

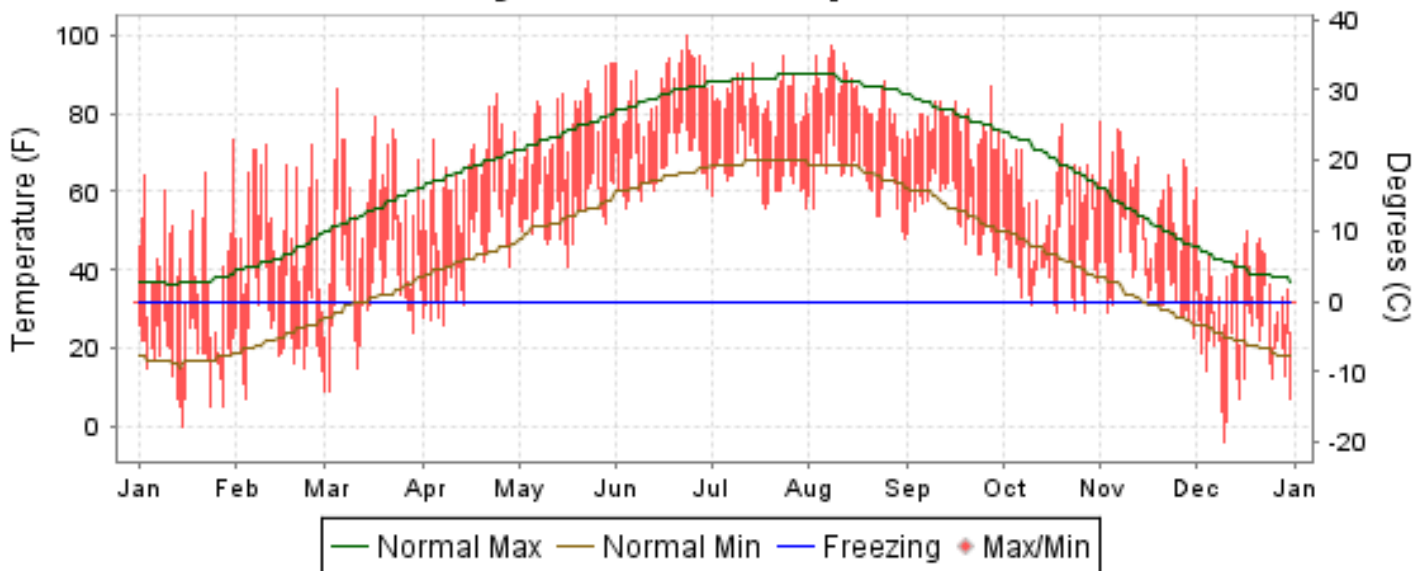


2009 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

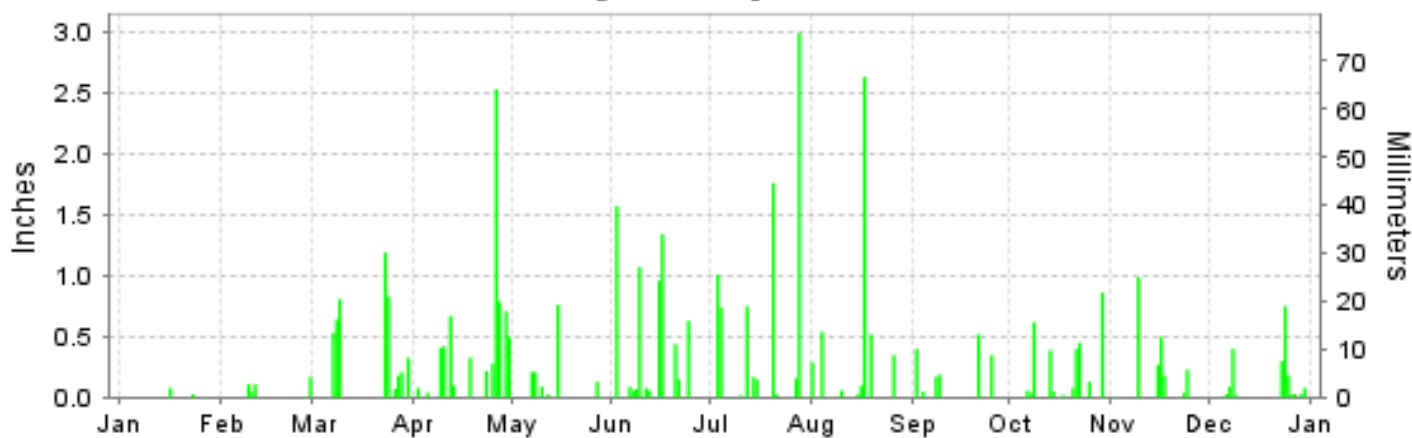
ISSN 0198-2192

TOPEKA, KANSAS (KTOP)

Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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NATIONAL
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NATIONAL
ENVIRONMENTAL SATELLITE, DATA
AND INFORMATION SERVICE

NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2009

TOPEKA (KTOP)

