

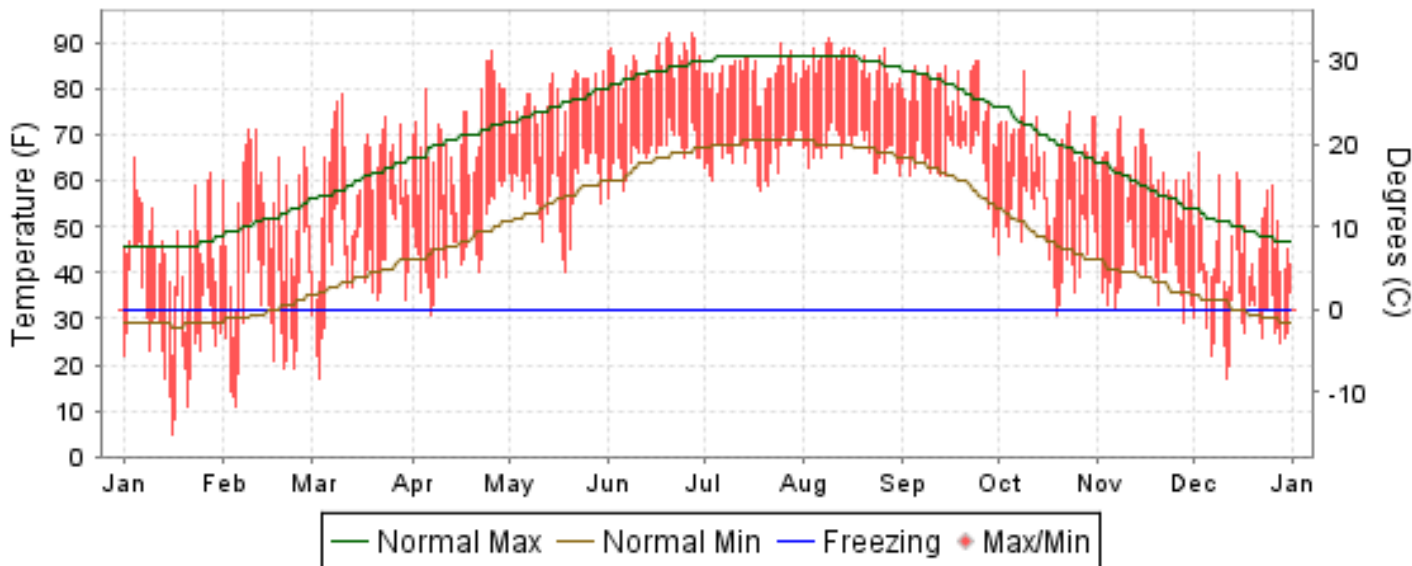


2009 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

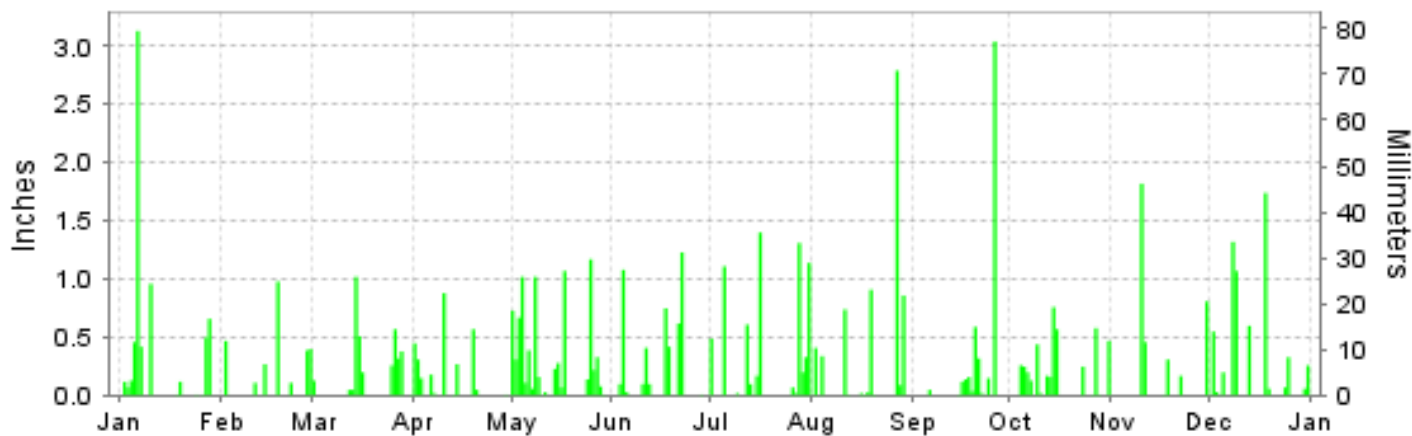
ISSN 0198-4802

KNOXVILLE, TENNESSEE (KTYS)

Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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AND INFORMATION SERVICE

NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2009

KNOXVILLE (KTYS)

