



# NOVEMBER 2015 LOCAL CLIMATOLOGICAL DATA

NOAA, National Centers for Environmental Information

**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	64	53	59	6	55	57	6	0	RA	0		0.0	0.03	29.85	30.03	5.7	19	6.0	16	20	14	19	01	
02	60	57	59	6	57	58	6	0	RA BR	0		0.0	0.10	29.90	30.10	2.6	03	3.5	10	05	9	02	02	
03	74	51	63	11	51	55	2	0	BR	0		0.0	0.00	30.01	30.21	2.1	05	2.4	10	08	8	09	03	
04	73	49	61	9	52	56	4	0	RA DZ BR	0		0.0	0.18	30.11	30.31	2.4	02	3.3	13	06	10	06	04	
05	75	60	68	16	63	64	0	3	RA DZ MIFG BR	0		0.0	0.07	30.06	30.24	0.8	23	2.5	13	23	8	14	05	
06	78*	61	70*	18	64	66	0	5	FG+ FG BR	0		0.0	0.00	29.90	30.08	10.2	22	10.5	29	21	23	20	06	
07	69	52	61	10	59	60	4	0	RA BR	0		0.0	0.28	29.88	30.10	1.8	36	4.8	24	01	20	01	07	
08	56	40	48	-3	36	43	17	0		0		0.0	0.00	30.19	30.41	6.0	01	6.2	23	03	16	02	08	
09	56	40	48	-3	46	48	17	0	RA BR	0		0.0	1.67	30.16	30.32	8.0	03	8.2	20	02	16	04	09	
10	60	49	55	4	56	56	10	0	RA DZ FG MIFG BR	0		0.0	0.29	29.76	29.93	4.7	33	6.5	20	31	15	33	10	
11	69	43	56	6	47	50	9	0		0		0.0	0.00	29.77	29.97	2.9	31	3.9	15	34	12	35	11	
12	72	44	58	8	49	54	7	0	RA	0		0.0	T	29.63	29.81	7.4	21	8.3	25	20	21	21	12	
13	65	43	54	4	29	44	11	0		0		0.0	0.00	29.67	29.89	8.7	27	9.4	33*	28	24*	28	13	
14	57	33	45	-4	24	38	20	0		0		0.0	0.00	30.01	30.24	6.7	30	6.9	23	30	18	29	14	
15	64	30	47	-2	30	39	18	0	HZ	0		0.0	0.00	30.19	30.39	3.6	21	3.7	15	22	13	22	15	
16	69	32	51	2	35	43	14	0		0		0.0	0.00	30.11	30.31	0.8	16	1.0	10	04	7	05	16	
17	66	44	55	6	46	50	10	0		0		0.0	0.00	30.16	30.37	6.1	07	6.4	22	09	15	08	17	
18	70	48	59	10	54	56	6	0	RA BR	0		0.0	0.03	30.14	30.31	6.6	12	8.5	28	14	21	15	18	
19	67	59	63	14	62	62	2	0	RA FG BR	0		0.0	1.01	29.84	30.04	6.8	16	8.9	24	14	21	14	19	
20	60	37	49	1	37	45	16	0		0		0.0	0.00	30.00		8.5	36	9.2	24	01	18	36	20	
21	58	34	46	-1	35	41	19	0	RA	0		0.0	T	29.97	30.14	1.0	06	5.2	17	17	14	18	21	
22	50	36	43	-4	31	39	22	0	RA	0		0.0	T	29.78	29.99	9.9	35	11.0	26	01	21	01	22	
23	43	27	35*	-12	17	29	30	0		0		0.0	0.00	29.99	30.22	8.8	33	9.7	29	32	22	34	23	
24	57	26*	42	-5	25	34	23	0		0		0.0	0.00	30.18	30.40	2.5	24	3.6	14	25	12	27	24	
25	58	30	44	-2	31	38	21	0	HZ	0		0.0	0.00	30.45	30.67	2.2	13	2.8	14	13	12	15	25	
26	67	35	51	5	44	47	14	0		0		0.0	0.00	30.53	30.72	1.4	07	4.2	13	13	12	13	26	
27	69	40	55	9	47	50	10	0	FG+ MIFG BCFG BR	0		0.0	0.00	30.32	30.48	0.7	22	1.7	12	26	9	25	27	
28	69	42	56	11	50	52	9	0	BCFG	0		0.0	0.00	30.03	30.21	2.4	22	2.8	10	22	8	22	28	
29	61	44	53	8	51	52	12	0	RA DZ BR	0		0.0	0.03	29.98	30.19	6.3	02	7.2	21	04	17	04	29	
30	44	41	43	-2	40	41	22	0	RA DZ BR	0		0.0	0.22	30.09	30.29	7.8	01	8.4	18	02	14	01	30	

