

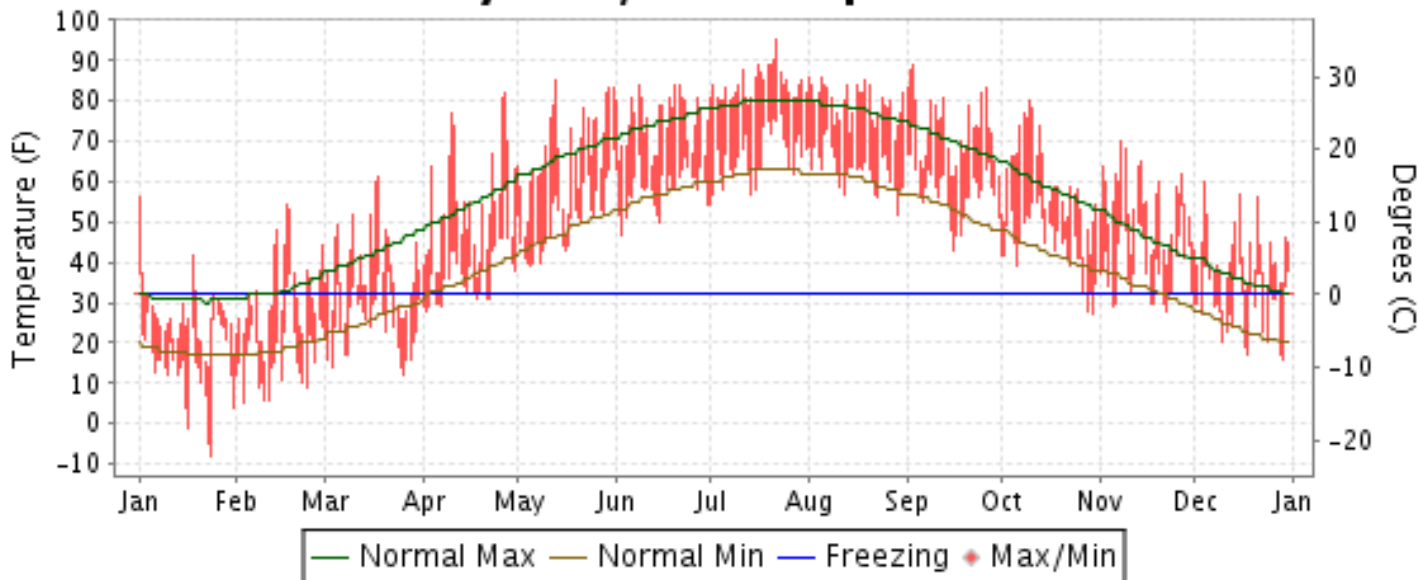


# 2011 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

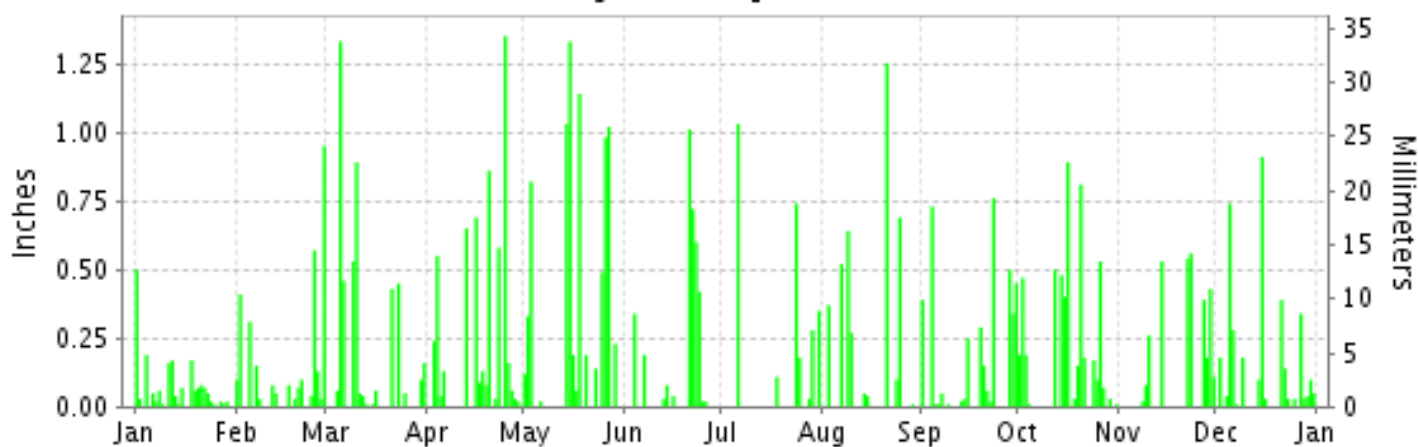
ISSN 0198-3571

## BUFFALO, NEW YORK (KBUF)

### Daily Max/Min Temperature



### Daily Precipitation



### Daily Station Pressure



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NATIONAL  
CLIMATIC DATA CENTER  
ASHEVILLE, NORTH CAROLINA

*Thomas R. Karl*  
DIRECTOR  
NATIONAL CLIMATIC DATA CENTER

# METEOROLOGICAL DATA FOR 2011

## BUFFALO (KBUF)

LATITUDE: 42° 56'N      LONGITUDE: -78° 44'W      ELEVATION (FT): GRND: 705 BARO: 717      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	27.2	32.2	39.1	54.4	67.1	75.1	84.1	79.6	73.0	59.9	54.3	41.7	57.3	
	HIGHEST DAILY MAXIMUM	56	54	61	82	85	84	95	86	89	80	70	60	95	
	DATE OF OCCURRENCE	01	17	18	27	13	08+	22	01+	03	10	08	04	JUL 22	
	MEAN DAILY MINIMUM	15.3	17.0	24.6	36.9	50.3	58.5	66.4	63.0	57.9	44.4	38.7	29.2	41.9	
	LOWEST DAILY MINIMUM	-8	5	12	28	39	47	54	52	43	27	28	16	-8	
	DATE OF OCCURRENCE	24	03	26	02	05	03	01	29	16	30	22	29	JAN 24	
	AVERAGE DRY BULB	21.3	24.6	31.9	45.7	58.7	66.8	75.3	71.3	65.5	52.2	46.5	35.5	49.6	
	MEAN WET BULB	20.0	22.9	29.5	41.6	53.7	60.4	67.0	64.5	60.0	47.4	41.5	32.8	45.1	
	MEAN DEW POINT	15.6	17.7	24.3	36.9	49.4	55.7	62.0	60.4	56.2	42.7	34.8	27.9	40.3	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	0	0	0	2	0	0	0	0	0	2
	MAXIMUM <= 32°	27	17	7	0	0	0	0	0	0	0	0	1	52	
MINIMUM <= 32°	30	26	26	12	0	0	0	0	0	4	9	20	127		
MINIMUM <= 0°	3	0	0	0	0	0	0	0	0	0	0	0	3		
H/C	HEATING DEGREE DAYS	1348	1124	1022	579	233	36	0	2	75	394	548	906	6267	
	COOLING DEGREE DAYS	0	0	0	5	44	97	323	206	97	4	0	0	776	
RH	MEAN (PERCENT)	78	74	74	75	75	70	65	70	75	73	66	74	72	
	HOUR 01 LST	80	74	78	82	82	79	76	82	83	80	70	76	79	
	HOUR 07 LST	82	79	80	78	76	73	69	77	81	79	70	77	77	
	HOUR 13 LST	73	72	67	64	63	59	51	58	60	63	60	68	63	
	HOUR 19 LST	77	75	75	75	76	67	62	68	77	75	70	77	73	
S	PERCENT POSSIBLE SUNSHINE										40		35		
