

LOCAL CLIMATOLOGICAL DATA

Monthly Summary

November 2012

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	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	46.2	41.1	43.6	43.0	38	82	21	0	.....	0	0.18	0.0	29.47	29.41	29.437	2.7	2.6	206	19	S	11	210	35
2	43.3	36.9	40.1	40.0	36	85	25	0	.....	0	0.27	0.0	29.64	29.46	29.537	1.3	1.3	279	16	W	10	273	51
3	39.7	35.4	37.6	37.1	34	88	27	0	.....	0	0.40	T	29.86	29.64	29.753	2.2	2.2	308	20	WNW	9	325	33
4	37.7	32.4	35.1	34.3	28	79	30	0	.....	0	0.04	T	29.99	29.86	29.939	1.6	1.6	313	24	W	8	314	32
5	35.5	28.9	32.2	31.1	22	69	32	0	.....	0	0.02	T	30.12	29.98	30.039	0.8	0.8	324	14	NNW	7	305	47
6	36.7	19.9	28.3	27.1	16	65	36	0	.....	0	0.00	0.0	30.21	30.10	30.176	0.2	0.2	303	11	WNW	5	295	76
7	34.8	17.5	26.1	26.7	18	71	38	0	.....	0	0.00	0.0	30.20	30.00	30.120	0.4	0.4	22	12	ENE	6	35	52
8	35.9	26.2	31.1	31.6	24	73	34	0	.....	0	0.00	0.0	30.00	29.92	29.956	0.9	0.9	12	18	N	7	14	43
9	43.2	25.7	34.5	34.8	26	73	30	0	.....	0	0.00	0.0	30.10	29.94	30.021	0.4	0.3	293	11	W	6	296	65
10	43.2	29.1	36.2	36.7	27	67	29	0	.....	0	0.00	0.0	30.39	30.09	30.282	0.7	0.6	330	16	NNW	6	325	89
11	61.7	33.9	47.8	51.3	37	58	17	0	.....	0	0.01	0.0	30.35	30.24	30.293	5.5	5.5	205	24	SW	14	219	60
12	69.0*	56.8	62.9*	61.2	43	50	2	0	.....	0	0.00	0.0	30.27	29.92	30.137	7.9	7.9	206	33	SE	19	212	70
13	62.4	28.8	45.6	39.5	31	73	19	0	.....	0	1.04	0.0	30.46	29.90	30.232	3.1	2.8	273	33	W	19	290	50
14	41.1	23.0	32.0	30.1	21	71	33	0	.....	0	0.00	0.0	30.60	30.46	30.538	0.2	0.2	10	11	N	4	29	87
15	37.2	21.2	29.2	27.4	22	79	36	0	.....	0	0.01	0.0	30.51	30.33	30.415	0.1	0.1	317	6	NW	4	314	66
16	40.9	20.2	30.6	29.4	23	78	34	0	.....	0	0.00	0.0	30.48	30.33	30.388	0.1	0.1	2	9	N	3	12	77
17	41.1	23.3	32.2	30.8	24	76	33	0	.....	0	0.00	0.0	30.68	30.48	30.607	0.2	0.1	329	7	WNW	5	316	73
18	44.7	19.3	32.0	29.4	21	72	33	0	.....	0	0.00	0.0	30.70	30.58	30.647	0.1	0.1	218	8	SSW	5	215	81
