

1999

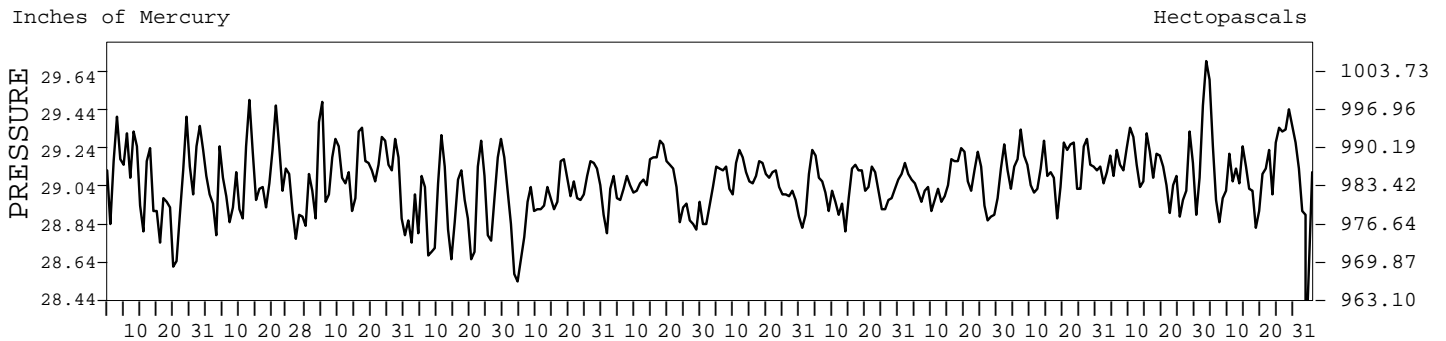
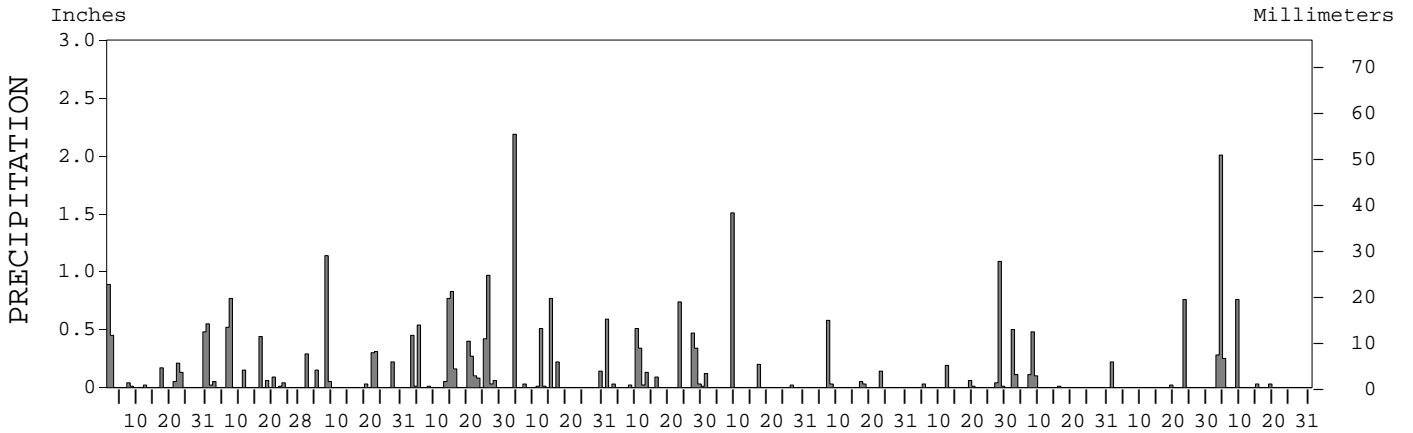
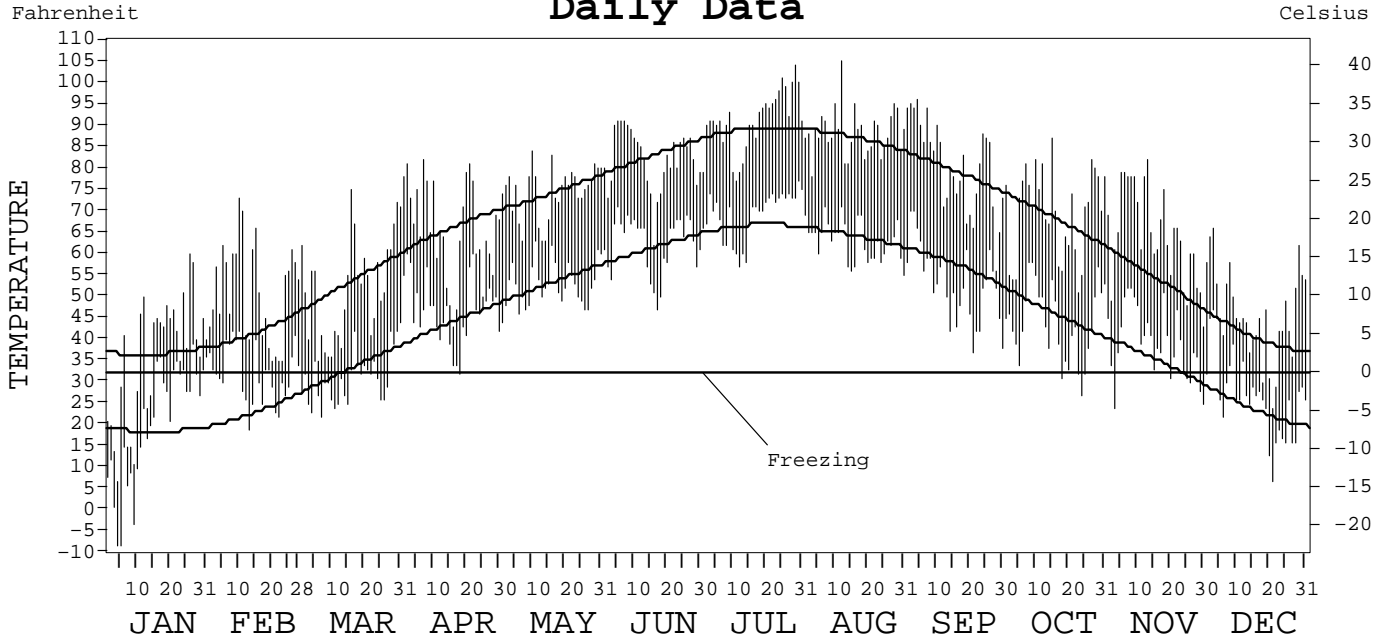
LOCAL CLIMATOLOGICAL DATA  
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-2834

