



# DECEMBER 2006 LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

KNOXVILLE, TN  
MC GHEE TYSON AIRPORT (KTYS)  
Lat:35° 49'N Long: 83° 59'W Elev (Ground) 962 Feet  
Time Zone : EASTERN WBAN: 13891 ISSN#: 0198-4810



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					
																			5-SEC		2-MIN			
20	21	22	23	24																				
01	73*	31	52	7	39	45	13	0	RA BR	0		0.0	0.14	28.87	29.96	15.7	24	17.8	54*	23	44*	24	01	
02	51	26	39	-6	27	34	26	0		0		0.0	0.00	29.26	30.35	6.7	04	7.3	17	02	14	04	02	
03	46	37	42	-2	28	36	23	0		0		0.0	0.00	29.27	30.35	2.7	36	3.6	14	01	12	36	03	
04	37	22	30	-14	14	25	35	0		0		0.0	0.00	29.37	30.45	2.9	34	6.0	20	36	16	36	04	
05	48	22	35	-8	18	29	30	0		0		0.0	0.00	29.33	30.40	1.3	25	2.4	9	26	9	23	05	
06	57	24	41	-2	22	34	24	0		0		0.0	0.00	29.16	30.21	7.2	24	8.1	31	25	24	22	06	
07	45	20	33	-10	19	29	32	0	RA SN	0		H	T	29.26	30.33	8.3	30	12.4	29	32	22	33	07	
08	32	15	24*	-18	4	18	41	0		0		0.0	0.00	29.52	30.62	4.2	04	4.8	16	03	13	36	08	
09	44	14*	29	-13	13	23	36	0		0		0.0	0.00	29.46	30.55	1.2	05	1.4	8	28	7	27	09	
10	52	21	37	-5	18	29	28	0		0		0.0	0.00	29.42	30.50	0.9	04	1.5	7	02	7	06	10	
11	61	32	47	5	28	37	18	0		0		0.0	0.00	29.38	30.45	3.0	04	3.5	10	03	9	03	11	
12	65	30	48	6	35	42	17	0	RA BR	0		0.0	0.11	29.23	30.28	1.3	07	4.1	20	16	15	16	12	
13	62	43	53	12	46	49	12	0	RA BR HZ	0		0.0	0.03	29.15	30.20	0.2	33	3.4	12	24	10	23	13	
14	63	32	48	7	38	43	17	0	BR	0		0.0	0.00	29.03	30.07	4.0	24	5.5	23	22	18	22	14	
15	64	42	53	12	42	47	12	0		0		0.0	0.00	28.92	29.97	8.2	23	8.7	23	23	21	23	15	
16	63	35	49	8	39	44	16	0	BR	0		0.0	0.00	29.08	30.13	0.4	13	2.0	10	28	9	28	16	
17	68	33	51	11	38	44	14	0	BR	0		0.0	0.00	29.18	30.24	1.0	24	1.6	14	23	13	23	17	
18	68	36	52	12	41	46	13	0	BR	0		0.0	0.00	29.22	30.28	1.0	20	1.7	12	19	10	21	18	
19	60	41	51	11	42	46	14	0	BR HZ	0		0.0	0.00	29.26	30.32	2.7	02	4.8	17	02	14	03	19	
20	58	39	49	9	36	43	16	0		0		0.0	0.00	29.26	30.31	3.0	04	4.1	12	04	10	04	20	
21	57	45	51	11	43	47	14	0		0		0.0	0.00	29.20	30.24	2.4	04	2.7	8	06	8	03	21	
22	58	50	54	15	53	53	11	0	RA DZ BR	0		0.0	0.81	28.92	29.95	1.2	35	3.7	20	30	15	29	22	
23	58	37	48	9	42	46	17	0	RA DZ BR	0		0.0	T	28.99	30.06	3.5	24	4.1	20	28	16	29	23	
24	55	31	43	4	35	40	22	0	BR	0		0.0	0.00	29.10	30.16	6.2	04	6.3	17	03	15	04	24	
25	58	44	51	12	45	48	14	0	RA BR	0		0.0	0.19	28.69	29.69	1.7	31	9.6	41	24	30	24	25	
26	49	37	43	4	34	38	22	0		0		0.0	0.00	28.76	29.85	12.8	25	13.9	35	23	29	23	26	
27	47	32	40	1	26	33	25	0		0		0.0	0.00	29.12	30.20	2.0	31	2.8	15	27	13	27	27	
28	54	28	41	3	29	35	24	0	BR	0		0.0	0.00	29.26	30.35	0.7	03	1.3	8	02	6	01	28	
29	62	28	45	7	33	39	20	0		0		0.0	0.00	29.40	30.48	2.4	05	2.5	10	02	8	03	29	
30	59	34	47	9	40	45	18	0		0		0.0	0.00	29.31	30.36	6.8	04	7.0	16	05	14	04	30	
31	62	50	56*	18	51	53	9	0	RA DZ BR	0		0.0	0.81	29.02	30.04	1.7	30	6.6	25	24	21	24	31	
56.0		32.6	44.3	☼	32.8	39.4	20.4	0.0	< MONTHLY AVERAGES   TOTALS >			T	2.09	29.16	30.23	1.2	30	5.3	< MONTHLY AVERAGES					
6.2	0.7	3.4	<----- DEPARTURE FROM NORMAL ----->						-2.40	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3														
<b>DEGREE DAYS</b>									GREATEST 24-HR PRECIPITATION : 0.81 DATE : 31+				SEA LEVEL PRESSURE				DATE TIME							
MONTHLY				SEASON TO DATE					GREATEST 24-HR SNOWFALL : T DATE : 07				MAXIMUM : 30.68 08 1153											
TOTAL DEPARTURE				TOTAL DEPARTURE					GREATEST SNOW DEPTH : 0 DATE :				MINIMUM : 29.54 25 1812											
HEATING :		633	-100	1412		-23		NUMBER OF -> DAYS WITH		MAXIMUM TEMP >= 90 : 0		MINIMUM TEMP <= 32 : 16		PRECIPITATION >= 0.01 INCH: 6										
COOLING :		0	0	1593		143				MAXIMUM TEMP <= 32 : 1		MINIMUM TEMP <= 0 : 0		PRECIPITATION >= 0.10 INCH: 5										
										THUNDERSTORMS : 0		HEAVY FOG : 0		SNOWFALL >= 1.0 INCH : 0										

