

LOCAL CLIMATOLOGICAL DATA

Monthly Summary

December 2008

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		11	12	13	14	15	16	17	18	19	20	21	22	23	
1	47.4	33.6	40.5	40.1	34	79	24	0	.....	0	0.28	0.0	29.55	29.29	29.402	5.8	5.7	198	32	S	18	197
2	37.8	31.7	34.8	35.0	26	69	30	0	.....	0	0.02	T	30.08	29.55	29.843	6.9	6.3	225	31	S	18	199
3	36.6	25.0	30.8	32.5	23	68	34	0	.....	0	0.00	0.0	30.15	29.90	30.060	6.3	6.3	188	27	S	16	196
4	38.0	26.4	32.2	35.4	27	70	33	0	.....	0	0.04	T	30.06	29.81	29.906	8.9	6.7	208	33	S	19	183
5	30.5	17.3	23.9	24.4	15	69	41	0	.....	0	0.00	T	30.15	30.05	30.102	2.6	2.0	251	18	W	12	249
6	28.7	19.2	24.0	25.0	14	63	41	0	.....	0	0.00	0.0	30.12	29.74	29.977	4.9	4.9	187	29	S	16	198
7	28.9	2.2	15.5	21.9	16	79	49	0	.....	2	0.08	2.0	30.02	29.53	29.678	6.7	4.5	253	29	W	21	278
8	9.0	-3.4	2.8*	1.3	-5	73	62	0	.....	2	0.01	0.2	30.46	30.02	30.323	3.1	2.9	306	22	NW	15	310
9	43.1	2.0	22.5	25.5	19	76	42	0	.....	0	0.04	0.0	30.44	29.85	30.150	9.0	9.0	187	42	SSW	22	186
10	50.5	18.5	34.5	31.6	29	89	30	0	...4.....	1	0.25	1.2	30.17	29.67	29.926	4.6	3.9	198	35	S	21	190	
11	23.9	13.7	18.8	18.7	16	89	46	0	.....	1	0.03	0.3	30.18	29.83	30.072	0.0	0.0	0	0	NW	0	323
12	25.0	13.2	19.1	20.2	17	88	46	0	.....6.....	7	0.74	5.9	29.97	29.48	29.693	0.0	0.0	0	0	N	0	360
13	14.8	-1.7	6.6	6.9	1	77	58	0	.....	7	0.00	0.0	30.41	29.97	30.276	0.9	0.9	206	11	SSW	6	207
14	35.7	13.0	24.4	27.1	19	72	40	0	.....	6	0.01	0.0	30.41	30.22	30.292	10.9	10.8	204	36	SSW	22	198
15	49.5	35.7	42.6	43.4	36	76	22	0	.....	T	0.12	0.0	30.22	29.88	30.025	13.7	12.5	217	40	S	25	200
16	35.7	17.7	26.7	23.0	10	58	38	0	.....	T	0.00	0.0	30.54	30.17	30.441	4.4	3.7	313	28	WNW	20	301
17	28.7	17.7	23.2	23.6	20	87	41	0	.....	5	0.51	5.3	30.41	29.91	30.093	3.0	2.7	204	18	S	11	183
18	28.4	21.7	25.1	25.5	21	82	40	0	.....	5	0.04	0.4	30.28	30.15	30.221	2.5	2.2	280	16	WNW	10	262
19	21.7	3.7	12.7	9.6	4	79	52	0	.....	8	0.32	4.8	30.37	30.06	30.212	1.3	1.2	11	14	N	8	30
