

LOCAL CLIMATOLOGICAL DATA

Monthly Summary

March 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 Mean Index		
	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		11	12	13	14	15	16	17	18	19	20	21	22	23		
1	26.5	-1.5*	12.5	12.0	3	69	52	0	.....	4	0.00	0.0	30.34	30.13	30.221	0.9	0.8	347	11	WNW	7	304	
2	14.3	9.2	11.8	11.7	6	79	53	0	.....	9	0.16	5.9	30.25	30.05	30.117	3.1	3.0	3	25	N	10	337	
3	15.4	1.3	8.3*	8.2	-2	65	57	0	.....	8	0.04	1.6	30.31	30.06	30.204	3.2	3.2	329	18	NW	9	325	
4	25.9	5.0	15.4	15.0	3	58	49	0	.....	7	0.00	0.0	30.34	30.24	30.287	2.3	2.0	312	19	NNW	12	308	
5	36.0	5.5	20.8	23.3	8	52	44	0	.....	4	0.00	0.0	30.43	30.08	30.321	2.4	2.3	199	32	SSW	17	188	
6	47.8	34.8	41.3	41.0	29	63	23	0	.....	2	T	0.0	30.08	29.69	29.838	10.8	10.5	206	34	S	19	193	
7	47.2	36.1	41.6	41.6	33	73	23	0	.....	1	0.09	0.0	30.08	29.74	29.945	2.2	1.6	286	19	NW	12	306	
8	43.1	29.2	36.1	36.4	29	77	29	0	.....	T	0.16	0.0	30.02	29.71	29.899	2.2	1.9	329	19	NNW	12	332	
9	35.0	26.8	30.9	30.6	26	83	34	0	.....	1	0.21	1.0	30.30	29.86	30.001	0.4	0.2	69	10	ENE	5	216	
10	36.5	23.1	29.8	31.4	28	87	35	0	.....	1	0.01	T	30.36	30.08	30.267	1.9	1.8	200	17	S	9	190	
11	49.7	26.9	38.3	38.2	32	78	26	0	.....	T	0.41	0.0	30.08	29.65	29.840	10.9	9.3	221	44	WNW	23	286	
12	26.9	12.2	19.5	18.4	4	54	45	0	.....	T	0.00	0.0	30.50	30.08	30.362	6.6	6.3	315	31	WNW	17	295	
13	31.8	6.5	19.1	19.5	3	51	45	0	.....	T	0.00	0.0	30.54	30.26	30.438	2.6	2.4	229	15	W	10	219	
14	45.1	19.1	32.1	32.3	14	48	33	0	.....	T	0.00	0.0	30.27	30.11	30.193	3.3	3.1	234	16	SSW	10	210	
15	52.0	28.3	40.1	38.9	22	51	25	0	.....	T	0.00	0.0	30.24	30.13	30.163	1.5	1.1	267	12	WNW	9	289	
16	50.3	23.8	37.0	35.3	26	70	28	0	.....	0	0.00	0.0	30.38	30.23	30.303	0.8	0.7	330	9	WNW	7	319	
17	56.8	29.5	43.1	43.2	29	59	21	0	.....	0	0.00	0.0	30.25	30.07	30.175	3.5	3.5	205	18	S	10	206	
18	49.2	42.6	45.9	45.7	35	68	19	0	.....	0	T	0.0	30.07	29.85	29.920	8.9	8.9	206	31	SSW	19	201	