COLUMBIA,  
MISSOURI (COU)

Daily Data



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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
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# METEOROLOGICAL DATA FOR 1999

## COLUMBIA, MO (COU)

LATITUDE: 38° 49' 01" N      LONGITUDE: 92° 13' 06" W      ELEVATION (FT): GRND: 891      BARO: 891      TIME ZONE: CENTRAL (UTC + 6)      WBAN: 03945

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	35.8	51.1	52.0	65.8	74.4	82.0	91.0	88.3	80.5	69.6	64.5	45.9	66.7	
	HIGHEST DAILY MAXIMUM	60	73	75	82	84	91	104	105	96	87	82	66	105	
	DATE OF OCCURRENCE	26	10	16	07	10	07+	29	12	04	15	13	03	AUG 12	
	MEAN DAILY MINIMUM	20.8	32.0	31.1	46.9	52.7	62.3	69.0	63.1	53.1	43.7	39.1	26.5	45.0	
	LOWEST DAILY MINIMUM	-8	19	22	32	44	47	57	55	37	27	24	7	-8	
	DATE OF OCCURRENCE	05+	13	07	18	01	17	12	31	21	24	03	21	JAN 05+	
	AVERAGE DRY BULB	28.3	41.6	41.6	56.4	63.6	72.2	80.0	75.7	66.8	56.7	51.8	36.2	55.9	
	MEAN WET BULB	27.0	37.6	36.7	51.0	58.2	66.7	72.3	67.0	58.1					
	MEAN DEW POINT	23.4	32.5	30.0	46.7	53.9	63.7	68.8	62.7	51.5					
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	5	23	11	7	0	0	0	0	46
	MAXIMUM ≤ 32°	11	0	0	0	0	0	0	0	0	0	0	4	15	
	MINIMUM ≤ 32°	23	15	20	1	0	0	0	0	0	4	7	25	95	
	MINIMUM ≤ 0°	3	0	0	0	0	0	0	0	0	0	0	0	3	
H/C	HEATING DEGREE DAYS	1131	650	718	269	76	17	0	0	77	264	389	884	4475	
	COOLING DEGREE DAYS	0	0	0	19	41	239	475	336	140	17	0	0	1267	
RH	MEAN (PERCENT)	81	74	67	74	73	78	71	69	63	64	64	74	71	
	HOUR 00 LST	84	78	68	78	81	86	82	80	72	72	69	78	77	
	HOUR 06 LST	86	84	81	86	88	92	90	90	85	80	80	82	85	
	HOUR 12 LST	76	65	62	67	60	65	58	52	45	52	53	66	60	
	HOUR 18 LST	79	68	56	67	62	68	59	53	51	56	55	69	62	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	6	1	1	1	0	2	1	2	1	2	0	3	20	
	THUNDERSTORMS	1	2	1	7	4	9	4	5	1	3	1	1	39	
CLOUDINESS	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.)	29.09	29.07	29.14	28.95	28.98	29.04	29.07	29.06	29.07	29.16	29.19			
	MEAN SEA-LEVEL PRESS. (IN.)	30.07	30.04	30.12	29.90	29.93	29.98	30.00	29.99	30.01					
WINDS	RESULTANT SPEED (MPH)	0.7	1.7	3.1	2.1	2.1	2.6	2.3	1.1	1.6	0.9	2.8			
	RES. DIR. (TENS OF DEGS.)	34	20	05	21	25	14	21	09	26	17	21			
	MEAN SPEED (MPH)	11.0	11.3	10.8	12.2	9.6	8.2	7.8	7.6	8.1	8.9	9.8	10.1	9.6	
	PREVAIL. DIR. (TENS OF DEGS.)	28	17	06	28	14	11	19	09	17	17	17	16	17	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	32	38	29	43	32	40	31	25	24	29	33	30	43	
	DIR. (TENS OF DEGS.)	07	24	32	19	25	29	36	24	20	29	33	32	19	
	DATE OF OCCURRENCE	30	11	02	08	06	27	09	12+	26+	22	01	24	APR 08	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	39	46	36	55	43	48	44	32	33	37	43	37	55	
DIR. (TENS OF DEGS.)	07	26	33	19	24	29	19	27	29	28	33	33	19		
DATE OF OCCURRENCE	30	11	02	08	04	27	09	07	13+	22	01	24	APR 08		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	3.00	2.15	2.49	5.15	3.88	3.32	1.85	0.83	1.43	1.31	1.00	3.36	29.77	
	GREATEST 24-HOUR (IN.)	1.34	1.29	1.14	0.97	2.19	0.79	1.51	0.61	1.10	0.59	0.76	2.08	2.19	
	DATE OF OCCURRENCE	1-2	06-07	08	26	04	27-28	09	07-08	28-29	07-08	23	04-05	MAY 04	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	11	10	8	16	8	13	4	5	7	6	3	6	97	
PRECIPITATION ≥ 0.10	7	4	6	10	5	7	3	2	2	5	2	4	57		
PRECIPITATION ≥ 1.00	0	0	1	0	1	0	1	0	1	0	0	1	5		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)														
	GREATEST 24-HOUR (IN.)														
	DATE OF OCCURRENCE														
	MAXIMUM SNOW DEPTH (IN.)														
	DATE OF OCCURRENCE														
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0															

