



DECEMBER 1998

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 1998
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	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	67	44	56	12	47	52	9	0	RA BR HZ	0		0.0	T	29.24	30.28	3.0	04	5.2	17	03	14	03	01							
02	68	35	52	8	43	47	13	0		0		0.0	0.00	29.19	30.23	0.5	24	2.4	17	24	15	24	02							
03	70	47	59	16	51	54	6	0	BR	0		0.0	0.00	29.08	30.12	5.7	23	6.3	22	23	18	23	03							
04	71	42	57	14	50	54	8	0	BR HZ	0		0.0	0.00	29.10	30.14	0.3	25	2.0	11	30	9	22	04							
05	68	50	59	16	57	58	6	0	RA BR	0		0.0	0.16	29.01	30.05	4.3	23	5.7	22	23	16	22	05							
06	74*	51	63	20	57	59	2	0	FG BR	0		0.0	0.00	28.99	30.01	5.8	24	7.1	24	24	22	24	06							
07	72	60	66*	24	59	62	0	1	RA BR	0		0.0	0.11	28.97	29.99	11.5	23	12.7	34	22	25	21	07							
08	70	48	59	17	57	58	6	0	TSRA RA BR	0		0.0	1.64	28.99	30.01	2.8	30	7.3	26	22	22	21	08							
09	53	38	46	4	36	41	19	0	RA BR	0		0.0	0.01	29.27	30.32	9.6	03	10.2	22	02	18	03	09							
10	52	30	41	0	36	40	24	0	RA BR	0		0.0	0.04	29.30	30.37	2.1	03	2.8	11	01	10	02	10							
11	49	43	46	5	34	41	19	0	RA	0		0.0	0.02	29.28	30.34	7.8	04	8.3	21	06	17	05	11							
12	45	42	44	3	41	42	21	0	RA BR	0		0.0	1.39	29.18	30.24	7.3	04	7.6	14	05	13	04	12							
13	50	43	47	6	45	46	18	0	RA BR	0		0.0	1.08	28.92	29.97	3.0	34	5.6	16	01	14	01	13							
14	52	34	43	3	33	39	22	0		0		0.0	0.00	29.13	30.19	10.6	03	11.2	23	03	17	03	14							
15	50	27	39	-1	29	34	26	0		0		0.0	0.00	29.24	30.31	1.6	03	2.8	13	02	10	01	15							
16	55	28	42	2	29	37	23	0		0		0.0	0.00	29.04	30.10	8.1	23	8.2	22	23	18	23	16							
17	47	30	39	-1	30	36	26	0	RA SN	0		T	0.02	29.00	30.06	8.3	27	9.2	25	27	21	29	17							
18	48	23	36	-3	26	32	29	0		0		0.0	0.00	29.16	30.23	0.9	06	1.5	7	20	6	36	18							
19	44	34	39	0	36	38	26	0	RA BR	0		0.0	0.11	29.16	30.23	2.5	04	3.3	15	29	14	29	19							
20	54	43	49	10	46	47	16	0	BR HZ	0		0.0	0.00	29.27	30.33	0.6	01	2.0	10	33	9	32	20							
21	67	44	56	17	50	52	9	0	FG+ BR HZ	0		0.0	0.00	29.12	30.17	4.4	22	7.3	31	21	25	21	21							
22	67	28	48	9	30	35	17	0	TS TSRA RA BR	0		0.0	0.31	29.25	30.31	6.1	35	12.0	41*	28	34*	28	22							
23	32	28	30	-8	25	28	35	0	RA FZRA FZDZ BR	0		0.0	0.51	29.29	30.37	6.3	03	6.9	13	04	11	03	23							
24	33	27	30	-8	28	29	35	0	RA FZRA PL BR	0		T	0.30	29.28	30.36	7.0	02	7.7	17	02	15	03	24							
25	31	23*	27*	-11	24	27	38	0	BR	0		0.0	0.00	29.31	30.39	5.0	04	5.7	14	02	11	01	25							
26	38	29	34	-4	31	32	31	0	FZRA BR HZ	0		0.0	T	29.19	30.27	1.7	05	2.6	9	01	7	01	26							
27	36	27	32	-6	30	31	33	0	FG+ FZFG BR	0		0.0	0.00	29.17	30.24	0.8	13	3.3	13	20	11	21	27							
28	41	33	37	0	36	37	28	0	RA BR PL	0		T	0.18	28.99	30.05	5.1	05	6.0	15	04	14	04	28							
29	46	37	42	5	39	40	23	0	RA DZ BR	0		0.0	0.07	28.75	29.80	7.1	25	7.7	30	29	24	29	29							
30	37	25	31	-6	19	26	34	0	RA SN	0		T	T	29.01	30.07	4.2	32	6.8	26	29	22	29	30							
31	42	28	35	-2	23	30	30	0		0		0.0	0.00	29.08	30.15	4.2	25	5.5	22	24	17	23	31							
< MONTHLY AVERAGES										TOTALS-->		T	5.95	29.13	30.18	1.4	34	6.2	<-- MONTHLY AVERAGES											
2.4										6.2		4.3		<----- DEPARTURE FROM NORMAL ----->										1.41	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3					
DEGREE DAYS										GREATEST 24-HR PRECIPITATION: 2.36 DATE: 12-13				SEA LEVEL PRESSURE				DATE TIME												
MONTHLY TOTAL DEPARTURE										GREATEST 24-HR SNOWFALL: T DATE: 30+				MAXIMUM : 30.48				25 1041												
SEASON TO DATE TOTAL DEPARTURE										GREATEST SNOW DEPTH: 0 DATE:				MINIMUM : 29.70				29 1424												
HEATING: 632 -140										NUMBER OF DAYS WITH =>				MAXIMUM TEMP ≥ 90: 0				MINIMUM TEMP ≤ 32: 13				PRECIPITATION ≥ 0.01 INCH : 15								
COOLING: 1 1														MAXIMUM TEMP ≤ 32 : 2				MINIMUM TEMP ≤ 0 : 0				PRECIPITATION ≥ 0.10 INCH : 10								
														THUNDERSTORMS : 2				HEAVY FOG : 2				SNOWFALL ≥ 1.0 INCH : 0								

