

1999

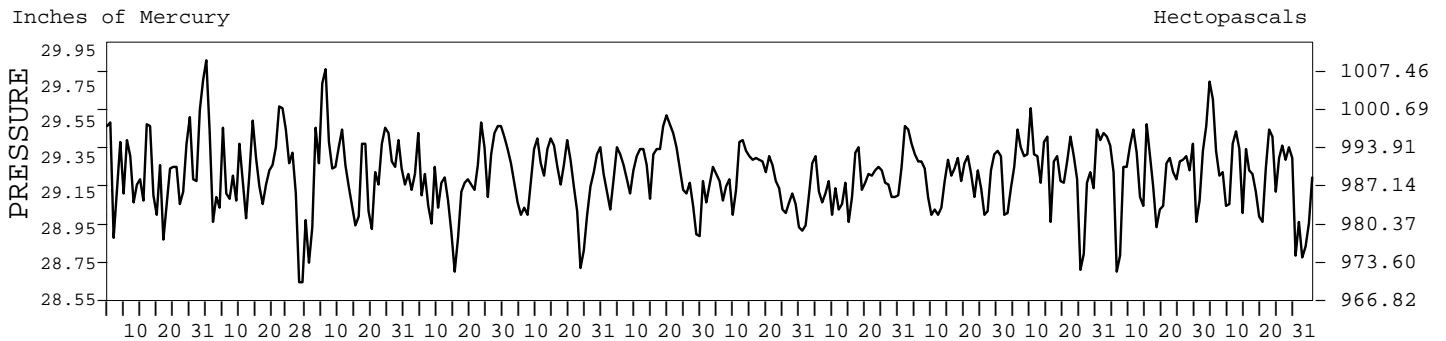
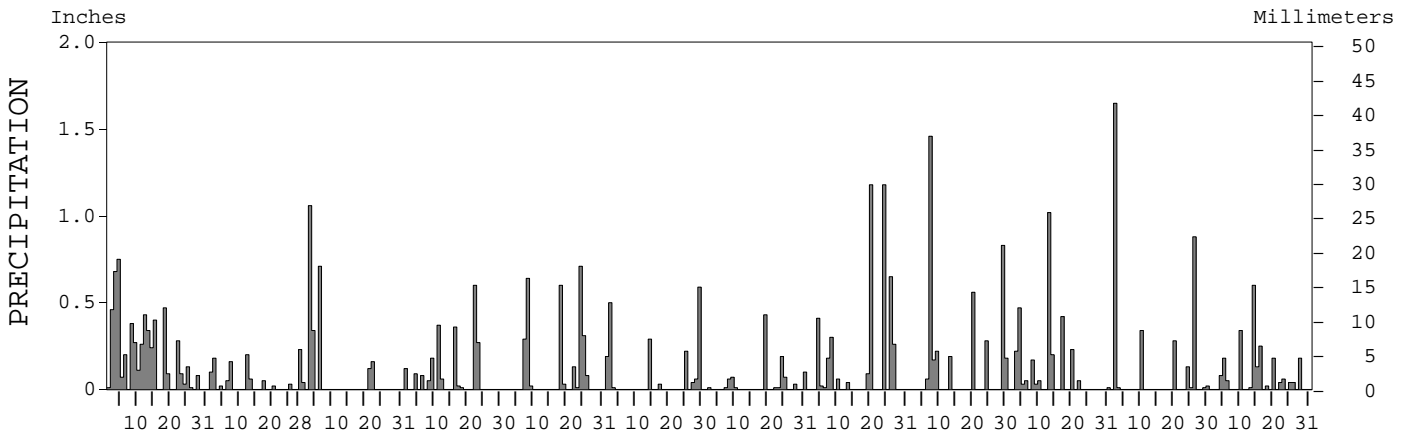
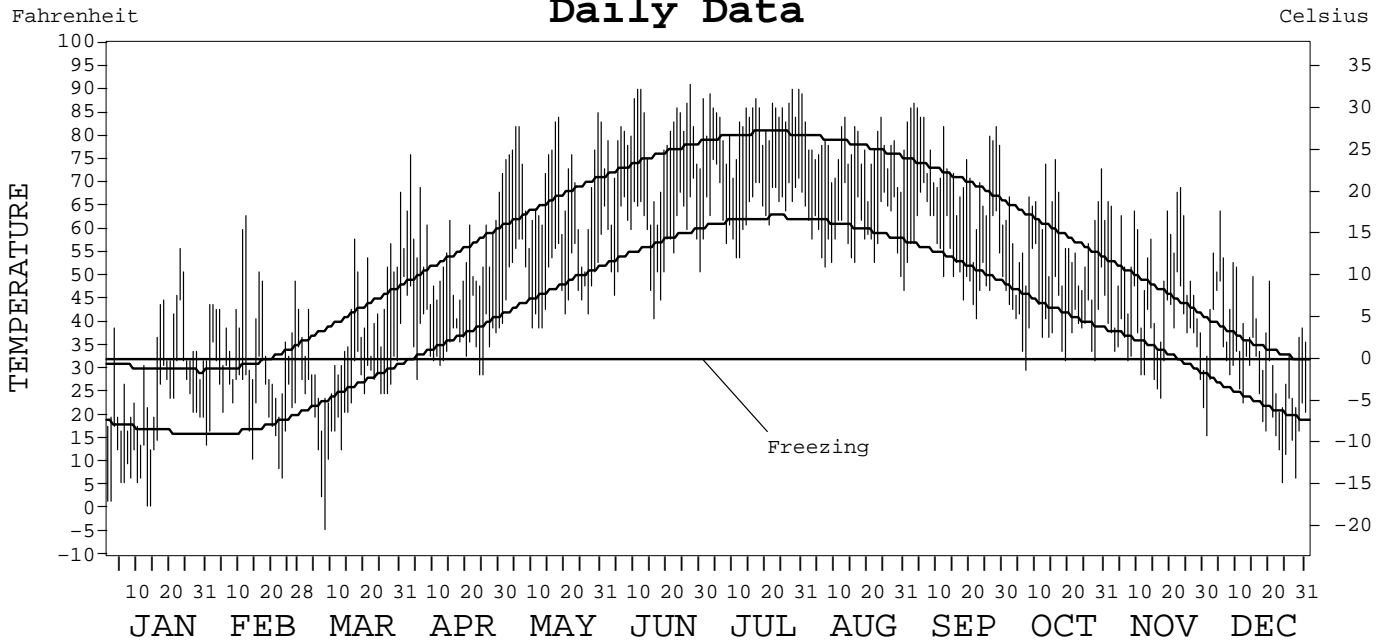
LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-3571

