



# OCTOBER 2013 LOCAL CLIMATOLOGICAL DATA

## NOAA, National Climatic Data Center

**RICHMOND, VA**  
**RICHMOND INTERNATIONAL AIRPORT (KRIC)**  
 Lat:37° 30'N Long: 77° 19'W Elev (Ground) 164 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 11	1300 LST 12	2400 LST 13	2400 LST 14	AVERAGE STATION 15	AVERAGE SEA LEVEL 16	RESULTANT SPEED 17	RES DIR 18	AVERAGE SPEED 19	MAXIMUM						
																			3-SEC		2-MIN				
									DEPTH	WATER- EQUIV	SNOW- FALL	WATER EQUIV			SPEED	DIR	SPEED	DIR	SPEED	DIR					
01	84	54	69	5	56	61	0	4		0		0.0	0.00	29.87	30.06	0.8	23	1.6	13	28	7	29	01		
02	87	57	72	9	58	64	0	7	MIFG	0		0.0	0.00	29.88	30.08	0.2	21	1.4	13	24	10	24	02		
03	87	59	73	10	60	65	0	8	MIFG BR HZ	0		0.0	0.00	29.91	30.10	1.3	15	1.8	13	21	8	16	03		
04	91	64	78	16	63	68	0	13	BR	0		0.0	0.00	29.88	30.08	1.7	25	3.0	12	30	8	32	04		
05	92*	63	78	16	64	69	0	13	BR	0		0.0	0.00	29.88	30.06	1.8	14	2.7	13	19	9	20	05		
06	89	67	78*	16	64	69	0	13		0		0.0	0.00	29.83	30.01	6.3	17	6.9	22	17	17	18	06		
07	81	59	70	9	65	67	0	5	RA FG BR	0		0.0	0.90	29.72	29.92	4.7	18	9.8	37*	26	26*	25	07		
08	65	55	60	-1	48	53	5	0		0		0.0	0.00	30.00	30.21	9.0	01	9.1	22	01	17	02	08		
09	60	56	58	-3	53	55	7	0	RA BR	0		0.0	1.44	30.02	30.19	13.6	01	13.6	29	02	22	01	09		
10	61	57	59	-2	56	57	6	0	RA DZ BR	0		0.0	1.39	29.83	30.00	15.2	36	15.4	28	02	22	02	10		
11	65	59	62	2	59	60	3	0	RA DZ BR	0		0.0	0.13	29.73	29.93	10.5	34	10.5	22	34	16	34	11		
12	68	63	66	6	63	64	0	1	RA DZ BR	0		0.0	0.08	29.83	30.03	9.5	01	9.7	21	03	16	04	12		
13	67	62	65	6	62	63	0	0	RA DZ BR	0		0.0	0.26	29.99	30.20	9.4	03	9.8	24	03	17	03	13		
14	72	56	64	5	56	59	1	0	BR	0		0.0	0.00	30.07	30.26	7.8	02	7.9	17	02	13	02	14		
15	73	52	63	5	56	59	2	0	FG+ BR	0		0.0	0.00	29.98	30.15	5.1	02	6.0	17	34	12	03	15		
16	76	60	68	10	60	62	0	3	FG BR	0		0.0	0.00	29.84	30.02	0.4	12	2.2	20	22	8	35	16		
17	77	60	69	11	62	64	0	4	RA	0		0.0	T	29.70	29.88	6.8	21	7.5	21	23	15	23	17		
18	73	54	64	6	49	56	1	0		0		0.0	0.00	29.78	29.99	1.7	28	3.2	23	32	13	25	18		
19	65	54	60	2	57	59	5	0	RA BR	0		0.0	0.03	29.73	29.91	2.7	21	4.4	16	28	13	27	19		
20	67	46	57	0	40	48	8	0		0		0.0	0.00	29.84	30.06	2.9	33	3.5	18	33	15	33	20		
21	69	40	55	-1	42	48	10	0		0		0.0	0.00	29.93	30.10	2.4	16	2.6	21	14	13	19	21		
22	74	51	63	7	50	55	2	0		0		0.0	0.00	29.70	29.88	3.5	19	4.7	13	18	12	21	22		
23	64	48	56	0	41	48	9	0	RA	0		0.0	0.01	29.57	29.78	7.3	33	9.4	24	29	20	26	23		
24	59	43	51	-4	31	42	14	0		0		0.0	0.00	29.86	30.08	8.3	28	8.7	21	27	17	27	24		
25	60	38	49	-6	28	39	16	0		0		0.0	0.00	30.07	30.29	4.4	33	4.8	23	31	17	32	25		
26	61	32*	47*	-8	30	40	18	0		0		0.0	0.00	30.02	30.18	7.5	22	7.7	29	24	23	24	26		
27	67	42	55	1	36	46	10	0		0		0.0	0.00	29.87	30.08	4.0	27	4.1	17	27	15	25	27		
28	69	40	55	1	43	48	10	0	BR	0		0.0	0.00	30.01	30.22	0.9	32	0.9	10	32	8	30	28		
29	72	50	61	7	46	52	4	0		0		0.0	0.00	30.12	30.33	2.2	04	2.9	12	03	8	04	29		
30	67	50	59	5	53	55	6	0	RA MIFG BR	0		0.0	0.01	30.07	30.25	2.4	18	2.6	16	22	13	22	30		
31	75	55	65	11	58	61	0	0	BR HZ	0		0.0	0.00	29.90	30.06	9.3	18	9.5	29	18	23	17	31		
										<b>&lt; MONTHLY AVERAGES   TOTALS &gt;</b>				0.0	4.25	29.88	30.08	1.6	34	6.1	<b>&lt; MONTHLY AVERAGES</b>				
										<b>&lt;-----DEPARTURE FROM NORMAL -----&gt;</b>				1.27	<b>SUNSHINE, CLOUD, &amp; VISIBILITY TABLES ON PAGE 3</b>										
<b>DEGREE DAYS</b>										<b>GREATEST 24-HR PRECIPITATION :</b> 2.74 <b>DATE :</b> 09-10				<b>SEA LEVEL PRESSURE</b>				<b>DATE TIME</b>							
<b>MONTHLY</b>										<b>GREATEST 24-HR SNOWFALL :</b> 0.0 <b>DATE :</b>				<b>MAXIMUM :</b> 30.38				<b>29 0925</b>							
<b>TOTAL DEPARTURE</b>										<b>GREATEST SNOW DEPTH :</b> 0 <b>DATE :</b>				<b>MINIMUM :</b> 29.69				<b>23 1412</b>							
<b>SEASON TO DATE</b>										<b>NUMBER OF -&gt;</b>				<b>MAXIMUM TEMP &gt;= 90 :</b> 2				<b>MINIMUM TEMP &lt;= 32 :</b> 1				<b>PRECIPITATION &gt;= 0.01 INCH:</b> 9			
<b>HEATING :</b> 137 -67 150 -83										<b>DAYS WITH</b>				<b>MAXIMUM TEMP &lt;= 32 :</b> 0				<b>MINIMUM TEMP &lt;= 0 :</b> 0				<b>PRECIPITATION &gt;= 0.10 INCH:</b> 5			
<b>COOLING :</b> 71 -32 1670 127														<b>THUNDERSTORMS :</b> 0				<b>HEAVY FOG :</b> 1				<b>SNOWFALL &gt;= 1.0 INCH :</b> 0			