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

KNOXVILLE, TN

DECEMBER 1998 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											01												01		T		
02													02												02		0.00		
03													03												03		0.00		
04													04												04		0.00		
05													05	T	0.05	T									05		0.00	0.16	
06													06												06		0.00		
07													07												07		0.11		
08													08												08		1.64		
09	0.01	0.04	T		0.02	0.10	T						09	0.18	0.07	0.45	0.11	0.26	0.16	0.03	T	0.08	0.03	0.02	0.02	0.02	0.02	0.02	1.64
10		T											10								T	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
11	T												11												11		0.02		
12	0.01	0.01	T	0.04	T	0.01	T						12	T	0.08	0.16	0.14	0.18	0.10	0.04	T	0.08	0.03	0.02	0.01	0.01	0.01	0.01	0.02
13	0.06	0.09	0.08	0.06	0.11	0.27	0.18	0.10	0.12				13			0.01	0.01	0.01	T	T	T	0.01	0.11	0.13	12	1.37	1.39	1.08	0.00
14													14												14	1.10	1.08	0.00	0.00
15													15												15		0.00	0.00	0.00
16													16												16		0.00	0.02	0.00
17			T	T	0.01								17	0.01											17		0.02	0.00	0.00
18													18												18		0.00	0.11	0.00
19													19												19		0.11	0.00	0.00
20													20	0.04	0.02	T									20		0.00	0.31	0.51
21													21												21		0.00	0.31	0.51
22			0.19	T	0.08	0.03	T	0.01	T				22												22		0.31	0.51	0.30
23			0.15		0.09		0.01	T	0.02				23	T	0.04	0.03	0.02	0.07	0.10	0.07	0.10	0.19	0.07	0.02	23	0.76	0.31	0.30	0.00
24	0.10												24												24	0.39	0.30	0.00	0.00
25													25												25		0.00	0.00	0.00
26													26												26		T	0.00	0.18
27													27												27		0.00	0.18	0.07
28													28	0.01	0.04	0.06	0.01	T							28		0.07	0.00	0.00
29													29												29		0.07	0.00	0.00
30	T	T	T	T	T	T	T						30												30		T	0.00	0.00
31													31												31		0.00	0.00	0.00

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	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 1998

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	436						1.00	10.00	
02	478						7.00	10.00	
03	339						6.00	10.00	
04	468						1.50	10.00	
05	8						2.50	10.00	
06	390	66					.50	10.00	
07	60	1					5.00	10.00	
08	0	0					1.50	10.00	
09	410	70					2.00	10.00	
10	324						6.00	10.00	
11	14						10.00	10.00	
12	0						1.25	10.00	
13	0	0					1.00	10.00	
14	348	59					10.00	10.00	
15	455	78					7.00	10.00	
16	448						7.00	10.00	
17	85						7.00	10.00	
18	446						7.00	10.00	
19	0	0					5.00	10.00	
20	90	15					2.50	7.00	
21	175	30					<.25	10.00	
22	215						5.00	10.00	
23	0						2.00	10.00	
24	0						3.00	10.00	
25	36						4.00	10.00	
26	50	9					1.50	8.00	
27	0	0					.25	8.00	
28	0	0					1.75	7.00	
29	0	0					.75	10.00	
30	263	49					1.00	10.00	
31	213						10.00	10.00	
MONTHLY AVGS							3.87	9.68	
SUNSHINE (MINUTES)									
Total: 5751 Possible: 18190 Percent Possible: 32									
NUMBER OF DAYS WITH: SKY CONDITION									
CLR PTLY CLDY CLOUDY MISSING 31									
MINIMUM VISIBILITY (MILES)									
<=0.25 <=3.0 >=7.0 2 17 8									

