

1999

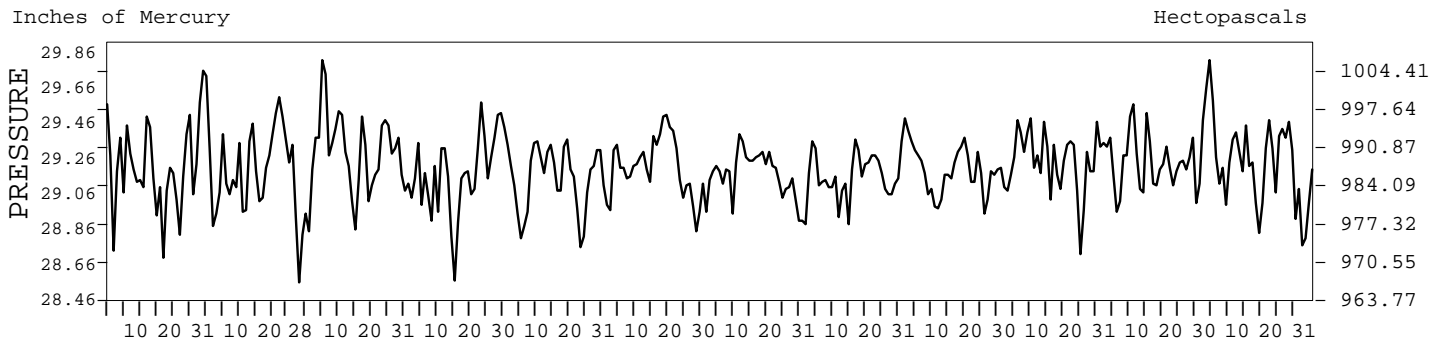
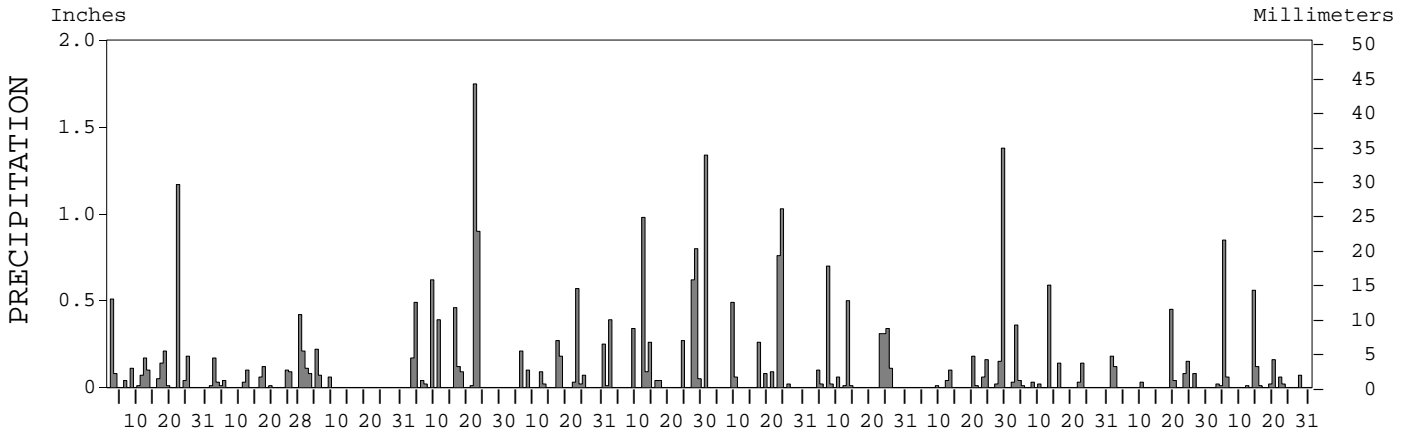
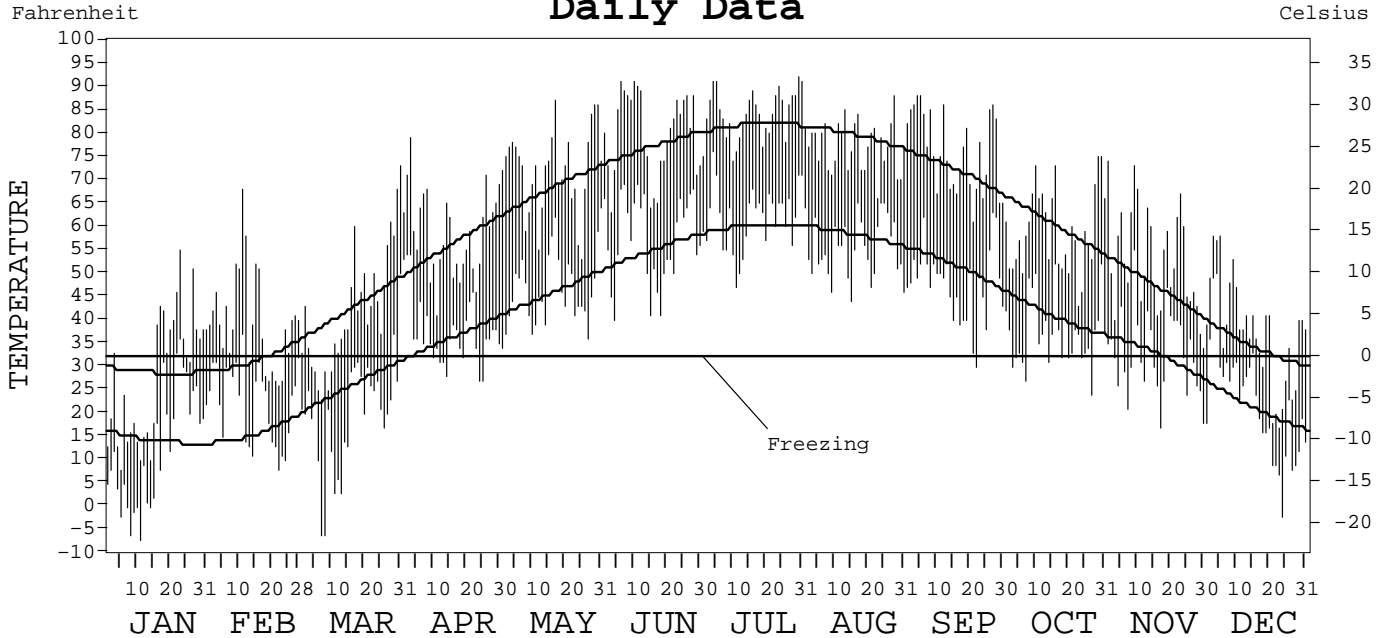
LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-2559