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	3	3	4	5	3	0	1	0	0	0	1	4	24	
	THUNDERSTORMS	0	0	0	4	5	6	5	7	7	2	1	1	38	
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.)	29.20	29.22	29.33	29.11	29.18	29.16	29.18	29.12	29.23	29.21	29.25	29.33	29.21	
	MEAN SEA-LEVEL PRESS. (IN.)	29.98	30.00	30.11	29.88	29.94	29.92	29.93	29.87	29.98	29.98	30.03	30.11	29.98	
WINDS	RESULTANT SPEED (MPH)	4.4	5.7	3.3	4.0	1.1	4.6	4.9	3.2	1.7	2.3	6.1	6.0	3.8	
	RES. DIR. (TENS OF DEGS.)	26	25	24	22	18	24	24	24	20	24	23	24	24	
	MEAN SPEED (MPH)	8.8	11.9	10.3	11.3	8.8	8.8	8.2	7.6	7.8	8.2	11.3	9.9	9.4	
	PREVAIL.DIR.(TENS OF DEGS.)	27	24	24	24	23	24	24	24	23	26	21	20	24	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	30	40	37	46	32	41	33	29	33	35	39	35	46	
	DIR. (TENS OF DEGS.)	27	25	22	25	23	18	25	31	28	25	25	29	25	
	DATE OF OCCURRENCE	15	14	11	28	23	07	21	24	04	17	09	16	APR 28	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	46	55	48	63	44	49	43	43	46	49	52	46	63	
DIR. (TENS OF DEGS.)	22	25	22	25	23	18	24	32	25	26	25	27	25		
DATE OF OCCURRENCE	01	14	11	28	23	07	21	24	13	17	10	15	APR 28		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	1.89	3.13	4.63	5.69	8.09	3.47	2.72	3.94	4.07	5.21	3.10	3.62	49.56	
	GREATEST 24-HOUR (IN.)	0.50	0.95	1.67	1.46	2.07	1.73	1.03	1.25	0.76	0.93	1.10	0.98	2.07	
	DATE OF OCCURRENCE	01	28	05-06	25-26	14-15	21-22	06	21	23	20-21	22-23	05-06	MAY 14-15	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	23	16	15	17	15	11	7	10	17	18	10	18	177	
PRECIPITATION 0.10	5	8	8	10	13	6	6	7	9	13	8	10	103		
PRECIPITATION 1.00	0	0	1	1	4	1	1	1	0	0	0	0	9		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	29.8	34.1	13.3	1.0	0.0	0.0	0.0	0.0	0.0	T	T	3.8	82.0	
	GREATEST 24-HOUR (IN.)	3.7	8.0	6.8	0.7	0.0	0.0	0.0	0.0	0.0	T	T	2.4	8.0	
	DATE OF OCCURRENCE	12	25	23	18						27	30+	09	FEB 25	
	MAXIMUM SNOW DEPTH (IN.)	10	14	5	0	0	0	0	0	0	0	0	1	14	
	DATE OF OCCURRENCE	24+	13	24									10	FEB 13	
NUMBER OF DAYS WITH:															
SNOWFALL >= 1.0	11	11	3	0	0	0	0	0	0	0	0	1	26		