OBSERVATIONS AT 3-HOURLY INTERVALS

KNOXVILLE, TN

DECEMBER 1998

TYS

WBAN # 13891

HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
	SKY COVER	CEILING 100'S OF FT			OBSERVATION TIME (LST)	EFF CLD AMT Oktas	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 Oktas	DRY BULB	DEW POINT	WET BULB
SUNRISE: 0737 DEC 13 SUNSET: 1723																									
01	OVC	005	2.00	RA BR	43	43	43	100	6	01	29.01	30.06	01	CLR	NC	10.00		36	31	34	82	3	01	29.18	30.24
04	OVC	005	5.00	BR	44	43	44	96	6	03	28.91	29.96	04	CLR	NC	10.00		36	31	34	82	0	00	29.15	30.21
07	OVC	018	2.00	RA BR	45	45	45	100	3	17	28.91	29.96	07	FEW	NC	10.00		37	32	35	82	9	36	29.13	30.19
10	OVC	006	5.00	BR	46	45	46	96	5	34	28.92	29.97	10	OVC	060	10.00		40	33	37	77	0	00	29.18	30.24
13	OVC	003	1.00	BR	48	47	47	96	7	26	28.87	29.91	13	OVC	041	5.00	-RA BR	40	38	39	93	8	07	29.14	30.20
16	OVC	007	2.00	-RA BR	49	49	49	100	6	24	28.87	29.92	16	OVC	023	8.00		42	40	41	92	0	00	29.15	30.21
19	OVC	010	10.00		47	45	46	93	9	01	28.92	29.97	19	OVC	014	6.00	BR	43	41	42	93	0	00	29.19	30.25
22	OVC	017	10.00		46	43	45	89	6	01	28.96	30.00	22	OVC	010	6.00	BR	43	42	43	97	0	00	29.21	30.28
SUNRISE: 0738 DEC 14 SUNSET: 1723																									
01	OVC	026	10.00		46	42	44	86	9	02	28.99	30.03	01	OVC	010	5.00	BR	44	42	43	93	3	07	29.22	30.29
04	OVC	027	10.00		45	41	43	86	12	03	29.02	30.06	04	OVC	010	5.00	BR	44	43	44	96	0	00	29.25	30.32
07	OVC	023	10.00		42	37	40	82	13	01	29.06	30.11	07	OVC	005	5.00	BR	45	43	44	93	0	00	29.27	30.34
10	BKN	025	10.00		42	33	38	71	10	03	29.16	30.22	10	OVC	005	3.00	BR	47	46	46	97	3	03	29.31	30.38
13	FEW	NC	10.00		50	32	42	50	10	08	29.14	30.19	13	OVC	005	5.00	BR	50	47	48	89	0	00	29.28	30.35
16	FEW	NC	10.00		51	28	41	41	9	06	29.15	30.20	16	SCT	NC	7.00		52	48	50	86	8	30	29.25	30.32
19	CLR	NC	10.00		43	27	37	53	14	01	29.21	30.27	19	OVC	019	4.00	BR	50	48	49	93	6	15	29.27	30.33
22	CLR	NC	10.00		36	27	33	70	8	03	29.25	30.32	22	OVC	011	4.00	BR	50	49	49	96	0	00	29.27	30.33
SUNRISE: 0739 DEC 15 SUNSET: 1724																									
01	CLR	NC	10.00		33	25	30	72	8	01	29.27	30.33	01	OVC	031	3.00	BR	48	47	47	96	3	09	29.25	30.31
04	CLR	NC	10.00		31	26	29	82	7	02	29.27	30.35	04	SCT	NC	1.50	BR	45	45	45	100	5	07	29.24	30.29
07	CLR	NC	10.00		29	25	28	85	6	02	29.29	30.36	07	OVC	002	0.25	FG	44	44	44	100	0	00	29.21	30.27
10	CLR	NC	9.00		35	29	33	78	5	03	29.32	30.40	10	OVC	001	1.00	BR	45	45	45	100	0	00	29.21	30.27
13	FEW	NC	10.00		43	32	38	65	0	00	29.25	30.33	13	BKN	090	6.00	HZ	53	48	50	83	0	00	29.12	30.17
16	SCT	NC	10.00		48	32	41	54	5	VR	29.19	30.25	16	SCT	NC	8.00		63	54	58	73	3	33	29.05	30.09