**OCTOBER 2013  
RICHMOND, VA**

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)  
OCTOBER 2013

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													01												01	0.00	0.00	
02													02												02	0.00	0.00	
03													03												03	0.00	0.00	
04													04												04	0.00	0.00	
05													05												05	0.00	0.00	
06													06												06	0.00	0.00	
07					T							T	0.06												07	0.90	0.90	
08																									08	0.00	0.00	
09																									09	1.44	1.44	
10	0.26	0.11	0.36	0.23	0.27	0.05	0.01	0.01					0.08	0.16	0.04	0.01	0.07	0.09	0.04	0.10	0.23	0.18	0.28	0.12	10	1.39	1.39	
11	T	T	0.01	T	T	T	T	0.01																	11	0.13	0.13	
12		0.01			T	0.02	T	T					0.01	T	T	0.02				0.01	T	0.01	0.08	T	12	0.08	0.08	
13	T						0.01	0.01					0.03	T			T								13	0.26	0.26	
14																									14	0.00	0.00	
15																									15	0.00	0.00	
16																									16	0.00	0.00	
17																T	T								17	T	T	
18																									18	0.00	0.00	
19																									19	0.03	0.03	
20													0.01												20	0.00	0.00	
21																									21	0.00	0.00	
22																									22	0.00	0.00	
23																									23	0.01	0.01	
24																									24	0.00	0.00	
25																									25	0.00	0.00	
26																									26	0.00	0.00	
27																									27	0.00	0.00	
28																									28	0.00	0.00	
29																									29	0.00	0.00	
30																									30	0.01	0.01	
31																									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)	0.15	0.26	0.31	0.36	0.49	0.69	0.76	0.81	0.81	0.83	0.88	0.89
Ending Date	07	07	07	07	07	07	07	07	07	07	07	07
Ending Time (Hr/Min)	1237	1240	1244	1244	1244	1246	1249	1304	1304	1347	1419	1428

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.

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).

## 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	
VC In the Vicinity	UP Unkown Precipitation		GL Glaze

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

# RICHMOND, VA OCTOBER 2013

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet.

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.

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

**NORMALS ARE FOR THE YEARS 1981-2010**

### ADDITIONAL NOTES & ERRATA:

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

Beginning with the January 2013 LCD, monthly mean temperature calculations have changed to the National Data Stewardship Team standard. Monthly maximum and minimum temperature are not rounded until after monthly mean temperature is calculated. This is the most accurate outcome, but may be slightly different from the mean derived from rounded monthly maximum and minimum.

Date	VISIBILITY (MILES)	
	MINIMUM	MAXIMUM
01	10.00	10.00
02	8.00	10.00
03	6.00	10.00
04	6.00	10.00
05	5.00	10.00
06	7.00	10.00
07	2.00	10.00
08	10.00	10.00
09	1.50	10.00
10	1.75	10.00
11	1.25	10.00
12	2.00	10.00
13	1.50	10.00
14	5.00	10.00
15	0.25	10.00
16	0.50	10.00
17	9.00	10.00
18	9.00	10.00
19	5.00	10.00
20	7.00	10.00
21	9.00	10.00
22	10.00	10.00
23	10.00	10.00
24	10.00	10.00
25	10.00	10.00
26	8.00	10.00
27	10.00	10.00
28	5.00	10.00
29	10.00	10.00
30	3.00	10.00
31	3.00	10.00
<b>AVGS</b>	5.99	10.00
<b>MINIMUM VISIBILITY (MILES)</b>		
<= .25	<= 3.0	>= 7.0
1	10	15

