



SEPTEMBER 2014 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			
01	96	75	86	12	70	75	0	21		0		0.0	0.00	29.85	30.02	7.5	23	8.2	23	26	17	25	01	
02	101*	73	87*	13	68	74	0	22	TS	0		0.0	0.00	29.79	29.97	7.3	22	8.3	24	21	18	23	02	
03	91	74	83	10	69	73	0	18	TS RA	0		0.0	0.06	29.84	30.04	1.9	08	5.7	18	02	15	02	03	
04	92	72	82	9	70	73	0	17	TS RA BR	0		0.0	T	29.95	30.14	2.7	15	4.6	25	34	20	34	04	
05	90	71	81	8	71	73	0	16	RA	0		0.0	0.03	29.95	30.13	5.3	20	6.3	21	21	17	22	05	
06	96	74	85	13	70	75	0	20		0		0.0	0.00	29.82	29.99	9.2	21	9.4	25	22	20	21	06	
07	81	67	74	2	63	67	0	9	RA	0		0.0	T	29.87	30.08	7.5	02	8.5	23	35	17	36	07	
08	74	66	70	-2	65	66	0	5	RA BR	0		0.0	0.32	29.96	30.16	9.1	03	9.5	23	05	17	05	08	
09	79	66	73	1	67	69	0	8	RA DZ BR	0		0.0	0.04	29.91	30.10	9.0	01	9.2	25	03	20	03	09	
10	83	66	75	4	65	68	0	10		0		0.0	0.00	29.90	30.08	1.6	12	4.1	13	15	10	15	10	
11	90	67	79	8	69	72	0	14	RA	0		0.0	T	29.78	29.96	7.5	21	8.9	25	23	20	22	11	
12	79	68	74	3	62	66	0	9	RA	0		0.0	0.04	29.88	30.09	5.8	02	7.2	24	02	18	02	12	
13	76	62	69	-2	64	66	0	4	RA BR	0		0.0	0.06	29.93	30.13	3.7	36	4.9	22	01	17	35	13	
14	74	56	65	-6	53	58	0	0		0		0.0	0.00	30.06	30.26	3.3	35	5.4	16	03	14	03	14	
15	79	63	71	1	57	62	0	6		0		0.0	0.00	30.00	30.18	2.5	18	3.7	16	20	13	19	15	
16	83	65	74	4	60	65	0	9	BR	0		0.0	0.00	29.83	30.01	1.9	02	4.6	17	04	15	03	16	
17	81	59	70	0	56	61	0	5		0		0.0	0.00	29.82	30.00	4.2	04	5.3	14	10	10	09	17	
18	78	56	67	-3	59	62	0	2	RA MIFG BR HZ	0		0.0	T	29.82	30.02	1.5	11	2.0	12	17	9	36	18	
19	80	61	71	1	58	62	0	6	RA	0		0.0	T	30.01	30.22	3.4	09	4.1	18	06	13	08	19	
20	85	58	72	3	59	63	0	7	BR	0		0.0	0.00	29.99	30.16	3.3	05	5.0	18	14	14	10	20	
21	90	63	77	9	62	67	0	12		0		0.0	0.00	29.65	29.82	4.3	27	7.6	22	21	17	22	21	
22	80	61	71	3	47	58	0	6		0		0.0	0.00	29.79	30.03	8.5	34	9.7	30*	33	18	34	22	
23	70	52*	61*	-7	45	53	4	0		0		0.0	0.00	30.12	30.33	6.0	02	6.5	16	03	13	01	23	
24	67	56	62	-5	58	60	3	0	RA DZ BR	0		0.0	0.66	30.16	30.35	10.8	02	11.0	28	04	22*	04	24	
25	69	62	66	-1	62	63	0	1	RA DZ BR	0		0.0	0.06	30.04	30.23	10.3	35	10.6	23	35	17	35	25	
26	80	59	70	4	57	62	0	5	DZ BR	0		0.0	T	30.03	30.22	6.4	01	6.5	22	36	15	01	26	
27	83	55	69	3	54	60	0	4		0		0.0	0.00	30.03	30.21	2.1	02	3.6	15	01	10	01	27	
28	82	56	69	3	56	61	0	4		0		0.0	0.00	29.97	30.14	0.9	17	1.2	9	20	7	20	28	
29	71	61	66	1	62	64	0	1	RA BR	0		0.0	0.08	29.83	30.00	2.6	24	3.5	14	27	10	27	29	
30	75	61	68	3	62	64	0	3	BR	0		0.0	0.00	29.73	29.92	0.7	11	1.9	10	09	8	09	30	