LATITUDE: 35° 49'N LONGITUDE: -83° 59'W ELEVATION (FT): GRND: 962 BARO: 982 TIME ZONE: EASTERN (UTC -5) WBAN: 13891

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	46.2	53.9	61.2	70.1	77.1	85.8	83.4	85.5	79.4	67.4	61.8	47.2	68.3	
	HIGHEST DAILY MAXIMUM	65	71	79	88	84	92	90	91	86	84	74	66	92	
	DATE OF OCCURRENCE	04	11+	10	26	31+	27+	25	09	25+	09	08	02	JUN 27+	
	MEAN DAILY MINIMUM	27.0	31.6	41.4	46.6	57.9	66.1	65.5	67.2	64.1	48.5	40.0	30.8	48.9	
	LOWEST DAILY MINIMUM	5	11	17	31	40	56	58	61	48	31	29	17	5	
	DATE OF OCCURRENCE	16	05	03	07	19	01	19	31	29	19	28	11	JAN 16	
	AVERAGE DRY BULB	36.6	42.8	51.3	58.4	67.5	76.0	74.5	76.4	71.8	58.0	50.9	39.0	58.6	
	MEAN WET BULB	33.1	37.0	45.5	51.0	61.5	68.8	67.6	69.6	66.3	53.8	45.9	35.9	53.0	
	MEAN DEW POINT	27.4	29.1	38.5	43.8	57.6	65.1	64.0	66.5	63.6	50.5	40.5	30.5	48.1	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	0	7	1	3	0	0	0	0	0	11
	MAXIMUM <= 32°	3	2	0	0	0	0	0	0	0	0	0	0	0	5
	MINIMUM <= 32°	22	15	5	1	0	0	0	0	0	1	2	18	64	
MINIMUM <= 0°	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/C	HEATING DEGREE DAYS	870	615	418	231	39	0	0	0	13	221	412	800	3619	
	COOLING DEGREE DAYS	0	0	2	40	126	339	302	360	222	11	0	0	1402	
RH	MEAN (PERCENT)	72	62	65	61	74	72	73	75	80	79	71	74	72	
	HOUR 01 LST	77	69	72	73	86	87	85	88	90	89	81	80	81	
	HOUR 07 LST	83	77	78	75	84	81	83	86	90	89	88	82	83	
	HOUR 13 LST	61	51	55	47	56	55	56	58	63	63	53	62	57	
	HOUR 19 LST	69	55	60	53	70	67	67	71	79	81	65	71	67	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	2	2	3	0	4	0	2	3	8	8	2	6	40	
	THUNDERSTORMS	1	0	1	4	14	12	13	10	4	1	0	0	60	
CLOUDNESS	SUNRISE-SUNSET: (OKTAS)														
	CEILOMETER (<= 12,000 FT.)														
	SATELLITE (> 12,000 FT.)														
	MIDNIGHT-MIDNIGHT: (OKTAS)														
	CEILOMETER (<= 12,000 FT.)														
SATELLITE (> 12,000 FT.)															
NUMBER OF DAYS WITH:															
CLEAR															
PARTLY CLOUDY															
CLOUDY															
PR	MEAN STATION PRESS. (IN.)	29.03	29.11	29.07	28.95	28.98	28.87	28.95	29.01	29.00	28.98	29.05	29.05	29.00	
	MEAN SEA-LEVEL PRESS. (IN.)	30.10	30.17	30.14	29.99	30.01	29.88	29.97	30.03	30.03	30.02	30.10	30.11	30.05	
WINDS	RESULTANT SPEED (MPH)	3.0	4.0	1.5	4.1	1.5	1.8	2.3	0.7	1.3	1.3	0.8	2.2	1.8	
	RES. DIR. (TENS OF DEGS.)	26	24	28	24	24	25	25	28	35	27	32	28	26	
	MEAN SPEED (MPH)	6.3	7.5	7.4	7.1	6.4	5.0	5.6	4.4	4.0	5.0	4.6	6.3	5.8	
	PREVAIL.DIR.(TENS OF DEGS.)	22	23	03	22	23	22	22	22	05	02	22	02	22	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	37	46	31	37	39	37	29	29	24	31	25	41	46	
	DIR. (TENS OF DEGS.)	25	27	24	25	20	27	25	01	29	19	05	22	27	
	DATE OF OCCURRENCE	07	11	08	02	25	11	31	04	28	23	11	09	FEB 11	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	51	56	40	52	55	49	38	40	35	37	31	55	56	
DIR. (TENS OF DEGS.)	21	27	27	24	12	27	25	09	28	20	05	21	27		
DATE OF OCCURRENCE	28	11	28	02	15	11	31	27	28	23	11	09	FEB 11		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	6.60	2.73	3.50	2.90	8.10	4.85	6.97	6.22	4.64	4.28	3.58	6.29	60.66	
	GREATEST 24-HOUR (IN.)	3.25	0.98	1.13	0.88	1.39	1.30	1.57	2.88	3.04	1.04	2.28	2.39	3.25	
	DATE OF OCCURRENCE	06-07	18	14-15	10	25-26	21-22	15-16	27-28	26	14-15	10-11	08-09	JAN 06-07	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	13	7	11	11	20	11	13	12	11	15	6	12	142	
PRECIPITATION 0.10	9	7	8	7	15	9	10	6	7	12	5	8	103		
PRECIPITATION 1.00	1	0	1	0	4	2	4	1	1	0	1	3	18		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	1.0	5.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	8.0	
	GREATEST 24-HOUR (IN.)	1.0	3.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.0	
	DATE OF OCCURRENCE	19	02	12+	07								05	FEB 02	
	MAXIMUM SNOW DEPTH (IN.)	0	2	0	0	0	0	0	0	0	0	0	1	2	
	DATE OF OCCURRENCE	20+	22+										06+	FEB 22+	
NUMBER OF DAYS WITH:															
SNOWFALL >= 1.0	1	2	0	0	0	0	0	0	0	0	0	1	4		

