

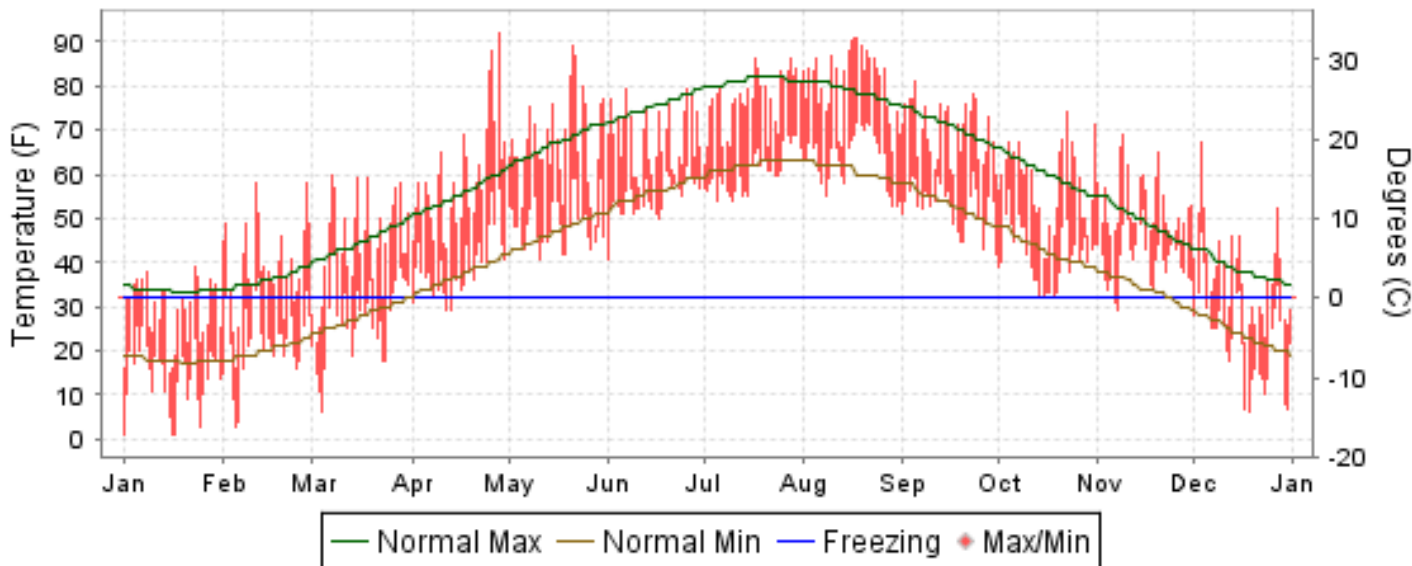


# 2009 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

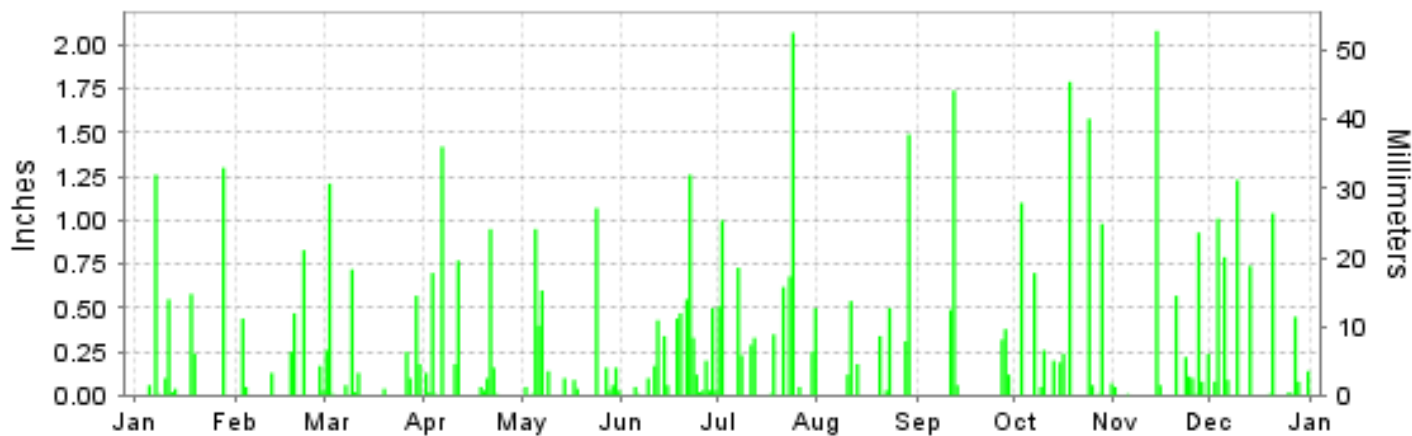
ISSN 0198-2435

## MILTON, MILTON, MASSACHUSETTS (KMQE)

### Daily Max/Min Temperature



### Daily Precipitation



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CLIMATIC DATA CENTER  
ASHEVILLE, NORTH CAROLINA

*Thomas R. Karl*  
DIRECTOR  
NATIONAL CLIMATIC DATA CENTER

# METEOROLOGICAL DATA FOR 2009

## MILTON (KMQE)

LATITUDE: 42° 12'N      LONGITUDE: -71° 6'W      ELEVATION (FT): GRND: 629    BARO: 657      TIME ZONE: EASTERN (UTC -5)      WBAN: 14753