# OBSERVATIONS AT 3-HOURLY INTERVALS

**RICHMOND, VA**  
**OCTOBER 2013**      **KRIC**

**WBAN # 13740**

HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL						DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
<b>SUNRISE: 0605</b>					<b>OCT 01</b>			<b>SUNSET: 1753</b>					<b>SUNRISE: 0610</b>					<b>OCT 07</b>			<b>SUNSET: 1744</b>				
01	CLR	NC	10.00		59	53	56	81	0	00	29.87	30.06	01	OVC	033	10.00		74	67	69	79	7	16	29.76	29.94
04	CLR	NC	10.00		56	51	53	84	3	16	29.87	30.06	04	OVC	012	10.00		73	68	70	84	6	16	29.71	29.90
07	SCT	075	10.00		57	53	55	87	0	00	29.91	30.10	07	OVC	008	6.00	BR	74	70	71	88	10	16	29.68	29.86
10	BKN	250	10.00		74	56	63	54	0	00	29.92	30.11	10	OVC	170	10.00		80	69	73	69	20	18	29.67	29.86
13	SCT	250	10.00		82	56	66	41	3	22	29.86	30.05	13	OVC	095	2.00	RA BR	69	66	67	90	10	19	29.68	29.87
16	SCT	250	10.00		82	55	66	40	5	31	29.82	30.01	16	BKN	090	10.00		71	67	68	87	6	23	29.70	29.89
19	FEW	250	10.00		70	62	65	76	0	00	29.85	30.04	19	BKN	080	10.00		70	67	68	90	6	36	29.75	29.94
22	CLR	NC	10.00		66	59	62	78	0	00	29.87	30.06	22	SCT	250	10.00		62	53	57	73	10	02	29.85	30.04
<b>SUNRISE: 0605</b>					<b>OCT 02</b>			<b>SUNSET: 1751</b>					<b>SUNRISE: 0611</b>					<b>OCT 08</b>			<b>SUNSET: 1743</b>				
01	CLR	NC	10.00		63	57	60	81	0	00	29.87	30.06	01	FEW	045	10.00		60	46	53	60	14	01	29.89	30.08
04	CLR	NC	10.00		61	57	59	87	0	00	29.86	30.05	04	FEW	060	10.00		56	48	52	75	7	01	29.95	30.14
07	CLR	NC	9.00	MIFG	60	56	58	86	0	00	29.90	30.09	07	OVC	250	10.00		56	46	51	70	9	01	30.01	30.21
10	CLR	NC	10.00		80	59	67	49	0	00	29.93	30.12	10	BKN	250	10.00		60	47	53	62	11	01	30.05	30.24
13	FEW	050	10.00		83	56	66	40	0	00	29.88	30.07	13	OVC	250	10.00		64	48	55	56	13	02	30.04	30.23
16	FEW	250	10.00		85	56	67	37	6	21	29.85	30.04	16	OVC	220	10.00		62	50	56	65	7	01	30.03	30.23
19	CLR	NC	10.00		72	63	66	73	3	15	29.88	30.07	19	OVC	210	10.00		59	50	54	72	8	36	30.06	30.25
22	CLR	NC	10.00		67	61	63	81	0	00	29.90	30.09	22	OVC	210	10.00		58	50	54	75	7	02	30.07	30.26
<b>SUNRISE: 0606</b>					<b>OCT 03</b>			<b>SUNSET: 1750</b>					<b>SUNRISE: 0612</b>					<b>OCT 09</b>			<b>SUNSET: 1741</b>				
01	CLR	NC	10.00		63	59	61	87	0	00	29.91	30.09	01	OVC	180	10.00		58	50	54	75	7	01	30.05	30.24
04	CLR	NC	10.00		62	58	60	86	0	00	29.90	30.09	04	BKN	150	10.00		58	50	54	75	11	36	30.01	30.21
07	BKN	300	6.00	HZ	64	59	61	84	0	00	29.92	30.11	07	OVC	120	10.00	-RA	58	50	54	75	10	36	30.03	30.22
10	BKN	300	10.00		82	61	69	49	0	00	29.95	30.14	10	OVC	110	10.00	-RA	59	54	56	83	11	01	30.05	30.24
13	OVC	300	10.00		85	59	69	42	3	18	29.90	30.09	13	OVC	044	4.00	RA BR	60	56	58	86	13	01	30.02	30.22
16	BKN	250	10.00		85	60	69	43	5	15	29.88	30.07	16	OVC	020	10.00	-RA	59	55	57	87	14	01	30.00	30.19
19	BKN	250	10.00		74	65	68	74	3	12	29.89	30.08	19	OVC	030	6.00	-RA BR	58	54	56	87	17	01	29.98	30.17
