

LOCAL CLIMATOLOGICAL DATA

Monthly Summary

October 2013

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 Speed	Dir		Minute 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	74.6	43.6	59.1	57.4	40	52	5	0	.....	0	0.00	0.0	29.94	29.81	29.773	0.2	0.2	225	10	SW	6	206	148
2	75.7	48.1	61.9	61.9	43	51	3	0	.....	0	0.00	0.0	29.91	29.76	29.764	2.1	1.8	236	17	WSW	10	257	113
3	70.8	44.7	57.8	56.5	39	53	7	0	.....	0	0.00	0.0	30.06	29.90	29.834	0.1	0.1	298	8	NW	4	305	155
4	70.7	42.4	56.5	52.9	39	61	8	0	.....	0	T	0.0	30.06	29.98	29.858	0.0	0.0	1	8	NNE	3	302	65
5	66.3	46.6	56.5	55.3	46	73	8	0	.....	0	0.00	0.0	30.09	30.01	30.046	0.1	0.1	24	10	NE	3	359	111
6	58.8	44.5	51.6	52.0	47	83	13	0	.....	0	0.28	0.0	30.10	29.91	30.021	0.8	0.7	191	19	SSE	7	183	48
7	73.7	51.0	62.3*	60.0	56	86	2	0	.....	0	1.12	0.0	29.92	29.49	29.724	2.2	1.8	214	24	WNW	14	295	58
8	58.6	37.4	48.0	48.5	40	74	17	0	.....	0	0.00	0.0	30.34	29.80	30.095	1.5	1.5	300	22	W	11	287	152
9	65.3	33.2	49.3	46.6	38	77	16	0	.....	0	0.01	0.0	30.41	30.28	30.345	0.3	0.3	216	15	SW	8	217	148
10	67.9	37.8	52.9	50.6	43	78	12	0	.....	0	0.00	0.0	30.29	30.13	30.217	0.0	0.0	176	5	S	3	194	113
11	70.1	37.9	54.0	52.0	45	79	11	0	.....	0	0.00	0.0	30.15	30.08	30.106	0.1	0.1	315	8	WNW	4	282	127
12	74.4	42.6	58.5	56.0	48	77	6	0	.....	0	0.00	0.0	30.27	30.12	30.175	0.4	0.4	212	17	S	8	221	136
13	69.8	44.6	57.2	55.3	47	77	7	0	.....	0	0.00	0.0	30.33	30.21	30.268	1.4	1.4	213	16	S	9	214	136
14	55.9	45.8	50.9	52.2	50	92	14	0	.2.....	0	0.14	0.0	30.24	30.17	30.211	2.8	2.8	211	17	SSW	9	218	22
15	64.2	43.7	53.9	52.3	50	93	11	0	.2.....	0	0.01	0.0	30.27	30.01	30.147	0.2	0.2	218	8	SSW	5	217	85
16	65.0	51.5	58.3	57.8	52	81	6	0	.....	0	0.03	0.0	30.02	29.70	29.877	4.3	4.3	208	31	WSW	15	218	81
17	66.0	47.8	56.9	56.2	51	84	8	0	.....	0	0.26	0.0	29.77	29.61	29.712	3.0	2.7	234	22	SW	12	216	89
18	59.6	46.9	53.3	52.4	46	79	11	0	.....	0	0.32	0.0	29.81	29.53	29.449	3.3	3.2	263	29	W	12	276	72