# NORMALS, MEANS, AND EXTREMES

## COLUMBIA, MO (COU)

LATITUDE: 38° 49' 01" N      LONGITUDE: 92° 13' 06" W      ELEVATION (FT): GRND: 891      BARO: 891      TIME ZONE: CENTRAL (UTC + 6)      WBAN: 03945

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	36.6	41.4	53.3	65.7	74.1	82.8	88.6	86.7	78.8	67.6	53.6	40.3	64.1
	MEAN DAILY MAXIMUM	30	36.3	42.7	53.9	65.2	74.0	83.2	88.5	86.9	78.9	67.3	52.9	41.2	64.3
	HIGHEST DAILY MAXIMUM	30	74	82	85	90	92	103	111	110	101	93	83	76	111
	YEAR OF OCCURRENCE		1989	1972	1986	1987	1998	1988	1980	1984	1971	1981	1978	1991	JUL 1980
	MEAN OF EXTREME MAXS.	30	59.2	67.7	78.8	84.0	86.4	93.1	97.9	98.1	92.5	84.8	73.5	64.1	81.7
	NORMAL DAILY MINIMUM	30	18.5	22.8	33.0	43.7	53.1	61.2	66.2	63.8	57.0	45.5	34.6	23.2	43.5
	MEAN DAILY MINIMUM	30	19.0	24.1	33.7	43.7	53.3	62.4	67.0	64.9	56.7	45.2	34.3	24.3	44.1
	LOWEST DAILY MINIMUM	30	-19	-15	-5	19	29	40	48	42	32	22	0	-20	-20
	YEAR OF OCCURRENCE		1982	1979	1978	1975	1976	1993	1975	1986	1984	1993	1991	1989	DEC 1989
	MEAN OF EXTREME MINS.	30	-3.0	1.8	14.8	27.8	39.2	50.2	56.0	54.0	40.3	29.5	17.3	3.8	27.6
	NORMAL DRY BULB	30	27.6	32.1	43.2	54.7	63.6	72.1	77.4	75.2	67.9	56.5	44.1	31.8	53.8
	MEAN DRY BULB	30	27.7	33.4	43.8	54.5	63.7	72.8	77.8	76.0	67.8	56.3	43.6	32.6	54.2
	MEAN WET BULB	15	27.2	31.1	38.9	48.1	58.8	66.8	66.1	68.7	60.9	47.1	38.9	30.2	48.6
	MEAN DEW POINT	15	22.1	25.3	32.1	41.6	54.5	63.4	63.0	65.1	56.8	42.3	33.6	25.4	43.8
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.1	0.1	4.7	15.9	11.9	4.6	0.1	0.0	0.0	37.4	
MAXIMUM ≤ 32°	30	12.1	7.6	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	7.7	29.8	
MINIMUM ≤ 32°	30	27.4	21.7	14.8	3.4	*	0.0	0.0	0.0	*	2.1	13.6	25.2	108.2	
MINIMUM ≤ 0°	30	3.1	1.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	6.6	
H/C	NORMAL HEATING DEG. DAYS	30	1159	921	676	316	137	10	0	0	52	285	627	1029	5212
	NORMAL COOLING DEG. DAYS	30	0	0	0	7	94	223	384	321	139	21	0	0	1189
RH	NORMAL (PERCENT)	30	71	72	67	64	71	71	70	71	72	69	72	74	70
	HOUR 00 LST	30	74	76	72	69	79	81	81	81	80	76	76	77	77
	HOUR 06 LST	30	78	80	79	78	85	85	86	87	87	84	82	80	83
	HOUR 12 LST	30	65	65	59	55	60	59	56	56	58	57	62	68	60
	HOUR 18 LST	30	67	65	58	54	60	60	56	59	63	62	67	71	62
S	PERCENT POSSIBLE SUNSHINE	27	50	49	50	55	57	64	67	64	60	59	47	45	56
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	30	3.0	2.7	2.0	1.3	1.5	1.1	1.4	1.8	1.6	1.5	1.5	3.4	22.8
	THUNDERSTORMS	30	0.7	0.9	3.0	5.4	8.1	8.0	7.7	6.8	4.9	3.1	1.9	0.9	51.4
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	1			6.4			4.8						8.8	
