

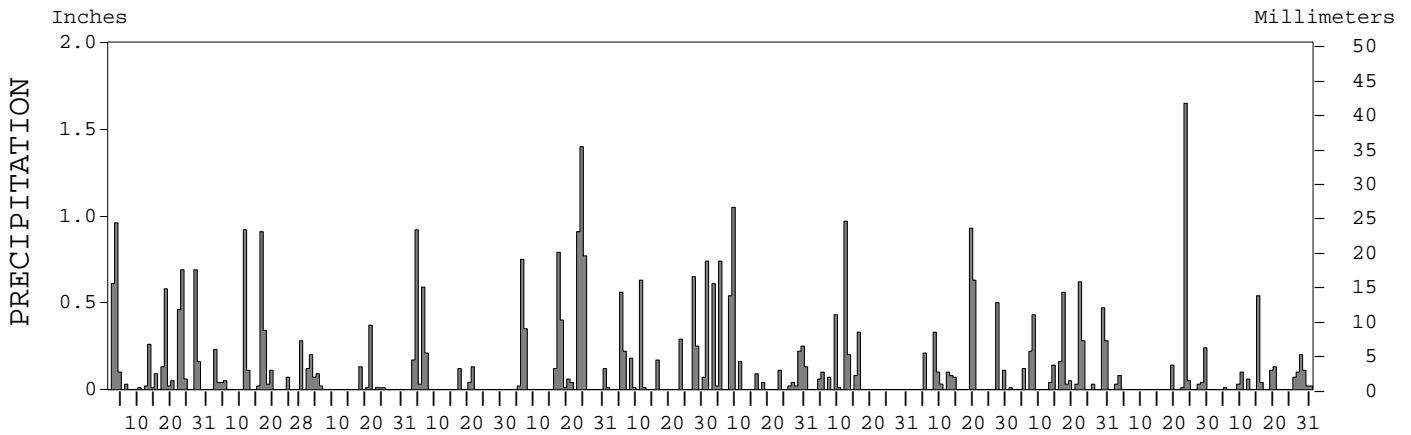
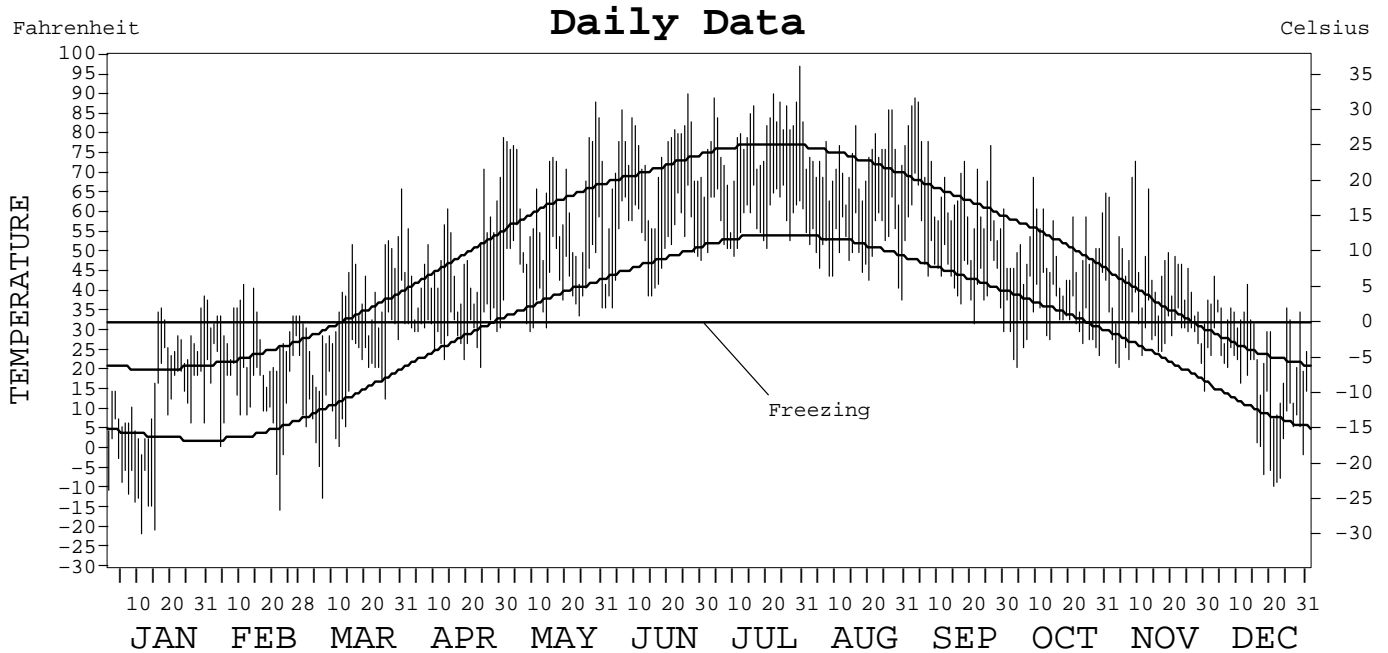
1999

LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA



MARQUETTE COUNTY AIRPORT,
MICHIGAN (MQT)

ISSN 0198-263X



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METEOROLOGICAL DATA FOR 1999

MARQUETTE, MI (MQT)

LATITUDE: 46° 32' 0" N LONGITUDE: 87° 34' 0" W ELEVATION (FT): GRND: 1415 BARO: 1415 TIME ZONE: EASTERN (UTC + 5) WBAN: 94850

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	18.9	29.2	36.9	48.5	64.9	72.6	79.2	72.8	66.7	50.4	45.3	28.3	51.1	
	HIGHEST DAILY MAXIMUM	39	42	66	71	88	90	97	86	89	69	73	44	97	
	DATE OF OCCURRENCE	30	11	31	25	29	26	30	27+	03	09	09	03	JUL 30	
	MEAN DAILY MINIMUM	4.5	13.8	16.6	30.1	43.1	51.9	58.3	51.5	46.7	33.2	29.0	13.1	32.7	
	LOWEST DAILY MINIMUM	-21	-15	-12	21	30	36	49	38	30	21	15	-9	-21	
	DATE OF OCCURRENCE	11	22	07	24	09	03+	10	30	30	04	30	21	JAN 11	
	AVERAGE DRY BULB	11.7	21.5	26.8	39.3	54.0	62.3	68.8	62.2	56.7	41.8	37.2	20.7	41.9	
	MEAN WET BULB														
	MEAN DEW POINT														
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	1	2	0	0	0	0	0	0	3
MAXIMUM ≤ 32°	25	17	13	0	0	0	0	0	0	0	3	16	74		
MINIMUM ≤ 32°	31	28	28	22	4	0	0	0	2	14	22	30	181		
MINIMUM ≤ 0°	13	3	2	0	0	0	0	0	0	0	0	6	24		
H/C	HEATING DEGREE DAYS	1646	1213	1178	764	346	153	40	111	289	711	827	1364	8642	
	COOLING DEGREE DAYS	0	0	0	0	13	77	162	31	47	0	0	0	330	
RH	MEAN (PERCENT)														
	HOUR 01 LST														
	HOUR 07 LST														
	HOUR 13 LST														
	HOUR 19 LST														
S	PERCENT POSSIBLE SUNSHINE	54	43			69	78	85		73	59	71	38		
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)		0	0	0	0	0	0	0	0	0	0	0	0	
	THUNDERSTORMS		0	0	0	0	0	0	0	0	0	0	0	0	
CLOUDINESS	AVG. SKY COVER (OKTAS)														
	SUNRISE - SUNSET														
	MIDNIGHT - MIDNIGHT														
	NUMBER OF DAYS WITH:														
	CLEAR														
	PARTLY CLOUDY														
	CLOUDY														
PR	MEAN STATION PRESS. (IN.)														
	MEAN SEA-LEVEL PRESS. (IN.)														
WINDS	RESULTANT SPEED (MPH)														
	RES. DIR. (TENS OF DEGS.)														
	MEAN SPEED (MPH)														
	PREVAIL.DIR.(TENS OF DEGS.)														
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)														
	DIR. (TENS OF DEGS.)														
	DATE OF OCCURRENCE														
	PEAK GUST :														
SPEED (MPH)															
DIR. (TENS OF DEGS.)															
DATE OF OCCURRENCE															
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	4.93	3.15	1.04	2.21	5.74	3.05	4.78	2.25	3.09	3.47	2.27	1.54	37.52	
	GREATEST 24-HOUR (IN.)	1.31	1.10	0.37	1.00	1.55	0.65	1.40	1.17	0.93	0.62	1.65	0.54	1.65	
	DATE OF OCCURRENCE	02-03	16-17	21	03-04	23-24	27	08-09	12-13	19	22	23	15	NOV 23	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	18	13	11	8	13	12	16	9	11	16	9	14	150	
PRECIPITATION ≥ 0.10	10	7	4	6	9	8	10	5	8	10	3	7	87		
PRECIPITATION ≥ 1.00	0	0	0	0	1	0	1	0	0	0	1	0	3		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	67.7	34.4	20.9	1.8	0.0	0.0	0.0	0.0	0.0	3.5	7.5	30.0	165.8	
	GREATEST 24-HOUR (IN.)	21.6	12.5	4.4	1.2	0.0	0.0	0.0	0.0	0.0	2.0	5.2	7.6	21.6	
	DATE OF OCCURRENCE	02-03	16-17	21	17						22	29	15	JAN 02-03	
	MAXIMUM SNOW DEPTH (IN.)	34	37	37	8	0	0	0	0	0	1	5	15	37	
	DATE OF OCCURRENCE	29	19+	06+	01						23+	30	31+	MAR 06+	
	NUMBER OF DAYS WITH:														
SNOWFALL ≥ 1.0	12	7	6	1	0	0	0	0	0	2	2	11	41		