# NORMALS, MEANS, AND EXTREMES BUFFALO (KBUF)

LATITUDE: 42° 56'N      LONGITUDE: -78° 44'W      ELEVATION (FT): GRND: 705 BARO: 717      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	31.1	33.2	42.5	54.1	66.4	74.8	79.6	77.8	70.1	58.9	46.7	36.0	55.9
	MEAN DAILY MAXIMUM	90	31.4	31.7	40.9	53.1	65.1	74.0	79.5	77.9	70.4	59.6	46.9	35.7	55.5
	HIGHEST DAILY MAXIMUM	68	72	71	81	94	91	96	97	99	98	87	80	74	99
	YEAR OF OCCURRENCE		1950	2000	1945	1990	2006	1988	1995	1948	1953	1951	1961	1982	AUG 1948
	MEAN OF EXTREME MAXS.	90	53.2	54.0	67.1	77.4	83.5	88.4	89.8	88.5	86.0	77.9	67.8	56.6	74.2
	NORMAL DAILY MINIMUM	30	17.8	18.6	26.1	36.4	47.7	56.9	62.1	60.5	52.9	42.6	33.7	23.6	39.9
	MEAN DAILY MINIMUM	90	18.4	18.0	25.7	35.7	46.6	56.4	62.1	60.7	53.3	43.5	33.8	23.6	39.8
	LOWEST DAILY MINIMUM	68	-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.	90	-0.2	0.5	8.4	23.5	33.9	43.7	51.0	48.2	38.4	29.6	19.3	4.7	25.1
	NORMAL DRY BULB	30	24.5	25.9	34.3	45.3	57.0	65.8	70.8	69.1	61.5	50.7	40.2	29.8	47.9
	MEAN DRY BULB	90	24.9	24.9	33.3	44.4	55.8	65.3	70.8	69.4	61.8	51.5	40.4	29.7	47.7
	MEAN WET BULB	28	22.6	23.2	29.3	39.5	49.7	59.3	63.6	62.7	56.4	45.7	36.5	27.1	43.0
	MEAN DEW POINT	28	19.9	20.3	26.2	36.0	46.6	56.7	61.1	60.4	54.1	43.0	33.7	24.5	40.2
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	*	0.1	0.5	1.5	0.6	*	0.0	0.0	0.0	2.7
	MAXIMUM <= 32	30	16.8	14.3	7.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	2.1	10.8	51.6
MINIMUM <= 32	30	27.9	25.4	23.0	9.8	0.3	0.0	0.0	0.0	*	3.0	14.0	25.2	128.6	
MINIMUM <= 0	30	1.9	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.8	
H/C	NORMAL HEATING DEG. DAYS	30	1256	1110	961	594	268	65	8	21	149	442	737	1081	6692
	NORMAL COOLING DEG. DAYS	30	0	0	0	4	28	101	203	158	50	4	0	0	548
RH	NORMAL (PERCENT)	30	77	76	72	68	67	69	68	72	74	72	75	77	72
	HOURLY 01 LST	30	78	79	77	75	77	80	80	83	83	79	78	79	79
	HOURLY 07 LST	30	80	80	79	76	75	78	78	83	85	82	79	81	80
	HOURLY 13 LST	30	73	69	63	58	55	57	55	57	60	60	68	72	62
	HOURLY 19 LST	30	77	76	71	64	61	62	61	66	71	72	75	77	69
S	PERCENT POSSIBLE SUNSHINE	65	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)	48	1.5	1.5	2.6	1.7	1.7	0.9	0.6	0.7	0.8	1.1	1.3	1.3	15.7
	THUNDERSTORMS	66	0.2	0.2	1.1	2.3	3.4	5.3	5.9	6.0	3.6	1.7	1.0	0.5	31.2
CLOUDINESS	MEAN: SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH: CLEAR														
