



# AUGUST 2011 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	Temperature °F						Deg Days BASE 65°		WEATHER	SNOW/ICE ON GND(IN)		PRECIPITATION ON GND(IN)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								Date
	MAXIMUM	MINIMUM	AVERAGE	DEP FROM NORMAL	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING		0700 LST	1300 LST	2400 LST	2400 LST	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	MAXIMUM					
																			3-SEC		2-MIN			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
01	96	68	82	4	67	72	0	17	TS TSRA RA BR	0		0.0	0.01	29.78	29.96	0.7	19	5.1	29	01	24	01	01	
02	93	72	83	5	65	72	0	18		0		0.0	0.00	29.67	29.84	3.8	31	7.1	28	35	16	36	02	
03	93	76	85	7	70	75	0	20	RA HZ	0		0.0	T	29.57	29.73	2.6	20	5.1	22	22	16	28	03	
04	91	74	83	6	71	75	0	18	BR	0		0.0	0.00	29.64	29.85	5.6	02	8.6	21	05	16	05	04	
05	88	71	80	3	68	71	0	15		0		0.0	0.00	29.86	30.05	4.9	09	5.9	18	13	13	11	05	
06	90	68	79	2	72	74	0	14	RA	0		0.0	T	29.80	29.98	6.5	16	6.8	23	15	20	15	06	
07	99*	75	87*	10	73	77	0	22	TS RA BR HZ	0		0.0	0.07	29.57	29.74	6.5	24	7.9	31	31	24	32	07	
08	97	73	85	8	67	73	0	20		0		0.0	0.00	29.49	29.67	3.9	30	6.4	21	32	16	34	08	
09	96	73	85	8	66	72	0	20		0		0.0	0.00	29.44	29.62	7.7	26	9.2	30	29	22	25	09	
10	97	66	82	5	60	69	0	17		0		0.0	0.00	29.52	29.71	6.5	28	8.1	31	27	21	27	10	
11	91	70	81	4	57	66	0	16		0		0.0	0.00	29.66	29.87	5.2	01	6.5	21	35	15	34	11	
12	89	69	79	2	63	69	0	14	FU	0		0.0	0.00	29.82	30.02	2.1	12	4.1	17	14	10	14	12	
13	87	70	79	3	69	71	0	14	RA BR	0		0.0	0.27	29.85	30.02	7.6	17	7.9	36	19	28	18	13	
14	87	68	78	2	70	72	0	13	TS TSRA RA BR	0		0.0	0.49	29.63	29.80	5.7	19	8.1	32	01	28	01	14	
15	84	66	75	-1	65	68	0	10	TS RA	0		0.0	0.01	29.55	29.74	2.0	31	4.4	18	32	15	30	15	
16	88	68	78	2	63	68	0	13		0		0.0	0.00	29.72	29.94	5.9	32	6.3	25	31	18	33	16	
17	88	65	77	1	63	68	0	12	FU	0		0.0	0.00	29.93	30.12	3.8	15	4.1	16	18	13	18	17	
18	91	69	80	4	65	70	0	15	TS RA	0		0.0	0.03	29.85	30.03	6.8	18	7.2	24	17	18	17	18	
19	88	68	78	2	67	70	0	13	TS TSRA RA BR	0		0.0	0.27	29.73	29.92	2.0	09	4.6	22	13	18	13	19	
20	89	66	78	2	67	70	0	13	FG+ FG MIFG BR	0		0.0	0.00	29.80	30.00	2.0	11	4.2	13	11	9	14	20	
21	92	70	81	5	71	74	0	16	TS TSRA RA BR FU	0		0.0	0.07	29.75	29.93	7.0	19	7.6	29	19	23	18	21	
22	86	66	76	0	61	67	0	11	RA	0		0.0	T	29.72	29.93	6.5	34	8.3	25	24	20	24	22	
23	85	60	73	-3	51	60	0	8		0		0.0	0.00	29.87	30.07	2.7	06	4.7	17	07	12	05	23	
24	89	62	76	0	60	66	0	11		0		0.0	0.00	29.86	30.04	8.0	19	8.4	25	20	21	20	24	
25	95	69	82	6	69	72	0	17	TS TSRA RA BR SQ	0		0.0	0.51	29.78	29.96	10.2	20	11.4	61	30	39	29	25	
26	88	69	79	3	72	73	0	14	RA BR HZ FU	0		0.0	T	29.76	29.94	4.2	06	5.0	18	11	14	12	26	
27	78	69	74	-1	72	73	0	9	RA FG+ BR	0		0.0	5.36	29.29	29.45	23.9	36	26.1	70*	34	46*	35	27	
28	89	69	79	4	63	69	0	14	RA	0		0.0	0.01	29.32	29.57	10.8	28	11.7	45	28	32	28	28	
29	82	66	74	-1	61	66	0	9		0		0.0	0.00	29.73	29.94	6.1	05	7.2	18	10	15	04	29	
30	83	64	74	-1	58	64	0	9		0		0.0	0.00	29.91	30.12	4.5	04	5.5	21	03	14	03	30	
31	84	60*	72*	-3	58	63	0	7		0		0.0	0.00	30.01	30.20	2.2	10	3.1	16	07	12	11	31	