19	SCT	NC	10.00		41	31	37	67	5	17	29.18	30.25	19	BKN	075	10.00		63	55	58	76	12	22	29.02	30.06
22	SCT	NC	10.00		41	32	37	70	0	00	29.17	30.23	22	BKN	090	10.00		66	57	61	73	17	22	28.97	30.00
SUNRISE: 0739 DEC 16 SUNSET: 1724																									
01	FEW	NC	10.00		37	31	35	79	5	26	29.13	30.19	01	SCT	NC	10.00		66	59	62	78	25	22	28.90	29.94
04	CLR	NC	10.00		34	29	32	82	0	00	29.12	30.18	04	OVC	015	10.00	-RA	48	46	47	93	5	28	29.02	30.06
07	CLR	NC	8.00		29	28	29	96	0	00	29.14	30.20	07	OVC	020	10.00		40	35	38	83	10	01	29.21	30.27
10	CLR	NC	9.00		37	33	35	86	6	24	29.14	30.20	10	BKN	038	10.00		36	31	34	82	13	36	29.35	30.41
13	CLR	NC	10.00		50	29	41	44	10	24	29.04	30.09	13	SCT	NC	10.00		33	25	30	72	9	01	29.36	30.42
16	CLR	NC	10.00		53	28	42	38	16	22	28.98	30.03	16	FEW	NC	10.00		34	18	29	52	14	01	29.34	30.41
19	CLR	NC	10.00		44	28	37	53	9	24	28.94	30.00	19	CLR	NC	10.00		30	18	26	61	9	03	29.37	30.44
22	OVC	060	10.00		48	27	39	44	16	23	28.93	29.98	22	SCT	NC	10.00		28	18	25	66	10	05	29.33	30.41
SUNRISE: 0740 DEC 17 SUNSET: 1724																									
01	BKN	075	10.00		47	29	39	50	16	23	28.88	29.93	01	CLR	NC	10.00		28	20	25	72	8	02	29.30	30.38
04	OVC	037	10.00		42	38	40	85	6	35	28.88	29.93	04	CLR	NC	10.00		28	19	25	69	8	05	29.33	30.41
07	BKN	024	10.00		37	33	35	86	7	28	28.91	29.97	07	BKN	100	10.00		28	18	25	66	9	03	29.31	30.40
10	OVC	028	8.00	-RA	38	33	36	83	9	29	28.99	30.04	10	OVC	060	10.00		30	20	27	66	8	04	29.34	30.43
13	BKN	030	7.00		39	33	37	79	9	33	29.00	30.06	13	OVC	048	7.00	FZDZ	29	27	28	92	6	35	29.29	30.38
16	BKN	055	10.00		39	26	34	60	12	28	29.05	30.10	16	OVC	006	2.50	-FZRA BR	30	29	30	96	7	05	29.25	30.33
19	OVC	049	10.00		39	24	33	55	10	27	29.11	30.17	19	OVC	006	3.00	-FZRA BR	31	31	31	100	7	03	29.23	30.31
22	FEW	NC	10.00		35	24	31	64	7	28	29.12	30.19	22	OVC	020	3.00	-FZRA BR	31	31	31	100	6	33	29.26	30.34
SUNRISE: 0740 DEC 18 SUNSET: 1725																									
01	CLR	NC	10.00		32	23	29	69	5	17	29.15	30.21	01	OVC	002	3.00	-FZRA BR	31	31	31	100	5	07	29.22	30.29
04	CLR	NC	10.00		29	23	27	78	0	00	29.15	30.22	04	OVC	002	3.00	-FZRA BR	32	32	32	100	6	08	29.19	30.26
07	CLR	NC	9.00		25	23	24	92	0	00	29.17	30.24	07	OVC	006	5.00	BR	32	32	32	100	6	01	29.24	30.32
10	CLR	NC	10.00		33	28	31	82	3	07	29.23	30.31	10	OVC	008	5.00	BR	31	29	30	92	7	36	29.30	30.38
13	CLR	NC	10.00		43	26	36	51	0	00	29.18	30.24	13	OVC	024	5.00	BR	29	26	28	89	7	01	29.31	30.40
16	CLR	NC	10.00		47	27	39	46	0	00	29.13	30.19	16	OVC	012	7.00		29	27	28	92	9	01	29.29	30.38
19	CLR	NC	10.00		44	28	38	53	0	00	29.13	30.20	19	OVC	018	7.00		28	24	27	85	9	03	29.34	30.42
22	CLR	NC	10.00		38	31	35	76	5	04	29.15	30.22	22	OVC	016	7.00		28	22	26	78	10	03	29.33	30.41

