

LOCAL CLIMATOLOGICAL DATA

Monthly Summary

June 2009

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

Date	Temperature					Humidity Mean	Deg. Days		Precip Ty 1 fog 2 hv 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						Sun	
	Maximum	Minimum	Average	Mean	Dew Point		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	59.9	38.0*	49.0*	49.4	39	69	16	0	.....	0	0.02	0.0	30.03	29.85	29.955	2.6	2.4	260	16	NW	9	288
2	62.5	46.7	54.6	52.7	46	78	10	0	.....	0	0.00	0.0	30.00	29.83	29.948	1.5	1.4	308	14	W	9	305
3	68.4	42.1	55.3	55.1	44	69	10	0	.....	0	0.00	0.0	30.04	29.90	29.969	0.8	0.8	310	14	W	8	304
4	67.7	42.9	55.3	54.7	43	68	9	0	.....	0	0.00	0.0	30.02	29.93	29.977	1.0	0.9	314	12	WNW	7	313
5	73.1	39.1	56.1	57.6	45	65	9	0	.....	0	0.00	0.0	30.00	29.83	29.922	0.9	0.8	226	13	S	8	226
6	73.8	46.1	60.0	62.2	48	61	5	0	.....	0	0.00	0.0	29.87	29.79	29.823	2.6	2.1	255	20	WNW	12	302
7	65.8	44.4	55.1	55.4	45	69	10	0	.....	0	0.16	0.0	30.01	29.87	29.958	1.0	0.9	293	11	W	6	295
8	65.1	39.7	52.4	53.4	45	76	12	0	.....	0	0.00	0.0	30.06	29.97	30.016	0.6	0.5	342	10	NW	6	293
9	62.1	49.5	55.8	55.1	50	84	9	0	.....	0	0.34	0.0	29.97	29.75	29.843	3.4	3.3	186	27	SE	15	178
10	71.9	55.0	63.5	61.0	54	79	1	0	.....	0	0.00	0.0	29.93	29.86	29.890	1.1	0.6	227	11	S	5	213
11	73.1	53.3	63.2	63.2	59	87	2	0	.....	0	0.28	0.0	29.91	29.76	29.835	1.6	1.5	213	17	SW	9	202
12	71.4	51.8	61.6	61.3	58	90	3	0	.....	0	0.85	0.0	29.84	29.67	29.743	0.7	0.5	346	12	NW	7	305
13	74.6	48.3	61.4	61.6	54	78	3	0	.....	0	0.03	0.0	29.94	29.84	29.888	0.9	0.7	239	13	W	7	249
14	78.3	53.2	65.8	63.0	54	75	0	1	.....	0	0.00	0.0	29.96	29.87	29.919	0.6	0.3	264	11	WNW	7	289
15	69.8	51.6	60.7	58.5	54	87	4	0	.....	0	0.08	0.0	30.09	29.91	29.999	0.7	0.4	205	10	W	6	255
16	74.2	47.6	60.9	60.9	53	76	4	0	.....	0	0.00	0.0	30.20	30.08	30.149	1.0	0.9	204	12	SW	6	205
17	74.4	54.5	64.5	64.2	52	66	0	0	.....	0	0.00	0.0	30.18	30.01	30.111	3.5	3.4	216	17	SW	11	216