19	47.4	25.3	36.4	39.1	21	48	29	0	.....	0	0.00	0.0	30.21	29.90	30.009	4.9	3.7	308	23	NW	16	321	
20	31.4	16.1	23.8	23.4	8	51	41	0	.....	0	0.00	0.0	30.47	30.20	30.364	2.7	2.5	2	17	NNW	11	313	
21	44.1	14.8	29.4	29.5	9	45	35	0	.....	0	0.00	0.0	30.53	30.32	30.441	1.7	1.6	224	13	SW	8	286	
22	36.6	21.9	29.2	29.7	16	59	35	0	.....	0	0.04	1.0	30.32	30.24	30.272	5.2	4.5	319	27	WNW	14	305	
23	23.6	10.5	17.1	18.1	5	57	47	0	.....	0	T	T	30.47	30.31	30.382	4.2	4.0	353	25	WNW	14	318	
24	38.8	14.6	26.7	26.6	14	60	38	0	.....	0	0.00	0.0	30.56	30.45	30.502	2.7	2.6	6	16	NW	9	328	
25	55.1	19.9	37.5	37.0	20	53	27	0	.....	0	0.00	0.0	30.47	30.12	30.301	1.7	1.6	215	13	WSW	8	192	
26	53.0	37.0	45.0	43.0	26	53	20	0	.....	0	0.33	0.0	30.12	29.82	29.939	5.1	5.0	195	20	S	10	188	
27	52.7	34.1	43.4	42.2	35	79	21	0	.....	0	0.00	0.0	30.01	29.81	29.910	3.0	1.9	259	16	NW	11	293	
28	65.1*	31.8	48.4*	47.8	34	62	16	0	.....	0	0.00	0.0	29.98	29.80	29.908	1.7	1.5	207	18	S	11	213	
29	50.1	42.3	46.2	46.4	40	79	19	0	.....	0	0.18	0.0	29.81	29.33	29.530	3.0	2.9	177	25	ESE	15	159	
30	42.3	32.8	37.5	38.6	36	91	27	0	.....	0	0.41	0.0	29.91	29.33	29.541	3.4	3.1	312	23	NW	12	322	
31	37.7	28.9	33.3	33.8	30	87	31	0	.....	0	0.03	T	30.24	29.91	30.148	2.7	2.5	332	19	W	12	305	
Sum	Sum	-----	-----	---	----	Ttl	Ttl																---	
1267	688					1027	0		Number of Days				2.07	9.5	30.56	29.33	30.121	3.5	1.6	258	44	WNW	23	286
Avg	Avg	Avg	Mean	Avg	Avg	----	----		Precip				Season Ttl	Date	Date	-----	----	----		Date	Date		Avg	
40.9	22.2	31.5	31.5	20	64.8	----	----		≥.01 inch	12			6.64	96.2	24	29	-----	----	----		11	11		
Number of Days						Season to Date	Snow, Ice ≥1.0 inch	4	Greatest in 24 Hours and Dates						Greatest Depth on Ground of Snow, Ice Pellets or Ice and Date									
Max Temperature			Min Temperature			6828	0	Thunder	0	Precipitation			Snow, Ice Plts											
≥ 90°F	≤ 32°F	≤ 32°F	≤ 0°F	----	----	Heavy Fog	0	0.45	29-30	5.9	2	9						2						
0	8	24	1	----	----	Clear	9	Partly Cloudy			10	Cloudy			12									