OBSERVATIONS AT 3-HOURLY INTERVALS

KNOXVILLE, TN

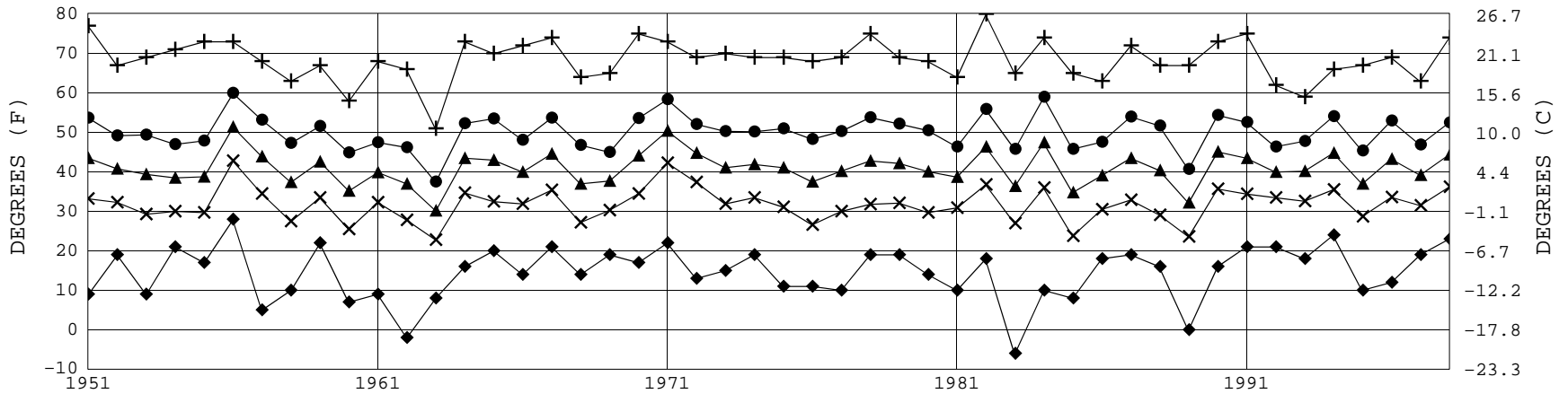
DECEMBER 1998

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 Oktas	VISIBILITY (MILES)		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 Oktas	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	017		7.00	27	22	25	81	7	02	29.32	30.40	01	OVC	065		10.00	29	17	25	61	3	16	29.05	30.12																																																																																																																																																																																																																																																																																																																																																		
04	OVC	017		10.00	26	21	24	81	10	03	29.33	30.42	04	OVC	065		10.00	30	21	27	69	0	00	29.06	30.13																																																																																																																																																																																																																																																																																																																																																		
07	BKN	013		10.00	24	20	23	84	9	02	29.35	30.43	07	OVC	070		10.00	31	22	28	69	0	00	29.06	30.13																																																																																																																																																																																																																																																																																																																																																		
10	OVC	012		10.00	26	21	24	81	5	01	29.38	30.47	10	OVC	060		10.00	34	24	30	67	3	21	29.09	30.16																																																																																																																																																																																																																																																																																																																																																		
13	OVC	010		9.00	29	26	28	89	7	03	29.32	30.41	13	OVC	048		10.00	39	23	33	53	10	28	29.09	30.15																																																																																																																																																																																																																																																																																																																																																		
16	OVC	008		8.00	31	28	30	89	6	06	29.26	30.35	16	FEW	NC		10.00	41	25	35	53	8	25	29.06	30.13																																																																																																																																																																																																																																																																																																																																																		
19	OVC	006		5.00 BR	30	28	29	92	5	07	29.26	30.35	19	CLR	NC		10.00	36	24	32	62	6	24	29.10	30.16																																																																																																																																																																																																																																																																																																																																																		
22	OVC	006		6.00 BR	30	28	29	92	5	16	29.25	30.34	22	CLR	NC		10.00	29	22	27	75	6	20	29.14	30.20																																																																																																																																																																																																																																																																																																																																																		
SUNRISE: 0744				DEC 26				SUNSET: 1729				3-HOURLY OBSERVATION NOTES																																																																																																																																																																																																																																																																																																																																																															
01	OVC	006		5.00 BR	30	29	30	96	6	08	29.18	30.25	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	004		7.00	32	30	31	92	0	00	29.18	30.24	Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.																																																																																																																																																																																																																																																																																																																																																														
07	OVC	004		2.00 BR	32	31	32	96	0	00	29.19	30.26	NC = No ceiling detected.																																																																																																																																																																																																																																																																																																																																																														
10	BKN	006		2.50 BR	35	33	34	93	0	00	29.23	30.30	& = Original observation contained additional weather elements.																																																																																																																																																																																																																																																																																																																																																														
13	OVC	020		6.00 HZ	37	32	35	82	3	03	29.19	30.26	See page 3 for additional notes.																																																																																																																																																																																																																																																																																																																																																														
16	OVC	018		7.00	38	32	36	79	3	02	29.17	30.23																																																																																																																																																																																																																																																																																																																																																															
19	FEW	NC		8.00	33	29	31	85	5	06	29.21	30.27																																																																																																																																																																																																																																																																																																																																																															
22	FEW	NC		7.00	30	29	30	96	3	05	29.21	30.28																																																																																																																																																																																																																																																																																																																																																															
