



# AUGUST 2009 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			
11	12	13	14	15	16	17	18	19	20	21	22	23	24											
01	89	72	81	3	71	74	0	16	BR			0.0	0.00	29.86	30.05	4.3	17	5.4	24	16	13	16	01	
02	84	74	79	1	73	74	0	14	RA BR			0.0	0.01	29.74	29.92	8.1	22	8.3	22	25	17	24	02	
03	89	71	80	2	69	73	0	15	BR			0.0	0.00	29.80	30.00	2.8	07	4.6	24	11	13	08	03	
04	93	70	82	5	66	71	0	17	BR			0.0	0.00	29.80	29.98	5.1	25	5.7	24	27	18	27	04	
05	94	69	82	5	65	70	0	17	RA			0.0	T	29.75	29.94	2.8	26	5.2	25	18	17	32	05	
06	79	67	73	-4	68	70	0	8	RA BR HZ			0.0	0.33	29.78	29.98	2.3	01	4.4	20	01	16	01	06	
07	85	64	75	-2	60	65	0	10	BR			0.0	0.00	29.95	30.15	2.1	05	4.4	16	09	12	06	07	
08	88	68	78	1	67	70	0	13				0.0	0.00	30.01	30.19	4.2	20	5.7	20	31	15	29	08	
09	97	73	85	8	68	74	0	20	BR HZ			0.0	0.00	29.93	30.10	5.3	27	7.1	18	28	14	27	09	
10	98*	75	87*	10	67	74	0	22				0.0	0.00	29.83	30.00	5.4	27	6.9	18	28	15	28	10	
11	97	75	86	9	68	74	0	21	RA			0.0	T	29.73	29.91	3.1	30	5.7	22	30	17	31	11	
12	84	74	79	2	68	72	0	14	RA			0.0	T	29.75	29.94	3.4	34	5.3	21	22	12	34	12	
13	89	71	80	4	68	71	0	15	HZ			0.0	0.00	29.86	30.07	4.4	02	6.0	16	07	14	03	13	
14	85	70	78	2	69	71	0	13	RA BR			0.0	1.63	29.98	30.18	3.2	08	4.7	22	12	17	11	14	
15	89	70	80	4	68	71	0	15	BR			0.0	0.00	29.99	30.18	2.1	09	4.1	23	13	12	15	15	
16	91	66	79	3	65	70	0	14	BR			0.0	0.00	30.01	30.20	2.1	14	2.6	15	15	10	13	16	
17	92	70	81	5	66	71	0	16				0.0	0.00	30.01	30.19	4.0	18	4.4	16	20	13	17	17	
18	96	73	85	9	68	73	0	20				0.0	0.00	29.91	30.09	7.9	24	8.5	22	27	20	27	18	
19	95	74	85	9	69	74	0	20	TS RA			0.0	0.03	29.83	30.01	5.6	24	7.8	33	35	26	35	19	
20	94	72	83	7	72	75	0	18	RA			0.0	0.15	29.79	29.97	8.7	23	9.4	26	23	20	23	20	
21	93	76	85	9	72	75	0	20	TS			0.0	0.00	29.74	29.92	8.6	22	10.1	33	19	25	19	21	
22	89	70	80	4	71	73	0	15	TS TSRA RA DZ BR			0.0	1.56	29.63	29.82	1.0	31	6.2	64*	28	30	29	22	
23	87	68	78	2	67	70	0	13				0.0	0.00	29.72	29.90	1.2	04	3.2	16	03	14	02	23	
24	87	67	77	1	66	70	0	12	TS TSRA RA BR			0.0	0.10	29.85	30.06	6.6	03	7.8	36	25	30*	30	24	
25	88	67	78	2	65	69	0	13	BR			0.0	0.00	29.95	30.13	2.7	06	4.6	13	09	9	04	25	
26	92	69	81	5	66	71	0	16	BR			0.0	0.00	29.90	30.08	4.4	26	5.3	20	30	15	27	26	
27	91	70	81	6	67	72	0	16	BR HZ			0.0	0.00	29.87	30.06	1.6	10	4.4	18	17	14	17	27	
28	89	71	80	5	70	72	0	15	TS TSRA RA BR			0.0	0.22	29.83	30.00	2.5	20	4.0	26	14	22	14	28	
29	89	71	80	5	69	72	0	15	RA FG BR			0.0	T	29.61	29.79	2.4	27	4.8	20	27	15	31	29	
30	87	71	79	4	64	69	0	14				0.0	0.00	29.73	29.93	1.6	03	4.4	18	21	12	25	30	
31	73	62*	68*	-7	58	62	0	3	RA			0.0	0.01	29.93	30.13	7.5	03	7.7	18	03	15	02	31	

89.5	70.3	79.9	☼	67.4	71.4	0.0	15.2	< MONTHLY AVERAGES   TOTALS >				0.0	4.04	29.84	30.03	1.2	25	5.8	< MONTHLY AVERAGES			
3.8	3.5	3.6		-----DEPARTURE FROM NORMAL -----										-0.14	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3							