NORMALS, MEANS, AND EXTREMES KNOXVILLE (KTYS)

LATITUDE: 35° 49'N **LONGITUDE:** -83° 59'W **ELEVATION (FT):** GRND: 962 BARO: 982 **TIME ZONE:** EASTERN (UTC -5) **WBAN: 13891**

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	46.3	51.7	60.3	69.0	76.3	83.6	86.9	86.4	80.7	69.9	59.0	49.8	68.3	
	MEAN DAILY MAXIMUM	100	48.0	50.0	60.4	69.5	78.3	84.3	87.8	87.0	81.1	71.4	58.4	49.8	68.8	
	HIGHEST DAILY MAXIMUM	68	77	83	86	92	94	102	103	102	103	91	84	80	103	
	YEAR OF OCCURRENCE		1950	1996	1963	1942	1962	1988	1952	2007	1954	1953	1948	1982	1982	SEP 1954
	MEAN OF EXTREME MAXS.	100	67.5	70.7	78.6	84.9	88.2	92.9	94.7	94.2	91.5	83.5	76.0	68.6	82.6	
	NORMAL DAILY MINIMUM	30	28.9	31.8	39.1	46.6	55.6	63.9	68.5	67.3	60.8	47.7	38.9	31.9	48.4	
	MEAN DAILY MINIMUM	100	30.4	31.3	39.1	47.2	56.3	63.6	68.1	67.1	60.4	48.9	38.0	32.2	48.6	
	LOWEST DAILY MINIMUM	68	-24	-8	1	22	32	43	49	49	36	25	5	-6	-24	
	YEAR OF OCCURRENCE		1985	1996	1980	1987	1986	1956	1988	1946	1967	1987	1950	1983	1983	JAN 1985
	MEAN OF EXTREME MINS.	100	9.9	13.5	22.2	31.6	41.3	52.8	59.8	59.3	47.3	33.0	22.8	14.8	34.0	
	NORMAL DRY BULB	30	37.6	41.8	49.7	57.8	66.0	73.8	77.7	76.9	70.8	58.8	49.0	40.9	58.4	
	MEAN DRY BULB	100	39.2	40.7	49.8	58.4	67.3	74.0	78.0	77.0	70.8	60.1	48.2	41.0	58.7	
	MEAN WET BULB	26	34.1	36.8	43.7	51.0	59.9	66.9	70.1	69.5	63.6	53.3	43.8	36.6	52.4	
	MEAN DEW POINT	26	30.5	33.0	38.7	46.7	57.2	64.8	68.2	67.6	61.1	50.5	40.5	33.3	49.3	
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	*	0.3	5.4	12.4	9.7	3.4	0.0	0.0	0.0	31.2	
	MAXIMUM <= 32	30	3.1	1.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*	1.3	6.1	
MINIMUM <= 32	30	19.3	15.2	8.3	1.9	*	0.0	0.0	0.0	0.0	0.9	8.2	17.1	70.9		
MINIMUM <= 0	30	0.3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4		
H/C	NORMAL HEATING DEG. DAYS	30	841	652	467	227	65	3	0	0	22	210	470	733	3690	
	NORMAL COOLING DEG. DAYS	30	0	1	5	27	110	282	408	381	205	28	3	0	1450	
RH	NORMAL (PERCENT)	30	74	70	66	65	73	75	75	76	75	75	74	75	73	
	HOURLY 01 LST	30	79	75	73	73	84	87	88	88	87	87	81	80	82	
	HOURLY 07 LST	30	82	81	81	82	88	89	90	92	92	91	86	84	87	
	HOURLY 13 LST	30	64	60	56	52	58	59	61	60	59	56	59	65	59	
	HOURLY 19 LST	30	69	61	57	54	63	64	65	66	68	66	67	70	64	
S	PERCENT POSSIBLE SUNSHINE	57	40	47	53	63	64	65	64	63	61	61	49	40	56	
W/O	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	46	2.6	1.8	1.7	1.3	2.2	1.8	2.1	3.5	3.8	4.3	2.9	2.4	30.4	
	THUNDERSTORMS	62	0.8	1.4	3.2	4.5	6.9	8.5	9.9	6.9	3.0	1.3	1.1	0.7	48.2	
CLOUDNESS	MEAN: SUNRISE-SUNSET (OKTAS)						4.0	3.2								