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	MEAN DAILY MAXIMUM	29.1	39.1	29.1	59.4	67.5	68.4	76.4	80.7	69.9	57.9	52.9	36.9	55.6
	HIGHEST DAILY MAXIMUM	39	58	39	92	89	79	86	91	81	74	69	67	92
	DATE OF OCCURRENCE	23	27+	23	28	21	26+	28+	18+	05	22	09	03	APR 28
	MEAN DAILY MINIMUM	14.3	21.9	14.3	39.4	48.8	54.8	60.6	63.5	52.9	41.7	40.7	22.8	39.6
	LOWEST DAILY MINIMUM	1	3	1	29	41	41	54	53	42	32	29	6	1
	DATE OF OCCURRENCE	17+	05	17+	13+	11	01	10+	30+	30	18+	07	18	MAR 17+
	AVERAGE DRY BULB	-4.3	30.5	-4.3	49.4	58.2	61.6	68.5	72.1	61.4	49.8	46.8	29.9	43.3
	MEAN WET BULB	18.9	26.6	18.9										
	MEAN DEW POINT	11.1	18.1	11.1										
	NUMBER OF DAYS WITH:													
	MAXIMUM >= 90°	0	0	0	1	0	0	0	0	3	0	0	0	4
	MAXIMUM <= 32°	19	5	19	0	0	0	0	0	0	0	0	12	55
	MINIMUM <= 32°	31	25	31	4	0	0	0	0	0	0	3	2	121
MINIMUM <= 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS	1336	960	1336	478	225	117	20	14	123	464	539	1084	6696
	COOLING DEGREE DAYS	0	0	0	18	21	22	137	244	22	0	0	0	464
RH	MEAN (PERCENT)	64	62											11
	HOUR 01 LST	70	69											12
	HOUR 07 LST	72	69											12
	HOUR 13 LST	56	50											9
	HOUR 19 LST	63	64											11
S	PERCENT POSSIBLE SUNSHINE	57	64	57	55	47	27	51	64	62	41	39	52	51
W/O	NUMBER OF DAYS WITH:													
	HEAVY FOG(VISBY <= 1/4 MI)	3	1	3	4	6	9	5	2	4	7	5	3	52
	THUNDERSTORMS	0	0	0	2	2	1	6	4	2	0	0	0	17
CLOUDNESS	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.)	29.22	29.25	29.22										
	MEAN SEA-LEVEL PRESS. (IN.)	29.96	29.99	29.96										
WINDS	RESULTANT SPEED (MPH)	36	7.7	36										
	RES. DIR. (TENS OF DEGS.)	28	27	28										
	MEAN SPEED (MPH)	12.3	14.3	12.3	13.5	11.6	9.1	10.6	9.4	10.7	12.4	12.1	15.5	12.0
	PREVAIL.DIR.(TENS OF DEGS.)	29	29	29										
	MAXIMUM 2-MINUTE WIND													
	SPEED (MPH)		43		39	38	29	33	30	28	45	45	54	
	DIR. (TENS OF DEGS.)	08	20	08	24	27	36	04	18	20	18	29	15	
	DATE OF OCCURRENCE	07	27	07	04	10	21	24	21	29	31	28	03	
	MAXIMUM 3-SECOND WIND:													
	SPEED (MPH)	48	59	48	48	53	44	46	40	43	54	55	69	69
DIR. (TENS OF DEGS.)	28	18	28	24	18	36	04	18	27	18	29	15	15	
DATE OF OCCURRENCE	29	27	29	04	14	21	24	21	28	31	28	03	DEC 03	
PRECIPITATION	WATER EQUIVALENT:													
	TOTAL (IN.)	4.16	2.37	4.16	4.53	3.89	5.14	7.62	3.51	3.11	7.23	4.46	5.69	55.87
	GREATEST 24-HOUR (IN.)	1.30	0.83	1.30	1.42	1.35	1.40	2.75	1.79	1.83	1.79	2.10	1.23	2.75
	DATE OF OCCURRENCE	28	22	28	06	05-06	21-22	23-24	28-29	11-12	18	14-15	09	JUL 23-24
	NUMBER OF DAYS WITH:													
	PRECIPITATION 0.01	10	8	10	13	15	19	14	8	6	13	12	13	141
PRECIPITATION 0.10	6	6	6	8	8	12	12	7	5	9	7	7	93	
PRECIPITATION 1.00	2	0	2	1	1	1	2	1	1	3	1	3	18	
SNOWFALL	SNOW,ICE PELLETS,HAIL													
	TOTAL (IN.)	24.7	10.2	24.7	0.2	T	0.0	0.0	0.0	0.0	3.0	0.0	26.8	89.6
	GREATEST 24-HOUR (IN.)	9.5	5.6	9.5	0.2	T	0.0	0.0	0.0	0.0	3.0	0.0	13.7	13.7
	DATE OF OCCURRENCE	18	03	18	11	24					18		20	DEC 20
	MAXIMUM SNOW DEPTH (IN.)	18	17	18	0	0	0	0	0	0	2	0	13	18
	DATE OF OCCURRENCE	19	05+	19							19		21	MAR 19
NUMBER OF DAYS WITH:														
SNOWFALL >= 1.0	5	3	5	0	0	0	0	0	0	1	0	4	18	