63.3			42.7			53.0			☼	44.1		48.9		12.0		0.3		< MONTHLY AVERAGES   TOTALS >				0.0		3.91		30.02		30.22		1.2		34		5.9		< MONTHLY AVERAGES			
1.9			3.3			2.6				<-----DEPARTURE FROM NORMAL----->																0.67		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3											
<b>DEGREE DAYS</b>										GREATEST 24-HR PRECIPITATION : 1.95 DATE : 09-10										SEA LEVEL PRESSURE						DATE TIME													
MONTHLY					SEASON TO DATE					GREATEST 24-HR SNOWFALL : 0.0 DATE :					MAXIMUM : 30.79						26 0954																		
TOTAL DEPARTURE					TOTAL DEPARTURE					GREATEST SNOW DEPTH : 0 DATE :					MINIMUM : 29.66						12 1554																		
HEATING :		361		-82		592		-84		NUMBER OF -> DAYS WITH		MAXIMUM TEMP >= 90 :		0		MINIMUM TEMP <= 32 :		5		PRECIPITATION >= 0.01 INCH :				11															
COOLING :		8		3		1817		269		MAXIMUM TEMP <= 32 :		0		MINIMUM TEMP <= 0 :		0		PRECIPITATION >= 0.10 INCH :				7																	
										THUNDERSTORMS :		0		HEAVY FOG :		2		SNOWFALL >= 1.0 INCH :				0																	

**NOVEMBER 2015  
RICHMOND, VA**

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)  
NOVEMBER 2015

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					T	T		T	T	T	T	0.03	01	T											01	0.03	0.03	
02				T	T	T	0.01	0.02	0.05	0.01	T	T	02	0.01	T										02	0.10	0.10	
03													03												03	0.00	0.00	
04													04			T	T		T	0.06	0.04	0.01	0.05	0.02	04	0.18	0.18	
05	0.01	0.02	0.04	T									05											05	0.07	0.07		
06													06												06	0.00	0.00	
07									0.01	0.01	0.14	T	07	T	0.01	0.01	T	0.01	0.08	0.01				07	0.28	0.28		
08													08												08	0.00	0.00	
09										T	T	T	09	T	0.01	0.01	0.10	0.05	0.06	0.13	0.17	0.40	0.18	0.23	0.33	09	1.67	1.67
10	0.14	0.01	0.08	0.03	0.01	0.01	T	T	T	T	T	T	10	T	0.01	T									10	0.29	0.29	
11													11												11	0.00	0.00	
12													12		T										12	T	T	
13													13												13	0.00	0.00	
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	0.03	T								18	0.03	0.03	
19					0.04	0.21	0.31	T		T	0.04	0.01	19	0.06	0.13	0.02	0.01	0.10	0.08	T					19	1.01	1.01	
20													20												20	0.00	0.00	
21													21											T	21	T	T	
22										T		T	22												22	T	T	
23													23												23	0.00	0.00	
24													24												24	0.00	0.00	
25													25												25	0.00	0.00	
26													26												26	0.00	0.00	
27													27												27	0.00	0.00	
28													28												28	0.00	0.00	
29					T	T	T	T	T	T	0.01	T	29	T	0.02	T		T	T				T	29	0.03	0.03		
30	0.01	0.02	T		T	0.02	0.01	0.01	T	0.02	0.01	0.01	30	0.01	0.01	0.02	0.03	T	0.02	T		T	0.01	30	0.22	0.22		

\* 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)												
Ending Date												
Ending Time (Hr/Min)												

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 NOVEMBER 2015

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:MMTS, SRG, Snowboard

Date	VISIBILITY (MILES)	
	MINIMUM	MAXIMUM
01	7.00	10.00
02	3.00	10.00
03	5.00	10.00
04	1.25	10.00
05	1.00	10.00
06	0.25	10.00
07	3.00	10.00
08	10.00	10.00
09	2.00	10.00
10	0.50	10.00
11	5.00	10.00
12	10.00	10.00
13	10.00	10.00
14	10.00	10.00
15	10.00	10.00
16	10.00	10.00
17	10.00	10.00
18	3.00	10.00
19	1.50	10.00
20	7.00	10.00
21	10.00	10.00
22	10.00	10.00
23	10.00	10.00
24	7.00	10.00
25	10.00	10.00
26	9.00	10.00
27	0.25	10.00
28	7.00	10.00
29	1.50	10.00
30	1.50	10.00
<b>AVGS</b>	5.86	10.00
<b>MINIMUM VISIBILITY (MILES)</b>		
<= .25	<= 3.0	>= 7.0
2	12	16

