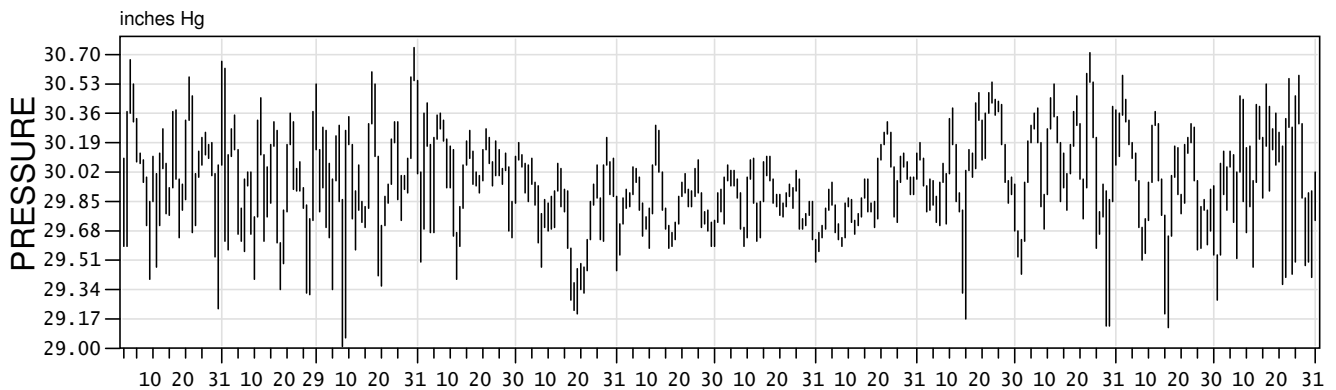
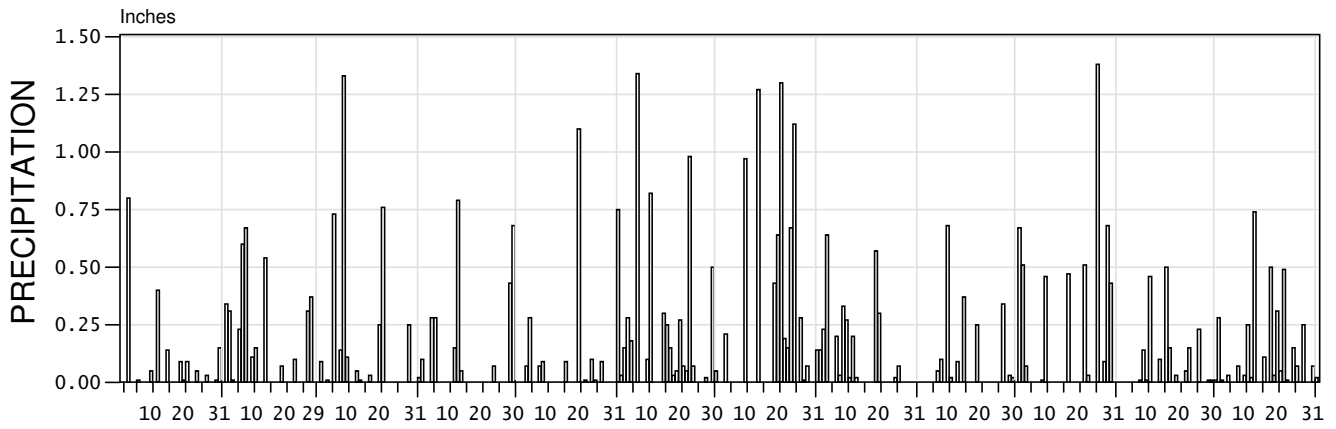
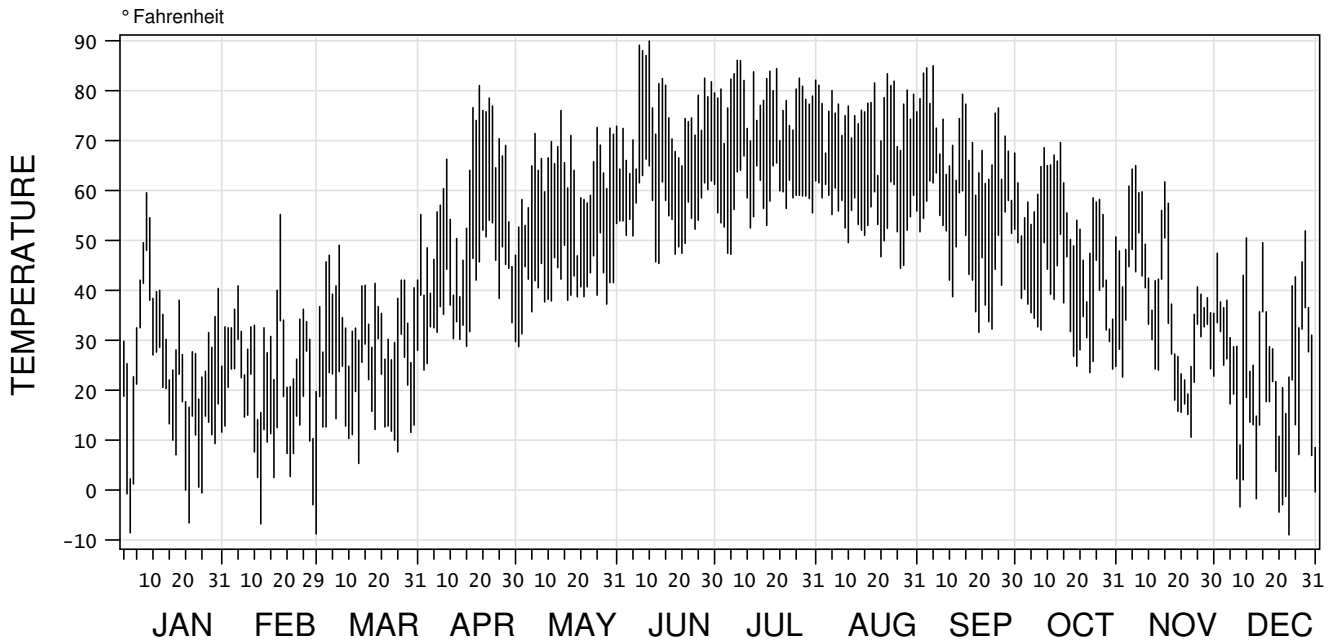