LATITUDE: 39 ° 4 'N LONGITUDE: -95 ° 37'W ELEVATION (FT): GRND: 884 BARO: 883 TIME ZONE: CENTRAL (UTC -6) WBAN: 13996

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	41.7	52.1	57.6	65.2	76.8	86.1	84.5	84.5	76.9	60.3	59.9	36.5	65.2	
	HIGHEST DAILY MAXIMUM	73	72	86	85	93	100	95	97	87	77	78	61	100	
	DATE OF OCCURRENCE	31	25+	05	24	31+	23	24	08	27	20	01	01	JUN 23	
	MEAN DAILY MINIMUM	17.3	25.0	34.2	43.3	54.5	66.5	64.8	64.2	54.6	40.9	37.6	19.6	43.5	
	LOWEST DAILY MINIMUM	0	7	9	26	41	56	56	48	39	29	23	-4	-4	
	DATE OF OCCURRENCE	15	04	02+	07	17	04	31+	31	29	27+	30	10	DEC 10	
	AVERAGE DRY BULB	29.5	38.6	45.9	54.3	65.7	76.3	74.7	74.4	65.8	50.6	48.8	28.1	54.4	
	MEAN WET BULB	24.5	32.5	39.3	47.3	57.6	68.7	67.7	67.4	60.2	46.3	44.0	25.2	48.4	
	MEAN DEW POINT	15.1	22.4	30.9	40.0	51.4	64.5	63.9	63.7	56.4	41.6	39.1	19.8	42.4	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	3	12	5	6	0	0	0	0	0	26
MAXIMUM <= 32°	8	1	2	0	0	0	0	0	0	0	0	9	20		
MINIMUM <= 32°	31	21	13	8	0	0	0	0	0	5	11	29	118		
MINIMUM <= 0°	1	0	0	0	0	0	0	0	0	0	0	1	2		
H/C	HEATING DEGREE DAYS	1093	732	590	338	83	2	0	9	52	442	480	1136	4957	
	COOLING DEGREE DAYS	0	0	6	22	112	349	305	308	83	2	2	0	1189	
RH	MEAN (PERCENT)	59	55	59	63	63	69	71	72	75	73	72	74	67	
	HOUR 00 LST	65	61	67	69	72	80	82	81	86	82	81	78	75	
	HOUR 06 LST	69	69	71	75	80	82	85	87	91	84	84	79	80	
	HOUR 12 LST	48	45	49	54	49	58	58	60	58	62	60	66	56	
	HOUR 18 LST	51	40	48	50	50	58	58	59	63	66	64	72	57	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	0	0	0	1	2	1	0	3	11	1	5	2	26	
	THUNDERSTORMS	0	0	6	8	4	11	9	9	5	4	2	1	59	
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.)	29.16	29.15	29.07	29.00	29.04	28.92	29.03	29.06	29.11	29.02	29.10	29.10	29.06	
	MEAN SEA-LEVEL PRESS. (IN.)	30.14	30.13	30.02	29.95	29.97	29.85	29.96	29.98	30.06	29.96	30.06	30.08	30.01	
WINDS	RESULTANT SPEED (MPH)	3.3	0.9	1.9	2.2	0.7	1.7	1.0	2.1	2.0	0.4	0.4	4.0	0.1	
	RES. DIR. (TENS OF DEGS.)	33	35	15	05	18	15	08	17	08	21	28	30	04	
	MEAN SPEED (MPH)	8.1	9.6	10.0	9.9	6.7	7.1	5.2	6.3	4.8	7.8	6.8	8.2	7.5	
	PREVAIL.DIR.(TENS OF DEGS.)	33	01	17	12	18	18	13	18	05	18	18	31	18	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	35	37	44	38	29	45	25	31	24	31	28	33	45	
	DIR. (TENS OF DEGS.)	32	18	17	32	21	36	21	36	14	30	31	31	36	
	DATE OF OCCURRENCE	12	09	23	05	15	09	27	04	30	02	25	25	JUN 09	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	45	51	58	45	38	54	47	40	35	43	36	47	58	
DIR. (TENS OF DEGS.)	32	18	16	32	21	35	02	32	27	29	30	31	16		
DATE OF OCCURRENCE	12	09	23	05	15	09	28	19	25	02	25	25	MAR 23		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.12	0.45	4.79	7.09	1.44	6.54	7.80	4.53	1.68	3.13	2.23	1.94	41.74	
	GREATEST 24-HOUR (IN.)	0.08	0.17	2.02	3.30	0.76	2.22	3.15	2.70	0.52	0.86	1.00	0.92	3.30	
	DATE OF OCCURRENCE	16	28	23-24	26-27	15	15-16	27-28	16-17	21	29	09-10	24-25	APR 26-27	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	3	5	9	14	7	14	12	9	6	14	8	11	112	
PRECIPITATION 0.10	0	3	8	11	4	7	8	6	5	6	5	4	67		
PRECIPITATION 1.00	0	0	1	1	0	3	3	1	0	0	0	0	9		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	1.6	2.5	0.9	T	0.0	T	0.0	0.0	0.0	0.0	T	19.2	24.2	
	GREATEST 24-HOUR (IN.)	0.9	2.5	0.8	T	0.0	T	0.0	0.0	0.0	0.0	T	5.0	5.0	
	DATE OF OCCURRENCE	16	28	28	05+		16					17+	08	DEC 08	
	MAXIMUM SNOW DEPTH (IN.)	1	1	T	0	0	0	0	0	0	0	0	6	6	
	DATE OF OCCURRENCE	17	28	28+									30+	DEC 30+	
NUMBER OF DAYS WITH:															
SNOWFALL >= 1.0	0	1	0	0	0	0	0	0	0	0	0	6	7		

