



# DECEMBER 2002

## 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

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	SPEED	DIR	SPEED	DIR																																	
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	36	22	29*	-16	14	24	36	0					0.00	29.12	30.19	4.3	26	5.6	14	28	12	29	01																																		
02	47	21	34	-11	23	31	31	0	RA SN PL				0.05	29.04	30.11	5.1	25	6.4	20	24	17	24	02																																		
03	53	36	45	1	33	39	20	0					0.00	29.18	30.24	6.6	02	6.9	18	01	15	01	03																																		
04	39	33	36	-8	34	36	29	0	RA BR				1.25	29.16	30.23	7.7	04	8.1	17	05	15	05	04																																		
05	42	33	38	-5	36	37	27	0	RA DZ BR				0.45	28.99	30.05	3.6	30	7.3	17	23	16	23	05																																		
06	38	24	31	-12	23	29	34	0	SN				T	29.22	30.30	3.3	01	3.8	14	01	13	01	06																																		
07	47	21*	34	-9	23	29	31	0	BR				0.00	29.26	30.34	1.5	26	2.1	12	25	10	25	07																																		
08	43	23	33	-9	27	31	32	0	BR				0.00	29.28	30.36	2.4	03	2.6	13	01	10	01	08																																		
09	46	31	39	-3	32	35	26	0					0.00	29.28	30.35	5.4	04	5.4	14	04	10	03	09																																		
10	44	34	39	-3	36	39	26	0	RA BR				0.60	29.01	30.07	4.7	04	5.3	17	03	14	06	10																																		
11	45	40	43	1	42	43	22	0	RA DZ BR				0.12	28.96	30.01	8.6	24	9.3	20	25	17	25	11																																		
12	42	39	41	-1	38	39	24	0					0.00	29.11	30.17	2.8	06	5.4	16	09	14	07	12																																		
13	47	39	43	2	42	42	22	0	RA BR				0.79	28.67	29.71	2.7	26	8.9	31	24	24	24	13																																		
14	41	35	38	-3	34	36	27	0	RA				T	28.90	29.95	9.7	26	10.3	29	24	23	24	14																																		
15	50	30	40	-1	33	37	25	0	BR				0.00	29.00	30.06	4.7	23	5.6	16	23	14	24	15																																		
16	58	37	48	7	41	45	17	0					0.00	28.95	30.00	6.7	22	6.9	18	24	16	24	16																																		
17	63	43	53*	13	45	48	12	0					0.00	29.03	30.08	2.3	24	3.2	16	25	14	24	17																																		
18	63	37	50	10	39	44	15	0	BR				0.00	29.10	30.15	0.7	13	4.6	21	21	16	20	18																																		
19	67*	36	52	12	46	49	13	0	RA BR				0.97	28.83	29.87	3.7	22	8.4	28	22	24	22	19																																		
20	57	37	47	7	33	40	18	0	RA BR				0.02	28.80	29.84	13.3	26	14.0	31	25	26	25	20																																		
21	51	32	42	2	24	35	23	0					0.00	29.00	30.05	11.0	23	11.2	23	22	20	22	21																																		
22	58	41	50	11	36	44	15	0	RA				T	28.98	30.03	14.8	24	15.7	33	24	28	23	22																																		
23	49	29	39	0	28	36	26	0					0.00	29.13	30.19	3.8	03	5.6	17	05	15	05	23																																		
24	46	38	42	3	41	42	23	0	RA DZ BR				0.90	28.67	29.71	5.6	04	7.2	23	06	18	05	24																																		
25	48	29	39	0	28	31	26	0	RA SN FZFG BR				0.10	28.86	29.92	14.5	26	15.0	36*	27	30*	27	25																																		
26	37	26	32	-7	23	28	33	0					0.00	29.26	30.34	5.8	02	6.4	15	03	13	03	26																																		
27	41	22	32	-7	25	29	33	0	BR				0.00	29.23	30.31	0.9	29	5.0	13	28	10	24	27																																		
28	49	25	37	-1	27	34	28	0					0.00	29.18	30.25	10.0	23	10.2	26	23	23	23	28																																		
29	58	36	47	9	32	40	18	0					0.00	29.14	30.20	5.6	22	5.8	18	22	16	23	29																																		
30	60	30	45	7	36	40	20	0					0.00	29.08	30.13	1.6	25	3.4	20	23	17	23	30																																		
31	59	37	48	10	42	46	17	0	RA BR				0.10	28.88	29.92	5.8	03	6.3	23	05	18	05	31																																		
49.2										32.1		40.7		■ ■		32.8		37.4		24.2		0.0		< MONTHLY AVERAGES		TOTALS->		5.35		29.04		30.10		2.6		27		7.2		<- MONTHLY AVERAGES																	
-.6										0.2		-.2		■ ■		<-----DEPARTURE FROM NORMAL----->																				0.86		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3																			
DEGREE DAYS										GREATEST 24-HR PRECIPITATION: 1.67 DATE :04-05										SEA LEVEL PRESSURE										DATE		TIME																									
MONTHLY										GREATEST 24-HR SNOWFALL:										MAXIMUM										:		09 0953																									
TOTAL DEPARTURE										GREATEST SNOW DEPTH:										MINIMUM										:		25 0053																									
HEATING: 749										NUMBER OF DAYS WITH										MAXIMUM TEMP ≥ 90: 0										MINIMUM TEMP ≤ 32: 14										PRECIPITATION ≥ 0.01 INCH : 11																	
COOLING: 0										SEASON TO DATE										MAXIMUM TEMP ≤ 32 : 0										MINIMUM TEMP ≤ 0 : 0										PRECIPITATION ≥ 0.10 INCH : 9																	
										TOTAL DEPARTURE										THUNDERSTORMS : 0										HEAVY FOG : 0										SNOWFALL ≥ 1.0 INCH :																	
										1432 -3																																															
										1823 373																																															