<b>DEGREE DAYS</b>				<b>GREATEST 24-HR PRECIPITATION :</b> 1.63 <b>DATE :</b> 14				<b>SEA LEVEL PRESSURE</b>			
<b>MONTHLY</b>				<b>GREATEST 24-HR SNOWFALL :</b> 0.0 <b>DATE :</b>				<b>MAXIMUM :</b> 30.25 <b>DATE</b> 08 <b>TIME</b> 0901			
<b>TOTAL DEPARTURE</b>				<b>GREATEST SNOW DEPTH :</b>				<b>MINIMUM :</b> 29.74 <b>DATE</b> 29 <b>TIME</b> 1554			
<b>SEASON TO DATE</b>				<b>NUMBER OF -&gt; DAYS WITH</b>				<b>PRECIPITATION &gt;= 0.01 INCH:</b> 9			
<b>HEATING :</b> 0 -1 0 -1				<b>MAXIMUM TEMP &gt;= 90 :</b> 13				<b>MINIMUM TEMP &lt;= 32 :</b> 0			
<b>COOLING :</b> 470 103 1386 178				<b>MAXIMUM TEMP &lt;= 32 :</b> 0				<b>MINIMUM TEMP &lt;= 0 :</b> 0			
				<b>THUNDERSTORMS :</b> 5				<b>HEAVY FOG :</b> 0			
								<b>PRECIPITATION &gt;= 0.10 INCH:</b> 6			
								<b>SNOWFALL &gt;= 1.0 INCH :</b> 0			

**AUGUST 2009  
RICHMOND, VA**

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)  
AUGUST 2009

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	T											02	0.01	0.01	
03													03												03	0.00	0.00	
04													04												04	0.00	0.00	
05													05										T		05	T	T	
06	T	0.02	0.01	T	T		T	T					06	0.02	0.20	0.08									06	0.33	0.33	
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						T	T	T				11	T	T	
12													12												12	T	T	
13													13												13	0.00	0.00	
14													14	0.06	0.32	0.10			0.01	T				14	1.63	1.63		
15													15												15	0.00	0.00	
16													16												16	0.00	0.00	
17													17												17	0.00	0.00	
18													18												18	0.00	0.00	
19													19										0.03		19	0.03	0.03	
20													20	T	0.02	0.13									20	0.15	0.15	
21													21												21	0.00	0.00	
22													22			1.51	0.05	T							22	1.56	1.56	
23													23												23	0.00	0.00	
24	T	0.01	0.04	0.05	T								24												24	0.10	0.10	
25													25												25	0.00	0.00	
26													26												26	0.00	0.00	
27													27												27	0.00	0.00	
28													28			T	0.11	T	T	0.08	0.03	T	T	T	28	0.22	0.22	
29	T	T											29												29	T	T	
30													30												30	0.00	0.00	
31				T	T	0.01	T	T	T	T	T		31		T										31	0.01	0.01	

\* 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)	0.40	0.66	0.99	1.20	1.51	1.53	1.56	1.56	1.56	1.56	1.56	1.62
Ending Date	22	22	22	22	22	22	22	22	22	22	22	14
Ending Time (Hr/Min)	1432	1438	1441	1446	1454	1508	1528	1528	1528	1528	1528	1419

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 2009

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							6.00	10.00	
02							5.00	10.00	
03							3.00	10.00	
04							3.00	10.00	
05							10.00	10.00	
06							2.00	10.00	
07							4.00	10.00	
08							7.00	10.00	
09							5.00	10.00	
10							7.00	10.00	
11							6.00	10.00	
12							9.00	10.00	
13							6.00	10.00	
14							1.00	10.00	
15							3.00	10.00	
16							3.00	10.00	
17							9.00	10.00	
18							10.00	10.00	
19							10.00	10.00	
20							8.00	10.00	
21							10.00	10.00	
22							0.75	10.00	
23							10.00	10.00	
24							5.00	10.00	
25							6.00	10.00	
26							3.00	10.00	
27							5.00	10.00	
28							5.00	10.00	
29							0.50	10.00	
30							10.00	10.00	
31							10.00	10.00	
MONTHLY AVGS							5.88	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			
0		9				12			