20	10.9	-4.4	3.2	3.6	-1	81	61	0	.....	9	0.06	1.9	30.26	30.09	30.202	0.4	0.4	314	7	WNW	6	303
21	20.5	-3.0	8.8	13.2	10	86	56	0	.....	13	0.49	5.7	30.18	29.38	29.740	1.5	0.6	217	20	S	13	175
22	15.3	-1.4	7.0	8.8	3	77	58	0	.....	11	0.02	0.6	30.33	29.41	29.810	3.5	3.4	305	22	WNW	14	303
23	22.6	-9.0*	6.8	10.0	2	70	58	0	.....	10	0.00	0.0	30.57	30.29	30.474	4.4	4.2	205	33	S	18	204
24	40.9	22.0	31.5	30.9	26	82	33	0	.....	7	0.15	T	30.29	29.44	29.947	12.4	12.4	206	40	S	24	212
25	42.7	13.2	28.0	29.3	19	65	37	0	.....	5	0.07	0.0	30.47	29.51	30.077	8.6	7.4	292	39	W	22	265
26	32.5	7.2	19.8	19.9	12	72	45	0	.....	5	0.00	0.0	30.58	30.31	30.475	2.2	2.1	192	29	S	16	196
27	45.8	32.3	39.0	38.3	35	87	26	0	.....	1	0.26	0.0	30.31	29.88	30.086	11.4	11.4	203	33	S	20	203
28	51.9*	36.5	44.2*	44.5	38	79	20	0	.....	0	0.01	0.0	29.88	29.48	29.692	13.1	11.9	223	38	S	21	196
29	36.6	27.8	32.2	32.1	25	76	32	0	.....	0	T	T	29.91	29.50	29.793	2.8	1.8	259	20	SSW	12	287
30	31.0	6.9	19.0	21.7	14	73	46	0	.....	1	0.08	0.8	29.92	29.41	29.687	8.3	6.2	281	35	WNW	23	289
31	8.5	-0.4	4.0	4.6	-2	73	60	0	.....	1	0.03	0.4	30.02	29.74	29.849	3.4	3.2	349	24	WNW	14	338
Sum	Sum	-----	-----	---	----	Ttl	Ttl																---
973	435					1301	0		Number of Days	3.66	29.5	30.58	29.29	30.017	5.4	3.8	225	42	SSW	25	200		
Avg	Avg	Avg	Mean	Avg	Avg	----	----		Precip	Season Ttl	Date	Date	-----	-----	-----	-----	-----	-----	Date	Date		Avg	
31.4	14.0	22.7	23.5	17	76.2	----	----		≥.01 inch	23	44.80	41.7	26	1	-----	-----	---	9	15				
Number of Days						Season to Date	Snow, Ice ≥1.0 inch	7	Greatest in 24 Hours and Dates						Greatest Depth on Ground of Snow, Ice Pellets or Ice and Date								
Max Temperature			Min Temperature			2985	315	Thunder	0	Precipitation			Snow, Ice Plts										
≥ 90°F		≤ 32°F		≤ 32°F		≤ 0°F		----	----	Heavy Fog	0	0.28	1	5.9	12	13		21					
0		16		28		7		----	----	Clear	4	Partly Cloudy		6	Cloudy		21						