# 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)		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						DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
<b>SUNRISE: 0634 NOV 01</b>					<b>SUNSET: 1712</b>					<b>SUNRISE: 0640 NOV 07</b>					<b>SUNSET: 1706</b>										
01	OVC	200	10.00		54	46	50	75	9	18	29.86	30.05	01	FEW	180	10.00		65	64	64	97	7	23	29.87	30.06
04	OVC	090	10.00		54	48	51	80	5	17	29.84	30.03	04	BKN	090	10.00		64	64	64	100	0	00	29.85	30.03
07	OVC	080	10.00		54	49	51	83	5	18	29.85	30.04	07	BKN	110	9.00		65	65	65	100	5	20	29.89	30.08
10	OVC	065	10.00	-RA	58	54	56	87	11	20	29.85	30.04	10	OVC	060	7.00	-RA	67	66	66	97	3	24	29.91	30.10
13	OVC	065	10.00		61	59	60	93	10	20	29.81	30.01	13	OVC	100	10.00		68	65	66	90	0	00	29.84	30.03
16	OVC	090	10.00		64	60	62	87	6	24	29.81	30.00	16	OVC	014	10.00		57	54	55	90	16	02	29.88	30.07
19	OVC	300	10.00		61	59	60	93	3	21	29.85	30.04	19	OVC	070	10.00		53	51	52	93	6	02	29.96	30.16
22	OVC	200	9.00		61	60	60	97	0	00	29.88	30.07	22	OVC	085	10.00		53	49	51	86	8	02	30.02	30.21
<b>SUNRISE: 0635 NOV 02</b>					<b>SUNSET: 1710</b>					<b>SUNRISE: 0641 NOV 08</b>					<b>SUNSET: 1705</b>										
01	BKN	065	5.00	BR	60	60	60	100	0	00	29.86	30.06	01	BKN	220	10.00		51	41	46	69	10	36	30.09	30.28
04	OVC	060	3.00	BR	60	60	60	100	5	03	29.86	30.05	04	SCT	230	10.00		47	38	43	71	7	36	30.13	30.32
07	OVC	120	5.00	BR	59	59	59	100	3	05	29.89	30.08	07	BKN	300	10.00		47	36	42	66	9	35	30.19	30.38
10	OVC	110	10.00		59	56	57	90	7	02	29.93	30.12	10	BKN	300	10.00		51	36	44	56	14	02	30.26	30.45
13	OVC	200	10.00	-RA	59	55	57	87	5	02	29.91	30.10	13	BKN	300	10.00		55	32	45	42	9	03	30.23	30.42
16	OVC	120	10.00		60	56	58	86	3	11	29.90	30.09	16	BKN	300	10.00		54	33	45	45	5	03	30.23	30.42
19	OVC	090	10.00		58	56	57	93	3	02	29.94	30.13	19	BKN	300	10.00		45	37	41	74	0	00	30.25	30.45
22	OVC	055	10.00		58	55	56	90	0	00	29.95	30.14	22	BKN	300	10.00		41	37	39	86	0	00	30.27	30.46
<b>SUNRISE: 0636 NOV 03</b>					<b>SUNSET: 1709</b>					<b>SUNRISE: 0642 NOV 09</b>					<b>SUNSET: 1704</b>										
01	OVC	060	10.00		57	54	55	90	0	00	29.95	30.14	01	OVC	300	10.00		40	39	40	97	0	00	30.24	30.43
04	BKN	110	10.00		55	54	54	96	0	00	29.95	30.14	04	OVC	300	10.00		43	38	41	82	7	04	30.21	30.40
07	FEW	120	5.00	BR	52	51	51	97	3	35	30.00	30.19	07	OVC	031	10.00		47	39	43	74	6	02	30.24	30.43
10	FEW	120	10.00		65	51	57	61	7	06	30.04	30.23	10	OVC	030	10.00	-RA	48	42	45	80	9	02	30.22	30.41
13	FEW	250	10.00		71	48	58	44	0	00	30.01	30.20	13	OVC	038	10.00		55	47	51	74	8	04	30.13	30.33
16	FEW	250	10.00		71	48	58	44	8	09	30.02	30.21	16	OVC	085	2.00	RA BR	51	50	50	96	9	03	30.10	30.29
19	FEW	250	10.00		62	49	55	62	0	00	30.06	30.25	19	OVC	012	3.00	+RA BR	52	52	52	100	10	02	30.05	30.24