89.5	68.4	79.0	☼	65.3	70.0	0.0	14.2	< MONTHLY AVERAGES   TOTALS >				0.0	7.10	29.71	29.90	0.6	27	7.3	< MONTHLY AVERAGES			
3.8	1.6	2.7		<----- DEPARTURE FROM NORMAL ----->										2.92	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3							

<b>DEGREE DAYS</b>				<b>GREATEST 24-HR PRECIPITATION :</b> 5.37 <b>DATE :</b> 27-28				<b>SEA LEVEL PRESSURE</b>			
<b>MONTHLY</b>				<b>GREATEST 24-HR SNOWFALL :</b> 0.0 <b>DATE :</b>				<b>MAXIMUM :</b> 30.24 31 1036			
<b>SEASON TO DATE</b>				<b>GREATEST SNOW DEPTH :</b> 0 <b>DATE :</b>				<b>MINIMUM :</b> 29.15 27 2054			
<b>TOTAL DEPARTURE</b>		<b>TOTAL DEPARTURE</b>		<b>NUMBER OF -&gt; DAYS WITH</b>		<b>MAXIMUM TEMP &gt;= 90 :</b> 13		<b>MINIMUM TEMP &lt;= 32 :</b> 0		<b>PRECIPITATION &gt;= 0.01 INCH :</b> 11	
<b>HEATING :</b> 0 -1		0 -1		<b>THUNDERSTORMS :</b> 8		<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> 439		72				<b>THUNDERSTORMS :</b> 8		<b>HEAVY FOG :</b> 2		<b>SNOWFALL &gt;= 1.0 INCH :</b> 0	

**AUGUST 2011  
RICHMOND, VA**

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)  
AUGUST 2011

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	0.01	0.01	
02													02								T	0.01	T		02	0.00	0.00	
03													03								T				03	T	T	
04													04												04	0.00	0.00	
05													05												05	0.00	0.00	
06													06												06	T	T	
07													07												07	0.07	0.07	
08													08												08	0.00	0.00	
09													09												09	0.00	0.00	
10													10												10	0.00	0.00	
11													11												11	0.00	0.00	
12													12												12	0.00	0.00	
13													13	T	0.27										13	0.27	0.27	
14													14												14	0.49	0.49	
15													15												15	0.01	0.01	
16													16												16	0.00	0.00	
17													17												17	0.00	0.00	
18													18												18	0.03	0.03	
19													19												19	0.27	0.27	
20													20												20	0.00	0.00	
21													21												21	0.07	0.07	
22	T	T											22												22	T	T	
23													23												23	0.00	0.00	
24													24												24	0.00	0.00	
25													25												25	0.51	0.51	
26													26												26	T	T	
27													27	0.35	0.59	0.88	0.55	0.44	0.54	0.39	0.30	0.14	0.07	0.05	0.01	27	5.36	5.36
28	0.01	T	T	T	T	0.06	0.15	0.22	0.10	0.14	0.12	0.26	28												28	0.01	0.01	
29													29												29	0.00	0.00	
30													30												30	0.00	0.00	
31													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)	0.19	0.27	0.29	0.38	0.54	0.70	0.89	1.09	1.32	1.49	1.80	2.08
Ending Date	20	13	27	27	27	27	27	27	27	27	27	27
Ending Time (Hr/Min)	1806	1313	1442	1448	1457	1503	1503	1530	1538	1549	1533	1542

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 AUGUST 2011

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:MMENTS, 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							5.00	10.00	
02							5.00	10.00	
03							5.00	10.00	
04							6.00	10.00	
05							10.00	10.00	
06							8.00	10.00	
07							3.00	10.00	
08							10.00	10.00	
09							7.00	10.00	
10							10.00	10.00	
11							10.00	10.00	
12							6.00	10.00	
13							6.00	10.00	
14							1.50	10.00	
15							8.00	10.00	
16							10.00	10.00	
17							6.00	10.00	
18							9.00	10.00	
19							4.00	10.00	
20							0.12	10.00	
21							4.00	10.00	
22							8.00	10.00	
23							10.00	10.00	
24							7.00	10.00	
25							2.00	10.00	
26							2.50	10.00	
27							0.25	10.00	
28							10.00	10.00	
29							10.00	10.00	
30							10.00	10.00	
31							10.00	10.00	
MONTHLY AVGS							6.56	10.00	
<b>SUNSHINE (Minutes)</b>									
Total : 0					Possible : 25234				
Percent Possible : 0									
<b>NUMBER OF DAYS WITH : SKY CONDITION</b>									
Clear		Partly CLDY			Cloudy			Missing	
<b>MINIMUM VISIBILITY (MILES)</b>									
<= .25		<= 3.0			>= 7.0				
2		6			16				