NORMALS, MEANS, AND EXTREMES

MARQUETTE, MI (MQT)

LATITUDE: 46° 32' 0 " N LONGITUDE: 87° 34' 0 " W ELEVATION (FT): GRND: 1415 BARO: 1415 TIME ZONE: EASTERN (UTC + 5) WBAN: 94850

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	20.5	23.9	33.5	47.5	61.9	70.9	76.6	73.3	63.8	52.3	36.9	24.6	48.8
	MEAN DAILY MAXIMUM	37	20.7	24.5	33.8	47.2	62.1	71.4	76.3	73.5	64.0	52.2	36.6	25.4	49.0
	HIGHEST DAILY MAXIMUM	21	46	61	68	92	93	96	99	95	92	87	73	59	99
	YEAR OF OCCURRENCE		1981	1981	1989	1980	1986	1995	1988	1988	1998	1992	1999	1998	JUL 1988
	MEAN OF EXTREME MAXS.	37	37.6	43.5	54.7	71.8	84.3	87.9	89.9	87.8	81.9	73.6	55.9	41.2	67.5
	NORMAL DAILY MINIMUM	30	3.3	4.0	13.6	27.0	38.4	47.4	53.5	51.7	44.1	34.8	23.3	9.9	29.2
	MEAN DAILY MINIMUM	37	3.7	4.9	13.8	27.2	38.7	48.3	53.6	51.9	44.4	34.8	23.1	11.2	29.6
	LOWEST DAILY MINIMUM	21	-27	-34	-23	-5	17	28	36	34	24	14	-5	-28	-34
	YEAR OF OCCURRENCE		1996	1979	1982	1979	1983	1986	1989	1992	1993	1984	1989	1983	FEB 1979
	MEAN OF EXTREME MINS.	37	-18.4	-18.3	-11.1	8.1	24.2	33.4	40.0	37.8	29.1	21.4	4.1	-11.3	11.6
	NORMAL DRY BULB	30	11.9	14.0	23.6	37.3	50.2	59.2	65.1	62.5	54.0	43.6	30.1	17.3	39.1
	MEAN DRY BULB	37	12.4	14.7	23.7	37.3	50.3	59.8	65.0	62.8	54.3	43.5	29.8	18.2	39.3
	MEAN WET BULB														
	MEAN DEW POINT														
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	*	0.2	0.5	1.6	0.6	0.1	0.0	0.0	0.0	3.0	
MAXIMUM ≤ 32°	30	26.9	22.2	14.7	2.9	0.1	0.0	0.0	0.0	0.0	0.5	10.8	24.9	103.0	
MINIMUM ≤ 32°	30	30.9	27.9	29.3	22.4	9.8	0.9	0.0	0.1	2.9	14.8	26.2	30.7	195.9	
MINIMUM ≤ 0°	30	12.3	11.7	6.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.7	7.5	38.6	
H/C	NORMAL HEATING DEG. DAYS	30	1646	1428	1283	831	471	193	74	122	330	663	1047	1479	9567
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	13	19	78	45	0	0	0	0	155
RH	NORMAL (PERCENT)														
	HOUR 01 LST														
	HOUR 07 LST														
	HOUR 13 LST														
	HOUR 19 LST														
S	PERCENT POSSIBLE SUNSHINE	18	33	39	46	49	58	61	63	60	52	43	32	29	47
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	20	0.9	1.0	1.9	2.4	2.4	1.3	2.2	3.1	2.9	2.5	1.1	1.5	23.2
	THUNDERSTORMS	20	0.0	0.1	0.4	1.0	2.5	4.8	5.6	4.7	3.4	1.4	0.1	0.0	24.0