FLINT,
MICHIGAN (FNT)

Daily Data



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Thomas R. Karl

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE	NATIONAL SATELLITE, DATA, AND INFORMATION SERVICE	NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NORTH CAROLINA	DIRECTOR NATIONAL CLIMATIC DATA CENTER
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METEOROLOGICAL DATA FOR 1999

FLINT, MI (FNT)

LATITUDE: 42° 58' 00" N LONGITUDE: 83° 44' 58" W ELEVATION (FT): GRND: 767 BARO: 767 TIME ZONE: EASTERN (UTC + 5) WBAN: 14826

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	28.3	39.6	42.0	58.6	72.0	79.8	84.1	77.3	76.1	59.2	52.9	37.4	58.9	
	HIGHEST DAILY MAXIMUM	55	68	73	79	87	91	92	88	88	75	74	58	92	
	DATE OF OCCURRENCE	23	11	31	03	17	10+	30	28	05+	30+	01	05+	JUL 30	
	MEAN DAILY MINIMUM	12.8	22.3	19.9	37.5	46.5	57.2	61.8	55.4	47.7	37.1	32.8	22.0	37.8	
	LOWEST DAILY MINIMUM	-7	8	-6	27	34	40	47	44	30	24	17	-2	-7	
	DATE OF OCCURRENCE	11	22	08+	25+	01	04	11	15	22	27	17	24	JAN 11	
	AVERAGE DRY BULB	20.6	31.0	31.0	48.1	59.3	68.5	73.0	66.4	61.9	48.2	42.9	29.7	48.4	
	MEAN WET BULB	20.0	28.6	28.0	42.6	53.0	62.4	68.1	61.6	55.9	44.7	39.0	28.3	44.4	
	MEAN DEW POINT	16.5	24.2	20.4	35.5	46.6	57.8	64.9	58.4	50.7	39.6	33.5	24.5	39.4	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	3	5	0	0	0	0	0	0	8
	MAXIMUM ≤ 32°	16	7	7	0	0	0	0	0	0	0	0	8	38	
	MINIMUM ≤ 32°	29	27	29	7	0	0	0	0	1	9	17	27	146	
	MINIMUM ≤ 0°	7	0	2	0	0	0	0	0	0	0	0	1	10	
H/C	HEATING DEGREE DAYS	1370	946	1046	503	203	62	4	36	135	512	659	1087	6563	
	COOLING DEGREE DAYS	0	0	0	2	29	174	256	85	51	0	0	0	597	
RH	MEAN (PERCENT)	81	77	66	66	64	70	76	77	71	72	71	79	72	
	HOUR 01 LST	87	83	73	76	77	83	88	90	89	81	79	84	82	
	HOUR 07 LST	86	83	81	82	76	83	91	91	94	88	82	84	85	
	HOUR 13 LST	73	68	53	53	50	54	60	60	48	54	58	70	58	
	HOUR 19 LST	79	75	55	55	54	60	64	67	57	69	68	77	65	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	1	2	0	0	0	1	3	3	2	2	2	2	18	
	THUNDERSTORMS	2	0	0	4	3	7	6	2	3	1	1	0	29	
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.)	29.23	29.19	29.28	29.16	29.16	29.21	29.16	29.19	29.17	29.27	29.27	29.21	29.21	
	MEAN SEA-LEVEL PRESS. (IN.)	30.09	30.04	30.13	29.99	29.98	30.02	29.97	30.00	29.99	30.10	30.11			
WINDS	RESULTANT SPEED (MPH)	3.2	3.3	3.3	2.6	2.4	2.4	1.0	1.6	2.6	4.1	4.7	4.4	2.1	
	RES. DIR. (TENS OF DEGS.)	23	24	31	08	21	21	28	34	25	25	26	24	25	
	MEAN SPEED (MPH)	10.9	10.4	10.4	9.6	9.4	7.1	7.2	7.0	7.3	9.0	9.8	9.5	9.0	
	PREVAIL. DIR. (TENS OF DEGS.)	23	27	31	09	27	18	23	33	22	19	23	19	23	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	33	36	34	34	32	30	36	23	26	31	30	33	36	
	DIR. (TENS OF DEGS.)	08	28	28	27	27	19	31	16	28	30	25	32	31	
	DATE OF OCCURRENCE	02	12	18	06	25+	09	24	24+	09	22	24	26	JUL 24	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	44	43	43	44	45	38	43	30	36	40	38	47	47	
DIR. (TENS OF DEGS.)	09	27	27	28	26	20	29	28	28	30	26	31	31		
DATE OF OCCURRENCE	02	12	18	06	17	09	24+	13	23	22	09	26	DEC 26		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	2.89	1.19	0.75	5.06	1.81	3.89	4.13	2.49	2.11	1.39	1.13	1.97	28.81	
	GREATEST 24-HOUR (IN.)	1.17	0.35	0.24	1.75	0.58	0.98	1.34	0.72	1.38	0.59	0.49	0.85	1.75	
	DATE OF OCCURRENCE	22	28	05-06	22	23-24	12	01	07-08	29	13	19-20	05	APR 22	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	15	13	6	12	11	12	9	12	10	10	8	13	131	
PRECIPITATION ≥ 0.10	8	5	3	8	6	7	5	7	5	4	4	4	66		
PRECIPITATION ≥ 1.00	1	0	0	1	0	0	0	0	1	0	0	0	5		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	24.9	6.0	14.4	T	T	0.0	0.0	0.0	0.0	0.0	T	5.1	50.4	
	GREATEST 24-HOUR (IN.)	7.5	1.7	9.1	T	T	0.0	0.0	0.0	0.0	0.0	T	1.7	9.1	
	DATE OF OCCURRENCE	02	25	05-06	11	17	0	0	0	0	0	02	22	MAR 05-06	
	MAXIMUM SNOW DEPTH (IN.)	18	3	10	0	0	0	0	0	0	0	0	2	18	
	DATE OF OCCURRENCE	14	25	07								29+		JAN 14	
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	8	4	4	0	0	0	0	0	0	0	0	2	18		