NORMALS, MEANS, AND EXTREMES TOPEKA (KTOP)

LATITUDE:
39 ° 4 'N

LONGITUDE:
-95 ° 37'W

ELEVATION (FT):
GRND: 884 BARO: 883

TIME ZONE:
CENTRAL (UTC -6)

WBAN: 13996

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	37.2	43.8	55.5	66.1	75.3	84.5	89.1	87.9	80.3	68.9	53.1	40.9	65.2
	MEAN DAILY MAXIMUM	62	38.1	44.0	54.6	66.6	76.0	84.5	89.4	88.4	80.5	69.3	54.2	41.8	65.6
	HIGHEST DAILY MAXIMUM	62	74	84	89	95	97	107	110	110	109	96	85	73	110
	YEAR OF OCCURRENCE		2003	1972	1986	2006	1998	1953	1980	1984	2000	2006	2006	2001	AUG 1984
	MEAN OF EXTREME MAXS.	62	62.0	67.9	78.3	86.3	90.1	95.4	99.6	99.7	94.3	87.1	74.6	64.1	83.3
	NORMAL DAILY MINIMUM	30	17.2	23.0	32.9	42.9	53.4	63.2	67.7	65.4	55.9	44.3	32.1	21.8	43.3
	MEAN DAILY MINIMUM	62	17.6	22.8	31.6	42.9	53.7	63.2	67.8	65.8	56.1	44.4	32.2	22.1	43.4
	LOWEST DAILY MINIMUM	62	-20	-23	-7	10	26	43	43	41	29	19	2	2	-26
	YEAR OF OCCURRENCE		1974	1979	1978	1975	1963	1993	1972	1988	1984	1993	1976	1989	DEC 1989
	MEAN OF EXTREME MINS.	62	-2.7	2.4	12.7	26.3	37.5	49.8	55.4	53.0	38.7	27.3	15.6	2.5	26.5
	NORMAL DRY BULB	30	27.2	33.4	44.2	54.5	64.4	73.9	78.4	76.7	68.1	56.6	42.6	31.4	54.3
	MEAN DRY BULB	62	27.9	33.5	43.1	54.8	64.9	74.0	78.6	77.1	68.3	56.8	43.2	32.0	54.5
	MEAN WET BULB	26	25.7	29.3	38.1	47.5	57.9	66.4	70.3	68.9	60.6	49.6	38.0	28.4	48.4
	MEAN DEW POINT	26	21.8	25.3	33.1	42.9	54.6	63.8	67.7	66.3	57.5	45.8	34.2	24.7	44.8
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	0.4	1.1	7.9	15.7	14.0	5.5	0.5	0.0	0.0	45.1
	MAXIMUM <= 32	30	10.6	6.7	1.3	*	0.0	0.0	0.0	0.0	0.0	0.0	1.4	6.7	26.7
MINIMUM <= 32	30	28.9	22.3	15.2	4.0	0.2	0.0	0.0	0.0	0.2	3.8	16.1	26.6	117.3	
MINIMUM <= 0	30	3.3	2.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	7.0	
H/C	NORMAL HEATING DEG. DAYS	30	1174	898	647	336	106	7	1	1	73	287	665	1030	5225
	NORMAL COOLING DEG. DAYS	30	0	0	3	22	85	278	419	357	166	26	1	0	1357
RH	NORMAL (PERCENT)	30	71	70	66	65	70	71	70	72	71	68	71	73	70
	HOURLY 00 LST	30	77	76	73	73	80	81	80	81	81	77	78	79	78
	HOURLY 06 LST	30	79	79	79	81	86	87	87	88	88	83	81	81	83
	HOURLY 12 LST	30	64	62	57	55	59	58	59	58	56	54	61	66	59
	HOURLY 18 LST	30	66	61	54	52	57	57	56	58	58	57	65	69	59
S	PERCENT POSSIBLE SUNSHINE	51	57	55	57	58	61	67	71	71	66	64	56	51	61
W/O	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	46	1.9	1.7	1.0	1.1	1.2	0.8	0.8	1.5	1.7	2.0	1.5	2.2	17.4
	THUNDERSTORMS	62	0.4	0.7	2.5	5.2	8.7	9.7	8.4	7.8	5.9	3.4	1.2	0.4	54.3
CLOUDNESS	MEAN: SUNRISE-SUNSET (OKTAS)	1	7.2	5.6	4.0	6.4	4.8	4.0	5.2	3.2	2.8	4.4	4.4	3.6	4.6
	MIDNIGHT-MIDNIGHT (OKTAS)	1	7.2	5.6	4.0	6.4	4.8	4.0	5.2	3.2	2.8	4.8	4.4	2.4	4.6
