



# DECEMBER 1997

## LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

# KNOXVILLE, TN

MC GHEE TYSON AIRPORT (TYS)  
 Lat: 35° 49' N Long: 83° 59' W Elev (Ground): 979 Feet  
 Time Zone: EASTERN WBAN: 13891 ISSN #: 0198-4810

DECEMBER 1997  
KNOXVILLE, TN

DATE	TEMPERATURE °F						DEG DAYS BASE 65°		WEATHER	SNOW/ICE ON GND(IN)		PRECIPITATION (INCHES)		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	11	12	13	14	15	16	17	18	19	20	21	22	23	24														
01	50	36	43	-1	39	42	22	0	RA	0	0.0	0.02	28.83	29.87	6.7	01	9.0	24	02	18	36	01														
02	52	33	43	-1	34	39	22	0		0	0.0	0.00	29.07	30.13	4.5	04	4.6	13	05	10	04	02														
03	52	41	47	4	43	45	18	0	RA BR	0	0.0	0.27	28.92	29.96	0.8	03	2.6	14	31	11	31	03														
04	53	37	45	2	44	46	20	0	RA BR	0	0.0	0.02	28.74	29.78	7.7	25	8.3	17	27	14	28	04														
05	41	31	36	-7	26	32	29	0	RA SN PE	0	T	0.01	28.86	29.91	12.8	27	13.9	30	27	24	28	05														
06	33	25	29	-14	17	25	36	0	SN	0	T	T	28.99	30.06	8.9	28	9.5	22	27	17	27	06														
07	32	27	30	-12	21	27	35	0	SN	0	T	T	29.08	30.15	2.2	02	5.5	17	27	14	27	07														
08	33	26	30	-12	26	28	35	0	RA DZ FZRA SN PE BR	T	T	0.15	28.97	30.03	4.7	05	4.8	13	06	10	06	08														
09	43	33	38	-4	36	37	27	0	RA DZ BR HZ	0	0.0	0.01	28.81	29.87	1.3	02	2.6	10	28	9	28	09														
10	60	36	48	7	41	45	17	0	RA FG+ BR	0	0.0	0.35	28.67	29.70	9.6	27	11.6	33*	24	28*	24	10														
11	42	37	40	-1	31	35	25	0		0	0.0	0.00	28.96	30.02	3.5	32	4.3	15	29	13	30	11														
12	41	35	38	-3	30	35	27	0		0	0.0	0.00	29.09	30.15	5.6	03	5.9	15	05	13	05	12														
13	40	28	34	-7	28	32	31	0	BR	0	0.0	0.00	29.01	30.07	3.1	03	3.3	11	01	10	01	13														
14	40	26	33	-7	26	30	32	0	BR	0	0.0	0.00	28.98	30.05	8.2	04	8.7	21	03	17	04	14														
15	47	21	34	-6	24	30	31	0	BR	0	0.0	0.00	29.10	30.17	2.9	04	3.5	11	01	9	02	15														
16	54	22	38	-2	23	31	27	0	BR HZ	0	0.0	0.00	29.05	30.11	0.6	25	2.1	13	26	10	25	16														
17	55	24	40	0	27	34	25	0	BR HZ	0	0.0	0.00	28.94	29.99	0.5	32	1.4	10	11	7	27	17														
18	55	27	41	2	32	37	24	0	BR HZ	0	0.0	0.00	29.05	30.11	0.2	07	.4	6	06	5	07	18														
19	60	26	43	4	33	38	22	0	BR HZ	0	0.0	0.00	29.14	30.20	1.2	24	1.6	14	20	13	24	19														
20	63*	30	47	8	41	43	18	0	BR	0	0.0	0.00	29.06	30.12	1.3	29	3.1	18	01	16	01	20														
21	52	33	43	4	43	44	22	0	RA FG BR HZ	0	0.0	0.34	29.00	30.05	4.7	04	5.0	14	05	13	05	21														
22	62	45	54*	15	48	49	11	0	RA BR	0	0.0	0.04	28.93	29.98	5.0	27	8.3	28	25	22	25	22														
23	50	44	47	9	43	45	18	0	BR	0	0.0	0.00	29.01	30.05	1.5	28	3.9	15	25	13	25	23														
24	53	44	49	11	47	47	16	0	RA FG+ BR	0	0.0	0.50	28.71	29.75	4.6	02	7.4	20	29	17	29	24														
25	53	40	47	9	40	44	18	0		0	0.0	0.00	28.84	29.88	10.2	26	10.8	30	25	26	25	25														
26	51	37	44	6	36	41	21	0	RA BR	0	0.0	0.05	28.94	29.99	4.1	26	4.8	16	29	14	28	26														
27	41	33	37	-1	32	34	28	0	RA SN FG BR	0	T	0.38	28.79	29.85	7.6	01	7.8	18	36	15	35	27														
28	41	26	34	-3	23	30	31	0		0	0.0	0.00	28.85	29.91	1.7	05	2.3	11	07	9	05	28														
29	37	24	31	-6	30	31	34	0	SN BR	0	T	0.06	28.53	29.58	2.5	28	6.8	21	25	17	26	29														
30	34	29	32	-5	28	30	33	0	SN BR	2	2.5	0.12	28.69	29.74	12.2	26	12.7	29	25	22	24	30														
31	33	19*	26*	-11	23	27	39	0	SN BR	3	0.8	0.05	29.16	30.23	8.1	28	8.5	25	27	22	27	31														
46.9											31.5	39.2	■ ■	32.8	36.6	25.6	0.0	< MONTHLY AVERAGES		TOTALS-->		3.3	2.37	28.93	29.98	2.5	31	6.0	<-- MONTHLY AVERAGES							
-3.2											1.5	- .9	■ ■	<----- DEPARTURE FROM NORMAL ----->											-2.17	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3										
DEGREE DAYS									GREATEST 24-HR PRECIPITATION: 0.50 DATE: 24			GREATEST 24-HR SNOWFALL: 2.5 DATE: 30			GREATEST SNOW DEPTH: 3 DATE: 31			SEA LEVEL PRESSURE		DATE		TIME														
MONTHLY			SEASON TO DATE			MAXIMUM		MINIMUM		: 30.55		: 31		: 2309																						
TOTAL DEPARTURE			TOTAL DEPARTURE			: 29.47		: 29		: 1431																										
HEATING: 794		22		1646		129		PRECIPITATION ≥ 0.01 INCH : 15		PRECIPITATION ≥ 0.10 INCH : 7		SNOWFALL ≥ 1.0 INCH : 1																								
COOLING: 0		0		1297		31		NUMBER OF DAYS WITH →		MAXIMUM TEMP ≥ 90: 0		MINIMUM TEMP ≤ 32: 16		PRECIPITATION ≥ 0.01 INCH : 15		PRECIPITATION ≥ 0.10 INCH : 7		SNOWFALL ≥ 1.0 INCH : 1																		
								MAXIMUM TEMP ≤ 32 : 1		MINIMUM TEMP ≤ 0 : 0		HEAVY FOG : 2																								