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

AUGUST 2011

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
			Observation Time (LST)	Eff Cld Amt Oktas			DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
<b>SUNRISE: 0513      AUG 01      SUNSET: 1918</b>														
01	CLR	NC			10.00		74	71	72	90	5	26	29.85	30.04
04	FEW	250			5.00	BR	70	68	69	93	3	17	29.82	30.01
07	CLR	NC			8.00		75	70	72	85	5	23	29.83	30.01
10	CLR	NC			10.00		88	69	75	53	3	11	29.82	30.01
13	SCT	250			10.00		94	61	72	33	0	00	29.77	29.96
16	SCT	250			10.00		93	62	72	36	6	19	29.70	29.89
19	BKN	200			10.00		87	70	75	57	7	18	29.70	29.88
22	OVC	110			10.00	-TSRA	74	69	71	84	0	00	29.76	29.95
<b>SUNRISE: 0514      AUG 02      SUNSET: 1917</b>														
01	SCT	250			5.00	BR	72	69	70	90	5	23	29.70	29.89
04	FEW	250			10.00		72	67	69	84	5	31	29.68	29.87
07	CLR	NC			10.00		77	68	71	74	9	31	29.69	29.87
10	SCT	250			10.00		90	63	72	41	14	33	29.69	29.88
13	BKN	250			10.00		94	58	71	30	13	32	29.67	29.85
16	OVC	250			10.00		94	60	72	32	7	36	29.61	29.79
19	OVC	250			10.00		86	67	73	53	6	19	29.61	29.79
22	OVC	250			10.00		81	69	73	67	3	18	29.60	29.79
<b>SUNRISE: 0515      AUG 03      SUNSET: 1916</b>														
01	OVC	200			10.00		78	69	72	74	0	00	29.59	29.78
04	OVC	150			9.00		80	69	73	69	5	27	29.58	29.77
07	BKN	250			8.00		82	71	74	69	6	30	29.60	29.79
10	OVC	250			10.00		87	70	75	57	0	00	29.58	29.77
13	OVC	250			10.00		93	70	77	47	9	14	29.54	29.73
16	OVC	120			8.00		90	71	77	54	9	22	29.50	29.68
19	OVC	075			5.00	HZ	80	74	76	82	6	12	29.52	29.70
22	BKN	120			10.00		79	70	73	74	5	20	29.52	29.69
<b>SUNRISE: 0516      AUG 04      SUNSET: 1915</b>														
01	FEW	250			10.00		80	70	73	72	5	27	29.52	29.71
04	BKN	250			7.00		77	72	74	85	3	32	29.54	29.72
07	BKN	085			10.00		82	70	74	67	10	32	29.60	29.78
10	BKN	100			10.00		87	73	77	63	11	02	29.66	29.84
13	SCT	030			10.00		89	71	76	55	14	02	29.68	29.86
16	SCT	050			10.00		89	70	76	54	10	05	29.70	29.89
19	SCT	100			10.00		82	71	74	69	9	07	29.74	29.93
22	SCT	095			10.00		76	72	73	87	7	09	29.79	29.98
<b>SUNRISE: 0516      AUG 05      SUNSET: 1914</b>														
01	FEW	090			10.00		74	71	72	90	0	00	29.83	30.01
04	BKN	100			10.00		73	70	71	90	3	03	29.82	30.01
07	BKN	110			10.00		75	70	72	85	7	05	29.87	30.06
10	BKN	250			10.00		81	68	72	65	7	11	29.90	30.09
13	BKN	080			10.00		85	66	72	53	3	VR	29.89	30.07
16	OVC	250			10.00		86	66	73	51	8	08	29.86	30.05
19	OVC	250			10.00		79	65	70	62	8	11	29.87	30.06
22	BKN	250			10.00		73	67	69	82	5	11	29.88	30.07
<b>SUNRISE: 0517      AUG 06      SUNSET: 1913</b>														
01	FEW	250			10.00		70	68	69	93	0	00	29.87	30.06
04	FEW	250			10.00		69	67	68	93	0	00	29.85	30.04
07	BKN	250			10.00		74	71	72	90	3	11	29.87	30.06
10	BKN	150			10.00		86	72	76	63	10	15	29.83	30.02
13	BKN	065			9.00		86	73	77	65	10	16	29.79	29.98
16	SCT	050			10.00		87	72	77	61	15	16	29.73	29.92