22	BKN	200	10.00		72	64	67	76	0	00	29.91	30.10	22	OVC	020	6.00	RA BR	57	54	55	90	20	36	29.94	30.13
<b>SUNRISE: 0607</b>					<b>OCT 04</b>			<b>SUNSET: 1748</b>					<b>SUNRISE: 0613</b>					<b>OCT 10</b>			<b>SUNSET: 1740</b>				
01	BKN	170	10.00		69	63	65	81	3	19	29.89	30.08	01	OVC	013	2.00	RA BR	57	54	55	90	13	02	29.90	30.09
04	FEW	070	9.00		66	62	64	87	3	19	29.89	30.08	04	OVC	006	2.50	RA BR	57	54	55	90	14	01	29.86	30.06
07	SCT	180	8.00		65	62	63	90	5	19	29.91	30.09	07	OVC	005	6.00	-RA BR	57	54	55	90	14	01	29.85	30.04
10	FEW	300	10.00		81	63	69	54	3	31	29.92	30.11	10	OVC	007	2.00	BR	59	56	57	90	17	36	29.84	30.03
13	SCT	050	10.00		88	60	70	39	7	31	29.87	30.06	13	OVC	007	10.00		60	56	58	86	14	36	29.80	29.99
16	FEW	060	10.00		89	62	71	41	8	29	29.85	30.04	16	OVC	005	5.00	-RA BR	61	57	59	87	15	35	29.77	29.96
19	CLR	NC	10.00		76	67	70	74	0	00	29.87	30.06	19	OVC	006	7.00		59	56	57	90	15	35	29.77	29.97
22	SCT	250	7.00		70	65	67	84	0	00	29.90	30.09	22	OVC	005	4.00	-DZ BR	59	57	58	93	16	36	29.76	29.96
<b>SUNRISE: 0608</b>					<b>OCT 05</b>			<b>SUNSET: 1747</b>					<b>SUNRISE: 0613</b>					<b>OCT 11</b>			<b>SUNSET: 1738</b>				
01	FEW	250	8.00		70	65	67	84	0	00	29.88	30.07	01	OVC	005	2.50	-DZ BR	59	56	57	90	11	36	29.72	29.91
04	FEW	250	7.00		67	63	65	87	0	00	29.88	30.07	04	OVC	005	3.00	-DZ BR	59	57	58	93	11	34	29.71	29.90
07	SCT	250	5.00	BR	68	64	66	87	0	00	29.91	30.10	07	OVC	004	1.25	-DZ BR	60	58	59	93	11	34	29.73	29.92
10	SCT	250	10.00		84	64	71	51	0	00	29.92	30.11	10	OVC	006	4.00	-DZ BR	62	59	60	90	13	34	29.75	29.94
13	SCT	250	10.00		90	62	72	39	6	VR	29.87	30.06	13	OVC	008	10.00		65	60	62	84	10	34	29.72	29.92
16	SCT	250	10.00		90	62	72	39	0	00	29.84	30.03	16	OVC	012	3.00	-DZ BR	64	61	62	90	9	33	29.73	29.93
19	FEW	250	10.00		78	66	70	67	8	14	29.85	30.03	19	OVC	005	4.00	BR	63	60	61	90	9	33	29.75	29.94
22	SCT	250	10.00		73	65	68	76	3	13	29.87	30.06	22	OVC	005	2.00	-DZ BR	63	60	61	90	8	34	29.77	29.96
<b>SUNRISE: 0609</b>					<b>OCT 06</b>			<b>SUNSET: 1745</b>					<b>SUNRISE: 0614</b>					<b>OCT 12</b>			<b>SUNSET: 1737</b>				
01	SCT	250	8.00		69	65	66	87	5	14	29.85	30.04	01	OVC	003	2.50	BR	64	62	63	93	8	35	29.75	29.94
04	FEW	250	8.00		69	64	66	84	0	00	29.84	30.03	04	OVC	003	9.00		66	64	65	93	9	02	29.76	29.96
07	SCT	250	7.00		68	64	66	87	0	00	29.87	30.06	07	OVC	006	2.00	-DZ BR	65	63	64	93	9	36	29.81	30.00
10	FEW	250	10.00		82	63	70	53	8	21	29.88	30.07	10	OVC	006	10.00		67	63	65	87	10	02	29.84	30.03
13	BKN	047	10.00		87	62	71	43	11	17	29.81	30.00	13	OVC	011	9.00		68	64	66	87	14	03	29.84	30.03
16	FEW	045	10.00		86	62	70	45	11	15	29.77	29.96	16	OVC	007	7.00		67	63	65	87	13	02	29.86	30.05
19	SCT	055	10.00		76	64	68	67	7	14	29.78	29.97	19	OVC	005	4.00	BR	65	62	63	90	9	01	29.91	30.10
22	BKN	150	10.00		75	66	69	74	9	16	29.79	29.97	22	OVC	005	2.00	-DZ BR	64	61	62	90	8	36	29.93	30.11