	MIDNIGHT-MIDNIGHT (OKTAS)							3.2								
	MEAN NO. DAYS WITH: CLEAR	1	4.0	1.0	4.0		13.0	11.0								
	PARTLY CLOUDY				1.0		3.0	5.0								
	CLOUDY	1	2.0	3.0	10.0		4.0	4.0								
PR	MEAN STATION PRESSURE(IN)	26	29.08	29.05	29.01	28.98	28.97	28.97	29.00	29.01	29.02	29.06	29.07	29.09	29.03	
	MEAN SEA-LEVEL PRES. (IN)	26	30.14	30.11	30.05	30.01	30.00	29.99	30.01	30.02	30.04	30.09	30.12	30.15	30.06	
WINDS	MEAN SPEED (MPH)	26	6.7	7.0	7.4	7.1	6.3	5.6	5.5	4.9	5.0	5.0	5.7	6.3	6.0	
	PREVAIL.DIR(TENS OF DEGS)	36	25	25	24	24	24	24	24	24	05	05	25	24	24	
	MAXIMUM 2-MINUTE: SPEED (MPH)	14	43	46	43	64	41	44	46	39	31	43	49	44	64	
	DIR. (TENS OF DEGS)		27	27	24	28	21	23	25	01	23	26	25	24	28	
	YEAR OF OCCURRENCE		1996	2009	1996	1996	2008	2003	2005	2003	2008	2001	2000	2006	APR 1996	
	MAXIMUM 3-SECOND SPEED (MPH)	14	54	56	51	76	55	52	68	48	45	56	61	57	76	
	DIR. (TENS OF DEGS)		28	27	25	27	12	24	25	03	19	26	24	28	27	
YEAR OF OCCURRENCE		2008	2009	2008	1996	2009	2003	1997	2000	2008	2001	2000	1996	APR 1996		
PRECIPITATION	NORMAL (IN)	30	4.57	4.01	5.17	3.99	4.68	4.04	4.71	2.89	3.04	2.65	3.98	4.49	48.22	
	MAXIMUM MONTHLY (IN)	68	11.74	9.38	11.81	11.07	10.98	8.21	12.66	8.88	9.19	6.67	10.36	11.63	12.66	
	YEAR OF OCCURRENCE		1954	1944	1994	1998	1974	1989	1999	1942	1989	1949	1948	1961	JUL 1999	
	MINIMUM MONTHLY (IN)	68	0.95	0.74	1.69	0.39	0.74	0.20	0.33	0.77	0.42	T	0.97	0.45	T	
	YEAR OF OCCURRENCE		1986	1968	1986	1976	1970	1944	1995	1954	1985	1963	1942	1965	OCT 1963	
	MAXIMUM IN 24 HOURS (IN)	68	3.89	3.42	5.77	3.71	4.35	3.57	4.69	3.25	5.08	2.44	4.06	4.89	5.77	
	YEAR OF OCCURRENCE		1946	1991	1994	2006	2003	1972	1942	1959	1944	1961	1948	1969	MAR 1994	
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	12.2	11.1	13.2	10.8	11.6	10.9	10.9	8.9	8.5	7.9	10.1	11.5	127.6	
PRECIPITATION >= 1.00	30	1.1	1.0	1.3	0.9	1.2	1.0	1.5	0.7	0.9	0.7	0.7	1.3	12.3		
SNOWFALL	NORMAL (IN)	30	3.7	3.0	1.6	0.8	0.0	0.0	0.0	0.0	0.0	0.*	0.1	0.7	9.9	
	MAXIMUM MONTHLY (IN)	65	15.1	23.3	20.2	10.7	T	T	0.0	T	T	T	18.2	12.2	23.3	
	YEAR OF OCCURRENCE		1962	1960	1960	1987	2008	2008	2008	1995	2006	1993	1952	1963	FEB 1960	
	MAXIMUM IN 24 HOURS (IN)	65	12.0	17.5	14.1	10.7	T	T	0.0	T	T	T	18.2	8.9	18.2	
	YEAR OF OCCURRENCE		1962	1960	1993	1987	1945	1998	1998	1995	2006	1993	1952	1969	NOV 1952	
	MAXIMUM SNOW DEPTH (IN)	58	10	15	15	7	0	0	0	0	0	0	10	6	15	
	YEAR OF OCCURRENCE		1966	1960	1993	1987							1952	1963	MAR 1993	
NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	1.3	1.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.2		