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

## AUGUST 2009

## 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			
															Observation Time (LST)	Eff Cld Amt Oktas	DRY BULB
		<b>SUNRISE: 0513</b>		<b>AUG 01</b>		<b>SUNSET: 1918</b>											
01	BKN	100			10.00		73	71	72	93	0	00	29.86	30.04			
04	BKN	009			8.00		72	70	71	93	5	19	29.85	30.04			
07	OVC	005			7.00		74	71	72	90	5	23	29.91	30.10			
10	SCT	150			10.00		83	71	75	67	3	VR	29.91	30.09			
13	BKN	150			10.00		86	70	75	59	9	15	29.87	30.06			
16	SCT	044			10.00		89	68	75	50	8	20	29.83	30.01			
19	SCT	250			10.00		83	71	75	67	10	15	29.82	30.01			
22	BKN	250			9.00		77	73	74	88	7	14	29.83	30.01			
		<b>SUNRISE: 0514</b>		<b>AUG 02</b>		<b>SUNSET: 1917</b>											
01	BKN	250			8.00		76	73	74	90	7	20	29.80	29.99			
04	BKN	250			7.00		74	72	73	94	0	00	29.76	29.94			
07	OVC	200			6.00	BR	77	74	75	91	7	20	29.76	29.94			
10	OVC	022			7.00		81	74	76	79	10	22	29.76	29.94			
13	OVC	030			10.00		82	72	75	72	13	23	29.70	29.88			
16	OVC	150			10.00		83	72	75	70	8	24	29.68	29.86			
19	OVC	250			10.00		80	72	75	77	8	23	29.71	29.90			
22	BKN	250			10.00		76	72	73	87	6	23	29.76	29.95			
		<b>SUNRISE: 0515</b>		<b>AUG 03</b>		<b>SUNSET: 1916</b>											
01	SCT	070			10.00		76	71	73	85	6	26	29.77	29.96			
04	FEW	070			7.00		73	70	71	90	0	00	29.78	29.97			
07	SCT	004			7.00		75	72	73	90	5	03	29.82	30.01			
10	SCT	250			10.00		84	68	73	59	8	09	29.86	30.04			
13	SCT	036			10.00		88	68	74	52	3	VR	29.83	30.01			
16	SCT	044			10.00		87	67	74	52	3	09	29.79	29.98			
19	SCT	075			10.00		82	70	74	67	3	10	29.81	29.99			
22	CLR	NC			8.00		76	71	73	85	3	09	29.83	30.01			
		<b>SUNRISE: 0516</b>		<b>AUG 04</b>		<b>SUNSET: 1915</b>											
01	CLR	NC			5.00	BR	72	69	70	90	0	00	29.82	30.00			
04	CLR	NC			3.00	BR	71	69	70	93	0	00	29.82	30.00			
07	FEW	250			5.00	BR	74	71	72	90	0	00	29.83	30.02			
10	FEW	050			10.00		87	67	74	52	8	22	29.83	30.01			
13	SCT	250			10.00		91	64	73	41	7	22	29.79	29.98			
16	BKN	250			10.00		92	63	73	38	15	26	29.76	29.95			
19	BKN	250			10.00		86	62	70	45	7	26	29.75	29.94			
22	SCT	250			10.00		80	66	71	62	5	25	29.75	29.93			
		<b>SUNRISE: 0516</b>		<b>AUG 05</b>		<b>SUNSET: 1914</b>											
01	CLR	NC			10.00		73	65	68	76	3	24	29.74	29.93			
04	FEW	250			10.00		70	65	67	84	5	22	29.74	29.93			
07	BKN	250			10.00		74	66	69	76	0	00	29.78	29.96			
10	BKN	250			10.00		86	60	69	42	6	VR	29.79	29.97			
13	BKN	250			10.00		91	62	72	38	13	25	29.77	29.95			
16	SCT	250			10.00		93	62	73	36	7	30	29.73	29.91			
19	BKN	250			10.00		84	68	73	59	6	13	29.73	29.92			
22	OVC	130			10.00		78	67	71	69	5	21	29.79	29.97			
		<b>SUNRISE: 0517</b>		<b>AUG 06</b>		<b>SUNSET: 1913</b>											
01	OVC	100			10.00	-RA	73	68	70	84	7	20	29.78	29.96			
04	OVC	110			10.00	-RA	71	69	70	93	0	00	29.76	29.95			
07	OVC	130			10.00		72	68	69	87	3	34	29.78	29.97			
10	OVC	035			10.00		76	68	71	76	7	35	29.80	29.99			
13	OVC	028			3.00	RA	73	68	70	84	14	01	29.78	29.97			