DECEMBER 2002  
KNOXVILLE, TN

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

## KNOXVILLE, TN

DECEMBER 2002 TYS WBAN # 13891

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note)	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													01												01		0.00	
02													02												02		0.05	
03													03												03		0.00	
04													04	0.13	0.05	0.05	0.05	0.06	0.08	0.04	0.07	0.06	0.08	0.08	0.04	04		1.25
05	0.06	0.08	0.11	0.08	0.04	0.06	0.03	0.09	.09	0.09	0.06	0.08	05	T											05	0.46	0.45	
06		T											06												06		T	
07	T	T											07												07		0.00	
08													08												08		0.00	
09													09												09		0.00	
10													10		0.01	0.03	0.01	T	0.04	0.07	0.10	0.17	0.05	0.10	0.03	10	0.61	0.60
11	0.02	0.03	0.02	0.03	T	0.01	0.01	T	T				11	T	T	T									11		0.12	
12													12												12		0.00	
13					0.04	0.09	0.02		0.01	0.06	0.23		13			0.01	0.06	0.02	0.17	0.03	0.02	T		13	0.76	0.79		
14	T	T	T	T	T	T							14												14		T	
15													15												15		0.00	
16													16												16		0.00	
17													17												17		0.00	
18													18												18		0.00	
19													19												19		0.97	
20	0.02												20			T	0.10	0.16	0.12	0.09	0.22	0.07	0.14	0.07	20		0.02	
21													21												21		0.00	
22				T	T	T	T						22												22		T	
23													23												23		0.00	
24	T	0.03	0.07	0.08	0.21	0.21	0.07	0.05	0.03	0.02	T	0.01	24	T	T	T	T	T	T		0.02	0.01	0.06	24	0.87	0.90		
25	0.06	0.02	0.04	T		T	T	T	T	T		T	25	T	T	T	T	T	T					25	0.12	0.10		
26													26												26		0.00	
27													27												27		0.00	
28													28												28		0.00	
29													29												29		0.00	
30													30												30		0.00	
31													31			T	0.03				T	0.03	0.03	0.01	T	31		0.10

### MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	.05	.08	.10	.12	.16	.19	.23	.29	.36	.42	.49	.54
Ending Date	19	19	19	19	19	19	19	24	24	24	24	24
Ending Time (Hour/Min)	2032	2032	2038	2043	2049	2049	2052	0555	0555	0559	0616	0616

Date and time are not entered for TRACE amounts.

Note : 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 1971–2000

### 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	PL 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 2002

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:

Errata – Nov LCD – Change pcpn day 20 to 0.10 ,  
Monthly total = 4.58

DATE	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR–SS		MN–MN		MINIMUM	MAXIMUM	
			CEILOMETER	SATELLITE	CEILOMETER	SATELLITE			
01							10.00	10.00	
02							7.00	10.00	
03							10.00	10.00	
04							1.75	10.00	
05							2.00	10.00	
06							9.00	10.00	
07							.75	10.00	
08							6.00	10.00	
09							7.00	10.00	
10							.00	10.00	
11							.75	10.00	
12							7.00	10.00	
13							1.00	10.00	
14							7.00	10.00	
15							4.00	10.00	
16							10.00	10.00	
17							7.00	10.00	
18							3.00	10.00	
19							1.75	10.00	
20							10.00	10.00	
21							10.00	10.00	
22							10.00	10.00	
23							10.00	10.00	
24							1.00	10.00	
25							.50	10.00	
26							10.00	10.00	
27							6.00	10.00	
28							8.00	10.00	
29							10.00	10.00	
30							8.00	10.00	
31							5.00	10.00	
<b>MONTHLY AVGS</b>							6.16	10.00	
<b>SUNSHINE (MINUTES)</b>									
Total:                      Possible: Percent Possible:									
<b>NUMBER OF DAYS WITH: SKY CONDITION</b>									
CLR   PTLY CLDY   CLOUDY   MISSING 31									
<b>MINIMUM VISIBILITY (MILES)</b>									
<=0.25     <=3.0     >=7.0 0                   10                   17									