PRECIPITATION (inches) 2009 KNOXVILLE (KTYS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1980	5.54	1.78	8.72	3.30	3.80	1.94	3.57	2.34	2.38	1.53	3.78	1.78	40.46
1981	1.05	3.62	2.83	4.84	3.02	5.53	2.03	3.48	6.09	4.15	3.01	4.14	43.79
1982	6.03	4.88	6.36	3.26	5.52	3.93	6.60	2.68	2.68	2.66	5.21	4.89	54.70
1983	1.58	2.90	1.99	5.88	5.42	3.26	3.18	3.89	0.95	3.34	4.40	5.69	42.48
1984	2.26	4.42	3.79	3.37	10.14	4.34	9.03	1.72	0.85	3.26	2.87	2.49	48.54
1985	3.17	4.11	1.98	2.86	1.60	4.77	2.63	4.07	0.42	3.04	5.39	2.36	36.40
1986	0.95	3.90	1.69	2.25	2.40	0.69	1.89	3.37	3.59	3.84	3.83	4.08	32.48
1987	4.68	4.63	2.91	2.18	4.62	2.66	4.67	1.08	1.93	0.60	1.21	3.49	34.66
1988	4.29	2.94	2.42	2.34	2.35	0.51	3.60	3.20	2.68	1.52	4.82	3.99	34.66
1989	4.96	6.26	3.82	3.50	5.31	8.21	2.68	3.16	9.19	1.47	4.92	2.74	56.22
1990	5.88	6.90	5.73	2.56	4.71	1.72	7.56	3.02	2.68	3.64	1.77	8.99	55.16
1991	2.53	6.99	6.36	3.97	3.10	6.02	3.45	6.13	3.14	1.10	5.24	10.23	58.26
1992	3.87	3.36	3.99	2.11	3.20	3.07	4.62	4.22	1.77	3.05	4.29	6.68	44.23
1993	4.09	2.20	6.16	2.50	3.78	0.90	2.03	6.04	4.77	2.25	3.33	7.04	45.09
1994	7.08	8.81	11.81	7.90	3.04	5.97	5.94	4.19	1.20	2.38	2.93	2.02	63.27
1995	4.90	4.54	3.54	1.74	7.05	3.90	0.33	2.08	2.46	3.58	6.21	2.50	42.83
1996	7.53	2.74	4.72	4.50	4.57	2.96	4.77	1.33	3.45	1.17	7.71	5.44	50.89
1997	5.20	5.17	6.34	3.82	6.76	5.70	3.75	2.02	3.32	2.90	2.78	2.37	50.13
1998	4.62	2.71	4.75	11.07	3.84	7.96	5.69	2.07	1.31	1.42	2.51	5.95	53.90
1999	6.62	3.50	4.85	3.40	4.92	5.58	12.66	0.85	0.82	2.84	2.40	1.70	50.14
2000	5.14	3.42	4.37	6.69	5.90	3.36	6.12	1.40	3.82	T	4.35	2.45	47.02
2001	4.74	6.46	2.63	2.82	3.46	3.88	4.14	3.74	3.56	0.86	1.55	4.66	42.50
2002	8.06	1.69	10.59	1.44	4.66	3.91	5.65	1.41	5.17	5.59	4.58	5.35	58.10
2003	3.17	8.69	2.07	5.95	8.09	2.45	8.27	5.48	5.14	1.24	4.71	3.40	58.66
2004	2.74	3.64	4.61	2.73	5.35	7.90	7.62	2.18	4.75	3.10	6.01	5.56	56.19
2005	2.33	3.77	3.47	4.76	3.18	3.09	4.98	3.77	1.74	1.08	3.43	2.83	38.43
2006	4.00	2.55	3.22	7.57	2.13	2.38	3.94	6.39	6.17	4.11	3.24	2.09	47.79
2007	2.12	1.54	2.62	5.05	1.48	1.34	4.71	4.13	1.49	1.23	3.98	4.20	33.89
2008	3.13	4.81	4.33	3.74	3.39	2.19	7.04	1.91	3.16	1.66	3.41	8.98	47.75
2009	6.60	2.73	3.50	2.90	8.10	4.85	6.97	6.22	4.64	4.28	3.58	6.29	60.66
POR= 100 YRS	4.49	4.30	4.88	3.96	4.00	3.93	4.81	3.41	2.91	2.65	3.48	4.53	47.35