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

March 2009: 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								
MAR 19										MAR 20										MAR 21									
01	29.91	0.00	46	30	55	21	4	11		30.21	0.00	24	11	57	02	2	7		30.47	0.00	17	6	62	02	0	0			
04	29.93	0.00	43	18	37	30	9	17		30.25	0.00	20	9	63	03	3	7		30.47	0.00	16	6	66	02	0	0			
07	29.95	0.00	39	17	40	26	2	10		30.33	0.00	16	4	58	02	1	8		30.52	0.00	15	6	68	02	0	0			
10	29.95	0.00	44	24	45	24	8	16		30.40	0.00	24	7	46	35	2	7		30.53	0.00	31	10	41	21	0	5			
13	29.98	0.00	43	24	47	32	8	21		30.40	0.00	28	9	45	32	6	14		30.48	0.00	38	10	31	33	1	9			
16	30.02	0.00	40	23	51	35	6	23		30.40	0.00	31	8	37	01	5	9		30.40	0.00	43	9	24	25	2	8			
19	30.11	0.00	32	17	53	02	4	10		30.43	0.00	26	7	45	01	2	7		30.35	0.00	38	10	31	21	3	6			
22	30.18	0.00	27	15	59	01	1	10		30.47	0.00	19	7	59	02	0	3		30.34	0.00	36	12	37	24	2	9			
MAR 22										MAR 23										MAR 24									
01	30.30	0.00	36	12	37	25	6	15		30.32	0.00	20	5	51	00	4	16		30.47	0.00	21	10	63	01	4	9			
04	30.26	0.00	34	19	54	25	6	11		30.33	0.00	13	2	60	01	4	11		30.47	0.00	18	9	68	02	3	6			
07	30.25	0.00	30	26	87	26	3	6		30.37	0.00	11	1	66	32	0	4		30.52	0.00	15	9	76	34	0	7			
10	30.25	0.00	30	26	88	35	6	13		30.40	0.00	16	2	54	32	7	17		30.56	0.00	25	13	60	33	3	9			
13	30.27	0.00	30	19	64	32	6	16		30.37	0.00	20	3	46	31	10	19		30.53	0.00	34	16	47	34	8	14			
16	30.25	0.00	32	14	47	33	6	17		30.37	0.00	23	7	50	34	5	15		30.49	0.00	38	19	45	34	5	12			
19	30.28	0.00	27	6	40	31	6	16		30.41	0.00	23	10	57	01	1	5		30.50	0.00	33	18	53	02	0	2			
22	30.31	0.00	24	6	46	34	6	14		30.45	0.00	20	9	62	04	2	5		30.49	0.00	26	18	69	04	0	0			
MAR 25										MAR 26										MAR 27									
01	30.46	0.00	23	17	78	04	0	0		30.10	0.00	38	19	46	18	4	10		29.82	0.00	38	36	92	21	2	6			
04	30.42	0.00	22	16	78	04	0	1		30.02	0.00	41	19	42	19	6	12		29.83	0.00	39	37	94	22	4	8			
07	30.41	0.00	21	16	81	04	0	0		29.97	0.00	39	20	46	19	4	10		29.86	0.00	39	37	94	22	4	7			
10	30.40	0.00	38	22	51	22	4	7		30.00	0.00	42	21	43	21	7	12		29.91	0.00	43	40	91	25	4	6			
13	30.30	0.00	49	21	32	24	5	12		29.93	0.00	50	26	39	20	7	15		29.95	0.00	46	36	67	31	4	8			
16	30.20	0.00	55	23	29	29	0	8		29.85	0.00	51	30	44	17	7	18		29.94	0.00	52	35	51	00	3	6			
19	30.15	0.00	46	21	37	21	0	2		29.84	0.00	46	31	56	19	5	13		29.96	0.00	46	34	62	02	1	3			
22	30.13	0.00	39	19	44	19	1	4		29.83	0.06	39	36	91	19	1	9		30.00	0.00	37	32	82	08	1	4			
MAR 28										MAR 29										MAR 30									
01	29.97	0.00	35	31	86	08	0	0		29.79	0.00	46	37	71	12	0	0		29.34	0.04	42	40	93	19	0	3			
04	29.96	0.00	33	30	88	08	0	0		29.73	0.00	43	36	78	15	0	2		29.35	0.00	39	37	93	28	5	11			
07	29.94	0.00	33	29	86	08	0	0		29.67	0.00	47	38	72	04	0	5		29.39	0.00	39	36	92	27	0	5			
10	29.96	0.00	52	32	47	20	4	9		29.54	0.00	49	41	76	16	6	10		29.46	0.00	40	37	89	27	2	4			
13	29.92	0.00	61	36	39	21	5	14		29.46	0.00	47	42	83	18	2	9		29.51	0.00	40	38	90	31	3	8			
16	29.87	0.00	63	37	39	26	3	5		29.38	0.00	48	42	82	19	2	10		29.60	0.00	40	37	89	32	3	10			
19	29.86	0.00	55	35	46	35	0	0		29.35	0.00	46	41	82	17	4	11		29.73	0.04	37	34	90	33	7	15			
22	29.84	0.00	48	37	64	05	0	2		29.33	0.00	45	41	84	13	0	2		29.85	0.00	34	32	92	32	5	11			
MAR 31																													
01	29.95	0.00	33	31	92	31	5	16																					
04	30.03	0.00	32	30	89	32	9	16																					
07	30.12	0.00	32	29	89	32	4	9																					
10	30.18	0.00	34	30	87	32	4	10																					
13	30.23	0.00	36	32	85	00	2	6																					
16	30.22	0.00	37	31	80	07	1	4																					
19	30.24	0.00	36	30	81	04	1	3																					
22	30.20	0.00	31	29	90	04	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		30.125	28	18	68	2.6	25	1.4
04		30.115	26	17	71	3.5	27	1.3
07		30.134	25	18	74	2.8	23	1.4
10		30.143	32	21	65	4.5	23	2.5
13		30.121	37	22	58	4.7	28	2.2
16		30.093	39	22	54	4.6	29	1.9
19		30.110	34	21	60	2.3	27	0.8
22		30.122	31	20	67	2.1	24	1.2