DECEMBER 2006  
KNOXVILLE, TN

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

KNOXVILLE, TN (KTYS)  
DECEMBER 2006

WBAN # 13891

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							0.11	0.03					01												01	0.14	0.14		
02													02												02	0.00	0.00		
03													03												03	0.00	0.00		
04													04												04	0.00	0.00		
05													05												05	0.00	0.00		
06													06												06	0.00	0.00		
07													07		T	T	T	T	T	T					07	T	T		
08													08												08	0.00	0.00		
09													09												09	0.00	0.00		
10													10												10	0.00	0.00		
11													11												11	0.00	0.00		
12													12												12	0.11	0.11		
13	0.02	T	0.01		T								13												13	0.03	0.03		
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												18	0.00	0.00		
19													19												19	0.00	0.00		
20													20												20	0.00	0.00		
21													21												21	0.00	0.00		
22				T	0.01	0.07	0.04	0.10	0.08	0.08	0.14	0.19	22	0.04	T	T					0.01			0.05	22	0.81	0.81		
23	T	T											23												23	T	T		
24													24												24	0.00	0.00		
25	T	0.02	0.03	0.02	0.01	0.01	T	0.02	T				25	0.01	0.07	T					T	T	T	T	25	0.19	0.19		
26													26												26	0.00	0.00		
27													27												27	0.00	0.00		
28													28												28	0.00	0.00		
29													29												29	0.00	0.00		
30													30												30	0.00	0.00		
31						T	T	T			T	0.02	0.05	31	0.04	0.05	0.11	0.02						0.06	0.14	0.32	31	0.81	0.81

\* 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.

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

# KNOXVILLE, TN DECEMBER 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:

Station Augmentation-CONTRACTOR ON AIRPORT  
Lat/Lon:/ Elevation:  
Distance:2200 FT Dir:W  
Augmented Elements:Temp,Precip,Snow  
Equipment:SRG, PSY, Snow Board, Snow stick