	MIDNIGHT-MIDNIGHT (OKTAS)	1			5.6										
	MEAN NO. DAYS WITH:														
CLEAR	1	1.0	2.0	4.0		7.0	12.0								
PARTLY CLOUDY	1	2.0	2.0	4.0		2.0	5.0								
CLOUDY	1	3.0	3.0	12.0		8.0	7.0								
PR	MEAN STATION PRESSURE (IN)	25	29.10	29.09	29.01	29.00	29.00	29.00	29.00	29.10	29.10	29.11	29.10	29.10	29.06
	MEAN SEA-LEVEL PRES. (IN)	14	30.13	30.10	30.03	29.94	29.95	30.01	29.99	30.01	30.02	30.07	30.07	30.13	30.04
WINDS	MEAN SPEED (MPH)	25	10.9	10.6	11.9	11.4	9.2	8.6	8.2	7.8	8.5	9.5	10.5	10.6	9.8
	PREVAIL. DIR (TENS OF DEGS)	24	30	30	31	18	18	18	18	18	18	18	18	30	18
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	4	41	38	41	43	33	44	31	36	31	47	45	37	47
	DIR. (TENS OF DEGS)		23	24	23	19	01	31	36	30	19	25	19	06	25
	YEAR OF OCCURRENCE		1996	1999	1998	1999	1998	1998	1999	1997	1998	1996	1998	1997	OCT 1996
	MAXIMUM 5-SECOND:														
	SPEED (MPH)	4	49	46	49	55	45	52	44	43	37	59	53	45	59
DIR. (TENS OF DEGS)		23	26	21	19	28	30	19	31	19	25	24	06	25	
YEAR OF OCCURRENCE		1996	1999	1998	1999	1998	1998	1999	1997	1998	1996	1998	1997	OCT 1996	
PRECIPITATION	NORMAL (IN)	30	1.45	1.84	3.17	3.83	5.01	4.32	3.67	3.28	3.86	3.22	2.93	2.47	39.05
	MAXIMUM MONTHLY (IN)	30	4.78	6.18	10.09	11.69	12.31	10.28	12.14	8.96	12.06	7.28	10.42	6.96	12.31
	YEAR OF OCCURRENCE		1995	1985	1973	1994	1995	1985	1981	1982	1993	1998	1985	1982	MAY 1995
	MINIMUM MONTHLY (IN)	30	0.05	0.11	0.78	1.38	1.43	0.35	0.24	0.21	0.45	1.03	0.42	0.48	0.05
	YEAR OF OCCURRENCE		1986	1991	1971	1971	1998	1980	1976	1976	1979	1992	1989	1996	JAN 1986
	MAXIMUM IN 24 HOURS (IN)	30	1.91	2.88	4.03	4.50	5.73	3.87	5.95	5.43	3.81	4.94	2.97	2.88	5.95
	YEAR OF OCCURRENCE		1995	1985	1990	1996	1995	1995	1989	1993	1986	1998	1983	1982	JUL 1989
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	7.2	8.6	10.8	10.6	12.0	8.5	7.8	8.4	8.7	9.4	9.1	9.3	110.4	
PRECIPITATION ≥ 1.00	30	0.2	0.4	0.8	0.9	1.2	1.3	0.9	1.0	0.9	0.8	0.9	0.7	10.0	
SNOWFALL	NORMAL (IN)	30	6.6	7.6	4.1	1.0	0.0	0.0	0.0	0.0	0.0	0.*	2.2	5.2	26.7
	MAXIMUM MONTHLY (IN)	27	23.5	20.2	18.0	7.1	T	T	T	0.0	0.0	0.1	8.3	17.8	23.5
	YEAR OF OCCURRENCE		1979	1993	1978	1980	1990	1990	1995			1976	1971	1973	JAN 1979
	MAXIMUM IN 24 HOURS (IN)	27	19.7	12.7	8.8	7.1	T	T	T	0.0	0.0	0.1	8.1	12.7	19.7
	YEAR OF OCCURRENCE		1995	1993	1990	1980	1990	1990	1995			1976	1975	1987	JAN 1995
	MAXIMUM SNOW DEPTH (IN)	26	13	14	12	5	0	0	0	0	0	0	8	13	14
	YEAR OF OCCURRENCE		1995	1993	1978	1980							1975	1987	FEB 1993
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	1.9	2.2	1.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.6	7.8	