NORMALS, MEANS, AND EXTREMES

FLINT, MI (FNT)

LATITUDE: 42° 58' 00" N LONGITUDE: 83° 44' 58" W ELEVATION (FT): GRND: 767 BARO: 767 TIME ZONE: EASTERN (UTC + 5) WBAN: 14826

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	28.7	31.3	42.3	55.9	68.0	76.9	81.5	79.2	71.6	59.7	46.6	33.8	56.3	
	MEAN DAILY MAXIMUM	51	29.4	32.1	41.7	56.1	68.3	77.6	81.8	79.7	71.9	60.5	46.1	34.2	56.6	
	HIGHEST DAILY MAXIMUM	43	61	68	79	87	93	101	101	98	93	89	76	67	101	
	YEAR OF OCCURRENCE		1997	1999	1998	1990	1988	1988	1995	1988	1983	1963	1978	1982	1982	JUL 1995
	MEAN OF EXTREME MAXS.	51	47.8	50.2	66.0	77.3	84.2	90.4	92.3	90.6	86.5	78.5	66.4	54.2	73.7	
	NORMAL DAILY MINIMUM	30	14.2	15.6	25.6	36.0	45.7	54.7	59.7	57.9	51.1	40.5	32.1	20.6	37.8	
	MEAN DAILY MINIMUM	51	15.0	16.2	24.6	35.5	45.4	55.1	59.4	57.7	50.2	40.3	31.1	20.8	37.6	
	LOWEST DAILY MINIMUM	43	-25	-22	-12	6	22	33	40	37	26	19	6	-12	-25	
	YEAR OF OCCURRENCE		1976	1967	1978	1982	1966	1998	1965	1982	1991	1974	1976	1989	1989	JAN 1976
	MEAN OF EXTREME MINS.	51	-6.3	-4.8	4.8	20.8	31.2	40.4	46.4	44.2	34.1	25.2	14.9	-1	20.9	
	NORMAL DRY BULB	30	21.5	23.5	34.0	46.0	56.8	65.9	70.6	68.6	61.4	50.1	39.4	27.2	47.1	
	MEAN DRY BULB	51	22.2	24.2	33.3	45.7	56.9	66.3	70.6	68.6	61.1	50.5	38.6	27.5	47.1	
	MEAN WET BULB	16	22.1	23.6	30.6	41.3	51.5	60.5	64.8	63.6	56.5	45.8	35.5	26.6	43.5	
	MEAN DEW POINT	16	17.7	18.8	24.7	34.6	45.2	55.5	60.6	60.3	52.8	41.4	31.2	22.8	38.8	
	NORMAL NO. DAYS WITH:															
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.0	0.3	1.5	3.1	1.4	0.5	0.0	0.0	0.0	6.8		
MAXIMUM ≤ 32°	30	18.8	14.7	5.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.9	13.4	54.5		
MINIMUM ≤ 32°	30	29.3	25.6	23.1	11.0	1.7	0.0	0.0	0.0	0.2	5.5	16.4	26.8	139.6		
MINIMUM ≤ 0°	30	5.0	3.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	11.2		
H/C	NORMAL HEATING DEG. DAYS	30	1349	1162	961	570	292	64	11	25	137	468	768	1172	6979	
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	37	91	184	136	29	6	0	0	483	
RH	NORMAL (PERCENT)	30	75	73	70	66	66	68	70	73	76	73	76	77	72	
	HOUR 01 LST	30	78	77	76	74	75	80	82	86	86	81	80	80	80	
	HOUR 07 LST	30	79	79	79	77	77	80	84	88	89	84	82	81	82	
	HOUR 13 LST	30	71	67	62	55	54	56	55	57	60	60	67	72	61	
	HOUR 19 LST	30	74	70	66	58	56	58	58	63	70	70	74	77	66	
S	PERCENT POSSIBLE SUNSHINE															
W/O	MEAN NO. DAYS WITH:															
	HEAVY FOG (VISBY ≤ 1/4 MI)	59	1.8	1.6	1.9	0.8	1.2	0.9	1.0	1.9	1.9	2.1	1.5	1.9	18.5	
	THUNDERSTORMS	59	0.2	0.2	1.2	2.8	4.1	5.8	6.1	5.6	3.5	1.3	0.8	0.2	31.8	
CLOUDINESS	MEAN:															
	SUNRISE-SUNSET (OKTAS)	1						6.4								