# OBSERVATIONS AT 3-HOURLY INTERVALS

# KNOXVILLE, TN

DECEMBER 2002

TYS

WBAN # 13891

HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)				
	OBSERVATION TIME (LST)	EFF CLD AMT Okta		OBSERVATION TIME (LST)	EFF CLD AMT Okta			RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL	OBSERVATION TIME (LST)	EFF CLD AMT Okta		RELATIVE HUMIDITY (PCT)	SPEED (MPH)		DIRECTION TENS OF DEG	STATION			SEA LEVEL									
																								DRY BULB	DEW POINT	WET BULB	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG
				SUNRISE: 0728				DEC 01	SUNSET: 1723								SUNRISE: 0733				DEC 07	SUNSET: 1722										
01	CLR	NC				10.00		29	16	25	58	9	30	29.03	30.09	01	CLR	NC				9.00			25	22	24	88	0	00	29.27	30.35
04	FEW	NC				10.00		26	16	23	66	5	26	29.07	30.13	04	CLR	NC				7.00			23	20	22	88	0	00	29.26	30.35
07	CLR	NC				10.00		23	15	21	72	8	27	29.12	30.19	07	CLR	NC				7.00			22	19	21	89	0	00	29.28	30.37
10	CLR	NC				10.00		28	15	24	58	3	VR	29.19	30.27	10	FEW	NC				3.00	BR		28	25	27	88	0	00	29.31	30.40
13	CLR	NC				10.00		33	13	27	43	6	27	29.14	30.22	13	CLR	NC				10.00			40	29	36	65	3	VR	29.26	30.34
16	CLR	NC				10.00		36	13	28	39	7	28	29.12	30.19	16	FEW	NC				10.00			47	27	39	46	6	27	29.22	30.30
19	CLR	NC				10.00		29	15	25	56	8	23	29.12	30.19	19	FEW	NC				10.00			39	17	31	41	5	22	29.22	30.30
22	CLR	NC				10.00		27	14	23	58	6	22	29.12	30.19	22	CLR	NC				10.00			31	24	28	76	0	00	29.22	30.30
				SUNRISE: 0728				DEC 02	SUNSET: 1722								SUNRISE: 0734				DEC 08	SUNSET: 1722										
01	CLR	NC				10.00		28	17	25	63	0	00	29.10	30.17	01	CLR	NC				10.00			28	23	26	81	0	00	29.23	30.31
04	CLR	NC				10.00		26	17	23	69	0	00	29.11	30.18	04	CLR	NC				9.00			25	22	24	88	0	00	29.26	30.33
07	FEW	NC				10.00		23	18	21	81	0	00	29.09	30.17	07	CLR	NC				8.00			23	21	22	92	3	04	29.27	30.35
10	BKN	250				10.00		33	21	29	61	3	34	29.08	30.16	10	BKN	200				6.00	BR		30	28	29	92	3	04	29.31	30.39
13	OVC	250				10.00		46	16	35	30	14	24	29.00	30.06	13	BKN	200				10.00			40	28	35	63	0	00	29.27	30.35
16	OVC	055				10.00	PL	43	28	37	56	9	28	28.96	30.03	16	BKN	250				10.00			43	30	38	60	3	05	29.26	30.34
19	BKN	060				10.00		39	32	36	76	8	26	28.97	30.03	19	BKN	250				10.00			40	30	36	68	7	01	29.28	30.36
22	SCT	NC				10.00		39	30	35	70	8	24	29.03	30.09	22	BKN	250				10.00			36	30	34	79	7	36	29.31	30.39
				SUNRISE: 0729				DEC 03	SUNSET: 1722								SUNRISE: 0734				DEC 09	SUNSET: 1722										
01	OVC	048				10.00		41	30	36	65	5	30	29.05	30.10	01	SCT	NC				10.00			35	31	33	85	8	03	29.30	30.37
04	OVC	040				10.00		40	34	37	79	0	00	29.07	30.12	04	CLR	NC				8.00			32	30	31	92	8	04	29.30	30.37
07	BKN	038				10.00		40	33	37	77	0	00	29.13	30.19	07	CLR	NC				8.00			31	29	30	92	7	03	29.31	30.39
10	CLR	NC				10.00		46	36	42	68	10	04	29.20	30.26	10	SCT	NC				7.00			36	32	34	86	9	04	29.34	30.41
13	SCT	NC				10.00		51	35	44	54	8	36	29.20	30.25	13	BKN	250				10.00			43	33	39	68	6	04	29.29	30.36
16	BKN	250				10.00		49	35	43	59	13	35	29.20	30.26	16	OVC	250				10.00			45	34	40	66	5	04	29.24	30.31
19	OVC	250				10.00		40	32	37	73	9	02	29.23	30.30	19	BKN	250				10.00			42	33	38	71	0	00	29.23	30.31
22	OVC	095				10.00		39	29	35	67	8	03	29.29	30.36	22	OVC	250				9.00			37	33	35	86	0	00	29.24	30.31
				SUNRISE: 0730				DEC 04	SUNSET: 1722								SUNRISE: 0735				DEC 10	SUNSET: 1723										
01	OVC	070				10.00		38	28	34	68	14	05	29.27	30.33	01	OVC	250				8.00			35	33	34	93	5	03	29.19	30.25
04	OVC	075				10.00		36	27	33	70	12	05	29.23	30.29	04	OVC	075				9.00			37	34	36	89	6	06	29.15	30.21
07	OVC	048				4.00	-RA BR	34	32	33	92	7	05	29.26	30.33	07	OVC	070				10.00			38	31	35	76	8	04	29.11	30.17
10	OVC	007				2.00	RA BR	34	34	34	100	6	04	29.28	30.35	10	OVC	050				10.00			42	31	37	65	9	06	29.07	30.13
13	OVC	005				1.75	RA BR	36	35	36	97	10	06	29.21	30.29	13	OVC	050				10.00			44	33	39	65	0	00	29.01	30.06
16	OVC	007				2.50	RA BR	37	37	37	100	9	04	29.12	30.18	16	OVC	100				8.00	-RA		43	40	42	89	8	05	28.90	29.95
19	OVC	005				3.00	RA BR	38	38	38	100	7	04	29.03	30.10	19	OVC	075				4.00	-RA BR		42	42	42	100	0	00	28.89	29.94
22	OVC	005				4.00	RA BR	39	38	39	96	0	00	28.99	30.05	22	OVC	002				4.00	RA BR		42	42	42	100	0	00	28.87	29.93
				SUNRISE: 0731				DEC 05	SUNSET: 1722								SUNRISE: 0736				DEC 11	SUNSET: 1723										
01	OVC	009				4.00	-RA BR	38	38	38	100	6	30	28.93	29.99	01	OVC	002				2.00	-RA BR		44	44	44	100	3	29	28.83	29.87
04	OVC	002				5.00	RA BR	39	39	39	100	7	33	28.87	29.92	04	OVC	002				1.25	-RA BR		43	43	43	100	9	22	28.84	29.88
07	OVC	007				4.00	BR	40	39	40	97	9	22	28.92	29.98	07	OVC	002				2.50	-RA BR		43	43	43	100	12	22	28.87	29.92
10	OVC	007				10.00		42	41	42	96	13	23	28.97	30.03	10	OVC	007				10.00			45	44	45	97	13	23	28.93	29.98
13	OVC	007				5.00	BR	40	38	39	93	9	28	28.97	30.03	13	OVC	008				6.00	-DZ BR		44	44	44	100	14	26	28.95	30.00
16	OVC	012				10.00		38	35	37	89	8	01	29.00	30.06	16	OVC	020				10.00			44	42	43	93	12	24	28.99	30.04
19	OVC	025				7.00		35	32	34	89	8	02	29.07	30.13	19	OVC	023				10.00			42	39	41	89	9	26	29.06	30.11
22	OVC	027				10.00		33	28	31	82	6	36	29.12	30.19	22	OVC	021				10.00			40	38	39	93	6	26	29.10	30.15
				SUNRISE: 0732				DEC 06	SUNSET: 1722								SUNRISE: 0737				DEC 12	SUNSET: 1723										
01	OVC	019				10.00	-SN	33	28	31	82	3	01	29.14	30.20	01	OVC	022				10.00			40	38	39	93</				