Date	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR-SS		MN-MN		MINIMUM	MAXIMUM	
			Sky Cover	Satellite	Sky Cover	Satellite			
01							3.00	10.00	
02							10.00	10.00	
03							10.00	10.00	
04							10.00	10.00	
05							10.00	10.00	
06							9.00	10.00	
07							9.00	10.00	
08							10.00	10.00	
09							10.00	10.00	
10							9.00	10.00	
11							10.00	10.00	
12							2.50	10.00	
13							1.00	10.00	
14							1.00	10.00	
15							10.00	10.00	
16							6.00	10.00	
17							5.00	10.00	
18							4.00	10.00	
19							3.00	10.00	
20							10.00	10.00	
21							8.00	10.00	
22							1.00	9.00	
23							10.00	10.00	
24							6.00	10.00	
25							8.00	10.00	
26							10.00	10.00	
27							10.00	10.00	
28							5.00	10.00	
29							7.00	10.00	
30							8.00	10.00	
31							1.75	10.00	
MONTHLY AVGS							7.01	9.97	
<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		7			19				





# OBSERVATIONS AT 3-HOURLY INTERVALS

# KNOXVILLE, TN DECEMBER 2006 KTYS

## WBAN # 13891

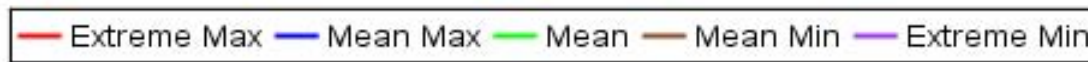
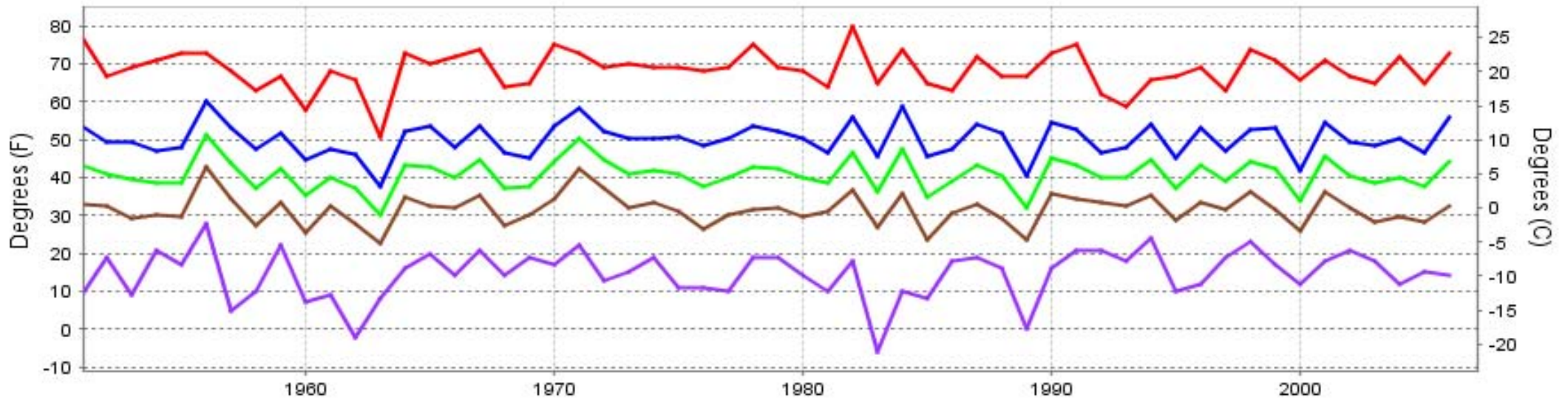
HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			WIND SPEED (MPH) DIRECTION Tens of Deg	PRESSURE (INCHES, HG)			
			Observation Time (LST)	Eff Clld Amt Okta's			DRY BULB	DEW POINT	WET BULB		RELATIVE HUMIDITY (PCT)	STATION	SEA LEVEL	
		<b>SUNRISE: 0740</b>			<b>DEC 25</b>			<b>SUNSET: 1725</b>						
01	OVC	090			10.00	-RA	47	38	43	71	5	04	28.97	30.01
04	OVC	095			9.00	-RA	45	41	43	86	10	03	28.86	29.91
07	OVC	100			10.00		45	42	44	89	9	04	28.78	29.81
10	OVC	100			10.00		47	43	45	86	11	02	28.71	29.74
13	BKN	048			8.00	-RA	55	49	52	80	6	35	28.52	29.55
16	OVC	060			10.00		54	50	52	86	0	00	28.51	29.54
19	OVC	055			10.00		57	49	53	75	14	22	28.53	29.56
22	OVC	085			10.00	-RA	52	47	49	83	16	23	28.53	29.57
		<b>SUNRISE: 0741</b>			<b>DEC 26</b>			<b>SUNSET: 1725</b>						
01	OVC	075			10.00		47	40	44	77	21	22	28.57	29.61
04	OVC	021			10.00		46	38	42	74	18	22	28.59	29.62
07	OVC	038			10.00		42	34	39	73	18	27	28.69	29.72
10	OVC	037			10.00		40	32	37	73	13	26	28.79	29.83