18	62.7	55.9	59.3	58.7	52	78	5	0	.....	0	0.26	0.0	30.02	29.81	29.927	2.9	2.7	191	19	SW	11	207
19	67.2	56.6	61.9	61.0	58	91	3	0	.....	0	T	0.0	29.82	29.72	29.774	0.7	0.5	322	11	WNW	7	308
20	71.5	59.0	65.3	64.2	60	87	0	1	.....	0	0.00	0.0	29.76	29.56	29.634	0.3	0.2	5	9	NNW	3	18
21	77.6	59.5	68.5	66.9	63	88	0	4	..3.....	0	0.10	0.0	29.71	29.56	29.629	1.0	1.0	25	18	NE	8	34	
22	68.5	57.0	62.8	62.3	57	84	2	0	.....	0	0.00	0.0	29.80	29.68	29.745	2.4	2.4	27	19	NNE	8	28
23	77.4	57.1	67.3	66.6	59	78	0	2	.....	0	0.00	0.0	29.81	29.76	29.781	1.9	1.9	24	21	ENE	11	25
24	83.9	61.2	72.6	71.9	65	79	0	8	..3.....	0	T	0.0	29.80	29.73	29.768	1.0	0.7	344	16	WNW	8	311	
25	85.0*	64.2	74.6*	74.0	66	78	0	10	.....	0	0.00	0.0	29.75	29.58	29.673	1.7	1.7	213	12	WSW	6	202
26	80.6	58.8	69.7	69.6	62	79	0	5	..3.5....	0	1.17	0.0	29.64	29.54	29.584	2.3	2.0	223	22	WNW	14	305	
27	73.2	59.0	66.1	64.6	61	90	0	1	..3.....	0	0.01	0.0	29.74	29.62	29.686	0.4	0.3	310	9	WNW	6	304	
28	79.1	56.2	67.6	66.1	62	88	0	3	.2.....	0	0.03	0.0	29.73	29.49	29.636	0.3	0.0	321	8	SE	5	300	
29	66.0	57.5	61.8	63.0	62	95	3	0	.2.....	0	0.84	0.0	29.50	29.38	29.421	0.4	0.3	305	9	NW	5	311	
30	77.7	53.7	65.7	64.6	60	85	0	1	..3.....	0	0.41	0.0	29.65	29.47	29.550	0.9	0.8	182	20	WSW	10	233	
Sum	Sum	-----	-----	---	----	Ttl	Ttl									For the month:						---	
2156	1559					120	36		Number of Days		4.58	0.0	30.20	29.38	29.825	1.4	0.6	246	27	SE	15	178	
Avg	Avg	Avg	Mean	Avg	Avg	----	----		Precip		Season Ttl	Date	Date	-----	----	----	---	Date	Date			Avg	
71.9	52.0	61.9	61.4	54	79.2	----	----		≥.01 inch	14	21.37	98.2	16	29	-----	----	----	---	9	9			
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			7857	47	Thunder	5	Precipitation			Snow, Ice Plts										
≥ 90°F	≤ 32°F	≤ 32°F	≤ 0°F	----	----	Heavy Fog	2	1.18	26-27	0.0	-	0						-					
0	0	0	0	----	----	Clear	1	Partly Cloudy			18	Cloudy			11								