	MIDNIGHT-MIDNIGHT (OKTAS)	1						7.2								
	MEAN NO. DAYS WITH:															
	CLEAR	1		2.0	3.0		3.0	6.0								
PARTLY CLOUDY	1	2.0		3.0	5.0		9.0	2.0								
CLOUDY	1	4.0		6.0	9.0		6.0	13.0								
PR	MEAN STATION PRESSURE (IN)	27	29.20	29.20	29.20	29.10	29.10	29.10	29.20	29.20	29.20	29.20	29.21	29.20	29.18	
	MEAN SEA-LEVEL PRES. (IN)	16	30.06	30.07	30.06	29.96	29.98	29.96	29.99	30.04	30.05	30.06	30.05	30.08	30.03	
WINDS	MEAN SPEED (MPH)	42	11.4	10.8	11.4	11.2	9.9	8.7	8.0	7.5	8.6	9.5	11.1	11.0	9.9	
	PREVAIL. DIR (TENS OF DEGS)	28	23	27	29	24	18	20	23	20	20	18	23	23	23	
	MAXIMUM 2-MINUTE:															
	SPEED (MPH)	4	37	37	38	39	33	33	40	34	32	39	40	36	40	
	DIR. (TENS OF DEGS)		25	27	24	25	27	25	33	30	27	25	22	35	22	
	YEAR OF OCCURRENCE		1996	1996	1996	1997	1996	1998	1998	1996	1997	1996	1998	1998	NOV 1998	
	MAXIMUM 5-SECOND:															
	SPEED (MPH)	4	52	49	47	51	45	46	49	46	39	49	55	47	55	
DIR. (TENS OF DEGS)		18	25	25	25	26	25	32	27	26	26	22	31	22		
YEAR OF OCCURRENCE		1996	1997	1996	1997	1999	1998	1998	1996	1997	1996	1998	1999	NOV 1998		
PRECIPITATION	NORMAL (IN)	30	1.39	1.28	2.16	2.94	2.65	3.21	2.71	3.49	3.56	2.18	2.60	2.11	30.28	
	MAXIMUM MONTHLY (IN)	58	3.56	5.28	4.33	5.90	7.35	6.52	9.35	11.04	10.86	4.21	4.94	4.66	11.04	
	YEAR OF OCCURRENCE		1947	1954	1948	1947	1945	1994	1992	1975	1986	1954	1988	1971	AUG 1975	
	MINIMUM MONTHLY (IN)	58	0.07	0.17	0.25	0.62	0.34	0.63	0.73	0.45	0.32	0.33	0.66	0.44	0.07	
	YEAR OF OCCURRENCE		1945	1969	1958	1942	1988	1988	1978	1969	1979	1944	1980	1969	JAN 1945	
	MAXIMUM IN 24 HOURS (IN)	58	1.81	2.85	2.33	2.89	2.25	3.55	3.72	4.45	6.04	3.19	2.30	1.77	6.04	
	YEAR OF OCCURRENCE		1967	1954	1948	1976	1974	1943	1957	1968	1950	1981	1995	1971	SEP 1950	
	NORMAL NO. DAYS WITH:															
PRECIPITATION ≥ 0.01	30	13.1	10.7	12.6	12.7	10.2	10.2	9.4	9.6	10.4	9.9	12.0	14.0	134.8		
PRECIPITATION ≥ 1.00	30	0.1	0.1	0.2	0.4	0.4	0.7	0.7	0.6	0.8	0.3	0.3	0.3	4.9		
SNOWFALL	NORMAL (IN)	30	12.3	10.3	8.0	2.8	0.*	0.0	0.0	0.0	T	0.3	3.9	11.3	48.9	
	MAXIMUM MONTHLY (IN)	58	28.5	20.8	19.4	17.3	0.6	T	T	T	T	4.4	16.2	24.9	28.5	
	YEAR OF OCCURRENCE		1976	1990	1965	1975	1961	1992	1992	1998	1975	1989	1951	1951	JAN 1976	
	MAXIMUM IN 24 HOURS (IN)	58	19.8	11.3	12.6	16.7	0.5	T	T	T	T	3.5	13.4	9.7	19.8	
	YEAR OF OCCURRENCE		1967	1965	1973	1975	1961	1992	1992	1998	1975	1989	1951	1970	JAN 1967	
	MAXIMUM SNOW DEPTH (IN)	50	23	23	13	17	0	0	0	0	0	2	8	14	23	
	YEAR OF OCCURRENCE		1967	1967	1973	1975						1997	1975	1951	FEB 1967	
	NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	3.8	3.4	2.6	0.5	0.0	0.0	0.0	0.0	0.0	0.1	1.3	3.9	15.6		