BUFFALO,
NEW YORK (BUF)

Daily Data



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Thomas R. Karl

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
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 ASHEVILLE, NORTH CAROLINA

METEOROLOGICAL DATA FOR 1999

BUFFALO, NY (BUF)

LATITUDE: 42° 56' 27" N LONGITUDE: 78° 44' 09" W ELEVATION (FT): GRND: 739 BARO: 739 TIME ZONE: EASTERN (UTC + 5) WBAN: 14733

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	29.9	38.1	38.7	54.7	70.3	78.2	83.5	76.5	73.5	58.7	51.2	38.4	57.6	
	HIGHEST DAILY MAXIMUM	56	63	68	76	85	91	90	84	87	75	69	64	91	
	DATE OF OCCURRENCE	23	12	31	03	30	27	30+	24+	03	16	23	05	JUN 27	
	MEAN DAILY MINIMUM	17.0	23.8	23.3	37.2	49.0	58.5	65.0	59.3	55.1	41.5	36.5	25.6	41.0	
	LOWEST DAILY MINIMUM	1	7	-4	28	39	41	54	47	41	30	22	6	-4	
	DATE OF OCCURRENCE	14+	23	08	05	13+	16	12+	31	22	07	30	24	MAR 08	
	AVERAGE DRY BULB	23.5	31.0	31.0	46.0	59.7	68.4	74.3	67.9	64.3	50.1	43.9	32.0	49.3	
	MEAN WET BULB	22.0	27.8	28.1	41.0	53.2	62.0	67.4	62.4	58.5	45.7	40.0	29.3	44.8	
	MEAN DEW POINT	17.8	21.4	22.1	34.7	46.9	57.3	63.2	58.7	54.2	40.2	34.0	24.1	39.6	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	3	2	0	0	0	0	0	0	5
	MAXIMUM ≤ 32°	21	9	10	0	0	0	0	0	0	0	1	8	49	
	MINIMUM ≤ 32°	30	25	28	6	0	0	0	0	0	3	9	23	124	
MINIMUM ≤ 0°	0	0	1	0	0	0	0	0	0	0	0	0	1		
H/C	HEATING DEGREE DAYS	1280	949	1048	566	193	58	0	17	97	454	628	1014	6304	
	COOLING DEGREE DAYS	0	0	0	0	33	165	297	112	81	0	0	0	688	
RH	MEAN (PERCENT)	79	69	71	69	64	69	70	75	72	70	70	73	71	
	HOUR 01 LST	81	71	76	74	76	79	78	85	83	76	72	75	77	
	HOUR 07 LST	83	74	80	77	72	77	79	86	82	80	76	77	79	
	HOUR 13 LST	75	65	62	62	52	58	57	60	58	58	65	69	62	
	HOUR 19 LST	79	70	69	63	59	58	68	68	68	68	69	74	68	
S	PERCENT POSSIBLE SUNSHINE	20	42	55	58	70	62	66	51	58	51	34	26	49	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	4	3	1	2	0	0	2	1	0	1	2	1	17	
	THUNDERSTORMS	2	0	1	3	2	3	6	4	2	2	0	1	26	
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.)	29.31	29.26	29.27	29.22	29.24	29.28	29.21	29.22	29.23	29.31	29.26	29.23	29.25	
	MEAN SEA-LEVEL PRESS. (IN.)	30.10	30.05	30.06	29.99	30.00	30.03	29.95	29.97	29.98	30.08	30.07	30.05	30.03	
WINDS	RESULTANT SPEED (MPH)	5.1	4.2	4.5	0.2	3.6	3.9	2.9	1.5	2.8	4.9	7.2	6.5	3.7	
	RES. DIR. (TENS OF DEGS.)	23	23	28	20	22	21	21	25	21	24	25	24	24	
	MEAN SPEED (MPH)	12.7	10.1	10.9	10.6	9.3	8.1	9.9	7.8	8.0	9.6	11.8	11.5	10.0	
	PREVAIL. DIR. (TENS OF DEGS.)	26	23	24	23	23	24	23	24	17	21	24	27	23	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	39	37	34	37	34	30	41	32	31	33	33	38	41	
	DIR. (TENS OF DEGS.)	24	24	24	22	24	25	31	27	24	34	26	23	31	
	DATE OF OCCURRENCE	19	12	18	06	25+	02	31	24	23	14	03	26	JUL 31	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	48	45	44	46	47	40	54	40	47	43	43	51	54	
DIR. (TENS OF DEGS.)	24	24	25	20	22	25	31	27	22	35	26	24	31		
DATE OF OCCURRENCE	19+	12	18	06	25	02	31	24	23	14+	03	26	JUL 31		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	5.78	1.10	2.43	2.21	2.82	1.93	1.00	4.38	3.95	2.95	3.33	2.20	34.08	
	GREATEST 24-HOUR (IN.)	0.75	0.26	1.28	0.80	0.71	0.59	0.43	1.27	1.52	1.22	1.65	0.60	1.65	
	DATE OF OCCURRENCE	04	01-02	03-04	22-23	24	29	19	19-20	06-07	13-14	02	14	NOV 02	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	22	11	6	12	10	9	12	12	9	13	9	15	140	
PRECIPITATION ≥ 0.10	15	5	5	6	6	5	3	7	8	7	5	7	79		
PRECIPITATION ≥ 1.00	0	0	1	0	0	0	0	2	1	1	1	0	6		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	65.1	6.9	15.8	1.0	0.0	0.0	0.0	0.0	0.0	T	0.9	12.7	102.4	
	GREATEST 24-HOUR (IN.)	14.7	2.5	9.4	0.7	0.0	0.0	0.0	0.0	0.0	T	0.7	3.7	14.7	
	DATE OF OCCURRENCE	03-04	07	06	12	0	0	0	0	0	13	30	28	JAN 03-04	
	MAXIMUM SNOW DEPTH (IN.)	30	2	11	0	0	0	0	0	0	0	T	4	30	
	DATE OF OCCURRENCE	15	14+	07+							30	23	JAN 15		
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	15	3	4	0	0	0	0	0	0	0	0	5	27		