19	48.5	24.2	36.4	33.3	25	72	28	0	.....	0	0.00	0.0	30.58	30.25	30.422	0.3	0.3	213	11	SW	7	214	80
20	47.2	25.3	36.3	33.7	27	78	29	0	.....	0	0.01	0.0	30.25	30.12	30.182	0.1	0.1	51	8	NE	3	52	62
21	52.3	28.2	40.3	37.8	27	68	25	0	.....	0	0.00	0.0	30.22	30.15	30.187	0.6	0.6	211	10	WSW	6	206	77
22	55.9	30.2	43.1	42.8	24	49	22	0	.....	0	0.00	0.0	30.20	29.99	30.128	4.0	4.0	205	16	S	11	213	75
23	56.7	41.5	49.1	47.2	31	55	15	0	.....	0	0.19	0.0	29.99	29.53	29.723	5.6	5.5	208	30	SW	17	213	61
24	41.6	26.5	34.0	33.1	23	66	30	0	.....	0	0.01	T	29.64	29.50	29.550	4.7	4.4	285	28	W	16	286	24
25	28.4	21.4	24.9	25.0	13	60	40	0	.....	0	T	T	29.80	29.64	29.719	3.4	3.3	294	25	WNW	15	314	51
26	29.8	16.0	22.9	23.3	17	76	42	0	.....	1	0.05	2.5	30.22	29.78	30.004	0.3	0.3	319	11	NNW	6	314	46
27	31.4	19.6	25.5	24.3	19	80	39	0	.....	1	0.03	T	30.27	30.21	30.246	0.0	0.0	193	5	S	1	189	35
28	35.6	20.0	27.8	28.2	22	78	37	0	.....	1	0.01	0.1	30.24	30.06	30.133	1.4	1.3	228	16	NW	8	262	54
29	33.4	18.5	26.0	25.8	19	77	39	0	.....	3	0.00	2.8	30.31	30.03	30.143	1.8	1.2	251	20	SW	11	220	31
30	18.5	1.2*	9.9*	9.7	3	73	55	0	.....	3	T	T	30.58	30.31	30.502	0.1	0.1	34	12	N	3	32	53
Sum	Sum	-----	-----	---	----		Ttl	Ttl					For the month:										---	
1274	792						910	0					2.27	5.4	30.70	29.41	30.115	1.7	1.1	242	33	SE	19	212
Avg	Avg	Avg	Mean	Avg	Avg	----	----		Precip				Season Ttl	Date	Date	-----	----	----		Date	Date	Avg		
42.5	26.4	34.4	33.5	25	71.4	----	----		≥.01 inch	14	39.60	5.4	18	1	-----	----	----			12+		12	57	
Number of Days							Season to Date		Snow, Ice ≥1.0 inch	2	Greatest in 24 Hours and Dates					Greatest Depth on Ground of Snow, Ice Pellets or Ice and Date								
Max Temperature			Min Temperature			1564	461	Thunder	0	Precipitation			Snow, Ice Plts											
≥ 90°F	≤ 32°F	≤ 32°F	≤ 0°F	----	----			Heavy Fog	0	1.04	13	2.8	29						3	29+				
0	4	24	0	----	----			Clear	7	Partly Cloudy		8	Cloudy		15									