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

## KNOXVILLE, TN

DECEMBER 1997 TYS WBAN # 13891

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note 2)	2400 LST	
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			Water	Equiv.
01	T	T	0.01	T		0.01							01												01		0.02		
02													02												02		0.00		
03													03		T	0.07	0.06	0.04	0.09	0.01	T	T			03		0.27		
04													04		0.02										04		0.02		
05				T	T	T	T						05												05	T	0.01		
06	T												06												06		T		
07													07												07		T		
08													08	T	0.01	T	0.02	0.02	0.02	0.05	0.03	T	T	T	08		0.15		
09	T		T	0.01	T	T	T	T					09												09		0.01		
10			0.01	0.16	0.15	0.03	T						10												10		0.35		
11													11												11		0.00		
12													12												12		0.00		
13													13												13		0.00		
14													14												14		0.00		
15													15												15		0.00		
16													16												16		0.00		
17													17												17		0.00		
18													18												18		0.00		
19													19												19		0.00		
20													20												20		0.00		
21													21			T	0.05	0.01	0.04	0.01	0.09	0.09	0.02	0.02	T	21	0.33	0.34	
22	0.02	0.01	0.01	0.01	T								22												22	0.05	0.04		
23													23												23		0.00		
24		0.02	0.11	0.02	0.01	T	T	0.01	0.02	0.12	0.03	0.01	24	0.05	0.09	T							0.01	24		0.50			
25													25												25		0.00		
26													26												26		0.05		
27	0.03	0.08	0.07	0.08	0.03	0.03	T	T	0.01	0.03	0.01	0.01	27	T	T	T	T							27		0.38			
28													28												28		0.00		
29													29	T	T	T	0.02	0.01	T	0.01	0.01	0.01	T	T	29		0.06		
30	T	T	T	T	T								30	T	T	T	T	0.01	0.03	0.02	0.02	0.02	0.01	T	30		0.12		
31	T	0.02	0.01	T		0.01	T	T	T	T	T	T	31	T	T	T	T							T	31	0.04	0.05		

### MAXIMUM SHORT DURATION PRECIPITATION (See Note 1)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)												
Ending Date												
Ending Time (Hour/Min)												

Date and time are not entered for TRACE amounts.

Note 1: NCDC derives these data from one-minute ASOS values. The table is not printed when inconsistent with ASOS hourly totals.

Note 2: The sum of the hourly totals is given when it differs from the daily total. 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.

# 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 1961 – 1990

## WEATHER NOTATIONS

QUALIFIER	WEATHER PHENOMENA		
	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	PE Ice Pellets	HZ Haze	SQ Squalls
PR Partial	RA Rain	PY Spray	SS Sandstorm
SH Shower(s)	SG Snow Grains	SA Sand	GL Glaze
TS Thunderstorm	SN Snow	VA Volcanic Ash	
VC In the Vicinity	UP Unknown Precipitation		

Intensity (as indicated on pages 4 to 6):  
'+' = Heavy    ' ' = Moderate    '- ' = Light

# KNOXVILLE, TN DECEMBER 1997

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 at constant pressure by evaporation of moisture into it, to 100% relative humidity.