SUNRISE: 0745				DEC 27				SUNSET: 1730				SUMMARY BY HOUR																																																																																																																																																																																																																																																																																																																																																															
01	FEW	NC		3.00 BR	29	28	29	96	6	01	29.18	30.25	<table border="1"> <thead> <tr> <th rowspan="3">HOUR (LST)</th> <th colspan="10">AVERAGES</th> <th colspan="2">RESULTANT WIND (MPH)</th> </tr> <tr> <th rowspan="2">CEILOMETER</th> <th rowspan="2">EFF CLD AMT</th> <th rowspan="2">DRY BULB</th> <th rowspan="2">DEW POINT</th> <th rowspan="2">WET BULB</th> <th rowspan="2">RELATIVE HUMIDITY</th> <th colspan="2">PRESSURE (INCHES, HG)</th> <th rowspan="2">VISIBILITY (MILES)</th> <th rowspan="2">WIND SPEED (MPH)</th> <th rowspan="2">SPEED</th> <th rowspan="2">DIRECTION</th> </tr> <tr> <th>STATION</th> <th>SEA LEVEL</th> </tr> </thead> <tbody> <tr><td>01</td><td></td><td></td><td>43</td><td>38</td><td>41</td><td>85</td><td>29.11</td><td>30.17</td><td>7.45</td><td>7</td><td>2</td><td>30</td></tr> <tr><td>02</td><td></td><td></td><td>43</td><td>38</td><td>41</td><td>85</td><td>29.11</td><td>30.16</td><td>7.66</td><td>5</td><td>1</td><td>33</td></tr> <tr><td>03</td><td></td><td></td><td>42</td><td>38</td><td>40</td><td>86</td><td>29.12</td><td>30.17</td><td>7.58</td><td>5</td><td>2</td><td>34</td></tr> <tr><td>04</td><td></td><td></td><td>41</td><td>38</td><td>40</td><td>88</td><td>29.11</td><td>30.17</td><td>7.15</td><td>5</td><td>2</td><td>1</td></tr> <tr><td>05</td><td></td><td></td><td>40</td><td>37</td><td>39</td><td>89</td><td>29.12</td><td>30.17</td><td>6.89</td><td>5</td><td>2</td><td>36</td></tr> <tr><td>06</td><td></td><td></td><td>40</td><td>37</td><td>39</td><td>90</td><td>29.12</td><td>30.18</td><td>6.63</td><td>5</td><td>1</td><td>4</td></tr> <tr><td>07</td><td></td><td></td><td>40</td><td>37</td><td>39</td><td>89</td><td>29.14</td><td>30.19</td><td>6.80</td><td>5</td><td>2</td><td>36</td></tr> <tr><td>08</td><td></td><td></td><td>40</td><td>37</td><td>39</td><td>89</td><td>29.15</td><td>30.21</td><td>7.02</td><td>6</td><td>1</td><td>2</td></tr> <tr><td>09</td><td></td><td></td><td>41</td><td>38</td><td>40</td><td>88</td><td>29.16</td><td>30.22</td><td>6.23</td><td>6</td><td>2</td><td>34</td></tr> <tr><td>10</td><td></td><td></td><td>43</td><td>38</td><td>41</td><td>83</td><td>29.18</td><td>30.24</td><td>7.27</td><td>6</td><td>2</td><td>33</td></tr> <tr><td>11</td><td></td><td></td><td>45</td><td>39</td><td>42</td><td>80</td><td>29.18</td><td>30.24</td><td>7.69</td><td>8</td><td>2</td><td>33</td></tr> <tr><td>12</td><td></td><td></td><td>46</td><td>39</td><td>43</td><td>76</td><td>29.16</td><td>30.21</td><td>7.62</td><td>8</td><td>1</td><td>32</td></tr> <tr><td>13</td><td></td><td></td><td>48</td><td>39</td><td>43</td><td>74</td><td>29.13</td><td>30.19</td><td>7.48</td><td>7</td><td>1</td><td>33</td></tr> <tr><td>14</td><td></td><td></td><td>49</td><td>39</td><td>44</td><td>71</td><td>29.11</td><td>30.17</td><td>7.66</td><td>8</td><td>2</td><td>35</td></tr> <tr><td>15</td><td></td><td></td><td>50</td><td>38</td><td>44</td><td>68</td><td>29.10</td><td>30.16</td><td>7.81</td><td>7</td><td>1</td><td>30</td></tr> <tr><td>16</td><td></td><td></td><td>50</td><td>38</td><td>45</td><td>69</td><td>29.10</td><td>30.16</td><td>7.97</td><td>8</td><td>2</td><td>30</td></tr> <tr><td>17</td><td></td><td></td><td>48</td><td>38</td><td>44</td><td>71</td><td>29.11</td><td>30.16</td><td>8.05</td><td>7</td><td>1</td><td>30</td></tr> <tr><td>18</td><td></td><td></td><td>47</td><td>38</td><td>43</td><td>73</td><td>29.11</td><td>30.17</td><td>7.90</td><td>6</td><td>2</td><td>33</td></tr> <tr><td>19</td><td></td><td></td><td>46</td><td>38</td><td>42</td><td>76</td><td>29.12</td><td>30.17</td><td>8.52</td><td>6</td><td>1</td><td>36</td></tr> <tr><td>20</td><td></td><td></td><td>45</td><td>38</td><td>42</td><td>77</td><td>29.12</td><td>30.18</td><td>8.18</td><td>6</td><td>1</td><td>33</td></tr> <tr><td>21</td><td></td><td></td><td>45</td><td>38</td><td>42</td><td>78</td><td>29.12</td><td>30.18</td><td>7.81</td><td>5</td><td>1</td><td>34</td></tr> <tr><td>22</td><td></td><td></td><td>44</td><td>38</td><td>41</td><td>81</td><td>29.12</td><td>30.18</td><td>7.97</td><td>6</td><td>1</td><td>33</td></tr> <tr><td>23</td><td></td><td></td><td>43</td><td>37</td><td>41</td><td>82</td><td>29.12</td><td>30.18</td><td>7.87</td><td>6</td><td>1</td><td>1</td></tr> <tr><td>24</td><td></td><td></td><td>42</td><td>37</td><td>40</td><td>83</td><td>29.12</td><td>30.17</td><td>7.95</td><td>6</td><td>2</td><td>32</td></tr> </tbody> </table>												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			43	38	41	85	29.11	30.17	7.45	7	2	30	02			43	38	41	85	29.11	30.16	7.66	5	1	33	03			42	38	40	86	29.12	30.17	7.58	5	2	34	04			41	38	40	88	29.11	30.17	7.15	5	2	1	05			40	37	39	89	29.12	30.17	6.89	5	2	36	06			40	37	39	90	29.12	30.18	6.63	5	1	4	07			40	37	39	89	29.14	30.19	6.80	5	2	36	08			40	37	39	89	29.15	30.21	7.02	6	1	2	09			41	38	40	88	29.16	30.22	6.23	6	2	34	10			43	38	41	83	29.18	30.24	7.27	6	2	33	11			45	39	42	80	29.18	30.24	7.69	8	2	33	12			46	39	43	76	29.16	30.21	7.62	8	1	32	13			48	39	43	74	29.13	30.19	7.48	7	1	33	14			49	39	44	71	29.11	30.17	7.66	8	2	35	15			50	38	44	68	29.10	30.16	7.81	7	1	30	16			50	38	45	69	29.10	30.16	7.97	8	2	30	17			48	38	44	71	29.11	30.16	8.05	7	1	30	18			47	38	43	73	29.11	30.17	7.90	6	2	33	19			46	38	42	76	29.12	30.17	8.52	6	1	36	20			45	38	42	77	29.12	30.18	8.18	6	1	33	21			45	38	42	78	29.12	30.18	7.81	5	1	34	22			44	38	41	81	29.12	30.18	7.97	6	1	33	23			43	37	41	82	29.12	30.18	7.87	6	1	1	24			42	37	40	83	29.12	30.17	7.95	6	2	32
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			43	38	41	85	29.11	30.17	7.45	7	2	30																																																																																																																																																																																																																																																																																																																																																															
02			43	38	41	85	29.11	30.16	7.66	5	1	33																																																																																																																																																																																																																																																																																																																																																															
03			42	38	40	86	29.12	30.17	7.58	5	2	34																																																																																																																																																																																																																																																																																																																																																															