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH:														
	CLEAR														
	PARTLY CLOUDY														
	CLOUDY														
PR	MEAN STATION PRESSURE (IN)														
	MEAN SEA-LEVEL PRES. (IN)														
WINDS	MEAN SPEED (MPH)														
	PREVAIL. DIR (TENS OF DEGS)														
	FASTEST MILE:														
	SPEED (MPH)	6	44	31	40	44	34	38	35	37	35	38	31	35	44
	DIR.		NW	NW	NW	NW	N	NW	NW	NW	W	SE	NW	SW	NW
	YEAR OF OCCURRENCE		1980	1985	1982	1982	1981	1984	1982	1984	1983	1984	1979	1982	APR 1982
	PEAK GUST:														
	SPEED (MPH)														
	DIR. (TENS OF DEGS)														
	YEAR OF OCCURRENCE														
PRECIPITATION	NORMAL (IN)	30	2.17	1.73	2.77	2.64	3.03	3.48	2.88	3.41	4.08	3.61	2.89	2.61	35.30
	MAXIMUM MONTHLY (IN)	21	6.61	3.68	6.08	6.56	6.49	6.61	5.40	8.59	6.94	7.59	8.25	4.45	8.59
	YEAR OF OCCURRENCE		1997	1984	1979	1985	1983	1981	1991	1988	1980	1979	1988	1996	AUG 1988
	MINIMUM MONTHLY (IN)	21	0.92	0.48	0.56	0.90	0.06	0.61	0.57	0.81	1.21	1.65	1.00	0.37	0.06
	YEAR OF OCCURRENCE		1991	1994	1980	1998	1986	1992	1981	1991	1989	1994	1990	1994	MAY 1986
	MAXIMUM IN 24 HOURS (IN)	20	2.23	2.05	2.40	3.09	3.44	2.80	2.64	2.34	2.34	3.66	2.97	2.48	3.66
YEAR OF OCCURRENCE		1988	1983	1986	1985	1983	1989	1985	1988	1993	1985	1988	1985	OCT 1985	
	NORMAL NO. DAYS WITH:														
	PRECIPITATION ≥ 0.01	30	16.4	12.6	13.5	10.9	10.6	12.5	9.5	11.9	14.0	14.1	15.0	17.6	158.6
	PRECIPITATION ≥ 1.00	30	0.2	0.1	0.6	0.4	0.8	0.7	0.6	0.8	0.8	0.9	0.5	0.3	6.7
SNOWFALL	NORMAL (IN)	30	35.2	24.5	28.9	9.8	1.5	T	0.0	0.0	0.1	5.2	19.8	36.4	161.4
	MAXIMUM MONTHLY (IN)	21	91.7	63.6	59.1	43.4	22.6	T	0.0	T	1.7	18.6	48.9	82.6	91.7
	YEAR OF OCCURRENCE		1997	1995	1985	1996	1990	1994		1989	1993	1979	1991	1981	JAN 1997
	MAXIMUM IN 24 HOURS (IN)	20	23.3	20.6	28.0	20.0	17.2	T	0.0	T	1.7	12.7	19.1	25.8	28.0
	YEAR OF OCCURRENCE		1988	1983	1997	1985	1990	1994		1989	1993	1989	1991	1985	MAR 1997
	MAXIMUM SNOW DEPTH (IN)	36	54	56	63	41	12	0	0	0	1	10	27	47	63
YEAR OF OCCURRENCE		1969	1971	1997	1997	1990				1974	1989	1975	1983	MAR 1997	
	NORMAL NO. DAYS WITH:														
	SNOWFALL ≥ 1.0	30	9.0	6.2	5.8	2.6	0.4	0.0	0.0	0.0	0.*	1.6	5.8	8.3	39.7

