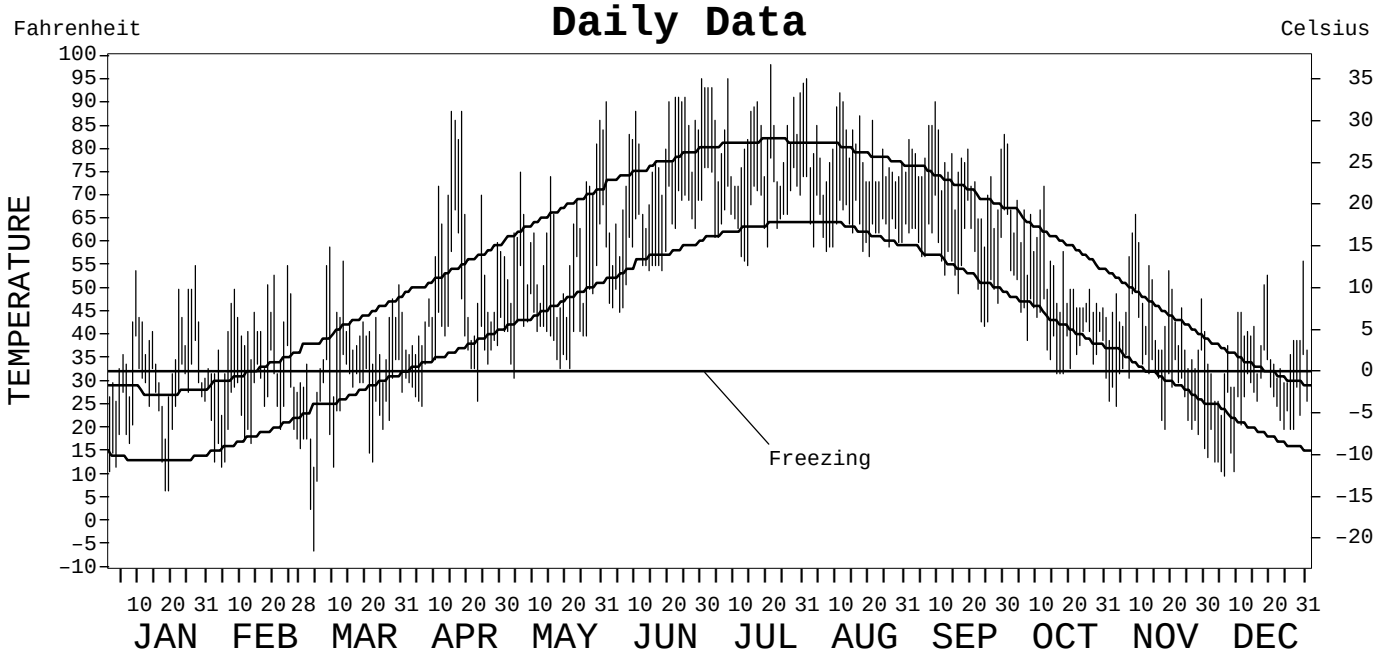
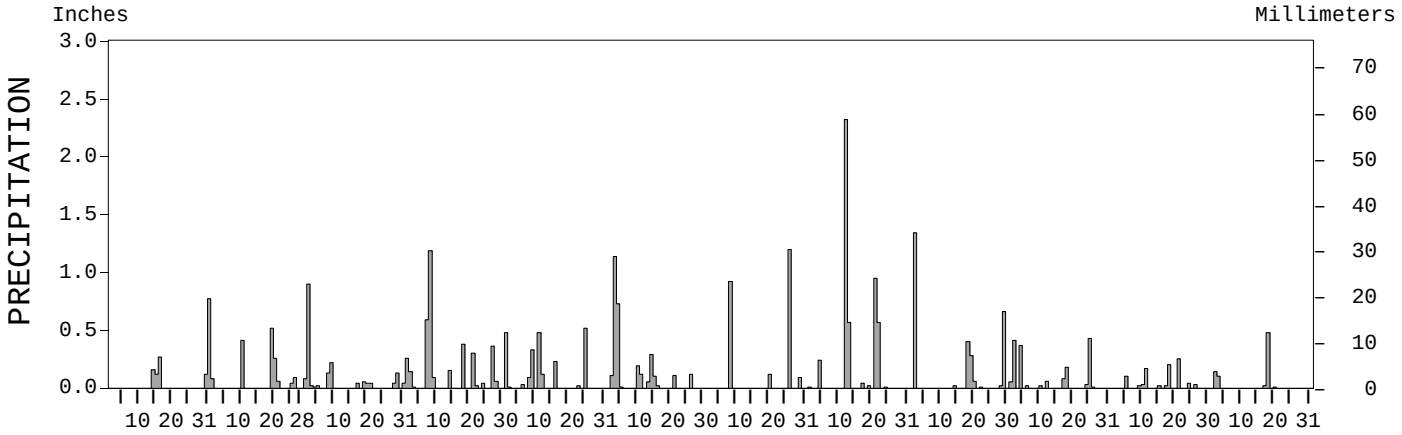
2002 LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA

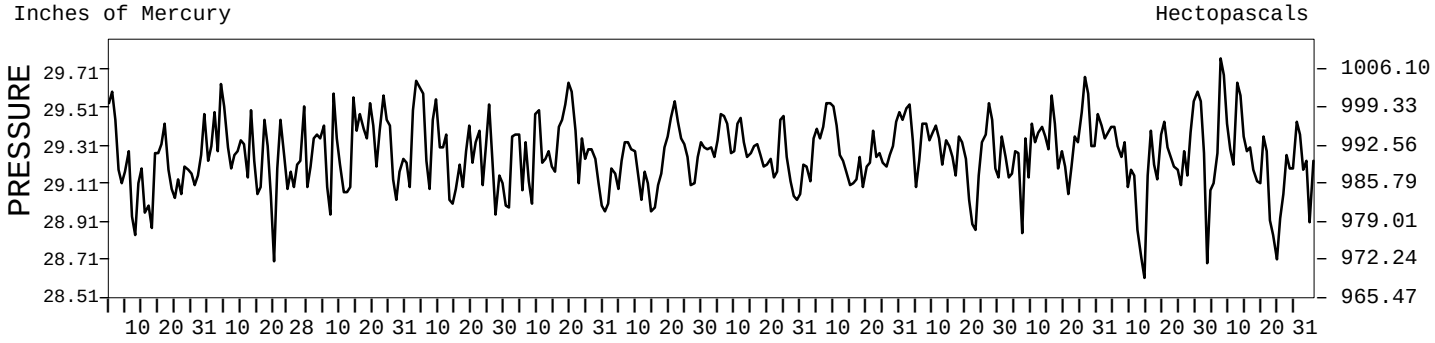
ISSN 0198-5744

MILWAUKEE,
WISCONSIN (MKE)

Daily Data







I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND IS COMPILED FROM RECORDS ON FILE AT THE NATIONAL CLIMATIC DATA CENTER.

Thomas R. Karl

DIRECTOR
NATIONAL CLIMATIC DATA CENTER

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
NATIONAL CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

METEOROLOGICAL DATA FOR 2002

MILWAUKEE, WI (MKE)

LATITUDE: 42° 56′ 48″ N LONGITUDE: 87° 53′ 49″ W ELEVATION (FT): GRND: 677 BARO: 680 TIME ZONE: CENTRAL (UTC + 6) WBAN: 14839

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	MEAN DAILY MAXIMUM	36.7	39.4	39.0	54.3	61.1	77.7	83.6	79.3	75.4	54.9	45.1	36.6	56.9
	HIGHEST DAILY MAXIMUM	55	55	59	88	86	95	98	95	90	81	66	56	98
	DATE OF OCCURRENCE	27	24	09	18+	30	30	21	01	09	01	09	30	JUL 21
	MEAN DAILY MINIMUM	24.7	23.9	23.9	38.6	43.4	59.3	67.5	63.2	56.9	41.5	30.6	23.5	41.4
	LOWEST DAILY MINIMUM	7	12	-6	25	31	45	55	57	42	31	16	10	-6
	DATE OF OCCURRENCE	19+	04	04	06	04	05	14	20	24	31	30	06	MAR 04
	AVERAGE DRY BULB	30.7	31.7	31.5	46.5	52.3	68.5	75.6	71.3	66.2	48.2	37.9	30.1	49.2
	MEAN WET BULB	27.8	28.5	28.5	41.9	46.7	62.1	68.9	65.8	60.5	43.9	34.1	27.4	44.7
	MEAN DEW POINT	21.9	22.2	22.4	36.2	40.9	58.0	65.2	62.3	56.2	38.6	28.0	21.1	39.4
	NUMBER OF DAYS WITH:													
	MAXIMUM ≥ 90°	0	0	0	0	0	7	9	3	1	0	0	0	20
	MAXIMUM ≤ 32°	11	8	6	0	0	0	0	0	0	0	0	11	36
	MINIMUM ≤ 32°	25	25	25	7	1	0	0	0	0	4	20	28	135
	MINIMUM ≤ 0°	0	0	1	0	0	0	0	0	0	0	0	0	1
H/C	HEATING DEGREE DAYS	1060	927	1031	580	410	74	0	0	67	518	806	1078	6551
	COOLING DEGREE DAYS	0	0	0	30	24	187	336	202	109	9	0	0	897
RH	MEAN (PERCENT)	71	69	71	70	68	72	71	75	71	71	69	70	71
	HOUR 00 LST	74	72	75	74	74	79	78	82	79	74	70	72	75
	HOUR 06 LST	77	78	78	78	78	80	81	86	83	77	77	76	79
	HOUR 12 LST	65	63	65	62	63	61	61	64	57	63	61	64	62
	HOUR 18 LST	70	64	67	67	61	67	64	69	65	69	66	69	66
S	PERCENT POSSIBLE SUNSHINE													
W/O	NUMBER OF DAYS WITH:													
	HEAVY FOG(VISBY ≤ 1/4 MI)	0	1	1	2	2	2	0	1	0	3	0	0	12
	THUNDERSTORMS	0	0	2	3	5	8	4	6	2	0	0	0	30
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.)	29.19	29.26	29.31	29.29	29.28	29.23	29.28	29.32	29.27	29.34	29.21	29.25	29.27
	MEAN SEA-LEVEL PRESS. (IN.)	29.96	30.03	30.08	30.05	30.03	29.97	30.01	30.06	30.01	30.10	29.98	30.02	30.02
WINDS	RESULTANT SPEED (MPH)	5.6	6.1	1.8	1.2	1.6	2.4	2.5	1.5	1.3	1.4	5.1	4.8	2.3
	RES. DIR. (TENS OF DEGS.)	26	26	32	20	33	20	21	13	22	29	28	26	26
	MEAN SPEED (MPH)	10.8	12.0	11.9	11.1	11.1	7.6	9.2	8.1	8.2	10.0	10.0	10.7	10.1
	PREVAIL.DIR.(TENS OF DEGS.)	24	22	30	20	03	20	24	03	22	30	31	26	23
	MAXIMUM 2-MINUTE WIND:													
	SPEED (MPH)	32	31	37	35	33	26	25	33	31	33	30	28	37
	DIR. (TENS OF DEGS.)	24	01	24	25	22	25	23	26	16	27	31	13	24
	DATE OF OCCURRENCE	25	10	09	18	15	10+	28+	21	02	04	30	17	MAR 09
	MAXIMUM 5-SECOND WIND:													
	SPEED (MPH)	41	40	49	45	40	36	31	41	37	44	39	35	49
	DIR. (TENS OF DEGS.)	23	28	26	24	23	01	02	26	16	27	33	13	26
	DATE OF OCCURRENCE	25	12	09	18	15+	01	23+	21	02	04	30	17+	MAR 09
PRECIPITATION	WATER EQUIVALENT:													
	TOTAL (IN.)	1.44	1.46	1.76	3.59	2.31	2.99	2.33	4.73	2.79	1.66	0.88	0.75	26.69
	GREATEST 24-HOUR (IN.)	0.77	0.52	0.90	1.27	0.60	1.43	1.20	2.69	1.34	0.43	0.25	0.50	2.69
	DATE OF OCCURRENCE	31	19	02	08-09	11-12	03-04	26	12-13	02	25	21	17-18	AUG 12-13
	NUMBER OF DAYS WITH:													
	PRECIPITATION ≥ 0.01	5	7	14	13	10	12	4	9	8	11	10	5	108
	PRECIPITATION ≥ 0.10	5	3	4	8	6	9	3	5	4	4	4	3	58
	PRECIPITATION ≥ 1.00	0	0	0	1	0	1	1	1	1	0	0	0	5
SNOWFALL	SNOW,ICE PELLETS,HAIL:													
	TOTAL (IN.)	13.1	4.2	13.0	3.6	0.0	T	0.0	0.0	0.0	0.0	1.2	4.7	39.8
	GREATEST 24-HOUR (IN.)	6.7	1.4	9.4	2.6	0.0	T	0.0	0.0	0.0	0.0	0.7	2.5	9.4
	DATE OF OCCURRENCE	31	26	02	01		15					26	02	MAR 02
	MAXIMUM SNOW DEPTH (IN.)	6	3	8	1	0	0	0	0	0	0	1	4	8
	DATE OF OCCURRENCE	31	01	06+	02							27	03	MAR 06+
	NUMBER OF DAYS WITH:													
	SNOWFALL ≥ 1.0	4	1	2	1	0	0	0	0	0	0	0	2	10