16	OVC	250			5.00	HZ	77	70	72	79	7	04	29.77	29.96			
19	BKN	250			8.00		74	67	69	79	5	07	29.80	29.99			
22	SCT	250			4.00	BR	68	66	67	93	0	00	29.84	30.03			
		<b>SUNRISE: 0518</b>		<b>AUG 07</b>		<b>SUNSET: 1912</b>											
01	CLR	NC			4.00	BR	68	66	67	93	3	34	29.87	30.06			
04	FEW	250			10.00		66	62	64	87	7	34	29.87	30.06			
07	BKN	200			10.00		67	61	63	81	6	36	29.95	30.14			
10	FEW	250			10.00		78	56	65	47	7	03	30.00	30.19			
13	BKN	250			10.00		81	55	65	41	6	06	29.99	30.18			
16	BKN	250			10.00		83	58	67	43	5	12	29.95	30.14			
19	OVC	250			10.00		76	62	67	62	5	12	29.98	30.16			
22	OVC	250			10.00		72	62	66	71	8	12	30.01	30.20			
		<b>SUNRISE: 0519</b>		<b>AUG 08</b>		<b>SUNSET: 1911</b>											
01	OVC	250			10.00		68	62	64	81	6	16	30.03	30.22			
04	OVC	250			10.00		69	63	65	81	0	00	30.03	30.22			
07	OVC	140			10.00		71	64	67	79	3	16	30.05	30.24			
10	BKN	250			10.00		80	66	71	62	10	20	30.04	30.23			
13	BKN	250			10.00		84	67	73	57	8	21	30.00	30.19			
16	BKN	110			10.00		86	69	74	57	8	21	29.96	30.15			
19	BKN	150			9.00		84	68	73	59	5	33	29.96	30.15			
22	BKN	250			8.00		74	69	71	84	6	14	29.98	30.17			
		<b>SUNRISE: 0520</b>		<b>AUG 09</b>		<b>SUNSET: 1910</b>											
01	BKN	250			5.00	BR	74	70	71	87	0	00	29.96	30.15			
04	BKN	140			7.00		75	70	72	85	8	24	29.95	30.14			
07	FEW	250			6.00	HZ	76	70	72	82	8	24	29.96	30.15			
10	FEW	250			9.00		89	70	76	54	9	27	29.94	30.13			
13	FEW	250			10.00		94	66	75	40	9	29	29.91	30.10			
16	FEW	060			10.00		96	67	76	39	14	29	29.87	30.06			
19	FEW	060			10.00		91	66	74	44	5	30	29.87	30.06			
22	CLR	NC			10.00		80	68	72	67	6	22	29.87	30.05			
		<b>SUNRISE: 0521</b>		<b>AUG 10</b>		<b>SUNSET: 1909</b>											
01	CLR	NC			8.00		80	70	73	72	6	27	29.86	30.05			
04	CLR	NC			9.00		77	68	71	74	3	30	29.87	30.06			
07	CLR	NC			8.00		78	67	71	69	7	28	29.88	30.07			
10	BKN	250			10.00		92	66	74	42	9	30	29.87	30.05			
13	BKN	250			10.00		97	66	76	36	6	33	29.83	30.02			
16	BKN	250			10.00		96	60	72	30	8	30	29.77	29.95			
19	BKN	250			10.00		90	69	76	50	8	25	29.74	29.92			
22	FEW	250			10.00		85	72	76	65	9	24	29.76	29.95			
		<b>SUNRISE: 0522</b>		<b>AUG 11</b>		<b>SUNSET: 1908</b>											
01	SCT	250			10.00		81	70	74	69	8	25	29.76	29.94			
04	CLR	NC			10.00		77	69	72	76	7	24	29.72	29.91			
07	SCT	150			10.00		80	70	73	72	3	VR	29.76	29.94			
10	FEW	250			10.00		90	68	75	48	7	08	29.77	29.95			
13	BKN	250			10.00		93	67	75	43	7	VR	29.73	29.92			
16	BKN	250			10.00		95	65	75	37	7	33	29.68	29.87			
19	OVC	200			10.00		89	67	74	48	10	31	29.69	29.88			
22	OVC	140			10.00		80	70	73	72	0	00	29.73	29.92			
		<b>SUNRISE: 0522</b>		<b>AUG 12</b>		<b>SUNSET: 1907</b>											
01	BKN	150			10.00		78	71	73	79	5	26	29.71	29.90			
04	BKN	120			10.00		75	69	71	82	5	28	29.72	29.90			
07	BKN	250			10.00		77	69	72	76	5	32	29.75	29.93			
10	OVC	150			10.00	-RA	78	66	70	67	6	02	29.78	29.96			
13	OVC	150			10.00		84	66	72	55	6	04	29.77	29.96			
16	OVC	090			10.00		82	68	73	63	9	34	29.76	29.94			
19	OVC	150			10.00		79	68	72	69	3	02					