2008

LOCAL CLIMATOLOGICAL DATA

Annual Summary with Comparative Data

Westford Daily Data



METEOROLOGICAL DATA FOR 2008

Westford

Latitude: 44° 37' 39" N Longitude: 73° 02' 29" W Elevation (Ground): 850 feet Time Zone: Eastern

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
TEMPERATURE													
Average													
-Daily Maximum	30.8	29.3	35.7	58.9	64.0	75.3	78.7	75.7	70.3	54.9	42.5	31.4	54.0
-Daily Minimum	15.6	13.2	18.0	38.6	41.4	55.7	58.3	54.9	48.9	36.0	30.4	14.0	35.4
-Monthly	23.2	21.2	26.8	48.8	52.7	65.5	68.5	65.3	59.6	45.5	36.5	22.7	44.7
-Monthly Dew Point	16.2	15.0	17.5	31.8	39.6	58.2	61.3	58.4	53.3	37.7	29.8	16.9	36.3
Extremes													
-Highest	59.6	55.3	49.0	81.1	76.1	89.9	86.2	83.4	85.0	69.7	65.0	51.9	89.9
-Date	8	18	7	19	14	10	7	22	5	14	6	28	JUN 10
-Lowest	-8.7	-8.8	5.3	24.0	28.8	45.4	47.3	44.4	31.6	23.5	10.6	-9.0	-9.0
-Date	3	29	13	2	1	13	5	26	19	23	23	23	DEC 23
DEGREE DAYS													
Heating Base 65°F	1287	1258	1173	482	369	68	10	37	190	596	851	1301	7622
Cooling Base 65°F	0	0	0	3	0	92	127	57	36	0	0	0	315
SOLAR RADIATION (W/m2)													
NUMBER OF DAYS													
Sunrise to Sunset													
-Clear	5	3	6	13	5	9	4	5	11	8	3	4	76
-Partly Cloudy	13	13	12	9	18	12	16	17	7	9	4	6	136
-Cloudy	13	13	13	8	8	9	11	9	12	14	23	21	154
Precipitation													
.01 inches or more	12	16	13	12	15	21	17	15	11	12	14	23	181
Snow, Ice pellets													
1.0 inches or more	5	10	6	1	0	0	0	0	0	2	2	7	33
Thunderstorms	0	0	0	1	2	8	7	6	1	1	0	0	26
Heavy Fog, visibility													
¼ mile or less	0	0	0	0	0	0	0	1	0	1	0	0	2
TEMPERATURE:													
-Maximum													
90°F and above	0	0	0	0	0	1	0	0	0	0	0	0	1
32°F and below	19	15	12	0	0	0	0	0	0	1	6	16	69
-Minimum													
32°F and below	27	28	31	8	2	0	0	0	2	12	16	28	154
0°F and below	5	3	0	0	0	0	0	0	0	0	0	7	15
PRESSURE													
Average													
-Monthly	30.040	29.956	30.008	30.029	29.788	29.840	29.866	29.891	30.071	30.059	29.965	30.017	29.961
Extremes													
-Highest	30.67	30.63	30.74	30.43	30.23	30.29	30.11	30.32	30.54	30.72	30.58	30.58	30.74
-Date	3	1	30	3	28	12	17	22	23	23	2	26	MAR 30
-Lowest	29.24	29.31	29.02	29.41	29.21	29.55	29.51	29.57	29.17	29.14	29.12	29.29	29.02
-Date	30	27	8	12	19	1	31	1	15	28	16	1	MAR 8
RELATIVE HUMIDITY (%)													
Average													
-Monthly	73.7	76.0	68.2	57.3	63.8	80.4	80.7	82.4	82.5	77.2	77.4	76.2	74.6
-Local Time													
Hour 01	77	81	72	63	72	88	90	92	90	84	81	77	81
Hour 07	79	79	75	66	74	89	90	93	92	88	83	80	82
Hour 13	64	70	62	48	53	69	70	68	70	64	68	73	65
Hour 19	75	76	65	53	58	76	77	82	85	77	78	75	73
PRECIPITATION													
Water Equivalent													
-Total	1.91	3.88	3.85	2.88	2.75	5.82	7.58	3.14	2.01	5.40	1.92	3.66	44.80
-Greatest (24 hrs)	0.00	0.00	0.03	1.08	1.10	1.34	1.37	0.88	0.71	1.39	0.65	0.28	1.39
-Date	1	1	31	28-29	19	6	19-20	18-19	9-10	25	15-16	1	OCT 25
Snow, Ice pellets													
-Total	19.3	40.1	10.5	1.0	T	0.0	0.0	0.0	0.0	3.0	9.2	29.5	112.6
-Greatest (day)	8.0	8.2	3.0	1.0	T	0.0	0.0	0.0	0.0	1.9	6.3	5.9	8.2
-Date	2	7	28	4	1	1	1	1	1	29	22	12	FEB 7
WIND													
Resultant													
-Direction	211	220	246	219	241	218	208	238	216	238	222	222	223
-Speed	3.3	2.1	2.1	2.2	1.5	1.5	1.5	0.8	1.2	1.5	2.3	3.8	1.9
Average Speed	4.6	3.4	4.1	4.2	2.9	2.0	1.8	1.4	1.9	2.7	3.9	5.4	3.2
Maximum One-minute													
Average													
-Direction	WSW	S	S	WSW	W	W	W	W	W	W	S	SSW	WSW
-Speed	26	27	22	28	18	19	16	13	23	17	19	25	28
-Date	9	17	3	1	8	10	24	25	15	29	3	15	APR 1
Peak Gust													
-Direction	WSW	SSW	SSW	W	SSW	SSW	W	WNW	W	WSW	SSE	SSW	SSW
-Speed	45	46	40	40	30	32	32	29	40	28	32	42	46
-Date	9	17	3	1	18	10	24	18	15	29	3	9	FEB 17

MEANS AND EXTREMES*

Westford

Latitude: 44° 37' 39" N Longitude: 73° 02' 29" W Elevation (Ground): 850 feet Time Zone: Eastern