# OBSERVATIONS AT 3-HOURLY INTERVALS

# KNOXVILLE, TN

DECEMBER 2002

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 %	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 %	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
<b>SUNRISE: 0737</b>				<b>DEC 13</b>				<b>SUNSET: 1723</b>				<b>SUNRISE: 0741</b>				<b>DEC 19</b>				<b>SUNSET: 1725</b>									
01	OVC	012			9.00	41	39	40	93	5	07	28.97	30.03	01	BKN	250			10.00	46	40	43	79	9	32	29.05	30.09		
04	OVC	085			7.00	41	38	40	89	0	00	28.92	29.98	04	BKN	250			10.00	43	40	42	89	6	35	29.03	30.08		
07	OVC	006			5.00	BR	39	39	100	14	05	28.76	29.80	07	SCT	NC			7.00	36	35	36	97	6	05	29.03	30.08		
10	OVC	038			2.00	-RA BR	42	42	100	7	27	28.64	29.68	10	BKN	250			10.00	45	42	44	90	6	03	29.01	30.06		
13	BKN	004			9.00		46	45	46	96	7	05	28.58	29.62	13	SCT	NC			10.00	62	48	54	60	8	26	28.84	29.87	
16	OVC	013			3.00	-RA BR	46	46	46	100	9	28	28.47	29.49	16	OVC	080			10.00	-RA	64	50	56	61	15	20	28.70	29.72
19	OVC	031			10.00	-RA	44	44	44	100	13	23	28.53	29.56	19	OVC	055			7.00	-RA	58	52	55	81	16	18	28.60	29.64
22	OVC	025			10.00		43	40	42	89	15	26	28.58	29.62	22	OVC	045			6.00	-RA BR	55	54	54	96	6	29	28.57	29.60
<b>SUNRISE: 0738</b>				<b>DEC 14</b>				<b>SUNSET: 1723</b>				<b>SUNRISE: 0742</b>				<b>DEC 20</b>				<b>SUNSET: 1726</b>									
01	OVC	018			10.00	-RA	41	39	40	93	15	24	28.62	29.66	01	OVC	026			10.00	54	50	52	87	21	27	28.60	29.62	
04	OVC	020			10.00	-RA	39	36	38	89	16	24	28.70	29.74	04	OVC	024			10.00	50	44	47	80	18	28	28.66	29.68	
07	OVC	019			10.00		37	33	35	86	8	28	28.78	29.83	07	BKN	041			10.00	42	37	40	82	9	26	28.76	29.79	
10	OVC	011			8.00		37	34	36	89	12	28	28.89	29.94	10	SCT	NC			10.00	44	34	40	68	13	25	28.85	29.88	
13	OVC	018			8.00		37	33	35	86	12	26	28.94	29.99	13	BKN	250			10.00	46	33	40	61	15	26	28.81	29.85	
16	OVC	024			9.00		38	33	36	83	6	27	28.99	30.04	16	SCT	NC			10.00	49	26	39	41	18	27	28.82	29.85	
19	OVC	037			10.00		38	32	35	79	6	26	29.03	30.10	19	SCT	NC			10.00	41	25	35	53	13	24	28.87	29.92	
22	OVC	035			7.00		36	33	35	89	3	22	29.04	30.10	22	CLR	NC			10.00	41	25	35	53	15	23	28.90	29.96	
<b>SUNRISE: 0739</b>				<b>DEC 15</b>				<b>SUNSET: 1724</b>				<b>SUNRISE: 0742</b>				<b>DEC 21</b>				<b>SUNSET: 1726</b>									
01	OVC	035			7.00		36	32	34	86	0	00	29.06	30.13	01	CLR	NC			10.00	37	25	32	62	12	22	28.95	30.00	
04	OVC	033			8.00		36	31	34	82	0	00	29.06	30.12	04	CLR	NC			10.00	34	24	30	67	9	22	28.95	30.01	
07	SCT	NC			8.00		33	29	31	85	0	00	29.04	30.11	07	CLR	NC			10.00	33	23	29	67	9	23	29.00	30.06	
10	CLR	NC			8.00		38	32	35	79	0	00	29.07	30.13	10	CLR	NC			10.00	43	25	36	49	17	22	29.07	30.12	
13	CLR	NC			10.00		46	34	41	63	6	24	29.01	30.07	13	FEW	NC			10.00	49	25	39	39	13	22	29.04	30.10	
16	FEW	NC			10.00		50	34	43	54	10	23	28.94	30.00	16	FEW	NC			10.00	50	24	39	36	10	21	29.00	30.06	
19	CLR	NC			10.00		44	35	40	71	9	25	28.92	29.98	19	FEW	NC			10.00	43	22	35	43	5	22	28.98	30.04	