13	OVC	040			10.00		40	33	37	76	10	27	28.82	29.86
16	OVC	045			10.00		39	32	36	76	16	28	28.85	29.91
19	OVC	070			10.00		38	32	36	79	13	28	28.95	30.00
22	OVC	021			10.00		37	31	35	79	9	26	29.01	30.07
		<b>SUNRISE: 0741</b>			<b>DEC 27</b>			<b>SUNSET: 1726</b>						
01	OVC	037			10.00		36	29	33	76	9	27	29.03	30.09
04	OVC	037			10.00		36	29	33	76	3	29	29.08	30.14
07	BKN	033			10.00		34	26	31	73	0	00	29.14	30.21
10	SCT	028			10.00		38	25	33	60	6	36	29.18	30.24
13	CLR	NC			10.00		43	26	36	51	0	00	29.15	30.21
16	CLR	NC			10.00		46	24	37	42	0	00	29.14	30.20
19	CLR	NC			10.00		40	25	34	55	0	00	29.16	30.24
22	CLR	NC			10.00		35	26	32	70	3	36	29.18	30.25
		<b>SUNRISE: 0741</b>			<b>DEC 28</b>			<b>SUNSET: 1727</b>						
01	CLR	NC			10.00		32	27	30	82	0	00	29.21	30.27
04	CLR	NC			5.00	BR	28	26	27	92	5	06	29.21	30.28
07	CLR	NC			9.00		30	26	29	85	0	00	29.26	30.33
10	CLR	NC			10.00		37	31	35	79	5	07	29.34	30.42
13	CLR	NC			10.00		49	30	41	48	0	00	29.28	30.35
16	CLR	NC			10.00		54	30	43	40	0	00	29.26	30.33
19	CLR	NC			10.00		50	29	41	44	0	00	29.31	30.38
22	CLR	NC			10.00		39	31	36	73	0	00	29.35	30.42
		<b>SUNRISE: 0742</b>			<b>DEC 29</b>			<b>SUNSET: 1727</b>						
01	CLR	NC			10.00		35	31	33	85	0	00	29.37	30.44
04	CLR	NC			10.00		33	29	31	85	0	00	29.40	30.47
07	CLR	NC			7.00		28	26	27	92	0	00	29.43	30.50
10	BKN	045			10.00		37	33	35	86	3	06	29.49	30.57
13	BKN	049			10.00		54	35	45	49	6	03	29.44	30.50
16	FEW	050			10.00		62	37	50	40	3	01	29.38	30.45
19	CLR	NC			10.00		51	34	43	52	5	07	29.37	30.44
22	CLR	NC			10.00		49	35	43	59	0	00	29.38	30.44
		<b>SUNRISE: 0742</b>			<b>DEC 30</b>			<b>SUNSET: 1728</b>						
01	CLR	NC			10.00		42	35	39	76	5	04	29.36	30.42
04	FEW	065			10.00		38	34	36	86	5	05	29.35	30.41
07	BKN	060			10.00		43	37	40	79	6	04	29.34	30.40
10	OVC	050			10.00		46	37	42	71	8	04	29.37	30.44
13	BKN	065			10.00		55	41	48	59	10	06	29.32	30.38
16	OVC	060			10.00		59	44	51	58	9	04	29.28	30.34
19	OVC	060			10.00		57	45	51	64	7	05	29.23	30.29
22	BKN	120			10.00		55	45	50	69	7	04	29.23	30.28