PRECIPITATION (inches) 1999 FLINT, MI (FNT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0.78	0.56	2.30	2.69	2.55	3.23	3.85	2.36	4.03	3.19	2.90	1.24	29.68
1971	0.46	2.32	1.85	1.62	1.98	2.43	3.90	1.62	2.10	2.12	1.46	4.66	26.52
1972	1.21	0.81	2.69	3.82	3.36	3.10	3.86	4.57	4.54	3.73	2.33	4.01	38.03
1973	1.38	1.20	4.20	2.84	3.74	3.24	1.78	1.76	2.80	2.73	4.93	2.78	33.38
1974	2.61	2.16	3.60	3.35	5.50	1.93	1.72	2.75	2.20	1.44	2.78	2.35	32.39
1975	2.89	2.01	2.78	4.31	3.70	4.68	1.92	11.04	3.48	1.37	3.17	4.03	45.38
1976	1.53	2.27	3.66	5.59	4.24	4.11	1.98	0.81	2.66	3.17	1.22	0.92	32.16
1977	0.57	0.70	2.78	3.28	0.95	4.70	1.91	3.15	4.59	2.09	2.67	1.47	28.86
1978	2.02	0.51	1.99	1.03	2.97	1.66	0.73	2.62	4.57	1.51	1.44	2.64	23.69
1979	1.78	0.34	1.58	2.33	1.58	3.96	2.96	2.53	0.32	1.90	3.64	2.30	25.22
1980	1.25	0.88	2.20	3.40	2.35	2.38	5.61	3.28	4.75	2.17	0.66	2.95	31.88
1981	0.59	1.83	0.76	4.32	3.07	2.95	3.93	3.22	7.65	3.09	1.41	1.24	34.06
1982	1.57	0.66	2.49	1.23	2.15	3.24	3.06	3.24	2.76	0.57	4.76	2.75	28.48
1983	1.01	0.91	2.40	3.63	3.76	3.94	2.24	2.26	4.06	2.62	3.46	1.85	32.14
1984	0.56	0.52	2.83	2.85	3.54	0.92	3.48	3.66	2.77	2.61	2.65	3.76	30.15
1985	2.06	3.01	4.00	3.60	2.81	1.54	2.99	4.33	8.29	3.45	3.16	1.38	40.62
1986	0.70	2.10	1.44	2.68	1.61	5.13	3.12	5.29	10.86	1.96	0.94	1.71	37.54
1987	1.16	0.42	1.45	1.80	2.28	1.60	2.20	5.03	5.57	1.90	3.29	2.54	29.24
1988	1.27	1.52	1.45	2.69	0.34	0.63	3.74	4.00	3.03	2.76	4.94	1.27	27.64
1989	1.31	0.52	2.11	1.50	3.93	4.90	2.65	5.56	4.33	1.67	2.86	1.00	32.34
1990	1.84	2.59	1.45	2.10	3.26	3.77	1.80	2.37	3.06	4.06	4.29	2.49	33.08
1991	1.49	0.68	2.87	4.07	3.23	2.91	3.78	3.33	0.63	3.52	3.01	2.15	31.67
1992	1.15	1.59	2.56	3.80	1.64	2.26	9.35	3.50	2.50	2.46	4.05	2.01	36.87
1993	2.80	1.16	1.21	4.55	1.68	5.23	2.32	3.37	4.66	2.21	1.32	0.51	31.02
1994	1.91	0.93	1.70	5.01	0.79	6.52	2.84	3.39	2.81	2.70	3.51	1.75	33.86
1995	2.08	0.72	1.24	2.76	2.23	0.72	2.64	4.29	1.05	2.60	4.22	1.15	25.70
1996	2.07	1.20	1.86	3.15	3.02	3.90	1.94	0.68	2.82	2.79	1.66	2.05	27.14
1997	0.98	3.12	2.39	1.21	3.33	1.57	2.70	2.72	4.31	1.55	1.05	0.77	25.70
1998	3.05	1.67	3.41	1.43	0.99	1.25	1.13	2.62	1.28	2.23	1.58	1.50	22.14
1999	2.89	1.19	0.75	5.06	1.81	3.89	4.13	2.49	2.11	1.39	1.13	1.97	28.81
POR= 58 YRS	1.66	1.48	2.19	2.99	2.89	3.27	2.96	3.32	3.06	2.19	2.41	1.87	30.29