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
TEMPERATURE													
Average													
-Daily Maximum	27.1	31.1	39.2	53.6	66.0	76.3	79.3	77.6	69.8	55.8	43.7	32.5	54.3
-Daily Minimum	9.1	11.7	20.1	33.3	43.6	53.6	57.6	55.9	48.8	37.9	29.2	17.2	34.8
-Monthly	18.1	21.4	29.7	43.4	54.8	65.0	68.5	66.7	59.3	46.9	36.4	24.9	44.6
-Monthly Dew Point	4.0	3.9	8.3	13.7	19.7	24.1	26.2	25.4	22.7	17.3	12.7	7.7	15.5
Extremes													
-Record Highest	59.6	59.0	76.0	86.0	88.0	100.0	103.0	98.0	91.0	80.3	72.0	63.0	103.0
-Year	2008	1999	1998	2002	1998	1995	1995	1995	2002	2007	1996	1998	JUL 1995
-Record Lowest	-29.0	-18.1	-15.3	11.7	26.4	35.0	43.0	38.0	25.0	19.0	0.0	0.0	-29.0
-Year	1997	2003	2003	2003	2005	2001	2000	1995	2000	2002	2000	2004	JAN 1997
MEAN DEGREE DAYS													
Heating Base 65°F	1445	1207	1097	627	325	81	22	49	195	556	845	1226	7675
Cooling Base 65°F	0	0	0	2	10	77	116	94	24	1	0	0	324
MEAN SOLAR RADIATION													
MEAN NUMBER OF DAYS													
Sunrise to Sunset													
-Clear	19.9	18.1	19.8	18.7	18.6	18.6	18.4	19.5	19.9	19.5	18.0	18.9	227.9
-Partly Cloudy	4.4	4.4	4.8	4.5	6.0	6.5	7.2	7.2	5.8	4.1	3.6	3.0	61.4
-Cloudy	6.4	5.1	6.2	5.6	5.5	3.1	3.1	3.2	3.4	6.6	7.7	8.5	64.6
Precipitation ≥ .01"													
Snow, Ice plds. ≥ 1.0"	16.8	12.5	14.2	13.4	16.1	14.1	14.7	12.7	12.1	15.4	17.1	17.1	176.4
Thunderstorms	9.8	6.2	5.8	2.4	0.2	0.0	0.0	0.0	0.0	0.5	4.1	9.5	38.5
Heavy Fog, vis. ≤ ¼ mi	0.0	0.1	0.3	1.0	2.6	5.1	5.9	4.7	1.4	0.6	0.4	0.1	22.1
	0.1	0.0	0.5	0.0	0.4	0.1	0.1	0.5	0.3	0.4	0.4	0.0	2.7
TEMPERATURE:													
-Maximum													
90°F and above	0.0	0.0	0.0	0.0	0.0	1.6	1.3	1.4	0.1	0.0	0.0	0.0	4.5
32°F and below	18.7	13.8	7.8	0.8	0.0	0.0	0.0	0.0	0.0	0.1	3.4	14.6	59.3
-Minimum													
32°F and below	29.0	25.9	26.4	14.0	2.1	0.0	0.0	0.0	0.5	9.6	18.4	27.6	153.5
0°F and below	9.6	5.9	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.1	20.7
PRESSURE													
Average													
-Monthly	13.846	13.833	13.830	13.813	13.804	12.800	12.803	12.822	12.870	12.843	12.855	12.856	13.248
Extremes													
-Record Highest	30.85	30.89	30.77	30.69	30.52	30.29	30.34	30.34	30.54	30.72	30.67	30.76	30.89
-Year	2005	2003	2007	2003	2005	2008	2004	2003	2008	2008	2003	2006	FEB 2003