19	BKN	250			10.00		79	73	75	82	6	16	29.71	29.90
22	OVC	150			10.00		77	74	75	91	7	19	29.71	29.89
<b>SUNRISE: 0518      AUG 07      SUNSET: 1912</b>														
01	OVC	010			10.00		78	75	76	91	8	21	29.65	29.84
04	BKN	010			8.00		78	75	76	91	6	21	29.62	29.80
07	BKN	250			6.00	BR	79	76	77	91	7	22	29.62	29.81
10	SCT	250			10.00		91	73	78	56	8	24	29.58	29.77
13	BKN	090			10.00		97	67	76	38	9	22	29.54	29.72
16	BKN	250			10.00		95	71	78	46	13	27	29.47	29.65
19	SCT	250			10.00		79	74	76	85	10	24	29.50	29.68
22	SCT	250			10.00		77	73	74	88	0	00	29.50	29.68
<b>SUNRISE: 0519      AUG 08      SUNSET: 1911</b>														
01	FEW	250			10.00		75	72	73	90	0	00	29.47	29.66
04	CLR	NC			10.00		77	71	73	82	6	28	29.47	29.65
07	BKN	250			10.00		81	70	74	69	9	30	29.50	29.68
10	SCT	250			10.00		91	65	73	42	8	30	29.52	29.69
13	SCT	250			10.00		93	63	73	37	10	33	29.50	29.68
16	SCT	250			10.00		94	62	73	35	7	29	29.47	29.64
19	SCT	250			10.00		88	68	74	52	5	08	29.49	29.68
22	BKN	250			10.00		80	69	73	69	3	13	29.49	29.68
<b>SUNRISE: 0520      AUG 09      SUNSET: 1910</b>														
01	SCT	080			10.00		79	70	73	74	3	13	29.48	29.66
04	FEW	250			10.00		74	70	71	87	3	13	29.44	29.62
07	SCT	250			9.00		78	71	73	79	6	23	29.44	29.62
10	OVC	150			10.00		88	65	73	47	11	26	29.47	29.64
13	SCT	250			10.00		94	65	74	38	16	24	29.42	29.60
16	SCT	250			10.00		94	62	73	35	15	26	29.41	29.58
19	SCT	250			10.00		91	60	71	35	11	27	29.41	29.59
22	SCT	250			10.00		85	63	71	48	7	29	29.45	29.64
<b>SUNRISE: 0521      AUG 10      SUNSET: 1909</b>														
01	CLR	NC			10.00		81	61	68	51	7	34	29.48	29.66
04	CLR	NC			10.00		70	62	65	76	0	00	29.50	29.68
07	CLR	NC			10.00		75	65	69	71	0	00	29.53	29.72
10	FEW	250			10.00		90	58	70	34	11	31	29.54	29.73
13	SCT	250			10.00		95	58	71	29	21	26	29.54	29.72
16	BKN	250			10.00		93	58	70	31	10	28	29.50	29.69
19	SCT	250			10.00		90	59	70	35	9	25	29.52	29.71
22	BKN	250			10.00		85	63	71	48	7	25	29.57	29.76
<b>SUNRISE: 0522      AUG 11      SUNSET: 1908</b>														
01	BKN	250			10.00		76	64	68	67	7	36	29.57	29.75
04	BKN	250			10.00		72	57	63	59	6	01	29.61	29.80
07	BKN	200			10.00		73	58	64	59	7	36	29.68	29.86
10	SCT	200			10.00		85	57	68	39	9	04	29.70	29.88
13	BKN	250			10.00		89	53	67	29	7	VR	29.69	29.88
16	SCT	250			10.00		90	54	68	29	8	35	29.68	29.86
19	FEW	200			10.00		81	56	66	42	5	05	29.69	29.88
22	SCT	250			10.00		73	60	65	64	3	13	29.75	29.94
<b>SUNRISE: 0522      AUG 12      SUNSET: 1907</b>														
01	OVC	250			10.00		74	62	67	66	0	00	29.76	29.95
04	OVC	070			10.00		72	63	66	73	5	01	29.78	29.97
07	BKN	250			10.00		73	61	66	66	5	04	29.83	30.02
10	SCT	250			10.00		81	62	69	53	3	VR	29.87	30.06
13	BKN	150			10.00		85	61	70	45	0	00	29.86	30.04
16	BKN	080			10.00		86	62	70	45	5	12	29.82	30.01
19	BKN	055			6.00	FU	82	67	72	61	3	17	29.84	30.03
22	SCT	049			10.00		76	65	69	69	7	14	29.86	30.05