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	
			CEILOMETER	SATELLITE	CEILOMETER	SATELLITE			
01	198						9.00	10.00	
02	377	63					9.00	10.00	
03	69	1					1.75	10.00	
04	40	1					4.00	10.00	
05	274	46					10.00	10.00	
06	260						9.00	10.00	
07	0	0					9.00	10.00	
08	0	0					1.75	10.00	
09	0	0					2.00	7.00	
10	310	53					<.25	10.00	
11	0						10.00	10.00	
12	71						10.00	10.00	
13	13						6.00	10.00	
14	127						6.00	10.00	
15	456	78					3.00	10.00	
16	490	84					5.00	10.00	
17	455	78					6.00	10.00	
18	440						6.00	10.00	
19	445						3.00	10.00	
20	243						7.00	10.00	
21	0	0					.75	6.00	
22	213	37					1.00	10.00	
23	36	1					5.00	10.00	
24	11						.25	10.00	
25	318						10.00	10.00	
26	418						6.00	10.00	
27	0						1.50	10.00	
28	431	74					8.00	10.00	
29	39	1					1.00	10.00	
30	37	6					1.00	10.00	
31	240	41					1.75	10.00	
MONTHLY AVGS							4.96	9.77	
<b>SUNSHINE (MINUTES)</b>									
Total: 6011 Possible: 18190 Percent Possible: 33									
<b>NUMBER OF DAYS WITH:</b>									
<b>SKY CONDITION</b>									
CLR PTLY CLDY CLOUDY MISSING 31									
<b>MINIMUM VISIBILITY (MILES)</b>									
<=0.25 <=3.0 >=7.0 2 13 10									