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

## AUGUST 2009

## 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: 0523      AUG 13      SUNSET: 1906</b>														
01	OVC	130			10.00		76	69	71	79	6	33	29.80	29.98
04	BKN	150			10.00		72	66	68	82	7	35	29.80	29.99
07	OVC	006			8.00		73	67	69	82	7	36	29.85	30.04
10	OVC	200			7.00		81	69	73	67	10	02	29.90	30.09
13	OVC	250			8.00		85	66	72	53	8	36	29.89	30.08
16	OVC	250			10.00		87	68	74	53	10	04	29.88	30.07
19	BKN	250			9.00		77	71	73	82	5	18	29.91	30.10
22	BKN	250			8.00		73	70	71	90	0	00	29.95	30.14
<b>SUNRISE: 0524      AUG 14      SUNSET: 1904</b>														
01	SCT	250			6.00	BR	71	68	69	90	3	02	29.94	30.13
04	SCT	250			5.00	BR	71	68	69	90	5	02	29.96	30.15
07	BKN	150			4.00	BR	73	69	70	87	7	04	30.00	30.19
10	BKN	250			10.00		84	69	74	61	8	08	30.02	30.20
13	BKN	250			10.00	-RA	78	70	73	77	7	07	30.00	30.19
16	BKN	100			10.00		79	72	74	79	6	17	29.98	30.17
19	BKN	150			10.00		74	71	72	90	3	15	29.98	30.17
22	BKN	130			9.00		73	70	71	90	0	00	30.00	30.19
<b>SUNRISE: 0525      AUG 15      SUNSET: 1903</b>														
01	BKN	140			3.00	BR	71	69	70	93	3	01	29.99	30.18
04	OVC	140			8.00		71	69	70	93	5	03	29.99	30.17
07	BKN	140			9.00		73	70	71	90	5	04	30.01	30.20
10	BKN	200			10.00		81	68	72	65	3	VR	30.03	30.22
13	SCT	250			10.00		87	65	72	48	6	05	29.99	30.17
16	SCT	150			10.00		85	65	72	51	9	12	29.95	30.14
19	SCT	150			10.00		79	69	72	72	6	16	29.97	30.16
22	FEW	050			10.00		74	69	71	84	3	15	30.01	30.20
<b>SUNRISE: 0526      AUG 16      SUNSET: 1902</b>														
01	CLR	NC			10.00		70	67	68	90	0	00	29.99	30.18
04	CLR	NC			3.00	BR	68	66	67	93	0	00	30.00	30.19
07	SCT	250			9.00		72	68	69	87	0	00	30.04	30.23
10	SCT	250			10.00		83	66	72	57	0	00	30.05	30.24
13	BKN	250			10.00		88	63	72	43	5	12	30.02	30.20
16	BKN	200			10.00		88	53	67	30	5	12	29.98	30.16
19	BKN	250			10.00		80	65	70	60	5	16	29.98	30.16
22	BKN	250			10.00		75	67	70	76	5	16	30.02	30.21
<b>SUNRISE: 0527      AUG 17      SUNSET: 1859</b>														
01	OVC	150			10.00		73	68	70	84	0	00	30.03	30.21
04	BKN	150			10.00		72	68	69	87	0	00	30.02	30.20
07	SCT	150			10.00		73	69	70	87	0	00	30.03	30.22
10	SCT	250			10.00		85	67	73	55	5	20	30.05	30.23
13	SCT	250			10.00		91	64	73	41	7	VR	30.01	30.20
16	SCT	180			10.00		91	63	72	39	8	19	29.96	30.14
19	BKN	250			10.00		84	65	72	53	7	18	29.96	30.14
22	SCT	250			10.00		76	67	70	74	9	15	29.98	30.17
<b>SUNRISE: 0527      AUG 18      SUNSET: 1858</b>														
01	FEW	150			10.00		75	66	69	74	7	20	29.98	30.16
04	BKN	150			10.00		74	68	70	82	3	20	29.95	30.14
07	FEW	150			10.00		77	69	72	76	7	25	29.95	30.13
10	SCT	250			10.00		88	69	75	53	7	28	29.93	30.12
13	SCT	250			10.00		93	67	75	43	9	23	29.89	30.08
16	BKN	250			10.00		96	62	73	32	14	27	29.84	30.03
19	BKN	250			10.00		90	65	73	44	10	24	29.83	30.02
22	BKN	250			10.00		85	70	75	61	14	23	29.87	30.05
<b>SUNRISE: 0528      AUG 19      SUNSET: 1857</b>														
01	OVC	120			10.00		83	70	74	65	11	23	29.86	30.05
04	OVC	130			10.00		82	69	73	65	10	25	29.83	30.02
07	BKN	150			10.00		79	69	72	72	7	24	29.86	30.04
10	SCT	250			10.00		89	69	75	52	13	26	29.86	30.05
13	BKN	250			10.00		94	67	75	41	6	19	29.81	30.00
16	BKN	200			10.00	TS	92	65	74	41	11	26	29.78	29.97
19	BKN	250			10.00		78	70	73	77	3	08	29.80	29.99
22	OVC	200			10.00		75	72	73	90	7	20	29.84	30.02
<b>SUNRISE: 0529      AUG 20      SUNSET: 1855</b>														
01	BKN	250			10.00		73	70	71	90	5	20	29.80	29.99
04	FEW	250			10.00		73	70	71	90	3	20	29.79	29.97
07	BKN	250			10.00		75	72	73	90	6	20	29.80	29.99
10	BKN	250			10.00		87	71	76	59	16	24	29.83	30.02
13	BKN	250			8.00	-RA	87	74	78	65	16	22	29.80	29.98
16	BKN	250			10.00		90	71	77	54	14	25	29.74	29.93
19	OVC	250			10.00		86	72	76	63	11	23	29.76	29.94
22	SCT	250			10.00		82	71	74	69	8	23	29.78	29.96
<b>SUNRISE: 0530      AUG 21      SUNSET: 1854</b>														
01	BKN	250			10.00		80	73	75	79	9	22	29.77	29.95
04	SCT	250			10.00		78	73	75	85	8	23	29.76	29.94
07	BKN	250			10.00		79	73	75	82	9	21	29.77	29.96
10	BKN	250			10.00		85	73	77	67	8	23	29.78	29.97
13	BKN	038			10.00	TS	83	68	73	61	23	32	29.73	29.92
16	BKN	250			10.00		93	71	77	49	14	21	29.67	29.86
19	BKN	250			10.00		81	71	74	72	9	19	29.68	29.87
22	SCT	250			10.00		77	73	74	88	5	18	29.72	29.91
<b>SUNRISE: 0531      AUG 22      SUNSET: 1853</b>														
01	SCT	250			10.00		77	74	75	91	6	20	29.69	29.88
04	OVC	007			7.00		77	74	75	91	3	23	29.67	29.85
07	OVC	009			3.00	-DZ BR	76	74	75	94	5	16	29.66	29.85
10	OVC	016			10.00		82	74	76	77	5	12	29.66	29.85
13	BKN	150			10.00		87	74	78	65	10	21	29.55	29.74
16	BKN	080			10.00	-RA	72	69	70	90	10	04	29.60	29.79
19	BKN	150			10.00		73	68	70	84	5	32	29.63	29.82
22	BKN	150			10.00		72	67	69	84	8	33	29.64	29.83
<b>SUNRISE: 0532      AUG 23      SUNSET: 1851</b>														
01	BKN	250			10.00		71	66	68	84	0	00	29.63	29.82
04	BKN	250			10.00		70	66	67	87	6	31	29.65	29.84
07	SCT	120			10.00		71	66	68	84	5	36	29.69	29.88
10	SCT	150			10.00		80	66	71	62	5	VR	29.72	29.91
13	BKN	150			10.00		86	66	73	51	0	00	29.72	29.91
16	BKN	250			10.00		87	66	73	50	6	05	29.71	29.90
19	BKN	250			10.00		80	68	72	67	0	00	29.72	29.91
22	OVC	150			10.00		76	70	72	82	5	13	29.78	29.96
<b>SUNRISE: 0533      AUG 24      SUNSET: 1850</b>														
01	OVC	065			10.00		75	71	72	87	5	14	29.79	29.98
04	OVC	110			8.00		68	66	67	93	15	04	29.82	30.01
07	SCT	250			8.00		69	65	66	87	6	02	29.86	30.05
10	SCT	250			10.00		79	66	71	65	9	04	29.89	30.08
13	SCT	035			10.00		84	67	73	57	9	01	29.88	30.07
16	SCT	250			10.00		86	66	73	51	11	02	29.86	30.05
19	FEW	045			10.00		79	65	70	62	6	04	29.90	30.09
22	CLR	NC			10.00		72	66	68	82	3	05	29.92	30.11

