



OCTOBER 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

OCTOBER 2002
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	84	67	76	11	66	69	0	11	BR HZ				0.00	29.13	30.14	1.6	28	2.8	15	26	10	27	01															
02	85	64	75	10	68	70	0	10	FG BCFG BR				0.00	29.09	30.11	1.4	29	2.3	12	29	10	28	02															
03	86*	65	76*	12	68	70	0	11	BR HZ				0.00	29.02	30.04	0.6	01	2.8	12	28	8	23	03															
04	83	65	74	10	67	69	0	9	RA DZ BR				0.02	28.90	29.92	8.0	20	9.6	35	19	28	22	04															
05	83	64	74	11	66	69	0	9	RA BR				0.05	29.02	30.04	3.3	29	6.6	17	32	14	33	05															
06	84	57	71	8	62	65	0	6	BCFG BR				0.00	29.05	30.07	2.5	26	4.5	23	22	21	23	06															
07	69	57	63	1	61	62	2	0	TS TSRA RA BR				0.79	29.03	30.06	4.6	01	6.0	16	02	14	33	07															
08	75	55	65	3	58	61	0	0					0.00	29.04	30.07	4.1	03	4.9	12	05	10	03	08															
09	70	61	66	5	61	63	0	1	BR HZ				0.00	29.10	30.13	3.0	01	3.6	9	32	7	34	09															
10	68	62	65	4	64	65	0	0	RA BR				0.15	29.06	30.09	3.5	04	3.8	9	03	9	06	10															
11	73	64	69	8	66	66	0	4	RA FG+ BR				0.16	29.00	30.03	1.5	01	3.2	12	23	9	27	11															
12	79	64	72	12	66	68	0	7	FG+ BR HZ				0.00	29.05	30.07	0.5	01	1.8	9	31	8	31	12															
13	73	56	65	5	59	62	0	0	RA BCFG BR				0.06	29.14	30.17	6.7	36	9.4	25	34	21	34	13															
14	68	51	60	1	50	54	5	0					0.00	29.10	30.14	8.3	04	9.2	20	05	17	04	14															
15	60	54	57	-2	54	55	8	0	RA BR				0.93	28.84	29.87	6.4	04	6.5	15	05	13	01	15															
16	63	46	55	-4	48	52	10	0	RA BR				0.11	28.78	29.81	4.4	35	5.6	17	01	14	01	16															
17	59	41	50	-8	43	46	15	0	BR				0.00	28.98	30.03	3.2	25	3.7	16	25	13	24	17															
18	63	41*	52	-6	42	47	13	0					0.00	29.13	30.17	0.9	21	2.3	14	25	10	21	18															
19	65	44	55	-2	50	52	10	0					0.00	29.03	30.07	0.1	33	2.1	14	25	12	26	19															
20	65	55	60	3	58	59	5	0	RA BR				1.37	28.95	29.98	1.5	04	1.9	10	02	9	02	20															
21	67	56	62	5	57	58	3	0	BR				0.00	28.98	30.01	1.7	32	3.9	9	01	8	02	21															
22	69	50	60	4	54	56	5	0					0.00	29.10	30.14	3.2	03	3.8	14	04	12	01	22															
23	70	47	59	3	53	55	6	0	FG+ BR				0.00	29.15	30.19	1.9	04	3.2	12	03	9	04	23															
24	64	57	61	5	57	59	4	0	RA BR HZ				0.03	29.11	30.15	3.1	02	4.0	12	02	9	02	24															
25	61	54	58	3	57	57	7	0	RA DZ BR HZ				0.02	29.02	30.06	1.9	32	4.4	13	26	10	27	25															
26	65	59	62	7	60	60	3	0	RA DZ BR				0.01	29.00	30.03	2.2	25	3.9	14	01	12	01	26															
27	68	57	63	8	57	59	2	0	RA BR				T	29.04	30.08	3.4	03	3.7	15	03	10	03	27															
28	67	59	63	9	62	62	2	0	TSRA RA BR				0.61	28.89	29.92	3.3	03	4.3	12	33	9	33	28															
29	74	62	68	14	64	65	0	3	TSRA RA BR				1.19	28.74	29.75	4.2	24	8.1	43*	28	36*	29	29															
30	66	47	57	3	51	53	8	0	RA BR				0.09	28.86	29.89	6.8	28	9.0	21	28	17	27	30															
31	50	43	47*	-7	41	44	18	0					0.00	29.11	30.16	3.8	05	4.1	13	02	10	06	31															
< MONTHLY AVERAGES											TOTALS-->				5.59	29.01	30.04	1.6	36	4.7	<-- MONTHLY AVERAGES																	
0.3											7.9		4.1		<-----DEPARTURE FROM NORMAL----->											2.94		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3										
DEGREE DAYS										GREATEST 24-HR PRECIPITATION: 1.37 DATE: 20				SEA LEVEL PRESSURE				DATE		TIME																		
MONTHLY					SEASON TO DATE					GREATEST 24-HR SNOWFALL:				MAXIMUM				DATE		TIME																		
TOTAL DEPARTURE					TOTAL DEPARTURE					GREATEST SNOWFALL:				MINIMUM				DATE		TIME																		
HEATING: 126					128					NUMBER OF DAYS WITH				MAXIMUM TEMP ≥ 90: 0				MINIMUM TEMP ≤ 32: 0				PRECIPITATION ≥ 0.01 INCH: 15																
COOLING: 71					43					1818				MAXIMUM TEMP ≤ 32: 0				MINIMUM TEMP ≤ 0: 0				PRECIPITATION ≥ 0.10 INCH: 8																
					371									THUNDERSTORMS: 3				HEAVY FOG: 3				SNOWFALL ≥ 1.0 INCH: :																