	PARTLY CLOUDY CLOUDY														
PR	MEAN STATION PRESSURE(IN)	28	29.25	29.26	29.26	29.20	29.22	29.21	29.22	29.27	29.29	29.29	29.27	29.27	29.25
	MEAN SEA-LEVEL PRES. (IN)	28	30.04	30.05	30.05	29.97	29.98	29.96	29.97	30.02	30.05	30.05	30.05	30.05	30.02
WINDS	MEAN SPEED (MPH)	28	12.5	11.8	11.2	10.9	10.2	9.4	9.1	8.3	8.7	9.8	11.1	11.8	10.4
	PREVAIL.DIR(TENS OF DEGS)	44	25	25	24	24	24	24	24	24	25	24	27	27	24
	MAXIMUM 2-MINUTE: SPEED (MPH)	16	49	54	48	46	46	41	41	37	59	46	47	53	59
	DIR. (TENS OF DEGS)		23	24	24	25	25	18	31	34	20	23	24	24	20
	YEAR OF OCCURRENCE		2008	1997	2002	2011	2010	2011	1999	2009	2005	2001	2007	2008	SEP 2005
	MAXIMUM 3-SECOND SPEED (MPH)	16	68	70	62	63	62	49	54	49	67	64	61	75	75
	DIR. (TENS OF DEGS)		25	25	24	25	25	18	31	35	19	21	22	23	23
	YEAR OF OCCURRENCE		2008	1997	2002	2011	2010	2011	1999	2009	2005	2002	1998	2008	DEC 2008
PRECIPITATION	NORMAL (IN)	30	3.16	2.42	2.99	3.04	3.35	3.82	3.14	3.87	3.84	3.19	3.92	3.80	40.54
	MAXIMUM MONTHLY (IN)	68	6.88	5.90	5.97	5.90	8.09	8.36	8.93	10.67	8.99	9.13	9.75	8.71	10.67
	YEAR OF OCCURRENCE		1982	1990	1991	1961	2011	1987	1992	1977	1977	1954	1985	1990	AUG 1977
	MINIMUM MONTHLY (IN)	68	1.03	0.81	1.20	0.90	0.60	0.11	0.73	1.10	0.77	0.30	1.44	0.69	0.11
	YEAR OF OCCURRENCE		1946	1968	1967	2003	2005	1955	2001	1948	1964	1963	1944	1943	JUN 1955
	MAXIMUM IN 24 HOURS (IN)	68	3.68	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		2007	1954	1954	1991	1986	1987	1963	1963	1979	1945	1949	1990	JUN 1987
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	19.8	17.2	15.7	13.6	12.6	11.9	10.5	10.5	11.6	12.8	15.8	19.4	171.4
PRECIPITATION >= 1.00	30	0.3	0.2	0.3	0.3	0.6	0.8	0.7	1.0	1.0	0.4	0.6	0.4	6.6	
SNOWFALL	NORMAL (IN)	30	26.1	17.8	12.4	3.6	0.3	0.0	0.0	0.0	0.0	0.3	11.0	25.5	97.0
	MAXIMUM MONTHLY (IN)	68	68.3	54.2	32.8	15.0	7.9	T	T	T	T	22.6	45.6	82.7	82.7
	YEAR OF OCCURRENCE		1977	1958	2001	1975	1989	1980	2009	2008	2009	2006	2000	2001	DEC 2001
	MAXIMUM IN 24 HOURS (IN)	68	25.3	19.4	17.2	6.8	7.9	T	T	T	T	2.8	24.9	37.9	37.9
	YEAR OF OCCURRENCE		1982	1984	1993	1975	1989	1980	2009	1991	2009	1993	2000	1995	DEC 1995
	MAXIMUM SNOW DEPTH (IN)	63	38	42	20	12	4	0	0	0	0	22	25	44	44
	YEAR OF OCCURRENCE		1977	1977	1984	1975	1989					2006	2000	2001	DEC 2001
	NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	7.5	5.6	3.5	1.0	0.0	0.0	0.0	0.0	0.0	0.1	2.7	6.5	26.9