# NORMALS, MEANS, AND EXTREMES MILTON (KMQE)

**LATITUDE:** 42° 12'N      **LONGITUDE:** -71° 6'W      **ELEVATION (FT):** GRND: 629    BARO: 657      **TIME ZONE:** EASTERN (UTC -5)      **WBAN: 14753**

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
<b>TEMPERATURE °F</b>	NORMAL DAILY MAXIMUM	30	33.8	36.3	44.8	55.5	67.0	75.5	81.2	78.9	71.0	60.3	49.3	38.6	57.7	
	MEAN DAILY MAXIMUM	117	33.6	32.9	43.2	53.8	66.3	73.1	79.9	77.9	69.4	60.1	47.8	37.3	56.3	
	HIGHEST DAILY MAXIMUM	124	68	68	89	94	93	99	100	101	99	88	81	74	101	
	YEAR OF OCCURRENCE		1950	1985	1998	1976	2000	2008	1977	1975	1953	1963	1950	1998	1998	AUG 1975
	MEAN OF EXTREME MAXS.	117	54.6	54.6	65.7	78.9	86.0	89.8	92.8	90.4	85.7	77.5	68.1	59.2	75.3	
	NORMAL DAILY MINIMUM	30	18.1	20.3	27.8	37.1	47.0	55.9	62.0	60.9	53.2	42.9	34.2	23.8	40.3	
	MEAN DAILY MINIMUM	117	18.3	17.9	26.8	35.7	46.3	54.2	61.5	60.2	52.3	43.3	33.1	22.8	39.4	
	LOWEST DAILY MINIMUM	124	-16	-21	-5	6	27	36	44	39	28	21	5	-19	-21	
	YEAR OF OCCURRENCE		1957	1934	1950	1923	1911	1945	1988	1965	1914	1936	1932	1933	1933	FEB 1934
	MEAN OF EXTREME MINS.	117	-0.7	2.0	10.3	24.9	36.6	44.9	53.0	50.0	40.3	29.5	19.3	5.1	26.3	
	NORMAL DRY BULB	30	26.0	28.3	36.3	46.3	57.0	65.7	71.6	69.9	62.1	51.6	41.8	31.2	49.0	
	MEAN DRY BULB	117	25.7	25.5	34.8	44.8	56.3	63.8	70.7	69.1	60.9	51.7	40.5	30.1	47.8	
	MEAN WET BULB	11	21.2	22.5	27.1	37.5	47.4	59.1	64.0	63.3	57.6	45.9	37.5	27.8	42.6	
	MEAN DEW POINT	11	19.3	20.4	25.9	34.5	45.8	57.6	62.7	62.4	56.6	44.1	35.0	24.5	40.7	
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	0.1	0.4	1.3	3.2	1.4	0.3	0.0	0.0	0.0	6.7	
	MAXIMUM <= 32	30	14.6	10.6	3.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.0	8.7	38.3	
	MINIMUM <= 32	30	28.1	24.7	21.8	7.3	0.2	0.0	0.0	0.0	*	3.0	13.5	25.3	123.9	
	MINIMUM <= 0	30	2.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.6	
<b>H/C</b>	NORMAL HEATING DEG. DAYS	30	1207	1034	894	562	271	74	9	22	138	422	698	1040	6371	
	NORMAL COOLING DEG. DAYS	30	0	0	1	3	21	93	215	173	49	3	0	0	558	
<b>RH</b>	NORMAL (PERCENT)	30														
	hour 01 LST	30														
	hour 07 LST	30														
	hour 13 LST	30														
	hour 19 LST	30														
<b>S</b>	PERCENT POSSIBLE SUNSHINE	113	46	50	48	49	52	55	57	58	56	55	47	46	52	
<b>W/O</b>	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	17	3.9	3.6	4.7	4.7	5.5	4.1	3.7	4.0	4.7	5.2	3.9	3.7	51.7	
	THUNDERSTORMS	17	0.2	0.3	0.4	0.8	1.9	2.9	3.2	2.8	1.3	0.6	0.2	0.1	14.7	
<b>CLOUDNESS</b>	MEAN: SUNRISE-SUNSET (OKTAS)															