NORMALS, MEANS, AND EXTREMES

MILWAUKEE, WI (MKE)

LATITUDE: 42° 56′ 48″ N LONGITUDE: 87° 53′ 49″ W ELEVATION (FT): GRND: 677 BARO: 680 TIME ZONE: CENTRAL (UTC + 6) WBAN: 14839

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	28.0	32.5	42.6	53.9	66.0	76.3	81.1	79.1	71.9	60.2	45.7	33.1	55.9
	MEAN DAILY MAXIMUM	55	27.8	31.8	40.7	53.7	65.0	75.7	80.4	78.7	71.3	59.9	45.3	32.6	55.2
	HIGHEST DAILY MAXIMUM	62	62	68	82	91	93	101	103	103	98	89	77	68	103
	YEAR OF OCCURRENCE		1944	1999	1986	1980	1991	1988	1995	1988	1953	1963	1950	2001	JUL 1995
	MEAN OF EXTREME MAXS.	55	46.2	48.4	65.3	77.9	85.4	91.7	93.4	92.0	87.5	78.7	64.5	52.0	73.6
	NORMAL DAILY MINIMUM	30	13.4	18.3	27.3	36.4	46.2	56.3	62.9	62.1	54.1	42.6	31.0	19.4	39.2
	MEAN DAILY MINIMUM	55	13.2	17.5	26.0	36.4	45.5	55.8	62.3	61.5	53.4	42.4	30.6	19.1	38.6
	LOWEST DAILY MINIMUM	62	-26	-26	-10	12	21	33	40	44	28	18	-5	-20	-26
	YEAR OF OCCURRENCE		1982	1996	1962	1982	1966	1945	1965	1982	1974	1981	1950	1983	FEB 1996
	MEAN OF EXTREME MINS.	55	-9.2	-2.7	8.1	23.3	33.6	43.5	51.3	50.7	39.0	28.0	14.0	-1.5	23.2
	NORMAL DRY BULB	30	18.9	23.0	33.3	44.4	54.6	65.0	70.9	69.3	61.7	50.3	37.7	24.4	46.1
	MEAN DRY BULB	55	20.5	24.6	33.5	44.9	55.3	65.7	71.3	70.1	62.4	51.2	37.8	25.8	46.9
	MEAN WET BULB	17	21.8	25.0	31.6	40.8	50.5	60.4	65.8	65.1	54.8	46.6	35.4	23.6	43.5
	MEAN DEW POINT	17	16.6	18.4	25.4	34.5	44.7	55.5	61.9	61.6	50.9	41.1	30.1	18.7	38.3
	NORMAL NO. DAYS WITH:														
	MAXIMUM ≥ 90°	30	0.0	0.0	0.0	*	0.1	2.1	4.1	2.3	0.6	0.0	0.0	0.0	9.2
	MAXIMUM ≤ 32°	30	20.1	15.6	6.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.6	15.4	60.6
	MINIMUM ≤ 32°	30	29.7	26.1	23.6	9.9	1.1	0.0	0.0	0.0	0.1	4.3	18.0	28.0	140.8
	MINIMUM ≤ 0°	30	7.6	3.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.3	14.7
H/C	NORMAL HEATING DEG. DAYS	30	1384	1124	948	611	318	86	13	18	134	443	808	1200	7087
	NORMAL COOLING DEG. DAYS	30	0	0	0	5	27	114	222	180	63	5	0	0	616
RH	NORMAL (PERCENT)	30	72	72	71	68	68	70	72	75	75	72	74	76	72
	HOUR 00 LST	30	75	74	75	74	75	77	80	84	83	78	78	78	78
	HOUR 06 LST	30	76	77	78	78	78	79	82	86	87	82	80	80	80
	HOUR 12 LST	30	68	67	64	60	60	60	61	63	63	62	67	72	64
	HOUR 18 LST	30	71	70	68	63	62	62	63	68	71	70	74	75	68
S	PERCENT POSSIBLE SUNSHINE	56	44	47	50	53	60	65	69	66	59	54	39	38	54
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG(VISBY≤1/4 MI)	62	2.1	2.2	3.1	2.9	3.1	2.5	1.3	1.7	1.3	2.0	2.1	2.1	26.4
	THUNDERSTORMS	62	0.3	0.3	1.4	3.4	4.3	6.3	6.6	5.7	3.9	1.6	1.1	0.3	35.2
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH:														