# OBSERVATIONS AT 3-HOURLY INTERVALS

# KNOXVILLE, TN

## DECEMBER 1997

## TYS

## WBAN # 13891

HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)							
	SKY COVER	CEILING 100'S OF FT		OBSERVATION TIME (LST)	EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)		SPEED (MPH)	DIRECTION TENS OF DEG		STATION	SEA LEVEL	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG
				SUNRISE: 0728		DEC 01	SUNSET: 1722						SUNRISE: 0733		DEC 07	SUNSET: 1722											
01	OVC	085		10.00	-RA	48	47	47	96	7	22	28.53	29.57	01	OVC	024		10.00	27	19	24	72	14	26	29.05	30.12	
04	OVC	012		9.00		48	47	47	96	6	23	28.57	29.60	04	OVC	022		10.00	28	18	25	66	8	32	29.07	30.14	
07	OVC	019		10.00		48	43	46	83	12	01	28.72	29.75	07	OVC	024		10.00	28	20	25	72	3	22	29.09	30.16	
10	OVC	025		10.00		45	38	42	77	13	01	28.86	29.89	10	OVC	026		10.00	30	21	27	69	3	11	29.11	30.18	
13	OVC	034		10.00		46	36	42	68	12	01	28.89	29.94	13	OVC	029		10.00	31	22	28	69	5	02	29.08	30.15	
16	OVC	032		10.00		46	34	41	63	10	36	28.92	29.97	16	OVC	025		10.00	32	21	28	64	0	00	29.08	30.15	
19	BKN	032		10.00		41	33	38	74	7	36	28.97	30.02	19	OVC	027		10.00	31	22	28	69	8	06	29.09	30.16	
22	CLR	NC		10.00		36	32	34	86	5	07	28.99	30.05	22	OVC	027		10.00	31	23	28	72	6	06	29.08	30.15	
				SUNRISE: 0729		DEC 02	SUNSET: 1722						SUNRISE: 0734		DEC 08	SUNSET: 1722											
01	CLR	NC		10.00		34	31	33	89	7	04	29.01	30.07	01	OVC	025		10.00	30	23	28	75	7	05	29.04	30.11	
04	CLR	NC		10.00		35	30	33	82	9	04	29.03	30.09	04	CLR	NC		10.00	26	20	24	78	6	04	29.03	30.11	
07	CLR	NC		10.00		34	30	32	85	8	05	29.06	30.12	07	FEW	NC		9.00	27	21	25	78	5	07	29.04	30.11	
10	FEW	NC		10.00		41	33	38	74	9	05	29.13	30.19	10	SCT	NC		10.00	29	22	27	75	7	04	29.05	30.11	
13	CLR	NC		10.00		49	35	43	59	3	VR	29.09	30.14	13	OVC	016		1.75	-SN BR	29	26	28	89	5	04	28.97	30.04
16	CLR	NC		10.00		52	36	45	55	3	06	29.07	30.12	16	OVC	043		5.00	-FZRAPE BR	31	28	30	89	8	04	28.90	29.97
19	BKN	120		10.00		48	37	43	66	3	36	29.09	30.15	19	BKN	034		4.00	-FZRA BR	32	30	31	92	0	00	28.89	29.96
22	SCT	NC		10.00		45	38	42	77	0	00	29.08	30.14	22	OVC	015		5.00	DZ BR	32	31	32	96	3	03	28.87	29.93
				SUNRISE: 0729		DEC 03	SUNSET: 1722						SUNRISE: 0734		DEC 09	SUNSET: 1722											
01	SCT	NC		9.00		44	39	42	83	0	00	29.05	30.10	01	OVC	029		4.00	BR	33	32	33	96	0	00	28.85	29.91
04	SCT	NC		10.00		43	38	41	82	5	36	29.01	30.06	04	OVC	027		4.00	DZ BR	34	33	34	97	0	00	28.82	29.87
07	OVC	055		9.00		43	40	42	89	3	02	29.00	30.05	07	OVC	013		4.00	-RA BR	34	33	34	97	0	00	28.83	29.88
10	BKN	070		10.00		47	39	43	74	5	35	28.99	30.04	10	OVC	022		2.00	BR	37	35	36	93	5	08	28.86	29.91
13	OVC	065		9.00		52	42	47	69	3	05	28.89	29.94	13	OVC	009		5.00	BR	40	37	39	89	3	27	28.83	29.88
16	OVC	012		2.00	-RA BR	49	47	48	93	6	23	28.88	29.93	16	OVC	009		6.00	BR	42	39	41	89	3	35	28.81	29.86
19	OVC	055		2.00	BR	49	48	48	97	8	12	28.78	29.82	19	SCT	NC		5.00	BR	39	38	39	96	5	07	28.79	29.84
22	OVC	005		2.00	BR	50	49	49	96	0	00	28.79	29.83	22	BKN	120		3.00	BR	39	38	39	96	5	01	28.77	29.82
				SUNRISE: 0730		DEC 04	SUNSET: 1722						SUNRISE: 0735		DEC 10	SUNSET: 1723											
01	OVC	005		4.00	BR	53	52	52	96	10	24	28.76	29.80	01	VV	001		0.25	FG	37	37	37	100	0	00	28.63	29.68
04	OVC	008		5.00	BR	53	51	52	93	10	24	28.74	29.78	04	OVC	026		2.00	RA BR	42	41	42	96	10	28	28.62	29.67
07	OVC	042		10.00		51	45	48	80	8	27	28.74	29.78	07	OVC	085		10.00		49	47	48	93	5	24	28.58	29.62
10	OVC	060		10.00		50	44	47	80	9	25	28.75	29.79	10	BKN	034		10.00		52	50	51	93	13	26	28.62	29.66
13	OVC	035		10.00		52	43	48	72	7	26	28.71	29.75	13	BKN	037		10.00		58	45	51	62	21	24	28.59	29.63
16	OVC	042		10.00		48	44	46	86	10	27	28.72	29.75	16	BKN	044		10.00		55	40	48	57	12	27	28.66	29.70
19	OVC	049		9.00		46	43	45	89	7	23	28.75	29.78	19	BKN	055		10.00		49	37	43	64	16	29	28.77	29.80
22	CLR	NC		10.00		41	35	38	79	7	27	28.78	29.81	22	BKN	028		10.00		45	35	41	68	13	31	28.82	29.86
				SUNRISE: 0731		DEC 05	SUNSET: 1722						SUNRISE: 0736		DEC 11	SUNSET: 1723											
01	OVC	049		10.00		40	36	38	86	14	24	28.76	29.80	01	OVC	037		10.00		41	34	38	76	9	29	28.85	29.88
04	OVC	060		10.00	-RA	40	36	38	86	17	23	28.72	29.76	04	OVC	025		10.00		38	31	35	76	7	30	28.88	29.93
07	OVC	065		10.00		36	29	33	76	17	27	28.81	29.86	07	OVC	021		10.00		37	31	35	79	6	30	28.91	29.96
10	OVC	045		10.00		36	26	32	67	14	28	28.88	29.93	10	OVC	016		10.00		38	32	35	79	6	29	28.98	30.04
13	BKN	043		10.00		38	23	32	55	14	28	28.87	29.93	13	OVC	016		10.00		38	32	35	79	0	00	28.97	30.03
16	OVC	044		10.00		36	22	31	57	14	29	28.89	29.95	16	OVC	020		10.00		39	31	36	73	0	00	28.98	30.03
19	BKN	050		10.00		33	22	29	64	10	24	28.92	29.99	19	OVC	022		10.00		38	32	35	79	3	32	29.00	30.06
22	OVC	055		10.00		34	20	29	56	13	25	28.92	29.98	22	OVC	026		10.00		38	30	35	73	3	36	29.06	30.12
				SUNRISE: 0732		DEC 06	SUNSET: 1722						SUNRISE: 0737		DEC 12	SUNSET: 1723											
01	OVC	048		10.00		30	24	28	79	6	30	28.91	29.98	01	OVC	028		10.00		37	31	35	79	3	05	29.04	30.10
04	OVC	055		10.00		29	21	26	72	8	30	28.92	29.98	04	OVC	036		10.00		37	32	35	82	0	00	29.07	30.13
07	OVC	031		10.00		27	17	24	66	12	27	28.96	30.03	07	OVC	040		10.00		36	31	34	82	5	08	29.08	30.14
10	OVC	036		9.00	-SN	28	17	24	63	9	30	29.01	30.08	10	OVC	042		10.00		38	31	35	76	8	04	29.13	30.19
13	BKN	038		10.00		30	16	25	56	13	27	28.98	30.05	13	OVC	035		10.00		40	28	35	63	12	05	29.08	30.14
16	OVC	036		10.00		29	15	25	56	8	29	29.01	30.08	16	OVC	035		10.00		41	29	36	62	7	05	29.08	30.14
19	OVC	032		10.00		27	16	23	63	8	27	29.03	30.10	19	OVC</												

