

LOCAL CLIMATOLOGICAL DATA

Monthly Summary

August 2011

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

Date	Temperature					Humidity	Deg. Days		Precip Ty 1 fog 2 hvy fog 3 thunder 4 ice plt 5 hail 6 glaze 7 duststm 8 smk, hz 9 blw snw	Snow Cvr	Precip		Pressure Adj. to Sea Level			Wind						Solar Radiation			
	Maximum	Minimum	Average	Mean	Dew Point		Mean	Heating Base 65°F			Cooling Base 65°F	Water Equivalent	Ice Pellets Snow	Maximum	Minimum	Mean	Avg Speed	Res Speed	Res Dir	Peak			Minute		
																				Speed	Dir		Speed	Dir	Speed	Dir
1	2	3	4A	4B	5	6	7	8	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
1	88.3*	59.0	73.7	72.5	62	73	0	9	..3.....	0	0.00	0.0	29.89	29.65	29.761	1.7	1.4	253	17	WNW	10	303	278		
2	76.9	56.4	66.7	66.3	60	81	0	2	.....	0	0.00	0.0	29.71	29.65	29.679	1.0	0.9	308	14	NW	8	296	199	
3	79.3	52.8	66.1	65.7	59	81	0	1	.....	0	0.00	0.0	29.77	29.69	29.718	0.3	0.2	336	9	WNW	6	297	223	
4	81.9	55.9	68.9	67.5	62	82	0	4	.....	0	0.00	0.0	29.97	29.77	29.888	0.6	0.6	323	11	WNW	8	309	265	
5	86.3	55.9	71.1	70.0	61	76	0	6	.....	0	0.00	0.0	30.04	29.95	29.993	0.3	0.3	264	12	NW	6	317	266	
6	84.6	60.3	72.4	72.7	66	80	0	8	.....	0	0.00	0.0	29.96	29.77	29.884	1.8	1.8	216	17	WSW	9	217	187	
7	83.1	66.1	74.6*	72.5	67	84	0	10	.....	0	T	0.0	29.77	29.51	29.617	0.4	0.3	228	14	SSE	7	200	144	
8	81.0	58.5	69.8	70.0	65	84	0	5	.....	0	0.52	0.0	29.65	29.49	29.568	0.6	0.6	11	13	NW	8	313	193	
9	80.1	54.4	67.3	66.6	61	85	0	2	..3.....	0	0.56	0.0	29.66	29.42	29.566	0.5	0.4	179	16	SW	7	153	149		
10	80.1	63.2	71.6	68.6	63	83	0	7	..3.....	0	0.08	0.0	29.58	29.41	29.481	1.3	1.2	228	14	SW	9	250	193		
11	73.4	59.0	66.2	64.4	56	75	0	1	.....	0	0.00	0.0	29.83	29.58	29.691	2.3	2.1	271	19	NW	11	308	169	
12	79.1	55.4	67.3	65.1	57	78	0	2	.....	0	0.08	0.0	29.97	29.83	29.906	0.9	0.9	290	15	NW	8	302	212	
13	81.9	54.8	68.4	68.1	58	72	0	4	.....	0	0.00	0.0	30.01	29.90	29.957	1.0	1.0	216	13	SW	8	214	243	
14	81.6	60.7	71.1	69.3	63	81	0	7	.....	0	0.52	0.0	29.90	29.77	29.833	1.0	1.0	212	15	SW	7	229	193	
15	65.6	60.2	62.9	62.8	61	94	2	0	.....	0	1.05	0.0	29.82	29.73	29.776	0.3	0.2	55	8	ENE	4	42	54	
16	79.4	56.9	68.2	63.8	61	90	0	3	..3.....	0	0.50	0.0	29.96	29.72	29.817	0.4	0.3	326	10	WNW	6	306	160		