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: Sunshine index 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

June 2009: Westford

Hour	JUN 19									JUN 20									JUN 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		29.81	0.00	57	55	92	14	0	2	29.75	0.00	60	58	95	30	0	2	29.57	0.00	61	60	95	02	0	2		
04		29.78	0.00	57	55	95	14	0	0	29.71	0.00	59	58	95	30	0	0	29.56	0.00	60	59	96	02	0	0		
07		29.78	0.00	58	56	95	06	0	4	29.68	0.00	60	59	95	30	0	2	29.59	0.00	62	61	96	01	1	7		
10		29.78	0.00	64	60	85	30	0	2	29.65	0.00	68	60	77	01	1	4	29.62	0.00	70	64	80	02	3	7		
13		29.79	0.00	66	61	85	31	5	9	29.60	0.00	67	61	82	30	0	1	29.65	0.00	75	68	77	02	1	10		
16		29.76	0.00	64	61	88	01	1	6	29.58	0.00	71	64	78	00	1	5	29.65	0.06	70	67	90	03	1	6		
19		29.76	0.00	64	60	87	31	0	4	29.56	0.00	68	62	81	02	0	4	29.66	0.00	71	67	87	00	1	9		
22		29.76	0.00	61	59	93	30	0	3	29.57	0.00	61	58	93	03	0	0	29.70	0.00	65	62	89	02	3	6		
JUN 22									JUN 23									JUN 24									
01		29.70	0.00	61	59	92	03	0	5	29.79	0.00	58	55	90	02	0	5	29.78	0.00	62	60	92	01	0	0		
04		29.70	0.00	58	56	94	04	2	8	29.76	0.00	57	54	90	35	2	10	29.77	0.00	64	60	86	05	0	4		
07		29.74	0.00	58	56	94	02	4	13	29.80	0.00	58	54	88	05	1	7	29.80	0.00	65	61	89	03	0	2		
10		29.74	0.00	64	57	77	05	5	11	29.79	0.00	71	61	70	03	4	10	29.78	0.00	77	66	70	30	1	6		
13		29.75	0.00	65	58	77	04	3	12	29.78	0.00	75	62	65	02	6	17	29.78	0.00	78	70	75	30	1	9		
16		29.76	0.00	66	58	75	03	2	12	29.78	0.00	75	63	65	03	1	8	29.75	0.00	80	67	66	31	6	14		
19		29.78	0.00	64	57	77	02	2	14	29.78	0.00	71	64	78	01	0	0	29.75	0.00	78	68	73	15	1	9		
22		29.80	0.00	62	56	81	01	1	6	29.78	0.00	63	60	88	01	0	1	29.75	0.00	68	65	92	10	0	4		
JUN 25									JUN 26									JUN 27									
01		29.74	0.00	66	65	94	22	2	4	29.59	0.00	71	60	69	24	1	9	29.63	0.00	59	58	95	19	0	5		
04		29.74	0.00	65	63	95	20	2	5	29.57	0.00	66	62	89	21	1	6	29.63	0.00	59	58	96	20	0	3		
07		29.75	0.00	65	63	94	20	1	6	29.58	0.00	68	63	84	21	1	8	29.68	0.00	61	60	96	21	0	3		
10		29.72	0.00	77	69	75	19	3	8	29.57	0.00	77	63	63	22	4	12	29.69	0.00	64	62	92	17	0	4		
13		29.68	0.00	81	69	67	22	0	7	29.58	0.00	80	66	63	18	2	9	29.68	0.00	70	63	78	32	0	4		
16		29.61	0.00	82	66	58	21	2	11	29.54	0.00	79	69	72	23	3	12	29.71	0.00	71	64	79	00	0	6		
19		29.58	0.00	81	67	63	20	3	10	29.61	0.11	61	59	93	11	1	7	29.73	0.00	70	64	82	30	0	5		
22		29.59	0.00	73	66	78	20	0	7	29.63	0.00	60	59	95	16	0	0	29.73	0.00	61	59	93	31	0	0		
JUN 28									JUN 29									JUN 30									
01		29.72	0.00	61	59	96	11	1	5	29.49	0.00	64	62	94	15	0	0	29.48	0.00	56	55	96	14	0	0		
04		29.70	0.00	57	56	96	03	0	0	29.45	0.00	64	62	95	11	0	4	29.49	0.00	55	54	96	14	0	0		
07		29.71	0.00	60	58	96	25	0	3	29.42	0.09	63	61	96	32	0	7	29.52	0.00	60	59	97	09	0	1		
10		29.69	0.00	67	66	97	08	0	0	29.39	0.18	62	61	96	30	2	8	29.55	0.00	72	62	71	19	3	7		
13		29.64	0.00	70	64	81	27	1	5	29.39	0.10	63	61	96	30	0	0	29.54	0.00	75	65	70	13	2	6		
16		29.59	0.00	74	66	75	04	0	2	29.38	0.00	64	63	95	28	0	3	29.54	0.00	74	62	67	17	1	9		
19		29.56	0.00	68	64	87	15	0	8	29.41	0.00	65	64	95	11	0	1	29.61	0.76	64	59	85	23	5	18		
22		29.54	0.00	65	63	93	08	0	3	29.46	0.00	60	59	95	14	0	0	29.64	0.00	60	57	93	21	0	4		

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		29.829	56	52	87	0.8	21	0.5
04		29.820	54	51	89	0.7	22	0.3
07		29.842	56	53	90	1.0	24	0.3
10		29.844	64	56	76	2.3	25	0.6
13		29.829	68	56	68	2.5	27	1.1
16		29.808	69	57	66	2.4	26	1.3
19		29.809	65	56	74	1.0	23	0.5
22		29.828	58	53	84	0.6	20	0.2