	MIDNIGHT-MIDNIGHT (OKTAS)															
	MEAN NO. DAYS WITH: CLEAR															
	PARTLY CLOUDY CLOUDY															
<b>PR</b>	MEAN STATION PRESSURE(IN)	11	29.27	29.28	29.26	29.28	29.28	29.28	29.28	29.31	29.38	29.34	29.33	29.30	29.30	
	MEAN SEA-LEVEL PRES. (IN)	11	30.00	30.02	29.99	30.00	29.99	29.98	29.98	30.01	30.09	30.06	30.05	30.03	30.02	
<b>WINDS</b>	MEAN SPEED (MPH)	11	13.8	14.1	14.3	13.1	11.5	11.1	10.2	10.7	11.0	12.9	13.3	14.4	12.5	
	PREVAIL.DIR.(TENS OF DEGS)	4	28	28											28	
	MAXIMUM 2-MINUTE: SPEED (MPH)	10	61	58	55	54	51	48	46	41	49	51	56	60	61	
	DIR. (TENS OF DEGS)		15	19	14	16	26	29	21	28	17	27	16	16	15	
	YEAR OF OCCURRENCE		2006	2000	1999	2000	2002	2000	2006	2001	2005	2003	1999	2000	JAN 2006	
	MAXIMUM 3-SECOND SPEED (MPH)	11	85	70	74	72	64	61	60	52	62	69	76	78	85	
	DIR. (TENS OF DEGS)		15	20	15	09	21	29	21	24	17	28	16	15	15	
YEAR OF OCCURRENCE		2006	2008	1999	2007	2000	2000	2006	2004	2005	2003	1999	2000	JAN 2006		
<b>PRECIPITATION</b>	NORMAL (IN)	30	4.78	4.06	4.79	4.32	3.79	3.93	3.74	4.06	4.13	4.42	4.64	4.56	51.22	
	MAXIMUM MONTHLY (IN)	124	11.61	9.32	13.07	10.37	10.10	17.32	11.67	18.78	12.37	14.72	9.78	12.60	18.78	
	YEAR OF OCCURRENCE		1979	1969	2001	1987	2006	1998	1938	1955	1999	2005	1983	1969	AUG 1955	
	MINIMUM MONTHLY (IN)	124	0.89	0.71	0.06	0.92	0.50	0.14	0.13	0.53	0.45	0.22	0.55	0.92	0.06	
	YEAR OF OCCURRENCE		1955	1987	1915	1892	1944	1999	1952	1981	1914	1924	1976	1955	MAR 1915	
	MAXIMUM IN 24 HOURS (IN)	124	3.10	4.85	6.62	3.47	5.02	6.10	4.67	9.93	5.86	7.41	5.06	5.68	9.93	
	YEAR OF OCCURRENCE		1889	1886	1968	2004	1984	1998	1979	1955	1961	1996	1955	1969	AUG 1955	
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	12.1	10.6	12.0	11.6	12.1	11.2	9.7	10.1	9.5	9.7	10.8	12.7	132.1	
PRECIPITATION >= 1.00	30	1.5	1.2	1.2	1.2	0.7	0.9	1.2	1.1	1.3	1.2	1.4	1.4	14.3		
<b>SNOWFALL</b>	NORMAL (IN)	30	15.9	13.0	11.4	3.8	0.3	0.0	0.0	0.0	0.0	0.3	3.1	10.7	58.5	
	MAXIMUM MONTHLY (IN)	124	56.3	65.4	52.0	24.2	7.8	T	T	0.0	0.0	6.8	23.0	45.2	65.4	
	YEAR OF OCCURRENCE		1948	1969	1956	1996	1977	1991	2004			1979	1889	1945	FEB 1969	
	MAXIMUM IN 24 HOURS (IN)	20	20.0	28.2	27.2	15.1	7.8	T	T	0.0	0.0	6.8	16.0	21.0	28.2	
	YEAR OF OCCURRENCE		1898	1969	1960	1996	1977	1991	2004			1979	1898	1960	FEB 1969	
	MAXIMUM SNOW DEPTH (IN)	46	27	41	43	27	8	0	0	0	0	5	12	23	43	
	YEAR OF OCCURRENCE		1978	1969	1969	1997	1977					1979	1971	2003	MAR 1969	
NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	4.0	3.0	3.0	0.7	0.1	0.0	0.0	0.0	0.0	0.1	0.9	2.7	14.5		