# OBSERVATIONS AT 3-HOURLY INTERVALS

**RICHMOND, VA**  
**OCTOBER 2013**

**KRIC**

**WBAN # 13740**

HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)					
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL						DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL				
<b>SUNRISE: 0615</b>					<b>OCT 13</b>					<b>SUNSET: 1735</b>					<b>SUNRISE: 0621</b>					<b>OCT 19</b>					<b>SUNSET: 1727</b>				
01	OVC	005	8.00		64	61	62	90	9	36	29.92	30.11	01	OVC	250	9.00		54	50	52	87	0	00	29.81	30.00				
04	OVC	003	10.00		65	62	63	90	9	02	29.92	30.11	04	OVC	250	8.00		55	52	53	90	0	00	29.78	29.97				
07	OVC	010	7.00	-RA	66	63	64	90	8	02	29.98	30.17	07	OVC	250	8.00		58	54	56	87	0	00	29.78	29.98				
10	OVC	012	8.00		67	63	65	87	11	02	30.03	30.22	10	OVC	110	7.00	-RA	62	58	60	86	6	14	29.75	29.94				
13	OVC	012	2.00	-RA BR	66	63	64	90	13	04	30.02	30.21	13	OVC	006	6.00	-RA BR	64	60	62	87	8	14	29.67	29.86				
16	OVC	015	4.00	-DZ BR	65	62	63	90	10	05	30.02	30.21	16	OVC	090	7.00		65	61	63	87	3	19	29.65	29.85				
19	OVC	012	6.00	BR	64	60	62	87	10	04	30.06	30.25	19	OVC	090	5.00	BR	63	62	62	97	6	21	29.66	29.85				
22	OVC	012	6.00	BR	63	59	61	87	10	04	30.09	30.28	22	BKN	200	7.00		62	58	60	86	9	28	29.69	29.88				
<b>SUNRISE: 0616</b>					<b>OCT 14</b>					<b>SUNSET: 1734</b>					<b>SUNRISE: 0622</b>					<b>OCT 20</b>					<b>SUNSET: 1726</b>				
01	OVC	042	10.00		62	58	60	86	9	03	30.07	30.26	01	SCT	200	7.00		57	55	56	93	3	27	29.72	29.91				
04	OVC	009	9.00		62	57	59	84	8	02	30.08	30.27	04	CLR	NC	10.00		52	45	49	77	7	33	29.78	29.98				
07	OVC	007	5.00	BR	61	57	59	87	9	04	30.09	30.29	07	FEW	250	10.00		49	41	45	74	0	00	29.85	30.05				
10	OVC	009	10.00		63	58	60	84	13	02	30.11	30.30	10	FEW	250	10.00		58	35	47	42	15	33	29.92	30.11				
13	OVC	024	10.00		67	58	62	73	5	02	30.07	30.26	13	FEW	250	10.00		64	32	49	30	0	00	29.89	30.08				
16	SCT	039	10.00		70	55	61	59	7	01	30.03	30.22	16	FEW	250	10.00		65	33	50	31	0	00	29.87	30.06				
19	CLR	NC	10.00		60	56	58	86	6	01	30.05	30.25	19	CLR	NC	10.00		52	44	48	75	0	00	29.91	30.10				
22	CLR	NC	10.00		58	54	56	87	6	01	30.06	30.25	22	CLR	NC	10.00		47	41	44	80	0	00	29.95	30.14				
<b>SUNRISE: 0617</b>					<b>OCT 15</b>					<b>SUNSET: 1733</b>					<b>SUNRISE: 0623</b>					<b>OCT 21</b>					<b>SUNSET: 1725</b>				
01	CLR	NC	10.00		55	53	54	93	5	01	30.02	30.22	01	CLR	NC	10.00		47	41	44	80	0	00	29.95	30.14				
04	BKN	003	2.50	BR	53	52	52	96	6	36	30.01	30.20	04	CLR	NC	10.00		43	39	41	86	0	00	29.96	30.15				
07	BKN	300	3.00	BR	54	52	53	93	9	34	30.01	30.21	07	FEW	250	10.00		42	37	40	82	0	00	29.99	30.18				
10	FEW	300	10.00		65	54	59	68	9	02	30.00	30.19	10	SCT	250	10.00		62	43	52	50	3	24	29.98	30.17				
13	OVC	300	10.00		72	58	64	61	8	06	29.94	30.13	13	SCT	250	10.00		67	39	53	36	8	17	29.92	30.11				
16	OVC	036	10.00		69	60	64	73	9	04	29.92	30.11	16	FEW	250	10.00		68	40	54	36	7	16	29.86	30.05				
19	OVC	015	10.00		65	60	62	84	5	03	29.94	30.13	19	BKN	250	10.00		57	46	51	67	0	00	29.86	30.05				