PRECIPITATION (inches) 1999 COLUMBIA, MO (COU)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0.23	0.31	1.01	8.00	9.81	3.16	2.11	4.36	8.94	2.71	1.37	1.76	43.77
1971	1.62	2.39	0.78	1.38	4.30	2.70	3.30	1.16	2.65	1.94	2.41	4.21	28.84
1972	0.88	0.42	4.01	4.44	3.40	0.66	3.86	1.10	5.06	2.66	5.26	2.71	34.46
1973	3.11	1.64	10.09	3.58	4.38	4.15	4.48	0.94	5.71	5.10	2.77	4.55	50.50
1974	3.58	2.70	3.03	3.55	7.75	5.89	1.43	7.57	1.77	1.20	3.81	1.65	43.93
1975	3.38	2.96	3.23	4.29	4.00	3.83	0.55	8.18	5.60	2.06	3.57	2.48	44.13
1976	0.94	2.36	4.39	2.21	3.68	1.79	0.24	0.21	0.47	6.12	0.88	0.59	23.88
1977	1.44	1.23	3.64	2.70	4.31	5.24	1.62	2.26	6.66	4.39	1.80	1.23	36.52
1978	0.67	1.57	5.44	5.80	6.77	2.50	4.56	2.01	1.11	1.73	3.24	2.51	37.91
1979	2.43	1.40	2.94	5.06	3.30	2.69	2.97	2.80	0.45	4.40	2.26	1.36	32.06
1980	0.63	1.42	2.71	2.42	3.36	0.35	1.39	2.98	1.93	4.35	1.00	1.12	23.66
1981	0.88	1.09	1.33	5.47	7.71	8.02	12.14	2.48	0.68	4.03	3.60	1.10	48.53
1982	3.16	1.23	3.23	2.51	5.33	5.03	3.31	8.96	4.33	1.82	2.20	6.96	48.07
1983	0.28	0.45	2.74	9.06	4.94	3.82	1.97	3.27	3.20	4.96	8.87	2.72	46.28
1984	0.30	3.18	4.48	7.23	3.46	6.87	5.29	0.88	5.58	4.55	3.89	4.99	50.70
1985	1.13	6.18	3.18	2.89	5.04	10.28	1.91	6.14	2.08	2.74	10.42	3.38	55.37
1986	0.05	4.10	1.16	2.67	5.33	1.98	3.43	3.01	9.58	6.02	2.31	2.05	41.69
1987	2.04	0.90	1.82	1.87	2.78	2.24	5.24	3.17	2.92	1.75	3.35	5.48	33.56
1988	1.57	2.23	4.09	1.97	2.45	0.47	2.26	4.14	2.32	1.25	4.35	3.42	30.52
1989	1.32	1.57	2.95	1.94	4.84	3.23	7.36	7.24	1.54	1.44	0.42	0.78	34.63
1990	1.97	3.86	7.22	2.84	10.51	7.20	6.00	3.95	0.93	2.58	3.07	3.49	53.62
1991	1.56	0.11	2.13	4.45	4.17	2.36	3.23	3.86	3.43	3.81	3.09	2.72	34.92
1992	0.52	1.96	3.82	1.83	1.57	1.64	5.40	1.61	4.25	1.03	8.10	2.64	34.37
1993	2.37	1.99	2.14	5.54	4.81	7.28	10.16	8.37	12.06	2.05	4.20	1.52	62.49
1994	0.82	2.15	1.31	11.69	2.39	2.87	1.51	4.08	1.01	4.16	5.38	0.90	38.27
1995	4.78	1.80	0.96	7.19	12.31	6.05	4.84	4.55	1.59	1.15	1.30	1.72	48.24
1996	2.90	0.37	2.37	6.49	6.52	2.35	3.50	1.76	5.70	2.86	4.69	0.48	39.99
1997	2.35	4.85	1.86	2.70	5.78	3.16	0.42	5.50	2.30	3.11	3.34	1.79	37.16
1998	1.42	4.30	4.60	5.07	1.43	7.05	5.58	0.43	4.40	7.28	1.87	1.22	44.65
1999	3.00	2.15	2.49	5.15	3.88	3.32	1.85	0.83	1.43	1.31	1.00	3.36	29.77
POR= 108 YRS	1.81	1.87	2.98	3.84	4.72	4.47	3.57	3.54	4.08	2.92	2.51	1.99	38.30