04			41	38	40	88	29.11	30.17	7.15	5	2	1																																																																																																																																																																																																																																																																																																																																																															
05			40	37	39	89	29.12	30.17	6.89	5	2	36																																																																																																																																																																																																																																																																																																																																																															
06			40	37	39	90	29.12	30.18	6.63	5	1	4																																																																																																																																																																																																																																																																																																																																																															
07			40	37	39	89	29.14	30.19	6.80	5	2	36																																																																																																																																																																																																																																																																																																																																																															
08			40	37	39	89	29.15	30.21	7.02	6	1	2																																																																																																																																																																																																																																																																																																																																																															
09			41	38	40	88	29.16	30.22	6.23	6	2	34																																																																																																																																																																																																																																																																																																																																																															
10			43	38	41	83	29.18	30.24	7.27	6	2	33																																																																																																																																																																																																																																																																																																																																																															
11			45	39	42	80	29.18	30.24	7.69	8	2	33																																																																																																																																																																																																																																																																																																																																																															
12			46	39	43	76	29.16	30.21	7.62	8	1	32																																																																																																																																																																																																																																																																																																																																																															
13			48	39	43	74	29.13	30.19	7.48	7	1	33																																																																																																																																																																																																																																																																																																																																																															
14			49	39	44	71	29.11	30.17	7.66	8	2	35																																																																																																																																																																																																																																																																																																																																																															
15			50	38	44	68	29.10	30.16	7.81	7	1	30																																																																																																																																																																																																																																																																																																																																																															
16			50	38	45	69	29.10	30.16	7.97	8	2	30																																																																																																																																																																																																																																																																																																																																																															
17			48	38	44	71	29.11	30.16	8.05	7	1	30																																																																																																																																																																																																																																																																																																																																																															
18			47	38	43	73	29.11	30.17	7.90	6	2	33																																																																																																																																																																																																																																																																																																																																																															
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21			45	38	42	78	29.12	30.18	7.81	5	1	34																																																																																																																																																																																																																																																																																																																																																															
22			44	38	41	81	29.12	30.18	7.97	6	1	33																																																																																																																																																																																																																																																																																																																																																															
23			43	37	41	82	29.12	30.18	7.87	6	1	1																																																																																																																																																																																																																																																																																																																																																															