22	FEW	NC			10.00		40	34	37	79	13	24	28.94	30.00	22	SCT	NC			10.00	41	23	34	49	9	22	28.96	30.01	
<b>SUNRISE: 0739</b>				<b>DEC 16</b>				<b>SUNSET: 1724</b>				<b>SUNRISE: 0743</b>				<b>DEC 22</b>				<b>SUNSET: 1727</b>									
01	CLR	NC			10.00		39	35	37	86	8	25	28.94	29.99	01	FEW	NC			10.00	45	25	37	46	16	22	28.91	29.96	
04	SCT	NC			10.00		40	36	38	86	9	24	28.94	30.00	04	OVC	042			10.00	-RA	48	34	42	58	14	25	28.90	29.95
07	FEW	NC			10.00		38	36	37	93	12	22	28.94	30.00	07	BKN	038			10.00	49	43	46	80	20	23	28.89	29.94	
10	FEW	NC			10.00		49	42	46	77	8	24	28.96	30.01	10	BKN	050			10.00	53	45	49	74	22	23	28.95	30.00	
13	SCT	NC			10.00		55	44	49	67	9	22	28.94	29.99	13	BKN	050			10.00	56	41	49	57	16	27	28.96	30.00	
16	SCT	NC			10.00		57	46	51	67	9	21	28.92	29.97	16	SCT	NC			10.00	57	34	46	42	15	27	28.98	30.02	
19	SCT	NC			10.00		53	45	49	74	5	23	28.96	30.01	19	FEW	NC			10.00	50	31	42	48	10	27	29.06	30.11	
22	FEW	NC			10.00		48	44	46	86	0	00	28.98	30.02	22	FEW	NC			10.00	46	31	40	56	8	29	29.12	30.16	
<b>SUNRISE: 0740</b>				<b>DEC 17</b>				<b>SUNSET: 1724</b>				<b>SUNRISE: 0743</b>				<b>DEC 23</b>				<b>SUNSET: 1727</b>									
01	BKN	250			8.00		43	42	43	97	0	00	28.98	30.03	01	FEW	NC			10.00	41	31	37	67	9	26	29.15	30.20	
04	OVC	043			8.00		44	43	44	96	3	02	29.01	30.06	04	CLR	NC			10.00	36	26	32	67	0	00	29.19	30.24	
07	OVC	080			10.00		45	43	44	93	0	00	29.04	30.09	07	FEW	NC			10.00	29	27	28	92	3	05	29.21	30.27	
10	BKN	250			9.00		49	45	47	86	0	00	29.08	30.13	10	BKN	250			10.00	39	29	35	67	0	00	29.24	30.31	
13	OVC	250			10.00		62	48	54	60	9	19	29.02	30.06	13	OVC	250			10.00	46	26	38	46	5	04	29.14	30.20	
16	OVC	090			10.00		60	47	53	62	10	24	28.99	30.03	16	OVC	150			10.00	48	28	40	46	5	02	29.08	30.14	
19	BKN	250			10.00		54	44	49	69	7	25	29.02	30.06	19	OVC	150			10.00	43	30	38	60	7	04	29.07	30.14	
22	CLR	NC			10.00		48	42	45	80	0	00	29.08	30.12	22	OVC	080			10.00	44	30	38	58	9	03	29.02	30.08	
<b>SUNRISE: 0741</b>				<b>DEC 18</b>				<b>SUNSET: 1725</b>				<b>SUNRISE: 0744</b>				<b>DEC 24</b>				<b>SUNSET: 1728</b>									
01	SCT	NC			7.00		43	41	42	93	0	00	29.10	30.14	01	OVC	060			10.00	-PLRA	41	32	37	70	10	05	28.97	30.02
04	BKN	250			6.00	BR	39	39	39	100	0	00	29.11	30.16	04	OVC	050			5.00	RA BR	38	35	37	89	14	05	28.92	29.97
07	SCT	NC			3.00	BR	39	39	39	100	3	02	29.11	30.16	07	OVC	070			10.00	-RA	39	38	39	96	16	06	28.75	29.80
10	SCT	NC			10.00		45	38	42	77	3	07	29.17	30.22	10	OVC	007			7.00	-RA	41	40	41	96	10	03	28.64	29.69
13	BKN	250			10.00		55	40	48	57	0	00	29.09	30.14	13	OVC	007			7.00	-RA	44	43	44	96	3	01	28.61	29.65
16	SCT	NC			10.00		63	40	51	43	14	18	29.06	30.11	16	OVC	005			6.00	BR	46	44	45	93	3	32	28.55	29.59
19	SCT	NC			10.00		54	40	47	59	5	18	29.09	30.14	19	OVC	003			1.00	BR	44	44	44	100	0	00	28.53	29.57
22	BKN	250			10.00		52	40	46	64	3	VR	29.08	30.12	22	OVC	003			2.00	-RA BR	44	44	44	100	5	31	28.49	29.53

