

# LOCAL CLIMATOLOGICAL DATA

## Monthly Summary

### September 2004

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

Date	Temperature					Humidity	Deq F		Precip Ty	Snow Cvr	Precip		Pressure			Wind					Sun										
	Maximum	Minimum	Average	Mean	Dew Point		Mean	Heating Base			Cooling Base	Water Equivalent	Ice Pellets Snow	Adj. to Sea Level			Avg	Res	Res	Peak		Minute									
														Maximum	Minimum	Mean				Speed		Dir	Speed	Dir	Speed	Dir					
1	2	3	4A	4B	5	6	7	8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	71.1	52.9	62.0	60.9	55	83	3	0	.....	0	0.00	0.0	30.20	30.01	30.083	1.4	1.0	278	17	WNW	1	327									
2	65.5	41.1	53.3	52.5	45	77	12	0	.....	0	0.00	0.0	30.34	30.20	30.274	0.7	0.5	285	20	WSW	0	0									
3	78.1	43.5	60.8	62.5	55	79	5	0	.....	0	0.00	0.0	30.24	29.98	30.108	3.2	3.0	190	17	S	0	0									
4	70.8	49.6	60.2	63.5	57	82	5	0	.....	0	0.00	0.0	30.23	29.98	30.114	1.1	0.5	267	13	WNW	0	0									
5	68.6	47.3	57.9	58.3	53	85	8	0	.....	0	0.00	0.0	30.33	30.22	30.282	2.7	2.5	182	20	SSE	3	196									
6	71.3	56.2	63.8	62.5	57	81	2	0	.....	0	0.00	0.0	30.29	30.06	30.191	4.6	4.5	188	21	S	0	0									
7	75.8	60.1	68.0*	67.3	61	80	0	2	.....	0	0.10	0.0	30.06	29.91	29.983	5.4	5.1	193	27	SSW	0	0									
8	65.2	56.7	60.9	60.2	59	97	5	0	.....	0	1.00	0.0	30.17	30.01	30.128	0.3	0.3	356	9	N	1	353									
9	72.3	58.0	65.2	64.2	62	94	0	0	.....	0	0.88	0.0	30.12	29.58	29.829	2.0	1.3	163	20	ESE	0	0									
10	65.5	54.2	59.9	57.7	56	95	6	0	.....	0	0.40	0.0	30.18	29.67	29.974	2.6	2.3	282	22	WNW	0	0									
11	73.9	49.5	61.7	60.9	55	82	4	0	.....	0	0.01	0.0	30.26	30.13	30.199	0.9	0.5	205	8	S	4	217									
12	75.4	54.1	64.8	64.0	58	83	1	0	.....	0	0.00	0.0	30.13	29.99	30.074	2.4	2.3	201	18	S	0	0									
13	61.3	42.5	51.9	54.3	48	81	14	0	.....	0	0.00	0.0	30.29	30.06	30.210	0.8	0.7	337	13	WNW	0	0									
14	71.3	40.5	55.9	56.5	49	78	10	0	.....	0	0.00	0.0	30.33	30.21	30.272	2.8	2.6	192	20	S	4	162									
15	71.3	56.9	64.1	62.9	57	82	1	0	.....	0	0.00	0.0	30.24	30.06	30.162	5.0	4.9	193	21	SSW	0	0									
16	73.3	56.6	65.0	65.1	59	82	1	0	.....	0	0.00	0.0	30.06	29.81	29.953	4.1	4.0	192	24	SSW	0	0									
17	68.3	53.1	60.7	62.7	56	80	5	0	.....	0	0.00	0.0	29.95	29.80	29.881	1.4	0.8	220	18	S	0	0									
18	58.9	46.0	52.5	51.0	45	81	13	0	.....	0	0.09	0.0	30.14	29.94	30.024	1.2	1.0	350	18	WNW	0	0									
19	59.2	38.9	49.1*	46.7	41	81	16	0	.....	0	0.00	0.0	30.32	30.13	30.236	1.2	1.0	347	17	WNW	1	17									
20	63.4	37.2*	50.3	50.1	45	83	15	0	.....	0	0.01	0.0	30.37	30.18	30.294	0.6	0.6	296	17	WNW	0	0									
21	70.3	52.9	61.6	60.1	53	78	4	0	.....	0	0.00	0.0	30.20	30.08	30.135	0.9	0.7	212	10	S	0	0									
22	73.9	54.5	64.2	65.1	57	75	1	0	.....	0	0.00	0.0	30.09	30.02	30.059	1.6	1.2	251	13	WNW	0	0									
23	69.6	47.4	58.5	60.5	54	80	7	0	.....	0	0.00	0.0	30.24	30.07	30.182	0.9	0.6	325	12	NW	0	0									
24	76.8	42.5	59.7	58.9	47	69	6	0	.....	0	0.00	0.0	30.25	30.04	30.167	1.0	0.9	196	10	SSW	0	0									
25	73.2	57.5	65.3	64.0	59	84	0	0	..3.....	0	0.09	0.0	30.04	29.85	29.946	4.0	3.6	194	18	S	0	0									
26	67.8	46.1	57.0	55.9	50	83	9	0	.....	0	0.00	0.0	30.10	29.96	30.048	0.8	0.7	292	11	WNW	1	35									
27	73.3	45.1	59.2	58.4	51	77	6	0	.....	0	0.00	0.0	30.14	29.94	30.043	2.0	1.8	193	16	S	0	0									
28	68.9	49.6	59.3	59.4	55	85	6	0	.....	0	0.00	0.0	29.94	29.84	29.889	1.9	0.6	211	14	WNW	0	0									
29	65.0	41.8	53.4	50.9	44	80	12	0	.....	0	0.00	0.0	29.99	29.93	29.960	0.6	0.5	318	14	WNW	0	0									
30	65.6	38.2	51.9	50.4	46	88	14	0	.....	0	0.00	0.0	30.04	29.97	30.000	0.4	0.2	186	10	SSW	0	0									
Sum	Sum	-----	-----	---	----	Ttl	Ttl	Number of Days		For the month:			---																		
2085	1471					191	2			2.58	0.0	30.37	29.58	30.090	1.9	1.2	208	27	SSW	4	162										
Avg	Avg	Avg	Mean	Avg	Avg	----	----	Precip		Season Ttl	Date	Date	-----	----	----	---	Date	Date	Avg												
69.5	49.0	59.3	58.9	53	82.1	----	----	≥.01 inch	8	35.62	0.0	20	9	-----	----	----	---	7	14												
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			292	184	Thunder	1	Precipitation		Snow, Ice Plts																			
≥ 90°F	< 32°F	< 32°F	< 0°F	----	----	Heavy Fog	0	1.34	8- 9	0.0	-	0	-																		
0	0	0	0	----	----	Clear	7	Partly Cloudy	18	Cloudy	5																				