19	60.2	40.6	50.4	50.7	42	74	14	0	.....	0	0.04	0.0	29.84	29.57	29.743	2.2	2.2	209	23	SW	13	219	86
20	55.2	41.9	48.6	48.4	38	69	16	0	.....	0	0.09	0.0	29.92	29.54	29.728	4.0	3.8	253	23	NW	13	279	88
21	60.2	34.7	47.5	48.9	39	72	17	0	.....	0	0.00	0.0	29.99	29.78	29.893	2.5	2.5	208	26	SW	12	215	87
22	56.6	38.4	47.5	48.0	38	70	17	0	.....	0	0.08	0.0	29.78	29.61	29.675	3.8	3.3	229	26	S	12	267	26
23	50.0	34.3	42.1	40.7	32	72	23	0	.....	0	0.00	0.0	29.70	29.56	29.629	0.8	0.8	274	16	W	8	285	100
24	43.5	29.8	36.6	37.8	30	73	28	0	.....	0	0.01	0.0	29.81	29.60	29.672	2.9	2.6	275	22	WSW	11	293	57
25	41.5	32.6	37.0	37.0	29	72	27	0	.....	0	0.01	T	30.07	29.81	29.967	2.1	2.1	294	18	WNW	11	297	50
26	41.3	29.2	35.3	36.8	32	83	30	0	.....	0	0.12	0.0	30.05	29.71	29.860	3.7	3.7	213	26	S	12	213	24
27	44.6	35.5	40.0	40.4	33	76	24	0	...4....	0	0.02	T	29.95	29.67	29.794	2.6	2.3	245	21	W	11	299	45
28	44.0	25.5	34.8	36.5	29	76	30	0	.....	0	0.06	0.0	30.35	29.91	30.060	2.1	1.4	257	24	WNW	13	322	48
29	41.3	21.1*	31.2*	29.0	23	80	34	0	.....	0	0.00	0.0	30.43	30.29	29.895	0.1	0.0	306	8	NW	3	292	96
30	43.3	26.4	34.8	34.9	29	80	30	0	.....	0	T	T	30.29	30.13	30.199	1.0	0.9	215	12	WSW	7	233	55
31	57.3	33.2	45.3	46.7	44	90	20	0	.....	0	0.31	0.0	30.17	29.51	29.808	5.3	5.3	202	30	S	16	199	19
Sum	Sum	-----	-----	---	----		Ttl	Ttl					For the month:						---				
1846	1213						475	0	Number of Days		2.91	T	30.43	29.49	29.921	1.8	1.5	232	31	WSW	16	199	
Avg	Avg	Avg	Mean	Avg	Avg	----	----		Precip		Season Ttl		Date	Date	-----	----	----	----		Date	Date	Avg	
59.6	39.1	49.3	48.8	41	75.4	----	----		≥.01 inch	17	39.73	T	29	7	-----	----	----	----		16	31	85	
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			806	386	Thunder	0	Precipitation			Snow, Ice Plts										
≥ 90°F	≤ 32°F	≤ 32°F	≤ 0°F	----	----	Heavy Fog	2	1.12	7	T	25+	0					-						
0	0	5	0	----	----	Clear	5	Partly Cloudy			7	Cloudy			17								