**PRECIPITATION (inches) 2009 MILTON (KMQE)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1980	0.97	1.07	6.07	5.08	1.58	3.91	2.43	2.09	0.69	4.72	3.19	1.19	32.99
1981	1.25	7.93	0.63	3.16	1.60	1.89	4.09	0.53	3.76	4.14	5.60	7.24	41.82
1982	5.61	3.25	3.14	4.03	3.47	13.73	4.66	1.84	2.37	3.69	4.34	2.11	52.24
1983	5.53	6.15	10.02	7.57	3.33	1.27	1.11	6.59	1.67	3.35	9.78	6.08	62.45
1984	2.81	7.80	9.00	4.34	9.14	4.10	5.26	0.91	1.73	5.02	1.59	3.21	54.91
1985	1.31	2.91	3.17	1.80	3.58	4.66	4.53	4.04	2.74	1.83	8.16	1.32	40.05
1986	4.11	3.55	3.09	1.80	1.92	7.13	4.97	4.65	1.04	3.61	6.37	7.71	49.95
1987	7.94	0.71	5.42	10.37	2.45	2.18	1.23	4.09	9.62	2.38	4.91	2.99	54.29
1988	3.38	5.46	4.23	2.36	3.67	0.91	10.66	1.28	1.78	3.11	8.93	1.52	47.29
1989	1.00	3.45	3.83	5.03	4.74	4.44	7.31	6.96	5.39	8.07	4.77	1.14	56.13
1990	4.85	5.21	2.21	5.62	7.81	1.35	5.04	6.03	1.86	6.23	1.96	3.95	52.12
1991	4.00	2.03	5.64	5.05	1.54	3.30	2.95	6.46	6.72	6.51	5.01	2.80	52.01
1992	3.64	2.31	4.48	3.33	1.50	5.09	2.85	5.36	3.40	1.95	5.06	9.80	48.77
1993	3.15	4.42	8.72	6.59	1.23	2.12	1.77	1.67	4.16	4.36	2.97	8.01	49.17
1994	6.25	4.00	7.98	2.46	5.23	1.01	1.84	6.92	5.00	0.39	5.10	6.48	52.66
1995	4.32	3.28	2.20	1.86	2.12	1.83	2.54	2.21	3.63	5.94	6.01	3.42	39.36
1996	8.49	3.53	4.01	6.68	3.37	3.05	5.48	3.31	8.78	11.76	2.59	8.31	69.36
1997	3.43	2.16	6.75	4.96	3.07	1.33	1.18	2.94	1.36	2.00	7.41	3.31	39.90
1998	7.22	6.82	5.96	5.18	8.18	17.32	2.06	5.84	1.53	7.37	1.83	1.69	71.00
1999	8.47	6.02	5.04	1.17	3.82	0.14	4.77	2.08	12.37	4.35	2.43	2.38	53.04
2000	4.57	3.70	4.86	6.56	3.37	7.45	5.06	1.97	3.03	3.27	4.61	5.20	53.65
2001	3.15	2.68	13.07	1.48	2.48	7.51	2.16	4.83	2.72	0.79	1.10	3.56	45.53
2002	3.65	2.30	4.25	3.31	6.80	4.31	3.17	2.76	4.92	4.00	7.12	6.81	53.40
2003	2.88	5.76	5.15	5.74	4.60	5.61	3.25	4.75	2.54	6.10	3.20	8.21	57.79
2004	1.72	1.76	4.49	9.38	3.57	1.95	4.86	5.82	8.71	2.55	4.17	6.16	55.14
2005	6.23	4.10	6.12	4.63	8.65	1.07	2.72	5.56	3.81	14.72	4.65	3.96	66.22
2006	5.95	3.46	0.31	2.18	10.10	12.31	5.22	4.03	2.58	5.08	6.89	2.24	60.35
2007	2.94	2.78	6.02	8.68	3.74	2.82	3.38	0.63	1.89	2.66	3.30	6.94	45.78
2008	3.87	8.17	5.56	3.16	1.90	2.34	5.93	4.53	7.44	2.04	5.35	9.16	59.45
2009	4.16	2.37	4.16	4.53	3.89	5.14	7.62	3.51	3.11	7.23	4.46	5.69	55.87
POR= 117 YRS	4.18	3.91	4.49	4.11	3.70	3.69	3.71	4.02	3.97	3.94	4.36	4.41	48.49