PRECIPITATION (inches) 1999 MARQUETTE COUNTY AIRPORT, MI (MQT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	1.90	1.20	1.17	1.55	4.86	1.46	5.36	0.94	5.47	2.29	2.68	1.75	30.63
1971	3.57	2.54	2.06	1.41	2.53	4.12	2.22	1.45	3.80	4.71	2.33	2.89	33.63
1972	1.53	1.43	3.25	2.62	2.50	1.70	2.85	4.12	5.32	1.96	3.39	3.03	33.70
1973	1.47	0.99	2.37	3.01	7.16	3.42	2.16	2.93	2.03	2.53	1.16	2.43	31.66
1974	1.31	1.42	0.61	3.28	2.49	3.57	1.80	3.87	4.01	3.05	2.87	0.81	29.09
1975	2.85	2.10	2.11	2.41	3.53	4.59	1.06	2.97	2.80	1.34	3.16	1.87	30.79
1976	2.65	2.22	3.95	1.83	2.95	1.63	1.52	0.50	1.32	2.24	1.68	1.79	24.28
1977	1.01	1.57	4.09	3.19	2.04	3.10	3.89	3.55	5.17	2.65	2.52	3.24	36.02
1978	3.03	0.89	0.56	1.49	3.34	2.68	4.10	4.47	4.54	1.72	2.72	2.18	31.72
1979	2.43	1.99	6.08	1.84	2.70	6.13	4.63	1.41	2.09	7.59	2.47	1.56	40.92
1980	2.95	1.47	0.56	4.11	1.87	2.51	3.18	3.49	6.94	2.71	1.92	2.21	33.92
1981	1.96	2.18	2.30	3.10	2.43	6.61	0.57	2.28	2.11	4.63	2.00	4.33	34.50
1982	3.80	0.59	1.89	4.45	2.76	1.24	4.65	3.45	5.00	3.87	2.53	2.83	37.06
1983	2.67	3.14	4.85	3.17	6.49	1.62	1.45	3.21	4.98	5.75	5.68	3.35	46.36
1984	1.27	3.68	3.99	2.46	0.79	2.81	1.92	4.29	4.29	2.03	2.35	2.60	32.48
1985	2.96	2.91	4.63	6.56	3.59	1.49	3.76	4.78	6.32	4.88	5.74	3.97	51.59
1986	2.94	1.21	4.77	2.36	0.06	2.45	3.07	4.62	2.85	4.50	1.04	0.52	30.39
1987	1.42	1.53	2.07	2.30	3.93	2.01	4.88	3.58	2.66	4.31	4.05	3.56	36.30
1988	4.02	0.95	3.66	1.48	1.34	0.71	1.46	8.59	3.97	5.01	8.25	2.36	41.80
1989	1.82	1.60	2.89	1.48	2.15	5.36	0.91	2.61	1.21	3.49	3.43	2.58	29.53
1990	1.74	1.96	1.88	2.32	4.25	3.13	2.01	2.70	4.76	5.27	1.00	1.71	32.73
1991	0.92	1.78	3.75	3.50	2.64	3.06	5.40	0.81	3.10	4.73	5.87	1.51	37.07
1992	1.28	2.66	2.57	2.12	1.76	0.61	4.93	3.28	3.35	1.98	4.27	2.46	31.27
1993	2.39	0.68	0.99	4.11	4.61	2.42	1.95	3.98	4.41	3.32	2.84	1.31	33.01
1994	1.65	0.48	2.27	2.27	2.31	2.60	1.48	3.98	2.92	1.65	2.17	0.37	24.15
1995	1.45	2.89	3.31	2.31	3.85	1.49	3.93	4.31	3.60	6.37	2.97	2.48	38.96
1996	5.22	2.91	2.09	6.50	1.70	3.94	4.43	2.11	3.58	3.64	1.87	4.45	42.44
1997	6.61	0.97	3.65	1.03	2.96	3.44	1.60	3.01	1.36	2.38	3.48	2.40	32.89
1998	2.71	1.12	5.35	0.90	1.93	3.06	0.59	2.70	3.56	1.93	2.89	1.60	28.34
1999	4.93	3.15	1.04	2.21	5.74	3.05	4.78	2.25	3.09	3.47	2.27	1.54	37.52
POR= 127 YRS	2.12	1.71	2.21	2.50	2.90	3.31	2.98	2.79	3.48	2.90	2.89	2.22	32.01

