



# AUGUST 2006

## 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	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					
																			5-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	97	77	87	9	73	77	0	22	BR HZ			0.0	0.00	29.81	29.99	2.3	20	4.4	15	20	13	21	01	
02	101	77	89	11	74	78	0	24	BR HZ			0.0	0.00	29.76	29.95	3.2	21	4.9	15	21	13	21	02	
03	102*	79	91*	13	72	78	0	26	HZ			0.0	0.00	29.70	29.88	5.5	23	6.4	20	28	15	24	03	
04	98	78	88	11	73	77	0	23	TS TSRA RA BR HZ			0.0	0.28	29.72	29.90	2.0	04	5.9	25	36	18	35	04	
05	91	73	82	5	62	69	0	17				0.0	0.00	29.89	30.07	5.5	04	6.6	20	04	15	03	05	
06	92	66	79	2	61	68	0	14				0.0	0.00	29.98	30.17	3.4	12	5.3	16	14	13	12	06	
07	96	73	85	8	71	75	0	20	HZ			0.0	0.00	29.90	30.08	8.3	22	8.9	21	24	16	23	07	
08	92	74	83	6	71	75	0	18	TSRA RA BR HZ			0.0	0.25	29.85	30.04	3.7	35	5.7	22	01	18	01	08	
09	88	68	78	1	63	69	0	13	BR			0.0	0.00	29.91	30.09	2.8	08	5.5	15	04	12	04	09	
10	81	69	75	-2	68	70	0	10	RA BR HZ			0.0	0.69	29.75	29.91	3.5	14	4.9	18	17	15	14	10	
11	84	69	77	0	65	69	0	12	RA BR HZ			0.0	T	29.71	29.90	7.7	03	8.4	22	04	15	03	11	
12	84	65	75	-2	58	64	0	10				0.0	0.00	29.86	30.05	4.0	05	5.0	18	08	14	06	12	
13	86	60*	73	-3	56	63	0	8				0.0	0.00	29.91	30.10	1.1	18	3.0	14	19	13	18	13	
14	90	63	77	1	62	68	0	12				0.0	0.00	29.83	30.02	9.7	20	9.9	22	22	18	21	14	
15	90	72	81	5	71	74	0	16	TSRA RA FG BR			0.0	2.19	29.75	29.94	5.7	21	7.0	20	20	17	20	15	
16	89	70	80	4	64	70	0	15	BR HZ			0.0	0.00	29.90	30.10	6.8	03	7.3	17	03	14	03	16	
17	87	66	77	1	63	68	0	12	BR			0.0	0.00	29.98	30.17	6.9	05	7.5	22	05	17	04	17	
18	88	68	78	2	68	71	0	13				0.0	0.00	29.96	30.14	5.8	05	7.7	18	06	15	06	18	
19	91	69	80	4	69	72	0	15	FG BCFG BR			0.0	0.00	29.84	30.01	5.3	19	6.0	17	18	14	20	19	
20	93	75	84	8	70	74	0	19	RA HZ			0.0	T	29.72	29.91	7.2	24	8.6	20	21	18	21	20	
21	89	70	80	4	60	67	0	15	RA			0.0	T	29.88	30.06	5.7	02	7.3	25	02	21	02	21	
22	88	67	78	2	66	70	0	13	BR HZ			0.0	0.00	29.89	30.07	2.9	14	3.7	12	14	10	14	22	
23	92	68	80	4	64	70	0	15	BR HZ			0.0	0.00	29.82	29.99	1.4	12	2.7	12	11	9	12	23	
24	93	70	82	6	64	70	0	17	HZ			0.0	0.00	29.78	29.97	2.2	17	5.9	13	33	9	20	24	
25	95	69	82	6	64	70	0	17	HZ			0.0	0.00	29.81	29.99	5.5	20	6.3	16	23	13	22	25	
26	96	68	82	6	62	69	0	17				0.0	0.00	29.86	30.04	6.0	19	6.6	16	16	12	18	26	
27	92	71	82	7	67	72	0	17	BR			0.0	0.00	29.88	30.06	8.7	18	9.1	26	20	23	19	27	
28	98	75	87	12	70	74	0	22	TSRA RA BR SQ			0.0	1.29	29.72	29.90	3.7	21	7.9	44*	30	33*	30	28	
29	96	74	85	10	72	75	0	20	TSRA RA BR			0.0	T	29.62	29.79	5.3	22	6.7	26	22	22	22	29	
30	85	72	79	4	72	74	0	14	TSRA RA BR HZ			0.0	0.57	29.70	29.89	7.1	04	7.7	22	07	17	06	30	
31	74	67	71*	-4	67	68	0	6	RA BR			0.0	0.72	29.83	30.03	10.9	06	11.1	24	04	18	04	31	