17	80.7	52.4	66.5	65.8	58	79	0	2	.....	0	0.00	0.0	30.08	29.96	30.027	0.0	0.0	273	10	NW	4	307	269	
18	82.9	57.5	70.2	69.5	61	77	0	6	.....	0	0.00	0.0	29.99	29.79	29.889	1.2	1.2	219	14	SW	7	219	224	
19	82.3	60.9	71.6	70.7	64	80	0	7	.....	0	0.00	0.0	29.85	29.79	29.822	1.1	1.1	226	12	SSW	6	211	215	
20	84.7	59.9	72.3	70.5	61	76	0	8	.....	0	0.00	0.0	29.93	29.85	29.883	0.6	0.5	234	11	WSW	6	306	248	
21	73.3	63.7	68.5	67.7	63	86	0	4	..3.....	0	0.30	0.0	29.89	29.58	29.769	0.9	0.7	226	16	SW	10	222	87		
22	73.2	53.1	63.1	62.2	54	76	2	0	.....	0	0.14	0.0	29.85	29.58	29.711	4.0	3.8	281	22	NW	12	294	196	
23	74.2	51.7	62.9	62.2	53	74	2	0	.....	0	0.00	0.0	29.94	29.85	29.910	0.8	0.7	257	14	W	8	310	229	
24	77.9	59.0	68.5	67.6	55	65	0	4	.....	0	0.00	0.0	29.96	29.72	29.871	3.5	3.5	211	26	SW	15	215	201	
25	75.2	64.7	69.9	68.7	63	82	0	5	..3.....	0	0.18	0.0	29.83	29.67	29.716	4.4	4.3	215	26	SW	13	203	84		
26	76.9	58.1	67.5	65.6	59	81	0	3	.....	0	0.00	0.0	30.02	29.83	29.937	0.6	0.5	316	10	NW	7	316	189	
27	80.1	57.3	68.7	67.3	61	82	0	4	.....	0	0.00	0.0	29.92	29.80	29.857	0.2	0.2	300	9	NW	6	304	201	
28	63.8	54.3	59.0*	60.6	59	94	6	0	.....	0	4.18	0.0	29.80	29.00	29.402	4.0	3.4	356	34	WNW	18	319	9	
29	72.5	51.6	62.0	59.8	52	78	2	0	.....	0	0.04	0.0	29.99	29.40	29.805	3.3	3.2	292	27	WNW	15	305	224	
30	76.0	49.9*	63.0	62.4	56	79	2	0	.....	0	0.02	0.0	30.07	29.98	30.022	1.2	1.2	220	12	S	7	217	155	
31	76.8	54.2	65.5	64.8	57	78	0	1	.....	0	0.01	0.0	30.19	30.07	30.150	0.4	0.3	297	9	SW	5	312	199	
Sum	Sum	-----	-----	---	----		Ttl	Ttl	Number of Days				For the month:										---		
2433	1778						16	115					8.18	0.0	30.19	29.00	29.803	1.3	0.8	257	34	WNW	18	319	
Avg	Avg	Avg	Mean	Avg	Avg	----	----	Precip		Season Ttl		Date	Date	-----	----	----	----	Date	Date	Avg					
78.5	57.3	67.9	66.8	60	80.2	----	----	≥.01 inch	14	40.20	0.0	31	28	-----	----	----	----	28	28	189					
Number of Days							Season to Date	Snow, Ice ≥1.0 inch	0	Greatest in 24 Hours and Dates					Greatest Depth on Ground of Snow, Ice Pellets or Ice and Date										
Max Temperature			Min Temperature			19	356	Thunder	6	Precipitation			Snow, Ice Plts												
≥ 90°F	≤ 32°F	≤ 32°F	≤ 0°F	----	----	Heavy Fog	0	4.22	28-29	0.0	-	0													
0	0	0	0	----	----	Clear	2	Partly Cloudy			21	Cloudy			8										