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

KNOXVILLE, TN

OCTOBER 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		0.00		
03													03												03		0.00		
04													04		0.01	0.01	T	T	T						04		0.02		
05		0.04				T	0.01						05												05		0.05		
06													06												06		0.00		
07				0.04	0.10	0.51	0.07	0.03	0.03	0.01			07												07		0.79		
08													08												08		0.00		
09													09												09		0.00		
10					T	T	0.01	T	T	0.01	T	0.01	10	T	0.01	0.01	0.01	0.01	0.02	T		T	0.01	0.03	0.02	10		0.15	
11	0.05	0.03	0.02	T	0.01	0.02	T			T	0.02	T	11						T	T					11	0.15	0.16		
12													12												12		0.00		
13		T	0.02	0.03	0.01	T							13												13		0.06		
14													14												14		0.00		
15													15			0.01	0.07	0.18	0.18	0.22	0.15	.07	.08	0.08	15	1.04	0.93		
16	0.06	0.02	0.01	0.01	0.01	T							16												16		0.11		
17													17												17		0.00		
18													18												18		0.00		
19													19												19		0.00		
20	T	0.01			T	T	0.06	0.01	0.01	T	T		20					0.02	1.04	0.19	0.03			20		1.37			
21													21												21		0.00		
22													22												22		0.00		
23													23												23		0.00		
24		0.01	T			T	0.02			T			24												24		0.03		
25													25		T	0.01	T	T				T	T	0.01	25		0.02		
26	T	T				T	T	0.01	T				26							T	T				26		0.01		
27					T	T							27												27		T		
28		T	0.01	T	T	T	0.09	0.04	0.05	0.15	0.14		28	0.06	0.05	T				0.01	T	T		28		0.61			
29			0.03	0.10	0.27	0.01	T	T	0.06	T	0.01	0.02	29			T	0.32	0.11	T	0.01	0.08	0.03	0.06	0.08	29		1.19		
30	0.06	0.02	T		0.01								30												30		0.09		
31													31												31		0.00		

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	.30	.39	.43	.53	.70	.91	1.08	1.17	1.22	1.25	1.27	1.28
Ending Date	29	29	29	20	20	20	20	20	20	20	20	20
Ending Time (Hour/Min)	1553	1558	1559	1938	1938	1951	1957	2014	2036	2036	2106	2119

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 OCTOBER 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:

DATE	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR–SS		MN–MN		MINIMUM	MAXIMUM	
			CEILOMETER	SATELLITE	CEILOMETER	SATELLITE			
01							5.00	10.00	
02							.50	10.00	
03							2.00	10.00	
04							2.00	10.00	
05							2.00	10.00	
06							1.00	10.00	
07							1.00	10.00	
08							7.00	10.00	
09							4.00	9.00	
10							1.00	4.00	
11							.25	10.00	
12							<.25	10.00	
13							2.50	10.00	
14							10.00	10.00	
15							2.50	10.00	
16							5.00	10.00	
17							2.50	10.00	
18							9.00	10.00	
19							7.00	10.00	
20							1.00	8.00	
21							4.00	10.00	
22							7.00	10.00	
23							<.25	10.00	
24							1.00	8.00	
25							2.00	10.00	
26							1.00	10.00	
27							6.00	10.00	
28							1.00	10.00	
29							.00	10.00	
30							2.50	10.00	
31							8.00	10.00	
MONTHLY AVGS							3.41	9.65	
SUNSHINE (MINUTES)									
Total: Possible: Percent Possible:									
NUMBER OF DAYS WITH:									
SKY CONDITION									
CLR PTLY CLDY CLOUDY MISSING 31									
MINIMUM VISIBILITY (MILES)									
<=0.25 <=3.0 >=7.0 3 19 6									

OBSERVATIONS AT 3-HOURLY INTERVALS

KNOXVILLE, TN

OCTOBER 2002

TYS

WBAN # 13891

Table with columns for HOUR (LST), SKY COVER, CEILING, OBSERVATION TIME, SATELLITE, WEATHER, TEMPERATURE (DRY BULB, DEW POINT, WET BULB), WIND (SPEED, DIRECTION), PRESSURE (STATION, SEA LEVEL), and their counterparts for the second set of observations.