22	CLR	NC	10.00		54	51	52	90	3	04	30.08	30.27	22	OVC	015	3.00	RA BR	55	54	54	96	11	02	29.96	30.16
<b>SUNRISE: 0637 NOV 04</b>					<b>SUNSET: 1708</b>					<b>SUNRISE: 0643 NOV 10</b>					<b>SUNSET: 1703</b>										
01	CLR	NC	10.00		51	49	50	92	0	00	30.09	30.28	01	OVC	035	4.00	-RA BR	57	56	56	96	11	03	29.87	30.06
04	CLR	NC	10.00		51	48	49	89	3	03	30.10	30.29	04	OVC	007	5.00	-RA BR	60	59	59	96	7	01	29.79	29.99
07	BKN	070	10.00		52	47	49	83	5	35	30.13	30.32	07	OVC	002	0.50	-DZ FG	56	56	56	100	7	32	29.78	29.97
10	SCT	100	10.00		64	50	56	60	7	05	30.15	30.34	10	OVC	002	0.50	-DZ FG	56	56	56	100	9	33	29.76	29.95
13	BKN	030	10.00		70	45	57	41	5	10	30.11	30.31	13	OVC	004	1.00	BR	56	56	56	100	8	28	29.70	29.89
16	OVC	026	10.00	-RA	66	57	61	73	5	09	30.11	30.30	16	OVC	006	10.00		57	56	56	96	8	27	29.67	29.86
19	OVC	041	10.00		63	60	61	90	3	03	30.11	30.31	19	OVC	044	10.00		56	55	55	97	6	29	29.70	29.89
22	OVC	014	2.00	-RA BR	60	59	59	96	5	35	30.12	30.32	22	SCT	060	10.00		53	52	52	96	0	00	29.70	29.90
<b>SUNRISE: 0638 NOV 05</b>					<b>SUNSET: 1707</b>					<b>SUNRISE: 0644 NOV 11</b>					<b>SUNSET: 1702</b>										
01	OVC	009	2.00	-DZ BR	60	60	60	100	5	02	30.10	30.29	01	CLR	NC	5.00	BCFG	48	47	48	96	0	00	29.70	29.89
04	OVC	003	4.00	BR	60	60	60	100	0	00	30.08	30.27	04	CLR	NC	10.00		48	46	47	93	0	00	29.72	29.91
07	BKN	030	1.50	BR	60	60	60	100	0	00	30.10	30.30	07	FEW	250	10.00		46	44	45	93	3	28	29.77	29.96
10	OVC	002	1.25	BR	63	62	62	97	3	13	30.11	30.31	10	FEW	250	10.00		59	46	52	62	10	32	29.83	30.02
13	BKN	250	10.00		73	66	69	79	6	24	30.04	30.23	13	BKN	250	10.00		65	46	55	51	5	26	29.78	29.97
16	BKN	250	10.00		72	66	68	82	3	19	30.00	30.19	16	BKN	250	10.00		66	48	56	52	6	36	29.78	29.97
19	BKN	024	10.00		67	66	66	97	3	21	30.02	30.21	19	SCT	300	10.00		54	49	51	83	0	00	29.82	30.01
22	CLR	NC	10.00	MIFG	63	63	63	100	0	00	30.00	30.19	22	SCT	300	10.00		49	47	48	93	5	02	29.81	30.00
<b>SUNRISE: 0639 NOV 06</b>					<b>SUNSET: 1706</b>					<b>SUNRISE: 0646 NOV 12</b>					<b>SUNSET: 1701</b>										
01	OVC	002	0.75	BR	62	62	62	100	3	20	29.95	30.14	01	FEW	250	10.00		47	46	47	97	0	00	29.78	29.97
04	OVC	006	3.00	BR	63	63	63	100	7	23	29.94	30.13	04	BKN	250	10.00		46	45	46	96	0	00	29.76	29.96
07	OVC	014	4.00	BR	64	64	64	100	9	19	29.94	30.13	07	BKN	250	10.00		46	45	46	96	0	00	29.73	29.93
10	BKN	100	10.00		71	65	67	81	15	23	29.93	30.12	10	OVC	250	10.00		59	50	54	72	10	18	29.68	29.87
13	BKN	250	10.00		77	65	69	66	16	22	29.85	30.04	13	OVC	250	10.00		69	53	60	57	17	19	29.52	29.71
16	SCT	250	10.00		76	65	69	69	14	22	29.81	30.00	16	SCT	250	10.00		71	56	62	59	11	22	29.47	29.66
19	BKN	300	10.00		71	66	68	84	9	21	29.84	30.03	19	FEW	250	10.00		64	56	59	75	9	22	29.49	29.68
22	BKN	190	10.00		68	65	66	90	7	22	29.87	30.06	22	CLR	NC	10.00		63	45	54	52	8	25	29.55	29.74