# OBSERVATIONS AT 3-HOURLY INTERVALS

# KNOXVILLE, TN

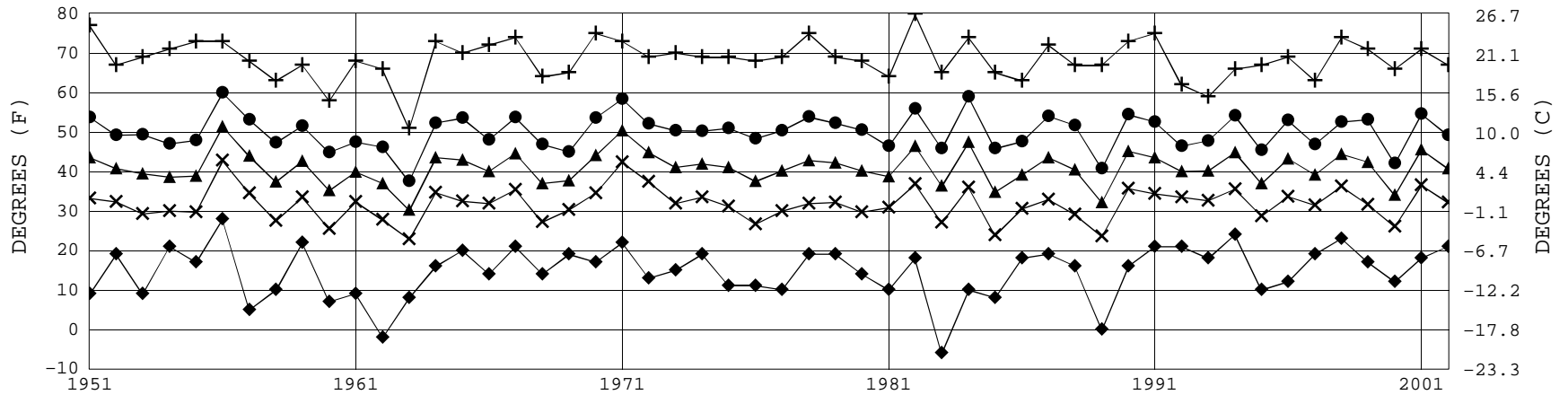
DECEMBER 2002

TYS

WBAN # 13891

HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)					
	SKY COVER	CEILING 100'S OF FT		OBSERVATION TIME (LST)	EFF CLD AMT	DRY BULB		DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG		STATION	SEA LEVEL		SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)		EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
<b>SUNRISE: 0744 DEC 25 SUNSET: 1728</b>												<b>SUNRISE: 0746 DEC 31 SUNSET: 1732</b>															
01	OVC	013		3.00	-RA BR	48	47	47	96	17	23	28.45	29.48	01	OVC	180		10.00		43	37	40	80	0	00	29.05	30.09
04	OVC	029		10.00		39	34	37	82	24	26	28.56	29.60	04	BKN	150		10.00		41	37	39	86	6	02	28.99	30.03
07	OVC	024		7.00	-SN	32	27	30	82	18	25	28.73	29.78	07	SCT	NC		10.00		38	35	37	89	0	00	28.98	30.03
10	OVC	016		1.00	-SN	30	27	29	88	16	24	28.85	29.90	10	SCT	NC		10.00		45	38	42	77	5	08	28.99	30.04
13	OVC	034		7.00		31	24	28	76	15	25	28.88	29.94	13	BKN	250		10.00		58	41	49	54	8	05	28.88	29.92
16	OVC	026		10.00		31	24	28	76	12	28	28.97	30.03	16	OVC	050		7.00	-RA	56	46	51	70	12	03	28.82	29.85
19	OVC	032		10.00		30	23	28	75	12	26	29.06	30.13	19	OVC	060		10.00		54	47	50	77	10	02	28.75	29.79
22	OVC	032		10.00		30	22	27	72	8	27	29.15	30.22	22	OVC	080		5.00	-RA BR	51	50	51	96	7	05	28.69	29.72
<b>SUNRISE: 0744 DEC 26 SUNSET: 1729</b>												<b>3-HOURLY OBSERVATION NOTES</b>															
01	OVC	028		10.00		29	22	27	75	7	29	29.17	30.24	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 Visibility = 8/8.													
04	OVC	026		10.00		30	21	27	69	7	36	29.21	30.29	Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.													
07	OVC	026		10.00		29	22	27	75	5	36	29.23	30.31	NC= No ceiling detected.													
10	OVC	024		10.00		30	22	27	72	6	06	29.31	30.40	& = Original observation contained additional weather elements.													
13	BKN	100		10.00		34	25	31	70	9	05	29.26	30.34	See page 3 for additional notes.													
16	BKN	200		10.00		36	24	32	62	6	02	29.26	30.34														
19	BKN	250		10.00		31	24	28	76	7	02	29.28	30.36														
22	SCT	NC		10.00		28	23	26	81	8	04	29.29	30.37														
<b>SUNRISE: 0745 DEC 27 SUNSET: 1730</b>												<b>SUMMARY BY HOUR</b>															
01	CLR	NC		10.00		26	23	25	88	6	36	29.25	30.34	<b>AVERAGES</b>													
04	CLR	NC		9.00		24	22	23	91	7	03	29.24	30.32	RESULTANT WIND (MPH)													
07	CLR	NC		7.00		23	21	22	92	6	01	29.24	30.33	SPEED DIRECTION													
10	SCT	NC		7.00		28	25	27	88	5	06	29.28	30.37	HOUR (LST) CEILOMETER EFF CLD AMT DRY BULB DEW POINT WET BULB RELATIVE HUMIDITY PRESSURE (INCHES, HG) VISIBILITY (MILES) WIND SPEED (MPH)													
13	CLR	NC		10.00		36	28	33	73	7	19	29.21	30.29	STATION SEA LEVEL													