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
December 2008: Westford**

Hour	Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Wind			Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Wind			Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Wind				
						Direction	Speed	Gust						Direction	Speed	Gust						Direction	Speed	Gust		
DEC 01									DEC 02									DEC 03								
01	29.51	0.00	35	32	88	15	4	9	29.56	0.00	38	29	71	19	10	21	30.07	0.00	31	25	80	19	0	2		
04	29.34	0.04	37	34	88	17	3	10	29.62	0.00	37	28	70	20	12	22	30.09	0.00	31	24	76	18	4	11		
07	29.32	0.04	37	35	90	18	5	11	29.73	0.00	35	27	73	19	5	9	30.12	0.00	25	20	81	18	0	3		
10	29.33	0.00	41	39	93	19	5	11	29.80	0.00	36	30	78	22	6	20	30.13	0.00	34	24	67	19	6	13		
13	29.35	0.00	47	39	74	19	7	24	29.88	0.00	35	27	72	25	6	10	30.08	0.00	33	23	65	19	10	20		
16	29.40	0.00	44	32	61	20	9	22	29.96	0.00	34	23	65	25	4	11	30.05	0.00	34	22	62	17	5	15		
19	29.45	0.00	42	31	63	20	11	21	30.03	0.00	33	22	62	23	6	14	30.01	0.00	35	22	58	17	12	24		
22	29.51	0.00	40	33	76	21	4	12	30.06	0.00	33	23	69	27	4	11	29.98	0.00	36	23	58	18	11	19		
DEC 04									DEC 05									DEC 06								
01	29.89	0.00	37	22	56	18	12	30	30.06	0.00	26	18	71	30	5	15	30.10	0.00	23	15	72	17	3	7		
04	29.89	0.00	37	24	60	18	10	22	30.09	0.00	22	17	79	35	1	5	30.11	0.00	21	12	68	19	2	5		
07	29.82	0.00	38	26	63	18	13	24	30.13	0.00	18	13	81	32	0	2	30.11	0.00	19	12	72	18	2	5		
10	29.84	0.00	38	30	72	18	10	20	30.15	0.00	24	17	75	06	2	3	30.07	0.00	24	14	64	18	9	17		
13	29.85	0.00	38	33	85	20	6	16	30.10	0.00	30	16	56	23	6	12	29.96	0.00	28	14	55	19	9	22		
16	29.91	0.00	37	33	84	22	3	14	30.07	0.00	28	14	55	24	3	6	29.91	0.00	27	14	58	18	4	12		
19	29.99	0.00	34	27	76	29	4	8	30.10	0.00	27	14	58	21	1	6	29.85	0.00	26	15	62	19	0	4		
22	30.04	0.00	28	20	72	32	4	13	30.11	0.00	24	17	72	19	4	10	29.78	0.00	28	16	60	19	6	12		
DEC 07									DEC 08									DEC 09								
01	29.72	0.00	26	18	71	18	10	19	30.07	0.00	1	-6	72	31	8	14	30.42	0.00	2	-3	80	20	0	0		
04	29.65	0.00	26	19	77	19	9	15	30.16	0.00	-2	-8	75	29	8	19	30.35	0.00	11	3	71	19	1	7		
07	29.61	0.00	26	21	83	17	3	9	30.27	0.00	-3	-8	79	32	6	10	30.29	0.00	16	13	87	17	4	14		
10	29.58	0.00	28	24	84	18	6	9	30.35	0.00	3	-3	75	32	1	10	30.20	0.00	24	19	80	19	9	29		
13	29.53	0.00	29	25	87	25	4	5	30.36	0.00	7	-4	61	29	4	9	30.09	0.00	31	23	70	18	15	33		
16	29.58	0.00	27	24	90	30	4	8	30.40	0.00	5	-5	63	05	0	3	30.06	0.00	34	25	69	18	8	17		