**PRECIPITATION (inches) 2011 BUFFALO (KBUF)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2000	2.65	1.75	2.12	4.07	4.38	6.51	2.90	3.21	3.92	1.11	5.82	3.76	42.20
2001	2.15	2.33	3.31	1.27	4.28	1.36	0.73	2.13	3.45	4.34	3.35	6.48	35.18
2002	3.54	3.15	3.28	4.38	5.23	1.47	3.24	1.77	2.54	3.21	3.57	4.36	39.74
2003	2.30	2.69	2.81	0.90	5.43	1.79	3.69	2.47	3.91	3.43	4.10	3.64	37.16
2004	2.95	1.15	3.10	3.94	5.72	2.02	6.04	1.86	4.07	2.98	2.91	4.99	41.73
2005	3.57	2.42	1.38	4.50	0.60	3.27	1.82	5.92	4.89	2.64	5.70	2.36	39.07
2006	3.67	2.45	2.14	1.98	1.90	3.38	4.60	3.28	6.95	8.75	2.15	3.16	44.41
2007	4.77	1.71	2.61	2.96	0.87	1.82	3.31	1.13	3.55	2.73	5.38	4.28	35.12
2008	2.41	4.83	4.22	2.05	2.54	4.91	2.80	5.33	3.96	4.13	3.34	6.79	47.31
2009	2.27	2.65	3.25	3.15	1.89	2.92	4.37	5.32	5.65	4.77	2.94	5.13	44.31
2010	3.19	1.60	1.70	2.07	2.84	8.13	3.17	1.84	2.85	3.06	3.55	2.72	36.72
2011	1.89	3.13	4.63	5.69	8.09	3.47	2.72	3.94	4.07	5.21	3.10	3.62	49.56
POR= 90 YRS	3.04	2.50	2.86	2.89	3.00	3.05	2.89	3.34	3.44	3.01	3.57	3.44	37.03

WBAN : 14733

**AVERAGE TEMPERATURE (°F) 2011 BUFFALO (KBUF)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2000	23.6	29.9	40.0	44.2	57.5	64.9	67.6	68.0	61.2	52.3	38.8	22.1	47.5
2001	27.0	28.2	31.1	47.3	58.8	67.0	69.8	73.0	62.7	53.0	46.9	35.9	50.1
2002	31.6	31.2	34.2	46.2	51.8	67.0	73.4	71.5	66.9	49.3	39.4	28.4	49.2
2003	19.0	20.8	33.5	43.0	55.4	63.5	69.6	70.8	62.8	48.8	43.1	33.2	47.0
2004	17.4	25.5	37.1	46.0	58.2	63.6	69.1	67.2	65.2	51.6	42.4	29.7	47.8
2005	23.8	25.3	29.4	46.8	53.5	71.8	75.0	72.8	66.0	52.7	43.3	27.1	49.0
2006	34.9	27.9	35.2	48.0	60.0	68.3	73.7	69.7	60.5	49.1	44.6	37.2	50.8
2007	28.9	18.6	35.0	42.5	59.2	69.4	69.7	72.4	66.1	58.8	39.1	29.4	49.1
2008	29.7	25.1	31.6	50.9	53.4	67.9	71.4	68.5	64.2	49.7	39.9	29.4	48.5
2009	18.5	27.2	35.4	46.7	57.2	64.5	66.9	70.2	62.4	48.6	44.1	28.6	47.5
2010	23.2	24.6	38.1	51.1	60.2	67.1	73.5	71.7	62.6	50.9	41.5	26.2	49.2
2011	21.3	24.6	31.9	45.7	58.7	66.8	75.3	71.3	65.5	52.2	46.5	35.5	49.6
POR= 90 YRS	24.9	24.9	33.3	44.4	55.8	65.3	70.8	69.4	61.8	51.5	40.4	29.7	47.7