NOTES:

Units are: Temperature=°F, Wind=mph, Pressure=Inches Hg, Precipitation=inches.
 Data in column 4A are (MAX+MIN) ÷ 2, whereas columns 4B, 5, 6, 15, 16, 23 are means via continuous observations for 24 hours.
 Column 5: Dew point is calculated from temperature and humidity and is continuously averaged for 24 hours.
 Data in columns 9, 10, 12 are entered manually by the station observer.
 Columns 17-18: Resultant wind is calculated by the vector sum of continuous wind observations.
 Column 23: Solar Radiation is measured in Watts/m^2 and is continuously averaged for 24 hours.
 Data in columns 4B, 5, 6, 15, 16, 23 are updated continuously, there by achieving a "true" mean.

OBSERVATIONS AT 3-HOUR INTERVALS August 2011: Westford

Hour	Wind			Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	Wind			Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	Wind								
	Direction	Speed	Gust							Direction	Speed	Gust							Direction	Speed	Gust						
AUG 01																											
01	0	29.89	0.00	60	57	93	31	0	1	0	29.69	0.00	62	58	88	32	0	0	0	29.70	0.00	55	53	93	31	0	0
04	0	29.84	0.00	62	60	94	20	1	5	0	29.67	0.00	61	60	95	20	0	1	0	29.69	0.00	54	52	95	32	0	0
07	40	29.82	0.00	67	63	87	21	1	7	51	29.65	0.00	62	61	96	20	0	1	98	29.74	0.00	56	55	96	30	0	0
10	606	29.79	0.00	78	68	72	24	3	11	172	29.68	0.00	70	63	79	32	1	11	717	29.72	0.00	71	62	74	07	0	1
13	865	29.74	0.00	83	69	63	24	1	91	037	29.67	0.00	75	62	65	30	2	7	323	29.71	0.00	74	65	73	31	0	6
16	640	29.67	0.00	87	58	38	27	6	13	262	29.66	0.00	72	60	65	31	4	9	288	29.70	0.00	78	63	59	02	0	4
19	139	29.69	0.00	80	62	54	32	0	3	32	29.69	0.00	68	59	74	32	0	1	67	29.73	0.00	71	64	78	02	0	0
22	0	29.71	0.00	62	58	86	03	0	0	0	29.71	0.00	58	54	88	32	0	0	0	29.75	0.00	64	59	86	05	0	0
AUG 02																											
AUG 03																											
AUG 04																											
AUG 05																											
AUG 06																											
AUG 07																											
AUG 08																											
AUG 09																											
AUG 10																											
AUG 11																											
AUG 12																											
AUG 13																											
AUG 14																											
AUG 15																											
AUG 16																											
AUG 17																											
AUG 18																											

MAXIMUM SHORT DURATION PRECIPITATION

Time Period (minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation	0.30	0.40	0.41	0.46	0.52	0.52	0.52	0.60	0.73	0.84	1.00	1.15
Ended: Date	08	08	08	14	14	14	14	28	28	28	28	28
Ended: Time	0502	0503	0503	1712	1718	1718	1718	1701	1755	1755	1801	1655

The precipitation amounts may occur at any time during the month. The time indicated is the ending time of the interval. Date and time are not entered for trace amounts.