WBAN : 94850

AVERAGE TEMPERATURE (°F) 1999 MARQUETTE COUNTY AIRPORT, MI (MQT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	14.9	17.5	25.1	40.2	47.0	60.8	68.8	67.8	58.8	50.7	35.2	24.2	42.6
1971	14.4	19.2	26.3	39.7	48.4	61.3	64.2	63.4	61.1	53.6	34.9	25.4	42.7
1972	13.6	14.9	22.8	34.9	52.3	57.0	63.9	63.3	54.6	43.6	33.3	18.9	39.4
1973	22.1	20.5	35.2	39.8	45.4	60.3	67.0	69.1	58.6	53.4	35.1	23.0	44.1
1974	17.1	16.4	26.7	39.9	47.7	59.7	69.1	64.5	52.9	46.7	36.6	29.4	42.2
1975	20.4	23.2	26.5	35.4	54.7	61.1	70.3	67.1	54.2	50.1	39.4	23.1	43.8
1976	15.6	26.1	28.4	43.1	48.5	64.1	66.5	67.6	56.8	43.4	29.1	14.6	42.0
1977	10.1	19.9	34.3	43.8	58.4	59.2	67.3	61.8	56.6	48.4	35.0	22.0	43.1
1978	17.9	18.6	27.4	37.3	53.3	60.5	65.1	66.4	58.7	47.0	34.2	20.1	42.2
1979	5.6	6.9	24.4	34.4	46.2	58.1	64.7	60.8	55.6	39.5	28.8	23.5	37.4
1980	13.1	12.8	21.3	39.1	54.5	56.9	65.7	64.5	52.9	38.6	29.8	15.4	38.7
1981	13.9	18.4	27.3	39.0	48.1	59.6	65.7	63.8	52.0	40.1	34.5	18.7	40.1
1982	4.8	12.1	23.1	32.8	54.9	54.0	66.0	59.8	53.8	45.4	29.1	23.3	38.3
1983	18.0	21.9	26.0	33.8	44.1	60.5	70.1	67.9	57.5	43.2	31.9	8.7	40.3
1984	9.0	25.3	17.5	40.3	48.2	62.0	64.4	65.4	52.4	46.7	30.5	18.7	40.0
1985	11.3	11.8	26.7	40.9	52.1	56.8	62.6	61.4	54.7	44.0	26.2	9.7	38.2
1986	14.4	14.8	26.4	42.0	54.8	57.1	66.3	60.0	53.2	42.7	25.2	21.3	39.9
1987	18.0	22.9	30.1	44.6	53.7	63.8	67.8	62.7	56.9	39.0	32.6	23.5	43.0
1988	11.6	10.8	23.1	38.5	54.7	62.3	68.6	65.0	54.9	38.0	31.8	16.3	39.6
1989	19.1	8.4	19.4	34.7	50.8	57.5	66.7	63.2	55.7	45.3	24.8	9.2	37.9
1990	22.0	18.1	28.5	42.3	46.9	59.9	63.7	63.2	53.7	41.3	34.0	18.0	41.0
1991	10.0	20.1	26.7	42.2	55.7	62.9	64.9	65.2	52.4	41.0	27.0	19.8	40.7
1992	17.0	19.8	22.6	34.6	52.6	56.3	58.4	59.2	53.5	41.4	28.4	20.2	38.7
1993	16.9	13.9	25.6	34.4	49.8	57.8	66.1	65.4	49.9	40.3	27.0	20.8	39.0
1994	2.8	7.7	27.3	36.8	50.2	61.9	64.0	60.7	58.2	47.3	33.7	27.5	39.8
1995	17.4	15.0	28.2	32.1	50.4	66.3	65.6	68.1	53.9	44.3	22.8	16.1	40.0
1996	10.5	11.9	19.5	31.5	46.6	62.3	61.6	64.6	56.3	43.8	26.8	19.5	37.9
1997	12.9	16.9	21.2	35.8	44.8	64.6	63.6	59.6	56.0	44.0	27.3	24.7	39.3
1998	17.8	28.4	24.7	41.7	55.0	59.5	65.5	65.8	58.3	47.4	34.1	22.4	43.4
1999	11.7	21.5	26.8	39.3	54.0	62.3	68.8	62.2	56.7	41.8	37.2	20.7	41.9
POR= 125 YRS	16.7	17.6	25.8	38.6	49.5	59.3	65.7	64.3	57.0	46.6	33.0	22.4	41.4

HEATING DEGREE DAYS (base 65°F) 1999 MARQUETTE COUNTY AIRPORT, MI (MQT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	49	44	224	443	887	1257	1563	1279	1189	754	513	162	8364
1971-72	90	123	182	350	897	1218	1586	1447	1304	897	403	257	8754
1972-73	103	121	305	653	950	1423	1323	1239	916	752	598	159	8542
1973-74	59	37	244	360	889	1296	1482	1354	1180	747	535	192	8375
1974-75	27	77	360	563	843	1097	1376	1165	1188	880	320	176	8072
1975-76	49	45	317	455	762	1290	1525	1120	1128	653	506	94	7944
1976-77	36	79	293	668	1069	1556	1695	1253	946	630	239	193	8657
1977-78	50	126	244	504	894	1329	1455	1295	1156	826	381	183	8443
1978-79	64	57	220	554	918	1385	1840	1626	1254	914	577	214	9623
1979-80	93	153	295	785	1080	1282	1604	1508	1350	772	340	271	9533
1980-81	53	68	361	813	1050	1532	1581	1303	1160	776	519	168	9384
1981-82	73	78	384	766	907	1425	1864	1480	1292	960	313	326	9868
1982-83	37	190	350	598	1069	1289	1446	1201	1205	929	638	207	9159
1983-84	35	38	264	672	989	1740	1737	1145	1469	733	517	124	9463
1984-85	71	72	369	560	1028	1431	1658	1486	1178	724	400	249	9226
1985-86	111	146	323	645	1156	1709	1564	1400	1191	684	334	250	9513
1986-87	71	169	349	684	1185	1348	1450	1171	1075	606	387	106	8601
1987-88	58	130	247	800	964	1278	1650	1569	1295	787	347	166	9291
1988-89	37	101	305	833	988	1504	1416	1584	1412	902	432	245	9759
1989-90	65	117	283	610	1199	1727	1324	1308	1123	702	556	176	9190
1990-91	104	111	347	726	921	1454	1703	1250	1182	678	334	115	8925
1991-92	74	112	385	739	1133	1394	1483	1308	1306	905	398	276	9513
1992-93	208	202	340	732	1092	1383	1485	1424	1215	910	474	233	9698
1993-94	38	78	446	760	1130	1366	1927	1601	1164	844	470	135	9959
1994-95	84	153	220	538	932	1155	1471	1395	1137	978	452	106	8621
1995-96	68	21	336	637	1259	1509	1688	1538	1407	997	566	141	10167
1996-97	126	73	294	649	1140	1402	1607	1343	1350	867	620	89	9560
1997-98	111	193	276	649	1127	1243	1455	1019	1243	690	326	203	8535
1998-99	65	51	221	538	920	1314	1646	1213	1178	764	346	153	8409
1999-	40	111	289	711	827	1364							