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA NOVEMBER 2015 KRIC

# WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		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						DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
<b>SUNRISE: 0647 NOV 13</b>					<b>SUNSET: 1700</b>								<b>SUNRISE: 0653 NOV 19</b>					<b>SUNSET: 1656</b>							
01	SCT	250	10.00		57	42	50	58	5	26	29.59	29.78	01	OVC	070	10.00		62	55	58	78	9	14	29.97	30.16
04	BKN	250	10.00		49	41	45	74	5	19	29.62	29.81	04	OVC	140	10.00		63	56	59	78	13	14	29.93	30.12
07	BKN	250	10.00		47	39	43	74	8	24	29.66	29.85	07	OVC	110	6.00	-RA BR	60	60	60	100	16	15	29.89	30.09
10	SCT	250	10.00		59	36	48	42	10	27	29.70	29.89	10	OVC	008	10.00	-RA	65	63	64	93	11	17	29.89	30.08
13	FEW	250	10.00		64	28	48	26	14	28	29.66	29.85	13	OVC	015	2.50	-RA BR	65	64	64	97	14	16	29.79	29.98
16	FEW	250	10.00		63	19	45	18	17	29	29.67	29.87	16	OVC	005	2.50	-RA BR	67	66	66	97	6	20	29.77	29.96
19	FEW	300	10.00		55	19	41	24	8	27	29.75	29.94	19	OVC	022	9.00		66	65	65	96	6	22	29.80	30.00
22	CLR	NC	10.00		50	18	38	28	7	31	29.84	30.03	22	SCT	065	2.50	BR	62	62	62	100	3	26	29.82	30.01
<b>SUNRISE: 0648 NOV 14</b>					<b>SUNSET: 1660</b>								<b>SUNRISE: 0654 NOV 20</b>					<b>SUNSET: 1656</b>							
01	CLR	NC	10.00		47	16	36	29	9	30	29.88	30.08	01	BKN	065	7.00		59	59	59	100	8	31	29.83	30.03
04	CLR	NC	10.00		45	17	35	33	10	30	29.94	30.13	04	BKN	050	10.00		56	49	52	77	8	34	29.90	30.09
07	CLR	NC	10.00		41	20	33	43	7	27	30.01	30.21	07	FEW	050	10.00		50	44	47	80	9	36	29.97	30.16
10	CLR	NC	10.00		52	25	41	35	10	31	30.06	30.25	10	CLR	NC	10.00		53	33	44	47	16	01	30.04	30.24
13	CLR	NC	10.00		55	26	43	33	11	33	30.05	30.24	13	CLR	NC	10.00		57	30	45	36	10	36	30.02	
16	CLR	NC	10.00		56	25	43	30	9	30	30.07	30.26	16	CLR	NC	10.00		56	26	43	32	8	01	30.01	
19	CLR	NC	10.00		43	30	38	60	0	00	30.12	30.31	19	CLR	NC	10.00		45	31	39	58	7	05	30.05	
22	CLR	NC	10.00		38	30	35	73	0	00	30.17	30.37	22	FEW	250	10.00		41	31	37	67	3	02	30.07	
<b>SUNRISE: 0649 NOV 15</b>					<b>SUNSET: 1659</b>								<b>SUNRISE: 0655 NOV 21</b>					<b>SUNSET: 1655</b>							
01	CLR	NC	10.00		32	28	31	85	0	00	30.19	30.39	01	SCT	250	10.00		38	29	34	70	6	01	30.07	30.26
04	CLR	NC	10.00		32	27	30	82	0	00	30.20	30.40	04	CLR	NC	10.00		35	26	32	70	8	36	30.06	30.26
07	FEW	300	10.00		31	29	30	92	0	00	30.25	30.44	07	FEW	300	10.00		35	26	32	70	5	02	30.05	30.25
10	FEW	300	10.00		50	32	42	50	8	23	30.28	30.47	10	FEW	300	10.00		49	31	41	50	7	06	30.05	30.25
13	FEW	300	10.00		62	29	47	29	9	21	30.19	30.39	13	SCT	300	10.00		57	37	48	47	7	14	29.94	30.13
16	SCT	300	10.00		62	30	48	30	9	21	30.17	30.37	16	BKN	300	10.00		56	40	48	55	5	18	29.86	30.05
19	FEW	300	10.00		48	32	41	54	5	20	30.16	30.36	19	BKN	300	10.00		46	41	44	83	0	00	29.82	30.01
22	SCT	300	10.00		47	31	40	54	3	19	30.16	30.35	22	BKN	110	10.00		47	44	46	90	5	24	29.79	29.99
<b>SUNRISE: 0650 NOV 16</b>					<b>SUNSET: 1658</b>								<b>SUNRISE: 0656 NOV 22</b>					<b>SUNSET: 1655</b>							
01	FEW	300	10.00		43	32	38	65	0	00	30.15	30.34	01	OVC	044	10.00		50	45	48	83	7	24	29.75	29.95
04	CLR	NC	10.00		39	32	36	76	0	00	30.13	30.32	04	OVC	300	10.00		47	43	45	86	3	24	29.73	29.93
07	SCT	300	10.00		35	31	33	85	3	16	30.14	30.33	07	OVC	300	10.00		46	42	44	86	7	33	29.77	29.97
10	SCT	300	10.00		54	34	45	47	0	00	30.16	30.36	10	OVC	200	10.00		47	32	41	56	17	36	29.82	30.01
13	SCT	300	10.00		67	34	51	30	0	00	30.10	30.30	13	OVC	095	10.00		46	28	39	50	14	36	29.79	29.99
16	SCT	300	10.00		66	36	51	33	3	19	30.08	30.27	16	BKN	200	10.00		45	26	37	48	17	35	29.79	29.99
19	SCT	300	10.00		51	39	45	64	0	00	30.09	30.28	19	FEW	250	10.00		40	26	35	58	10	34	29.81	30.01
22	BKN	300	10.00		45	37	41	74	0	00	30.10	30.29	22	CLR	NC	10.00		38	22	32	52	14	35	29.85	30.05
<b>SUNRISE: 0651 NOV 17</b>					<b>SUNSET: 1658</b>								<b>SUNRISE: 0657 NOV 23</b>					<b>SUNSET: 1654</b>							
01	OVC	190	10.00		45	40	43	83	0	00	30.09	30.28	01	CLR	NC	10.00		35	20	30	54	14	34	29.88	30.08
04	OVC	170	10.00		46	41	44	83	0	00	30.10	30.30	04	CLR	NC	10.00		33	18	28	54	10	35	29.91	30.11
07	OVC	130	10.00		48	40	44	74	3	03	30.15	30.34	07	CLR	NC	10.00		31	18	27	59	13	34	30.00	30.20
10	BKN	300	10.00		57	44	50	62	8	07	30.19	30.38	10	CLR	NC	10.00		38	14	30	37	23	32	30.06	30.25
13	OVC	300	10.00		65	48	56	54	9	08	30.19	30.38	13	CLR	NC	10.00		42	14	32	32	13	30	30.01	30.21
16	OVC	250	10.00		62	53	57	73	10	07	30.19	30.38	16	CLR	NC	10.00		42	12	32	29	13	31	30.03	30.22
19	OVC	250	10.00		56	51	53	84	9	08	30.25	30.44	19	CLR	NC	10.00		33	18	28	54	0	00	30.08	30.28
22	OVC	180	10.00		53	48	50	83	10	07	30.22	30.42	22	CLR	NC	10.00		28	21	26	75	3	14	30.12	30.32
<b>SUNRISE: 0652 NOV 18</b>					<b>SUNSET: 1657</b>								<b>SUNRISE: 0658 NOV 24</b>					<b>SUNSET: 1654</b>							
01	BKN	180	10.00		50	47	49	89	5	36	30.22	30.41	01	FEW	075	10.00		30	20	27	66	3	16	30.12	30.32
04	BKN	044	10.00		50	47	49	89	6	04	30.18	30.37	04	CLR	NC	10.00		30	18	26	61	3	21	30.13	30.33
07	BKN	250	10.00		48	47	48	96	0	00	30.19	30.38	07	FEW	080	10.00		26	20	24	78	3	17	30.17	30.37
10	SCT	250	10.00		63	56	59	78	11	13	30.17	30.36	10	FEW	300	10.00		44	25	37	47	3	VR	30.23	30.43
13	OVC	250	10.00		68	59	63	73	13	14	30.08	30.27	13	FEW	300	10.00		55	26	43	33	9	24	30.18	30.38
16	OVC	045	10.00		62	61	61	96	7	13	30.08	30.27	16	FEW	300	10.00		55	25	43	31	7	26	30.19	30.39
19	OVC	250	10.00		62	57	59	84	10	13	30.07	30.26	19	CLR	NC	10.00		41	30	37	65	0	00	30.25	30.45
22	OVC	075	10.00		63	55	58	76	13	13	30.01	30.21	22	FEW	300	7.00		34	28	32	79	0	00	30.30	30.50

