



JULY 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	94	71	83	6	67	72	0	18		0		0.0	0.00	29.75	29.92	8.9	18	9.1	24	17	20	21	01																																
02	99	76	88	11	71	76	0	23		0		0.0	0.00	29.72	29.91	9.5	20	9.7	25	21	21	21	02																																
03	95	77	86	9	70	74	0	21	RA	0		0.0	0.01	29.77	29.95	4.6	19	10.0	22	22	17	34	03																																
04	87	66	77	0	55	65	0	12	RA	0		0.0	0.03	29.81	30.03	15.1	34	15.6	33*	31	26*	33	04																																
05	86	61	74	-3	48	59	0	9		0		0.0	0.00	30.05	30.24	3.4	35	5.9	20	36	16	36	05																																
06	91	60*	76	-1	57	65	0	11		0		0.0	0.00	29.93	30.10	8.1	20	8.5	23	24	17	19	06																																
07	97	69	83	6	62	69	0	18		0		0.0	0.00	29.77	29.95	10.4	22	10.9	28	22	23	22	07																																
08	100*	76	88	11	63	72	0	23	TS TSRA RA	0		0.0	T	29.70	29.88	13.1	22	14.3	32	20	23	22	08																																
09	92	74	83	6	68	72	0	18	RA	0		0.0	T	29.75	29.94	7.2	21	8.2	24	22	18	20	09																																
10	81	70	76	-2	70	71	0	11	RA BR	0		0.0	0.05	29.87	30.07	3.8	21	4.7	26	21	14	14	10																																
11	90	67	79	1	67	70	0	14	BR	0		0.0	0.00	29.98	30.18	1.9	08	3.9	14	09	9	10	11																																
12	93	69	81	3	67	71	0	16	BR HZ	0		0.0	0.00	30.01	30.19	5.6	16	5.9	17	13	14	14	12																																
13	96	74	85	7	69	74	0	20		0		0.0	0.00	29.88	30.05	10.3	20	10.9	32	24	23	23	13																																
14	99	77	88*	10	70	75	0	23	TS RA	0		0.0	0.05	29.73	29.91	9.1	20	9.8	30	21	24	21	14																																
15	94	73	84	6	71	74	0	19	TS TSRA RA HZ	0		0.0	0.19	29.62	29.80	7.9	21	9.5	29	27	22	30	15																																
16	86	68	77	-1	61	67	0	12	RA	0		0.0	T	29.67	29.87	4.1	36	5.5	20	35	15	36	16																																
17	88	66	77	-1	56	64	0	12		0		0.0	0.00	29.83	30.05	4.0	02	5.7	18	03	15	01	17																																
18	89	64	77	-2	57	64	0	12		0		0.0	0.00	30.00	30.20	3.6	08	5.5	17	13	13	11	18																																
19	84	67	76	-3	59	65	0	11		0		0.0	0.00	29.98	30.16	4.0	06	4.6	17	04	13	05	19																																
20	87	69	78	-1	63	68	0	13		0		0.0	0.00	29.91	30.11	1.9	07	5.0	14	11	12	11	20																																
21	82	72	77	-2	70	72	0	12	RA BR	0		0.0	0.10	29.96	30.17	4.4	11	4.7	16	11	12	14	21																																
22	88	69	79	0	68	72	0	14	BR	0		0.0	0.00	29.97	30.15	3.2	12	3.8	18	14	12	11	22																																
23	97	70	84	5	70	74	0	19	MIFG BR	0		0.0	0.00	29.80	29.96	7.1	20	7.9	31	21	20	19	23																																
24	85	70	78	0	69	71	0	13	TS TSRA RA BR	0		0.0	1.99	29.70	29.90	3.9	36	4.7	25	36	18	36	24																																
25	85	66	76	-2	61	66	0	11	BR	0		0.0	0.00	29.85	30.04	1.4	01	4.3	16	28	12	34	25																																
26	91	69	80	2	68	72	0	15		0		0.0	0.00	29.80	29.98	5.1	20	6.7	22	22	17	22	26																																
27	89	73	81	3	70	73	0	16	RA BR	0		0.0	0.21	29.68	29.83	7.9	21	9.0	23	24	21	22	27																																
28	89	72	81	3	61	69	0	16		0		0.0	0.00	29.52	29.73	11.7	27	13.2	31	25	23	27	28																																
29	83	65	74	-4	53	62	0	9		0		0.0	0.00	29.75	29.96	6.7	34	7.6	21	36	16	36	29																																
30	82	63	73*	-5	53	61	0	8		0		0.0	0.00	29.88	30.07	2.0	31	4.5	16	22	13	22	30																																
31	86	64	75	-3	64	68	0	10	RA	0		0.0	T	29.93	30.13	5.1	19	5.7	18	21	14	19	31																																
										89.8		69.3		79.5		63.8		69.3		0.0		14.8		< MONTHLY AVERAGES TOTALS >				0.0		2.63		29.82		30.01		2.8		21		7.6		< MONTHLY AVERAGES													
										0.1		0.4		0.2		<-----DEPARTURE FROM NORMAL----->																								-1.88		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3													
DEGREE DAYS										GREATEST 24-HR PRECIPITATION : 1.99 DATE : 24										SEA LEVEL PRESSURE										DATE TIME																									
MONTHLY										GREATEST 24-HR SNOWFALL : 0.0 DATE :										MAXIMUM :										05 0932																									
TOTAL DEPARTURE										GREATEST SNOW DEPTH : 0 DATE :										MINIMUM :										28 0354																									
SEASON TO DATE										NUMBER OF -> DAYS WITH										MAXIMUM TEMP >= 90 : 14										MINIMUM TEMP <= 32 : 0				PRECIPITATION >= 0.01 INCH: 8																					
TOTAL DEPARTURE										THUNDERSTORMS : 4										MAXIMUM TEMP <= 32 : 0										MINIMUM TEMP <= 0 : 0				PRECIPITATION >= 0.10 INCH: 4																					
HEATING : 0 0										MAXIMUM TEMP >= 90 : 14										MINIMUM TEMP <= 32 : 0										PRECIPITATION >= 0.01 INCH: 8																									
COOLING : 459 16										THUNDERSTORMS : 4										MAXIMUM TEMP <= 32 : 0										MINIMUM TEMP <= 0 : 0				PRECIPITATION >= 0.10 INCH: 4																					
																				HEAVY FOG : 0										SNOWFALL >= 1.0 INCH : 0																									