# OBSERVATIONS AT 3-HOURLY INTERVALS

**RICHMOND, VA**

**AUGUST 2009**

**KRIC**

**WBAN # 13740**

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			WIND SPEED (MPH) DIRECTION Tens of Deg	PRESSURE (INCHES, HG)		
			Observation Time (LST)	Eff Cl'd Amt Oktas			DRY BULB	DEW POINT	WET BULB		RELATIVE HUMIDITY (PCT)	STATION	SEA LEVEL
<b>SUNRISE: 0533      AUG 25      SUNSET: 1849</b>													
01	CLR	NC			10.00		70	65	67	84	5 02	29.94	30.13
04	CLR	NC			10.00		69	65	66	87	0 00	29.95	30.14
07	CLR	NC			9.00		71	66	68	84	7 03	29.96	30.15
10	FEW	030			10.00		82	66	71	58	7 12	30.00	30.19
13	SCT	040			10.00		86	63	71	46	7 VR	29.97	30.16
16	SCT	065			10.00		87	64	72	46	5 05	29.91	30.10
19	SCT	060			10.00		79	66	71	65	5 09	29.91	30.10
22	CLR	NC			10.00		74	66	69	76	5 16	29.93	30.12
<b>SUNRISE: 0534      AUG 26      SUNSET: 1847</b>													
01	CLR	NC			8.00		72	67	69	84	0 00	29.93	30.12
04	CLR	NC			5.00	BR	70	67	68	90	0 00	29.92	30.11
07	CLR	NC			5.00	BR	72	69	70	90	3 19	29.94	30.12
10	SCT	100			10.00		85	69	74	59	11 23	29.94	30.12
13	SCT	049			10.00		90	65	73	44	9 28	29.88	30.06
16	SCT	250			10.00		91	63	72	39	8 25	29.83	30.01
19	SCT	250			10.00		87	64	72	46	5 28	29.84	30.03
22	SCT	250			10.00		76	67	70	74	6 22	29.87	30.06
<b>SUNRISE: 0535      AUG 27      SUNSET: 1846</b>													
01	SCT	120			9.00		74	68	70	82	3 21	29.86	30.05
04	FEW	120			6.00	BR	71	67	68	87	3 21	29.86	30.04
07	SCT	110			6.00	HZ	76	69	71	79	5 35	29.88	30.07
10	SCT	150			10.00		87	67	74	52	8 03	29.90	30.09
13	SCT	250			10.00		90	66	74	45	0 00	29.87	30.06
16	SCT	150			10.00		91	66	74	44	6 VR	29.85	30.03
19	OVC	250			8.00		82	66	71	58	9 16	29.87	30.06
22	BKN	200			10.00		77	67	70	71	3 13	29.88	30.07
<b>SUNRISE: 0536      AUG 28      SUNSET: 1844</b>													
01	OVC	200			9.00		73	67	69	82	0 00	29.86	30.04
04	OVC	200			9.00		75	70	72	85	0 00	29.84	30.02
07	OVC	150			7.00		75	70	72	85	3 20	29.86	30.04
10	OVC	250			10.00		81	72	75	74	6 23	29.87	30.05
13	OVC	250			10.00		83	72	75	70	3 21	29.83	30.01
16	BKN	180			6.00	-RA BR	78	72	74	82	9 33	29.77	29.96
19	OVC	030			5.00	-RA BR	72	68	69	87	0 00	29.79	29.98
22	OVC	150			10.00	-RA	71	69	70	93	0 00	29.75	29.94
<b>SUNRISE: 0537      AUG 29      SUNSET: 1843</b>													
01	OVC	150			10.00		72	69	70	90	0 00	29.68	29.87
04	OVC	002			4.00	BR	71	69	70	93	7 36	29.60	29.79
07	OVC	001			0.50	FG	72	70	71	93	3 36	29.62	29.80
10	OVC	200			10.00		77	70	72	79	3 27	29.61	29.80
13	SCT	250			10.00		87	68	74	53	8 30	29.56	29.75
16	SCT	050			10.00		89	65	73	45	3 VR	29.55	29.74
19	SCT	250			10.00		81	69	73	67	3 20	29.59	29.78
22	FEW	250			10.00		76	69	71	79	5 20	29.63	29.82
<b>SUNRISE: 0538      AUG 30      SUNSET: 1842</b>													
01	BKN	110			10.00		75	70	72	85	3 17	29.65	29.84
04	SCT	090			10.00		73	68	70	84	3 32	29.68	29.86
07	SCT	120			10.00		74	67	69	79	3 02	29.74	29.93
10	OVC	100			10.00		79	60	67	52	6 04	29.78	29.96
13	SCT	250			10.00		85	62	70	46	6 34	29.75	29.94
16	BKN	250			10.00		87	58	69	37	0 00	29.73	29.91
19	SCT	250			10.00		78	62	68	58	3 10	29.77	29.96
22	SCT	150			10.00		73	66	69	79	7 15	29.82	30.01