OBSERVATIONS AT 3-HOUR INTERVALS

August 2011: Westford

Hour	Wind			Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	Wind			Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	Wind																																																																																																																																																																																																																																					
	Direction	Speed	Gust							Direction	Speed	Gust							Direction	Speed	Gust																																																																																																																																																																																																																																			
AUG 19										AUG 20										AUG 21																																																																																																																																																																																																																																				
01	0	29.83	0.00	64	61	90	20	0	4	0	29.86	0.00	61	59	95	20	0	0	0	29.87	0.00	66	60	80	21	0	1	04	0	29.82	0.00	64	62	94	21	1	4	0	29.85	0.00	61	59	94	21	0	1	0	29.84	0.00	67	59	77	21	1	6	07	49	29.83	0.00	65	63	95	21	1	7	28	29.91	0.00	61	60	95	19	1	5	14	29.84	0.00	64	60	88	08	0	2	10	504	29.84	0.00	75	68	79	22	3	11	545	29.93	0.00	75	64	70	22	4	9	710	29.85	0.00	71	66	83	21	0	8	13	213	29.82	0.00	79	67	66	29	2	7	768	29.89	0.00	81	63	55	20	0	4	197	29.81	0.05	68	65	91	18	0	1	16	410	29.81	0.00	80	68	68	24	1	9	559	29.88	0.00	83	63	50	22	1	5	137	29.72	0.00	73	67	83	15	0	1	19	81	29.79	0.00	76	63	65	20	1	5	54	29.86	0.00	74	66	76	21	0	0	7	29.66	0.07	66	63	91	11	0	0	22	0	29.83	0.00	63	60	91	20	0	0	0	29.88	0.00	64	60	85	21	0	0	0	29.61	0.00	64	63	95	19	0	1																									
AUG 22										AUG 23										AUG 24																																																																																																																																																																																																																																				
01	0	29.61	0.00	65	63	94	22	3	8	0	29.86	0.00	53	51	91	24	1	3	0	29.94	0.00	59	53	80	21	0	6	04	0	29.63	0.00	60	54	81	26	5	15	0	29.87	0.00	54	52	92	25	0	1	0	29.93	0.00	60	52	76	21	1	7	07	21	29.63	0.00	58	51	75	23	3	13	37	29.92	0.00	54	52	94	21	0	1	46	29.95	0.00	61	51	69	20	0	7	10	378	29.71	0.00	63	54	74	27	11	18	462	29.94	0.00	62	55	78	24	1	8	227	29.93	0.00	67	57	72	21	2	10	13	791	29.72	0.00	70	55	61	31	6	14	780	29.92	0.00	69	53	57	30	6	10	752	29.88	0.00	76	58	54	23	3	13	16	696	29.74	0.00	72	55	56	30	5	14	346	29.91	0.00	73	51	46	23	3	6	262	29.82	0.00	75	57	54	22	8	20	19	23	29.79	0.04	58	54	88	26	0	3	25	29.91	0.00	66	54	65	21	0	1	23	29.78	0.00	70	56	60	21	3	8	22	0	29.84	0.00	56	52	87	24	0	7	0	29.94	0.00	63	54	74	20	1	4	0	29.76	0.00	69	56	63	20	6	16																									