**JULY 2014
RICHMOND, VA**

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)
JULY 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													03												03	0.01	0.01	
04	T	0.03				T	0.01						04												04	0.03	0.03	
05													05												05	0.00	0.00	
06													06												06	0.00	0.00	
07													07												07	0.00	0.00	
08													08												08	T	T	
09													09												09	T	T	
10													10	0.02	0.01	0.01	T	T	T					T	10	0.05	0.05	
11													11												11	0.00	0.00	
12													12												12	0.00	0.00	
13													13												13	0.00	0.00	
14													14			0.05	T								14	0.05	0.05	
15													15												15	0.19	0.19	
16	T	T											16												16	T	T	
17													17												17	0.00	0.00	
18													18												18	0.00	0.00	
19													19												19	0.00	0.00	
20													20												20	0.00	0.00	
21													21	T											21	0.10	0.10	
22													22												22	0.00	0.00	
23													23												23	0.00	0.00	
24			T		0.02	0.04	0.08	0.13	0.08	0.03	T		24		T	0.10	0.53	0.78	0.04	0.15	0.01			24	1.99	1.99		
25													25												25	0.00	0.00	
26													26												26	0.00	0.00	
27				0.01	0.01	0.06	0.11	0.02	T				27												27	0.21	0.21	
28													28												28	0.00	0.00	
29													29												29	0.00	0.00	
30													30												30	0.00	0.00	
31													31												31	T	T	

* 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)	0.21	0.39	0.51	0.57	0.75	0.90	0.95	1.17	1.29	1.38	1.42	1.43
Ending Date	24	24	24	24	24	24	24	24	24	24	24	24
Ending Time (Hr/Min)	1604	1606	1609	1614	1625	1637	1653	1634	1634	1650	1718	1718