NORMALS, MEANS, AND EXTREMES

BUFFALO, NY (BUF)

LATITUDE: 42° 56' 27" N LONGITUDE: 78° 44' 09" W ELEVATION (FT): GRND: 739 BARO: 739 TIME ZONE: EASTERN (UTC + 5) WBAN: 14733

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	30.2	31.6	41.7	54.2	66.1	75.3	80.2	77.9	70.8	59.4	47.1	35.3	55.8
	MEAN DAILY MAXIMUM	54	31.3	32.9	41.4	54.6	66.3	76.0	80.5	78.6	71.1	60.5	47.3	36.0	56.4
	HIGHEST DAILY MAXIMUM	56	72	70	81	94	90	96	97	99	98	87	80	74	99
	YEAR OF OCCURRENCE		1950	1997	1945	1990	1991	1988	1995	1948	1953	1951	1961	1982	AUG 1948
	MEAN OF EXTREME MAXS.	54	53.2	54.3	67.4	77.1	83.6	88.7	90.0	88.5	85.8	78.1	67.9	56.9	74.3
	NORMAL DAILY MINIMUM	30	17.0	17.4	25.9	36.2	47.0	56.5	61.9	60.1	53.0	42.7	33.9	22.9	39.5
	MEAN DAILY MINIMUM	54	18.0	18.4	25.8	36.2	46.6	56.5	61.8	60.0	52.7	43.1	33.8	23.5	39.7
	LOWEST DAILY MINIMUM	56	-16	-20	-7	12	26	35	43	38	32	20	9	-10	-20
	YEAR OF OCCURRENCE		1982	1961	1984	1982	1947	1945	1945	1982	1991	1965	1971	1980	FEB 1961
	MEAN OF EXTREME MINS.	54	-7	0.0	7.8	23.1	33.7	43.4	50.8	47.5	37.6	29.4	18.8	4.0	24.6
	NORMAL DRY BULB	30	23.6	24.5	33.8	45.2	56.6	65.9	71.1	69.0	61.9	51.1	40.5	29.1	47.7
	MEAN DRY BULB	54	24.7	25.7	33.7	45.4	56.6	66.2	71.2	69.4	61.9	51.8	40.5	29.7	48.1
	MEAN WET BULB	16	23.8	24.2	30.4	40.9	51.1	59.9	64.4	63.2	56.7	46.4	36.8	28.3	43.8
	MEAN DEW POINT	16	19.0	19.1	24.3	34.4	45.0	55.1	59.8	59.0	52.5	41.3	31.7	23.6	38.7
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	*	0.1	0.6	1.6	0.7	*	0.0	0.0	0.0	3.0	
MAXIMUM ≤ 32°	30	17.5	15.4	7.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	12.3	55.0	
MINIMUM ≤ 32°	30	28.6	25.7	23.9	10.5	0.7	0.0	0.0	0.0	*	3.1	13.9	25.9	132.3	
MINIMUM ≤ 0°	30	2.2	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	4.4	
H/C	NORMAL HEATING DEG. DAYS	30	1283	1134	967	594	279	59	5	17	130	431	735	1113	6747
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	19	86	194	141	37	0	0	0	477
RH	NORMAL (PERCENT)	30	76	76	73	68	67	69	68	72	74	73	76	78	72
	HOUR 01 LST	30	77	79	78	75	76	79	79	83	83	80	79	79	79
	HOUR 07 LST	30	79	80	80	76	75	77	78	83	84	82	80	81	80
	HOUR 13 LST	30	72	70	65	58	56	56	55	58	60	61	69	73	63
	HOUR 19 LST	30	76	75	72	64	62	62	60	66	72	73	76	77	70
S	PERCENT POSSIBLE SUNSHINE	55	31	38	46	50	58	64	67	64	57	50	29	27	48
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	57	1.6	1.8	2.6	2.1	2.3	1.2	0.8	0.9	1.0	1.3	1.3	1.3	18.2
	THUNDERSTORMS	57	0.2	0.2	1.2	2.3	3.3	5.2	5.8	5.9	3.7	1.6	1.1	0.4	30.9
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	1													8.8
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH:														
CLEAR	1			5.0		4.0	4.0								
PARTLY CLOUDY	1			4.0		8.0	5.0								
CLOUDY	1	3.0	4.0	9.0		7.0	8.0								
PR	MEAN STATION PRESSURE (IN)	27	29.29	29.30	29.20	29.20	29.20	29.20	29.20	29.30	29.30	29.30	29.30	29.29	29.26
	MEAN SEA-LEVEL PRES. (IN)	16	30.05	30.07	30.05	29.97	29.98	29.95	29.99	30.04	30.05	30.08	30.07	30.06	30.03
WINDS	MEAN SPEED (MPH)	51	13.8	13.0	12.8	12.3	11.1	10.6	10.2	9.5	10.0	10.7	12.3	12.9	11.6
	PREVAIL. DIR (TENS OF DEGS)	32	26	24	24	23	23	24	24	24	24	24	26	27	24
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	4	44	54	44	38	43	37	41	32	39	46	46	43	54
	DIR. (TENS OF DEGS)		23	24	26	24	24	36	31	27	26	24	23	23	24
	YEAR OF OCCURRENCE		1996	1997	1998	1997	1997	1998	1999	1999	1997	1996	1998	1996	FEB 1997
	MAXIMUM 5-SECOND:														
	SPEED (MPH)	4	57	70	57	48	55	47	54	44	47	60	61	54	70
DIR. (TENS OF DEGS)		24	25	27	26	23	07	31	27	22	24	22	23	25	
YEAR OF OCCURRENCE		1997	1997	1998	1997	1997	1996	1999	1997	1999	1996	1998	1996	FEB 1997	
PRECIPITATION	NORMAL (IN)	30	2.70	2.31	2.68	2.87	3.14	3.55	3.08	4.17	3.49	3.09	3.83	3.67	38.58
	MAXIMUM MONTHLY (IN)	56	6.88	5.90	5.97	5.90	7.22	8.36	8.93	10.67	8.99	9.13	9.75	8.71	10.67
	YEAR OF OCCURRENCE		1982	1990	1991	1961	1989	1987	1992	1977	1977	1954	1985	1990	AUG 1977
	MINIMUM MONTHLY (IN)	56	1.03	0.81	1.20	1.27	1.21	0.11	0.93	1.10	0.77	0.30	1.44	0.69	0.11
	YEAR OF OCCURRENCE		1946	1968	1967	1946	1965	1955	1989	1948	1964	1963	1944	1943	JUN 1955
	MAXIMUM IN 24 HOURS (IN)	56	2.57	2.31	2.14	2.09	3.52	5.01	3.38	3.88	4.94	3.49	2.51	2.33	5.01
	YEAR OF OCCURRENCE		1982	1954	1954	1991	1986	1987	1963	1963	1979	1945	1949	1990	JUN 1987
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	19.8	17.7	16.1	14.0	12.3	11.2	9.8	11.3	11.3	12.8	16.0	20.1	172.4	
PRECIPITATION ≥ 1.00	30	0.2	0.2	0.2	0.2	0.5	0.8	0.7	1.0	0.7	0.5	0.5	0.4	5.9	
SNOWFALL	NORMAL (IN)	30	25.7	18.2	10.3	3.8	0.3	0.0	0.0	0.0	0.2	9.9	23.8	92.2	
	MAXIMUM MONTHLY (IN)	56	68.3	54.2	29.3	15.0	7.9	T	T	T	3.1	31.3	68.4	68.4	
	YEAR OF OCCURRENCE		1977	1958	1993	1975	1989	1980	1993	1991	1994	1972	1976	1985	DEC 1985
	MAXIMUM IN 24 HOURS (IN)	56	25.3	19.4	17.2	6.8	7.9	T	T	T	2.8	19.9	37.9	37.9	
	YEAR OF OCCURRENCE		1982	1984	1993	1975	1989	1980	1993	1991	1994	1993	1955	1995	DEC 1995
	MAXIMUM SNOW DEPTH (IN)	51	38	42	20	12	4	0	0	0	0	2	16	28	42
	YEAR OF OCCURRENCE		1977	1977	1984	1975	1989					1972	1955	1995	FEB 1977
	NORMAL NO. DAYS WITH:														
SNOWFALL ≥ 1.0	30	7.6	5.8	3.3	1.1	0.1	0.0	0.0	0.0	0.0	0.1	2.8	6.7	27.5	