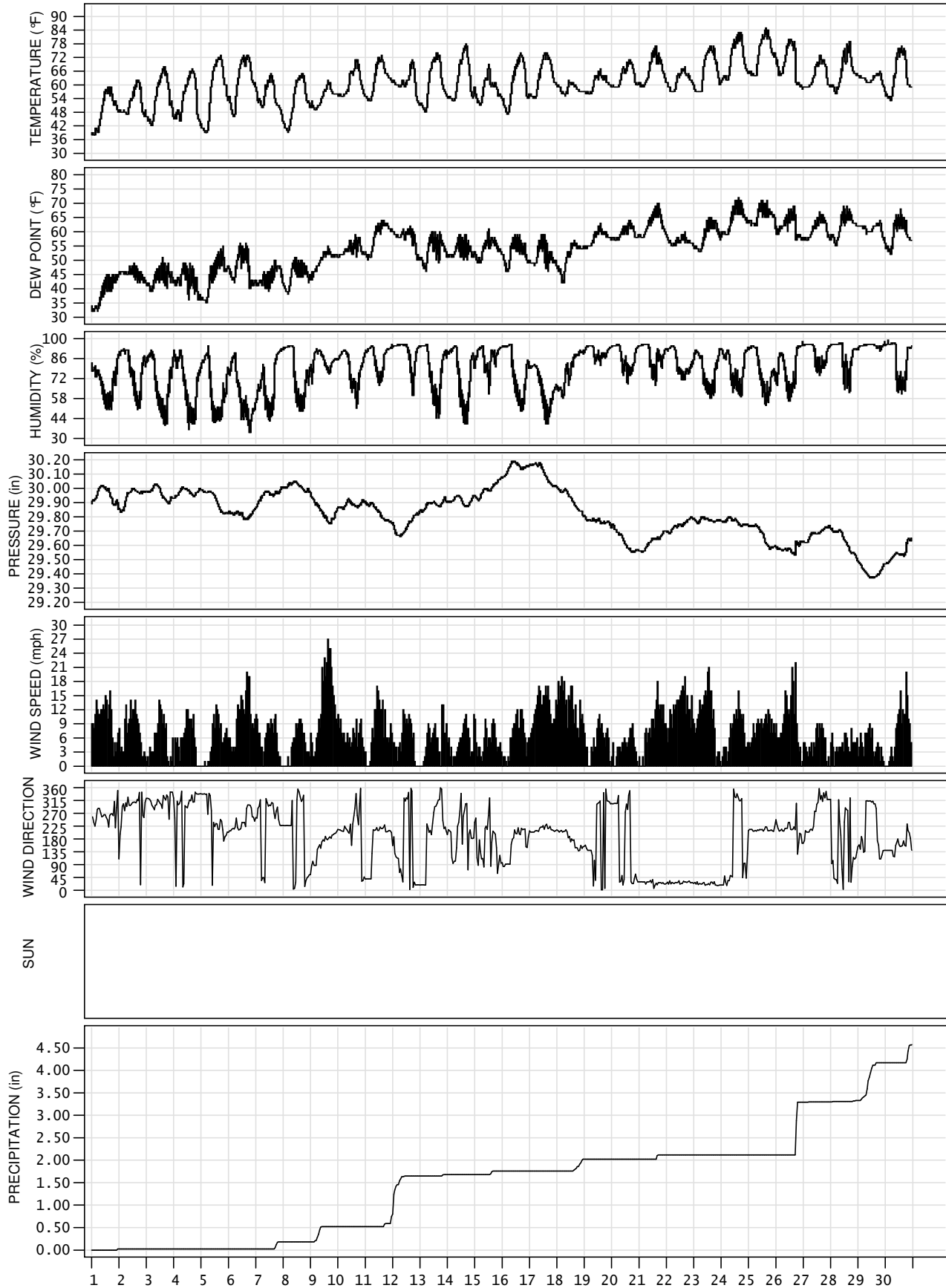
HOURLY PRECIPITATION (Water Equivalent) June 2009: Westford

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																							0.02		01
02																									02
03																									03
04																									04
05																									05
06																									06
07																	0.03	0.07	0.05	0.01					07
08																									08
09				0.02	0.01	0.07	0.07	0.10	0.06	0.01															09
10																									10
11																									11
12	0.44	0.10	0.08	0.04		0.08	0.04	0.05		0.01	0.01					0.06	0.01						0.15	0.06	12
13																				0.02	0.01				13
14																									14
15														0.02	0.04	0.02									15
16																									16
17																									17
18																0.02	0.02	0.02	0.04		0.05	0.03	0.06	0.02	18
19																									19
20																									20
21																	0.08	0.02							21
22																									22
23																									23
24																									24
25																									25
26																		0.76	0.41						26
27					0.01																				27
28		0.01																			0.01		0.01		28
29			0.03	0.03	0.02	0.02	0.02	0.14	0.18	0.08	0.10	0.10	0.07			0.05									29
30																			0.08	0.18	0.12	0.02		0.01	30
Sum	0.44	0.11	0.11	0.09	0.04	0.17	0.13	0.29	0.24	0.10	0.11	0.10	0.07	0.02	0.06	0.17	0.13	0.88	0.54	0.27	0.16	0.09	0.19	0.07	Sum