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 JULY 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	8.00	10.00
03	8.00	10.00
04	10.00	10.00
05	10.00	10.00
06	10.00	10.00
07	10.00	10.00
08	9.00	10.00
09	8.00	10.00
10	5.00	10.00
11	1.50	10.00
12	1.00	10.00
13	9.00	10.00
14	5.00	10.00
15	6.00	10.00
16	8.00	10.00
17	10.00	10.00
18	10.00	10.00
19	10.00	10.00
20	10.00	10.00
21	3.00	10.00
22	3.00	10.00
23	0.75	10.00
24	1.50	10.00
25	6.00	10.00
26	10.00	10.00
27	3.00	10.00
28	10.00	10.00
29	10.00	10.00
30	10.00	10.00
31	7.00	10.00
AVGS	7.19	10.00
MINIMUM VISIBILITY (MILES)		
<= .25	<= 3.0	>= 7.0
0	7	20

OBSERVATIONS AT 3-HOURLY INTERVALS

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: 0507 JUL 25 SUNSET: 1924					01	SCT	047	6.00	BR	69	66	67	90	7	32	29.80	29.99
04	FEW	080	9.00		67	64	65	91	6	35	29.80	29.99					
07	FEW	080	10.00		69	62	65	78	6	36	29.88	30.07					
10	FEW	050	10.00		78	60	67	54	3	08	29.90	30.09					
13	SCT	055	10.00		83	55	66	38	0	00	29.86	30.05					
16	BKN	055	10.00		85	58	68	40	7	VR	29.82	30.01					
19	SCT	060	10.00		80	61	68	52	7	16	29.85	30.04					
22	CLR	NC	10.00		70	64	66	82	5	13	29.84	30.03					
SUNRISE: 0508 JUL 26 SUNSET: 1924					01	BKN	250	10.00		69	63	65	81	0	00	29.84	30.03
04	OVC	230	10.00		69	64	66	84	3	15	29.83	30.02					
07	BKN	200	10.00		72	66	68	82	6	18	29.85	30.03					
10	BKN	300	10.00		82	70	74	67	10	21	29.83	30.02					
13	BKN	110	10.00		88	70	76	55	14	20	29.78	29.97					
16	BKN	110	10.00		90	68	75	48	13	22	29.73	29.92					
19	SCT	090	10.00		80	70	73	71	6	10	29.75	29.94					
22	SCT	250	10.00		77	71	73	82	5	16	29.75	29.94					
SUNRISE: 0509 JUL 27 SUNSET: 1923					01	BKN	250	10.00		77	71	73	82	7	20	29.71	29.89
04	BKN	110	4.00	RA	77	71	73	82	3	23	29.68	29.87					
07	OVC	100	3.00	-RA BR	73	70	71	90	3	34	29.75	29.94					
10	OVC	100	10.00		74	70	71	88	11	21	29.68	29.86					
13	BKN	200	10.00		82	71	74	69	13	21	29.68	29.87					
16	BKN	250	10.00		87	68	74	53	15	24	29.60	29.79					
19	SCT	250	10.00		83	70	74	65	9	20	29.57	29.76					
22	SCT	250	10.00		79	72	74	79	8	19	29.54	29.73					
SUNRISE: 0510 JUL 28 SUNSET: 1922					01	OVC	300	10.00		79	72	74	79	10	22	29.47	29.66
04	BKN	300	10.00		79	71	74	77	13	24	29.45	29.63					
07	SCT	200	10.00		81	67	72	62	11	27	29.49	29.68					
10	SCT	040	10.00		87	60	70	40	15	27	29.52	29.70					
13	SCT	090	10.00		85	57	68	39	15	27	29.54	29.73					
16	SCT	090	10.00		88	55	68	33	14	27	29.55	29.74					
19	SCT	095	10.00		82	56	66	41	8	29	29.59	29.78					
22	SCT	300	10.00		76	55	63	48	9	32	29.65	29.84					
SUNRISE: 0511 JUL 29 SUNSET: 1921					01	CLR	NC	10.00		70	57	62	64	9	32	29.68	29.86
04	SCT	095	10.00		65	57	60	76	3	35	29.71	29.90					
07	BKN	100	10.00		67	54	60	63	10	35	29.77	29.96					
10	CLR	NC	10.00		76	51	62	42	8	35	29.77	29.96					
13	SCT	060	10.00		81	50	63	34	11	33	29.76	29.95					
16	BKN	100	10.00		79	52	63	39	11	33	29.76	29.95					
19	BKN	100	10.00		76	54	63	47	7	36	29.78	29.97					
22	SCT	110	10.00		69	53	60	57	6	04	29.85	30.03					
SUNRISE: 0511 JUL 30 SUNSET: 1920					01	OVC	095	10.00		67	52	59	59	3	02	29.85	30.04
04	BKN	100	10.00		65	51	57	61	3	31	29.86	30.05					
07	FEW	055	10.00		67	51	58	57	3	36	29.90	30.09					
10	BKN	055	10.00		76	51	62	42	0	00	29.92	30.11					
13	SCT	065	10.00		80	50	63	35	3	25	29.90	30.09					
16	SCT	060	10.00		82	52	64	35	8	31	29.87	30.06					
19	FEW	060	10.00		76	58	65	54	5	18	29.87	30.06					
22	CLR	NC	10.00		70	59	63	68	0	00	29.90	30.09					