WBAN : 14753

**AVERAGE TEMPERATURE (°F) 2009 MILTON (KMQE)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1980	26.6	24.5	34.8	47.7	57.2	63.3	73.1	71.1	64.0	49.1	38.1	25.7	47.9
1981	17.7	34.6	36.2	48.7	58.5	67.3	71.8	69.4	60.0	48.5	40.8	29.9	48.6
1982	19.0	27.5	35.5	44.5	56.3	61.1	71.7	66.1	61.7	51.7	44.7	35.5	47.9
1983	27.5	29.8	37.7	46.8	54.0	66.7	73.5	70.0	65.6	51.3	43.5	29.3	49.6
1984	23.9	35.2	30.0	45.0	56.2	67.6	70.6	70.9	60.3	53.6	42.0	36.3	49.3
1985	20.6	30.0	37.7	47.4	57.4	62.1	71.3	68.5	62.9	53.1	43.1	28.1	48.5
1986	28.7	25.5	38.7	47.1	57.4	63.0	68.3	67.2	60.4	50.9	39.4	32.4	48.3
1987	25.9	26.1	36.9	45.3	57.7	66.2	71.1	68.2	62.0	50.5	41.5	32.9	48.7
1988	24.8	29.4	36.9	44.7	56.9	66.0	72.8	73.3	61.5	47.8	44.1	29.4	49.0
1989	31.2	27.3	35.1	44.8	58.6	65.7	70.2	69.4	63.2	53.5	39.8	17.9	48.1
1990	34.2	31.2	38.2	46.2	53.6	65.5	71.0	71.0	62.1	56.0	44.8	36.8	50.9
1991	26.9	33.0	39.0	49.5	62.1	66.7	72.1	71.1	60.7	54.2	42.3	32.4	50.8
1992	27.9	29.2	32.6	44.0	55.2	65.3	67.9	68.2	61.1	49.2	39.7	31.1	47.6
1993	27.8	22.5	32.7	45.8	58.5	66.3	72.4	72.2	62.1	49.5	42.6	30.7	48.6
1994	19.1	23.8	35.6	49.5	55.5	68.9	75.3	69.0	60.9	52.7	45.8	35.4	49.3
1995	32.4	25.9	37.3	45.0	55.5	66.6	74.1	70.3	61.2	56.3	38.1	26.6	49.1
1996	26.1	27.3	33.6	46.6	56.3	66.5	69.8	69.5	62.0	51.4	37.5	36.6	48.6
1997	26.1	33.3	34.7	45.1	54.2	66.6	72.4	69.6	62.3	51.0	39.0	32.4	48.9
1998	31.8	34.3	39.4	48.6	59.9	63.7	72.0	71.3	64.5	52.1	42.2	36.9	51.4
1999	27.9	32.4	37.5	47.9	59.3	69.7	74.6	70.6	66.2	51.1	45.8	34.8	51.5
2000	24.9	32.0	41.7	45.3	57.0	65.8	67.9	68.6	61.5	52.0	41.1	26.1	48.7
2001	27.1	28.8	33.4	47.8	59.1	69.4	68.4	72.9	64.0	54.5	46.3	37.5	50.8
2002	34.4	34.0	38.8	48.5	55.8	64.2	72.2	73.0	66.1	49.5	40.1	30.1	50.6
2003	20.4	23.8	35.5	43.2	54.4	64.0	72.6	72.2	63.8	50.5	43.8	33.1	48.1
2004	16.8	29.3	36.6	47.8	58.1	64.5	69.4	69.7	63.4	51.5	41.6	32.4	48.4
2005	24.0	29.5	32.2	49.4	51.0	68.1	71.6	73.6	65.8	52.4	44.4	29.5	49.3
2006	34.0	28.9	37.2	49.5	56.4	66.8	74.4	69.5	62.5	52.1	48.0	38.5	51.5
2007	30.4	24.0	36.1	44.4	60.0	66.4	72.4	72.1	66.1	58.1	40.6	29.8	50.0
2008	30.2	29.9	36.1	49.2	55.6	68.8	74.2	68.5	63.7	51.2	41.3	32.8	50.1
2009	-4.3	30.5	-4.3	49.4	58.2	61.6	68.5	72.1	61.4	49.8	46.8	29.9	43.3
POR= 117 YRS	25.7	25.5	34.8	44.8	56.3	63.8	70.7	69.1	60.9	51.7	40.5	30.1	47.8

**HEATING DEGREE DAYS (base 65°F) 2009 MILTON (KMQE)**

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1980-81	0	18	112	489	799	1208	1461	843	888	482	230	22	6552
1981-82	3	16	168	501	721	1080	1417	1046	907	611	269	143	6882
1982-83	8	50	132	407	601	911	1159	979	840	543	337	56	6023
1983-84	4	23	108	431	638	1101	1267	857	1079	592	277	58	6435
1984-85	14	5	170	349	679	882	1370	975	839	522	247	113	6165
1985-86	0	20	110	363	651	1138	1119	1100	803	527	278	113	6222
1986-87	42	39	156	435	762	1003	1205	1081	866	584	272	55	6500
1987-88	6	41	121	442	699	987	1238	1025	864	605	267	90	6385
1988-89	17	22	117	531	615	1098	1043	1050	923	598	207	72	6293
1989-90	9	20	123	349	751	1454	948	941	825	563	350	63	6396
1990-91	10	17	128	299	603	866	1171	889	798	461	147	69	5458
1991-92	6	12	168	333	675	1004	1143	1033	998	624	333	64	6393
1992-93	30	29	160	482	756	1043	1146	1184	996	567	204	61	6658
1993-94	4	2	148	474	665	1054	1417	1149	905	456	300	22	6596
1994-95	4	22	139	373	571	910	1004	1089	852	593	296	52	5905
1995-96	0	17	152	275	801	1181	1196	1086	968	551	290	29	6546
1996-97	4	15	137	416	819	873	1200	878	935	591	329	102	6299
1997-98	8	9	127	437	772	1005	1026	855	799	489	183	84	5794
1998-99	0	6	67	394	676	865	1141	908	845	505	192	34	5633
1999-00	3	16	56	423	568	929	1236	948	719	583	261	89	5831
2000-01	19	17	146	399	708	1199	1168	1007	973	512	238	26	6412
2001-02	15	1	86	333	550	847	943	863	805	495	294	108	5340
2002-03	10	20	53	487	742	1073	1373	1148	906	651	328	107	6898
2003-04	3	9	62	442	629	981	1486	1030	875	510	224	83	6334
2004-05	12	18	83	413	696	1002	1264	988	1009	466	428	65	6444
2005-06	16	2	55	396	612	1095	952	1005	858	458	288	71	5808
2006-07	0	24	107	396	504	815	1064	1140	890	617	205	73	5835
2007-08	8	17	57	249	727	1083	1073	1015	892	468	285	40	5914
2008-09	0	11	96	423	706	993	1336	960	1336	478	225	117	6681
2009-	20	14	123	464	539	1084							