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

November 2012: Westford

Hour	NOV 19									NOV 20									NOV 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	30.56	0.00	26	21	80	21	0	0	0	30.23	0.00	28	24	86	06	0	0	0	30.16	0.00	30	27	88	05	0	0
04	0	30.53	0.00	28	22	79	21	0	4	0	30.22	0.00	27	24	87	07	0	0	0	30.16	0.00	30	26	87	05	0	0
07	5	30.52	0.00	26	21	84	21	0	0	7	30.20	0.00	25	22	86	07	0	0	0	30.21	0.00	30	28	91	05	0	0
10	297	30.48	0.00	38	28	66	21	4	11	167	30.21	0.00	35	27	72	06	0	1	258	30.22	0.00	43	34	70	05	0	0
13	338	30.40	0.00	48	28	47	22	1	4	297	30.15	0.00	44	31	59	07	0	1	322	30.18	0.00	51	27	39	20	3	10
16	14	30.34	0.00	40	27	59	06	0	0	11	30.15	0.00	40	31	70	05	0	0	14	30.19	0.00	47	27	45	24	0	0
19	0	30.32	0.00	32	26	79	07	0	0	0	30.17	0.00	35	30	81	05	0	0	0	30.19	0.00	37	25	61	24	0	0
22	0	30.27	0.00	28	23	81	07	0	0	0	30.16	0.00	33	29	84	05	0	0	0	30.19	0.00	33	24	67	23	1	3
NOV 22									NOV 23									NOV 24									
01	0	30.19	0.00	35	23	63	20	0	0	0	29.97	0.00	45	29	53	18	5	14	0	29.53	0.00	41	36	81	25	4	7
04	0	30.18	0.00	32	22	67	20	2	5	0	29.92	0.00	42	27	54	20	3	12	0	29.53	0.00	37	30	76	26	0	4
07	5	30.20	0.00	32	23	68	20	3	6	7	29.83	0.00	43	26	52	20	6	10	0	29.51	0.00	36	24	61	26	5	18
10	218	30.18	0.00	44	27	52	20	7	13	221	29.76	0.00	51	27	38	20	11	21	77	29.52	0.00	35	24	65	25	5	24
13	322	30.12	0.00	54	29	38	22	7	15	325	29.63	0.00	57	27	32	18	6	17	118	29.52	0.00	32	20	61	32	4	16
16	12	30.08	0.00	51	24	34	20	4	11	16	29.59	0.00	55	31	40	21	9	19	11	29.56	0.00	31	17	56	31	2	17
19	0	30.07	0.00	46	24	42	20	4	8	0	29.59	0.09	45	40	83	18	8	15	0	29.60	0.00	28	19	67	27	3	14
22	0	30.03	0.00	46	22	38	20	6	12	0	29.56	0.09	44	41	88	25	2	15	0	29.61	0.00	27	17	65	29	9	23
NOV 25									NOV 26									NOV 27									
01	0	29.64	0.00	26	15	63	28	4	18	0	29.79	0.00	24	17	74	27	0	0	0	30.21	0.00	20	15	81	11	0	0
04	0	29.69	0.00	24	14	64	30	3	17	0	29.82	0.00	25	20	80	27	0	0	0	30.23	0.00	20	15	80	11	0	0
07	0	29.72	0.00	24	13	64	31	6	16	0	29.85	0.00	25	21	85	27	0	0	0	30.24	0.00	21	15	77	11	0	0
10	120	29.74	0.00	25	12	57	29	4	16	39	29.99	0.00	24	19	83	31	2	6	79	30.27	0.00	26	21	82	11	0	0
13	279	29.70	0.00	27	12	52	28	3	10	346	30.04	0.00	28	17	64	30	0	3	98	30.26	0.00	31	24	74	18	0	0
16	12	29.70	0.00	27	11	52	28	1	5	11	30.10	0.00	26	14	60	32	0	0	11	30.25	0.00	30	23	76	18	0	0
19	0	29.75	0.00	22	10	58	30	0	0	0	30.17	0.00	19	13	79	08	0	0	0	30.26	0.00	24	21	86	18	0	0
22	0	29.77	0.00	25	17	71	25	2	5	0	30.19	0.00	20	13	77	11	0	0	0	30.25	0.00	24	21	87	18	0	0
NOV 28									NOV 29									NOV 30									
01	0	30.22	0.00	20	17	87	18	0	0	0	30.12	0.00	27	21	76	31	3	11	0	30.33	0.00	16	9	74	05	0	7
04	0	30.21	0.00	22	19	87	04	0	0	0	30.17	0.00	24	15	70	34	2	7	0	30.42	0.00	7	1	76	04	1	7
07	0	30.20	0.00	23	20	87	04	0	0	0	30.17	0.00	21	15	79	32	0	0	0	30.49	0.00	2	-3	79	04	0	0
10	185	30.16	0.00	31	24	75	19	2	5	179	30.14	0.00	27	18	67	19	3	9	35	30.54	0.00	10	4	75	08	0	0
13	155	30.09	0.00	34	23	62	24	0	5	65	30.04	0.00	32	23	68	22	5	17	450	30.53	0.00	17	5	58	09	0	3
16	0	30.07	0.00	32	23	69	22	2	8	0	30.07	0.00	31	28	88	24	0	6	11	30.53	0.00	13	5	68	10	0	0
19	0	30.07	0.00	30	26	84	20	2	7	0	30.14	0.00	27	24	88	33	0	9	0	30.57	0.00	8	2	76	10	0	0
22	0	30.07	0.00	32	24	73	25	3	8	0	30.25	0.00	20	16	82	31	0	6	0	30.57	0.00	6	1	78	10	0	0