	MEAN NO. DAYS WITH: CLEAR	3	4.3	8.7	7.0	8.0	11.0	11.0	6.5	12.0	7.0	10.0	6.5	10.5	102.5
	PARTLY CLOUDY	3	4.0	3.3	5.0	4.0	4.3	6.0	9.0	7.0	1.0	2.0	2.5	3.0	51.1
	CLOUDY	3	9.7	7.3	6.0	9.5	6.3	5.3	5.5	4.5	4.5	7.5	8.5	8.0	82.6
PR	MEAN STATION PRESSURE(IN)	26	29.17	29.15	29.08	29.00	28.99	29.00	29.03	29.06	29.08	29.10	29.12	29.17	29.08
	MEAN SEA-LEVEL PRES. (IN)	26	30.15	30.12	30.03	29.94	29.92	29.92	29.95	29.98	30.01	30.04	30.07	30.14	30.02
WINDS	MEAN SPEED (MPH)	26	8.4	8.5	9.9	10.0	8.5	7.9	7.0	6.4	7.1	7.8	8.5	8.0	8.2
	PREVAIL.DIR.(TENS OF DEGS)	37	36	36	36	19	19	19	19	19	19	19	19	31	19
	MAXIMUM 2-MINUTE: SPEED (MPH)	16	39	37	44	43	47	54	44	44	43	37	45	37	54
	DIR. (TENS OF DEGS)		31	18	17	21	34	36	34	24	32	14	31	33	36
	YEAR OF OCCURRENCE		1996	2009	2009	2001	1999	2004	1996	2005	2000	2001	1997	2000	JUN 2004
	MAXIMUM 3-SECOND SPEED (MPH)	16	49	51	58	61	59	74	62	67	52	52	54	49	74
	DIR. (TENS OF DEGS)		31	18	16	23	34	36	33	24	32	23	30	33	36
YEAR OF OCCURRENCE		1996	2009	2009	2008	1999	2004	1994	2005	2000	1996	1997	2003	JUN 2004	
PRECIPITATION	NORMAL (IN)	30	0.95	1.18	2.56	3.14	4.86	4.88	3.83	3.81	3.71	2.99	2.31	1.42	35.64
	MAXIMUM MONTHLY (IN)	62	5.24	3.49	8.44	8.69	10.25	15.20	12.02	11.18	12.71	7.24	6.27	4.30	15.20
	YEAR OF OCCURRENCE		1949	1971	1973	1999	2007	1967	1950	1977	1973	1980	1964	1973	JUN 1967
	MINIMUM MONTHLY (IN)	62	T	0.02	0.10	0.62	0.41	0.56	0.59	0.26	0.66	0.04	T	0.04	T
	YEAR OF OCCURRENCE		1986	2006	1966	1989	1966	1980	1983	1971	1952	1952	1989	1996	NOV 1989
	MAXIMUM IN 24 HOURS (IN)	62	1.55	2.33	3.76	3.59	7.47	5.52	4.19	4.48	5.61	4.10	4.66	2.65	7.47
	YEAR OF OCCURRENCE		1988	1971	1987	1967	2007	1967	1951	1962	2005	1985	1964	1980	MAY 2007
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	6.2	6.1	9.2	10.1	11.8	10.5	8.6	8.7	7.9	7.2	7.3	6.4	100.0
PRECIPITATION >= 1.00	30	0.1	0.1	0.4	0.7	1.5	1.4	1.3	1.4	1.1	1.0	0.5	0.2	9.7	
SNOWFALL	NORMAL (IN)	30	6.1	4.9	2.2	0.5	0.0	0.0	0.0	0.0	0.0	0.3	1.5	4.8	20.3
	MAXIMUM MONTHLY (IN)	62	23.0	22.4	22.1	6.8	T	T	T	T	T	8.0	9.4	19.2	23.0
	YEAR OF OCCURRENCE		1993	1971	1960	1970	2006	2009	2008	1994	2008	1996	1972	2009	JAN 1993
	MAXIMUM IN 24 HOURS (IN)	62	15.2	15.2	8.4	7.6	T	T	T	T	T	8.0	7.4	9.0	15.2
	YEAR OF OCCURRENCE		1993	1971	1960	1970	1991	2009	1992	1994	2002	1996	1975	1973	JAN 1993
	MAXIMUM SNOW DEPTH (IN)	64	12	12	18	4	0	T	0	T	0	6	8	9	18
	YEAR OF OCCURRENCE		1979	1971	1960	1970	1993	1993	1949	1996	1996	1975	1983	1983	MAR 1960
NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	1.9	1.5	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.6	6.5	