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

AUGUST 2011

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND SPEED (MPH) DIRECTION Tens of Deg	PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND SPEED (MPH) DIRECTION Tens of Deg	PRESSURE (INCHES, HG)							
			Observation Time (LST)	Eff Cld Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT		WET BULB	RELATIVE HUMIDITY (PCT)				STATION	SEA LEVEL		Observation Time (LST)	Eff Cld Amt Oktas	VISIBILITY (MILES)		DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	STATION	SEA LEVEL		
																												WEATHER	WEATHER
<b>SUNRISE: 0523</b>						<b>AUG 13</b>						<b>SUNSET: 1906</b>																	
01	BKN	060				73	66	69	79	0	00	29.87	30.06	01	BKN	075				72	65	68	79	0	00	29.77	29.95		
04	SCT	080				71	66	68	84	7	16	29.85	30.03	04	CLR	NC				70	66	67	87	0	00	29.72	29.91		
07	BKN	250				75	67	70	76	6	17	29.88	30.07	07	SCT	200				71	68	69	90	3	12	29.75	29.93		
10	BKN	250				84	68	73	59	10	18	29.87	30.06	10	OVC	200				81	68	72	65	0	00	29.74	29.93		
13	BKN	065				84	67	73	57	30	18	29.83	30.02	13	BKN	150				87	67	74	52	6	VR	29.73	29.91		
16	BKN	130				80	70	73	72	10	15	29.81	30.00	16	OVC	120			TSRA	77	64	69	64	13	14	29.70	29.89		
19	BKN	200				76	70	72	82	10	17	29.79	29.98	19	BKN	150				73	68	70	84	0	00	29.71	29.90		
22	BKN	150				73	70	71	90	3	16	29.79	29.98	22	BKN	090				71	67	68	87	8	05	29.76	29.95		
<b>SUNRISE: 0524</b>						<b>AUG 14</b>						<b>SUNRISE: 0529</b>						<b>AUG 20</b>						<b>SUNSET: 1855</b>					
01	BKN	250				73	71	72	93	6	15	29.73	29.92	01	SCT	060				68	66	67	93	0	00	29.76	29.95		
04	OVC	055				73	70	71	90	8	17	29.69	29.88	04	FEW	250			MIFG	66	65	65	97	0	00	29.77	29.96		
07	OVC	065			-RA	74	71	72	90	3	19	29.67	29.86	07	VV	002			FG	67	66	66	97	6	36	29.82	30.01		
10	BKN	080				78	73	75	85	10	18	29.64	29.83	10	FEW	009				78	68	71	71	3	02	29.86	30.04		
13	BKN	110				82	73	76	74	14	19	29.60	29.78	13	SCT	250				85	66	72	53	0	00	29.84	30.02		
16	SCT	190				87	70	75	57	11	19	29.53	29.71	16	FEW	040				88	66	73	48	9	11	29.79	29.97		
19	BKN	250				81	71	74	72	6	17	29.53	29.72	19	SCT	250				81	68	72	65	7	14	29.80	29.98		
22	OVC	100				69	65	66	87	0	00	29.56	29.75	22	SCT	250				74	70	71	87	6	13	29.83	30.02		
<b>SUNRISE: 0525</b>						<b>AUG 15</b>						<b>SUNRISE: 0530</b>						<b>AUG 21</b>						<b>SUNSET: 1854</b>					
01	OVC	250				68	66	67	93	3	22	29.54	29.73	01	BKN	095			FU	73	70	71	90	3	18	29.81	30.00		
04	SCT	250				67	65	66	93	6	31	29.50	29.69	04	SCT	250			FU	70	69	69	97	0	00	29.81	29.99		
07	BKN	250				68	65	66	90	6	03	29.55	29.74	07	SCT	250			BR	73	71	72	93	5	15	29.81	30.00		
10	SCT	250				78	65	70	64	6	VR	29.55	29.74	10	CLR	NC				85	70	75	61	8	20	29.79	29.98		
13	BKN	090				80	64	70	58	11	32	29.53	29.72	13	BKN	180				90	71	77	54	15	19	29.72	29.90		