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COOLING DEGREE DAYS (base 65°F) 1999 MARQUETTE COUNTY AIRPORT, MI (MQT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0	0	0	0	6	66	176	139	46	7	0	0	440
1971	0	0	0	0	6	57	73	81	73	4	0	0	294
1972	0	0	0	0	14	26	76	73	0	0	0	0	189
1973	0	0	0	0	0	25	127	172	59	6	0	0	389
1974	0	0	0	0	5	40	162	70	3	0	0	0	280
1975	0	0	0	0	9	67	218	118	1	0	0	0	413
1976	0	0	0	3	0	75	92	166	53	4	0	0	393
1977	0	0	0	0	44	24	126	35	0	0	0	0	229
1978	0	0	0	0	25	53	76	108	38	2	0	0	302
1979	0	0	0	0	0	15	92	29	19	0	0	0	155
1980	0	0	0	2	21	36	83	61	5	0	0	0	208
1981	0	0	0	0	1	13	103	50	2	0	0	0	169
1982	0	0	0	0	7	2	75	35	23	0	0	0	142
1983	0	0	0	0	0	78	200	135	47	1	0	0	461
1984	0	0	0	0	3	42	59	89	0	0	0	0	193
1985	0	0	0	7	7	10	44	41	21	0	0	0	130
1986	0	0	0	1	21	17	119	21	0	0	0	0	179
1987	0	0	0	3	41	77	150	65	13	0	0	0	349
1988	0	0	0	0	32	89	157	106	8	0	0	0	392
1989	0	0	0	0	1	27	123	70	13	1	0	0	235
1990	0	0	0	24	0	29	70	63	14	0	0	0	200
1991	0	0	0	0	51	60	77	126	13	0	0	0	327
1992	0	0	0	0	21	22	8	30	3	5	0	0	89
1993	0	0	0	0	10	22	79	97	0	0	0	0	208
1994	0	0	0	0	18	49	62	29	24	0	0	0	182
1995	0	0	0	0	8	152	93	123	8	5	0	0	389
1996	0	0	0	0	3	70	29	67	40	0	0	0	209
1997	0	0	0	0	0	80	74	33	9	3	0	0	199
1998	0	0	0	0	25	47	86	83	26	0	0	0	267
1999	0	0	0	0	13	77	162	31	47	0	0	0	330