	CLEAR	1		1.0	2.0		6.0								
	PARTLY CLOUDY	1		1.0	1.0		1.0								
	CLOUDY	1		1.0	3.0		10.0								
PR	MEAN STATION PRESSURE(IN)	29	29.29	29.32	29.25	29.22	29.22	29.21	29.25	29.29	29.30	29.30	29.27	29.31	29.27
	MEAN SEA-LEVEL PRES. (IN)	17	30.05	30.09	30.05	29.96	29.97	29.94	29.97	30.02	30.03	30.05	30.03	30.09	30.02
WINDS	MEAN SPEED (MPH)	50	12.4	12.2	12.5	12.7	11.5	10.1	9.7	9.5	10.3	11.3	12.2	12.1	11.4
	PREVAIL.DIR(TENS OF DEGS)	34	29	30	30	03	02	03	24	22	21	21	30	30	30
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	7	44	52	41	48	46	47	36	36	41	43	52	38	52
	DIR. (TENS OF DEGS)		08	27	26	24	30	31	31	23	07	24	23	23	27
	YEAR OF OCCURRENCE		1999	1999	1999	1997	1998	2001	2001	2000	2001	1996	1998	2001	FEB 1999
	MAXIMUM 5-SECOND:														
	SPEED (MPH)	7	51	70	53	62	61	69	44	48	47	48	68	47	70
	DIR. (TENS OF DEGS)		08	25	01	24	30	28	29	22	07	25	23	23	25
	YEAR OF OCCURRENCE		1999	1999	1996	1997	1998	2001	1999	2000	2001	2001	1998	2001	FEB 1999
PRECIPITATION	NORMAL (IN)	30	1.85	1.65	2.59	3.78	3.06	3.56	3.58	4.03	3.30	2.49	2.70	2.22	34.81
	MAXIMUM MONTHLY (IN)	62	4.38	3.94	6.93	7.31	8.42	9.98	7.66	9.05	9.87	7.03	7.11	5.42	9.98
	YEAR OF OCCURRENCE		1999	1986	1976	1973	2000	1997	1964	1987	1941	1991	1985	1987	JUN 1997
	MINIMUM MONTHLY (IN)	62	0.31	0.05	0.31	0.81	0.50	0.70	0.95	0.46	0.02	0.15	0.62	0.29	0.02
	YEAR OF OCCURRENCE		1981	1969	1968	1942	1988	1988	1946	1948	1979	1956	1949	1976	SEP 1979
	MAXIMUM IN 24 HOURS (IN)	62	1.73	1.92	2.57	3.11	3.11	4.23	4.42	6.84	5.28	2.60	2.69	2.24	6.84
	YEAR OF OCCURRENCE		1985	2001	1960	1976	1978	1997	2000	1986	1941	1959	1998	1982	AUG 1986
	NORMAL NO. DAYS WITH:														
	PRECIPITATION ≥ 0.01	30	11.6	9.8	12.3	12.4	11.3	10.5	9.7	9.3	9.5	9.7	10.6	12.0	128.7
	PRECIPITATION ≥ 1.00	30	0.2	0.2	0.4	0.8	0.6	0.8	1.0	0.8	0.9	0.4	0.3	0.4	6.8
SNOWFALL	NORMAL (IN)	30	15.2	11.3	7.4	2.6	0.1	0.0	0.0	0.0	0.0	0.4	3.7	11.7	52.4
	MAXIMUM MONTHLY (IN)	62	39.0	42.0	26.7	15.8	3.2	T	T	T	T	6.3	16.1	49.5	49.5
	YEAR OF OCCURRENCE		1999	1974	1965	1973	1990	1992	1990	1989	1993	1989	1977	2000	DEC 2000
	MAXIMUM IN 24 HOURS (IN)	62	13.8	16.7	11.2	11.6	3.2	T	T	T	T	6.3	10.6	13.6	16.7
	YEAR OF OCCURRENCE		1990	1960	1961	1973	1990	1992	1990	1989	1993	1989	1977	2000	FEB 1960
	MAXIMUM SNOW DEPTH (IN)	54	33	29	24	13	2	0	0	0	0	6	11	32	33
	YEAR OF OCCURRENCE		1979	1979	1960	1973	1990					1989	1977	2000	JAN 1979
	NORMAL NO. DAYS WITH:														
	SNOWFALL ≥ 1.0	30	4.5	2.9	2.1	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.9	3.3	14.3