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

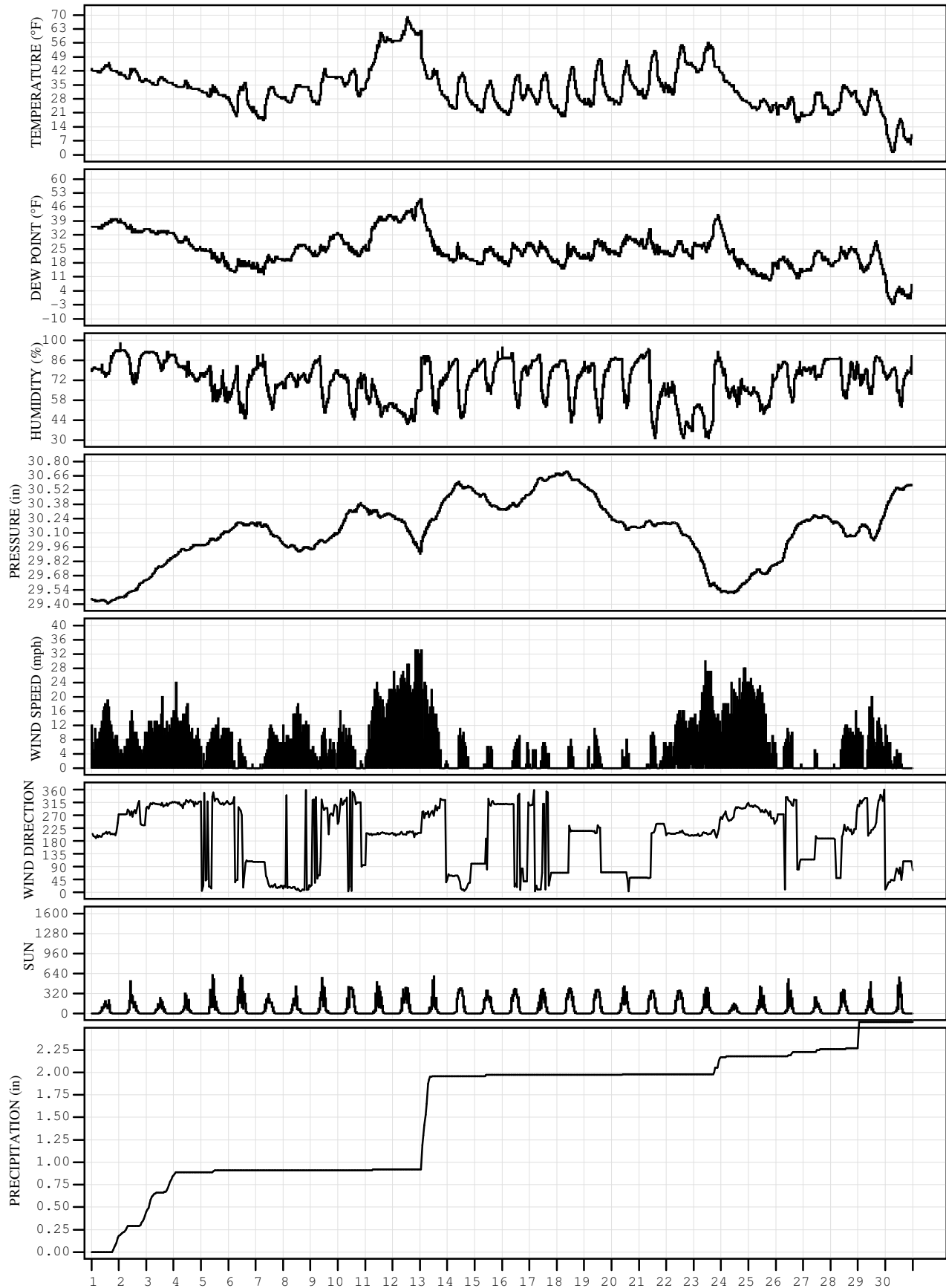
Hour	Averages						Resultant Wind	
	Sunshine	Pressure	Temperature	Dew Point	Humidity	Wind Speed	Direction	Speed
01	0	30.088	32	25	76	1.4	24	1.0
04	0	30.102	30	24	78	0.9	23	0.5
07	4	30.122	29	23	79	1.8	25	1.2
10	196	30.137	35	26	70	2.7	23	1.9
13	240	30.103	40	26	58	2.2	24	1.5
16	20	30.104	38	25	61	1.4	24	0.9
19	0	30.126	33	25	74	1.0	21	0.9
22	0	30.128	32	25	75	1.6	24	1.2