PRECIPITATION (inches) 1999 BUFFALO, NY (BUF)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	2.06	1.74	1.72	2.54	2.87	2.55	4.02	2.01	4.55	4.20	3.20	3.25	34.71
1971	1.46	3.03	2.07	1.48	1.56	4.25	4.50	4.43	1.88	1.57	3.07	3.61	32.91
1972	2.17	3.44	3.99	2.99	3.64	6.06	0.99	4.19	3.06	2.96	4.28	3.86	41.63
1973	2.03	1.98	3.27	3.56	2.99	1.68	3.68	2.98	1.44	4.27	4.07	4.89	36.84
1974	2.44	2.19	3.19	3.15	3.36	3.86	1.80	3.64	2.42	1.75	5.38	3.13	36.31
1975	2.11	2.93	2.92	1.86	3.31	3.65	2.34	8.49	2.44	1.13	2.77	4.58	38.53
1976	3.19	3.43	5.59	4.01	4.70	3.36	5.65	1.65	5.39	3.61	2.11	3.83	46.52
1977	3.38	1.59	2.42	3.60	1.39	2.79	3.64	10.67	8.99	2.61	4.45	8.02	53.55
1978	6.29	1.36	1.72	1.84	3.95	2.42	1.48	3.51	4.40	3.72	1.55	3.50	35.74
1979	5.43	2.03	2.48	3.16	1.63	2.18	3.51	6.26	5.61	3.88	4.14	3.43	43.74
1980	1.97	1.08	4.05	2.43	1.60	5.82	3.55	3.58	4.53	4.69	2.36	2.65	38.31
1981	1.11	3.50	1.70	3.09	2.56	3.68	5.05	3.13	4.24	3.31	2.22	2.87	36.46
1982	6.88	1.28	2.64	2.33	3.66	3.14	1.50	4.62	3.37	2.06	6.31	3.32	41.11
1983	1.44	1.30	3.20	2.55	3.28	2.99	2.01	3.51	2.11	4.62	5.19	7.30	39.50
1984	1.54	3.59	1.77	2.53	4.67	6.86	1.37	4.16	3.73	0.87	2.66	3.67	37.42
1985	4.27	3.34	4.42	1.33	3.46	3.21	1.81	4.63	1.20	3.73	9.75	4.85	46.00
1986	2.31	2.60	1.95	3.33	4.42	4.15	2.82	2.73	3.88	4.34	3.11	4.02	39.66
1987	2.90	0.85	3.66	3.40	1.35	8.36	3.09	3.38	5.32	2.62	4.44	2.78	42.15
1988	1.58	4.07	2.99	2.96	2.74	1.56	6.35	2.69	2.07	6.08	3.37	2.15	38.61
1989	1.77	2.54	3.15	1.88	7.22	7.83	0.93	1.84	3.85	2.98	4.83	2.34	41.16
1990	2.69	5.90	1.50	5.22	6.08	3.55	3.14	3.25	3.65	4.59	2.61	8.71	50.89
1991	2.07	2.06	5.97	5.83	3.10	0.86	3.34	2.84	3.19	3.11	4.02	3.81	40.20
1992	2.01	2.45	2.93	4.68	3.48	2.21	8.93	3.79	5.56	2.80	4.92	3.80	47.56
1993	4.35	1.92	3.02	2.55	1.79	4.99	1.78	3.86	5.53	3.69	3.58	3.60	40.66
1994	2.90	1.40	2.61	4.02	3.54	4.27	2.08	4.09	3.19	1.87	4.08	2.67	36.72
1995	4.89	2.62	1.33	1.41	2.40	1.33	3.53	2.07	1.32	6.07	4.14	2.88	33.99
1996	3.42	2.09	2.37	5.63	4.08	5.20	5.15	2.14	7.51	4.22	2.99	3.42	48.22
1997	4.25	2.97	4.47	1.65	3.61	3.06	1.85	4.67	5.06	2.29	4.32	2.88	41.08
1998	5.61	2.28	3.86	2.54	3.73	2.87	4.39	1.74	2.43	2.10	1.61	1.54	34.70
1999	5.78	1.10	2.43	2.21	2.82	1.93	1.00	4.38	3.95	2.95	3.33	2.20	34.08
POR= 129 YRS	3.13	2.67	2.79	2.76	2.98	2.93	2.91	3.20	3.15	3.09	3.30	3.28	36.19