PRECIPITATION (inches) 2009 TOPEKA (KTOP)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1980	1.34	0.91	4.15	1.03	4.85	0.56	0.87	5.86	1.19	7.24	0.25	3.86	32.11
1981	0.32	0.21	1.61	1.98	5.93	9.40	7.63	3.92	2.03	3.72	3.63	0.22	40.60
1982	1.67	0.59	1.14	1.58	9.39	5.99	5.08	4.53	1.17	1.25	2.26	3.61	38.26
1983	0.69	0.63	4.39	6.29	4.93	6.08	0.59	0.62	2.25	5.19	3.61	1.34	36.61
1984	0.11	1.35	4.57	4.26	3.45	10.17	1.66	1.04	4.24	4.10	0.72	2.36	38.03
1985	0.70	2.02	2.38	3.60	3.79	5.15	2.90	7.97	8.16	5.20	2.02	0.71	44.60
1986	T	1.55	1.35	3.15	7.53	2.51	4.21	5.50	6.21	3.30	0.87	1.20	37.38
1987	1.09	2.71	5.92	2.33	3.89	4.86	2.78	5.90	1.81	1.86	1.94	1.87	36.96
1988	2.04	0.48	0.73	2.93	3.08	3.13	1.74	1.34	1.94	0.26	0.86	0.86	19.39
1989	1.24	0.86	3.11	0.62	4.05	4.76	5.21	6.22	8.65	3.44	T	0.61	38.77
1990	1.22	2.31	3.75	1.01	4.45	5.57	3.01	5.69	0.83	2.71	2.91	0.97	34.43
1991	0.76	0.02	2.98	3.63	7.09	1.49	1.47	1.76	2.15	3.20	2.20	2.44	29.19
1992	0.89	1.18	5.29	3.25	1.75	3.35	6.37	1.24	3.92	1.41	5.27	2.01	35.93
1993	1.11	1.61	2.56	5.43	6.95	2.18	10.98	5.32	7.03	1.37	1.12	0.90	46.56
1994	0.42	0.82	0.19	4.31	0.95	4.63	3.16	7.87	1.46	1.30	2.87	1.52	29.50
1995	1.50	0.71	2.11	3.32	11.82	3.43	5.10	4.29	2.90	0.21	0.66	0.57	36.62
1996	0.76	0.19	1.48	1.57	7.72	7.97	2.65	6.09	3.60	2.79	2.66	0.04	37.52
1997	0.24	2.67	0.26	4.99	3.54	1.36	2.59	4.65	2.15	3.58	2.14	2.41	30.58
1998	0.79	0.77	2.88	2.16	2.08	7.22	9.32	0.88	4.19	5.01	5.64	1.22	42.16
1999	1.17	0.94	0.99	8.69	6.38	6.20	0.59	1.09	4.43	0.87	1.60	1.76	34.71
2000	0.19	2.00	2.62	1.07	2.08	7.25	2.77	0.61	2.97	3.52	1.91	0.35	27.34
2001	1.22	2.90	3.56	4.27	3.85	6.39	2.31	5.95	7.46	3.51	1.13	0.13	42.68
2002	1.51	0.75	0.72	4.64	4.87	4.12	0.81	3.05	1.63	5.42	0.26	0.05	27.83
2003	0.50	1.37	0.86	5.91	3.70	3.70	0.70	6.25	2.91	0.69	0.45	2.36	29.40
2004	0.84	1.68	3.83	1.96	4.46	6.39	7.27	4.91	1.68	3.98	2.44	0.62	40.06
2005	2.50	2.26	0.74	1.34	4.58	9.59	2.08	10.91	7.71	5.00	0.91	1.00	48.62
2006	0.48	0.02	2.15	5.13	3.20	1.18	3.41	9.04	2.47	3.04	0.90	1.70	32.72
2007	0.67	1.48	3.65	3.20	10.25	4.39	1.99	2.79	1.35	6.61	0.10	4.13	40.61
2008	0.65	3.32	2.58	2.95	3.55	7.50	3.67	1.48	6.17	3.98	0.88	1.48	38.21
2009	0.12	0.45	4.79	7.09	1.44	6.54	7.80	4.53	1.68	3.13	2.23	1.94	41.74
POR= 62 YRS	0.94	1.17	2.36	3.29	4.46	5.22	4.08	4.06	3.45	2.93	1.76	1.33	35.05