16	BKN	250				77	65	69	67	0	00	29.53	29.71	16	OVC	110			-TSRA	85	72	76	65	11	19	29.65	29.84		
19	SCT	250				77	63	68	62	7	26	29.57	29.76	19	BKN	250				78	73	75	85	8	22	29.67	29.86		
22	SCT	250				69	66	67	90	0	00	29.62	29.81	22	SCT	250				75	71	72	87	7	20	29.68	29.87		
<b>SUNRISE: 0526</b>						<b>AUG 16</b>						<b>SUNRISE: 0531</b>						<b>AUG 22</b>						<b>SUNSET: 1853</b>					
01	SCT	250				71	66	68	84	0	00	29.63	29.82	01	OVC	130			-RA	75	71	72	87	10	27	29.68	29.86		
04	CLR	NC				69	64	66	84	6	30	29.65	29.84	04	OVC	300				74	72	73	94	7	26	29.65	29.84		
07	FEW	120				72	63	66	73	6	30	29.71	29.90	07	OVC	300				76	69	71	79	5	31	29.72	29.91		
10	SCT	044				82	60	68	47	15	34	29.74	29.93	10	SCT	300				82	60	68	47	16	35	29.77	29.96		
13	BKN	055				85	61	70	45	9	33	29.76	29.95	13	SCT	060				83	57	67	41	15	33	29.75	29.94		
16	BKN	150				87	60	70	40	11	34	29.76	29.95	16	SCT	250				85	54	66	35	13	35	29.73	29.92		
19	FEW	060				81	63	69	54	3	05	29.81	30.00	19	SCT	250				76	55	63	48	5	04	29.76	29.94		
22	CLR	NC				72	66	68	82	0	00	29.88	30.07	22	BKN	100				69	59	63	71	5	34	29.81	30.00		
<b>SUNRISE: 0527</b>						<b>AUG 17</b>						<b>SUNRISE: 0532</b>						<b>AUG 23</b>						<b>SUNSET: 1851</b>					
01	FEW	075				68	65	66	90	0	00	29.90	30.09	01	SCT	300				65	56	60	73	5	35	29.83	30.02		
04	CLR	NC				67	64	65	90	0	00	29.92	30.11	04	FEW	095				62	52	56	70	0	00	29.85	30.04		
07	FEW	100				72	67	69	84	0	00	29.97	30.16	07	BKN	300				65	53	58	65	6	36	29.90	30.09		
10	FEW	080				84	62	70	48	0	00	29.99	30.18	10	BKN	300				77	49	61	37	6	04	29.92	30.11		
13	BKN	080				85	62	70	46	7	15	29.96	30.15	13	BKN	300				83	46	62	27	3	VR	29.89	30.08		
16	BKN	120				84	62	70	48	9	15	29.92	30.11	16	SCT	300				82	48	62	31	8	07	29.86	30.04		
19	BKN	250				79	63	69	58	6	13	29.90	30.09	19	SCT	300				75	51	61	43	3	10	29.87	30.06		
22	FEW	120				75	62	67	64	8	15	29.91	30.10	22	FEW	300				66	55	60	68	7	13	29.91	30.10		
<b>SUNRISE: 0527</b>						<b>AUG 18</b>						<b>SUNRISE: 0533</b>						<b>AUG 24</b>						<b>SUNSET: 1850</b>					
01	BKN	300				71	66	68	84	6	16	29.91	30.10	01	FEW	300				65	58	61	78	6	14	29.90	30.09		
04	OVC	300				70	66	67	87	3	18	29.92	30.11	04	FEW	300				63	59	61	87	0	00	29.89	30.08		
07	BKN	250				70	67	68	90	5	19	29.92	30.11	07	SCT	300				66	61	63	84	0	00	29.92	30.10		
10	BKN	250				83	67	72	59	9	21	29.90	30.08	10	SCT	300				83	59	68	44	15	18	29.92	30.11		
13	BKN	250				89	65	73	45	9	18	29.83	30.01	13	BKN	300				87	56	68	35	17	20	29.86	30.04		
16	SCT	120				87	62	71	43	16	19	29.78	29.96	16	SCT	250				88	59	70	38	14	17	29.78	29.97		
19	SCT	250				80	62	69	54	7	17	29.76	29.95	19	FEW	120				81	62	69	53	6	17	29.78	29.97		
22	FEW	250				73	62	66	69	5	14	29.77	29.96	22	FEW	120				75	65	69	71	8	17	29.80	29.98		