-Record Lowest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-Year	1996	1996	1996	1996	1996	1995	1995	1995	1995	1995	1995	1995	JUN 1995
RELATIVE HUMIDITY (%)													
Average													
-Monthly	32.4	30.3	30.4	29.1	32.1	33.4	34.4	34.9	34.6	34.3	32.8	33.3	32.7
-Local Time													
Hour 01	35	33	33	32	36	37	38	39	38	37	35	34	35
Hour 07	35	33	33	33	36	38	39	39	39	38	35	35	36
Hour 13	29	26	26	25	27	28	29	29	29	29	29	31	28
Hour 19	34	31	30	27	30	31	32	34	35	35	33	33	32
PRECIPITATION													
Water Equivalent													
-Mean	3.19	2.30	3.02	3.02	3.82	4.54	5.23	5.16	4.09	4.65	3.65	3.79	46.45
-Maximum Monthly	6.88	3.88	4.84	6.05	7.92	12.15	7.65	11.43	8.87	8.38	5.35	7.77	12.15
-Year	1998	2008	2001	2000	2006	1998	1996	2004	2002	2006	2007	2003	JUN 1998
-Minimum Monthly	1.28	0.83	1.05	0.00	0.00	0.00	3.10	1.54	1.65	1.45	1.92	1.32	0.00
-Year	2004	2004	1996				2006	2002	2001	2004	2008	1998	
-Greatest (24 hrs)	2.85	0.95	1.23	1.39	2.33	3.08	2.58	6.05	2.65	1.92	1.66	2.24	6.05
-Year	1998	2000	2001	2007	2000	1998	1996	1995	1999	2007	2003	1996	AUG 1995
Snow, Ice pellets													
-Mean	25.4	19.0	20.2	6.8	0.3	0.0	0.0	0.0	0.0	1.6	9.4	28.5	111.1
-Maximum Monthly	34.3	40.1	41.6	21.7	2.2	0.0	0.0	0.0	0.0	6.5	20.5	69.8	69.8
-Year	1999	2008	2001	1996	1996	1995	1995	1995	1995	2005	2002	2003	DEC 2003
-Minimum Monthly	15.5	9.8	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.5	0.0
-Year	1996	1999	2000	1999	1997	1995	1995	1995	1995	1996	2006	1999	JUN 1995
-Greatest (day)	11.0	23.6	16.2	13.4	2.0	0.0	0.0	0.0	0.0	4.5	9.8	15.0	23.6
-Year	2000	2007	2006	2000	1996	1995	1995	1995	1995	2005	2002	1997	FEB 2007
WIND													
Resultant													
-Direction	215	234	243	224	245	224	211	229	214	228	220	221	225
-Speed	2.6	2.1	2.0	1.7	1.3	1.2	1.2	0.9	1.3	1.5	2.3	3.0	1.7
Average Speed	1.7	1.6	1.8	1.7	1.2	0.9	0.7	0.7	0.9	1.1	1.7	1.8	1.3
Maximum One-minute Average													
-Direction	WSW	S	S	WSW	W	W	W	W	W	SW	S	SSW	WSW
-Speed	26	27	24	28	18	19	16	20	23	21	24	25	28
-Year	2008	2008	2003	2008	2008	2008	2008	2007	2008	2003	2007	2008	APR 2008
Peak Gust													
-Direction	WSW	W	S	W	SSW	W	S	W	W	SW	W	S	W
-Speed	45	47	40	40	39	44	33	34	40	40	39	45	47
-Year	2008	2006	2003	2008	2004	2004	2004	2007	2008	2003	2003	2004	FEB 2006