# 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
<b>SUNRISE: 0659 NOV 25</b>					<b>SUNSET: 1653</b>							
01	FEW	300	10.00		33	29	31	85	0	00	30.32	30.52
04	FEW	300	10.00		32	28	31	85	0	00	30.38	30.58
07	FEW	300	10.00		30	28	29	92	0	00	30.44	30.64
10	FEW	300	10.00		46	34	41	63	0	00	30.51	30.71
13	FEW	300	10.00		56	29	44	36	5	18	30.49	30.69
16	FEW	300	10.00		56	32	45	40	10	15	30.49	30.68
19	FEW	250	10.00		46	33	40	61	5	10	30.53	30.73
22	CLR	NC	10.00		40	34	38	79	0	00	30.53	30.73
<b>SUNRISE: 0700 NOV 26</b>					<b>SUNSET: 1653</b>							
01	FEW	050	10.00		40	36	38	86	0	00	30.55	30.75
04	CLR	NC	10.00		37	35	36	93	0	00	30.54	30.74
07	BKN	300	9.00		40	38	39	93	7	35	30.57	30.77
10	SCT	300	10.00		53	45	49	74	5	36	30.59	30.79
13	FEW	300	10.00		64	50	56	60	5	15	30.52	30.71
16	SCT	300	10.00		66	49	57	54	6	16	30.48	30.68
19	SCT	250	10.00		53	47	50	80	9	12	30.46	30.66
22	SCT	250	10.00		51	48	49	89	5	13	30.45	30.64
<b>SUNRISE: 0701 NOV 27</b>					<b>SUNSET: 1653</b>							
01	FEW	300	10.00	MIFG	45	44	45	97	0	00	30.44	30.63
04	FEW	003	7.00	MIFG	42	41	42	96	6	34	30.38	30.58
07	BKN	300	1.25	BR	42	41	42	96	0	00	30.37	30.57
10	BKN	300	10.00		55	50	52	83	0	00	30.37	30.56
13	BKN	250	10.00		67	51	58	57	5	28	30.28	30.47
16	BKN	250	10.00		66	51	58	59	6	22	30.20	30.39
19	BKN	250	10.00		52	50	51	93	3	15	30.19	30.38
22	BKN	250	9.00		49	48	48	97	0	00	30.17	30.36
<b>SUNRISE: 0702 NOV 28</b>					<b>SUNSET: 1652</b>							
01	FEW	250	7.00	BCFG	45	45	45	100	3	16	30.11	30.30
04	FEW	250	7.00	BCFG	45	44	45	97	0	00	30.09	30.28
07	BKN	300	10.00		47	47	47	100	6	17	30.06	30.26
10	BKN	300	10.00		58	52	55	81	3	23	30.07	30.26
13	BKN	160	10.00		67	50	58	55	0	00	30.00	30.19
16	OVC	300	10.00		65	52	58	63	7	22	29.97	30.16
19	OVC	200	10.00		59	52	55	78	0	00	29.96	30.16
22	OVC	080	10.00		57	53	55	87	3	20	29.98	30.17
<b>SUNRISE: 0703 NOV 29</b>					<b>SUNSET: 1652</b>							
01	OVC	095	10.00		57	52	54	83	3	21	29.96	30.15
04	OVC	043	10.00		61	52	56	72	7	33	29.97	30.16
07	OVC	049	10.00	-RA	56	55	55	97	5	02	29.97	30.17
10	OVC	011	10.00	-DZ	58	57	57	97	5	03	30.01	30.20
13	OVC	012	3.00	-RA BR	56	55	55	97	7	02	29.98	30.17
16	OVC	005	10.00		51	50	50	96	9	03	29.98	30.18
19	OVC	005	2.50	BR	48	47	48	96	8	05	30.02	30.21
22	OVC	004	6.00	BR	47	46	47	97	10	03	30.06	30.26
<b>SUNRISE: 0704 NOV 30</b>					<b>SUNSET: 1652</b>							
01	OVC	016	5.00	-RA BR	44	43	44	96	9	03	30.09	30.28
04	OVC	037	10.00		43	40	42	89	7	04	30.10	30.29
07	OVC	006	2.50	-RA BR	41	40	41	96	8	01	30.13	30.32
10	OVC	005	1.75	-DZ BR	41	40	41	96	9	02	30.14	30.34
13	OVC	005	1.50	-DZ BR	41	40	41	96	8	36	30.10	30.29
16	OVC	005	3.00	-DZ BR	41	40	41	96	9	02	30.06	30.26
19	OVC	004	3.00	-DZ BR	41	40	41	96	7	33	30.08	30.27
22	OVC	003	2.50	BR	41	41	41	100	6	34	30.04	30.24