WBAN : 13891

AVERAGE TEMPERATURE (°F) 2009 KNOXVILLE (KTYS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1980	41.6	36.6	47.6	59.1	68.1	75.2	82.1	81.7	73.7	56.0	47.3	40.1	59.1
1981	33.4	41.9	46.8	63.5	63.9	77.1	81.4	78.3	70.2	58.9	49.4	38.7	58.6
1982	33.8	43.1	53.0	55.2	69.3	72.6	77.6	76.7	70.0	59.5	50.9	46.4	59.0
1983	38.0	41.1	49.7	53.2	65.4	72.5	78.5	79.6	70.3	60.2	47.4	36.4	57.7
1984	35.3	43.4	47.7	57.3	62.8	74.8	73.3	74.1	67.1	67.6	46.3	47.5	58.1
1985	29.4	37.1	50.2	58.6	65.7	72.5	76.5	75.1	68.5	63.7	56.8	34.8	57.4
1986	35.0	43.9	48.7	58.6	68.1	77.2	81.4	76.7	72.8	60.2	52.4	39.1	59.5
1987	36.8	42.2	49.2	55.0	71.3	75.5	78.5	79.6	70.1	52.8	50.2	43.5	58.7
1988	33.9	39.4	50.1	57.2	65.0	74.4	78.7	79.6	71.3	52.7	49.7	40.4	57.7
1989	42.8	41.3	53.5	57.8	62.4	73.3	77.5	76.8	70.9	59.4	48.1	32.2	58.0
1990	44.7	48.9	53.6	57.9	65.9	75.4	78.0	77.9	72.1	59.9	52.1	45.1	61.0
1991	41.2	43.8	52.0	62.8	72.0	74.9	79.3	76.5	71.4	61.0	47.1	43.5	60.5
1992	40.5	45.8	48.3	59.0	64.0	72.2	77.9	73.7	71.3	57.4	48.3	40.0	58.2
1993	43.5	39.5	45.7	56.2	67.0	76.0	83.0	78.7	70.6	57.9	48.4	40.2	58.9
1994	32.0	43.4	49.5	61.9	63.9	76.5	76.8	75.8	69.0	60.1	53.6	44.8	58.9
1995	39.2	40.7	53.1	61.0	67.3	73.8	80.2	81.5	70.5	58.6	43.6	37.1	58.9
1996	36.4	39.6	44.8	55.1	69.4	74.2	76.8	76.2	68.9	59.2	44.1	43.3	57.3
1997	39.4	46.6	54.2	54.0	62.2	71.9	78.4	75.7	71.7	58.9	43.9	39.2	58.0
1998	42.8	46.0	49.4	57.3	70.7	75.9	79.4	77.7	76.0	61.9	50.1	44.4	61.0
1999	43.6	44.1	45.3	61.2	66.2	75.0	78.6	77.7	69.9	58.5	52.7	42.4	59.6
2000	37.5	46.1	53.2	55.9	69.9	74.8	77.3	76.9	70.7	61.0	47.4	34.0	58.7
2001	35.5	45.8	46.3	61.7	68.4	72.9	78.0	77.5	68.2	56.9	54.2	45.6	59.3
2002	41.5	41.3	50.3	62.7	65.3	76.6	79.1	78.9	74.9	62.9	46.4	40.7	60.1
2003	33.9	40.9	53.3	60.4	67.5	72.1	76.3	77.8	69.4	58.5	53.0	38.5	58.5
2004	37.3	40.4	53.3	58.5	70.8	74.6	76.7	73.8	70.2	63.8	53.1	39.9	59.4
2005	43.0	44.1	48.5	58.6	64.1	75.0	78.4	79.3	74.1	61.1	51.3	37.6	59.6
2006	45.7	40.7	50.8	63.6	65.5	75.4	79.4	80.4	68.2	56.8	48.9	44.3	60.0
2007	41.2	38.2	57.0	56.1	70.0	76.7	77.5	83.2	74.7	65.1	49.3	45.5	61.2
2008	37.0	43.2	49.4	59.3	66.4	76.7	77.9	77.1	73.0	59.1	45.8	42.1	58.9
2009	36.6	42.8	51.3	58.4	67.5	76.0	74.5	76.4	71.8	58.0	50.9	39.0	58.6
POR= 100 YRS	39.2	40.7	49.8	58.4	67.3	74.0	78.0	77.0	70.8	60.1	48.2	41.0	58.7

HEATING DEGREE DAYS (base 65°F) 2009 KNOXVILLE (KTYS)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1980-81	0	0	23	284	523	761	974	641	556	104	94	0	3960
1981-82	0	0	32	196	461	809	959	606	384	295	20	0	3762
1982-83	0	0	30	228	416	577	829	662	472	356	50	3	3623
1983-84	0	0	51	163	523	878	912	619	530	240	139	5	4060
1984-85	0	0	44	30	556	536	1095	776	459	208	51	13	3768
1985-86	0	0	44	86	250	927	922	582	499	206	51	0	3567
1986-87	0	2	0	197	377	797	863	631	483	313	13	0	3676
1987-88	0	0	15	370	437	660	956	734	458	247	66	9	3952
1988-89	0	0	3	384	454	755	681	660	360	258	148	1	3704
1989-90	0	1	36	204	499	1011	622	443	358	239	68	0	3481
1990-91	0	0	26	182	382	612	730	589	405	93	16	0	3035
1991-92	0	0	46	159	538	660	753	549	512	225	113	6	3561
1992-93	0	0	13	229	494	769	659	708	592	270	38	2	3774
1993-94	0	0	37	232	495	761	1016	597	473	139	93	0	3843
1994-95	0	0	11	158	336	620	794	674	364	162	54	0	3173
1995-96	0	0	22	216	638	857	877	732	622	302	45	0	4311
1996-97	0	0	30	196	623	663	786	512	332	333	124	8	3607
1997-98	0	0	1	226	625	794	681	528	500	234	30	12	3631
1998-99	0	0	1	133	438	632	656	578	604	149	24	0	3215
1999-00	0	0	28	206	359	694	846	542	354	265	9	6	3309
2000-01	0	0	34	149	522	955	908	530	571	155	25	1	3850
2001-02	0	0	57	263	320	594	719	657	451	152	99	0	3312
2002-03	0	0	2	126	555	749	957	669	358	148	11	4	3579
2003-04	0	0	29	206	358	818	853	708	365	225	42	0	3604
2004-05	0	0	4	75	362	772	675	580	506	197	90	0	3261
2005-06	0	0	1	187	416	844	593	674	444	102	77	0	3338
2006-07	0	0	32	271	476	633	732	745	277	288	23	0	3477
2007-08	0	0	0	106	464	597	861	624	476	194	53	0	3375
2008-09	0	0	0	223	569	702	870	615	418	231	39	0	3667
2009-	0	0	13	221	412	800							