WBAN : 14826

AVERAGE TEMPERATURE (°F) 1999 FLINT, MI (FNT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	15.1	23.5	30.1	47.2	58.3	65.7	70.3	68.9	61.7	52.1	39.4	26.8	46.6
1971	19.6	26.3	29.7	43.3	54.6	69.5	67.5	67.4	64.8	57.6	38.8	32.4	47.6
1972	21.8	22.5	30.9	42.5	59.1	62.5	70.0	67.7	61.1	46.2	36.9	28.8	45.8
1973	28.8	24.3	41.3	46.8	52.7	67.4	70.4	71.0	62.6	55.3	40.3	28.2	49.1
1974	24.8	20.9	34.9	48.1	53.9	64.9	71.3	69.7	58.9	48.1	40.2	29.2	47.1
1975	28.0	27.2	30.6	40.3	61.8	67.2	70.5	69.9	57.4	53.6	47.3	28.8	48.6
1976	18.1	31.1	38.7	48.2	54.5	69.4	71.1	68.2	60.6	46.8	33.3	17.4	46.5
1977	10.9	22.4	39.2	49.5	62.6	63.1	73.8	68.2	63.6	48.8	41.3	25.8	47.4
1978	18.2	13.4	26.7	43.8	58.7	65.1	69.6	70.0	65.4	50.3	40.6	26.5	45.7
1979	15.9	12.8	38.1	44.6	56.8	66.7	69.9	66.8	62.7	49.9	39.6	32.1	46.3
1980	23.4	20.3	29.9	44.6	57.7	61.6	70.5	70.5	60.5	44.3	36.2	24.4	45.3
1981	18.1	28.3	35.6	48.2	54.2	65.9	70.7	69.0	57.7	44.7	38.7	26.1	46.4
1982	16.4	20.2	32.7	43.3	65.0	62.9	71.3	66.6	61.0	52.5	41.4	37.2	47.5
1983	27.7	31.8	37.8	43.7	53.5	67.3	74.0	73.3	64.8	51.5	41.1	20.1	48.9
1984	14.4	31.2	26.8	45.3	51.5	69.3	70.0	71.8	60.7	54.0	39.4	33.4	47.3
1985	19.8	22.7	37.0	51.8	59.3	62.5	70.4	67.2	63.3	51.4	39.8	21.3	47.2
1986	21.7	21.1	35.8	49.4	58.9	64.9	72.2	66.3	63.0	50.5	35.5	29.9	47.4
1987	24.7	28.7	38.1	49.9	62.8	70.3	75.6	69.3	62.6	45.2	41.6	32.2	50.1
1988	22.0	20.1	34.1	46.5	60.3	67.7	75.2	72.6	61.2	44.8	41.4	27.3	47.8
1989	30.9	20.8	32.7	44.0	56.2	66.2	71.3	68.0	59.6	51.2	35.9	16.1	46.1
1990	31.8	26.9	38.1	48.4	55.3	66.8	70.0	69.4	61.5	49.9	42.4	29.8	49.2
1991	21.2	29.3	37.7	50.2	64.2	69.7	71.7	70.0	59.6	52.8	36.2	29.4	49.3
1992	25.8	29.4	32.9	43.6	57.3	64.2	66.9	65.2	60.2	48.1	38.3	31.5	47.0
1993	26.2	20.5	32.2	45.3	58.0	65.8	72.9	70.4	56.3	47.3	36.8	27.0	46.6
1994	13.8	18.4	33.5	47.6	55.0	67.9	70.6	65.9	62.7	51.6	42.5	32.0	46.8
1995	25.4	20.6	36.1	42.6	56.9	68.4	72.4	74.3	58.5	52.1	32.0	23.0	46.9
1996	21.9	23.7	28.1	42.4	54.8	68.5	67.6	70.1	61.6	50.1	32.7	28.8	45.9
1997	21.3	27.1	34.0	42.9	48.8	67.1	69.5	65.0	59.8	48.1	35.5	29.9	45.8
1998	29.9	34.5	36.4	47.6	62.9	66.8	70.4	70.8	65.3	51.5	41.8	32.3	50.9
1999	20.6	31.0	31.0	48.1	59.3	68.5	73.0	66.4	61.9	48.2	42.9	29.7	48.4
POR= 57 YRS	22.4	24.4	32.9	45.6	56.8	66.4	70.5	68.9	61.9	51.1	39.7	28.1	47.4

HEATING DEGREE DAYS (base 65°F) 1999 FLINT, MI (FNT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	19	26	151	395	761	1177	1400	1079	1088	646	324	41	7107
1971-72	29	28	108	248	782	1005	1328	1226	1052	669	192	117	6784
1972-73	34	40	139	574	835	1118	1116	1136	725	542	374	17	6650
1973-74	8	18	153	300	733	1132	1240	1230	924	504	344	71	6657
1974-75	4	10	211	519	737	1101	1142	1055	1059	736	162	56	6792
1975-76	8	2	225	355	525	1117	1448	978	809	518	322	16	6323
1976-77	1	33	169	559	943	1467	1671	1186	794	468	152	118	7561
1977-78	7	35	97	496	701	1210	1444	1438	1178	632	238	87	7563
1978-79	17	8	89	449	725	1187	1516	1458	829	606	291	64	7239
1979-80	17	36	120	477	753	1014	1282	1288	1079	607	250	154	7077
1980-81	2	8	152	633	856	1252	1445	1023	903	499	336	41	7150
1981-82	10	24	231	621	780	1199	1501	1246	996	648	83	91	7430
1982-83	3	58	163	385	700	851	1153	924	838	633	351	65	6124
1983-84	12	5	106	422	711	1385	1565	977	1178	586	411	23	7381
1984-85	14	12	176	335	761	972	1395	1177	860	418	197	103	6420
1985-86	7	28	153	413	748	1345	1338	1224	899	475	218	69	6917
1986-87	13	54	113	444	881	1081	1242	1010	826	447	174	25	6310
1987-88	11	44	119	605	695	1011	1326	1295	954	547	189	82	6878
1988-89	5	24	144	626	700	1161	1053	1233	993	626	289	49	6903
1989-90	5	28	199	422	864	1507	1020	1061	829	529	299	42	6805
1990-91	18	10	164	469	668	1084	1352	994	838	450	165	22	6234
1991-92	3	9	218	381	855	1098	1206	1024	988	638	266	78	6764
1992-93	26	56	193	516	793	1032	1194	1238	1007	583	218	71	6927
1993-94	1	16	267	544	837	1169	1581	1298	969	528	326	49	7585
1994-95	2	53	116	408	670	1017	1220	1236	889	665	249	39	6564
1995-96	14	0	217	403	982	1295	1328	1191	1137	675	340	19	7601
1996-97	26	2	150	457	965	1114	1346	1055	951	655	497	44	7262
1997-98	22	57	165	526	878	1081	1080	847	890	517	111	118	6292
1998-99	8	12	72	421	689	1006	1370	946	1046	503	203	62	6338
1999-	4	36	135	512	659	1087							