* Length of record: June 1995 to December 2008

Westford

PRECIPITATION (inches)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual
1995						1.36	3.92	10.18	3.15	6.48	4.24	3.39	32.72
1996	3.86	2.22	1.05	6.03	5.01	3.88	7.65	2.63	3.64	3.88	4.15	5.13	49.13
1997	2.05	1.82	3.34	0.00	0.00	0.00	6.06	5.47	4.28	2.04	4.41	3.78	33.25
1998	6.88	2.22	3.78	2.24	3.22	12.15	7.25	6.20	5.64	3.03	2.11	1.32	56.04
1999	4.61	0.96	2.79	0.76	3.83	2.95	5.07	2.80	8.33	3.82	3.35	1.73	41.00
2000	2.92	3.16	3.01	6.05	7.29	2.94	3.24	3.48	3.04	2.48	3.16	4.43	45.20
2001	1.98	2.27	4.84	0.65	2.63	2.20	4.04	6.07	1.65	2.39	2.72	2.35	33.79
2002	2.80	2.35	2.46	3.79	4.49	9.09	4.92	1.54	8.87	3.97	4.21	2.69	51.18
2003	1.52	1.56	3.72	2.82	4.75	2.76	3.67	6.26	2.81	6.46	4.52	7.77	48.62
2004	1.28	0.83	2.94	2.10	3.59	3.86	6.66	11.43	2.58	1.45	3.09	4.94	44.75
2005	3.25	2.99	2.41	3.68	1.40	4.38	5.22	5.35	4.09	8.00	4.80	3.54	49.11
2006	4.44	2.48	2.02	3.82	7.92	9.50	3.10	4.24	4.15	8.38	3.06	4.67	57.78
2007	3.93	3.13	3.11	4.42	2.72	2.64	4.81	3.50	2.96	7.33	5.35	3.62	47.52
2008	1.91	3.88	3.85	2.88	2.75	5.82	7.58	3.14	2.01	5.40	1.92	3.66	44.80