# OBSERVATIONS AT 3-HOURLY INTERVALS

# KNOXVILLE, TN

DECEMBER 1997

TYS

WBAN # 13891

HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE ° F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE ° F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		
	DRY BULB	DEW POINT		WET BULB	OBSERVATION TIME (LST)			EFF CLD AMT Okta	DRY BULB	DEW POINT		WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION		SEA LEVEL	DRY BULB		DEW POINT	WET BULB			OBSERVATION TIME (LST)	EFF CLD AMT Okta	DRY BULB		DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION
<b>SUNRISE: 0737 DEC 13</b>								<b>SUNSET: 1723</b>								<b>SUNRISE: 0741 DEC 19</b>								<b>SUNSET: 1725</b>								
01	OVC	035				10.00		36	28	33	73	9	01	29.09	30.15	01	CLR	NC					7.00		35	33	34	93	3	01	29.10	30.16
04	CLR	NC				10.00		32	28	31	85	5	02	29.04	30.10	04	CLR	NC					5.00	BR	31	30	31	96	0	00	29.13	30.19
07	CLR	NC				10.00		32	27	30	82	0	00	29.01	30.07	07	CLR	NC					3.00	BR	29	28	29	96	0	00	29.17	30.23
10	OVC	085				10.00		34	28	32	79	7	36	29.07	30.13	10	CLR	NC					4.00	BR	35	33	34	93	0	00	29.22	30.29
13	BKN	090				10.00		38	28	34	68	6	03	28.99	30.05	13	CLR	NC					10.00		52	38	45	59	3	26	29.17	30.22
16	OVC	110				10.00		40	29	35	65	5	04	28.98	30.04	16	CLR	NC					10.00		59	36	48	42	7	22	29.11	30.16
19	CLR	NC				9.00		35	29	33	78	3	04	28.97	30.04	19	CLR	NC					10.00		50	35	43	57	0	00	29.11	30.17
22	CLR	NC				7.00		31	27	29	85	5	36	28.97	30.04	22	CLR	NC					10.00		43	35	40	74	0	00	29.13	30.19
<b>SUNRISE: 0738 DEC 14</b>								<b>SUNSET: 1723</b>								<b>SUNRISE: 0742 DEC 20</b>								<b>SUNSET: 1726</b>								
01	CLR	NC				7.00		28	25	27	88	6	06	28.98	30.04	01	CLR	NC					10.00		37	33	35	86	3	02	29.11	30.16
04	CLR	NC				7.00		28	26	27	92	7	03	28.95	30.01	04	CLR	NC					7.00		32	31	32	96	0	00	29.12	30.16
07	FEW	NC				9.00		28	24	27	85	10	03	28.96	30.03	07	FEW	NC					7.00		30	30	30	100	0	00	29.11	30.17
10	BKN	120				8.00		30	27	29	88	12	05	29.00	30.07	10	BKN	030					7.00		43	39	41	86	3	22	29.12	30.18
13	BKN	100				10.00		37	29	34	73	12	04	28.96	30.02	13	CLR	NC					10.00		60	49	54	67	13	23	29.04	30.09
16	CLR	NC				10.00		39	28	35	65	10	07	28.93	29.99	16	FEW	NC					10.00		60	49	54	67	5	26	29.00	30.05
19	CLR	NC				10.00		32	27	30	82	5	08	29.00	30.07	19	FEW	NC					9.00		54	47	50	77	0	00	29.02	30.07
22	CLR	NC				8.00		29	26	28	89	5	03	29.04	30.11	22	CLR	NC					10.00		50	45	47	83	10	01	29.01	30.06
<b>SUNRISE: 0739 DEC 15</b>								<b>SUNSET: 1724</b>								<b>SUNRISE: 0742 DEC 21</b>								<b>SUNSET: 1726</b>								
01	CLR	NC				7.00		28	25	27	88	7	03	29.06	30.12	01	CLR	NC					4.00	BR	43	43	43	100	0	00	29.03	30.08
04	CLR	NC				6.00	BR	23	21	22	92	0	00	29.07	30.14	04	CLR	NC					3.00	BR	41	41	41	100	5	36	29.02	30.06
07	CLR	NC				5.00	BR	24	22	23	91	0	00	29.10	30.17	07	FEW	NC					1.25	BR	37	37	37	100	3	04	29.02	30.07
10	CLR	NC				4.00	BR	30	27	29	88	5	06	29.15	30.22	10	SCT	NC					0.75	BR	40	40	40	100	7	06	29.05	30.10
13	CLR	NC				10.00		42	27	36	55	7	01	29.11	30.18	13	FEW	NC					6.00	HZ	50	44	47	80	7	04	29.00	30.05