90.9	70.4	80.7	☼	66.5	71.2	0.0	15.9	< MONTHLY AVERAGES   TOTALS >				0.0	5.99	29.82	30.01	1.0	14	6.6	< MONTHLY AVERAGES				
5.2	3.6	4.4		<-----DEPARTURE FROM NORMAL----->										1.81	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3								

<b>DEGREE DAYS</b>				<b>GREATEST 24-HR PRECIPITATION :</b> 2.19 <b>DATE :</b> 15				<b>SEA LEVEL PRESSURE</b>			
<b>MONTHLY</b>				<b>GREATEST 24-HR SNOWFALL :</b> 0.0 <b>DATE :</b>				<b>MAXIMUM :</b> 30.21 17 1011			
<b>SEASON TO DATE</b>				<b>GREATEST SNOW DEPTH :</b>				<b>MINIMUM :</b> 29.71 29 1646			
<b>TOTAL DEPARTURE</b>		<b>TOTAL DEPARTURE</b>		<b>NUMBER OF -&gt; DAYS WITH</b>		<b>MAXIMUM TEMP &gt;= 90 :</b> 19		<b>MINIMUM TEMP &lt;= 32 :</b> 0		<b>PRECIPITATION &gt;= 0.01 INCH:</b> 7	
<b>HEATING :</b> 0 -1		0 -1		<b>THUNDERSTORMS :</b> 6		<b>MAXIMUM TEMP &lt;= 32 :</b> 0		<b>MINIMUM TEMP &lt;= 0 :</b> 0		<b>PRECIPITATION &gt;= 0.10 INCH:</b> 7	
<b>COOLING :</b> 492 125		1473 265				<b>HEAVY FOG :</b> 0				<b>SNOWFALL &gt;= 1.0 INCH :</b> 0	

**AUGUST 2006**  
**RICHMOND, VA**

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)  
AUGUST 2006

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	T	0.24	0.04									04	0.28	0.28	
05													05												05	0.00	0.00	
06													06												06	0.00	0.00	
07													07												07	0.00	0.00	
08													08			0.24	0.01								08	0.25	0.25	
09													09												09	0.00	0.00	
10						T	0.22	0.12	0.25	0.06	0.04	T	10												10	0.69	0.69	
11							T	T					11												11	T	T	
12													12												12	0.00	0.00	
13													13												13	0.00	0.00	
14													14												14	0.00	0.00	
15													15		0.01	0.01		0.48	1.41	0.27	0.01				15	2.19	2.19	
16													16												16	0.00	0.00	
17													17												17	0.00	0.00	
18													18												18	0.00	0.00	
19													19												19	0.00	0.00	
20													20										T		20	T	T	
21				T	T								21												21	T	T	
22													22												22	0.00	0.00	
23													23												23	0.00	0.00	
24													24												24	0.00	0.00	
25													25												25	0.00	0.00	
26													26												26	0.00	0.00	
27													27												27	0.00	0.00	
28													28					T	T	1.01	0.22	0.06			28	1.29	1.29	
29													29					T							29	T	T	
30			T								T		30	T	T	T			0.06	0.09	0.08	0.12	0.09	0.13	30	0.57	0.57	
31	0.10	0.04	0.04	0.04	0.04	0.01	0.01	0.05	0.02				31	T	T	T	0.01	0.05	0.03	0.04	0.03	0.03	0.03	0.06	0.09	31	0.72	0.72

\* 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)	0.25	0.49	0.65	0.76	1.02	1.19	1.46	1.85	1.92	2.09	2.15	2.16
Ending Date	28	28	15	15	28	15	15	15	15	15	15	15
Ending Time (Hr/Min)	1939	1942	1801	1805	2000	1809	1806	1811	1826	1813	1837	1837

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 2006

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:

Date	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR-SS		MN-MN		MINIMUM	MAXIMUM	
			Sky Cover	Satellite	Sky Cover	Satellite			
01							4.00	7.00	
02							2.50	7.00	
03							3.00	10.00	
04							1.50	10.00	
05							10.00	10.00	
06							9.00	10.00	
07							5.00	10.00	
08							3.00	10.00	
09							4.00	10.00	
10							1.50	10.00	
11							2.50	10.00	
12							10.00	10.00	
13							10.00	10.00	
14							10.00	10.00	
15							0.50	10.00	
16							3.00	10.00	
17							5.00	10.00	
18							10.00	10.00	
19							2.00	10.00	
20							6.00	10.00	
21							7.00	10.00	
22							2.50	10.00	
23							4.00	10.00	
24							6.00	10.00	
25							3.00	10.00	
26							8.00	10.00	
27							5.00	10.00	
28							2.00	10.00	
29							5.00	10.00	
30							4.00	10.00	
31							2.00	10.00	
MONTHLY AVGS							4.87	9.81	
<b>SUNSHINE (Minutes)</b>									
Total :					Possible :				
Percent Possible :									
<b>NUMBER OF DAYS WITH :</b>									
SKY CONDITION									
Clear		Partly CLDY			Cloudy			Missing	
<b>MINIMUM VISIBILITY (MILES)</b>									
<= .25			<= 3.0				>= 7.0		
0			13				8		





# OBSERVATIONS AT 3-HOURLY INTERVALS

**RICHMOND, VA**

**AUGUST 2006**

**KRIC**

**WBAN # 13740**

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND RELATIVE HUMIDITY (PCT)	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	STATION	SEA LEVEL	
														WEATHER
<b>SUNRISE: 0533 AUG 25</b>						<b>SUNSET: 1847</b>								
01	SCT	250			6.00	HZ	73	66	69	79	7	19	29.78	29.97
04	FEW	250			5.00	HZ	71	65	67	81	3	19	29.79	29.98
07	SCT	250			3.00	HZ	72	66	68	82	6	18	29.81	30.00
10	FEW	250			6.00	HZ	86	67	73	53	5	VR	29.84	30.03
13	SCT	070			9.00		93	63	73	37	7	15	29.79	29.98
16	FEW	080			10.00		91	61	71	37	10	21	29.77	29.96
19	SCT	250			8.00		82	62	69	51	7	20	29.80	29.98
22	CLR	NC			9.00		77	62	68	60	7	19	29.83	30.01
<b>SUNRISE: 0533 AUG 26</b>						<b>SUNSET: 1846</b>								
01	CLR	NC			10.00		75	60	66	60	7	22	29.83	30.02
04	BKN	250			10.00		70	61	64	73	6	19	29.82	30.00
07	FEW	250			8.00		71	63	66	76	5	19	29.87	30.06
10	FEW	250			10.00		87	64	72	46	6	21	29.88	30.07
13	BKN	250			9.00		94	59	71	31	3	VR	29.87	30.06
16	BKN	250			10.00		95	61	73	32	12	18	29.83	30.01
19	SCT	250			10.00		83	64	71	53	8	18	29.84	30.03
22	CLR	NC			10.00		79	64	69	60	8	17	29.90	30.08
<b>SUNRISE: 0534 AUG 27</b>						<b>SUNSET: 1844</b>								
01	CLR	NC			10.00		75	66	69	74	7	19	29.92	30.11
04	SCT	250			9.00		73	68	70	84	5	16	29.91	30.10
07	BKN	250			5.00	BR	73	69	70	87	3	17	29.94	30.13
10	BKN	250			10.00		84	68	73	59	8	20	29.93	30.12
13	BKN	250			10.00		91	65	74	42	13	16	29.87	30.06
16	BKN	250			10.00		90	66	74	45	13	20	29.82	30.01
19	BKN	250			10.00		84	67	73	57	9	18	29.79	29.98
22	SCT	160			10.00		82	62	69	51	13	18	29.81	30.00
<b>SUNRISE: 0535 AUG 28</b>						<b>SUNSET: 1843</b>								
01	SCT	150			10.00		78	70	73	77	12	19	29.80	29.99
04	BKN	150			10.00		76	71	73	85	10	20	29.77	29.95
07	BKN	250			10.00		76	71	73	85	9	20	29.77	29.95
10	BKN	250			10.00		88	69	75	53	7	28	29.75	29.93
13	BKN	250			10.00		95	67	76	40	9	22	29.69	29.88
16	BKN	250			10.00		96	67	76	39	6	01	29.65	29.83
19	OVC	150			8.00		83	73	76	72	8	13	29.64	29.83
22	OVC	150			7.00		76	73	74	90	10	08	29.69	29.87
<b>SUNRISE: 0536 AUG 29</b>						<b>SUNSET: 1841</b>								
01	BKN	150			6.00	BR	76	73	74	90	5	24	29.66	29.85
04	BKN	150			5.00	BR	75	72	73	90	0	00	29.64	29.83
07	BKN	250			6.00	BR	75	71	72	87	8	21	29.65	29.83
10	BKN	250			8.00		88	72	77	59	9	26	29.63	29.81
13	BKN	250			10.00		93	70	77	47	9	23	29.59	29.77
16	SCT	250			10.00		95	70	77	44	9	22	29.53	29.71
19	BKN	250			10.00		82	73	76	74	0	00	29.56	29.75
22	BKN	250			10.00		80	73	75	79	6	16	29.61	29.80
<b>SUNRISE: 0537 AUG 30</b>						<b>SUNSET: 1840</b>								
01	BKN	200			9.00		78	73	75	85	0	00	29.62	29.80
04	BKN	200			6.00	BR	77	73	74	88	0	00	29.64	29.82
07	BKN	150			6.00	HZ	78	73	75	85	8	03	29.68	29.87
10	OVC	150			10.00		82	71	74	69	6	04	29.72	29.91
13	OVC	150			9.00		84	71	75	65	8	03	29.73	29.92
16	OVC	055			9.00		80	71	74	74	12	05	29.71	29.89
19	OVC	046			4.00	-TSRA BR	75	71	72	87	6	07	29.75	29.94
22	OVC	011			5.00	RA BR	73	71	72	93	8	06	29.77	29.96