WBAN : 14733

AVERAGE TEMPERATURE (°F) 1999 BUFFALO, NY (BUF)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	17.6	24.8	30.1	46.9	57.3	66.0	71.0	70.2	64.0	54.5	41.6	27.4	47.6
1971	20.9	27.0	29.8	41.8	54.5	67.6	68.7	67.8	65.4	58.7	39.1	33.5	47.9
1972	25.5	22.0	30.1	41.1	59.1	62.6	71.0	67.7	62.8	46.2	36.0	30.8	46.2
1973	27.6	22.9	42.4	46.9	54.5	68.2	72.3	71.8	61.7	54.3	40.8	29.0	49.4
1974	27.1	22.3	33.0	46.2	53.1	65.6	69.9	69.9	59.6	49.2	40.2	31.7	47.3
1975	30.1	29.1	30.8	39.3	62.1	68.0	72.3	69.7	58.3	53.1	46.9	28.3	49.0
1976	19.7	31.8	37.2	46.5	53.4	68.4	67.8	67.5	60.1	46.3	34.1	22.0	46.2
1977	13.8	24.6	39.8	47.0	60.3	64.4	72.0	68.1	62.6	49.6	43.3	27.9	47.8
1978	20.4	15.5	28.2	42.5	57.4	65.1	70.4	70.3	60.8	49.5	40.4	30.4	45.9
1979	20.5	14.9	38.2	44.3	56.9	66.5	71.3	67.5	61.9	50.7	43.5	33.4	47.5
1980	25.8	21.2	31.8	46.1	58.1	61.9	71.7	72.6	62.4	48.7	39.4	25.3	47.1
1981	19.3	32.9	33.9	47.2	56.4	66.2	71.8	70.0	60.9	48.2	40.4	29.0	48.0
1982	17.2	23.2	32.5	41.6	61.0	62.2	71.8	65.0	61.6	52.6	43.0	37.5	47.4
1983	27.0	29.6	36.7	43.6	53.9	67.6	74.2	71.2	63.7	51.7	40.8	22.7	48.6
1984	20.4	33.8	27.1	47.7	52.9	67.8	70.3	70.3	58.5	53.2	39.0	35.6	48.1
1985	21.1	24.8	35.6	49.5	59.5	62.7	69.7	69.2	64.2	52.5	42.0	25.6	48.0
1986	25.5	24.5	36.2	47.8	59.7	64.1	71.1	67.9	61.8	50.9	37.7	32.4	48.3
1987	26.1	25.0	37.7	50.0	60.5	68.9	74.2	68.9	63.4	47.9	42.5	34.3	50.0
1988	26.6	24.3	35.2	46.1	59.7	64.0	74.8	72.4	62.1	46.9	43.0	30.0	48.8
1989	31.3	22.7	33.0	41.9	55.1	65.9	71.5	68.5	60.8	51.5	37.9	17.4	46.5
1990	33.4	29.3	36.9	48.5	54.9	66.7	71.4	70.4	61.7	52.5	43.4	34.4	50.3
1991	26.0	30.6	37.8	50.5	64.3	69.1	71.9	71.0	62.0	53.1	39.3	31.3	50.6
1992	27.1	27.7	31.6	43.8	57.3	63.4	66.8	66.3	61.6	47.9	40.2	31.9	47.1
1993	29.5	20.7	30.7	47.3	57.0	66.0	73.4	72.0	59.4	49.2	39.6	29.6	47.9
1994	17.2	22.8	33.4	48.2	54.7	69.0	73.3	68.0	61.9	52.2	45.1	34.0	48.3
1995	29.8	21.9	37.8	42.3	56.8	69.9	72.7	73.0	60.0	54.2	36.4	24.5	48.3
1996	22.5	24.2	29.0	42.2	54.5	67.8	68.5	70.5	62.7	51.7	35.4	33.5	46.9
1997	24.7	30.1	33.1	42.3	50.6	66.7	68.6	66.8	60.5	50.5	37.6	31.8	46.9
1998	31.1	34.1	36.5	46.8	62.8	65.3	69.6	71.2	63.7	52.6	42.0	35.3	50.9
1999	23.5	31.0	31.0	46.0	59.7	68.4	74.3	67.9	64.3	50.1	43.9	32.0	49.3
POR= 126 YRS	25.0	24.8	32.6	43.7	55.1	64.8	70.5	69.0	62.4	51.5	40.1	29.6	47.4