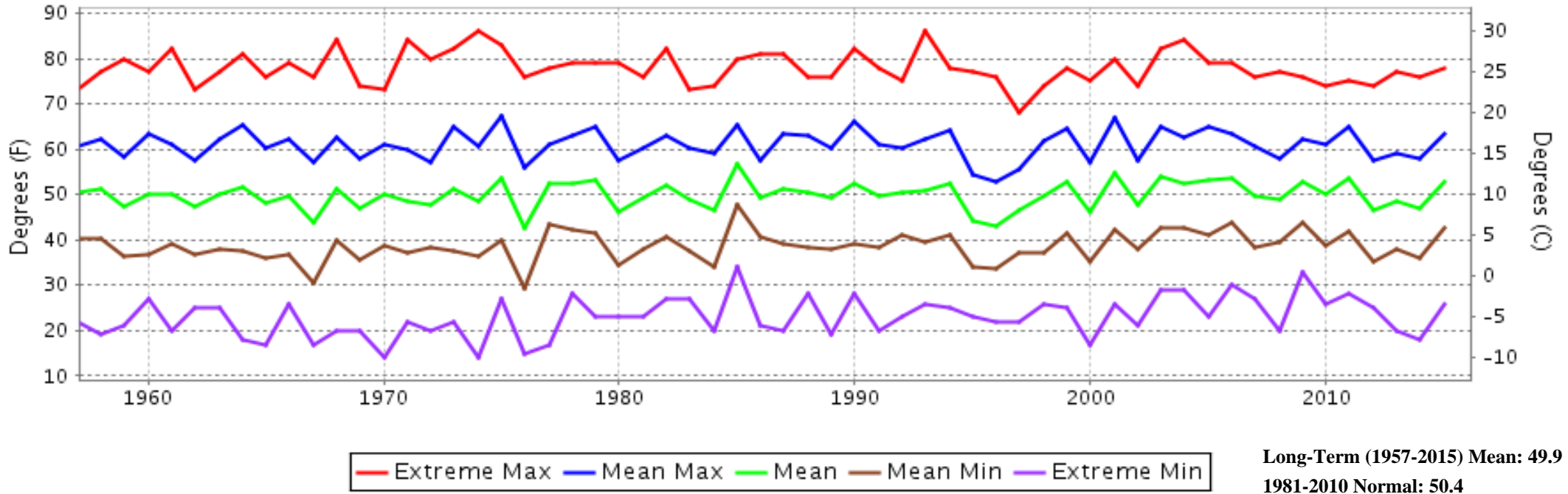
HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL