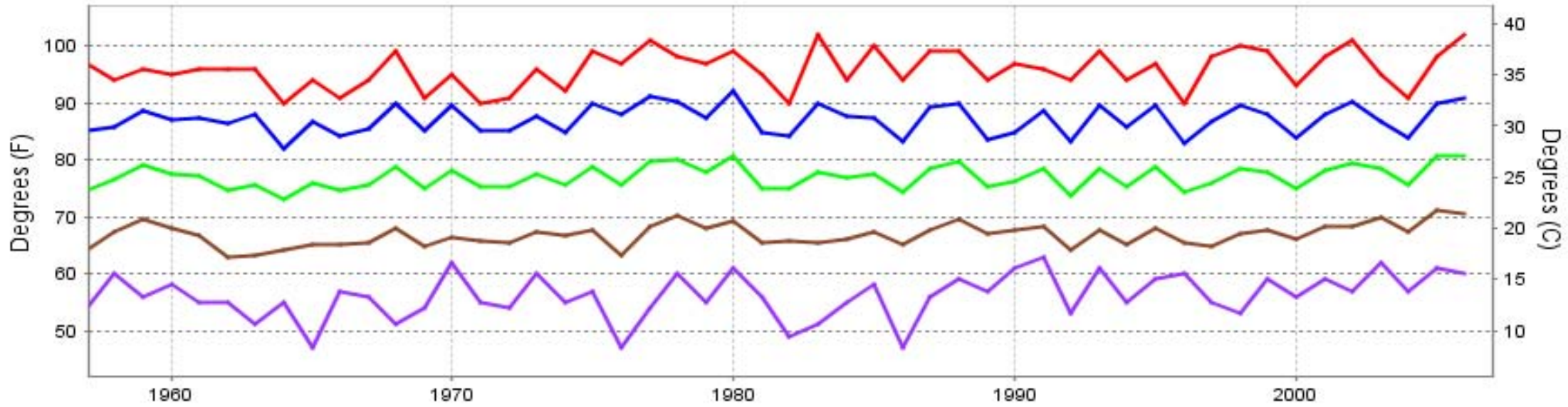
HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND RELATIVE HUMIDITY (PCT)	WIND SPEED (MPH) DIRECTION Tens of Deg	PRESSURE (INCHES, HG)			
			Observation Time (LST)	Eff Cld Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT			WET BULB	STATION	SEA LEVEL	
														WEATHER
<b>SUNRISE: 0538 AUG 31</b>						<b>SUNSET: 1838</b>								
01	OVC	020			5.00	-RA BR	72	70	71	93	8	06	29.77	29.96
04	OVC	025			6.00	RA BR	71	69	70	93	8	07	29.78	29.97
07	OVC	030			5.00	-RA BR	70	68	69	93	8	05	29.83	30.01
10	OVC	008			10.00		72	69	70	90	12	06	29.87	30.06
13	OVC	018			10.00	-RA	73	66	69	79	8	07	29.87	30.06
16	OVC	029			8.00	-RA	71	66	68	84	15	07	29.87	30.06
19	OVC	015			2.00	-RA BR	69	67	68	93	9	05	29.86	30.05
22	OVC	017			8.00	-RA	67	64	65	90	16	04	29.85	30.04