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			WIND SPEED (MPH) DIRECTION Tens of Deg	PRESSURE (INCHES, HG)		
			Observation Time (LST)	Eff Cl'd Amt Oktas			DRY BULB	DEW POINT	WET BULB		RELATIVE HUMIDITY (PCT)	STATION	SEA LEVEL
<b>SUNRISE: 0538      AUG 31      SUNSET: 1840</b>													
01	OVC	150			10.00		73	63	67	71	10 04	29.85	30.03
04	OVC	036			10.00	-RA	66	58	61	76	8 01	29.89	30.08
07	OVC	200			10.00		65	56	60	73	5 04	29.93	30.12
10	OVC	042			10.00		67	55	60	66	11 02	29.98	30.16
13	OVC	150			10.00		71	59	64	66	9 03	29.96	30.15
16	BKN	180			10.00		72	57	63	59	9 05	29.94	30.13
19	BKN	140			10.00		68	57	62	68	3 08	29.95	30.14
22	FEW	140			10.00		64	58	61	81	3 03	30.00	30.19

**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.

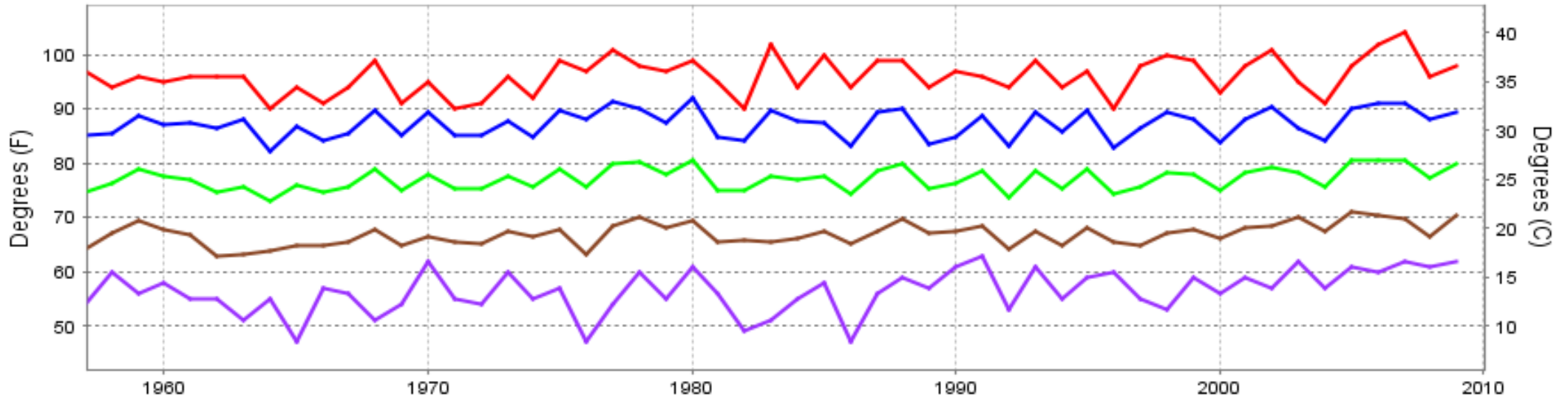
& = Original observation contained additional weather elements.