WBAN : 13996

AVERAGE TEMPERATURE (°F) 2009 TOPEKA (KTOP)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1980	28.6	26.0	40.8	53.7	62.8	76.5	86.4	80.7	70.0	53.9	45.0	32.6	54.8
1981	31.4	35.5	46.1	60.6	60.9	75.5	79.5	73.1	68.0	56.1	47.2	30.1	55.3
1982	21.9	28.5	43.2	50.2	63.7	69.0	78.7	75.5	66.5	55.9	42.0	35.8	52.6
1983	32.5	36.1	44.9	49.4	62.5	73.5	81.1	83.0	72.2	58.7	45.8	14.4	54.5
1984	26.0	40.2	38.1	51.7	62.4	73.9	77.0	78.0	66.5	56.6	45.5	36.8	54.4
1985	19.9	25.6	48.6	58.7	66.5	72.0	79.7	72.8	66.8	56.6	36.7	25.1	52.4
1986	35.8	32.5	49.8	57.7	65.9	77.0	80.4	72.3	71.6	56.6	38.3	34.6	56.0
1987	29.7	40.3	46.7	57.1	70.4	76.2	78.1	75.5	68.2	52.6	47.4	35.9	56.5
1988	28.1	30.8	43.4	53.9	68.8	75.1	76.7	79.5	70.3	52.8	45.2	35.3	55.0
1989	38.0	22.9	44.4	57.9	64.2	71.4	77.6	74.8	62.3	57.1	42.3	21.0	52.8
1990	37.3	36.2	45.5	51.9	60.3	77.2	77.7	76.5	71.6	57.0	49.1	29.6	55.8
1991	25.2	48.2	57.7	69.4	77.1	80.2	77.3	69.3	58.6	37.9	37.4	37.4	55.8
1992	37.2	41.5	47.8	54.7	62.5	69.1	75.9	71.7	67.9	56.5	39.1	32.6	54.7
1993	26.4	29.9	40.8	50.2	63.1	72.9	78.2	77.8	63.4	54.0	39.3	34.8	52.6
1994	26.1	29.9	47.0	54.1	64.5	76.4	76.1	75.9	67.4	58.3	45.8	36.0	54.8
1995	29.3	37.0	45.1	52.0	59.3	72.5	80.2	80.9	65.8	57.2	40.1	30.6	54.2
1996	24.5	35.0	38.5	54.0	65.7	75.3	76.4	74.6	64.6	56.2	37.6	30.1	52.7
1997	26.2	35.0	46.2	49.9	60.5	73.5	78.5	75.5	69.7	58.1	40.3	32.8	53.9
1998	32.4	39.8	38.3	53.0	70.3	74.0	79.2	78.9	74.0	59.1	48.7	36.0	57.0
1999	28.6	42.9	43.3	55.1	64.8	73.4	82.4	77.6	65.6	56.9	51.3	36.2	56.5
2000	32.3	41.9	47.5	55.2	68.1	72.1	79.2	85.4	72.3	60.5	37.3	20.7	56.0
2001	30.3	30.5	40.8	60.6	67.6	73.4	82.9	79.0	66.5	56.7	51.1	37.8	56.4
2002	34.6	37.5	40.7	57.3	62.6	76.3	81.6	79.0	72.9	50.6	42.1	36.1	55.9
2003	28.8	31.3	44.0	57.9	64.2	72.1	82.2	81.0	64.9	57.9	43.7	36.2	55.4
2004	27.7	30.4	48.1	56.4	67.7	71.4	75.6	72.8	70.2	58.3	45.8	35.3	55.0
2005	29.2	38.3	44.7	57.0	65.0	76.2	78.6	77.8	71.9	57.3	46.4	29.3	56.0
2006	41.0	34.4	46.1	60.6	66.1	75.7	81.8	80.0	65.9	55.0	46.1	39.2	57.7
2007	29.4	29.9	53.8	52.6	68.7	74.2	79.0	83.5	71.4	60.0	44.4	30.7	56.5
2008	28.7	30.0	42.2	51.9	64.6	75.2	78.9	76.2	67.2	56.5	44.1	30.1	53.8
2009	29.5	38.6	45.9	54.3	65.7	76.3	74.7	74.4	65.8	50.6	48.8	28.1	54.4
POR= 62 YRS	27.9	33.5	43.1	54.8	64.9	74.0	78.6	77.1	68.3	56.8	43.2	32.0	54.5

HEATING DEGREE DAYS (base 65°F) 2009 TOPEKA (KTOP)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1980-81	0	0	65	344	591	1001	1035	822	579	175	176	0	4788
1981-82	0	2	46	283	529	1076	1329	1014	664	449	76	32	5500
1982-83	0	0	93	303	683	896	1002	804	615	466	120	13	4995
1983-84	0	0	56	223	570	1565	1204	713	830	405	137	0	5703
1984-85	0	0	145	276	578	871	1389	1098	501	228	35	8	5129
1985-86	0	0	127	259	844	1228	899	906	491	252	49	0	5055
1986-87	0	9	27	263	792	934	1084	688	560	292	16	0	4665
1987-88	0	3	24	376	531	893	1136	988	662	331	16	5	4965
1988-89	2	4	24	383	587	912	832	1174	641	296	125	5	4985
1989-90	0	2	155	276	672	1360	851	801	600	413	176	4	5310
1990-91	1	1	39	276	477	1093	1227		523	233	48	0	
1991-92	0	0	95	262	808	849	855	673	528	326	132	7	4535
1992-93	0	2	68	278	770	995	1189	979	744	440	101	22	5588
1993-94	0	1	108	356	763	930	1202	974	553	347	94	0	5328
1994-95	0	1	64	237	568	892	1097	774	613	382	193	1	4822
1995-96	0	0	107	246	740	1059	1250	867	814	347	93	6	5529
1996-97	0	0	98	294	813	1076	1193	833	577	450	173	0	5507
1997-98	1	0	21	286	737	994	1000	699	830	361	27	27	4983
1998-99	0	0	9	203	485	893	1122	613	667	295	58	12	4357
1999-00	0	0	92	261	408	886	1006	666	536	295	51	10	4211
2000-01	0	0	61	174	824	1368	1069	958	742	182	53	9	5440
2001-02	0	0	58	262	415	837	934	766	745	274	141	0	4432
2002-03	0	0	15	455	677	888	1115	937	643	256	78	21	5085
2003-04	0	0	90	229	629	885	1149	993	526	283	87	2	4873
2004-05	0	9	12	222	571	911	1105	740	626	269	107	0	4572
2005-06	0	0	31	285	550	1103	736	852	578	175	105	0	4415
2006-07	0	0	50	358	561	794	1097	977	364	388	22	0	4611
2007-08	0	0	28	213	618	1057	1118	1011	700	395	99	0	5239
2008-09	0	0	45	286	626	1077	1093	732	590	338	83	2	4872
2009-	0	9	52	442	480	1136							