22	BKN	037	10.00		63	59	61	87	3	04	29.91	30.11	22	OVC	250	10.00		54	45	49	72	0	00	29.84	30.03				
<b>SUNRISE: 0618</b>					<b>OCT 16</b>					<b>SUNSET: 1731</b>					<b>SUNRISE: 0624</b>					<b>OCT 22</b>					<b>SUNSET: 1723</b>				
01	OVC	008	10.00		62	59	60	90	5	35	29.89	30.08	01	OVC	300	10.00		52	46	49	80	0	00	29.80	29.99				
04	OVC	003	0.75	BR	61	60	60	97	0	00	29.87	30.06	04	BKN	240	10.00		52	44	48	75	5	19	29.75	29.94				
07	OVC	002	0.50	FG	60	60	60	100	0	00	29.87	30.06	07	OVC	220	10.00		53	47	50	80	5	18	29.72	29.91				
10	BKN	250	10.00		67	60	63	79	0	00	29.87	30.06	10	OVC	170	10.00		62	51	56	67	6	22	29.72	29.91				
13	OVC	036	10.00		73	59	64	62	0	00	29.82	30.01	13	BKN	220	10.00		71	51	60	49	7	23	29.66	29.85				
16	BKN	130	10.00		73	60	65	64	3	19	29.78	29.97	16	BKN	220	10.00		70	52	60	53	6	17	29.64	29.83				
19	OVC	120	10.00		69	62	65	78	0	00	29.78	29.97	19	OVC	250	10.00		63	55	58	76	5	15	29.64	29.83				
22	BKN	180	10.00		64	61	62	90	0	00	29.79	29.98	22	BKN	250	10.00		60	54	57	80	3	19	29.64	29.83				
<b>SUNRISE: 0619</b>					<b>OCT 17</b>					<b>SUNSET: 1730</b>					<b>SUNRISE: 0625</b>					<b>OCT 23</b>					<b>SUNSET: 1722</b>				
01	OVC	250	10.00		62	61	61	96	3	14	29.75	29.94	01	OVC	090	10.00		58	52	55	81	9	01	29.60	29.79				
04	OVC	250	10.00		61	60	60	97	0	00	29.73	29.91	04	OVC	100	10.00		55	38	47	53	13	01	29.57	29.76				
07	OVC	200	10.00		61	60	60	97	5	17	29.73	29.92	07	OVC	031	10.00		50	42	46	74	11	36	29.55	29.74				
10	SCT	200	10.00		72	61	65	68	6	23	29.73	29.92	10	BKN	032	10.00		54	44	49	69	6	35	29.53	29.72				
13	OVC	200	10.00		76	61	67	60	11	20	29.68	29.87	13	SCT	110	10.00		61	43	52	52	3	VR	29.50	29.69				
16	BKN	150	10.00		73	62	66	69	9	24	29.65	29.83	16	SCT	090	10.00		61	38	50	43	14	29	29.53	29.72				
19	OVC	070	10.00		69	64	66	84	7	19	29.63	29.81	19	SCT	085	10.00		56	40	48	55	16	30	29.62	29.82				
22	BKN	022	10.00		71	63	66	76	11	24	29.65	29.84	22	FEW	060	10.00		49	39	44	69	7	32	29.73	29.93				
<b>SUNRISE: 0620</b>					<b>OCT 18</b>					<b>SUNSET: 1729</b>					<b>SUNRISE: 0626</b>					<b>OCT 24</b>					<b>SUNSET: 1721</b>				
01	SCT	095	10.00		66	62	64	87	9	27	29.68	29.87	01	CLR	NC	10.00		47	34	41	61	7	30	29.79	29.98				
04	FEW	100	10.00		60	51	55	72	6	33	29.74	29.93	04	CLR	NC	10.00		44	34	40	68	6	27	29.83	30.02				
07	BKN	300	10.00		57	52	54	83	0	00	29.80	29.99	07	FEW	110	10.00		43	31	38	63	6	25	29.88	30.07				
10	SCT	300	10.00		66	44	54	45	0	00	29.86	30.05	10	CLR	NC	10.00		54	29	43	38	14	27	29.91	30.10				
13	BKN	300	10.00		71	43	56	36	5	VR	29.81	30.00	13	BKN	065	10.00		55	28	43	35	11	29	29.87	30.06				
16	BKN	250	10.00		70	45	57	41	5	20	29.79	29.98	16	BKN	060	10.00		56	29	44	36	10	26	29.87	30.06				
19	BKN	250	10.00		60	52	56	75	3	36	29.82	30.01	19	OVC	090	10.00		53	30	43	41	6	30	29.93	30.13				
22	BKN	250	10.00		57	50	53	78	0	00	29.84	30.03	22	FEW	085	10.00		49	30	41	48	9	26	29.97	30.16				

