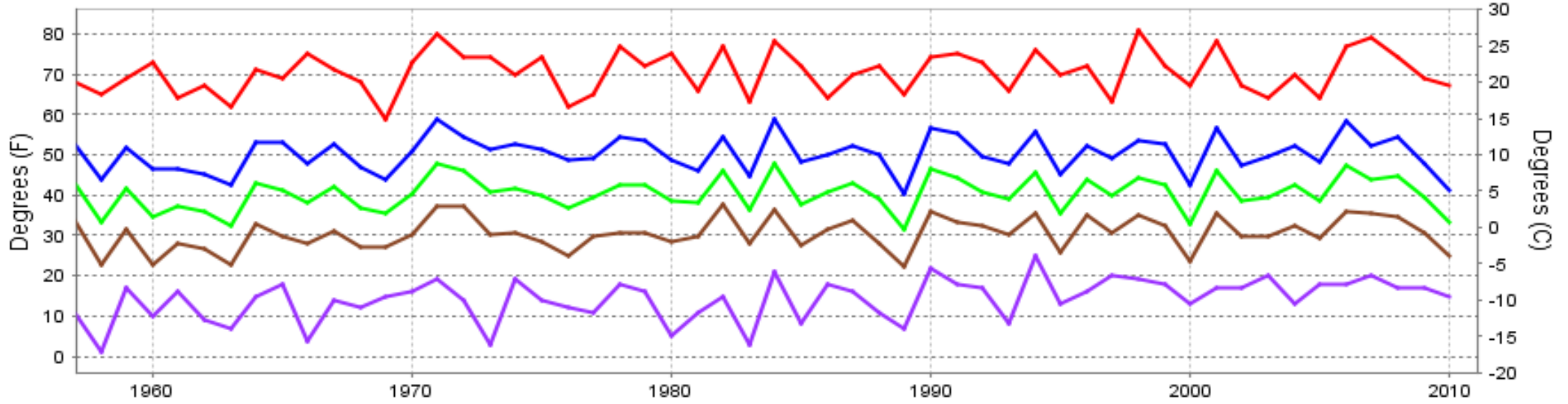
& = Original observation contained additional weather elements.

See page 3 for additional notes.

SUMMARY BY HOUR

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)	SPEED	DIRECTION
							STATION	SEA LEVEL				
01			30	20	27	67	29.81	30.01	8.66	6	5	33
02			30	20	27	69	29.81	30.01	8.95	6	6	33
03			29	20	26	70	29.81	30.01	8.95	6	6	33
04			29	20	26	70	29.81	30.00	8.95	6	6	33
05			29	20	26	70	29.80	30.00	9.08	5	7	33
06			29	20	26	70	29.81	30.01	8.76	6	5	33
07			28	20	26	71	29.82	30.02	8.58	6	7	32
08			29	20	26	70	29.82	30.02	8.49	6	7	32
09			32	20	28	64	29.83	30.03	8.86	8	7	31
10			35	20	30	57	29.84	30.04	8.86	9	6	32
11			37	19	31	52	29.83	30.03	8.96	9	6	32
12			38	19	31	48	29.81	30.01	9.17	10	6	31
13			39	19	32	46	29.79	29.98	9.16	11	7	31
14			40	18	32	45	29.78	29.97	9.30	11	7	31
15			40	19	33	45	29.77	29.97	9.20	10	7	30
16			39	19	32	48	29.78	29.98	9.02	10	6	31
17			37	19	31	51	29.79	29.99	8.91	8	6	32
18			35	19	30	55	29.80	30.00	9.16	7	6	32
19			34	19	29	57	29.81	30.01	9.46	7	6	32
20			33	19	28	60	29.82	30.01	9.13	7	5	33
21			32	19	28	63	29.82	30.02	8.78	6	5	33
22			31	19	28	63	29.83	30.02	8.88	7	5	33
23			31	19	27	65	29.83	30.03	8.94	7	5	33
24			30	19	27	66	29.83	30.02	9.02	6	5	33

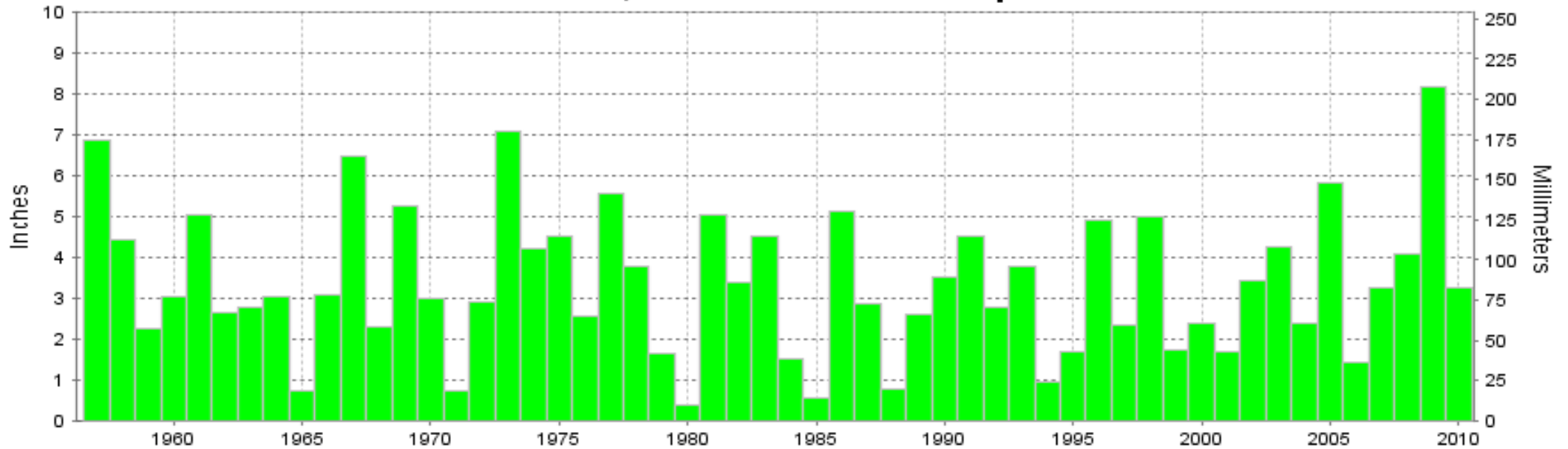
RICHMOND, VA DECEMBER Temperatures



— Extreme Max
 — Mean Max
 — Mean
 — Mean Min
 — Extreme Min

Long-Term (1957-2010) Mean: 40.4
1971-2000 Normal: 40.4

RICHMOND, VA DECEMBER Precipitation



Long-Term (1957-2010) Mean Monthly Total: 3.37

1971-2000 Normal: 3.12



DECEMBER 2010
RICHMOND, VA

LOCAL CLIMATOLOGICAL DATA NOAA, National Climatic Data Center

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