SNOWFALL (inches) 1999 MARQUETTE COUNTY AIRPORT, MI (MQT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0.0	0.0	T	0.1	11.0	26.6	52.6	22.7	15.9	2.7	3.9	0.0	135.5
1971-72	0.0	0.0	0.0	0.0	11.2	25.3	22.6	23.2	34.3	14.4	0.0	0.0	131.0
1972-73	0.0	0.0	0.0	2.2	6.5	37.7	14.8	12.8	0.4	2.5	3.1	0.0	80.0
1973-74	0.0	0.0	0.0	T	7.4	27.9	15.5	18.2	5.2	13.2	2.3	0.0	89.7
1974-75	0.0	0.0	5.1	5.8	10.3	10.6	34.7	28.7	29.0	0.2	0.0	0.0	124.4
1975-76	0.0	0.0	T	0.1	16.9	15.3	45.6	25.9	44.3	1.4	4.3	0.0	153.8
1976-77	0.0	0.0	T	17.5	17.6	33.3	16.7	17.5	16.7	13.5	T	0.0	132.8
1977-78	0.0	0.0	0.0	T	12.2	38.3	43.3	16.3	6.1	1.0	0.0	0.0	117.2
1978-79	0.0	0.0	0.0	0.4	13.0	24.2	39.6	23.1	43.9	11.8	T	0.0	156.0
1979-80	0.0	0.0	0.0	18.6	24.8	18.9	33.9	30.2	7.0	11.3	1.4	0.0	146.1
1980-81	0.0	0.0	0.1	11.9	13.1	41.5	41.9	29.5	34.0	4.1	T	0.0	176.1
1981-82	0.0	0.0	0.0	14.2	15.3	82.6	68.8	9.6	24.1	29.2	0.0	0.0	243.8
1982-83	0.0	0.0	0.0	7.2	15.1	17.4	42.4	42.9	54.1	20.2	T	0.0	199.3
1983-84	0.0	0.0	T	2.5	31.6	54.3	30.2	38.1	46.3	1.1	T	0.0	204.1
1984-85	0.0	0.0	T	T	13.6	30.6	56.2	51.4	59.1	18.1	0.0	0.0	229.0
1985-86	0.0	0.0	0.0	T	28.1	56.4	49.8	17.4	49.1	6.8	0.1	0.0	207.7
1986-87	0.0	T	0.0	2.3	15.7	10.5	21.9	27.7	19.3	11.3	0.1	0.0	108.8
1987-88	0.0	0.0	T	8.3	21.4	36.1	62.8	28.0	49.0	5.8	0.0	0.0	211.4
1988-89	0.0	0.0	0.0	10.9	42.0	41.7	43.1	33.7	44.3	7.8	0.2	0.0	223.7
1989-90	0.0	T	0.5	16.6	41.7	58.4	26.4	35.8	16.3	17.1	22.6	T	235.4
1990-91	0.0	0.0	T	9.6	2.5	27.8	25.7	35.2	21.1	9.0	0.6	0.0	131.5
1991-92	0.0	0.0	T	2.9	48.9	30.7	33.3	49.6	23.3	16.7	T	0.0	205.4
1992-93	0.0	0.0	T	11.5	30.0	25.7	40.9	19.9	18.1	29.1	T	0.0	175.2
1993-94	0.0	0.0	1.7	8.7	29.0	22.9	46.8	12.4	28.3	2.7	0.1	T	152.6
1994-95	0.0	0.0	0.0	T	14.6	7.4	23.8	63.6	45.9	10.2	0.0	0.0	165.5
1995-96	0.0	0.0	T	3.3	31.7	45.1	66.6	37.8	22.9	43.4	0.6	0.0	251.4
1996-97	0.0	0.0	0.0	1.5	15.6	79.8	91.7	18.7	50.4	4.8	9.1	0.0	271.6
1997-98	0.0	0.0	0.0	8.3	37.2	38.8	41.7	15.3	35.4	5.7	0.0	T	182.4
1998-99	0.0	0.0	T	0.3	9.3	28.0	67.7	34.4	20.9	1.8	0.0	0.0	162.4
1999-	0.0	0.0	0.0	3.5	7.5	30.0							
POR= 61 YRS	0.0	T	0.2	3.9	17.6	27.0	29.4	23.3	22.0	9.1	1.6	T	134.1

WBAN : 94850

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
MARQUETTE COUNTY AIRPORT,
MICHIGAN (MQT)

The Marquette County Airport lies about 7.5 miles southwest of the nearest shoreline of Lake Superior and about 8 miles west of the city of Marquette. Lake Superior is the largest body of fresh water in the world and the deepest and coldest of the Great Lakes. An irregular northwest-southeast ridge line lies just to the east of the airport. There are several water storage basins in the vicinity of the station. One basin, about 20 miles long, is 3 miles northwest and another, about 8 miles in diameter, is 3 miles west.

The climate is influenced considerably by the proximity of Lake Superior. As a consequence of the cool expanse of water in the summer, there is rarely a long period of sweltering hot weather. Periods of drought are extremely rare. In the winter, cold outbreaks are tempered considerably by the waters of Lake Superior if the lake is

unfrozen. However, winds blowing across these relatively warmer waters pick up moisture and cause cloudy weather throughout the winter, as well as frequent periods of light snow. Lake-formed snow showers and snow squalls are intensified near the station by upslope winds, especially from the northwest through northeast. With a northeast through east wind, especially in autumn, the upslope condition will cause light snow at the airport, while along the lakeshore, only drizzle or no precipitation may occur.

The growing season averages 117 days. Precipitation is rather evenly distributed throughout the year, with an average precipitation of 4 inches or more in June and September and less than 2 inch averages only in January and February. One hundred inches or more of snow occur in nine of ten winter seasons.