OBSERVATIONS AT 3-HOURLY INTERVALS

KNOXVILLE, TN

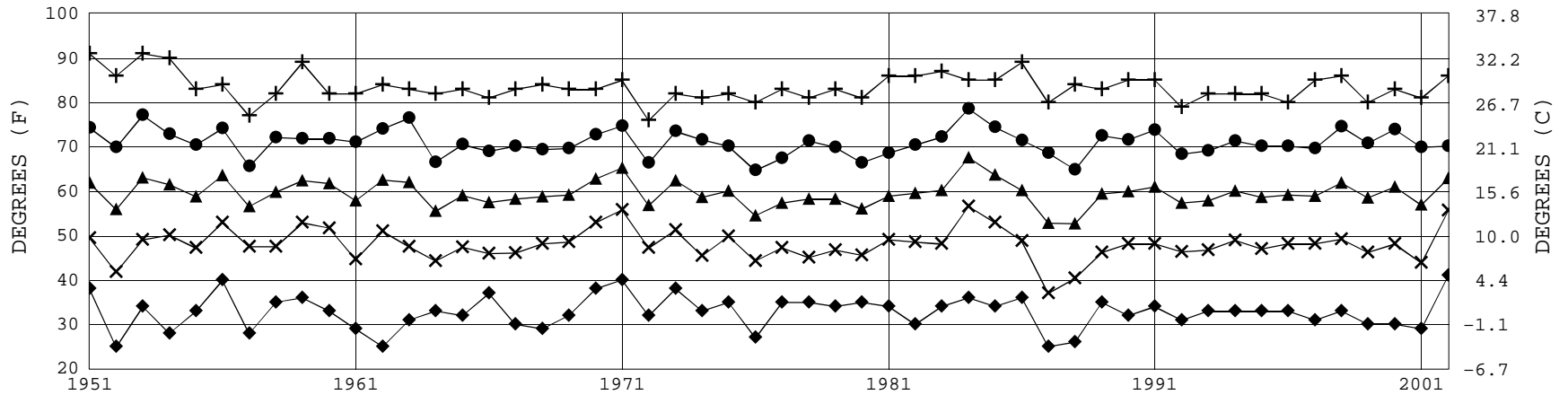
OCTOBER 2002

TYS

WBAN # 13891

HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)					
	SKY COVER	CEILING 100'S OF FT			OBSERVATION TIME (LST)	EFF CLD AMT Oktas	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	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
SUNRISE: 0652					OCT 25					SUNSET: 1748					SUNRISE: 0657					OCT 31					SUNSET: 1742				
01	BKN	090	5.00	BR	56	56	56	100	0	00	29.10	30.13	01	OVC	020	10.00		47	41	44	80	6	01	29.04	30.09				
04	OVC	075	4.00	BR	56	56	56	100	6	05	29.07	30.10	04	OVC	018	10.00		45	40	43	83	9	03	29.05	30.10				
07	OVC	080	6.00	BR	54	52	53	93	8	05	29.06	30.10	07	OVC	026	10.00		44	39	42	83	6	07	29.10	30.14				
10	OVC	046	6.00	BR	57	53	55	87	3	06	29.05	30.09	10	OVC	021	10.00		46	39	43	77	6	09	29.14	30.19				
13	OVC	044	8.00		61	55	58	81	0	00	28.99	30.03	13	OVC	025	10.00		48	39	44	71	0	00	29.12	30.17				
16	OVC	005	2.50	-RA BR	61	60	60	97	3	24	28.97	30.01	16	OVC	035	10.00		50	39	45	66	0	00	29.11	30.16				
19	OVC	029	6.00	BR	61	60	60	97	5	25	28.97	30.00	19	OVC	034	10.00		48	42	45	80	5	06	29.14	30.19				
22	OVC	007	5.00	DZ BR	60	59	59	96	5	27	28.99	30.03	22	OVC	047	10.00		47	42	45	83	0	00	29.17	30.22				
SUNRISE: 0653					OCT 26					SUNSET: 1747					3-HOURLY OBSERVATION NOTES														
01	OVC	006	4.00	DZ BR	59	59	59	100	5	23	28.98	30.02	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	016	6.00	BR	59	58	58	96	6	24	28.96	30.00	Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.																
07	OVC	011	5.00	-RA BR	59	58	58	96	0	00	28.98	30.02	NC= No ceiling detected.																
10	OVC	019	9.00		61	59	60	93	6	23	29.01	30.04	& = Original observation contained additional weather elements.																
13	OVC	011	10.00		63	60	61	90	6	24	28.99	30.03	See page 3 for additional notes.																
16	OVC	043	10.00		64	60	62	87	5	22	28.98	30.01																	
19	OVC	030	8.00	DZ	63	61	62	93	0	00	29.00	30.03																	
22	OVC	013	4.00	BR	62	61	61	96	0	00	29.03	30.06																	
SUNRISE: 0653					OCT 27					SUNSET: 1746																			
01	OVC	018	9.00		60	56	58	86	6	01	29.04	30.07																	
04	OVC	020	8.00		59	56	57	90	5	01	29.05	30.08																	
07	OVC	024	7.00		57	56	56	96	6	05	29.08	30.11																	
10	OVC	011	6.00	BR	60	57	58	90	7	04	29.10	30.13																	
13	BKN	020	10.00		65	57	60	76	3	35	29.05	30.09																	
16	OVC	026	10.00		67	58	62	73	0	00	29.02	30.05																	
19	OVC	050	7.00		61	59	60	93	5	04	29.02	30.06																	
22	OVC	040	9.00		62	59	60	90	0	00	29.01	30.04																	
SUNRISE: 0654					OCT 28					SUNSET: 1745																			
01	OVC	026	6.00	BR	61	59	60	93	3	03	28.98	30.01																	
04	OVC	029	5.00	BR	60	59	59	96	5	04	28.92	29.95																	
07	BKN	028	1.50	-RA BR	60	59	59	96	3	33	28.91	29.94																	
10	OVC	007	1.00	+RA BR	61	61	61	100	3	01	28.91	29.94																	
13	OVC	006	2.00	-RA BR	63	63	63	100	6	16	28.87	29.89																	
16	BKN	013	10.00		67	66	66	97	7	02	28.83	29.85																	
19	OVC	017	3.00	-RA BR	65	64	64	97	5	07	28.87	29.89																	
22	OVC	003	3.00	BR	63	63	63	100	3	02	28.87	29.89																	
SUNRISE: 0655					OCT 29					SUNSET: 1744																			
01	OVC	001	1.00	BR	63	63	63	100	5	03	28.84	29.86																	
04	OVC	005	4.00	TSRA BR	63	63	63	100	3	09	28.79	29.80																	
07	OVC	065	3.00	-RA BR	62	62	62	100	7	31	28.79	29.80																	
10	OVC	004	7.00		65	64	64	97	0	00	28.77	29.79																	
13	BKN	065	10.00		73	66	68	79	20	25	28.67	29.68																	
16	OVC	041		+TSRA BR	66	65	65	96	26	28	28.68	29.70																	
19	OVC	030	2.00	+RA BR	67	66	66	97	8	25	28.72	29.73																	
22	OVC	070	6.00	BR	65	64	64	97	5	15	28.70	29.72																	
SUNRISE: 0656					OCT 30					SUNSET: 1743																			
01	OVC	008	4.00	BR	65	65	65	100	8	22	28.70	29.71																	
04	OVC	005	9.00		64	64	64	100	9	24	28.69	29.71																	
07	BKN	033	10.00		59	58	58	96	9	28	28.77	29.79																	
10	OVC	015	10.00		57	53	55	87	10	29	28.85	29.87																	
13	OVC	020	10.00		53	47	50	80	14	27	28.88	29.91																	
16	OVC	022	10.00		52	45	48	77	8	25	28.92	29.95																	
19	OVC	028	10.00		49	43	46	80	9	01	28.96	30.00																	
22	OVC	026	10.00		48	41	45	77	3	34	29.01	30.06																	