# OBSERVATIONS AT 3-HOURLY INTERVALS

**RICHMOND, VA**

**AUGUST 2011**

**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
<b>SUNRISE: 0533      AUG 25      SUNSET: 1849</b>														
01	FEW	120				75	69	71	82	13	19	29.77	29.95	
04	SCT	120				73	70	71	90	9	19	29.77	29.96	
07	BKN	250				77	72	74	85	11	21	29.77	29.96	
10	BKN	250				87	69	75	55	16	20	29.78	29.96	
13	SCT	250				94	67	75	41	15	21	29.74	29.93	
16	BKN	250				92	66	74	42	16	18	29.69	29.87	
19	OVC	100			-TSRA	70	69	69	97	8	11	29.83	30.02	
22	BKN	250				69	68	68	97	6	20	29.77	29.96	
<b>SUNRISE: 0534      AUG 26      SUNSET: 1847</b>														
01	SCT	090				70	69	69	97	3	05	29.79	29.98	
04	BKN	130				70	68	69	93	0	00	29.79	29.97	
07	BKN	250				71	68	69	90	7	10	29.80	29.99	
10	OVC	006			BR FU	77	73	74	88	6	02	29.82	30.01	
13	OVC	250				86	73	77	65	0	00	29.76	29.95	
16	OVC	250				88	72	77	59	7	08	29.70	29.88	
19	OVC	250				80	73	75	79	8	08	29.69	29.88	
22	OVC	250				78	75	76	91	7	05	29.68	29.86	
<b>SUNRISE: 0535      AUG 27      SUNSET: 1846</b>														
01	OVC	027				78	76	77	94	10	04	29.60	29.79	
04	OVC	110				78	74	75	88	14	04	29.49	29.67	
07	OVC	056			RA BR	75	73	74	94	16	04	29.45	29.64	
10	BKN	045			RA BR	74	72	73	94	22	02	29.36	29.54	
13	OVC	017			+RA BR	72	71	71	97	26	01	29.15	29.34	
16	OVC	015			RA BR	70	69	69	97	39	36	29.02	29.20	
19										34	35			
22	OVC	040			-RA BR	72	69	70	90	40	34	28.98	29.16	
<b>SUNRISE: 0536      AUG 28      SUNSET: 1844</b>														
01	OVC	037			-RA	72	68	69	87	28	30	29.05	29.23	
04	OVC	040				74	67	69	79	18	28	29.15	29.34	
07	BKN	200				75	66	69	74	10	26	29.28	29.46	
10	CLR	NC				84	62	70	48	18	28	29.39	29.58	
13	FEW	055				87	62	71	43	14	26	29.44	29.62	
16	SCT	060				88	59	69	38	8	33	29.47	29.65	
19	CLR	NC				80	60	67	51	5	34	29.52	29.71	
22	CLR	NC				72	64	67	76	0	00	29.58	29.77	
<b>SUNRISE: 0537      AUG 29      SUNSET: 1843</b>														
01	FEW	100				69	65	66	87	5	34	29.63	29.82	
04	FEW	095				68	64	66	87	8	03	29.65	29.84	
07	SCT	200				68	62	64	81	9	03	29.73	29.92	
10	BKN	250				77	61	67	58	9	07	29.78	29.97	
13	BKN	150				79	62	68	56	8	10	29.77	29.96	
16	BKN	110				79	63	69	58	8	07	29.76	29.95	
19	OVC	110				74	61	66	64	5	03	29.81	30.00	
22	OVC	200				69	57	62	66	3	04	29.83	30.02	
<b>SUNRISE: 0538      AUG 30      SUNSET: 1842</b>														
01	SCT	240				65	59	61	81	5	01	29.86	30.05	
04	OVC	048				67	60	63	78	5	03	29.88	30.07	
07	SCT	085				67	61	63	81	6	01	29.92	30.11	
10	FEW	150				77	56	64	48	7	04	29.96	30.14	
13	FEW	050				81	57	66	44	7	10	29.95	30.14	
16	SCT	250				82	56	66	41	3	14	29.92	30.11	
19	FEW	250				74	56	63	54	5	08	29.94	30.13	
22	CLR	NC				68	59	63	73	0	00	29.98	30.17	

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					
<b>SUNRISE: 0538      AUG 31      SUNSET: 1840</b>																			
01	CLR	NC										63	60	61	90	0	00	30.00	30.19
04	CLR	NC										63	60	61	90	0	00	30.00	30.19
07	FEW	150										67	62	64	84	0	00	30.03	30.22
10	FEW	250										79	58	66	49	3	05	30.05	30.24
13	BKN	250										82	56	66	41	7	12	30.02	30.21
16	SCT	250										82	56	66	41	9	11	29.97	30.16
19	BKN	250										73	57	63	57	7	11	29.97	30.16
22	SCT	250										67	58	62	73	0	00	30.01	30.20

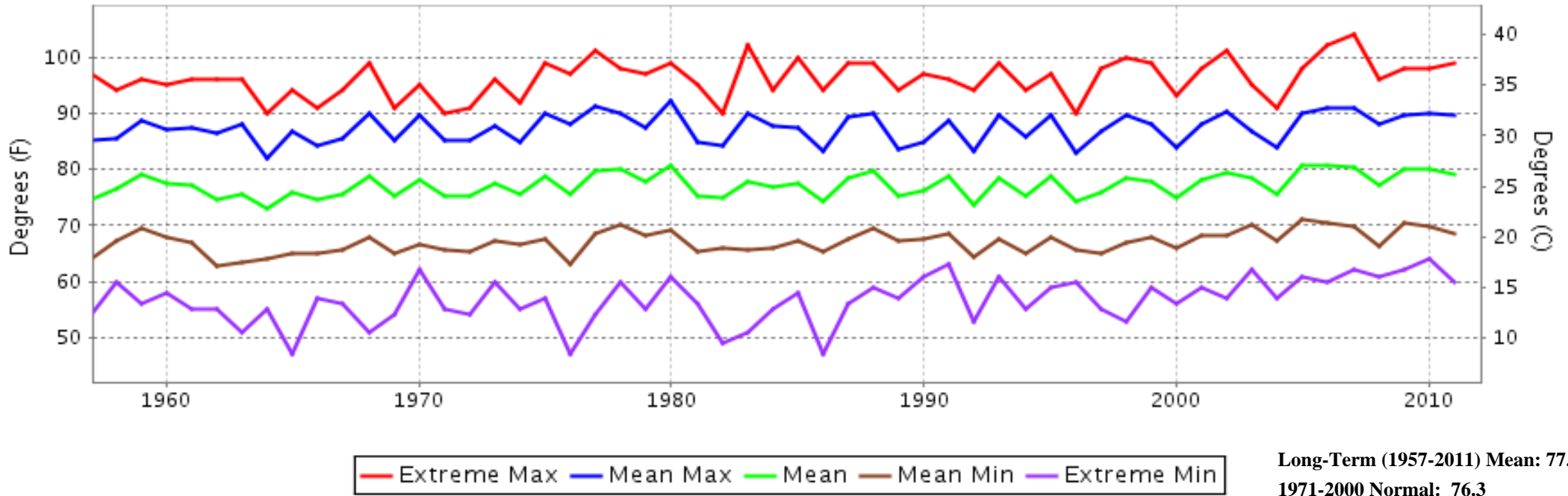
**3-HOURLY OBSERVATION NOTES**

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.