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HEATING DEGREE DAYS (base 65°F) 1999 BUFFALO, NY (BUF)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	6	6	93	328	695	1161	1361	1057	1085	691	327	36	6846
1971-72	11	29	87	202	771	971	1218	1237	1070	707	187	112	6602
1972-73	16	33	113	574	860	1054	1152	1173	696	542	318	24	6555
1973-74	2	14	171	326	720	1107	1167	1187	989	553	365	51	6652
1974-75	2	0	187	483	738	1024	1077	1001	1053	764	175	32	6536
1975-76	3	15	197	368	535	1134	1400	958	853	557	358	40	6418
1976-77	15	35	180	573	921	1328	1580	1123	775	544	207	90	7371
1977-78	5	40	110	473	646	1146	1376	1378	1130	670	282	81	7337
1978-79	14	3	154	472	732	1067	1371	1400	823	619	285	65	7005
1979-80	16	35	134	455	636	973	1208	1265	1022	559	240	142	6685
1980-81	2	0	128	498	759	1224	1411	895	956	527	269	33	6702
1981-82	6	11	170	514	732	1108	1476	1163	1002	698	147	95	7122
1982-83	4	65	140	382	656	848	1172	987	868	636	342	71	6171
1983-84	5	10	125	418	722	1304	1378	899	1167	519	385	35	6967
1984-85	11	22	210	360	774	905	1354	1120	902	476	196	95	6425
1985-86	8	12	114	378	685	1215	1215	1128	885	519	197	80	6436
1986-87	4	42	137	430	811	1003	1199	1115	837	447	213	28	6266
1987-88	3	25	91	527	665	948	1184	1174	916	560	186	113	6392
1988-89	5	17	122	560	654	1078	1038	1177	985	687	321	60	6704
1989-90	1	28	170	411	806	1466	970	995	866	518	311	46	6588
1990-91	5	2	141	395	640	941	1203	956	836	431	141	22	5713
1991-92	1	1	166	376	762	1037	1169	1076	1027	633	254	93	6595
1992-93	28	41	148	525	738	1021	1095	1235	1053	526	257	60	6727
1993-94	0	8	212	486	752	1089	1476	1174	972	502	327	48	7046
1994-95	0	26	123	390	591	955	1085	1201	835	674	247	22	6149
1995-96	14	3	164	329	851	1250	1310	1178	1107	677	333	22	7238
1996-97	15	1	130	406	881	969	1241	970	983	673	438	40	6747
1997-98	17	25	150	457	814	1023	1045	862	878	538	96	104	6009
1998-99	0	9	88	378	682	912	1280	949	1048	566	193	58	6163
1999-	0	17	97	454	628	1014							

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COOLING DEGREE DAYS (base 65°F) 1999 BUFFALO, NY (BUF)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0	0	0	16	21	108	197	173	72	12	0	0	599
1971	0	0	0	0	9	119	136	122	107	15	0	0	508
1972	0	0	0	0	12	48	210	123	57	0	0	0	450
1973	0	0	0	6	2	126	233	230	78	3	0	0	678
1974	0	0	0	0	7	71	163	158	29	0	0	0	428
1975	0	0	0	0	90	129	238	171	3	3	0	0	634
1976	0	0	0	8	7	149	109	119	40	0	0	0	432
1977	0	0	0	12	68	78	228	142	45	0	1	0	574
1978	0	0	0	0	52	91	189	173	35	0	0	0	540
1979	0	0	0	6	40	118	217	120	49	20	0	0	570
1980	0	0	0	0	32	56	217	242	58	2	0	0	607
1981	0	0	0	2	13	78	225	173	55	0	0	0	546
1982	0	0	0	3	31	18	221	74	45	2	0	2	396
1983	0	0	0	0	5	157	300	214	90	15	0	0	781
1984	0	0	0	5	16	123	183	193	23	1	0	0	544
1985	0	0	0	18	32	32	161	151	96	0	1	0	491
1986	0	0	0	7	38	60	200	137	46	0	0	0	488
1987	0	0	0	4	79	151	298	152	49	0	0	0	733
1988	0	0	0	0	29	88	315	255	41	8	0	0	736
1989	0	0	0	0	21	97	207	143	50	0	0	0	518
1990	0	0	3	29	4	104	208	176	47	14	0	0	585
1991	0	0	0	3	125	153	221	193	83	13	0	0	791
1992	0	0	0	1	24	53	90	90	55	0	0	0	313
1993	0	0	0	0	14	97	267	231	51	3	0	0	663
1994	0	0	0	5	14	175	267	125	36	2	0	0	624
1995	0	0	0	0	2	176	262	256	21	1	0	0	718
1996	0	0	0	0	12	108	131	177	65	2	0	0	495
1997	0	0	0	0	0	99	135	84	22	12	0	0	352
1998	0	0	1	0	34	118	148	207	57	1	0	0	566
1999	0	0	0	0	33	165	297	112	81	0	0	0	688