AUG 25										AUG 26										AUG 27																																																																																																																																																																																																																																				
01	0	29.74	0.00	68	59	72	21	9	19	0	29.85	0.00	65	62	89	23	0	4	0	29.91	0.00	59	58	95	03	0	1	04	0	29.69	0.00	68	59	74	20	8	21	0	29.89	0.00	62	59	89	31	2	10	0	29.88	0.00	61	60	96	03	0	1	07	9	29.68	0.00	67	60	81	21	5	16	39	29.97	0.00	59	56	90	32	0	6	25	29.87	0.00	58	57	96	03	0	2	10	258	29.70	0.00	70	64	81	23	7	15	142	30.01	0.00	61	57	84	32	2	7	578	29.88	0.00	72	63	73	31	0	5	13	181	29.70	0.13	68	66	94	20	4	10	448	29.99	0.00	70	60	71	04	0	4	396	29.86	0.00	76	63	64	31	0	5	16	246	29.68	0.00	75	67	78	21	8	16	555	29.95	0.00	76	63	63	30	2	5	394	29.81	0.00	79	65	62	29	0	5	19	39	29.72	0.00	71	66	85	22	6	13	42	29.92	0.00	72	63	73	30	0	0	37	29.82	0.00	70	63	78	04	0	0	22	0	29.80	0.00	65	61	88	23	0	1	0	29.92	0.00	61	58	88	03	0	0	0	29.82	0.00	62	59	90	04	0	0																									
AUG 28										AUG 29										AUG 30																																																																																																																																																																																																																																				
01	0	29.77	0.00	61	60	95	04	0	3	0	29.47	0.04	54	52	95	29	9	18	0	29.99	0.00	51	49	93	21	0	1	04	0	29.72	0.00	62	58	85	05	0	3	0	29.63	0.00	54	51	90	27	2	10	0	30.00	0.00	53	50	87	21	0	5	07	5	29.65	0.09	61	59	93	06	0	2	39	29.75	0.00	54	50	87	26	3	12	25	30.02	0.00	54	50	85	21	2	8	10	19	29.51	0.32	63	62	96	02	4	11	403	29.84	0.00	61	53	75	24	5	11	503	30.05	0.00	67	56	68	20	3	9	13	32	29.24	0.13	63	62	96	03	6	16	853	29.88	0.00	69	53	57	29	5	11	041	30.03	0.00	71	59	65	22	2	6	16	9	29.03	0.23	63	62	96	02	4	20	563	29.89	0.00	72	54	54	31	0	10	251	30.00	0.00	73	58	61	20	1	7	19	0	29.08	0.27	57	56	96	00	8	27	37	29.92	0.00	67	57	70	21	0	0	18	30.00	0.00	64	60	87	20	0	0	22	0	29.28	0.33	56	55	96	32	4	23	0	29.97	0.00	52	50	92	21	0	1	0	30.05	0.00	64	58	82	21	2	7																									
AUG 31																																																																																																																																																																																																																																																								
01	0	30.08	0.00	64	55	73	22	2	5																			04	0	30.11	0.00	57	54	91	22	0	0																					07	51	30.15	0.00	56	54	94	23	0	0																						10	394	30.18	0.00	69	62	78	30	4	7																							13	826	30.18	0.00	75	63	66	30	0	4																							16	461	30.15	0.00	75	57	52	33	0	3																							19	25	30.15	0.00	64	58	80	01	0	0																							22	0	30.17	0.00	58	55	90	01	0	2																						