81.8	63.5	72.7	☼	61.3	65.4	0.2	8.1	< MONTHLY AVERAGES TOTALS >				0.0	1.35	29.91	30.10	1.6	36	6.2	< MONTHLY AVERAGES			
0.6	3.4	2.1		-----DEPARTURE FROM NORMAL ----->						-2.78	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3											
DEGREE DAYS								GREATEST 24-HR PRECIPITATION : 0.67 DATE : 24-25				SEA LEVEL PRESSURE				DATE TIME						
MONTHLY				SEASON TO DATE				GREATEST 24-HR SNOWFALL : 0.0 DATE :				MAXIMUM : 30.39 24 1058										
TOTAL DEPARTURE				TOTAL DEPARTURE				GREATEST SNOW DEPTH : 0 DATE :				MINIMUM : 29.70 21 1701										
HEATING :		7 -21		7 -22				NUMBER OF ->		MAXIMUM TEMP >= 90 : 8		MINIMUM TEMP <= 32 : 0		PRECIPITATION >= 0.01 INCH: 9								
COOLING :		244 -47		1624 120				THUNDERSTORMS : 3		MAXIMUM TEMP <= 32 : 0		MINIMUM TEMP <= 0 : 0		PRECIPITATION >= 0.10 INCH: 2								
										HEAVY FOG : 0		MINIMUM TEMP <= 0 : 0		SNOWFALL >= 1.0 INCH : 0								

**SEPTEMBER 2014
RICHMOND, VA**

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)
SEPTEMBER 2014

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	0.06												03											03	0.06	0.06		
04													04				T							04	T	T		
05													05			0.03	T							05	0.03	0.03		
06													06											06	0.00	0.00		
07			T										07											07	T	T		
08								T	0.05	0.05	0.02	T	08	T	0.02	0.04	0.02	T		0.03	0.03	0.02	0.01	0.03	T	0.32	0.32	
09	0.01	T	0.01	T	0.01	T	T					09	T	T		0.01	T							09	0.04	0.04		
10													10											10	0.00	0.00		
11													11											11	T	T		
12	0.03	0.01	T	T									12											12	0.04	0.04		
13											T	0.02	13	T	0.01	0.03	T			T			13	0.06	0.06			
14													14											14	0.00	0.00		
15													15											15	0.00	0.00		
16													16											16	0.00	0.00		
17													17											17	0.00	0.00		
18													18			T	T							18	T	T		
19													19											19	T	T		
20													20											20	0.00	0.00		
21													21											21	0.00	0.00		
22													22											22	0.00	0.00		
23													23											23	0.00	0.00		
24	T	0.01	T	T	T	T	T					24	0.05	0.11	0.07	0.10	0.08	0.14	0.02	0.01	T	0.01	0.05	0.01	24	0.66	0.66	
25	0.01	0.01	T	T	T	T	T				T	25			T	T	T	0.02	0.01	0.01	T	T	T	25	0.06	0.06		
26	T											26												26	T	T		
27												27												27	0.00	0.00		
28												28												28	0.00	0.00		
29									0.02	0.01	0.01	0.02	29	0.01	T	T	T	0.01	T	T	T	T	29	0.08	0.08			
30													30											30	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)	0.05	0.08	0.09	0.10	0.11	0.13	0.15	0.19	0.23	0.26	0.29	0.32
Ending Date	24	24	24	24	24	24	24	24	24	24	24	24
Ending Time (Hr/Min)	1713	1713	1713	1720	1720	1720	1720	1713	1720	1720	1752	1814