24			42	37	40	83	29.12	30.17	7.95	6	2	32																																																																																																																																																																																																																																																																																																																																																															
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13	OVC	003		1.25 BR	32	32	32	100	0	00	29.19	30.27																																																																																																																																																																																																																																																																																																																																																															
16	OVC	009		3.00 BR	36	32	34	86	7	15	29.14	30.21																																																																																																																																																																																																																																																																																																																																																															
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07	BKN	075		4.00 BR	35	34	35	96	7	12	29.08	30.14																																																																																																																																																																																																																																																																																																																																																															
10	OVC	044		2.50 -RAPL BR	37	36	37	96	3	05	29.05	30.11																																																																																																																																																																																																																																																																																																																																																															
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01	OVC	003		3.00 BR	39	38	39	96	0	00	28.84	29.89																																																																																																																																																																																																																																																																																																																																																															
04	OVC	006		3.00 DZ BR	39	38	39	96	3	23	28.84	29.88																																																																																																																																																																																																																																																																																																																																																															
07	OVC	001		1.00 BR	39	39	39	100	3	24	28.81	29.85																																																																																																																																																																																																																																																																																																																																																															
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13	OVC	005		3.00 BR	43	42	43	97	7	20	28.70	29.74																																																																																																																																																																																																																																																																																																																																																															
16	OVC	010		7.00	44	41	43	89	13	25	28.68	29.72																																																																																																																																																																																																																																																																																																																																																															
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22	OVC	034		10.00	40	35	38	83	18	29	28.72	29.77																																																																																																																																																																																																																																																																																																																																																															
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01	OVC	027		10.00 -SN	34	31	33	89	21	29	28.81	29.86																																																																																																																																																																																																																																																																																																																																																															
04	OVC	036		9.00 -SN	32	26	30	79	9	30	28.88	29.94																																																																																																																																																																																																																																																																																																																																																															
07	OVC	042		10.00	30	19	26	64	14	28	28.96	30.02																																																																																																																																																																																																																																																																																																																																																															
10	BKN	022		5.00 -SN	27	19	24	72	0	00	29.09	30.15																																																																																																																																																																																																																																																																																																																																																															
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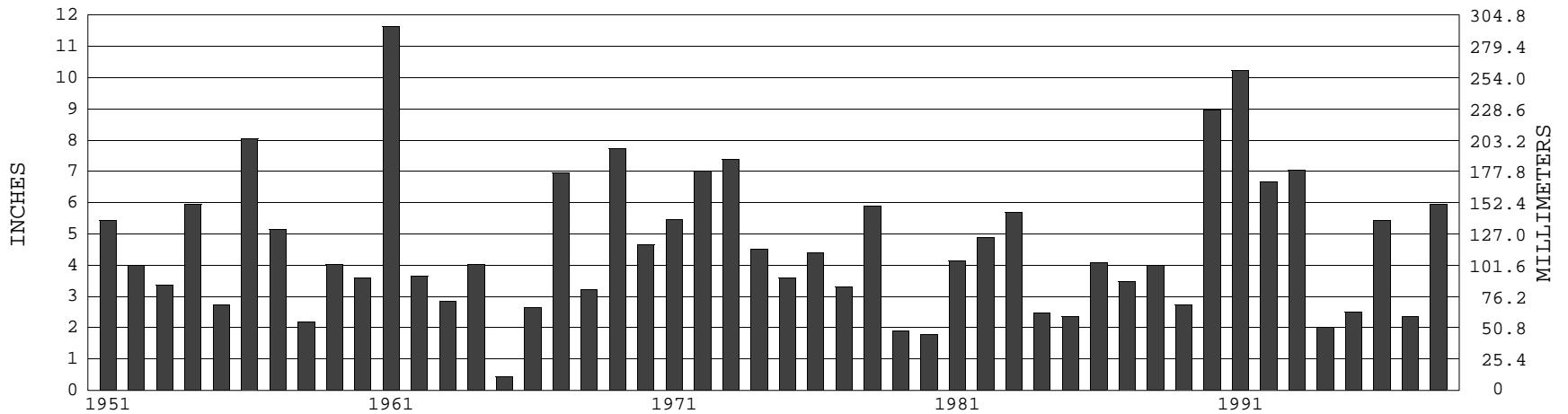
KNOXVILLE, TN DECEMBER TEMPERATURES



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

Long-Term (1951-1998) Mean: 41.0 1961-1990 Normal: 40.1

KNOXVILLE, TN DECEMBER PRECIPITATION



Long-Term (1951-1998) Mean Monthly Total: 4.64

1961-1990 Normal: 4.54



**DECEMBER 1998
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.

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
828–271–4800 (voice), 828–271–4876 (fax),
828–271–4010(TDD)
or orders@ncdc.noaa.gov
Local Climatological Data is available at www.ncdc.noaa.gov

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NATIONAL CLIMATIC DATA CENTER
151 PATTON AVE RM 120
ASHEVILLE, NC 28801 –5001

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