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)		WIND SPEED (MPH)	DIRECTION		
							STATION	SEA LEVEL				
01			74	69	70	83	29.84	30.03	8.87	4	2	24
02			74	68	70	84	29.83	30.02	8.71	4	2	24
03			73	68	70	85	29.83	30.02	8.65	4	3	24
04			72	68	69	86	29.83	30.02	8.26	4	2	24
05			72	68	69	87	29.84	30.03	8.10	4	2	23
06			72	68	69	87	29.85	30.04	7.30	4	2	22
07			74	68	70	83	29.86	30.05	7.98	5	1	22
08			77	68	71	75	29.87	30.05	9.08	6	1	23
09			80	68	72	67	29.87	30.06	9.81	7	1	18
10			83	67	72	60	29.88	30.06	9.77	7	1	23
11			85	67	73	56	29.87	30.06	9.77	7	2	24
12			86	67	73	53	29.85	30.04	9.71	7	2	24
13			86	66	73	53	29.84	30.03	9.65	8	3	25
14			87	66	73	52	29.83	30.01	9.35	7	2	23
15			87	66	73	51	29.81	30.00	9.51	8	2	24
16			87	65	73	50	29.81	30.00	9.71	8	2	25
17			86	66	73	54	29.81	30.00	9.61	9	1	21
18			84	66	72	58	29.81	30.00	9.84	8	1	22
19			81	67	72	65	29.82	30.01	9.65	6	1	21
20			78	68	71	71	29.83	30.02	9.52	5	1	23
21			77	68	71	76	29.85	30.03	9.58	4	1	19
22			76	68	71	79	29.85	30.04	9.55	5	1	21
23			75	68	71	80	29.85	30.04	9.32	4	2	23
24			75	68	70	81	29.85	30.04	9.23	4	3	24

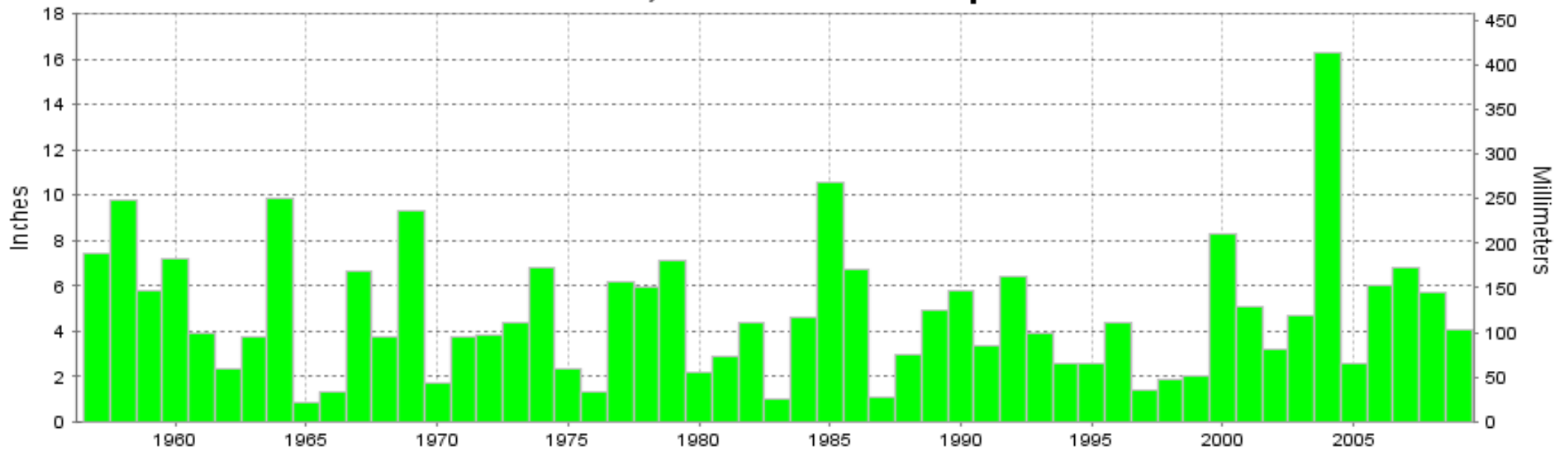
## RICHMOND, VA AUGUST Temperatures



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

**Long-Term (1957-2009) Mean: 77.1**  
**1971-2000 Normal: 76.3**

## RICHMOND, VA AUGUST Precipitation



Long-Term (1957-2009) Mean Monthly Total: 4.78

1971-2000 Normal: 4.18



AUGUST 2009  
RICHMOND, VA

## LOCAL CLIMATOLOGICAL DATA NOAA, National Climatic Data Center

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