WEATHER NOTES

NOTES:
 Units are: Temperature=°F, Wind=mph, Pressure=Inches Hg, Precipitation=inches.
 Wind Direction: Directions are those from which the wind is blowing, indicated in tens of degrees from true north: i.e., 09 for East, 18 for South, 27 for West, and 00 or 36 for North.
 Wind Speed: The observed one-minute average speed in miles-per-hour.
 Wind Gust: The maximum instantaneous wind speed for the 10-minute period preceding the observation.
 Rainfall Rate: The instantaneous rainfall rate at the time of observation, calculated by timing consecutive 0.01" pulses from the electronic rain gauge and interpolating this rate for one hour.

SUMMARY BY HOUR

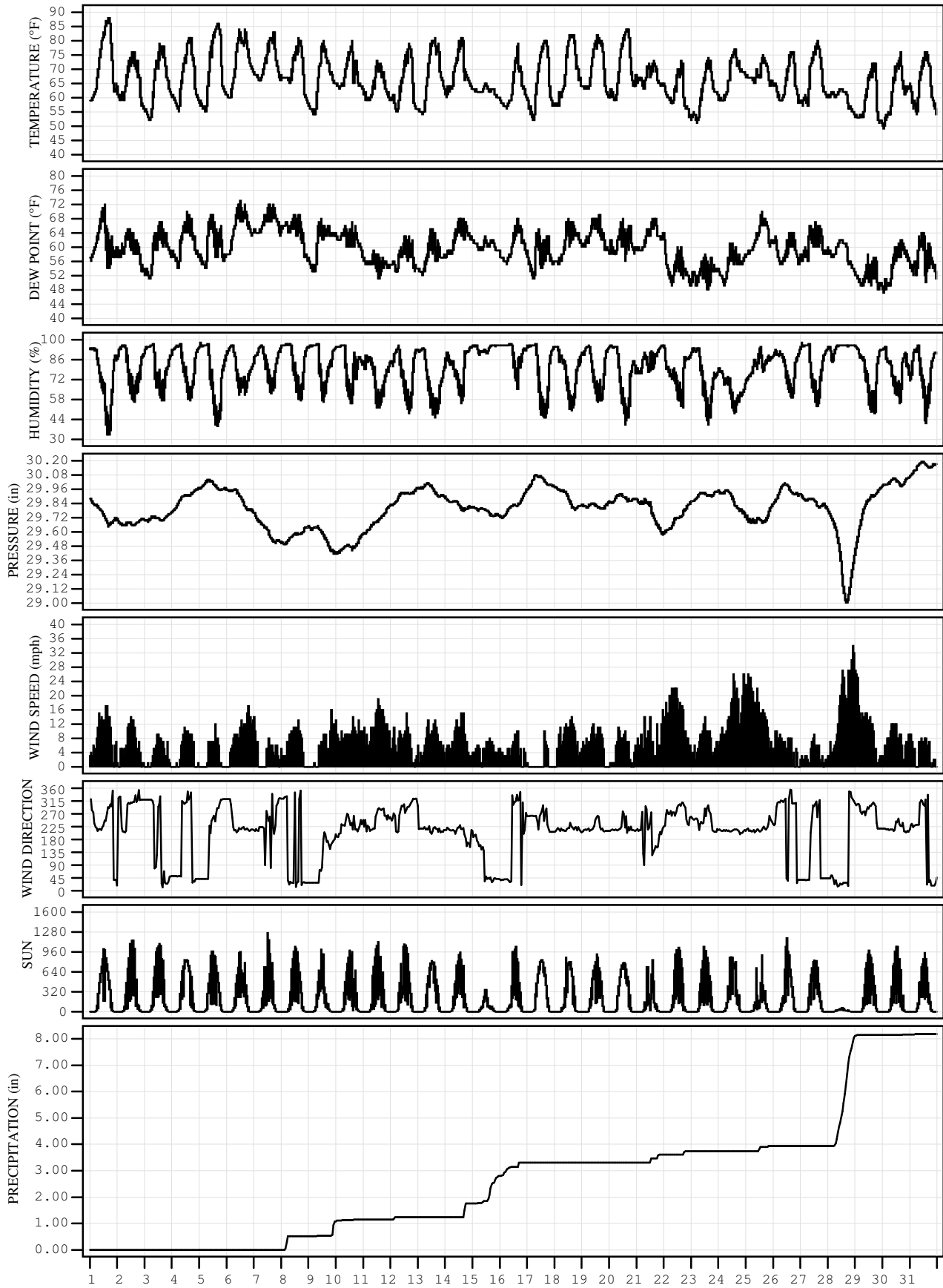
Hour	Averages						Resultant Wind	
	Sunshine	Pressure	Temperature	Dew Point	Humidity	Wind Speed	Direction	Speed
01	0	29.803	61	58	90	0.9	24	0.7
04	0	29.801	60	57	91	0.8	24	0.7
07	36	29.823	60	58	91	0.6	23	0.6
10	406	29.833	69	62	78	2.3	26	1.5
13	579	29.809	74	63	67	1.9	28	1.1
16	399	29.776	76	62	63	1.9	26	1.2
19	49	29.776	71	62	74	0.9	26	0.3
22	0	29.804	63	58	87	0.7	23	0.5