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/m² 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 October 2013: Westford

Hour	OCT 19									OCT 20									OCT 21								
	Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	Direction	Speed	Gust	Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	Direction	Speed	Gust	Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	Direction	Speed	Gust
01	0	29.81	0.00	46	39	77	21	0	0	0	29.54	0.00	48	46	92	15	0	9	0	29.91	0.00	40	36	87	22	0	0
04	0	29.82	0.00	43	38	85	20	0	5	0	29.58	0.07	47	45	92	27	6	13	0	29.96	0.00	36	34	92	22	0	0
07	0	29.82	0.00	43	39	87	20	0	6	0	29.64	0.00	47	39	74	25	8	17	0	29.96	0.00	37	35	96	22	0	3
10	462	29.82	0.00	52	44	76	20	1	9	341	29.71	0.00	49	37	64	26	9	19	197	29.98	0.00	48	42	78	21	0	11
13	302	29.77	0.00	59	46	63	21	1	11	241	29.74	0.00	53	34	49	25	7	14	288	29.91	0.00	57	43	60	18	4	11
16	91	29.71	0.00	57	45	63	20	2	7	77	29.78	0.00	53	33	47	26	7	12	202	29.86	0.00	60	44	55	21	6	20
19	0	29.67	0.00	53	45	73	21	0	0	0	29.84	0.00	46	34	63	25	0	3	0	29.85	0.00	56	41	56	19	4	12
22	0	29.62	0.00	52	44	73	21	5	21	0	29.90	0.00	45	36	71	24	1	4	0	29.82	0.00	57	40	52	20	7	17
OCT 22									OCT 23									OCT 24									
01	0	29.76	0.00	56	39	53	20	7	20	0	29.69	0.00	36	29	78	22	0	0	0	29.61	0.00	39	32	76	29	1	7
04	0	29.70	0.00	53	40	60	20	4	15	0	29.66	0.00	37	32	81	26	1	12	0	29.63	0.00	31	25	76	00	0	0
07	0	29.67	0.00	49	43	80	19	4	18	0	29.66	0.00	37	32	84	20	0	3	0	29.64	0.00	32	27	79	00	0	0
10	42	29.63	0.00	50	45	84	21	3	11	176	29.66	0.00	42	33	71	30	3	10	331	29.65	0.00	41	31	65	24	4	11
13	42	29.63	0.16	43	41	92	28	3	9	302	29.62	0.00	47	34	62	30	6	13	97	29.63	0.00	42	31	64	27	2	8
16	320	29.65	0.00	48	39	71	28	3	14	239	29.57	0.00	50	31	48	27	2	10	35	29.67	0.00	41	30	65	27	2	8
19	0	29.68	0.00	44	31	60	26	2	12	0	29.59	0.00	38	32	79	32	0	0	0	29.74	0.00	39	31	71	29	3	10
22	0	29.70	0.00	40	31	71	26	0	4	0	29.60	0.00	40	33	75	31	0	0	0	29.79	0.00	38	32	79	29	1	13
OCT 25									OCT 26									OCT 27									