WBAN : 14826

COOLING DEGREE DAYS (base 65°F) 1999 FLINT, MI (FNT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0	0	0	17	36	108	191	152	57	4	0	0	565
1971	0	0	0	0	11	187	116	111	105	25	0	0	555
1972	0	0	0	0	18	50	199	130	30	0	0	0	427
1973	0	0	0	4	0	97	182	214	84	6	0	0	587
1974	0	0	0	4	6	77	206	163	35	2	0	0	493
1975	0	0	0	0	68	128	187	158	1	9	0	0	551
1976	0	0	0	20	5	155	196	140	41	3	0	0	560
1977	0	0	0	12	86	70	286	140	62	0	0	0	656
1978	0	0	0	0	51	95	165	172	108	0	0	0	591
1979	0	0	0	0	43	118	177	97	57	17	0	0	509
1980	0	0	0	3	27	55	181	183	27	0	0	0	476
1981	0	0	0	0	10	77	196	151	19	0	0	0	453
1982	0	0	0	0	91	35	204	118	49	6	0	0	503
1983	0	0	0	0	0	142	301	268	110	11	0	0	832
1984	0	0	0	0	1	157	179	231	53	1	0	0	622
1985	0	0	0	28	29	33	179	107	108	0	0	0	484
1986	0	0	0	12	38	73	246	103	57	0	0	0	529
1987	0	0	0	1	113	189	345	185	55	0	2	0	890
1988	0	0	0	0	50	171	328	266	34	6	0	0	855
1989	0	0	0	0	19	88	207	128	46	1	0	0	489
1990	0	0	5	40	5	100	177	153	65	9	1	0	555
1991	0	0	0	11	151	171	217	173	67	10	0	0	800
1992	0	0	0	2	34	61	91	74	53	0	0	0	315
1993	0	0	0	0	9	101	251	189	12	1	0	0	563
1994	0	0	0	9	24	142	180	88	54	0	0	0	497
1995	0	0	0	0	7	147	250	293	28	8	0	0	733
1996	0	0	0	0	30	129	111	170	56	1	0	0	497
1997	0	0	0	0	0	117	166	64	17	8	0	0	372
1998	0	0	11	0	55	178	180	197	88	8	0	0	717
1999	0	0	0	2	29	174	256	85	51	0	0	0	597

SNOWFALL (inches) 1999 FLINT, MI (FNT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0.0	0.0	0.0	0.0	1.5	19.9	9.7	6.1	16.8	0.9	0.0	0.0	54.9
1971-72	0.0	0.0	0.0	T	10.4	7.2	14.6	12.9	5.5	1.5	0.0	0.0	52.1
1972-73	0.0	0.0	0.0	T	8.9	18.3	1.3	16.7	14.3	3.1	0.3	0.0	62.9
1973-74	0.0	0.0	0.0	0.0	T	18.3	9.3	14.2	6.0	0.4	T	0.0	48.2
1974-75	0.0	0.0	0.0	T	9.2	21.3	6.8	12.3	16.0	17.3	0.0	0.0	82.9
1975-76	0.0	0.0	T	0.0	10.5	21.1	28.5	7.8	5.6	3.1	T	0.0	76.6
1976-77	0.0	0.0	0.0	T	2.4	17.6	15.6	3.8	5.1	0.3	0.0	0.0	44.8
1977-78	0.0	0.0	0.0	T	3.4	9.9	23.6	8.4	5.0	0.3	0.0	0.0	50.6
1978-79	0.0	0.0	0.0	0.0	6.2	9.8	26.1	3.0	5.4	1.5	0.0	0.0	52.0
1979-80	0.0	0.0	0.0	T	9.4	2.5	6.2	7.2	10.8	3.6	0.0	0.0	39.7
1980-81	0.0	0.0	0.0	T	0.6	13.8	9.5	8.4	4.1	T	0.0	0.0	36.4
1981-82	0.0	0.0	0.0	T	2.8	11.9	19.3	10.7	9.3	8.2	0.0	0.0	62.2
1982-83	0.0	0.0	0.0	0.0	1.3	3.6	3.8	4.8	13.0	7.1	0.0	0.0	33.6
1983-84	0.0	0.0	0.0	0.0	2.4	20.0	9.0	3.6	6.5	0.5	0.0	0.0	42.0
1984-85	0.0	0.0	0.0	0.0	1.1	11.0	15.3	14.4	6.4	1.2	0.0	0.0	49.4
1985-86	0.0	0.0	0.0	0.0	3.4	13.2	11.2	20.6	4.3	0.6	0.0	0.0	53.3
1986-87	0.0	0.0	0.0	0.0	4.8	8.9	16.9	2.2	4.3	1.5	0.0	0.0	38.6
1987-88	0.0	0.0	0.0	0.5	T	8.8	5.9	19.6	4.3	0.1	0.0	0.0	53.2
1988-89	0.0	0.0	0.0	T	1.3	6.2	8.7	8.7	3.3	1.3	0.0	T	29.5
1989-90	0.0	0.0	0.0	4.4	7.8	11.3	5.6	20.8	2.9	2.6	0.0	0.0	55.4
1990-91	0.0	0.0	0.0	0.0	T	10.6	16.6	5.8	1.2	T	0.0	0.0	34.2
1991-92	0.0	0.0	0.0	T	4.9	16.7	14.0	1.4	14.4	3.0	T	T	54.4
1992-93	T	0.0	0.0	1.8	0.6	4.6	11.3	16.1	11.8	7.0	0.0	0.0	53.2
1993-94	0.0	0.0	0.0	0.8	0.8	3.5	14.7	20.1	4.2	0.2	0.3	0.0	44.6
1994-95	0.0	0.0	0.0	0.0	1.2	10.2	18.4	7.4	4.5	0.8	0.0	0.0	42.5
1995-96	0.0	0.0	0.0	T	3.5	7.1	4.9	5.4	17.7	T	0.0	0.0	38.6
1996-97	0.0	0.0	0.0	T	2.3	11.9	17.3	5.4	3.7	2.9	0.0	0.0	43.5
1997-98	0.0	0.0	0.0	2.8	3.3	6.9	8.0	0.4	6.9	0.0	0.0	0.0	28.3
1998-99	0.0	T	0.0	0.0	0.2	3.4	24.9	6.0	14.4	T	T	0.0	48.9
1999-	0.0	0.0	0.0	0.0	T	5.1							
POR= 57 YRS	T	0.0	T	0.2	3.6	9.4	11.7	9.2	7.5	2.3	0.0	T	43.9