**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.

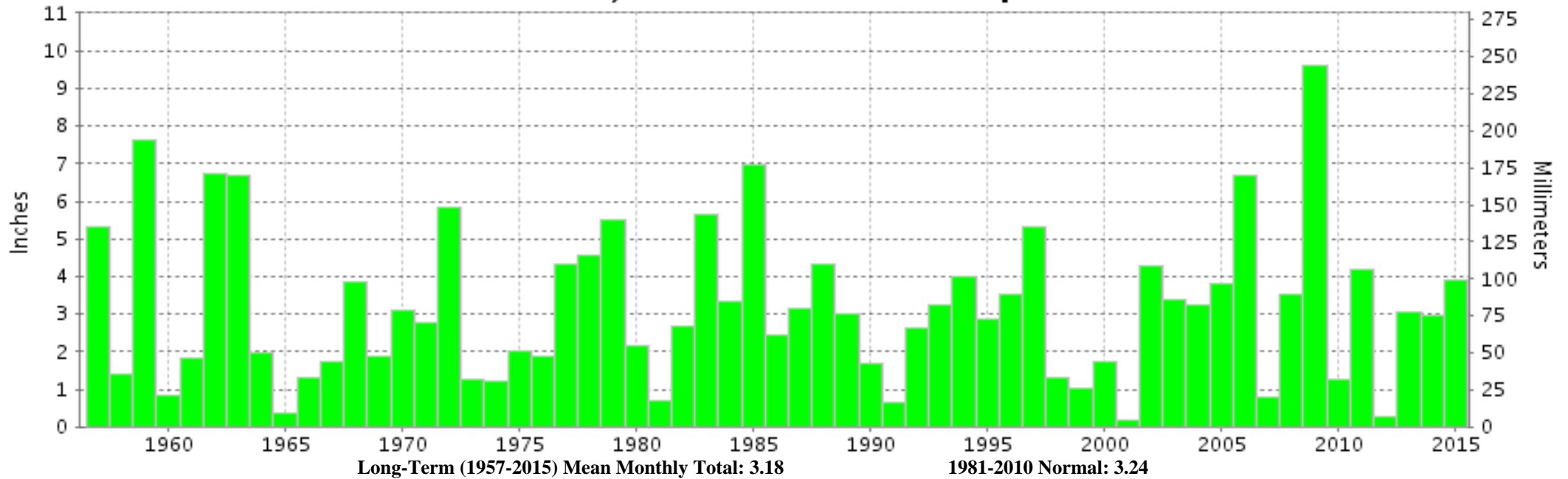
## SUMMARY BY HOUR

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	49	44	47	84	30.02	30.21	8.53	4	2	34
02	48	43	46	84	30.02	30.21	8.78	4	2	33
03	48	43	46	84	30.02	30.21	8.83	5	2	34
04	48	43	46	83	30.02	30.21	8.97	4	2	36
05	47	43	45	85	30.03	30.22	8.97	4	2	34
06	47	43	45	86	30.03	30.23	8.18	4	2	33
07	47	43	45	87	30.04	30.24	8.13	5	2	34
08	49	43	46	83	30.06	30.25	8.82	6	2	35
09	52	44	49	75	30.07	30.26	8.81	7	1	35
10	55	45	50	69	30.07	30.26	9.02	8	1	34
11	58	45	52	65	30.06	30.25	8.51	8	2	33
12	60	45	53	61	30.03	30.23	9.07	8	2	31
13	61	45	53	59	30.01	30.20	8.93	8	2	32
14	61	45	53	59	30.00	30.19	8.88	8	2	32
15	62	45	54	59	29.99	30.18	9.17	8	2	32
16	60	45	53	62	30.00	30.19	9.25	8	2	32
17	57	45	52	67	30.00	30.19	8.83	6	1	35
18	55	45	51	73	30.01	30.20	8.92	5	2	02
19	53	45	50	78	30.02	30.21	9.25	5	2	02
20	52	45	49	79	30.02	30.22	9.17	5	2	36
21	51	45	48	82	30.03	30.22	8.97	5	2	36
22	50	44	48	82	30.03	30.22	8.70	4	2	01
23	50	44	48	83	30.03	30.22	8.69	4	2	35
24	49	44	47	83	30.03	30.22	8.68	5	2	34

## RICHMOND, VA NOVEMBER Temperatures



## RICHMOND, VA NOVEMBER Precipitation





**NOVEMBER 2015  
RICHMOND, VA**

## **LOCAL CLIMATOLOGICAL DATA**

### **NOAA, National Centers for Environmental Information**

*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 Centers for Environmental Information (NCEI), Asheville, North Carolina 28801.*

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

**DIRECTOR**

NCEI now offers free online access to the **Edited Local Climatological Data Publication**. Go to : [www.ncdc.noaa.gov/IPS/lcd/lcd.html](http://www.ncdc.noaa.gov/IPS/lcd/lcd.html)

We welcome your questions or comments, please contact us at:  
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