01	0	29.83	0.00	37	32	82	27	3	9	0	30.04	0.00	31	26	81	20	0	0	0	29.71	0.00	42	34	73	20	3	10
04	0	29.86	0.00	36	32	84	31	2	7	0	29.99	0.00	31	26	84	21	0	4	0	29.67	0.00	41	33	73	20	3	10
07	0	29.93	0.00	35	29	79	31	5	12	0	29.93	0.00	35	30	82	20	1	8	0	29.69	0.00	41	35	80	21	2	7
10	102	29.99	0.00	37	28	70	29	3	8	65	29.89	0.00	38	36	91	21	5	17	26	29.76	0.00	42	36	77	27	7	15
13	127	30.00	0.00	39	27	62	31	1	11	158	29.80	0.00	41	33	73	21	10	19	260	29.81	0.00	44	34	68	26	6	13
16	56	30.00	0.00	40	28	61	27	4	12	19	29.77	0.00	40	34	80	22	3	13	102	29.84	0.00	41	33	73	26	1	4
19	0	30.03	0.00	38	27	65	33	0	3	0	29.76	0.00	38	35	88	20	6	15	0	29.90	0.00	39	30	70	21	1	3
22	0	30.07	0.00	36	27	69	33	0	6	0	29.74	0.00	41	34	76	21	8	17	0	29.94	0.00	37	32	80	23	0	5
OCT 28									OCT 29									OCT 30									
01	0	29.95	0.00	35	31	84	19	0	4	0	30.34	0.00	25	21	87	05	0	0	0	30.27	0.00	27	23	83	13	0	0
04	0	29.93	0.00	36	31	81	20	3	7	0	30.35	0.00	23	21	93	05	0	0	0	30.24	0.00	27	23	85	13	0	0
07	0	29.92	0.00	39	34	84	19	5	14	0	30.39	0.00	22	20	94	05	0	0	0	30.22	0.00	31	24	74	20	0	4
10	16	29.96	0.00	40	35	85	23	3	13	128	30.42	0.00	31	28	86	06	0	0	220	30.23	0.00	35	29	80	20	4	8
13	163	30.10	0.00	41	35	79	31	12	21	527	30.40	0.00	38	27	66	09	0	5	88	30.19	0.00	38	33	83	21	1	5
16	283	30.19	0.00	43	29	58	34	0	8	188	30.33	0.00	41	24	50	24	0	0	149	30.14	0.00	43	33	68	22	6	10
19	0	30.28	0.00	32	23	68	31	0	0	0	30.36	0.00	27	22	81	13	0	0	0	30.17	0.00	39	33	80	21	0	4
22	0	30.33	0.00	29	23	80	04	0	0	0	30.32	0.00	26	23	88	13	0	0	0	30.16	0.00	38	34	86	22	0	0
OCT 31																											
01	0	30.16	0.00	33	31	92	22	0	0																		
04	0	30.08	0.00	37	34	87	20	0	7																		
07	0	30.02	0.00	43	37	81	19	5	9																		
10	77	29.96	0.00	46	42	86	19	4	12																		
13	60	29.84	0.00	46	44	94	21	2	13																		
16	11	29.75	0.00	51	50	96	20	13	28																		
19	0	29.69	0.00	54	53	95	20	8	22																		
22	0	29.61	0.00	56	55	95	20	11	23																		