**HEATING DEGREE DAYS (base 65°F) 2011 BUFFALO (KBUF)**

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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
1999-00	0	17	97	454	628	1014	1276	1012	770	617	246	73	6204
2000-01	20	26	176	385	780	1323	1171	1023	1042	528	190	61	6725
2001-02	18	0	127	371	535	893	1029	940	946	561	416	62	5898
2002-03	1	3	51	498	758	1127	1420	1232	967	653	289	86	7085
2003-04	2	12	93	498	651	978	1466	1137	860	562	228	94	6581
2004-05	7	30	61	409	673	1090	1268	1104	1096	538	353	20	6649
2005-06	0	0	36	398	643	1169	927	1034	914	504	196	31	5852
2006-07	0	10	142	489	603	855	1110	1294	923	670	220	31	6347
2007-08	6	6	64	226	771	1097	1085	1149	1030	425	355	37	6251
2008-09	1	16	85	472	747	1094	1433	1049	909	549	245	60	6660
2009-10	19	16	108	503	622	1121	1287	1125	829	414	214	37	6295
2010-11	5	5	130	433	701	1198	1348	1124	1022	579	233	36	6814
2011-	0	2	75	394	548	906							

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**COOLING DEGREE DAYS (base 65°F) 2011 BUFFALO (KBUF)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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
2000	0	0	0	0	17	76	108	126	69	0	0	0	396
2001	0	0	0	3	8	129	174	255	64	5	0	0	638
2002	0	0	0	5	15	128	268	211	114	16	0	0	757
2003	0	0	0	1	0	49	151	199	32	4	0	0	436
2004	0	0	0	0	26	60	140	106	75	0	0	0	407
2005	0	0	0	0	3	232	315	247	72	20	0	0	889
2006	0	0	0	0	49	136	276	163	15	0	0	0	639
2007	0	0	0	0	49	173	160	242	103	43	0	0	770
2008	0	0	0	7	2	131	205	131	68	0	0	0	544
2009	0	0	0	5	11	50	88	182	33	0	0	0	369
2010	0	0	0	3	75	103	277	223	63	0	0	0	744
2011	0	0	0	5	44	97	323	206	97	4	0	0	776

**SNOWFALL (inches) 2011 BUFFALO (KBUF)**

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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
1999-00	0.0	0.0	0.0	T	0.9	12.7	19.4	16.2	10.7	3.7	0.0	0.0	63.6
2000-01	0.0	0.0	0.0	T	45.6	50.3	19.6	9.8	32.8	0.6	0.0	0.0	158.7
2001-02	0.0	0.0	0.0	0.4	0.0	82.7	13.7	17.2	15.9	2.5	T	0.0	132.4
2002-03	0.0	0.0	0.0	T	8.9	35.8	37.4	19.5	6.6	3.1	0.0	0.0	111.3
2003-04	0.0	0.0	0.0	T	4.2	21.6	45.2	5.9	20.7	3.3	0.0	0.0	100.9
2004-05	0.0	0.0	0.0	T	0.2	22.8	37.0	22.3	17.5	9.3	0.0	0.0	109.1
2005-06	T	0.0	0.0	0.0	17.9	20.3	7.1	26.3	6.5	0.1	0.0	0.0	78.2
2006-07	0.0	0.0	0.0	22.6	2.1	7.5	15.5	33.5	5.4	2.3	0.0	0.0	88.9
2007-08	0.0	0.0	0.0	0.0	3.4	31.3	17.5	22.5	29.1	T	0.0	0.0	103.8
2008-09	0.0	T	0.0	0.1	6.2	49.2	30.6	11.6	0.5	2.0	0.0	0.0	100.2
2009-10	T	0.0	T	T	T	25.1	35.6	13.4	T	T	T	0.0	74.1
2010-11	0.0	0.0	0.0	T	1.6	32.0	29.8	34.1	13.3	1.0	0.0	0.0	111.8
2011-	0.0	0.0	0.0	T	T	3.8							
POR= 90 YRS	T	T	T	0.5	9.3	21.8	22.5	16.8	11.7	2.9	0.1	T	85.6