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**COOLING DEGREE DAYS (base 65°F) 2009 MILTON (KMQE)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1980	0	0	0	0	7	72	258	213	87	0	0	0	637
1981	0	0	0	0	36	95	224	156	27	0	0	0	538
1982	0	0	0	0	7	34	221	89	40	2	0	0	393
1983	0	0	0	2	4	115	274	190	134	13	0	0	732
1984	0	0	0	0	11	142	195	191	36	2	0	0	577
1985	0	0	0	3	17	32	203	135	54	1	0	0	445
1986	0	0	0	0	49	61	149	113	22	4	0	0	398
1987	0	0	0	0	52	100	203	148	36	0	1	0	540
1988	0	0	0	0	23	128	266	289	23	4	0	0	733
1989	0	0	0	0	16	100	178	163	76	1	0	0	534
1990	0	0	0	8	0	84	203	208	48	26	3	0	580
1991	0	0	0	0	64	124	234	208	50	5	0	0	685
1992	0	0	0	0	36	77	123	135	48	0	0	0	419
1993	0	0	0	0	12	108	244	233	66	1	0	0	664
1994	0	0	0	0	12	146	329	154	20	0	0	0	661
1995	0	0	0	0	11	108	291	185	44	10	0	0	649
1996	0	0	0	4	27	81	159	163	55	0	0	0	489
1997	0	0	0	0	2	157	243	159	54	6	0	0	621
1998	0	0	14	2	32	54	225	206	61	0	0	0	594
1999	0	0	0	0	23	180	308	194	100	0	0	0	805
2000	0	0	0	0	23	121	118	133	49	2	0	0	446
2001	0	0	0	4	60	167	126	253	61	15	0	0	686
2002	0	0	0	8	13	92	240	277	92	12	0	0	734
2003	0	0	0	3	5	84	246	239	32	0	0	0	609
2004	0	0	0	1	22	74	155	170	43	0	0	0	465
2005	0	0	0	1	0	166	225	278	87	14	0	0	771
2006	0	0	0	0	26	133	289	170	36	3	0	0	657
2007	0	0	0	3	58	121	243	243	97	38	0	0	803
2008	0	0	0	2	3	163	294	127	63	0	0	0	652
2009	0	0	0	18	21	22	137	244	22	0	0	0	464