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: 0512 JUL 31 SUNSET: 1919					01	CLR	NC	8.00		66	60	62	81	5	14	29.91	30.10
04	CLR	NC	9.00		66	61	63	84	0	00	29.91	30.10					
07	BKN	300	8.00		70	64	66	82	5	18	29.94	30.13					
10	BKN	300	10.00		79	65	70	62	7	17	29.96	30.15					
13	OVC	300	10.00		84	62	70	48	14	19	29.94	30.13					
16	OVC	250	10.00		84	61	69	46	8	19	29.93	30.11					
19	OVC	250	10.00		80	66	71	62	7	18	29.94	30.13					
22	OVC	250	10.00		75	68	70	79	3	16	29.96	30.15					

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

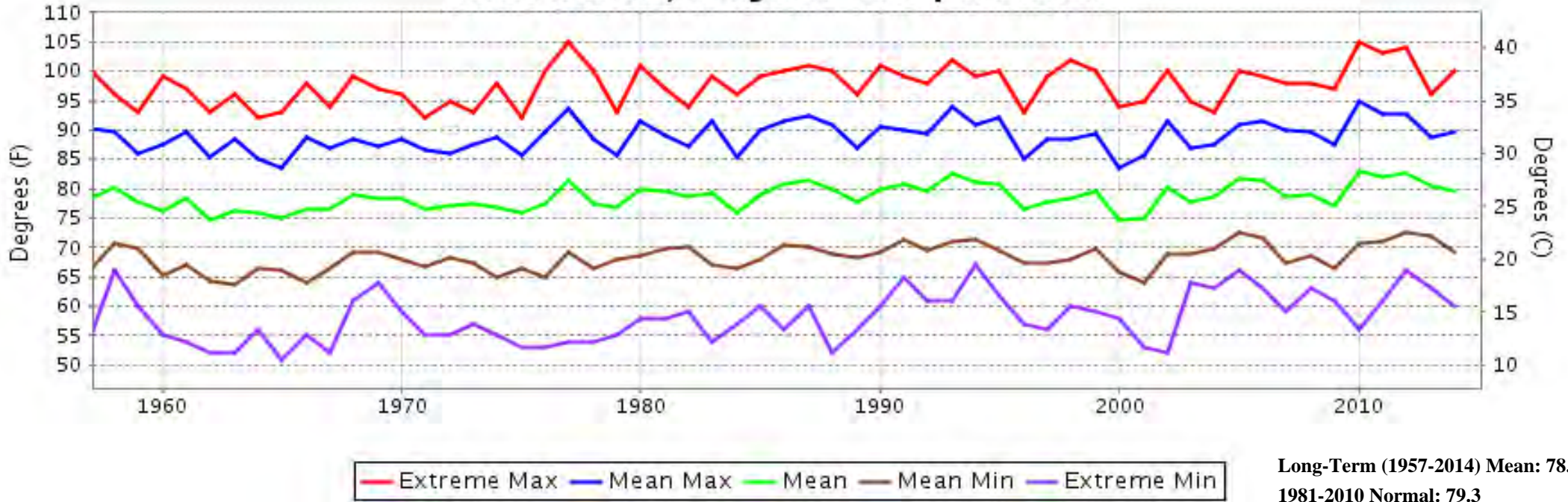
Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC = No Ceiling detected.