WBAN : 14733

**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 (1971 - 2000). 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. 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.</p>	<p>GENERAL CONTINUED: 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. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED HISTORY GO TO "MULTI-NETWORK MEDADATA SYSTEM", URL IS: <a href="https://mi3.ncdc.noaa.gov/mi3qry/login.cfm">https://mi3.ncdc.noaa.gov/mi3qry/login.cfm</a> SNOWFALL STOPPED MONTH &amp; YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.</p> <p><b>NOTE:</b> The "Period of Record:(POR) for all "averages" is based on the "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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# 2011 BUFFALO NEW YORK (KBUF)

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 History

BUFFALO, NY

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
BUFFALO AP	1938-05-01	1948-01-01	42° 55'	-78° 43'			AIRWAYS, USHCN
BUFFALO GREATER BUFFALO INTL AP	1960-08-23	1961-01-01	42° 55'	-78° 43'	712		AIRWAYS, COOP, USHCN
BUFFALO AP	1948-01-01	1960-08-23	42° 55'	-78° 43'	712		AIRWAYS, COOP, USHCN
BUFFALO NIAGARA INTL AP	1995-12-01	2010-02-25	42° 56'	-78° 44'	705	.5 MI W	ASOS, COOP, USHCN
BUFFALO GREATER BUFFALO INTL AP	1969-01-01	1995-12-01	42° 55'	-78° 43'	705		COOP, USHCN, WXSVC
BUFFALO GREATER BUFFALO INTL AP	1961-01-01	1969-01-01	42° 55'	-78° 43'	705		AIRWAYS, COOP, USHCN
BUFFALO AP	1929-07-01	1938-05-01	42° 55'	-78° 43'			AIRWAYS
BUFFALO NIAGARA INTL AP	2010-02-25	Present	42° 56'	-78° 44'	705		ASOS, COOP, USHCN

# Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
PRECIP	1982-01-01	1995-07-01	DAILY	2400	UNIV	RCRD	
PRECIP	1982-01-01	1995-07-01	HOURLY	2400			
PRECIP	1995-12-01	2010-02-25	HOURLY	2400	TB	RCRD	
PRECIP	2010-02-25	Present	HOURLY	2400	AWPAG	RCRD;HTD	
PRECIP	2010-02-25	Present	DAILY	2400	PCPNX		
PRECIP	1995-07-01	1995-12-01	DAILY	2400	UNIV	RCRD	
TEMP	1995-07-01	1995-12-01	DAILY	2400	HYGR		
PRECIP	1929-07-01	1960-08-23	DAILY	2400	UNIV	RCRD	ROOF
TEMP	1929-07-01	1960-08-23	DAILY	2400			
TEMP	1960-08-23	1982-01-01	DAILY	2400	HYGR		
TEMP	1982-01-01	1995-07-01	DAILY	2400	HYGR		
PRECIP	1995-07-01	1995-12-01	HOURLY	2400	UNIV	RCRD	
TEMP	1995-12-01	2010-02-25	DAILY	2400	HYGR		
PRECIP	1995-12-01	2010-02-25	DAILY	2400	TB	RCRD	
PRECIP	1960-08-23	1982-01-01	DAILY	2400	UNIV	RCRD	
TEMP	2010-02-25	Present	DAILY	2400	ATEMP		

\* For explanation of codes and abbreviations see Station Metadata link below.

Other Station Information can be found at:

ASOS Implementation by NWS: <http://www.nws.noaa.gov/ops2/Surface/asosimplementation.htm>

Station Metadata website: <http://www.ncdc.noaa.gov/homr>

INQUIRES/COMMENTS CALL: (828) 271-4800, option 2

Fax Number : (828) 271-4876

TDD : (828) 271-4010

Email : [ncdc.info@noaa.gov](mailto:ncdc.info@noaa.gov)

NOAA/National Climatic Data Center

Attn: User Engagement & Services Branch

151 Patton Avenue

Asheville, NC 28801-5001

Visit our Web Site for other weather data: [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)