# OBSERVATIONS AT 3-HOURLY INTERVALS

**RICHMOND, VA**  
OCTOBER 2013

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)						
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL					
<b>SUNRISE: 0627</b>					<b>OCT 25</b>								<b>SUNSET: 1720</b>				
01	FEW	080	10.00		43	27	37	53	3	29	29.99	30.19					
04	CLR	NC	10.00		40	28	35	63	3	30	30.03	30.22					
07	CLR	NC	10.00		40	28	35	63	0	00	30.09	30.28					
10	CLR	NC	10.00		53	27	42	37	8	30	30.12	30.31					
13	FEW	060	10.00		58	26	44	29	8	32	30.09	30.29					
16	FEW	070	10.00		58	23	43	26	9	35	30.08	30.28					
19	CLR	NC	10.00		46	32	40	58	0	00	30.12	30.32					
22	CLR	NC	10.00		43	31	38	63	9	01	30.16	30.36					
<b>SUNRISE: 0628</b>					<b>OCT 26</b>								<b>SUNSET: 1718</b>				
01	CLR	NC	10.00		39	30	35	70	0	00	30.15	30.34					
04	CLR	NC	10.00		34	28	32	79	0	00	30.11	30.31					
07	CLR	NC	10.00		33	28	31	82	0	00	30.11	30.30					
10	CLR	NC	10.00		52	34	44	50	11	21	30.07	30.27					
13	CLR	NC	10.00		60	26	45	27	18	23	29.97	30.16					
16	CLR	NC	10.00		59	26	45	28	10	21	29.88	30.07					
19	CLR	NC	10.00		47	31	40	54	8	21	29.87	30.06					
22	BKN	085	10.00		51	33	43	50	9	21	29.84	30.03					
<b>SUNRISE: 0629</b>					<b>OCT 27</b>								<b>SUNSET: 1717</b>				
01	BKN	075	10.00		54	32	44	43	8	25	29.83	30.02					
04	SCT	220	10.00		50	33	43	52	3	30	29.83	30.02					
07	SCT	300	10.00		44	34	40	68	0	00	29.88	30.07					
10	BKN	250	10.00		59	36	48	42	9	28	29.92	30.11					
13	SCT	250	10.00		66	35	51	32	8	31	29.86	30.06					
16	FEW	300	10.00		66	35	51	32	9	28	29.87	30.06					
19	FEW	300	10.00		52	41	47	66	0	00	29.92	30.11					
22	CLR	NC	10.00		45	39	42	80	0	00	29.96	30.15					
<b>SUNRISE: 0630</b>					<b>OCT 28</b>								<b>SUNSET: 1716</b>				
01	CLR	NC	10.00		44	39	42	83	0	00	29.95	30.15					
04	CLR	NC	8.00		42	38	40	85	0	00	29.97	30.16					
07	BKN	250	5.00	BR	41	37	39	86	0	00	30.02	30.22					
10	OVC	250	10.00		59	43	51	56	0	00	30.06	30.25					
13	OVC	250	10.00		67	44	55	44	6	32	30.02	30.21					
16	BKN	250	10.00		68	43	55	40	0	00	30.02	30.21					
19	BKN	250	10.00		56	46	51	70	0	00	30.06	30.25					
22	BKN	250	10.00		55	46	50	72	0	00	30.09	30.28					
<b>SUNRISE: 0631</b>					<b>OCT 29</b>								<b>SUNSET: 1715</b>				
01	OVC	120	10.00		55	47	51	74	0	00	30.08	30.27					
04	OVC	050	10.00		55	48	51	77	6	01	30.11	30.30					
07	OVC	070	10.00		54	47	50	77	3	36	30.15	30.34					
10	BKN	065	10.00		62	46	54	56	5	06	30.18	30.37					
13	CLR	NC	10.00		69	42	55	38	0	00	30.13	30.32					
16	BKN	300	10.00		69	44	56	41	3	07	30.11	30.30					
19	BKN	300	10.00		58	45	51	62	6	09	30.15	30.34					
22	SCT	300	10.00		54	45	50	72	0	00	30.16	30.35					
<b>SUNRISE: 0632</b>					<b>OCT 30</b>								<b>SUNSET: 1714</b>				
01	OVC	200	10.00		52	46	49	80	0	00	30.14	30.33					
04	OVC	150	8.00		54	51	52	90	3	21	30.09	30.28					
07	OVC	090	4.00	-RA BR	55	52	53	90	0	00	30.10	30.29					
10	OVC	250	8.00		61	55	58	81	7	17	30.09	30.28					
13	OVC	060	10.00		66	55	60	68	7	21	30.02	30.21					
16	BKN	060	10.00		66	56	60	70	3	16	29.99	30.18					
19	BKN	300	9.00		60	56	58	86	0	00	30.03	30.22					
22	FEW	070	7.00	MIFG	56	52	54	87	0	00	30.03	30.22					

HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)						
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL					
<b>SUNRISE: 0633</b>					<b>OCT 31</b>								<b>SUNSET: 1713</b>				
01	BKN	050	4.00	BR	57	54	55	90	3	14	29.99	30.18					
04	BKN	055	3.00	BR	60	57	58	90	6	17	29.98	30.17					
07	BKN	250	4.00	BR	59	56	57	90	6	18	29.97	30.17					
10	OVC	250	10.00		68	58	62	70	8	18	29.95	30.14					
13	OVC	160	10.00		73	59	64	62	9	17	29.86	30.05					
16	OVC	160	10.00		73	57	63	57	13	18	29.80	29.99					
19	OVC	160	10.00		70	60	64	71	9	19	29.77	29.96					
22	OVC	180	10.00		71	58	63	63	13	18	29.73	29.92					

## 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

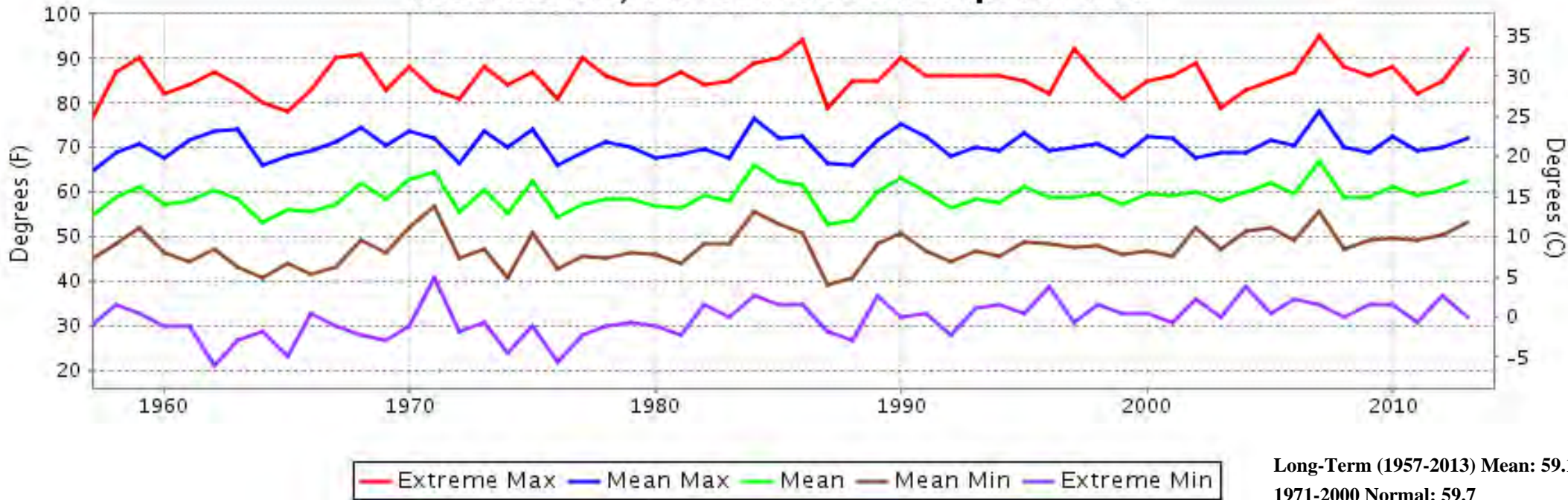
Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC = No Ceiling detected.