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

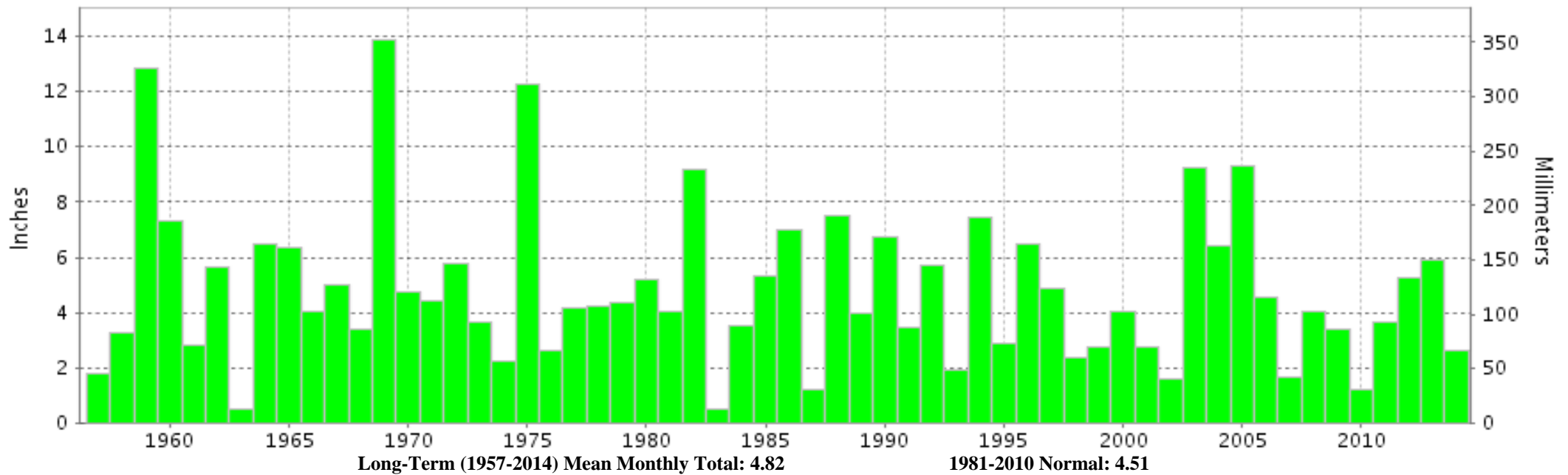
SUMMARY BY HOUR

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	73	65	68	76	29.82	30.01	9.55	5	3	21
02	73	65	68	77	29.81	30.00	9.58	5	4	21
03	72	65	68	79	29.81	30.00	9.52	5	4	21
04	72	65	67	79	29.81	30.00	9.13	5	3	21
05	71	65	67	80	29.83	30.01	8.42	5	4	22
06	71	65	67	80	29.84	30.03	8.31	6	3	21
07	74	65	68	75	29.85	30.04	8.47	8	3	23
08	77	65	69	69	29.86	30.05	9.18	8	3	23
09	80	65	70	62	29.86	30.04	9.52	9	4	23
10	82	64	71	56	29.85	30.04	9.68	9	4	22
11	84	63	71	50	29.85	30.04	9.77	10	4	24
12	86	62	71	47	29.84	30.03	9.74	9	4	23
13	87	62	71	44	29.82	30.01	9.94	9	4	23
14	88	61	71	43	29.81	30.00	10.00	10	4	24
15	88	62	71	44	29.80	29.99	9.48	10	3	22
16	87	62	71	44	29.80	29.98	9.56	10	3	22
17	86	62	70	46	29.79	29.98	9.63	10	3	22
18	84	62	70	50	29.80	29.99	9.68	10	2	21
19	82	63	70	56	29.81	29.99	9.74	8	2	16
20	79	64	69	63	29.81	30.00	9.87	7	2	16
21	77	65	69	67	29.83	30.02	9.87	6	3	15
22	76	65	69	71	29.83	30.02	9.81	5	3	16
23	75	65	69	73	29.83	30.02	9.52	5	3	17
24	74	65	68	76	29.83	30.02	9.52	5	3	18

RICHMOND, VA JULY Temperatures



RICHMOND, VA JULY Precipitation





JULY 2014
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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