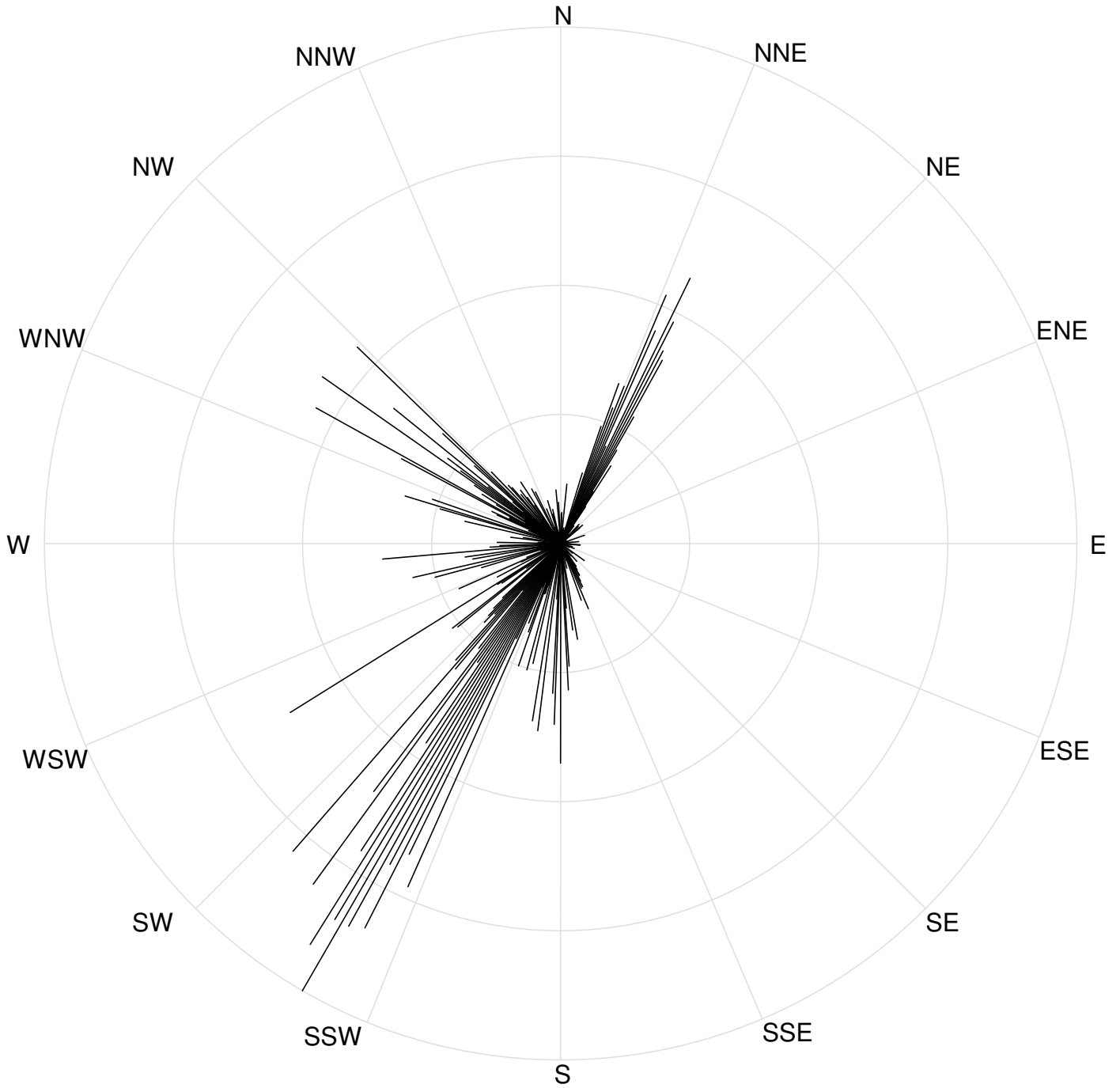
During a frozen precipitation event, hourly precipitation totals may not be recorded. In this case, daily amounts are typically entered in the last column (hour ending at 12 A.M.)

HOUR-BY-HOUR DATA

June 2009: Westford



Wind Rose: June 2009
Westford



Maximum direction of wind: 26.1 miles from 210°.
976.5 total miles of wind.