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

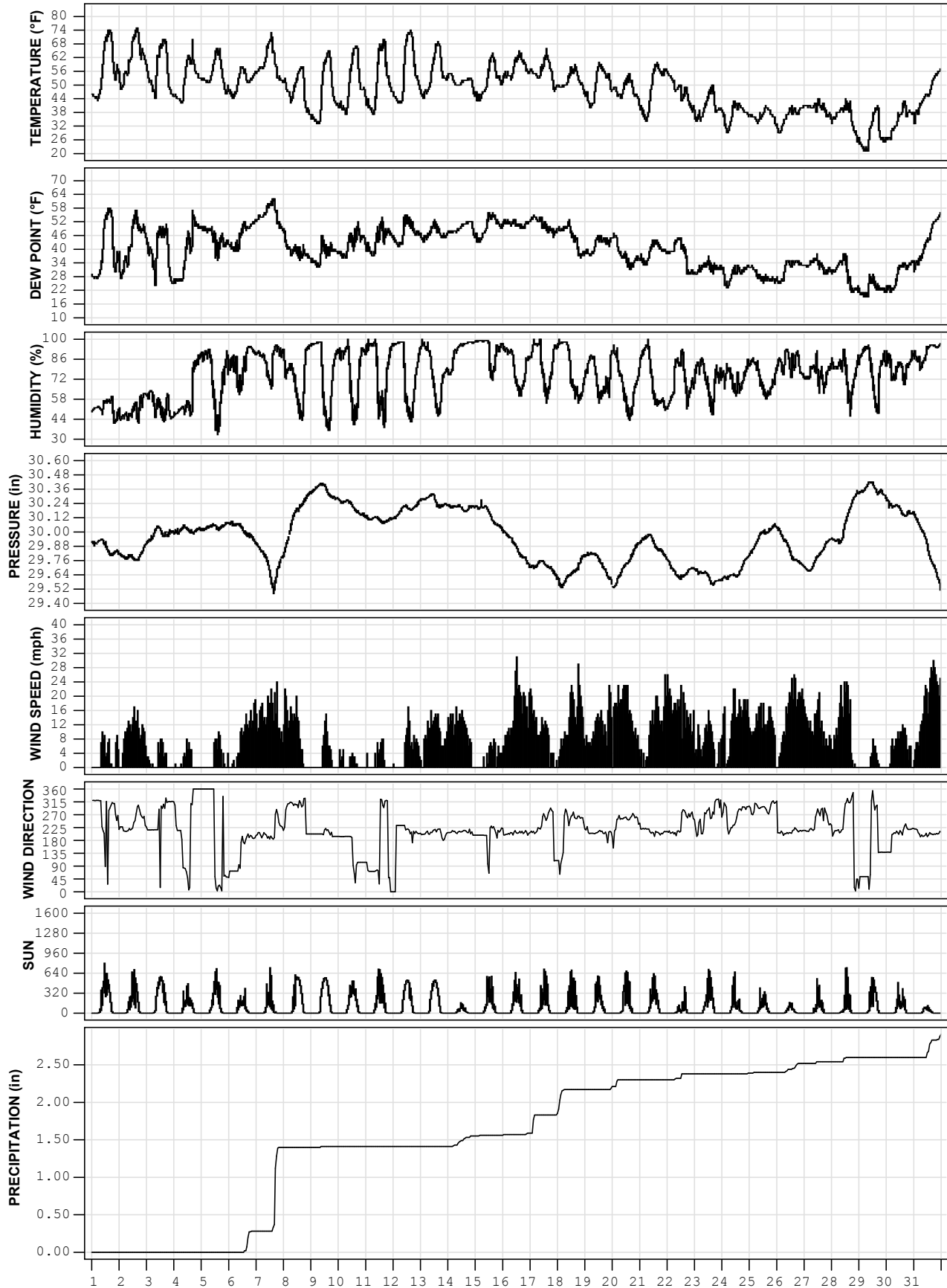
Hour	Averages						Resultant Wind	
	Sunshine	Pressure	Temperature	Dew Point	Humidity	Wind Speed	Direction	Speed
01	0	29.969	44	39	81	1.2	22	1.1
04	0	29.961	43	38	83	1.2	22	0.9
07	1	29.975	43	38	83	1.5	23	1.1
10	229	29.787	50	43	76	2.5	24	2.1
13	303	29.962	56	44	65	3.3	25	2.4
16	174	29.938	57	43	61	2.4	23	2.0
19	0	29.957	49	41	75	1.3	23	1.1
22	0	29.957	47	40	80	1.4	21	1.4