16	CLR	NC				10.00		47	25	38	42	6	06	29.07	30.13	16	OVC	039					3.00	-RA BR	49	48	48	97	0	00	28.98	30.03
19	CLR	NC				10.00		40	24	34	53	0	00	29.11	30.18	19	OVC	060					1.75	-RA BR	47	47	47	100	3	03	29.00	30.05
22	CLR	NC				10.00		29	25	28	85	3	06	29.09	30.16	22	OVC	070					1.75	-RA BR	48	48	48	100	10	04	28.94	30.00
<b>SUNRISE: 0739 DEC 16</b>								<b>SUNSET: 1724</b>								<b>SUNRISE: 0743 DEC 22</b>								<b>SUNSET: 1727</b>								
01	FEW	NC				9.00		28	23	26	81	3	30	29.09	30.16	01	OVC	045					2.50	-RA BR	47	47	47	100	6	03	28.90	29.94
04	CLR	NC				8.00		24	21	23	88	5	02	29.09	30.15	04	BKN	040					3.00	-RA BR	46	46	46	100	0	00	28.93	29.98
07	CLR	NC				8.00		24	21	23	88	0	00	29.10	30.17	07	OVC	003					1.75	BR	46	46	46	100	7	01	28.91	29.96
10	CLR	NC				8.00		33	26	30	75	0	00	29.13	30.20	10	BKN	037					3.00	BR	49	47	48	93	5	06	28.95	30.00
13	CLR	NC				10.00		48	28	40	46	5	20	29.05	30.11	13	BKN	048					7.00		56	51	53	84	5	26	28.88	29.92
16	CLR	NC				10.00		53	20	40	27	6	29	29.00	30.06	16	BKN	035					10.00		60	51	55	72	15	24	28.88	29.92
19	CLR	NC				10.00		46	22	37	38	0	00	28.99	30.05	19	CLR	NC					10.00		52	48	50	86	10	27	28.94	29.99
22	CLR	NC				10.00		38	21	32	51	0	00	28.96	30.02	22	OVC	008					6.00	BR	49	47	48	93	12	24	29.02	30.06
<b>SUNRISE: 0740 DEC 17</b>								<b>SUNSET: 1724</b>								<b>SUNRISE: 0743 DEC 23</b>								<b>SUNSET: 1727</b>								
01	CLR	NC				10.00		32	22	28	66	0	00	28.96	30.01	01	OVC	008					5.00	BR	49	47	48	93	10	24	29.01	30.05
04	FEW	NC				10.00		27	22	25	81	0	00	28.95	30.01	04	OVC	032					5.00	BR	47	46	46	97	3	25	29.03	30.06
07	CLR	NC				8.00		26	22	25	84	0	00	28.96	30.02	07	OVC	018					10.00		45	42	44	90	5	26	29.05	30.10
10	CLR	NC				7.00		35	28	32	76	3	VR	28.96	30.02	10	OVC	025					10.00		47	41	44	80	0	00	29.07	30.12
13	FEW	NC				10.00		49	28	40	45	0	00	28.90	29.95	13	OVC	021					10.00		49	41	45	74	0	00	29.01	30.06
16	CLR	NC				10.00		55	31	44	40	0	00	28.87	29.93	16	BKN	120					10.00		49	42	46	77	8	03	28.94	29.98
19	CLR	NC				10.00		43	31	38	63	5	05	28.92	29.98	19	OVC	025					10.00		46	41	44	83	0	00	28.99	30.04
22	FEW	NC				9.00		36	31	34	82	0	00	28.96	30.02	22	BKN	120					10.00		45	42	44	90	7	03	28.96	30.01
<b>SUNRISE: 0741 DEC 18</b>								<b>SUNSET: 1725</b>								<b>SUNRISE: 0744 DEC 24</b>								<b>SUNSET: 1728</b>								
01	CLR	NC				7.00		34	31	33	89	3	17	28.97	30.03	01	OVC	100					10.00		45	41	43	86	6	04	28.92	29.97
04	CLR	NC				8.00		31	29	30	92	0	00	28.99	30.05	04	OVC	045					6.00	-RA BR	44	43	44	96	9	06	28.86	29.90
07	CLR	NC				7.00		29	28	29	96	0	00	29.03	30.09	07	OVC	100					5.00	-RA BR	44	44	44	100	9	04	28.78	29.82
10	CLR	NC				6.00	HZ	37	32	35	82	0	00	29.10	30.16	10	OVC	055					1.25	RA BR	45	45	45	100	3	02	28.75	29.79
13	CLR	NC				10.00		48	34	42	58	0	00	29.06	30.12	13	OVC	055					2.00	BR	50	50	50	100	13	29	28.63	29.67
16	CLR	NC				10.00		54	35	45	49	0	00	29.05	30.11	16	OVC	002					3.00	BR	52	52	52	100	9	32	28.58	29.61
19	CLR	NC				10.00		46	34	41	63	0	00	29.09	30.15	19	SCT	NC					4.00	BR	48	48	48	100	0	00	28.63	29.66
22	CLR	NC				9.00		40	35	38	83	0	00	29.10	30.16	22	OVC	075					2.00	BR	47	47	47	100	6	32	28.67	29.70