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 SEPTEMBER 2014

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:METS, SRG, Snowboard

Date	VISIBILITY (MILES)	
	MINIMUM	MAXIMUM
01	10.00	10.00
02	10.00	10.00
03	10.00	10.00
04	1.00	10.00
05	4.00	10.00
06	10.00	10.00
07	10.00	10.00
08	2.00	10.00
09	2.00	10.00
10	8.00	10.00
11	8.00	10.00
12	8.00	10.00
13	5.00	10.00
14	10.00	10.00
15	10.00	10.00
16	4.00	10.00
17	10.00	10.00
18	4.00	10.00
19	10.00	10.00
20	6.00	10.00
21	9.00	10.00
22	10.00	10.00
23	10.00	10.00
24	2.00	10.00
25	1.50	10.00
26	4.00	10.00
27	8.00	10.00
28	7.00	10.00
29	5.00	10.00
30	3.00	10.00
AVGS	6.72	10.00
MINIMUM VISIBILITY (MILES)		
<= .25	<= 3.0	>= 7.0
0	6	17

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA
SEPTEMBER 2014 KRIC

WBAN # 13740

Table with columns for Hour (LST), Sky Cover, Ceiling, Visibility, Weather, Temperature (Dry Bulb, Dew Point, Wet Bulb), Relative Humidity, Wind (Speed, Direction), Pressure (Station, Sea Level), and corresponding data for each hour from 01 to 22.

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

SEPTEMBER 2014 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
SUNRISE: 0559 SEP 25					SUNSET: 1802							
01	OVC	006	1.75	-DZ BR	64	62	63	93	9	01	30.07	30.26
04	OVC	008	2.50	-DZ BR	63	62	62	97	10	35	30.04	30.23
07	OVC	006	4.00	-DZ BR	62	61	61	96	14	34	30.06	30.25
10	OVC	008	10.00		64	60	62	87	10	34	30.08	30.27
13	OVC	010	10.00		66	60	62	81	15	35	30.05	30.24
16	OVC	019	7.00		67	62	64	84	8	36	30.01	30.20
19	OVC	005	2.00	-DZ BR	65	63	64	93	10	01	30.01	30.20
22	OVC	005	3.00	-DZ BR	64	62	63	93	9	02	30.05	30.24
SUNRISE: 0600 SEP 26					SUNSET: 1801							
01	OVC	015	4.00	-DZ BR	63	61	62	93	9	02	30.05	30.24
04	OVC	042	6.00	BR	62	60	61	93	9	36	30.03	30.22
07	SCT	250	10.00		61	59	60	93	3	01	30.05	30.24
10	SCT	250	10.00		72	58	64	61	10	02	30.05	30.24
13	BKN	250	10.00		78	57	65	48	9	34	30.02	30.21
16	SCT	250	10.00		78	52	63	40	11	01	29.99	30.18
19	FEW	250	10.00		68	56	61	65	3	03	30.01	30.20
22	CLR	NC	10.00		61	56	58	84	0	00	30.04	30.23
SUNRISE: 0601 SEP 27					SUNSET: 1759							
01	CLR	NC	10.00		58	55	56	90	5	33	30.04	30.22
04	CLR	NC	9.00		56	53	54	90	3	35	30.02	30.21
07	SCT	300	8.00		58	54	56	87	3	34	30.05	30.24
10	FEW	300	10.00		75	56	64	52	6	34	30.07	30.25
13	SCT	300	10.00		81	51	63	35	7	VR	30.03	30.22
16	SCT	250	10.00		81	52	64	37	6	08	29.99	30.18
19	FEW	250	10.00		71	56	62	59	6	07	29.99	30.18
22	CLR	NC	10.00		63	57	60	81	0	00	30.02	30.21
SUNRISE: 0602 SEP 28					SUNSET: 1757							
01	CLR	NC	10.00		59	55	57	87	0	00	30.01	30.20
04	CLR	NC	9.00		57	54	55	90	0	00	30.00	30.19
07	SCT	250	7.00		59	55	57	87	0	00	30.02	30.21
10	BKN	250	10.00		76	57	65	52	3	36	30.01	30.20
13	BKN	250	10.00		81	54	65	39	0	00	29.95	30.14
16	OVC	300	10.00		79	54	64	42	5	17	29.90	30.09
19	OVC	300	10.00		70	60	64	71	3	15	29.90	30.09
22	BKN	300	10.00		66	60	62	81	0	00	29.89	30.08
SUNRISE: 0603 SEP 29					SUNSET: 1756							
01	OVC	300	10.00		63	59	61	87	0	00	29.87	30.06
04	OVC	300	9.00		63	60	61	90	3	21	29.84	30.03
07	OVC	300	10.00		66	61	63	84	0	00	29.85	30.03
10	OVC	300	9.00	-RA	68	63	65	84	7	24	29.85	30.04
13	OVC	100	10.00	-RA	70	62	65	76	6	30	29.81	30.00
16	OVC	300	10.00	-RA	70	64	66	82	5	19	29.78	29.97
19	SCT	090	10.00	-RA	67	65	66	93	3	15	29.78	29.96
22	OVC	100	5.00	BR	66	64	65	93	0	00	29.78	29.97
SUNRISE: 0604 SEP 30					SUNSET: 1754							
01	BKN	005	3.00	BR	64	62	63	93	0	00	29.75	29.94
04	OVC	012	4.00	BR	65	62	63	90	5	24	29.73	29.92
07	OVC	009	3.00	BR	64	63	63	96	5	17	29.75	29.94
10	OVC	013	8.00		67	61	63	81	0	00	29.75	29.94
13	OVC	019	9.00		72	62	66	71	0	00	29.72	29.91
16	SCT	023	10.00		74	62	66	67	8	08	29.69	29.88
19	CLR	NC	10.00		65	61	63	87	0	00	29.71	29.90
22	CLR	NC	6.00	BR	61	59	60	93	0	00	29.75	29.94