**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

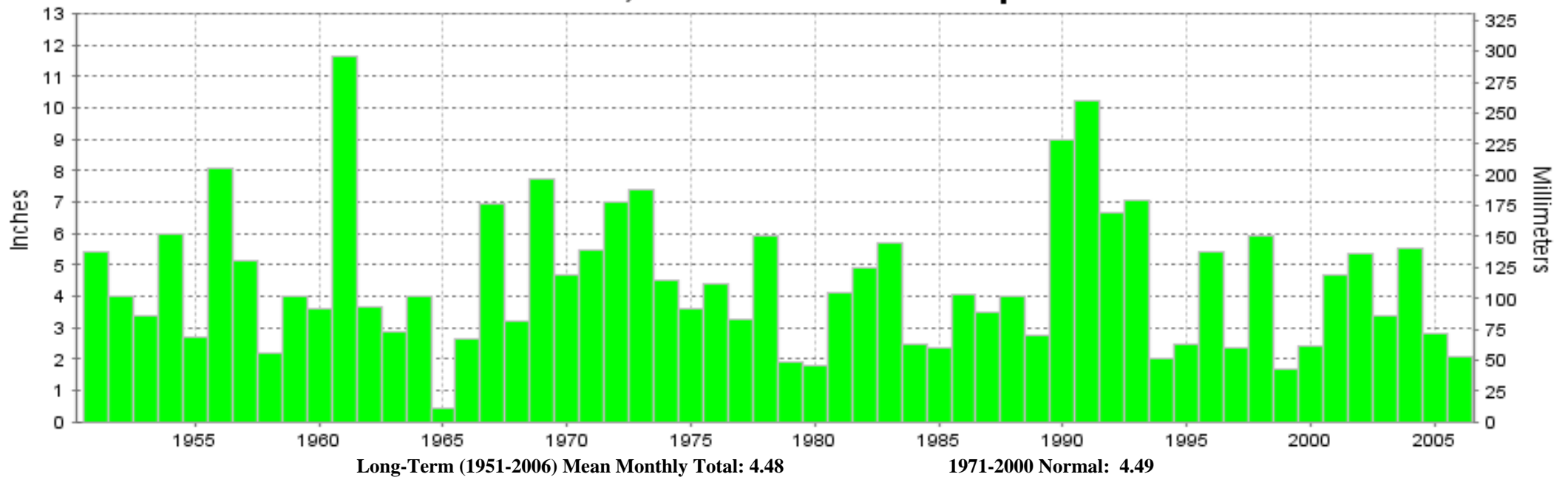
HOUR (LST)	AVERAGES											RESULTANT WIND (MPH)	
	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (Inches, HG)		VISIBILITY (Miles)	WIND SPEED (MPH)	SPEED	DIRECTION	
							STATION	SEA LEVEL					
01			40	32	37	76	29.18	30.23	9.27	4	3	30	
02			39	32	36	79	29.17	30.23	9.11	4	1	32	
03			39	32	36	78	29.17	30.23	9.11	5	1	34	
04			38	32	36	79	29.17	30.23	8.81	5	1	31	
05			37	32	35	81	29.17	30.23	8.68	5	1	34	
06			37	32	35	80	29.18	30.23	8.61	5	1	32	
07			36	32	35	83	29.19	30.25	8.19	5	1	31	
08			36	31	34	82	29.20	30.26	8.15	5	1	31	
09			39	32	36	79	29.21	30.27	8.64	6	1	34	
10			42	34	39	72	29.22	30.29	8.89	6	1	35	
11			45	34	41	65	29.22	30.28	9.22	6	1	32	
12			49	34	42	58	29.20	30.26	9.40	6	2	30	
13			51	34	44	55	29.17	30.23	9.45	6	3	29	
14			53	34	45	52	29.15	30.21	9.57	6	3	29	
15			54	34	45	50	29.15	30.20	9.60	6	4	28	
16			53	33	45	49	29.15	30.20	9.52	6	3	29	
17			51	33	44	53	29.15	30.21	9.61	6	2	29	
18			49	33	42	55	29.16	30.22	9.55	5	2	30	
19			48	33	41	58	29.16	30.23	9.68	5	1	31	
20			46	33	41	61	29.17	30.23	9.47	6	2	29	
21			45	33	40	64	29.18	30.24	9.56	5	4	29	
22			44	33	39	68	29.18	30.24	9.53	5	2	30	
23			42	33	39	71	29.18	30.24	9.50	5	2	30	
24			41	32	37	73	29.18	30.24	9.28	5	3	29	

## KNOXVILLE, TN DECEMBER Temperatures



Long-Term (1951-2006) Mean: 40.9  
 1971-2000 Normal: 40.9

## KNOXVILLE, TN DECEMBER Precipitation



Long-Term (1951-2006) Mean Monthly Total: 4.48

1971-2000 Normal: 4.49



**DECEMBER 2006  
KNOXVILLE, TN**

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

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*Thomas R. Karl*  
**DIRECTOR**

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