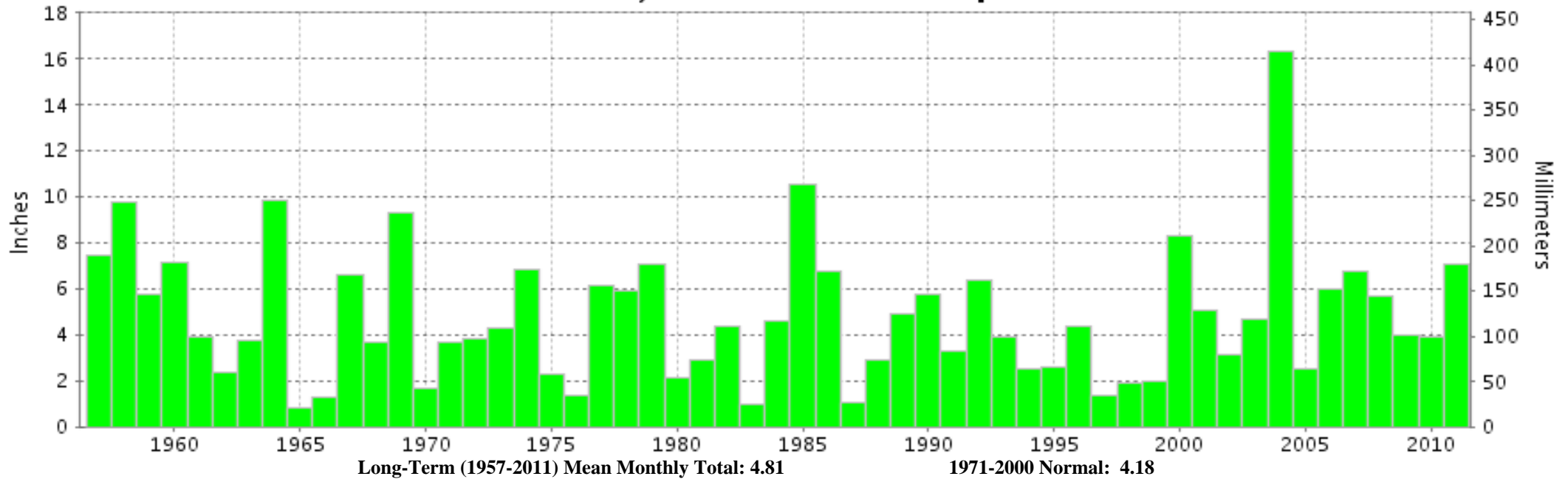
## SUMMARY BY HOUR

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			72	67	69	84	29.70	29.89	9.65	5	2	24
02			72	67	69	83	29.70	29.88	9.61	5	3	25
03			71	66	68	85	29.70	29.88	9.37	5	2	24
04			71	66	68	85	29.70	29.89	9.26	4	2	23
05			71	66	68	86	29.71	29.89	9.03	4	2	24
06			71	66	68	86	29.72	29.91	8.65	5	2	24
07			73	67	69	81	29.73	29.92	8.87	6	1	22
08			77	67	70	71	29.74	29.93	9.34	7	2	24
09			80	66	71	63	29.74	29.93	9.47	9	1	23
10			83	65	71	56	29.74	29.93	9.48	9	1	23
11			85	64	72	52	29.74	29.92	9.52	9	2	24
12			86	64	72	49	29.72	29.91	9.65	9	2	24
13			87	64	72	48	29.71	29.90	9.64	10	3	25
14			87	63	72	48	29.69	29.88	9.60	10	1	18
15			87	64	72	48	29.68	29.87	9.62	10	1	20
16			86	63	71	48	29.67	29.86	9.35	11	1	14
17			86	63	71	49	29.69	29.88	9.32	11	1	22
18			83	64	71	55	29.70	29.89	8.90	9	1	14
19			80	65	70	63	29.71	29.90	9.32	7	1	12
20			77	66	70	69	29.70	29.89	9.63	7	1	13
21			75	66	69	74	29.71	29.90	9.74	7	2	13
22			74	66	69	77	29.71	29.90	9.68	5	1	14
23			73	66	69	79	29.71	29.90	9.68	6	1	20
24			73	66	69	81	29.71	29.90	9.68	5	1	21

## RICHMOND, VA AUGUST Temperatures



## RICHMOND, VA AUGUST Precipitation





AUGUST 2011  
RICHMOND, VA

# LOCAL CLIMATOLOGICAL DATA

## NOAA, National Climatic Data Center

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**DIRECTOR**

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