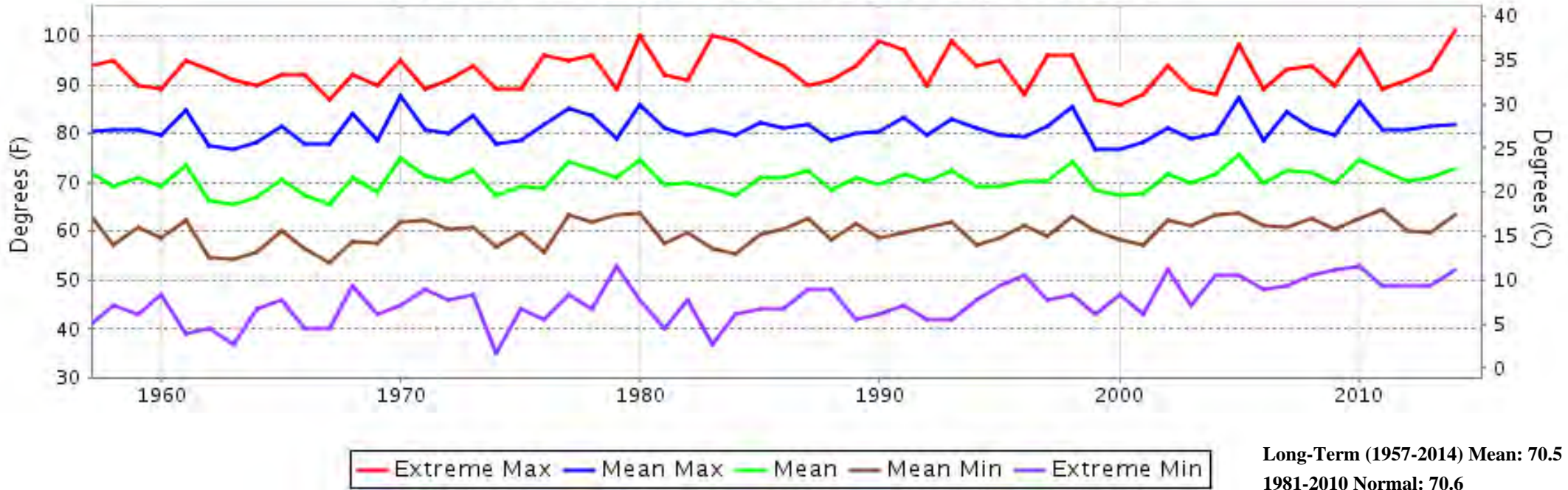
HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL

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.