PRECIPITATION (inches) 2002 MILWAUKEE, WI (MKE)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1973	1.12	1.51	2.86	7.31	3.39	1.96	1.55	0.95	4.50	2.97	1.83	3.80	33.75
1974	3.61	3.10	4.29	3.83	4.10	3.48	3.51	2.54	0.50	1.96	1.86	2.10	34.88
1975	2.25	2.53	3.01	4.08	2.01	3.99	1.14	3.89	1.00	0.72	2.83	1.70	29.15
1976	1.16	2.65	6.93	5.01	3.77	2.27	2.12	2.05	1.70	2.82	0.65	0.29	31.42
1977	0.90	0.59	4.56	2.09	0.90	5.78	5.99	3.82	4.11	2.02	2.56	3.27	36.59
1978	2.03	0.55	1.08	4.41	4.66	4.52	5.98	3.43	6.81	2.22	2.13	2.92	40.74
1979	3.00	0.97	4.17	5.43	1.82	2.84	1.06	4.85	0.02	1.77	2.67	2.27	30.87
1980	1.65	1.75	0.77	4.02	1.81	4.67	3.39	5.06	3.57	1.63	1.57	3.52	33.41
1981	0.31	2.88	0.51	4.87	3.05	2.39	4.35	4.26	5.47	2.71	2.05	1.03	33.88
1982	2.92	0.29	3.20	4.47	2.76	3.06	3.88	3.33	0.64	3.17	4.74	4.10	36.56
1983	0.75	2.23	4.12	4.66	5.83	1.41	1.34	4.70	2.79	2.65	4.10	2.89	37.47
1984	0.79	1.20	2.17	5.04	4.21	4.07	3.39	2.93	2.51	5.30	3.74	4.25	39.60
1985	1.94	2.34	4.11	1.93	2.73	1.27	2.18	2.23	3.44	5.39	7.11	2.62	37.29
1986	0.91	3.94	1.85	1.83	2.74	4.51	6.15	8.82	7.26	2.24	0.89	1.03	42.17
1987	1.22	1.22	1.74	4.26	3.76	2.23	4.20	9.05	2.22	1.09	2.73	5.42	39.14
1988	3.25	1.29	1.30	4.12	0.50	0.70	1.53	3.25	4.94	2.97	5.15	1.43	30.43
1989	0.86	0.69	3.03	1.33	2.86	1.89	6.16	5.19	3.25	2.67	1.90	0.47	30.30
1990	2.57	1.90	2.75	2.67	7.56	4.97	3.02	4.68	1.89	2.65	3.54	2.66	40.86
1991	1.55	0.38	4.06	3.70	4.25	2.13	4.34	2.27	4.34	7.03	3.36	1.94	39.35
1992	1.09	1.54	2.61	2.41	0.60	3.13	5.64	3.50	4.13	1.45	5.40	2.45	33.95
1993	2.63	0.98	3.19	6.64	1.56	6.39	4.22	4.20	3.91	0.44	1.98	0.70	36.84
1994	2.20	3.52	1.21	2.35	0.67	3.08	2.51	4.91	1.68	0.78	3.31	1.14	27.36
1995	2.14	0.25	1.76	3.86	3.41	1.46	2.80	5.83	1.24	4.64	3.42	0.53	31.34
1996	1.66	0.52	0.76	2.99	2.89	5.47	1.61	1.24	1.82	3.00	0.63	1.53	24.12
1997	1.59	2.47	0.63	2.16	1.95	9.98	3.59	3.95	2.91	1.11	1.11	1.30	32.75
1998	3.60	2.19	3.18	4.18	2.48	2.82	1.78	5.98	2.17	2.47	2.91	0.88	34.64
1999	4.38	0.98	1.35	6.14	3.74	6.96	5.58	1.69	4.16	0.94	0.70	1.26	37.88
2000	1.20	1.66	1.12	3.64	8.42	3.42	7.12	5.17	7.04	0.84	2.33	2.41	44.37
2001	1.11	3.48	0.67	3.45	4.68	4.13	2.70	5.41	4.76	4.29	1.19	0.86	36.73
2002	1.44	1.46	1.76	3.59	2.31	2.99	2.33	4.73	2.79	1.66	0.88	0.75	26.69
POR= 56 YRS	1.87	1.64	2.38	3.04	3.25	3.64	3.11	3.19	3.24	2.33	2.10	1.79	31.58