SNOWFALL (inches) 1999 BUFFALO, NY (BUF)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0.0	0.0	0.0	0.0	2.6	32.3	17.2	19.4	22.6	2.9	0.0	0.0	97.0
1971-72	0.0	0.0	0.0	0.0	18.7	12.9	27.6	31.4	14.1	5.2	0.0	0.0	109.9
1972-73	0.0	0.0	0.0	3.1	18.9	19.8	9.9	16.1	8.5	2.4	0.1	0.0	78.8
1973-74	0.0	0.0	0.0	0.0	3.0	23.1	19.7	22.8	12.9	7.1	0.1	0.0	88.7
1974-75	0.0	0.0	0.0	T	22.1	23.6	11.0	16.3	7.6	15.0	0.0	0.0	95.6
1975-76	0.0	0.0	0.0	T	5.5	27.3	21.6	8.3	17.3	2.5	T	0.0	82.5
1976-77	0.0	0.0	0.0	0.2	31.3	60.7	68.3	22.7	13.5	2.2	0.5	0.0	199.4
1977-78	0.0	0.0	0.0	T	15.0	53.4	56.5	21.7	5.8	1.8	0.1	0.0	154.3
1978-79	0.0	0.0	0.0	T	3.0	10.1	42.6	28.3	4.6	8.7	0.0	0.0	97.3
1979-80	0.0	0.0	0.0	T	12.6	19.7	10.2	11.7	13.9	0.3	T	T	68.4
1980-81	0.0	0.0	0.0	T	6.7	21.6	14.4	5.0	13.2	T	0.0	0.0	60.9
1981-82	0.0	0.0	0.0	T	1.8	24.8	53.2	12.7	9.0	10.9	0.0	0.0	112.4
1982-83	0.0	0.0	0.0	0.0	15.8	12.9	9.0	5.5	6.9	2.3	T	0.0	52.4
1983-84	0.0	0.0	0.0	T	17.7	52.0	13.4	32.5	16.0	0.9	T	0.0	132.5
1984-85	0.0	0.0	0.0	0.0	1.4	11.2	65.9	20.9	6.3	1.5	0.0	0.0	107.2
1985-86	0.0	0.0	0.0	0.0	5.2	68.4	17.3	17.3	4.8	1.7	T	0.0	114.7
1986-87	0.0	0.0	0.0	0.0	13.7	4.8	28.5	7.7	10.8	2.0	0.0	0.0	67.5
1987-88	0.0	0.0	0.0	T	0.9	9.8	6.9	31.9	6.1	0.8	0.0	0.0	56.4
1988-89	0.0	0.0	0.0	0.5	0.6	10.8	5.4	29.6	10.1	2.5	7.9	0.0	67.4
1989-90	0.0	0.0	0.0	T	7.8	34.8	11.8	28.0	1.4	9.9	T	0.0	93.7
1990-91	0.0	0.0	0.0	T	0.7	15.4	16.6	16.1	8.5	0.2	T	0.0	57.5
1991-92	0.0	T	0.0	0.2	18.0	21.4	18.4	7.0	22.8	5.0	0.0	0.0	92.8
1992-93	0.0	0.0	0.0	0.6	13.7	16.5	13.1	19.5	29.3	0.5	T	0.0	93.2
1993-94	T	0.0	T	2.9	4.8	27.9	35.4	21.6	13.2	6.9	0.0	0.0	112.7
1994-95	0.0	0.0	T	0.0	0.9	7.8	23.1	34.6	4.3	3.9	T	0.0	74.6
1995-96	0.0	0.0	0.0	0.0	15.7	61.2	25.3	11.9	24.1	3.2	T	0.0	97.6
1996-97	0.0	0.0	0.0	0.0	11.5	18.9	42.4	9.3	13.4	2.1	0.0	0.0	97.6
1997-98	0.0	0.0	0.0	0.2	16.5	16.8	13.6	1.8	25.3	T	T	T	74.2
1998-99	0.0	0.0	0.0	0.0	0.2	11.6	65.1	6.9	15.8	1.0	0.0	0.0	100.6
1999-	0.0	0.0	0.0	T	0.9	12.7							
POR= 55 YRS	T	T	T	0.3	11.0	22.7	24.2	17.5	12.0	3.0	0.4	T	91.1

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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 BUFFALO, NEW YORK (BUF)

The Niagara Frontier experiences a fairly humid, continental type climate, but with a definite "maritime" flavor due to a strong modification from the Great Lakes (especially Lake Erie). Buffalo's weather reputation is highly exaggerated, and due mainly to its propensity for localized heavy Lake-effect snowstorms in late fall and early winter. Summers, on the other hand, are among the most pleasant in the Northeast.

Winters in general are cloudy, cold and snowy...but are changeable and include frequent thaws and rain as well. Snow covers the ground more often than not from Christmas into early March...but periods of bare ground are not uncommon. Over half of the annual snowfall comes from "Lake-effect" process and is very localized. This feature develops when cold air crosses the warmer lake waters and becomes saturated.. creating clouds and precipitation downwind. The exact location of these snowbands are determined by the direction of the wind. Areas south of Buffalo derive much more snow from this process than the more densely populated northern suburbs. This snow machine can start as early as mid-November, peaks in December, then virtually shuts down after Lake Erie freezes in mid to late January. The Buffalo area is not subject to heavy general or "synoptic" snowstorms. Most of them pass by to the east. Total season snowfall ranges from about 60 inches in the far northern suburbs to 80-90 inches in the city and eastern suburbs to as much as 120 inches south of the city. The lakes do modify any extreme cold as the mercury falls below zero on only about four nights in an average winter...with anything below -10 extremely rare.