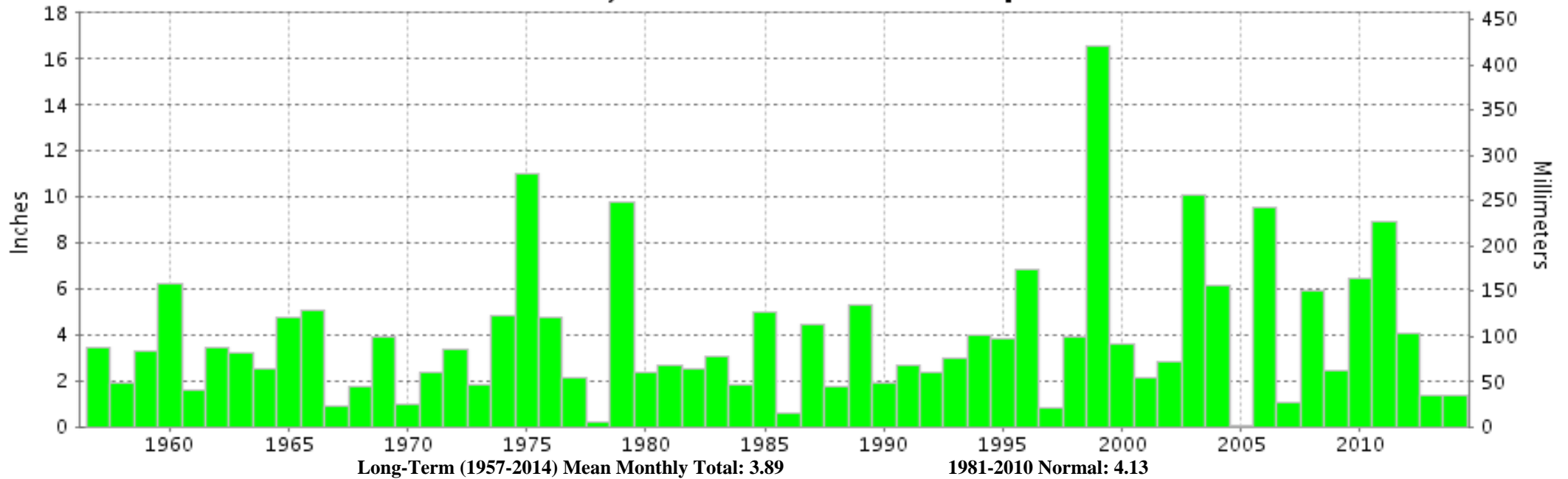
SUMMARY BY HOUR

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	68	62	64	82	29.91	30.10	8.93	5	2	35
02	67	62	64	83	29.91	30.09	9.08	5	2	36
03	67	61	64	85	29.90	30.09	8.98	5	2	35
04	66	61	63	85	29.90	30.09	9.02	5	2	34
05	65	61	63	86	29.91	30.10	9.02	5	2	34
06	65	61	63	86	29.92	30.11	8.38	5	2	35
07	66	61	63	84	29.94	30.12	8.43	5	2	01
08	69	61	64	77	29.94	30.13	9.43	6	2	34
09	72	62	66	71	29.95	30.14	9.60	7	2	34
10	75	61	67	63	29.95	30.13	9.77	7	2	34
11	77	61	67	58	29.94	30.13	9.73	8	2	33
12	78	61	67	56	29.93	30.11	9.80	6	3	34
13	80	60	68	54	29.91	30.10	9.67	8	2	36
14	80	60	68	54	29.89	30.08	9.60	8	2	35
15	80	60	68	54	29.88	30.07	9.60	9	2	36
16	78	61	67	58	29.88	30.07	9.38	9	2	04
17	77	61	67	60	29.88	30.07	9.38	8	2	03
18	75	62	67	65	29.89	30.07	9.45	8	2	04
19	72	62	66	72	29.89	30.08	9.27	6	3	05
20	71	62	66	76	29.91	30.09	9.12	6	2	04
21	70	62	65	78	29.91	30.10	9.27	4	2	01
22	69	62	65	79	29.92	30.10	9.00	5	2	35
23	68	62	64	81	29.92	30.10	8.97	5	2	36
24	68	62	64	82	29.91	30.10	9.00	5	2	01

RICHMOND, VA SEPTEMBER Temperatures



RICHMOND, VA SEPTEMBER Precipitation





**SEPTEMBER 2014
RICHMOND, VA**

**LOCAL CLIMATOLOGICAL DATA
NOAA, National Climatic Data Center**

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

DIRECTOR

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