WBAN : 03945

AVERAGE TEMPERATURE (°F) 1999 COLUMBIA, MO (COU)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	22.8	32.0	39.2	55.7	66.9	71.2	76.8	75.6	69.9	56.0	42.9	37.4	53.9
1971	27.2	32.2	41.8	56.4	61.3	77.5	74.4	74.7	71.3	63.0	45.6	39.7	55.4
1972	28.4	33.6	44.3	55.8	65.1	72.9	76.0	76.8	70.5	54.3	39.7	27.2	53.7
1973	29.9	33.0	48.7	52.1	60.9	73.4	77.8	76.4	69.0	60.4	46.2	30.8	54.9
1974	26.6	35.3	46.9	55.7	63.1	68.3	79.3	72.3	60.2	57.0	43.0	32.0	53.3
1975	31.4	28.9	37.3	52.5	65.0	72.3	76.2	75.7	62.6	57.6	47.1	35.2	53.5
1976	28.6	42.6	46.5	55.2	59.2	70.1	77.9	75.3	67.8	49.8	34.8	27.2	52.9
1977	13.6	32.9	47.2	58.3	68.0	73.5	79.3	77.0	70.2	55.6	45.1	30.8	54.3
1978	20.4	21.7	37.7	56.7	62.7	73.5	79.1	76.8	74.2	56.1	46.5	34.2	53.3
1979	15.9	23.1	44.3	53.1	64.1	72.2	76.1	75.4	67.7	57.5	41.5	35.9	52.2
1980	29.3	26.6	39.0	52.2	64.3	75.3	87.0	81.7	69.9	53.5	43.3	33.8	54.7
1981	29.0	33.4	44.5	61.0	59.1	74.4	78.1	74.8	68.3	55.0	46.7	29.6	54.5
1982	22.4	30.6	45.3	51.0	66.2	68.4	78.4	73.6	66.2	56.2	44.2	39.6	53.5
1983	31.9	38.1	43.6	48.2	60.4	71.7	79.7	82.1	69.4	56.5	45.5	17.6	53.7
1984	27.6	40.0	36.7	52.5	60.8	74.4	75.5	78.8	66.2	58.4	43.3	38.5	54.4
1985	19.9	27.5	48.2	58.8	64.5	69.0	76.6	72.5	67.5	58.4	42.3	24.5	52.5
1986	33.6	32.7	48.2	58.2	66.0	76.0	80.2	71.7	71.4	57.2	39.3	34.6	55.8
1987	29.6	39.8	47.4	55.5	69.1	75.6	79.2	77.1	67.7	51.6	46.2	35.9	56.2
1988	27.7	28.1	43.8	54.1	66.1	75.2	78.6	79.0	69.5	51.1	45.3	34.0	54.4
1989	38.1	23.2	43.7	54.9	61.6	70.2	76.4	74.2	63.5	57.7	43.7	21.5	52.4
1990	39.5	38.3	46.3	53.1	59.5	73.2	75.5	75.2	70.6	55.3	50.3	31.7	55.7
1991	25.9	39.9	48.7	57.8	70.2	75.9	77.9	76.7	67.4	57.3	39.1	37.0	56.2
1992	35.2	40.1	46.5	55.0	62.1	70.3	75.2	70.3	66.0	56.8	40.7	33.4	54.3
1993	29.5	29.3	39.9	51.5	63.4	72.4	78.3	76.9	62.7	52.9	40.0	34.6	52.6
1994	24.6	31.5	45.7	54.8	62.9	75.3	75.2	74.5	66.2	57.7	47.8	37.7	54.5
1995	26.9	34.5	46.4	53.1	60.8	73.0	78.2	80.7	64.5	57.5	39.9	31.8	53.9
1996	26.3	35.0	38.2	52.1	65.6	72.2	74.3	75.1	64.8	56.3	37.9	33.3	52.6
1997	25.2	36.4	45.8	48.9	58.7	71.1	77.3	74.8	68.2	56.7	40.5	33.4	53.1
1998	34.8	40.8	40.8	53.8	69.7	73.1	76.9	77.0	72.6	57.7	48.3	35.2	56.7
1999	28.3	41.6	41.6	56.4	63.6	72.2	80.0	75.7	66.8	56.7	51.8	36.2	55.9
POR= 110 YRS	29.6	33.1	43.3	54.8	64.4	73.4	77.9	76.4	68.7	57.5	44.0	33.3	54.7