WBAN : 13996

COOLING DEGREE DAYS (base 65°F) 2009 TOPEKA (KTOP)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1980	0	0	0	9	69	356	670	496	220	9	0	0	1829
1981	0	0	0	53	58	321	457	260	143	17	0	0	1309
1982	0	0	0	11	43	157	432	334	147	28	0	0	1152
1983	0	0	0	7	50	274	509	564	278	33	2	0	1717
1984	0	0	0	14	67	274	379	407	196	20	0	3	1360
1985	0	0	0	46	88	225	461	249	188	6	0	0	1263
1986	0	0	26	42	85	363	488	243	233	9	0	0	1489
1987	0	0	0	61	192	344	410	335	126	0	9	0	1477
1988	0	0	0	4	140	314	375	458	191	11	0	0	1493
1989	0	0	11	90	107	206	399	311	81	41	0	0	1246
1990	0	0	1	26	39	377	403	366	241	37	7	0	1497
1991	0	0	11	22	192	371	478	387	229	69	0	0	1759
1992	0	0	0	25	61	134	344	217	162	20	0	0	963
1993	0	0	0	0	48	269	417	405	64	22	0	0	1225
1994	0	0	0	26	86	348	351	345	140	36	0	0	1332
1995	0	0	4	1	22	237	481	502	140	16	0	0	1403
1996	0	0	0	25	125	321	358	302	92	28	0	0	1251
1997	0	0	0	1	38	262	424	330	166	81	0	0	1302
1998	0	0	10	9	196	304	445	440	287	26	1	0	1718
1999	0	0	0	5	57	269	545	396	120	20	1	0	1413
2000	0	0	2	6	153	231	446	640	284	44	0	0	1806
2001	0	0	0	59	140	267	563	441	109	12	5	0	1596
2002	0	0	0	50	75	347	519	437	261	17	0	0	1706
2003	0	0	0	52	60	240	541	502	92	12	0	0	1499
2004	0	0	6	29	175	198	337	259	176	24	0	0	1204
2005	0	0	1	34	114	344	432	405	243	54	1	0	1628
2006	0	0	0	50	144	327	526	471	77	54	0	0	1649
2007	0	0	24	22	142	284	442	581	228	63	6	0	1792
2008	0	0	0	7	93	312	438	355	119	25	5	0	1354
2009	0	0	6	22	112	349	305	308	83	2	2	0	1189