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COOLING DEGREE DAYS (base 65°F) 2009 KNOXVILLE (KTYS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1980	0	0	0	16	136	315	538	525	290	12	0	0	1832
1981	0	0	0	62	65	373	512	421	193	14	1	0	1641
1982	0	0	17	6	157	233	396	372	187	65	2	8	1443
1983	0	0	4	6	71	235	425	462	217	23	0	0	1443
1984	0	0	0	12	77	306	263	290	116	120	2	0	1186
1985	0	0	11	20	81	247	363	322	155	53	11	0	1263
1986	0	0	0	21	156	374	517	373	241	55	6	0	1743
1987	0	0	0	18	215	321	427	460	172	0	0	0	1613
1988	0	0	3	19	74	297	431	458	200	9	0	0	1491
1989	0	2	10	47	76	257	395	374	219	35	0	0	1415
1990	0	1	13	32	101	316	410	406	245	32	1	0	1557
1991	0	0	9	32	239	306	453	364	244	42	6	2	1697
1992	0	0	0	49	91	230	410	279	206	0	0	0	1265
1993	0	0	0	10	106	339	566	432	212	21	3	0	1689
1994	0	0	0	54	67	349	372	342	137	15	0	0	1336
1995	0	0	3	50	134	268	480	521	192	26	1	0	1675
1996	0	4	0	10	187	285	371	353	152	22	3	0	1387
1997	0	1	5	9	44	222	423	338	209	46	0	0	1297
1998	0	0	24	8	212	346	454	402	338	43	0	1	1828
1999	0	0	0	41	67	304	429	403	181	13	0	0	1438
2000	0	0	0	2	167	309	390	376	211	33	4	0	1492
2001	0	0	0	62	137	247	411	393	160	19	1	0	1430
2002	0	0	2	89	113	355	445	439	304	71	5	0	1823
2003	0	0	0	21	93	226	358	407	168	14	8	0	1295
2004	2	0	8	39	229	297	371	278	166	46	12	0	1448
2005	0	0	1	12	69	304	425	451	278	73	9	0	1622
2006	0	0	11	66	100	318	452	485	138	23	0	0	1593
2007	0	0	35	27	187	359	393	572	300	114	0	0	1987
2008	0	0	0	29	105	355	408	382	246	46	0	0	1571
2009	0	0	2	40	126	339	302	360	222	11	0	0	1402

SNOWFALL (inches) 2009 KNOXVILLE (KTYS)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1980-81	0.0	0.0	0.0	0.0	T	T	5.0	2.5	T	0.0	0.0	0.0	7.5
1981-82	0.0	0.0	0.0	0.0	T	0.1	4.4	0.1	1.1	T	0.0	0.0	5.7
1982-83	0.0	0.0	0.0	0.0	0.0	3.0	1.1	3.4	0.7	2.0	0.0	0.0	10.2
1983-84	0.0	0.0	0.0	0.0	0.0	0.7	2.8	3.5	T	0.0	0.0	0.0	7.0
1984-85	0.0	0.0	0.0	0.0	0.0	T	14.2	8.3	0.0	0.0	0.0	0.0	22.5
1985-86	0.0	0.0	0.0	0.0	0.0	0.4	3.6	5.0	T	0.0	0.0	0.0	9.0
1986-87	0.0	0.0	0.0	0.0	T	T	7.5	T	1.6	10.7	0.0	0.0	19.8
1987-88	0.0	0.0	0.0	0.0	T	T	9.2	0.9	T	0.0	0.0	0.0	10.1
1988-89	0.0	0.0	0.0	0.0	T	2.6	1.8	2.8	0.0	0.0	0.0	0.0	7.2
1989-90	0.0	0.0	0.0	T	T	1.1	T	T	T	0.0	0.0	0.0	1.1
1990-91	0.0	0.0	0.0	0.0	0.0	T	T	1.2	0.7	T	0.0	0.0	1.9
1991-92	0.0	0.0	0.0	0.0	0.2	T	T	0.0	T	T	0.0	0.0	0.2
1992-93	0.0	0.0	0.0	0.0	0.0	0.3	T	1.0	15.1	T	0.0	0.0	16.4
1993-94	0.0	0.0	0.0	T	0.0	0.3	3.3	T	0.6	0.0	0.0	0.0	4.2
1994-95	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.1	0.6	0.0	0.0	0.0	3.7
1995-96	0.0	T	0.0	0.0		T	10.0						
1996-97							1.5						
1997-98					T	3.3	0.4	0.1	T	0.0	T	T	
1998-99	0.0	0.0	0.0	0.0	0.0	T	T	2.1	2.0	0.0	T	0.0	4.1
1999-00	0.0	0.0	0.0	0.0	0.0	T	2.0	T	T	0.0	T	0.0	2.0
2000-01													
2001-02													
2002-03													
2003-04							1.0	T	0.0	0.0	0.0	0.0	
2004-05	0.0	0.0	0.0	0.0	0.0	0.1	T	T	0.4	T	0.0	0.0	0.5
2005-06	0.0	0.0	0.0	0.0	0.0	T	T	2.7	T	T	T	0.0	2.7
2006-07	0.0	0.0	T	0.0	T	T	T	0.3	T	T	0.0	0.0	0.3
2007-08	0.0	0.0	0.0	0.0	0.0	T	T	T	T	T	T	T	T
2008-09	0.0	0.0	0.0	0.0	T	0.0	1.0	5.0	T	T	0.0	0.0	6.0
2009-	0.0	0.0	0.0	0.0	0.0	2.0							
POR= 99 YRS	0.0	T	T	T	0.4	1.4	3.0	2.6	1.6	0.2	T	T	9.2