WBAN : 14839

AVERAGE TEMPERATURE (˚F) 2002 MILWAUKEE, WI (MKE)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1973	24.7	25.4	39.9	42.7	51.0	69.2	71.4	72.5	63.9	54.6	38.5	25.5	48.3
1974	21.6	22.9	33.8	46.1	50.6	62.4	71.5	67.3	58.0	49.9	38.6	29.1	46.0
1975	24.0	23.5	28.6	37.7	57.1	65.7	71.7	71.2	58.5	54.1	44.5	27.9	47.0
1976	18.5	31.1	38.6	48.7	52.6	68.2	72.6	69.9	62.6	45.9	29.5	16.3	46.2
1977	8.3	23.7	39.2	48.9	61.3	62.5	73.1	67.2	61.9	49.0	37.1	22.8	46.3
1978	15.4	16.4	29.8	42.5	55.2	65.2	68.6	69.9	65.8	49.5	38.2	23.8	45.0
1979	11.6	15.1	33.2	42.1	54.9	64.7	70.9	68.8	64.7	51.1	38.2	31.4	45.6
1980	20.7	20.3	30.5	45.3	57.2	61.3	71.2	69.7	61.1	45.7	37.7	24.4	45.4
1981	18.9	25.3	35.6	46.5	51.5	65.2	67.3	67.8	59.1	45.8	37.4	24.2	45.4
1982	9.7	19.4	31.5	41.2	58.5	59.8	71.1	67.3	60.8	52.7	38.0	33.2	45.3
1983	26.4	29.4	35.0	41.7	50.2	66.3	76.2	74.4	62.9	52.0	39.9	14.4	47.4
1984	18.9	33.4	29.2	45.5	54.9	68.7	71.7	73.3	60.9	52.9	37.7	29.1	48.0
1985	15.2	21.3	37.9	50.8	58.8	63.8	72.4	68.4	64.3	50.7	36.7	15.7	46.3
1986	21.9	23.3	38.1	48.5	56.1	63.3	72.5	67.1	63.8	51.6	35.1	29.2	47.5
1987	24.8	32.0	37.8	48.0	60.1	72.2	74.8	69.9	63.3	46.2	41.9	31.4	50.2
1988	18.3	20.1	34.8	45.7	58.7	70.2	75.4	75.7	63.5	45.8	40.7	26.6	48.0
1989	30.4	18.0	32.4	43.2	54.9	64.4	71.6	68.8	60.2	52.7	35.1	16.7	45.7
1990	31.1	28.9	38.8	49.3	52.8	67.6	70.5	71.2	66.0	51.5	44.5	26.9	49.9
1991	20.1	29.9	38.2	49.7	63.2	70.7	74.4	73.5	63.2	52.3	35.1	29.6	50.0
1992	27.9	31.9	35.4	42.9	56.7	63.0	67.7	67.4	61.6	49.8	37.3	28.2	47.5
1993	25.7	24.4	32.5	43.0	56.9	63.8	73.0	73.6	60.6	51.0	39.5	29.9	47.8
1994	14.8	21.6	35.8	48.1	57.0	70.2	73.7	70.1	67.5	55.9	43.7	34.5	49.4
1995	25.3	25.5	38.7	44.0	57.8	71.4	74.4	75.7	61.1	52.8	31.1	24.1	48.5
1996	20.7	24.0	29.8	42.4	52.0	65.2	68.7	72.4	63.8	52.3	33.1	27.1	46.0
1997	20.4	28.2	35.9	43.6	49.6	64.8	69.2	66.5	61.4	51.6	34.8	30.4	46.4
1998	26.9	34.6	35.9	45.8	59.9	66.7	72.4	72.5	67.0	54.0	43.0	32.0	50.9
1999	20.2	32.0	34.6	46.2	58.1	67.2	76.5	68.8	63.4	52.3	44.8	29.3	49.5
2000	23.6	32.2	41.9	44.3	58.0	65.9	68.2	70.7	62.2	54.7	36.9	16.6	47.9
2001	24.8	23.5	32.5	49.0	56.8	66.2	72.4	72.9	61.2	51.2	47.5	32.9	49.2
2002	30.7	31.7	31.5	46.5	52.3	68.5	75.6	71.3	66.2	48.2	37.9	30.1	49.2
POR= 56 YRS	21.2	24.2	33.4	44.6	54.8	64.9	71.2	70.0	62.7	51.3	38.0	26.3	46.9

HEATING DEGREE DAYS (base 65˚F) 2002 MILWAUKEE, WI (MKE)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1973-74	10	5	111	324	788	1218	1340	1173	959	560	448	106	7042
1974-75	0	20	237	461	786	1103	1260	1157	1122	814	267	69	7296
1975-76	17	4	203	353	610	1144	1438	978	813	507	382	43	6492
1976-77	2	21	124	589	1056	1504	1754	1152	790	490	173	151	7806
1977-78	8	47	106	485	827	1302	1531	1356	1086	667	335	83	7833
1978-79	21	5	76	473	796	1273	1654	1391	980	681	322	91	7763
1979-80	20	25	70	436	797	1036	1368	1290	1063	594	259	154	7112
1980-81	8	9	140	590	812	1250	1423	1106	905	548	417	69	7277
1981-82	44	21	187	590	820	1257	1712	1272	1032	707	215	172	8029
1982-83	3	44	170	381	802	983	1186	990	925	692	453	81	6710
1983-84	10	0	148	405	748	1565	1424	910	1103	579	318	35	7245
1984-85	3	7	179	373	812	1103	1542	1215	831	461	222	96	6844
1985-86	2	13	139	436	843	1523	1328	1161	827	494	302	128	7196
1986-87	13	34	98	407	891	1106	1242	917	839	502	236	19	6304
1987-88	12	28	91	576	686	1037	1442	1294	930	571	245	55	6967
1988-89	3	7	87	587	720	1183	1065	1307	1006	649	324	85	7023
1989-90	0	16	166	381	890	1493	1040	1004	805	502	375	51	6723
1990-91	21	9	93	418	612	1173	1385	980	822	467	201	26	6207
1991-92	0	1	160	394	889	1091	1141	955	914	655	278	104	6582
1992-93	27	35	145	472	825	1132	1211	1132	1004	654	245	104	6986
1993-94	1	2	158	428	757	1080	1553	1211	899	502	286	55	6932
1994-95	0	22	49	284	633	937	1222	1096	807	623	230	31	5934
1995-96	1	0	171	379	1013	1260	1365	1180	1084	672	431	102	7658
1996-97	17	0	103	398	950	1167	1376	1026	896	635	470	100	7138
1997-98	23	37	129	441	899	1069	1176	847	897	571	203	100	6392
1998-99	0	0	47	337	653	1017	1380	919	936	558	239	78	6164
1999-00	0	9	113	388	598	1100	1275	945	711	616	252	84	6091
2000-01	25	8	151	323	836	1491	1239	1155	1001	481	267	99	7076
2001-02	16	0	146	420	522	992	1060	927	1031	580	410	74	6178
2002-	0	0	67	518	806	1078							