16	CLR	NC		10.00		40	27	35	60	5	22	29.18	30.25	VISIBILITY (MILES) WIND SPEED (MPH)													
19	SCT	NC		10.00		36	27	33	70	5	22	29.21	30.28	SPEED DIRECTION													
22	BKN	075		10.00		34	28	32	79	7	28	29.23	30.31	01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24													
<b>SUNRISE: 0745 DEC 28 SUNSET: 1730</b>												38 32 35 81 29.04 30.09 8.90 7 3 27															
01	BKN	150		10.00		29	24	27	82	8	24	29.22	30.29	02 37 32 35 83 29.03 30.09 8.85 7 3 27													
04	BKN	075		10.00		30	24	28	79	0	00	29.22	30.29	03 37 32 35 82 29.04 30.10 8.88 6 3 24													
07	CLR	NC		8.00		26	23	25	88	3	19	29.21	30.29	04 36 31 34 83 29.04 30.10 8.75 6 2 29													
10	SCT	NC		10.00		34	27	31	76	5	26	29.25	30.32	05 35 31 34 84 29.05 30.10 8.60 7 3 29													
13	CLR	NC		10.00		45	32	39	61	16	23	29.17	30.23	06 35 31 33 86 29.05 30.11 8.09 7 1 27													
16	FEW	NC		10.00		49	30	41	48	22	22	29.12	30.18	07 34 31 33 87 29.06 30.12 8.27 7 1 28													
19	CLR	NC		10.00		44	29	38	55	17	23	29.12	30.18	08 34 30 33 86 29.06 30.13 7.90 7 2 29													
22	CLR	NC		10.00		44	28	38	53	14	23	29.13	30.19	09 36 32 35 84 29.07 30.14 8.17 7 2 29													
<b>SUNRISE: 0745 DEC 29 SUNSET: 1731</b>												10 39 33 37 80 29.09 30.15 8.32 7 2 27															
01	CLR	NC		10.00		40	28	35	63	6	21	29.14	30.20	11 42 33 38 74 29.09 30.15 8.53 8 2 25													
04	CLR	NC		10.00		38	27	34	65	9	22	29.16	30.21	12 44 33 39 70 29.07 30.13 8.82 8 3 25													
07	FEW	NC		10.00		37	26	33	65	9	22	29.17	30.23	13 46 34 40 66 29.04 30.10 9.09 8 4 25													
10	FEW	NC		10.00		46	32	40	58	5	23	29.18	30.24	14 47 34 41 64 29.02 30.08 8.82 8 4 26													
13	SCT	NC		10.00		55	37	47	51	9	24	29.14	30.19	15 47 34 42 63 29.01 30.06 9.18 9 3 26													
16	FEW	NC		10.00		58	37	48	46	12	24	29.11	30.16	16 47 34 41 64 29.01 30.06 9.21 9 4 26													
19	SCT	NC		10.00		51	36	44	56	3	17	29.13	30.19	17 45 34 40 67 29.02 30.07 8.83 8 4 27													
22	CLR	NC		10.00		40	35	38	83	0	00	29.13	30.18	18 43 34 39 71 29.02 30.08 8.81 7 2 26													
<b>SUNRISE: 0746 DEC 30 SUNSET: 1732</b>												19 43 34 39 72 29.02 30.08 9.10 7 3 25															
01	CLR	NC		9.00		37	34	36	89	0	00	29.13	30.18	20 42 33 38 74 29.03 30.09 9.06 7 3 26													
04	CLR	NC		9.00		33	31	32	92	0	00	29.12	30.17	21 41 33 38 76 29.03 30.09 8.88 6 2 28													
07	FEW	NC		8.00		32	30	31	92	5	03	29.10	30.16	22 40 33 37 78 29.03 30.09 9.10 6 3 27													
10	OVC	250		8.00		37	34	36	89	0	00	29.16	30.22	23 40 33 37 78 29.03 30.08 8.92 7 2 28													
13	SCT	NC		10.00		56	40	48	55	13	23	29.07	30.12	24 39 33 37 80 29.03 30.08 8.94 6 2 26													
16	BKN	250		10.00		59	39	49	48	10	24	29.01	30.06														
19	BKN	250		10.00		51	40	46	66	0	00	29.04	30.09														
22	OVC	130		10.00		43	39	41	86	0	00	29.04	30.10														