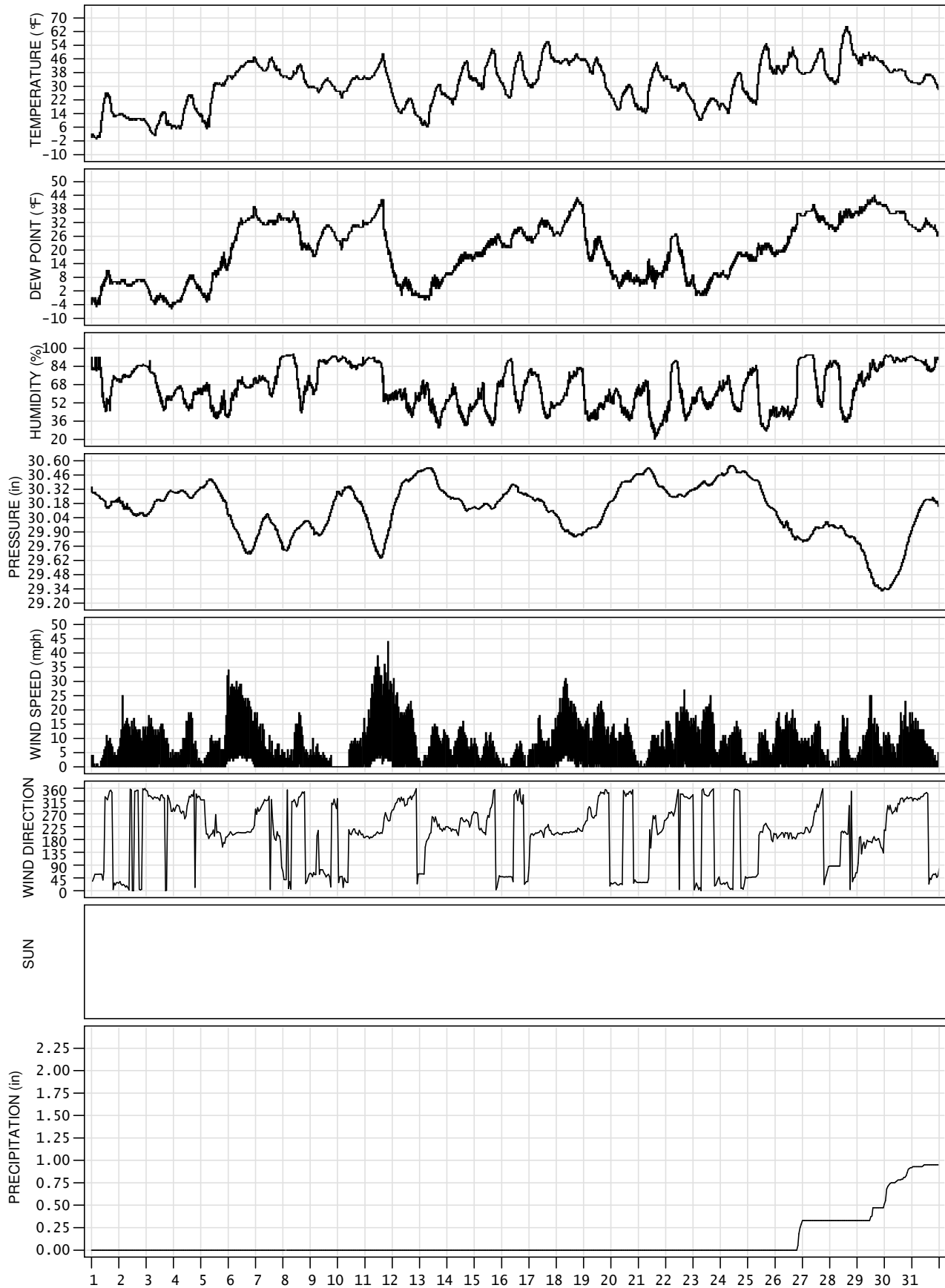
HOURLY PRECIPITATION (Water Equivalent) March 2009: Westford

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																								01	
02																									02
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25																									25
26																				0.05	0.13	0.07	0.04	0.04	26
27																									27
28																									28
29																									29
30	0.04	0.13	0.03	0.02	0.01	0.01				0.01	0.01	0.04	0.01	0.09	0.01		0.02		0.02	0.03	0.04	0.01	0.01	0.04	30
31	0.01									0.01	0.01														31
Sum	0.05	0.13	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.02	0.02	0.05	0.01	0.09	0.01	0.00	0.02	0.00	0.02	0.08	0.17	0.08	0.05	0.08	Sum