**SNOWFALL (inches) 2009 MILTON (KMQE)**

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1980-81	0.0	0.0	0.0	0.0	7.3	8.1	16.1	8.3	2.5	T	0.0	0.0	42.3
1981-82	0.0	0.0	0.0	0.0	T	27.3	17.4	10.9	6.0	14.0	0.0	0.0	75.6
1982-83	0.0	0.0	0.0	0.0	T	15.8	11.2	28.5	1.0	T	0.0	0.0	56.5
1983-84	0.0	0.0	0.0	0.0	T	9.5	23.6	0.6	26.7	T	0.0	0.0	60.4
1984-85	0.0	0.0	0.0	0.0	0.2	5.2	11.1	16.7	10.4	3.5	T	0.0	47.1
1985-86	0.0	0.0	0.0	0.0	5.1	2.9	1.6	13.8	3.0	T	T	0.0	26.4
1986-87	0.0	0.0	0.0	0.0	13.5	6.4	38.3	5.6	8.4	13.5	0.0	0.0	85.7
1987-88	0.0	0.0	0.0	0.0	11.4	12.1	20.3	16.3	8.5	T	0.0	0.0	68.6
1988-89	0.0	0.0	0.0	T	0.0	8.4	1.4	10.2	9.3	4.7	0.0	0.0	34.0
1989-90	0.0	0.0	0.0	0.0	5.6	7.3	13.3	25.8	5.7	1.5	0.2	0.0	59.4
1990-91	0.0	0.0	0.0	0.0	0.4	5.6	11.7	5.8	5.5	T	0.0	T	29.0
1991-92	0.0	0.0	0.0	T	0.2	7.5	1.1	5.0	11.9	1.5	0.0	0.0	27.2
1992-93	0.0	0.0	0.0	0.0	0.5	19.0	13.5	12.8	35.5	3.0	0.0	0.0	84.3
1993-94	0.0	0.0	0.0	0.0	0.3	15.0	33.0	33.9	18.9	0.0	0.0	0.0	101.1
1994-95	0.0	0.0	0.0	0.0	1.6	1.3	4.3	10.0	0.7	T	T	0.0	17.9
1995-96	0.0	0.0	0.0	0.0	5.8	25.3	47.6	18.3	23.2	24.2	T	0.0	144.4
1996-97	0.0	0.0	0.0	T	2.6	9.3	12.2	7.8	22.6	15.1	0.0	0.0	69.6
1997-98	0.0	0.0	0.0	0.0	4.1	15.3	15.8	1.0	5.3	0.1	0.0	0.0	41.6
1998-99	0.0	0.0	0.0	0.0			19.7	14.4	22.5	T	0.0	0.0	
1999-00	0.0	0.0	0.0	T	T	T	18.6	11.1	3.0	1.0	0.0	0.0	33.7
2000-01	0.0	0.0	0.0	0.6	T	9.6	19.7	19.3	41.4	0.0	0.0	0.0	90.6
2001-02	0.0	0.0	0.0	T	T	10.1	15.7	6.4	6.8	1.3	T	0.0	40.3
2002-03	0.0	0.0	0.0	1.3	8.2	21.8	12.7	51.3	13.3	4.5	0.0	0.0	113.1
2003-04	0.0	0.0	0.0	0.5	T	29.7	8.5	3.0	15.8	0.5	0.0	0.0	58.0
2004-05	T	0.0	0.0	0.0	7.8	16.2	44.8	25.4	25.0	0.2	0.0	0.0	119.4
2005-06	0.0	0.0	0.0	1.5	0.6	14.4	18.1	16.5	0.1	1.0	0.0	0.0	52.2
2006-07	0.0	0.0	0.0	0.0	0.0	3.7	2.9	7.3	13.5	0.2	0.0	0.0	27.6
2007-08	0.0	0.0	0.0	0.0	0.8	29.7	13.6	16.0	6.4	0.0	0.0	0.0	66.5
2008-09	0.0	0.0	0.0	0.0	T	30.4	24.7	10.2	24.7	0.2	T	0.0	90.2
2009-	0.0	0.0	0.0	3.0	0.0	26.8							
POR= 67 YRS	T	0.0	0.0	0.5	2.7	11.5	16.1	16.1	11.9	3.3	0.2	T	62.3

WBAN : 14753

**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></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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# 2009

## BLUE HILL OBSERVATORY

### MILTON, MASSACHUSETTS (KMQE)

The altitude of the Observatory and its proximity to Massachusetts Bay play major roles in determining the climate of Blue Hill. The elevation of 635 feet marks the summit as the highest point of a wooded range that extends east-northeast to west-southwest. The station lies at the southwest end of this range and has a three-quadrant unrestricted exposure, at approximately 400 feet above the surrounding terrain. The orographic effect created by this difference in elevation is responsible for lower temperatures, more precipitation, higher winds, more frequent occurrences of fog, and longer periods of snow cover than at nearby lower elevations. Eight miles to the northeast lies the nearest approach of Boston Harbor, and thus, the station is within range of the sea breeze.

Summer temperatures are generally comfortable. Winters at the summit are more severe than those experienced at surrounding areas. Average occurrence of last freezing temperature in the spring is late April and the first in the fall is late October. The freeze-free period is about 178 days. Records indicate that the freeze-free period at base stations is from 6 to 7 weeks shorter than at the summit. This seeming paradox is due to temperature inversions, in which the colder air is found at lower elevations. This condition develops on clear, calm nights, and is responsible for the shorter freeze-free period in base areas.

Total precipitation is fairly evenly distributed throughout the year. Precipitation occurrences are most frequent January through March and least frequent August through October. Hourly precipitation occurrences indicate a coastal type distribution for the year as a whole, with maxima in the early morning and minima in the early afternoon. In the summer, however, convective action or the continental influence dominates, causing a late afternoon maximum. Coastal storms or northeasters are prolific producers of rain and snow.

The main snow season extends from November through early April. Nearly 14 percent of the annual total precipitation occurs as snow or sleet.

Wind velocities are higher in winter than in summer. Speeds average greatest from January through March and least in August. Surface contour is a factor in the stations wind force, particularly from the southerly and westerly directions. These are the steepest slopes of the hill, and winds velocities increase. Peak winds have been recorded from these directions. Winds from the east-northeast and northeast are somewhat slowed by striking the lower range first.

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