WBAN : 14839

COOLING DEGREE DAYS (base 65˚F) 2002 MILWAUKEE, WI (MKE)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1973	0	0	0	0	0	140	216	247	84	6	0	0	693
1974	0	0	0	3	6	36	210	98	32	1	0	0	386
1975	0	0	0	0	30	98	230	203	16	21	0	0	598
1976	0	0	0	24	5	144	247	181	62	4	0	0	667
1977	0	0	0	12	65	81	264	122	20	0	0	0	564
1978	0	0	0	0	40	97	138	164	109	0	0	0	548
1979	0	0	0	0	16	87	209	147	68	11	0	0	538
1980	0	0	0	9	25	50	207	164	29	0	0	0	484
1981	0	0	0	2	3	84	121	112	16	0	0	0	338
1982	0	0	0	0	21	24	199	121	51	5	0	0	421
1983	0	0	0	0	0	127	364	299	92	9	0	0	891
1984	0	0	0	1	11	152	216	270	63	3	0	0	716
1985	0	0	0	42	35	68	240	127	127	0	0	0	639
1986	0	0	3	7	31	84	251	105	70	0	0	0	551
1987	0	0	0	2	87	244	323	189	47	0	1	0	893
1988	0	0	0	0	57	215	333	344	48	0	0	0	997
1989	0	0	2	0	16	76	214	144	29	4	0	0	485
1990	0	0	2	38	5	135	198	210	132	7	1	0	728
1991	0	0	0	13	150	204	300	268	114	7	0	0	1056
1992	0	0	0	0	25	49	117	119	50	4	0	0	364
1993	0	0	0	0	5	73	258	277	35	3	0	0	651
1994	0	0	0	5	46	218	278	187	133	10	0	0	877
1995	0	0	0	0	16	232	297	338	61	8	0	0	952
1996	0	0	0	0	37	112	140	237	75	7	0	0	608
1997	0	0	0	0	0	103	158	89	26	31	0	0	407
1998	0	0	3	0	51	157	235	238	114	2	0	0	800
1999	0	0	0	0	31	151	363	136	71	0	1	0	753
2000	0	0	1	0	44	116	131	188	76	10	0	0	566
2001	0	0	0	5	20	143	252	250	39	2	0	0	711
2002	0	0	0	30	24	187	336	202	109	9	0	0	897

SNOWFALL (inches) 2002 MILWAUKEE, WI (MKE)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1973–74	0.0	0.0	0.0	0.0	T	19.6	14.2	42.0	7.4	T	0.0	0.0	83.2
1974–75	0.0	0.0	0.0	T	2.0	9.1	3.5	12.2	15.1	10.4	0.0	0.0	52.3
1975–76	0.0	0.0	0.0	0.0	8.4	12.2	14.8	7.6	2.1	0.1	T	0.0	45.2
1976–77	0.0	0.0	0.0	4.0	3.6	5.3	15.6	5.6	12.4	2.1	0.0	0.0	48.6
1977–78	0.0	0.0	0.0	T	16.1	20.8	25.7	13.3	4.8	T	0.0	0.0	80.7
1978–79	0.0	0.0	0.0	0.0	5.3	27.9	33.6	9.1	6.2	0.8	0.0	0.0	82.9
1979–80	0.0	0.0	0.0	T	2.1	0.6	11.6	22.8	6.3	3.6	T	0.0	47.0
1980–81	0.0	0.0	0.0	T	2.3	17.5	4.9	15.7	1.5	T	0.0	0.0	41.9
1981–82	0.0	0.0	0.0	T	2.0	8.3	29.2	3.0	13.0	11.7	0.0	0.0	67.2
1982–83	0.0	0.0	0.0	T	0.4	3.1	6.3	13.5	13.8	1.0	0.0	0.0	38.1
1983–84	0.0	0.0	0.0	0.0	0.3	13.3	9.6	1.2	8.2	0.5	T	0.0	33.1
1984–85	0.0	0.0	0.0	0.0	T	19.0	20.8	15.3	9.0	2.5	0.0	0.0	66.6
1985–86	0.0	0.0	0.0	0.0	3.5	13.5	10.4	14.0	0.7	0.3	0.0	0.0	42.4
1986–87	0.0	0.0	0.0	T	2.4	2.5	11.4	T	5.2	0.4	0.0	0.0	21.9
1987–88	0.0	0.0	0.0	0.6	0.4	19.9	10.2	20.7	2.9	T	0.0	0.0	54.7
1988–89	0.0	0.0	0.0	T	2.7	7.1	2.7	13.1	13.3	0.4	0.6	0.0	39.9
1989–90	T	T	0.0	6.3	11.6	7.4	19.9	17.9	0.2	1.2	3.2	0.0	67.7
1990–91	T	0.0	0.0	0.0	0.4	10.5	15.2	2.4	1.1	0.4	0.0	0.0	30.0
1991–92	0.0	0.0	T	T	4.8	14.7	4.3	5.3	11.1	0.8	0.0	T	41.0
1992–93	0.0	0.0	0.0	1.2	0.4	8.4	12.2	11.6	12.7	3.4	T	0.0	49.9
1993–94	0.0	0.0	T	T	8.0	1.2	27.0	38.7	3.9	3.1	T	0.0	81.9
1994–95	0.0	0.0	0.0	0.0	0.2	10.4	15.2	2.1	7.6	0.2	0.0	0.0	35.7
1995–96	0.0	0.0	0.0	T	14.9	6.2	22.7	0.6	2.9	4.2	0.0	0.0	51.5
1996–97	0.0	0.0	0.0	0.0	1.8	9.2	23.6	10.7	0.5	5.4	0.0	T	51.2
1997–98	0.0	T	0.0	T	1.1	10.6	23.7	0.5	3.7	T	0.0	0.0	39.6
1998–99	0.0	0.0	0.0	0.0	0.3	3.4	39.0	4.4	13.6	0.0	0.0	T	60.7
1999–00	0.0	0.0	0.0	0.0	0.0	2.3	15.2	12.1	1.0	7.0	T	0.0	37.6
2000–01	0.0	0.0	0.0	0.2	2.8	49.5	1.3	4.2	0.8	0.5	T	0.0	59.3
2001–02	0.0	0.0	0.0	T	0.0	2.6	13.1	4.2	13.0	3.6	0.0	T	36.5
2002–	0.0	0.0	0.0	0.0	1.2	4.7							
POR= 56 YRS	T	T	T	0.2	2.9	10.6	13.5	9.3	8.1	1.9	0.1	T	46.6

WBAN : 14839

REFERENCE NOTES:

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).