19	29.77	0.00	14	8	75	29	15	25	30.44	0.00	0	-5	78	15	0	2	30.00	0.00	38	30	74	18	15	29		
22	29.95	0.00	7	-1	70	29	10	21	30.45	0.00	1	-5	76	18	1	3	29.91	0.00	41	36	81	19	15	26		
DEC 10									DEC 11									DEC 12								
01	29.83	0.00	44	39	84	18	10	28	30.16	0.00	18	16	89	32	0	0	29.76	0.00	25	22	91	02	0	0		
04	29.74	0.00	47	44	88	18	14	26	30.16	0.00	18	15	88	32	0	0	29.63	0.00	23	21	91	32	0	0		
07	29.68	0.00	50	47	90	18	9	24	30.16	0.00	15	12	87	32	0	0	29.55	0.00	18	15	89	34	0	0		
10	29.89	0.00	31	29	92	32	4	13	30.17	0.00	16	13	87	32	0	0	29.53	0.00	18	15	89	32	0	0		
13	29.92	0.00	27	25	91	32	0	0	30.09	0.00	21	18	88	32	0	0	29.58	0.00	21	19	89	33	0	0		
16	30.03	0.00	22	20	90	32	0	0	30.03	0.00	20	17	89	32	0	0	29.70	0.00	22	19	89	31	0	0		
19	30.11	0.00	20	17	89	32	0	0	29.99	0.00	20	17	89	36	0	0	29.84	0.00	21	17	85	00	0	0		
22	30.15	0.00	20	17	89	32	0	0	29.90	0.00	21	18	89	36	0	0	29.92	0.00	18	14	82	32	0	0		
DEC 13									DEC 14									DEC 15								
01	30.00	0.00	12	7	82	34	0	0	30.40	0.00	13	7	75	21	3	10	30.19	0.00	37	28	72	20	10	23		
04	30.12	0.00	3	-1	82	01	0	0	30.38	0.00	19	12	75	19	6	12	30.13	0.00	39	30	70	20	15	30		
07	30.21	0.00	-2	-5	83	01	0	0	30.33	0.00	22	15	76	20	7	16	30.07	0.00	42	36	81	21	16	29		
10	30.33	0.00	4	-1	79	08	0	0	30.30	0.00	28	19	68	19	12	29	30.01	0.00	46	40	81	19	20	33		
13	30.33	0.00	12	3	66	31	0	0	30.25	0.00	31	21	66	20	11	28	29.90	0.00	48	43	83	21	15	28		
16	30.36	0.00	8	3	78	13	0	0	30.26	0.00	33	24	71	20	11	30	29.89	0.00	48	45	88	20	14	30		
19	30.39	0.00	7	1	77	21	3	7	30.25	0.00	33	26	75	21	14	26	29.96	0.00	47	43	86	24	9	19		
22	30.41	0.00	11	5	76	20	4	7	30.23	0.00	34	28	77	19	8	20	30.06	0.00	42	29	62	28	13	26		
DEC 16									DEC 17									DEC 18								
01	30.20	0.00	34	20	57	26	4	13	30.35	0.00	20	9	64	11	1	3	30.16	0.00	25	21	84	25	3	7		
04	30.33	0.00	28	16	62	31	5	18	30.24	0.00	18	15	87	08	1	3	30.13	0.00	26	23	88	23	3	7		
07	30.44	0.00	23	9	55	32	6	20	30.09	0.00	21	18	87	18	4	16	30.22	0.00	28	22	80	28	6	11		
10	30.52	0.00	22	6	49	32	11	17	29.98	0.00	24	20	88	20	3	15	30.27	0.00	27	21	78	31	0	2		
13	30.51	0.00	24	8	50	32	4	13	29.92	0.00	26	23	88	20	6	14	30.21	0.00	25	20	81	32	0	2		
16	30.51	0.00	20	7	57	03	1	5	29.98	0.00	29	26	89	23	5	9	30.20	0.00	23	19	86	28	0	0		
19	30.50	0.00	18	8	65	03	1	6	30.08	0.00	28	25	91	30	0	3	30.22	0.00	26	19	76	25	4	13		
22	30.48	0.00	19	9	67	08	0	2	30.13	0.00	25	22	89	25	2	3	30.24	0.00	26	19	76	25	4	13		