SNOWFALL (inches)

Year	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Total
1994-95												0.0	0.0
1995-96	0.0	0.0	0.0	0.1	13.9	46.0	15.5	15.3	13.0	21.7	2.2	0.0	127.7
1996-97	0.0	0.0	0.0	0.0	19.8	15.0	31.9	11.2	24.2	9.8	0.0	0.0	111.9
1997-98	0.0	0.0	0.0	4.7	17.3	40.9	21.9	9.9	24.6	0.2	0.0	0.0	119.5
1998-99	0.0	0.0	0.0	0.0	2.0	7.6	34.3	9.8	25.2	0.0	0.0	0.0	78.9
1999-00	0.0	0.0	0.0	0.0	10.3	2.5	27.8	23.5	9.3	18.9	0.0	0.0	92.3
2000-01	0.0	0.0	0.0	4.3	13.4	40.8	30.9	18.4	41.6	0.0	0.0	0.0	149.4
2001-02	0.0	0.0	0.0	0.9	3.3	17.8	30.0	17.1	20.0	5.0	0.0	0.0	94.1
2002-03	0.0	0.0	0.0	0.0	20.5	15.4	26.3	12.8	13.4	8.4	0.0	0.0	96.8
2003-04	0.0	0.0	0.0	T	4.3	69.8	22.5	12.0	10.5	3.9	1.5	0.0	124.5
2004-05	0.0	0.0	0.0	0.0	2.5	28.4	27.5	28.4	24.0	T	0.0	0.0	110.8
2005-06	0.0	0.0	0.0	6.5	5.2	30.1	23.9	15.5	21.5	3.2	0.0	0.0	105.9
2006-07	0.0	0.0	0.0	3.0	0.1	14.1	18.2	32.7	24.3	16.1	0.0	0.0	108.5
2007-08	0.0	0.0	0.0	0.0	9.5	41.2	19.3	40.1	10.5	1.0	T	0.0	121.6
2008-09	0.0	0.0	0.0	3.0	9.2	29.5							

Westford

TEMPERATURE °F

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual
1995						69.5	74.0	70.9	56.3	51.1	33.4	19.6	53.5
1996	15.9	19.8	27.3	41.4	53.0	65.3	67.2	66.8	59.9	45.2	32.0	32.2	43.8
1997	18.0	25.6	27.1	41.1	50.4	65.0	66.8	64.1	56.7	44.6	33.4	23.0	43.0
1998	21.5	27.4	33.4	45.0	60.7	66.1	68.3	66.1	59.0	47.6	38.2	30.9	47.0
1999	18.6	24.0	30.4	44.3	57.9	68.2	71.5	65.3	61.5	44.1	40.4	27.3	46.1
2000	16.4	22.9	35.5	41.8	55.8	62.9	65.6	65.5	55.2	47.4	36.0	18.8	43.6
2001	20.0	22.6	28.4	43.1	58.2	65.4	66.3	70.1	59.6	49.6	40.5	32.6	46.4
2002	26.4	25.2	31.6	46.5	52.5	61.7	68.5	68.6	61.9	44.0	34.9	22.9	45.4
2003	10.1	15.0	28.4	39.9	53.8	62.8	68.1	68.3	60.4	45.3	37.2	23.5	42.7
2004	5.8	19.4	32.4	42.2	55.9	60.6	67.3	65.0	59.3	46.5	35.1	21.0	42.5
2005	13.2	21.9	26.8	45.4	50.5	68.3	69.6	67.9	61.6	48.4	37.8	21.6	44.4
2006	27.0	20.5	30.1	44.2	56.2	63.4	70.7	64.4	57.7	44.8	41.0	29.8	45.8
2007	19.0	12.7	27.4	41.0	54.6	64.7	66.4	66.2	61.4	52.2	33.7	22.3	43.5
2008	23.2	21.2	26.8	48.8	52.7	65.5	68.5	65.3	59.6	45.5	36.5	22.7	44.7