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).

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.

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.

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.

2002
MILWAUKEE, WISCONSIN (MKE)

Milwaukee possesses a continental climate characterized by a wide range of temperatures between summer and winter. Precipitation is moderate and occurs mostly in the spring, less in the autumn, and very little in the wintertime. Rainfall is well distributed for agricultural purposes, although spring planting is sometimes delayed by wet ground and cold weather.

Milwaukee is in a region of frequently changeable weather and its climate is influenced by general easterly–moving storms which traverse the nations midsection. The most severe winter storms, which produce in excess of 10 inches of snow, develop in the southern Great Plains and move northeast across Illinois and Indiana.

Occasionally during the cold season, frigid air masses from Canada push southeast across the Great Lakes region. These arctic air masses account for the coldest winter temperatures. Very low temperatures, zero degrees or lower, most often occur in air that flows southward to the west of Lake Superior before reaching the Milwaukee area. If northwesterly wind circulation persists, repeated incursions of arctic air will result in a period of bitterly cold weather lasting several days.

Summer temperatures, which reach into the 90s but rarely exceed 100 degrees, occur with brisk southwest winds that carry hot air from the plains and lower Mississippi River Valley across the city. A combination of high temperatures and humidity occasionally develops, usually building up over a period of several days when persistent southerly winds transport moisture from the Gulf of Mexico into the area.

The Gulf is a major source of moisture for Milwaukee in all seasons, but the type of precipitation which results is dependent upon the time of year. Cold–season precipitation (rain, snow, or a mixture) is usually of relatively long duration and low intensity, and occasionally persists for two days or more, whereas in the warm season, relatively short–duration and high–intensity showery rainfall, usually lasting a few hours or less, predominates.

The Great Lakes significantly influence the local climate. Temperature extremes are modified by Lake Michigan and, to a lesser extent, the other Great Lakes. In late autumn and winter, air masses that are initially very cold often reach the city only after being tempered by passage over one or more of the lakes. Similarly, air masses that approach from the northeast in the spring and summer are cooler because of movement over the Great Lakes.

The influence of Lake Michigan is variable and occasionally dramatic, especially when the temperature of the lake water differs strongly from the air temperature. During the spring and early summer, a wind shift from a westerly to an easterly direction frequently causes a sudden 10 to 20 degree temperature drop. When the breeze off the lake is light, this effect reaches inland only a mile or two. With stronger on–shore winds, the entire city is cooled. In the winter the relatively warm water of the lake moderates the temperature during easterly wind situations. Lake–induced snows usually occur a few times each winter, but snow accumulation is rarely heavy.

Topography does not significantly affect air flow, except that lesser frictional drag over Lake Michigan causes winds to be frequently stronger along the lake shore, and often permits air masses approaching from the north to reach shore areas one hour or more before affecting inland portions of the city.

STATION LOCATION

MILWAUKEE, WISCONSIN

LOCATION	Occupied From	Occupied To	Airline Distances and Directions from previous Location	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE SEA LEVEL: GROUND TEMPERATURE SITE	ELEVATION ABOVE GROUND: WIND INSTRUMENT	EXTREME THERMOMETERS	PSYCHROMETER	SUN-SHINE SWITCH	TIPPING BUCKET RAIN GAUGE	WEIGHING RAIN GAGE	8 INCH RAIN GAGE	HYGROTHERMOMETER	AUTOMATIC OBSERVING EQUIPMENT *	REMARKS
*NOTE:																
AIRPORT																
FAA/WB Building 5150 S. Howell Avenue General Mitchell Field	6/3/69	07/01/95	560 ft. NNW	42°57′	87°54′	676	e20 g20	6	6	35	3 h3	e5	e4	e5 f5		e. Not moved 6/03/69. f. Moved 925′ SW & type change 9/26/85. g. Moved 925′ SW 7/08/87. h. Moved 1000′ SSW 7/08/87.
General Mitchell Field	07/01/95	Present	NA	42°57′	87°54′	i677									S	ASOS Commissioned 07/01/95 i. Ground elevation.

* TYPE

M = AMOS
T = AUTOB
S = ASOS
W = AWOS

For Hard Copy Subscription:
Price and ordering information: NCDC Subscripting Service Center,310 State Route 956, Building 300, Rocket Center, WV 26726.
INQUIRIES/COMMENTS CALL: Toll Free (866) 742−3322
Visit our Web Site for other weather data:www.ncdc.noaa.gov

Non−Subscription Request:

NCDC Customer Services;
Phone: 828−271−4800
Fax: 828−271−4876
Email: ncdc.orders@noaa.gov

OFFICAL BUSINESS
PENALTY FOR PRIVATE USE $300
CHANGE SERVICE REQUESTED

FIRST CLASS
POSTAGE & FEES PAID
United States Department of Commerce
NOAA Permit No. G − 19

*** NOTES: For earlier station history see previous edition.**