Spring comes slowly to the Niagara Frontier. The ice pack in lake Erie does not usually disappear until mid-April and the Lake remains chilly through most of May. As the prevailing flow is southwesterly, areas near the lake are often as much as 20 degrees colder than inland locations. Conversely, the cool Lake acts as a strong stabilizing influence so areas near the city and lakeshore experience fewer thunderstorms and more sunshine than inland areas in spring. The slow start to the growing season also diminishes the threat of damaging late season frosts. The average date of the last frost is around April 30 in the metro area...but mid-May well inland.

Summer is beautiful in the Buffalo area. Sunshine is plentiful, temperature are warm but seldom hot, and humidity levels moderate. Rainfall is adequate, but does show an overnight maximum and seldom is a problem for outdoor activities. The stabilizing effect of Lake Erie continues to inhibit thunderstorms and enhance sunshine in the immediate Buffalo area..at least through most of July. It also moderates most extreme heat approaching from the Ohio Valley. There usually are several periods of uncomfortably warm and muggy weather in an average summer...but 90-degree readings are relatively rare (only 3 per year). August usually turns a bit more humid and showery as the Lake is warmer and loses its stabilizing influence. In fact, a good nighttime thunderstorm or two is often a feature of late summer in Buffalo. Overall though...Buffalo has the sunniest and driest summers of any major city in the Northeast.

Autumn is pleasant, but rather brief. September is usually very tame, and much of October as well. The first frosts can be expected in late September over interior sections, but not until mid-October in the metro area. The warm lake can extend the growing season into early November during some years close to the Lakeshore. The growing season is relatively long for the latitude...about 180 days...and is conducive to the many Fruit orchards and wineries, especially near Lake Ontario and along the Lake Erie shore. Cold air surges from Canada become more common starting in late October...with their passage over the warmer Great Lakes resulting in a drastic increase in cloud cover in late October and early November as the Lake-effect season begins. The first measurable snows can be expected in mid to late November, but ground cover is only sporadic until mid December. Many of Buffalo's greatest snowstorms however, have occurred in late November and early December, all due to the Lake effect phenomenon.

STATION LOCATION

BUFFALO, NEW YORK

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE											* Type	REMARKS	
						SEA LEVEL	GROUND												A
							G	W	E	P	S	T	R	W	8	H			
CITY Downtown Buffalo Main and Seneca Streets	11/1/70	3/24/71	NA	42° 53'	78° 53'	610	68	53											
Brown Building Main and Seneca Streets	3/25/71	8/30/71	NA	42° 53'	78° 53'	610	68	34											
Weed Block Main and Swan Streets	8/31/71	6/21/73	500 ft. N	42° 53'	78° 53'	616	72	58											Thermometer exposed in window shelter until 6/20/73. Large instrument shelter on roof beginning 6/21/73.
Weed Block Main and Swan Streets	6/21/73	11/1/81	NA	42° 53'	78° 53'	616	85	72											
White Building Main and Swan Streets	11/1/81	11/1/83	NA	42° 53'	78° 53'	616	113	107											
Board of Trade Building Seneca and Pearl Streets	11/1/83	5/1/87	650 ft. SSW	42° 53'	78° 53'	608	108	100	100										8/1/86, whirling psychrometer first used. 5/1/87, Standard Hazen instrument shelter first used.
Downtown Buffalo Board of Trade Building Seneca and Pearl Streets	5/1/87	10/7/95	NA	42° 53'	78° 53'	608	108	103	103										
Downtown Buffalo Board of Trade Building Seneca and Pearl Streets	10/7/95	2/28/96	NA	42° 53'	78° 53'	608	123	118	118										
Quaranty (Prudential) Bldg., Church and Pearl Streets	3/1/96	2/13/13	825 ft. N	42° 53'	78° 53'	612	206	178	178										13th Floor. Tower used for anemometer and wind vane.
New York Telephone Bldg Church & Franklin Streets	2/13/13	6/30/43	175 ft. W	42° 53'	78° 53'	604	280	247	247			238							Consolidated at airport.
AIRPORT Buffalo Airport Administration Building	7/12/29	11/18/39	NA	42° 56'	78° 44'	702	58	19	19										a - Installed 1936.
Buffalo Airport Administration Building	11/18/39	8/22/60	750 ft. ESE	42° 56'	78° 44'	693	96 d20	34	34	NA b Unk	NA b32	NA b4 c32	32	NA	NA				b - Installed 7/1/43. c - Effective 7/27/53. d - Moved to field site 8/24/59.
Wea. Bur. Observatory+ Greater Buffalo Inter- national Airport +NWS Observatory++ effective 10/3/70. ++WEA. SVC CONTRACT MET. Observatory eff. 10/1/80.	8/23/60	12/01/95	0.4 mi. NE	42° 56'	78° 44'	705	20 f33 g33 i33	5	5	33	5	5	4	NA e4 h4 i4	NA				e - Commissioned 2000' WNW of thermometer site 10/23/63. f - Raised 5/18/77. g - Moved 2400' E 7/17/81. h - Type change 10/23/85. i - Minor move 7/7/86.
Greater Buffalo International Airport	12/01/95	Present	NA	42°56'	78°44'	739									S				ASOS Commissioned 12/01/95

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801.
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