## HEATING DEGREE DAYS (base 65°F) 1999 COLUMBIA, MO (COU)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0	0	37	282	655	850	1164	910	711	275	147	0	5031
1971-72	4	2	71	113	582	775	1129	901	634	304	94	13	4622
1972-73	2	0	43	336	751	1162	1080	890	499	387	142	0	5292
1973-74	0	0	42	191	559	1052	1187	825	566	290	129	20	4861
1974-75	0	2	167	257	653	1015	1034	1006	850	377	67	7	5435
1975-76	2	0	149	254	528	916	1121	644	566	307	193	2	4682
1976-77	0	0	43	487	898	1169	1587	891	548	209	40	0	5872
1977-78	0	0	14	287	591	1053	1378	1206	842	260	161	3	5795
1978-79	0	0	21	280	552	949	1515	1169	633	360	94	0	5573
1979-80	2	4	34	261	698	897	1101	1108	803	389	92	3	5392
1980-81	0	0	56	368	640	962	1110	878	630	159	211	0	5014
1981-82	0	0	32	326	544	1089	1314	955	607	416	40	25	5348
1982-83	0	3	88	297	619	783	1018	750	656	501	159	14	4888
1983-84	0	0	84	271	575	1466	1153	720	871	383	155	0	5678
1984-85	0	0	125	213	646	814	1391	1042	518	225	63	16	5053
1985-86	0	2	99	210	674	1249	964	897	521	227	53	0	4896
1986-87	0	15	13	251	765	937	1093	699	539	307	19	0	4638
1987-88	0	2	29	409	560	898	1150	1064	653	323	37	2	5127
1988-89	4	2	16	434	583	955	828	1164	660	356	169	14	5185
1989-90	0	2	122	244	635	1342	781	740	590	390	172	13	5031
1990-91	7	1	39	311	435	1027	1205	698	511	221	49	0	4504
1991-92	0	0	110	254	771	861	918	717	567	320	136	15	4669
1992-93	0	13	88	264	722	973	1094	995	775	396	87	27	5434
1993-94	0	4	117	375	743	935	1244	930	592	327	107	3	5377
1994-95	0	5	79	248	514	843	1173	848	567	357	153	0	4787
1995-96	0	0	122	236	747	1019	1191	863	823	392	106	23	5522
1996-97	0	0	90	274	805	975	1228	792	589	477	212	15	5457
1997-98	3	0	29	309	727	971	930	673	757	332	32	35	4798
1998-99	0	0	6	236	490	918	1131	650	718	269	76	17	4511
1999-	0	0	77	264	389	884							

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## COOLING DEGREE DAYS (base 65°F) 1999 COLUMBIA, MO (COU)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0	0	0	32	128	217	372	335	192	12	0	0	1288
1971	0	0	0	28	41	379	304	306	266	58	5	0	1387
1972	0	0	0	35	106	256	351	375	211	10	0	0	1344
1973	0	0	0	8	21	261	401	361	170	53	2	0	1277
1974	0	0	12	19	74	124	449	232	30	13	0	0	953
1975	0	0	0	9	73	235	355	339	83	32	0	0	1126
1976	0	0	0	22	21	160	409	326	130	22	0	0	1090
1977	0	0	0	14	140	261	450	377	177	4	0	0	1423
1978	0	0	1	16	99	266	444	373	305	11	5	0	1520
1979	0	0	0	10	73	224	357	337	125	39	0	0	1165
1980	0	0	0	13	78	319	688	523	211	17	0	0	1849
1981	0	0	1	44	34	285	413	308	138	19	0	0	1242
1982	0	0	0	4	84	134	422	274	127	32	3	0	1080
1983	0	0	0	3	23	223	460	536	222	14	0	0	1481
1984	0	0	0	15	30	287	331	436	166	14	0	1	1280
1985	0	0	7	46	56	143	367	243	180	13	0	0	1055
1986	0	0	10	31	90	337	479	231	212	15	0	0	1405
1987	0	0	0	29	151	324	447	384	113	0	3	0	1451
1988	0	0	2	1	78	317	433	442	159	12	0	0	1444
1989	0	0	6	63	73	176	364	293	83	25	2	0	1085
1990	0	0	17	37	10	264	342	326	214	18	1	0	1229
1991	0	0	12	11	219	338	405	371	190	22	0	0	1568
1992	0	0	0	27	53	181	326	184	126	18	0	0	915
1993	0	0	2	0	46	259	419	379	56	6	0	0	1167
1994	0	0	1	26	48	319	322	305	120	28	4	0	1173
1995	0	0	0	6	30	249	416	495	114	11	0	0	1321
1996	0	2	0	10	134	246	306	320	91	12	0	0	1121
1997	0	0	0	0	24	208	389	311	130	57	0	0	1119
1998	0	0	14	4	186	282	375	379	240	15	0	0	1495
1999	0	0	0	19	41	239	475	336	140	17	0	0	1267