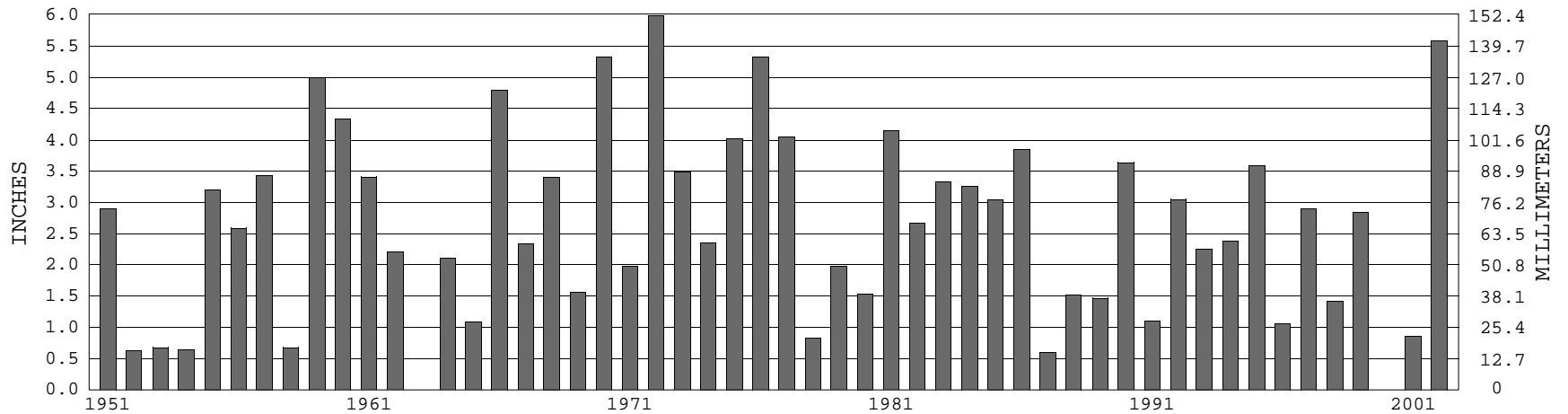
KNOXVILLE, TN OCTOBER TEMPERATURES



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

Long-Term (1951-2002) Mean: 59.5 1961-1990 Normal: 58.8

KNOXVILLE, TN OCTOBER PRECIPITATION



Long-Term (1951-2002) Mean Monthly Total: 2.62

1961-1990 Normal: 2.65



OCTOBER 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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