& = Original observation contained additional weather elements. See page 3 for additional notes.

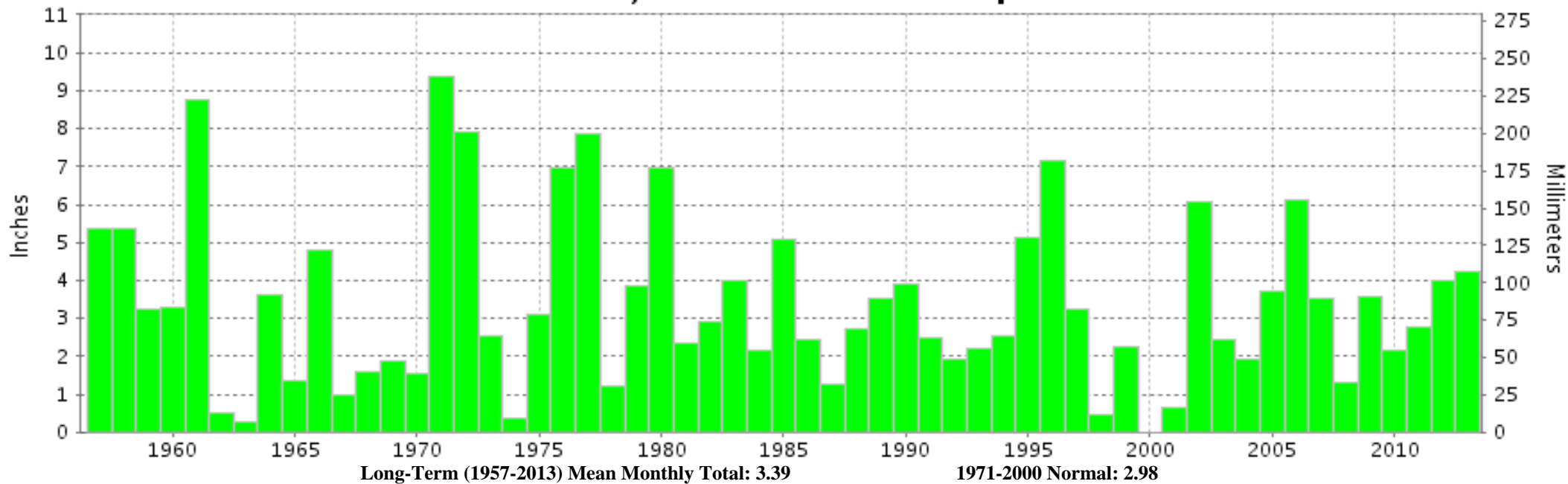
## SUMMARY BY HOUR

HOUR (LST)	AVERAGES								RESULTANT WIND (MPH)	
	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (Inches, HG)		VISIBILITY (Miles)	WIND SPEED (MPH)	SPEED	DIRECTION
					STATION	SEA LEVEL				
01	58	52	55	81	29.89	30.08	8.74	5	2	35
02	57	52	54	82	29.88	30.07	8.89	4	2	34
03	57	51	54	82	29.88	30.07	8.56	5	2	35
04	56	51	54	82	29.88	30.07	8.31	5	2	35
05	56	50	53	83	29.89	30.08	8.07	5	2	01
06	55	50	53	84	29.90	30.09	7.73	4	3	01
07	56	51	53	84	29.91	30.10	7.31	4	3	36
08	59	52	55	79	29.92	30.11	7.93	6	2	34
09	63	52	57	71	29.92	30.12	8.94	7	3	32
10	66	52	58	63	29.92	30.11	9.32	7	3	32
11	68	52	59	59	29.91	30.10	9.24	9	3	31
12	69	51	60	56	29.90	30.09	9.10	8	3	32
13	70	51	60	55	29.87	30.07	9.13	8	2	33
14	70	51	60	54	29.86	30.05	8.81	8	3	32
15	70	51	60	55	29.86	30.05	9.12	8	3	31
16	70	51	60	56	29.85	30.04	9.23	7	2	32
17	68	52	59	59	29.86	30.05	9.10	7	2	34
18	65	54	58	69	29.87	30.06	9.10	5	3	02
19	63	54	58	75	29.88	30.07	9.06	6	2	36
20	61	54	57	77	29.88	30.07	8.74	6	2	36
21	61	53	57	77	29.89	30.08	8.84	6	3	33
22	60	53	56	78	29.89	30.08	8.74	5	3	34
23	59	52	56	79	29.89	30.08	8.66	5	3	34
24	59	52	55	80	29.88	30.07	8.87	5	3	33

## RICHMOND, VA OCTOBER Temperatures



## RICHMOND, VA OCTOBER Precipitation







**OCTOBER 2013  
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.*

A handwritten signature in black ink, appearing to read "Thomas R. Karl".

**DIRECTOR**

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