WBAN : 14826

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
FLINT,
MICHIGAN (FNT)

Flint, Michigan, is located in the Flint River Valley, in the center of Genesee County. Lake Huron lies approximately 65 miles to the east, while Saginaw Bay is about 40 miles to the north. The surrounding terrain is generally level with a slight rising tendency to a range of hills 15 to 20 miles southeast of the city.

Flint is generally under the climatic influence of the Great Lakes. Temperatures of 100 degrees or higher are rare and cold waves are less severe than expected. During the winter months, snow showers occur with strong northwesterly winds, and Lake Michigan, lying 120 miles to the west, causes a tempering effect upon cold waves coming from the northwest. The lake effect also results in delaying the coming of spring and prolonging warmer weather in late autumn. This results in conditions favorable for orchards and small fruit.

Precipitation is usually ample for growth and development of vegetation. The wettest periods normally occur in the late spring, early summer, and early fall. The driest period is normally during the winter, and although there is an occasional heavy snowfall, most of the snow occurs in the form of frequent light flurries.

Winter months are marked by considerable cloudiness and rather high relative humidity, while during the summer relative humidity is usually not excessive and sunshine is plentiful.

Violent windstorms associated with thunderstorms and squall lines occasionally hit this area. Tornadoes are infrequent but have caused extensive property damage and loss of life.

Weather changes are frequent throughout the year, since a majority of atmospheric disturbances moving eastward across the country pass near enough to affect the weather in Flint.

STATION LOCATION

FLINT, MICHIGAN

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE													* Type	REMARKS
						SEA LEVEL	GROUND													
							G	W	E	P	S	T	R	W	8	H	A	E		
<u>COOPERATIVE</u>																				
City Water Works	12/1/88	2/19/19	NA	43°01'	83°39'	730	NA	4	NA	NA	NA	NA	4	NA	NA	NA	NA	NA	Known as Flint-Genessee Co. prior to June 1915.	
Michigan School for Deaf, 2 mi. SW of P.O.	3/5/19	9/30/32	Unknown	43°01'	83°39'	730	NA	3	NA	NA	NA	NA	2	NA	NA	NA	NA	NA	Surrounded by buildings; exposure only fair.	
Flint Journal Office Bldg., 519 Harrison St.	10/1/32	5/6/41	2 mi. E	43°91'	83°40'	730	NA	4	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	Instruments located on roof of 4 story building. Elevations are above roof.	
<u>AIRPORT</u>																				
Municipal Hangar Bishop Airport	1/15/37	9/22/54	4.6 mi. SW	42°58'	83°44'	761	NA	a60 b62	5 b4 c40 d5	NA	a5 b4 c40 d5	NA	NA	4 b3	NA	NA	NA	NA	INSAC quarters. Country level. a - Installed 9/19/38. b - Effective 5/6/41. c - Moved to roof 5/19/47. d - Moved to field site 6/22/50. CAA observations 5/6/41-1/31/56. WBAS established 2/1/56.	
New Administration Bldg Bishop Airport	9/22/54	3/17/57	500 ft. W	42°58'	83°44'	761	65	20	20	NA	NA	NA	17	NA	NA	NA	NA	NA		
Weather Bureau Bldg. + Bishop Airport	3/17/57	06/01/95	0.6 mi. W	42°58'	83°45'	766 h770 i771	35 e35 f21	5 e5	5 e5	NA	NA	5 e5	3 e4	NA g4	NA	NA	NA	NA	e - Moved 250' NE 11/15/57. f - Moved 3600' ESE 9/9/63 g - Commissioned 2100' S of thermometer site 10/1/63. h - Effective 10/1/63. i - Revised 12/31/68.	
+ National Weather Service Building (Effective 1970)																				
Bishop Airport	06/01/95	Present	NA	42°58'	83°45'	767												S	ASOS Commissioned 06/01/95	

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801. INQUIRIES/COMMENTS CALL: (828) 271-4800

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