HOURLY PRECIPITATION (Water Equivalent) November 2012: Westford

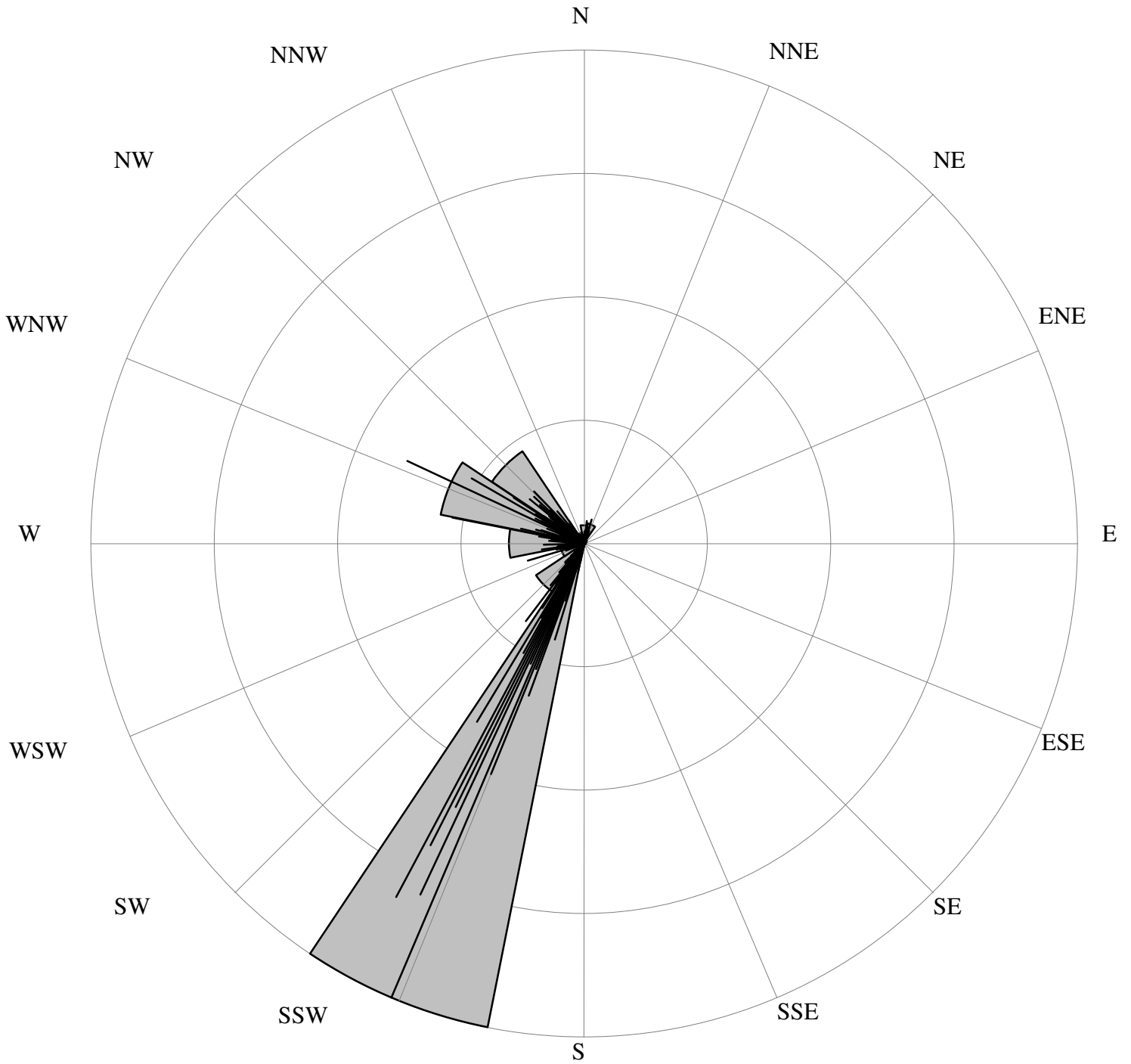
Date	A.M. Hour Ending at												P.M. Hour Ending at												Date
	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	
01																									01
02	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02											0.02	0.04	0.02	0.02	0.06	0.02	02
03	0.02	0.02	0.05	0.04	0.04	0.01	0.02		0.01						0.01				0.01	0.03	0.02	0.02	0.03	0.05	03
04	0.02	0.02																0.02	0.04	0.03	0.03	0.03	0.01		04
05										0.01	0.01														05
06																									06
07																									07
08																									08
09																									09
10																									10
11							0.01																		11
12																									12
13		0.27	0.11	0.11	0.12	0.12	0.22	0.05	0.03		0.01														13
14																									14
15										0.01															15
16																									16
17																									17
18																									18
19																									19
20									0.01																20
21																									21
22																									22
23																	0.02	0.05				0.08	0.03	0.01	23
24					0.01																				24
25																									25
26										0.01						0.02	0.02								26
27											0.02					0.01									27
28															0.01										28
29	0.29																								29
30																									30
Sum	0.34	0.32	0.17	0.16	0.18	0.15	0.27	0.07	0.04	0.02	0.03	0.03	0.00	0.03	0.03	0.01	0.00	0.04	0.10	0.11	0.07	0.15	0.15	0.09	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
November 2012: Westford



Wind Rose: November 2012
Westford



Maximum direction of wind: 90.7 miles from 203°
Maximum sector of wind: 623.4 miles from SSW
1215.5 total miles of wind