HEATING DEGREE DAYS: Base 65°F

Year	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Total
1994-95												33	33
1995-96	0	13	262	424	954	1416	1528	1320	1177	665	391	47	8197
1996-97	18	31	180	542	998	1027	1463	1112	1181	652	445	59	7708
1997-98	44	67	265	639	893	1227	1224	1060	954	588	158	69	7188
1998-99	13	53	196	528	784	1032	1444	1154	1049	588	212	46	7099
1999-00	12	50	169	657	696	1139	1466	1147	923	634	299	99	7291
2000-01	45	58	260	537	877	1395	1403	852	1143	643	190	62	7465
2001-02	27	19	189	422	743	917	1206	1122	1044	504	388	123	6704
2002-03	30	38	148	662	790	1270	1710	1408	1148	767	363	135	8469
2003-04	19	59	170	629	848	1303	1841	1337	1024	678	312	147	8367
2004-05	26	75	191	589	910	1377	1614	1220	1198	604	466	59	8329
2005-06	21	36	153	534	833	1351	1184	1250	1092	632	296	105	7487
2006-07	5	93	217	634	724	1086	1419	1457	1159	711	342	75	7922
2007-08	34	58	140	395	929	1316	1287	1258	1173	482	369	68	7509
2008-09	10	37	190	596	851	1301							

Westford

COOLING DEGREE DAYS: Base 65 °F

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
1995						160	248	182	9	0	0	0	599
1996	0	0	0	0	10	52	74	78	23	0	0	0	237
1997	0	0	0	0	0	53	90	36	7	0	0	0	186
1998	0	0	0	0	16	93	92	78	14	0	0	0	293
1999	0	0	0	0	15	132	164	52	56	0	0	0	419
2000	0	0	0	0	7	40	54	64	8	0	0	0	173
2001	0	0	0	0	6	67	52	164	27	1	0	0	317
2002	0	0	0	16	7	30	125	128	55	4	0	0	365
2003	0	0	0	0	1	56	99	144	16	0	0	0	316
2004	0	0	0	5	15	28	82	59	2	0	0	0	191
2005	0	0	0	0	0	143	150	110	37	5	0	0	445
2006	0	0	0	0	19	52	176	65	4	0	0	0	316
2007	0	0	0	2	30	74	88	104	45	3	0	0	346
2008	0	0	0	3	0	92	127	57	36	0	0	0	315

STATION LOCATION AND INSTRUMENTATION Westford

Location	Occupied from	Occupied to	Latitude North	Longitude West	Elevation Above (ft)						
					Sea Level	Ground					
						Wind	Sun	Temp	Humidity	Rain	Barometer
22 Penny Ln Westford, VT 05494	7/2007	Present	44° 37' 39"	73° 02' 29"	850	23	0	5	5	5	5

INSTRUMENTATION DETAIL

Units are: Temperature=°F, Wind=mph, Pressure=Inches Hg, Precipitation=inches.

Davis Vantage Pro, Vantage Pro Plus, Vantage Pro2, Vantage Pro2 Plus

Wind:

Electronic sensors:

Large cups: Instantaneous speed to 120 mph and direction to nearest 7°, greater of 2 mph or ±5%.

Small cups: Instantaneous speed to 175 mph and direction to nearest 7°, greater of 3 mph or ±5%.

Temperature:

Electronic sensor: -40° to 140°F, ±1°F.

Humidity:

Electronic sensor: 0 to 100% RH, ±3%.

Barometer:

Electronic sensor: 26.00 to 32.00 inches Hg, ±0.05".

Rainfall:

6.5-inch diameter electronic tipping bucket rain gauge. Resolution 0.01", ±4%.

Sunshine:

Electronic sensor: 0 to 1600 W/m², 5%.

UV:

Electronic sensor: 0 to 16 Index, 8%.

Snow, ice pellets, glaze and other meteorological phenomenon not recorded by the Weather Computer are manually observed and recorded in the station record.

OBSERVER NOTES