**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)	DIRECTION	
							STATION	SEA LEVEL				
01			75	67	70	79	29.82	30.00	8.10	5	3	19
02			74	67	70	79	29.81	30.00	8.06	4	3	20
03			73	67	69	81	29.81	30.00	7.97	5	3	18
04			73	67	69	82	29.81	30.00	7.84	4	3	18
05			72	67	69	84	29.82	30.01	7.55	5	2	18
06			72	67	69	83	29.83	30.02	6.81	5	2	18
07			74	68	70	80	29.84	30.03	6.76	6	3	19
08			78	68	71	72	29.85	30.04	7.31	7	2	18
09			81	68	72	65	29.85	30.04	8.35	7	3	18
10			84	67	73	58	29.85	30.04	8.71	7	3	16
11			86	66	73	54	29.85	30.03	8.74	8	3	17
12			87	65	73	50	29.84	30.02	9.16	7	3	17
13			89	65	73	47	29.82	30.01	9.10	8	3	14
14			89	65	73	47	29.81	30.00	8.73	7	3	16
15			89	65	73	46	29.79	29.98	9.19	9	3	15
16			88	64	73	47	29.79	29.97	9.03	9	2	16
17			87	65	73	51	29.78	29.97	8.83	9	3	14
18			85	66	73	55	29.79	29.97	8.56	9	2	16
19			82	67	72	63	29.80	29.98	8.23	7	3	14
20			80	67	71	66	29.81	30.00	8.16	7	3	14
21			78	67	71	70	29.82	30.01	8.29	6	3	14
22			77	67	70	72	29.82	30.01	8.35	6	3	13
23			76	67	70	75	29.83	30.01	8.35	6	3	16
24			75	67	70	77	29.83	30.01	8.13	6	3	17

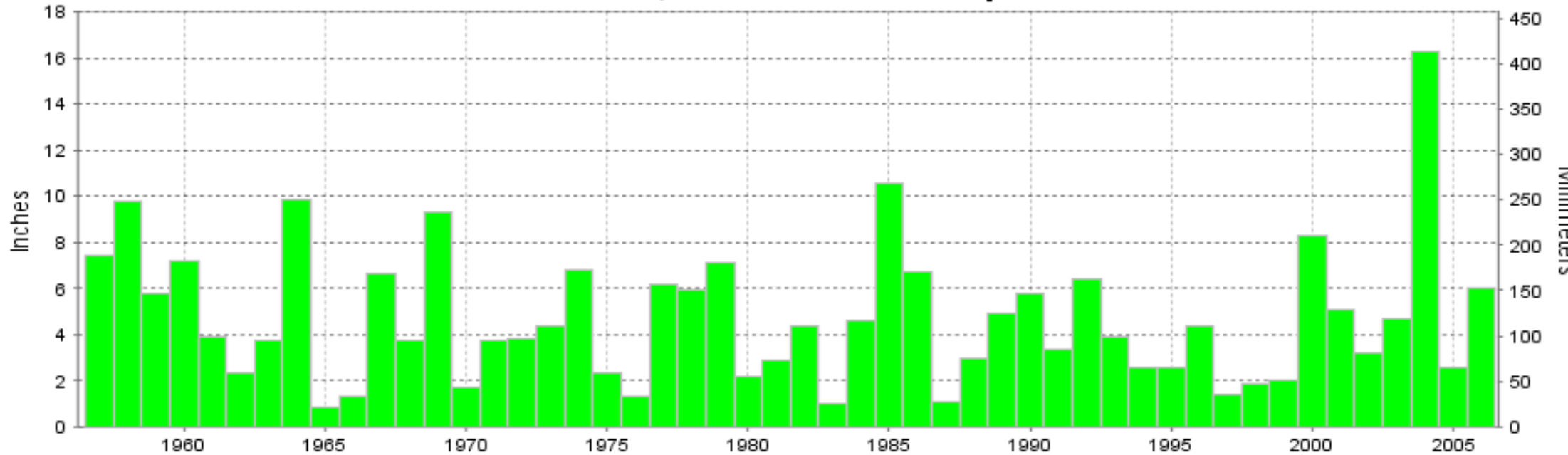
# RICHMOND, VA AUGUST Temperatures



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

Long-Term (1957-2006) Mean: 77.0  
 1971-2000 Normal: 76.3

# RICHMOND, VA AUGUST Precipitation



Long-Term (1957-2006) Mean Monthly Total: 4.73

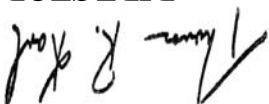
1971-2000 Normal: 4.18



**AUGUST 2006  
RICHMOND, VA**

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