MAXIMUM SHORT DURATION PRECIPITATION

Time Period (minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation	0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.13
Ended: Date	01	01	01	01	01	01	01	01	01	01	01	01
Ended: Time	0013	0020	0020	0030	0038	0056	0105	0127	0140	0608	0559	0645

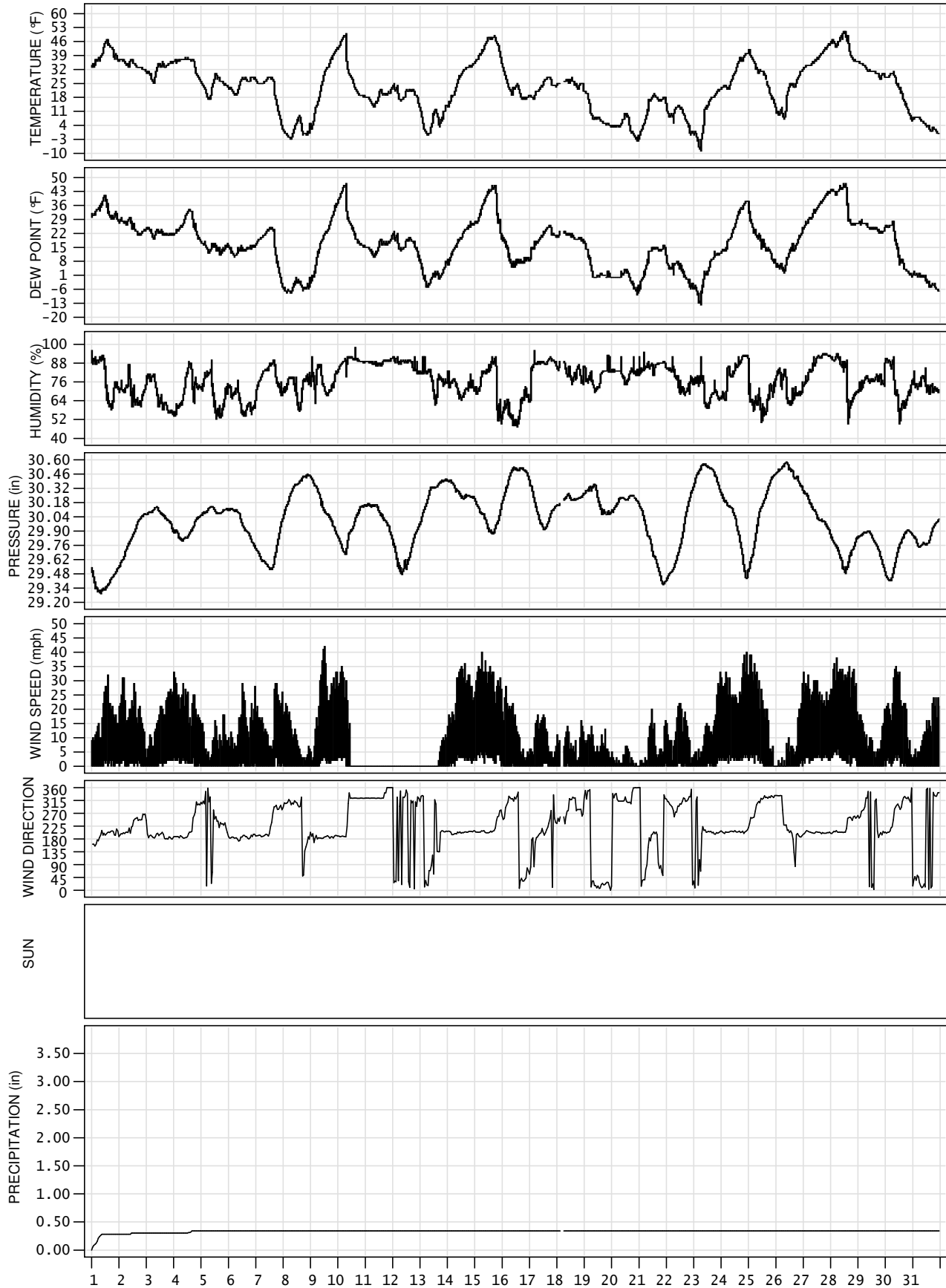
The precipitation amounts may occur at any time during the month. The time indicated is the ending time of the interval. Date and time are not entered for trace amounts.