HOURLY PRECIPITATION (Water Equivalent) August 2011: Westford

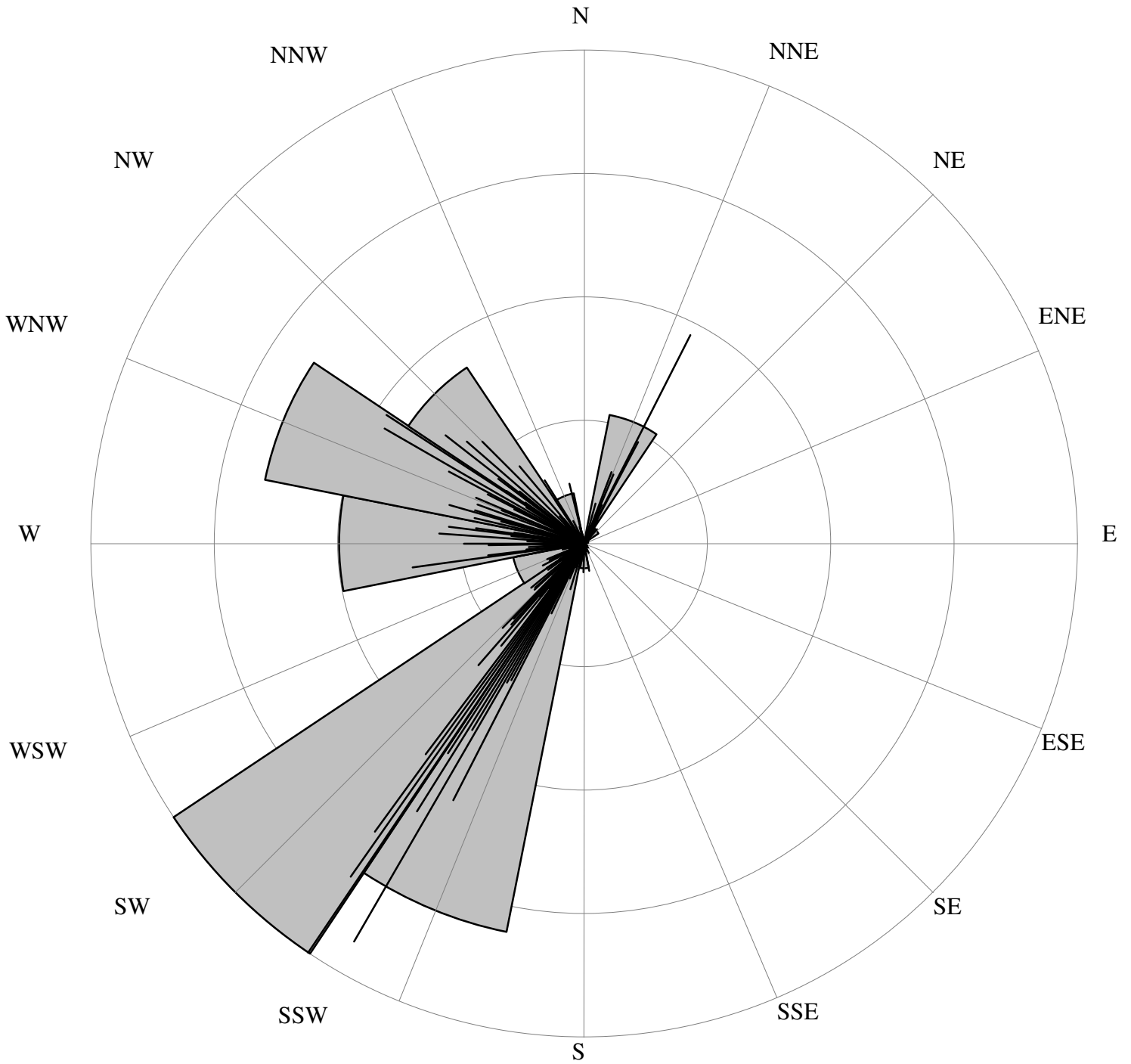
Date	A.M. Hour Ending at												P.M. Hour Ending at												Date
	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	
01																								01	
02																									02
03																									03
04																									04
05																									05
06																									06
07																									07
08				0.05	0.25	0.22		0.01																	08
09																			0.01	0.03	0.37	0.14			09
10	0.04					0.01								0.01						0.02					10
11																									11
12			0.01	0.07																					12
13																									13
14																0.26	0.26								14
15	0.01				0.01				0.04	0.04				0.08	0.14	0.25	0.17	0.04	0.02	0.11	0.07	0.02	0.04	0.01	15
16		0.01	0.02	0.08	0.04	0.08	0.04	0.03	0.01	0.02	0.01					0.16									16
17																									17
18																									18
19																									19
20																									20
21																									21
22												0.17						0.09	0.05	0.04					22
23																									23
24																									24
25											0.08	0.08								0.02					25
26																									26
27																									27
28						0.02	0.09	0.16	0.23	0.26	0.14	0.26	0.17	0.29	0.37	0.30	0.47	0.36	0.25	0.23	0.12	0.24	0.15	0.07	28
29	0.02	0.02																							29
30																	0.02								30
31					0.01																				31
Sum	0.07	0.03	0.03	0.20	0.31	0.33	0.13	0.20	0.28	0.32	0.15	0.34	0.42	0.37	0.51	0.56	1.06	0.77	0.41	0.41	0.24	0.63	0.33	0.08	Sum

During a frozen precipitation event, hourly precipitation totals may not be recorded. In this case, daily amounts are typically entered in the last column (hour ending at 12 A.M.)

HOUR-BY-HOUR DATA
August 2011: Westford



Wind Rose: August 2011
Westford



Maximum direction of wind: 44.5 miles from 214°
Maximum sector of wind: 243.6 miles from SW
978.7 total miles of wind