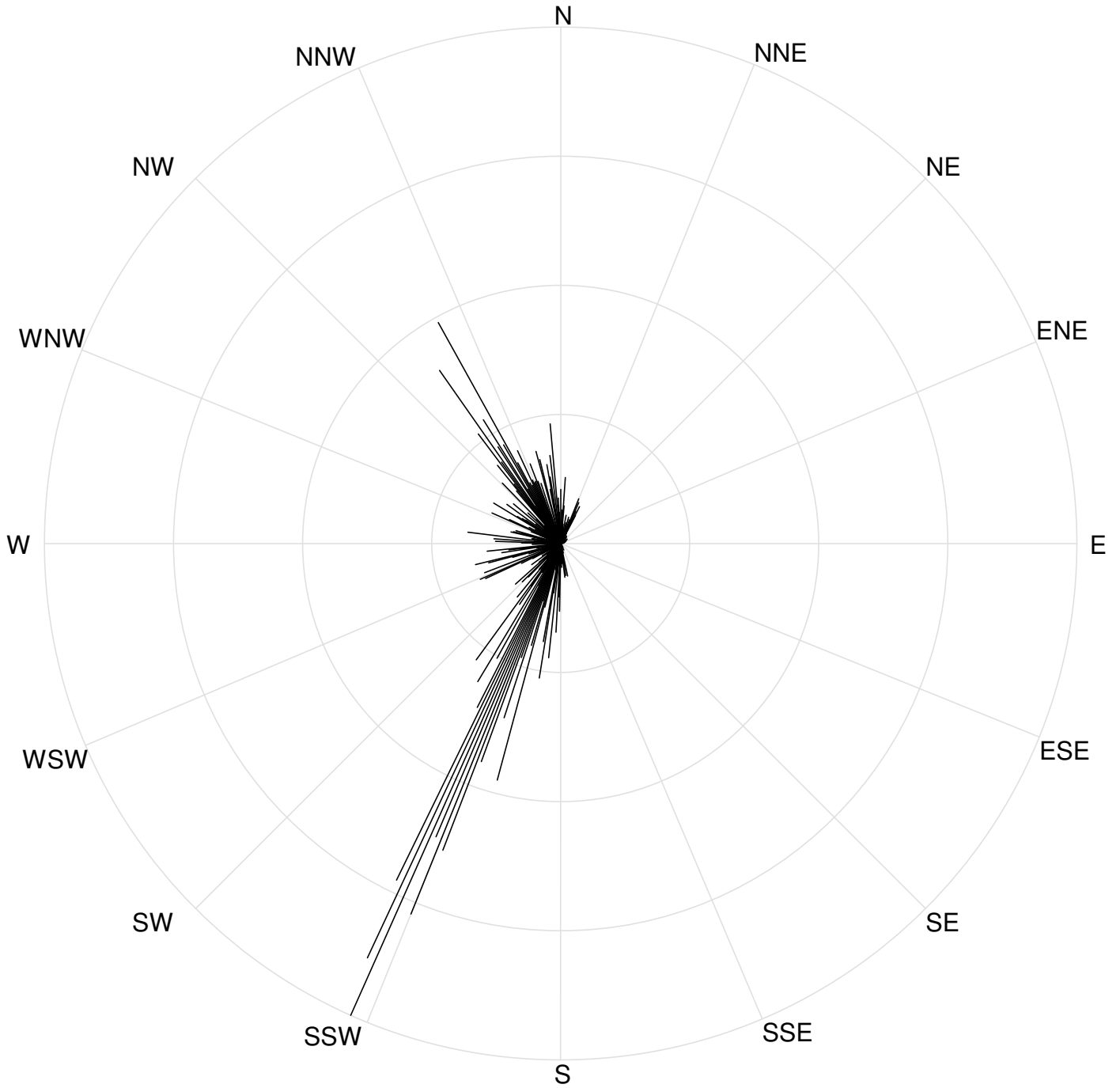
During a frozen precipitation event, hourly precipitation totals may not be recorded. In this case, daily amounts are typically entered in the last column (hour ending at 12 A.M.)

HOUR-BY-HOUR DATA

March 2009: Westford



Wind Rose: March 2009
Westford



Maximum direction of wind: 111.6 miles from 204°.
2622.0 total miles of wind.