SNOWFALL (inches) 2009 TOPEKA (KTOP)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1980-81	0.0	0.0	0.0	T	0.0	3.8	2.6	2.5	0.0	0.0	0.0	0.0	8.9
1981-82	0.0	0.0	0.0	0.0	T	1.4	3.2	8.0	0.3	0.5	0.0	0.0	13.4
1982-83	0.0	0.0	0.0	0.0	1.1	5.0	6.1	10.1	0.6	4.5	0.0	0.0	27.4
1983-84	0.0	0.0	0.0	0.0	4.1	18.8	2.6	T	4.2	0.0	0.0	0.0	29.7
1984-85	0.0	0.0	0.0	0.0	T	9.8	18.2	7.9	0.5	0.0	0.0	0.0	36.4
1985-86	0.0	0.0	0.0	0.0	3.3	5.8	T	1.5	T	0.0	0.0	0.0	10.6
1986-87	0.0	0.0	0.0	T	0.7	1.7	15.1	2.3	0.5	0.0	0.0	0.0	20.3
1987-88	0.0	0.0	0.0	0.0	0.9	9.6	0.6	6.0	4.7	0.0	0.0	0.0	21.8
1988-89	0.0	0.0	0.0	0.0	0.7	0.8	T	9.0	1.6	0.0	T	T	12.1
1989-90	0.0	0.0	0.0	0.0	T	9.5	1.0	0.1	7.6	0.0	0.0	0.0	18.2
1990-91	0.0	0.0	0.0	0.0	0.0	2.9	9.6		T	T	T	0.0	
1991-92	0.0	0.0	0.0	T	6.2	0.1	T	T	0.9	T	0.0	T	7.2
1992-93	T	0.0	0.0	T	4.5	0.9	23.0	14.2	0.6	T		T	
1993-94	0.0	0.0	0.0	T	T	3.3	2.0	6.0	1.9	1.4	0.0	0.0	14.6
1994-95	0.0	T	0.0	0.0	T	0.8	2.0	0.1	5.0			0.0	
1995-96	0.0	0.0	0.0	0.0	0.7	5.5	8.3	T	T	T	0.0	T	14.5
1996-97	0.0	0.0	0.0	8.0	1.1	0.8	3.9	5.8	T	1.6	T	0.0	21.2
1997-98	0.0	0.0	0.0	T	T	8.2	2.0	T	4.4	T	0.0	T	14.6
1998-99	0.0	0.0	0.0	0.0	0.0	0.5	4.0	2.0	1.8	T	T	0.0	8.3
1999-00	0.0	0.0	0.0	0.0	0.0	7.6	3.7	0.2	T	0.0	0.0	0.0	11.5
2000-01	0.0	0.0	0.0	0.0	T	8.3	1.2	8.3	1.3	T	T	0.0	19.1
2001-02	0.0	0.0	0.0	0.0	0.0	T	6.2	0.4	2.8	0.0	T	0.0	9.4
2002-03	0.0	0.0	T	T	T	0.4	5.4	6.4	0.5	T	0.0	0.0	12.7
2003-04	0.0	0.0	0.0	0.0	0.0	3.8	2.0	13.3	0.0	0.0	0.0	0.0	19.1
2004-05	0.0	0.0	0.0	0.0	4.5	0.0	3.5	3.2	T	0.0	0.0	T	11.2
2005-06	0.0	0.0	0.0	0.0	0.5	10.8	0.5	0.1	0.6	T	T	0.0	12.5
2006-07	0.0	0.0	0.0	0.0	0.4	0.1	4.9	4.2	T	T	0.0	0.0	9.6
2007-08	0.0	0.0	0.0	0.0	0.8	16.5	4.7	10.5	0.1	T	0.0	0.0	32.6
2008-09	T	0.0	T	T	0.5	5.1	1.6	2.5	0.9	T	0.0	T	10.6
2009-	0.0	0.0	0.0	0.0	T	19.2							
POR= 62 YRS	T	T	T	0.1	1.1	5.0	5.4	4.5	3.0	0.5	T	T	19.6

WBAN : 13996

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 MEDADATA 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 TOPEKA KANSAS (KTOP)

Topeka, is located near the geographical center of the United States, and the middle of the temperate zone. The city straddles the Kansas River about 60 miles above its junction with the Missouri River. The Kansas River flows in an easterly direction through northeastern Kansas. Near Topeka, the river valley ranges from 2 to 4 miles wide, and is bordered on both sides by rolling prairie uplands of some 200 to 300 feet. The city is built on both banks of the Kansas River and along two tributaries, Soldier Creek in north Topeka and Shunganunga Creek in the south and east part of town. Flooding is always a threat following periods of heavy rains but protective construction has reduced the problem.

Seventy percent of the annual precipitation normally falls during the six crop-growing months, April through September. The rains of this period are usually of short duration, predominantly of the thunderstorm type. They occur more frequently during the nighttime and early morning hours than at other times of the day. Excessive precipitation rates may occur with warm-season thunderstorms. Rainfall accumulations over 8 inches in 24 hours have occurred in Topeka. Tornadoes have occurred in the area on several occasions and caused severe damage and numerous injuries.

Individual summers show wide departures from average conditions. Hottest summers may produce temperatures of 100 degrees or higher on more than 50 days. On the other hand, 25 percent of the summers pass with two or fewer 100 degree days. Similarly, precipitation has shown a wide range for June, July, and August, varying from under 3 inches to more than 27 inches during the 3 months. Summers are hot with low relative humidity and persistent southerly winds. Oppressively warm periods with high relative humidity are usually of short duration.

Winter temperatures average about 45 degrees cooler than summer. Cold spells are seldom prolonged. Only on rare occasions do daytime temperatures fail to rise above freezing. Winter precipitation is often in the form of snow, sleet, or glaze, but storms of such severity to prevent normal movement of traffic or to interfere with scheduled activity are not common.

In the transitional spring and fall seasons, the numerous days of fair weather are interspersed with short intervals of stormy weather. Strong, blustery winds are quite common in late winter and spring. Autumn is characteristically a season of warm days, cool nights, and infrequent precipitation, with cold air invasions gradually increasing in intensity as the season progresses.

Nearly all crops of the temperate zone can be produced in the vicinity of Topeka. Wheat and other small grains, clover, soybeans, fruit, and berries do well, and the area supports an extensive dairy industry.

Based on the 1951-1980 period, the average first occurrence of 32 degrees Fahrenheit in the fall is October 14 and the average last occurrence in the spring is April 21.

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