HOURLY PRECIPITATION (Water Equivalent) October 2013: Westford

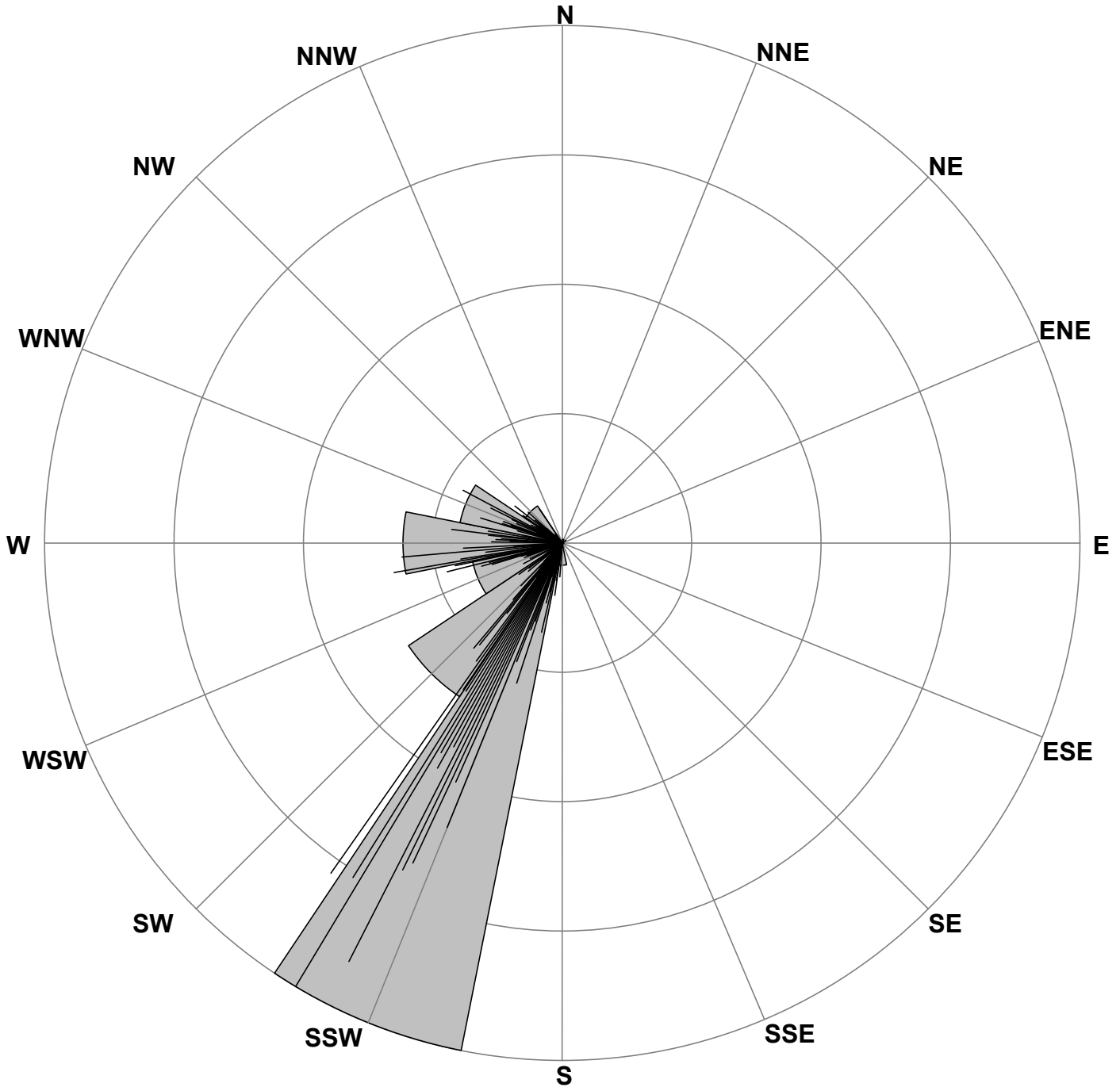
Date	A.M. Hour Ending at												P.M. Hour Ending at												Date	
	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12		
01																								01		
02																									02	
03																									03	
04																									04	
05																									05	
06															0.02		0.05	0.13	0.07		0.01				06	
07																0.05	0.04	0.75	0.16	0.11	0.01				07	
08																									08	
09								0.01																	09	
10																									10	
11																									11	
12																									12	
13																									13	
14					0.01	0.01				0.02	0.02	0.01	0.01		0.02	0.01	0.01				0.02				14	
15				0.01																					15	
16	0.01																					0.01	0.01		16	
17			0.18	0.06																				0.02	17	
18	0.06	0.12	0.07	0.05	0.01	0.01																			18	
19																							0.02	0.02	19	
20				0.07	0.02																				20	
21																									21	
22							0.01	0.01						0.06											22	
23																									23	
24																							0.01		24	
25				0.01																					25	
26								0.01	0.01	0.02					0.01		0.01	0.03	0.02	0.01					26	
27																									27	
28												0.02													28	
29												0.05													29	
30																									30	
31												0.06	0.02	0.10	0.02	0.03						0.01		0.04	0.03	31
Sum	0.07	0.12	0.25	0.20	0.04	0.02	0.01	0.02	0.04	0.04	0.08	0.07	0.09	0.15	0.08	0.14	0.91	0.25	0.12	0.04	0.02	0.01	0.07	0.07	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 October 2013: Westford



**Wind Rose: October 2013
Westford**



**Maximum direction of wind: 73.5 miles from 211°
Maximum sector of wind: 616.9 miles from SSW
1345.3 total miles of wind**