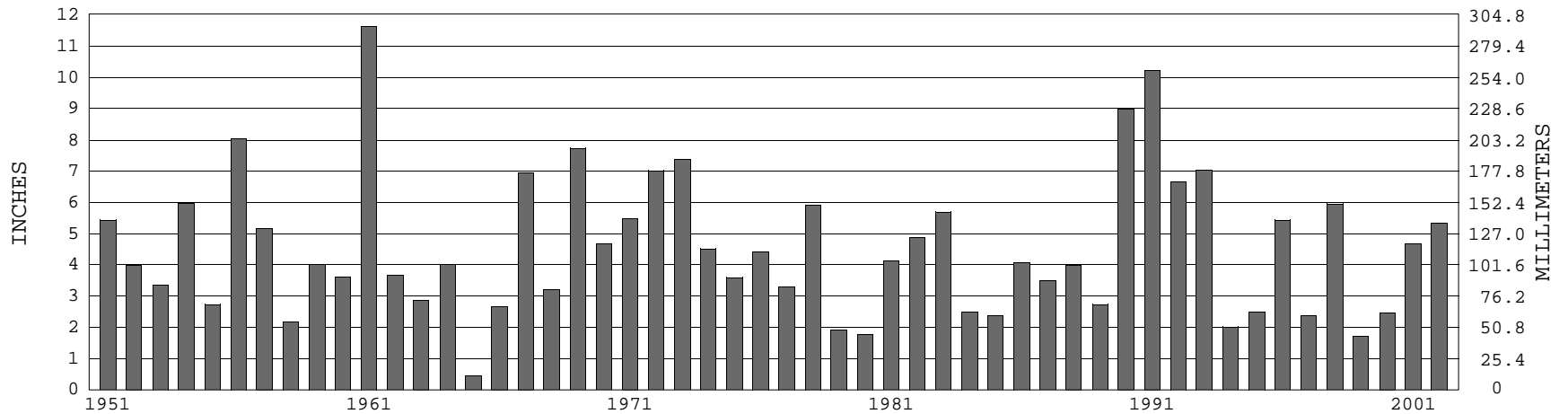
### KNOXVILLE, TN DECEMBER TEMPERATURES



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

Long-Term (1951-2002) Mean: 41.0      1961-1990 Normal: 40.9

### KNOXVILLE, TN DECEMBER PRECIPITATION



Long-Term (1951-2002) Mean Monthly Total: 4.56

1961-1990 Normal: 4.49



DECEMBER 2002

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.*

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