# OBSERVATIONS AT 3-HOURLY INTERVALS

# KNOXVILLE, TN

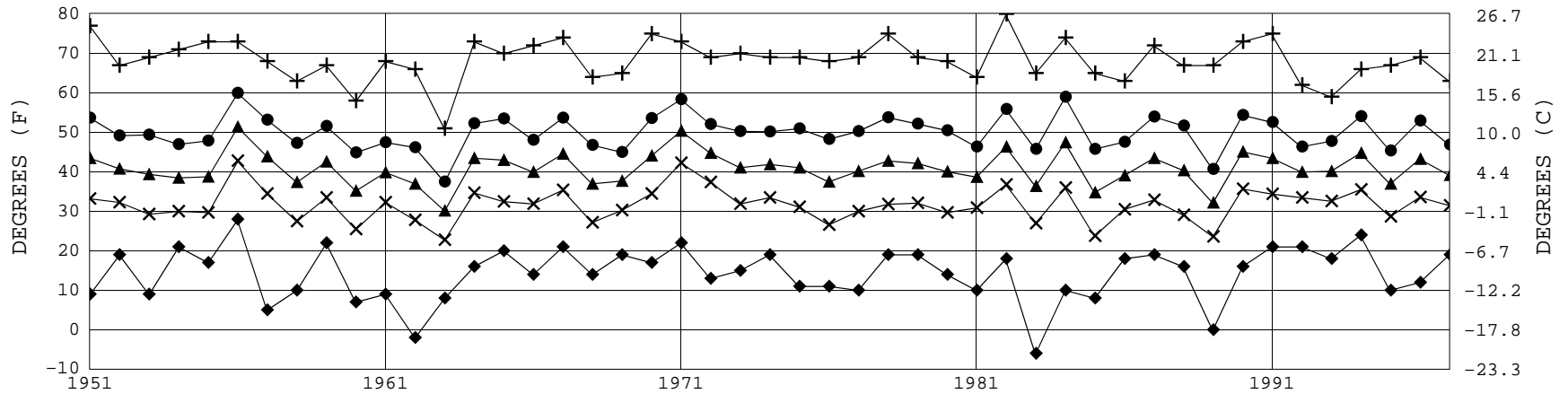
DECEMBER 1997

TYS

WBAN # 13891

HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		WEATHER	TEMPERATURE ° F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		WEATHER	TEMPERATURE ° F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		
	OBSERVATION TIME (LST)	EFF CLD AMT Okltas		VISIBILITY (MILES)	DRY BULB		DEW POINT	WET BULB	SPEED (MPH)		DIRECTION TENS OF DEG	STATION	SEA LEVEL	OBSERVATION TIME (LST)		EFF CLD AMT Okltas	VISIBILITY (MILES)		DRY BULB	DEW POINT		WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG		STATION	SEA LEVEL			
SUNRISE: 0744							DEC 25	SUNSET: 1728							SUNRISE: 0746							DEC 31	SUNSET: 1732							
01	OVC	050			10.00		52	50	51	93	14	25	28.68	29.71	01	OVC	009			4.00	-SN BR		33	32	33	96	6	25	28.78	29.84
04	OVC	041			10.00		50	44	47	80	17	26	28.74	29.77	04	OVC	028			6.00	BR		32	31	32	96	3	36	28.87	29.93
07	CLR	NC			10.00		44	42	43	93	8	24	28.79	29.83	07	OVC	038			6.00	-SN BR		32	30	31	92	6	28	28.98	30.05
10	OVC	029			10.00		45	39	42	80	14	27	28.87	29.91	10	OVC	047			9.00	-SN		31	25	29	79	14	27	29.14	30.21
13	BKN	027			10.00		49	39	44	69	16	28	28.85	29.88	13	OVC	044			9.00	-SN		31	21	28	67	13	29	29.19	30.26
16	CLR	NC			10.00		49	38	44	66	13	30	28.86	29.89	16	BKN	041			9.00			31	18	27	59	15	29	29.26	30.34
19	CLR	NC			10.00		44	37	41	76	5	22	28.91	29.96	19	CLR	NC			10.00			27	15	23	61	12	29	29.38	30.46
22	OVC	031			10.00		44	37	41	76	6	26	28.94	29.99	22	CLR	NC			10.00			22	15	20	75	6	23	29.45	30.54
SUNRISE: 0744							DEC 26	SUNSET: 1729							3-HOURLY OBSERVATION NOTES															
01	OVC	031			10.00		42	38	40	85	7	23	28.96	30.01	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, VV = Vertical Visibilty = 8/8.															
04	OVC	033			10.00		42	37	40	82	6	24	28.98	30.02	Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.															
07	BKN	031			10.00		40	36	38	86	3	24	28.97	30.02	NC= No ceiling detected.															
10	SCT	NC			10.00		44	37	41	76	5	30	29.01	30.06	& = Original observation contained additional weather elements.															
13	FEW	NC			10.00		49	37	43	64	7	28	28.94	29.99	See page 3 for additional notes.															
16	FEW	NC			10.00		50	36	44	59	3	27	28.89	29.93																
19	BKN	110			10.00		45	36	41	71	14	28	28.92	29.98																
22	OVC	046			10.00		44	34	40	68	0	00	28.90	29.95																
SUNRISE: 0745							DEC 27	SUNSET: 1730																						
01	OVC	045			6.00	-RA BR	41	40	41	96	3	34	28.83	29.87																
04	OVC	006			2.50	-RA BR	38	37	38	97	9	36	28.78	29.82																
07	OVC	004			9.00	-SN	35	34	35	96	5	01	28.72	29.76																
10	OVC	011			1.50	-SN BR	34	33	34	97	8	36	28.77	29.82																
13	OVC	019			2.50	-SN BR	36	33	35	89	12	01	28.73	29.78																
16	OVC	017			7.00		35	31	33	85	10	36	28.78	29.83																
19	OVC	035			10.00		34	24	30	67	8	01	28.84	29.90																
22	OVC	033			10.00		34	24	30	67	3	01	28.88	29.94																
SUNRISE: 0745							DEC 28	SUNSET: 1730																						
01	OVC	041			10.00		33	23	29	67	5	36	28.89	29.95																
04	OVC	037			10.00		32	22	28	66	7	07	28.89	29.95																
07	FEW	NC			10.00		30	18	26	61	0	00	28.91	29.97																
10	CLR	NC			10.00		33	22	29	64	6	08	28.92	29.98																
13	FEW	NC			10.00		37	21	31	52	0	00	28.87	29.92																
16	FEW	NC			10.00		40	25	34	55	0	00	28.81	29.86																
19	FEW	NC			10.00		37	25	32	62	0	00	28.81	29.87																
22	FEW	NC			10.00		31	27	29	85	0	00	28.79	29.84																
SUNRISE: 0745							DEC 29	SUNSET: 1731																						
01	FEW	NC			10.00		30	27	29	88	0	00	28.73	29.79																
04	SCT	NC			8.00		28	26	27	92	14	01	28.59	29.64																
07	OVC	090			8.00		29	27	28	92	0	00	28.58	29.63																
10	BKN	055			8.00		33	29	31	85	0	00	28.55	29.61																
13	OVC	045			4.00	-SN	36	31	34	82	5	36	28.46	29.50																
16	OVC	013			1.00	-SN BR	34	34	34	100	5	29	28.44	29.49																
19	OVC	009			6.00	-SN BR	34	34	34	100	10	23	28.46	29.50																
22	OVC	032			3.00	-SN BR	34	32	33	92	16	26	28.50	29.54																
SUNRISE: 0746							DEC 30	SUNSET: 1732																						
01	OVC	016			1.50	-SN BR	33	32	33	96	9	26	28.53	29.58																
04	OVC	027			10.00		32	27	30	82	16	28	28.57	29.62																
07	OVC	040			7.00	-SN	31	26	29	82	12	28	28.64	29.70																
10	BKN	035			3.00	-SN BR	30	26	29	85	13	25	28.73	29.79																
13	BKN	022			6.00	-SN	32	24	29	73	18	26	28.72	29.78																
16	OVC	025			1.75	-SN	31	25	29	79	16	25	28.71	29.77																
19	VV	006			1.00	-SN BR	29	28	29	96	7	23	28.76	29.81																
22	OVC	009			2.50	-SN BR	31	30	31	96	7	26	28.76	29.81																