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REFERENCE NOTES :

<p>PAGE 1: THE TEMPERATURE GRAPH SHOWS NORMAL MAXIMUM AND NORMAL MINIMUM DAILY TEMPERATURES (SOLID CURVES) AND THE ACTUAL DAILY HIGH AND LOW TEMPERATURES (VERTICAL BARS).</p> <p>PAGE 2 AND 3: H/C INDICATES HEATING AND COOLING DEGREE DAYS. RH INDICATES RELATIVE HUMIDITY W/O INDICATES WEATHER AND OBSTRUCTIONS S INDICATES SUNSHINE. PR INDICATES PRESSURE. CLOUDINESS ON PAGE 3 IS THE SUM OF THE CEILOMETER AND SATELLITE DATA NOT TO EXCEED EIGHT EIGHTHS(OKTAS).</p> <p>GENERAL: T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE. + INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES. BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA. NORMALS ARE 30-YEAR AVERAGES (1971 - 2000). ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM. PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH. POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING. WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED. 0.* OR * INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05. CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET AND ON SATELLITE DATA FOR CLOUDS ABOVE 12,000 FEET. THE NUMBER OF DAYS WITH CLEAR, PARTLY CLOUDY, AND CLOUDY CONDITIONS FOR ASOS STATIONS IS THE SUM OF THE CEILOMETER AND SATELLITE DATA FOR THE SUNRISE TO SUNSET PERIOD. CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS. WHEN AT LEAST ONE OF THE ELEMENTS (CEILOMETER OR SATELLITE) IS MISSING, THE DAILY CLOUDINESS IS NOT COMPUTED.</p>	<p>GENERAL CONTINUED: WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH. RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION. AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2. SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65 F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY. ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED HISTORY GO TO "MULTI-NETWORK METADATA SYSTEM", URL IS: https://mi3.ncdc.noaa.gov/mi3qry/login.cfm</p> <p>NOTE: The "Period of Record:(POR) for all "averages" is based on the "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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2009 KNOXVILLE TENNESSEE (KTYS)

Knoxville is located in a broad valley between the Cumberland Mountains, which lie northwest of the city, and the Great Smoky Mountains, which lie southeast of the city. These two mountain ranges exercise a marked influence upon the climate of the valley. The Cumberland Mountains, to the northwest, serve to retard and weaken the force of the cold winter air which frequently penetrates far south of the latitude of Knoxville over the plains areas to the west of the mountains.

The mountains also serve to modify the hot summer winds which are common to the plains to the west. In addition, they serve as a fixed incline plane which lifts the warm, moist air flowing northward from the Gulf of Mexico and thereby increases the frequency of afternoon thunderstorms. Relief from extremely high temperatures which such thunderstorms produce serves to reduce the number of extremely warm days in the valley.

July is usually the warmest month of the year. The coldest weather usually occurs during the month of January. Sudden great temperature changes occur infrequently. This again is due mainly to the retarding effect of the mountains. Summer nights are nearly always comfortable.

Rainfall is ample for agricultural purposes and is favorably distributed during the year for most crops. Precipitation is greatest in the wintertime. Another peak period occurs during the late spring and summer months. The period of lowest rainfall occurs during the fall. A cumulative total of approximately 12 inches of snow falls annually. However, this usually comes in amounts of less than 4 inches at one time. It is unusual for snow to remain on the ground in measurable amounts longer than one week.

The topography also has a pronounced effect upon the prevailing wind direction. Daytime winds usually have a southwesterly component, while nighttime winds usually move from the northeast. The winds are relatively light and tornadoes are extremely rare.

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