HOURLY PRECIPITATION (Water Equivalent) December 2008: Westford

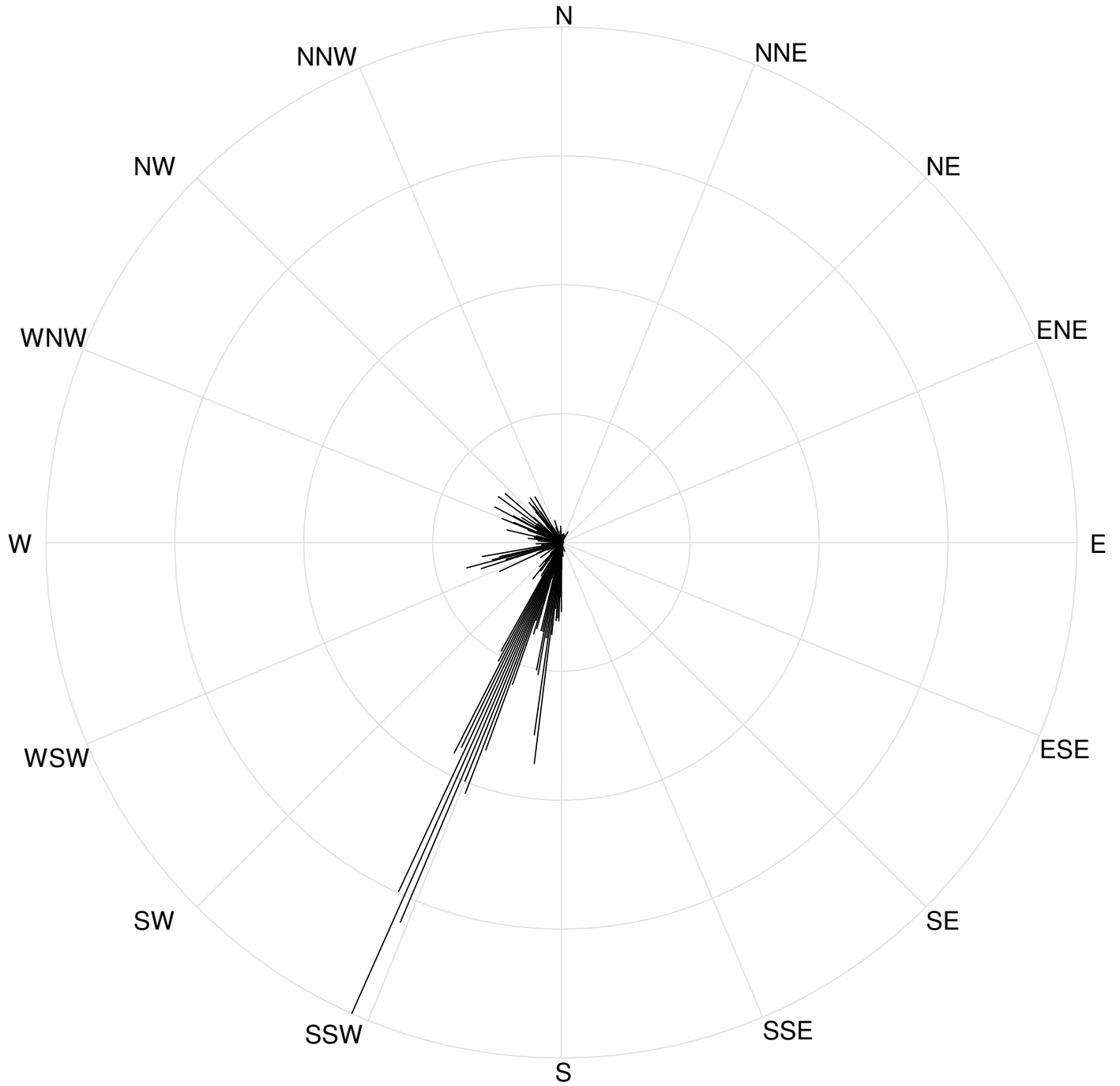
Date	A.M. Hour Ending at												P.M. Hour Ending at												Date
	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	
01	0.05	0.03	0.02	0.02	0.04	0.05	0.03	0.02	0.02															01	
02										0.02														02	
03													0.01		0.01	0.02								03	
04																								04	
05																								05	
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26																								26	
27																								27	
28																								28	
29																								29	
30																								30	
31																								31	
Sum	0.05	0.03	0.02	0.02	0.04	0.05	0.03	0.02	0.02	0.00	0.02	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 December 2008: Westford



Wind Rose: December 2008
Westford



Maximum direction of wind: 270.7 miles from 204°.
4010.8 total miles of wind.