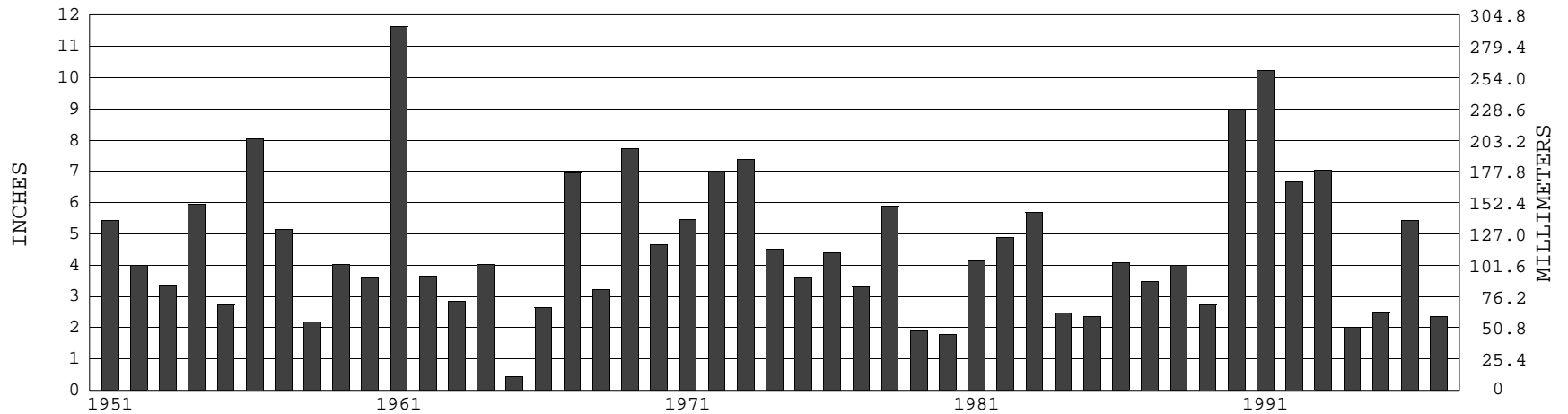
### KNOXVILLE, TN DECEMBER TEMPERATURES



+ Extreme Max.      ● Mean Max.      ▲ Mean      × Mean Min.      ◆ Extreme Min.

Long-Term (1951-1997) Mean: 40.9      1961-1990 Normal: 40.1

### KNOXVILLE, TN DECEMBER PRECIPITATION



Long-Term (1951-1997) Mean Monthly Total: 4.61

1961-1990 Normal: 4.54



**DECEMBER 1997  
KNOXVILLE, TN**

**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.*

ACTING DIRECTOR

**NOTICE**

Effective July 1, 1996, the National Weather Service & Federal Aviation Administration began using the METAR format for Hourly Observations.

We welcome your questions or comments, please contact us at  
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