SNOWFALL (inches) 1999 COLUMBIA, MO (COU)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0.0	0.0	0.0	0.0	T	4.0	1.0	2.2	1.9	3.3	0.0	0.0	12.4
1971-72	0.0	0.0	0.0	0.0	8.3	T	4.0	3.2	2.3	T	0.0	0.0	17.8
1972-73	0.0	0.0	0.0	0.0	6.4	5.1	6.8	2.4	T	4.5	0.0	0.0	25.2
1973-74	0.0	0.0	0.0	0.0	0.0	17.8	6.1	6.7	7.5	T	0.0	0.0	38.1
1974-75	0.0	0.0	0.0	0.0	6.3	0.3	3.0	16.1	3.7	T	0.0	0.0	29.4
1975-76	0.0	0.0	0.0	0.0	8.1	4.2	6.3	6.1	5.7	0.0	0.0	0.0	30.4
1976-77	0.0	0.0	0.0	0.1	1.3	3.3	19.9	9.4	0.8	0.2	0.0	0.0	35.0
1977-78	0.0	0.0	0.0	0.0	4.9	5.8	8.7	17.5	18.0	0.0	0.0	0.0	54.9
1978-79	0.0	0.0	0.0	0.0	T	5.0	23.5	7.0	4.9	T	0.0	0.0	40.4
1979-80	0.0	0.0	0.0	0.0	0.1	T	3.8	11.8	8.3	7.1	0.0	0.0	31.1
1980-81	0.0	0.0	0.0	T	5.8	1.6	1.4	8.8	T	0.0	0.0	0.0	17.6
1981-82	0.0	0.0	0.0	0.0	T	10.4	6.8	11.7	T	3.0	0.0	0.0	31.9
1982-83	0.0	0.0	0.0	0.0	0.2	T	1.2	1.9	0.7	T	0.0	0.0	4.0
1983-84	0.0	0.0	0.0	0.0	1.1	11.7	2.5	9.8	7.2	0.0	0.0	0.0	32.3
1984-85	0.0	0.0	0.0	0.0	2.7	1.6	14.8	7.1	T	0.0	0.0	0.0	26.2
1985-86	0.0	0.0	0.0	0.0	0.2	3.0	T	8.5	T	T	0.0	0.0	11.7
1986-87	0.0	0.0	0.0	0.0	T	T	21.2	T	T	0.0	0.0	0.0	21.2
1987-88	0.0	0.0	0.0	0.0	1.0	16.1	1.4	10.5	4.0	0.0	0.0	0.0	33.0
1988-89	0.0	0.0	0.0	0.0	2.3	3.6	3.7	13.3	8.1				
1989-90			0.0		0.5	6.9	0.7	6.3	8.8	0.0	T	T	
1990-91	0.0	0.0	0.0	0.0	0.2	6.1	8.0	0.2	T	0.0	0.0	0.0	14.5
1991-92	0.0	0.0	0.0	0.0	5.5	0.7	2.0	3.5	1.9	T	0.0	0.0	13.6
1992-93	0.0	0.0	0.0	0.0	0.6	1.4	7.4	20.2	2.2	T	0.0	0.0	31.8
1993-94	0.0	0.0	0.0	T	1.2	0.8	2.8	2.5	0.7	1.4	0.0	0.0	9.4
1994-95	0.0	0.0	0.0	0.0	0.0	1.2	21.6	2.3	2.2	T	0.0	0.0	27.3
1995-96	T	0.0	0.0	0.0	2.3	6.9	8.6	1.3	0.7	T	0.0	0.0	19.8
1996-97													
1997-98													
1998-99													
1999-													
POR= 44 YRS	T	0.0	0.0	0.0	1.8	4.2	5.9	6.2	4.0	0.7	T	T	22.8

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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 (1961 - 1990). 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.</p>	<p>GENERAL CONTINUED: 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. 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.</p> <p>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 EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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1999  
COLUMBIA,  
MISSOURI (COU)

Columbia, Missouri, with its interior continental location, experiences moderately cold winters and warm summers that are often humid.

There are usually a few days of temperatures below zero during the winter months, but there have been several winters when the temperature did not get this cold. Periods of cold weather are usually interrupted by periods of at least a few mild days. It is not uncommon to find some days with temperatures in the 60s in the midst of the winter months. Some snow falls each winter, but it is very unlikely that a snow cover will persist for more than three weeks. Most of the time when snow does fall, it stays on the ground for less than a week. March is the month in which substantial amounts of snowfall are most likely.

Temperatures of 100 degrees or more occur in most summers, but there have been several summers when temperatures failed to reach this high. The late spring and early summer months produce more frequent and larger amounts of rain than the other months of the year. Thus, in addition to being warm, these months are often quite humid. By late summer smaller amounts of rain fall and rains occur less frequently, so by mid-August, the moisture in the top 2 feet of soil is often depleted.

The average occurrence of the last temperature as cold as 32 degrees in spring is early April, and the first 32 degree temperature in the fall occurs in late October.