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/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  
September 2004: Westford

Hour	Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	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
SEP 01																											
01		30.03	0.00	54	53	94	20	0	1		30.23	0.00	52	49	91	33	1	4		30.23	0.00	44	43	97	00	0	0
04		30.02	0.00	56	55	95	00	0	0		30.26	0.00	46	42	87	00	0	0		30.19	0.00	45	44	93	22	0	2
07		30.05	0.00	57	55	92	20	0	2		30.32	0.00	42	40	96	00	0	0		30.19	0.00	51	45	81	18	3	6
10		30.08	0.00	64	60	88	24	2	6		30.34	0.00	56	44	65	02	1	5		30.15	0.00	64	56	74	18	6	14
13		30.08	0.00	67	59	76	29	1	5		30.31	0.00	59	44	57	29	3	7		30.10	0.00	74	62	66	20	5	12
16		30.09	0.00	70	59	67	29	3	11		30.26	0.00	64	44	49	29	1	5		30.03	0.00	78	64	63	20	3	12
19		30.11	0.00	65	54	69	00	0	0		30.24	0.00	60	49	68	00	0	0		29.99	0.00	71	64	78	18	3	10
22		30.17	0.00	55	50	84	22	1	3		30.24	0.00	45	44	96	00	0	0		30.01	0.00	67	62	83	20	2	6
SEP 02																											
SEP 03																											
SEP 04																											
SEP 05																											
SEP 06																											
SEP 07																											
SEP 08																											
SEP 09																											
SEP 10																											
SEP 11																											
SEP 12																											
SEP 13																											
SEP 14																											
SEP 15																											
SEP 16																											
SEP 17																											
SEP 18																											

MAXIMUM SHORT DURATION PRECIPITATION

Time Period (minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ended: Date	00	00	00	00	00	00	00	00	00	00	00	00
Ended: Time	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000

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.

**OBSERVATIONS AT 3-HOUR INTERVALS**  
**September 2004: Westford**

Hour	Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	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
SEP 19									SEP 20									SEP 21									
01		30.13	0.00	46	39	77	00	1	8	30.33	0.00	39	38	97	00	0	0	30.17	0.00	53	47	80	18	0	2		
04		30.15	0.00	41	39	93	00	1	8	30.34	0.00	39	38	96	00	0	0	30.15	0.00	54	48	81	18	4	7		
07		30.20	0.00	43	41	91	02	1	6	30.37	0.00	38	37	97	00	0	0	30.18	0.00	54	50	85	00	0	0		
10		30.25	0.00	47	41	81	02	3	8	30.36	0.00	56	47	73	02	0	2	30.20	0.00	61	52	74	06	0	1		
13		30.25	0.00	54	43	67	29	5	17	30.32	0.00	62	44	51	29	5	17	30.14	0.00	68	55	63	31	0	1		
16		30.25	0.00	58	44	58	29	5	14	30.25	0.00	61	48	62	29	2	5	30.10	0.00	70	59	68	22	1	5		
19		30.29	0.00	50	42	75	00	0	1	30.23	0.00	50	47	88	00	0	0	30.08	0.00	62	57	85	20	2	7		
22		30.32	0.00	41	40	96	00	0	0	30.21	0.00	51	50	96	00	0	0	30.10	0.00	59	56	90	18	0	2		
SEP 22									SEP 23									SEP 24									
01		30.08	0.00	60	51	72	22	0	1	30.08	0.00	64	60	86	00	1	7	30.23	0.00	46	45	96	00	0	0		
04		30.05	0.00	59	52	77	22	2	7	30.11	0.00	61	58	91	00	1	7	30.22	0.00	45	45	97	00	0	0		
07		30.08	0.00	55	52	89	18	0	3	30.18	0.00	57	54	90	00	1	6	30.24	0.00	43	42	97	00	0	0		
10		30.08	0.00	66	56	70	18	4	8	30.23	0.00	63	56	78	29	1	3	30.23	0.00	62	50	63	15	1	3		
13		30.04	0.00	73	60	65	27	3	10	30.22	0.00	67	55	66	00	2	10	30.18	0.00	73	45	36	20	1	7		
16		30.03	0.00	72	60	67	27	1	4	30.19	0.00	69	53	57	29	3	7	30.11	0.00	76	44	32	20	3	7		
19		30.05	0.00	69	61	76	29	4	10	30.20	0.00	55	49	82	00	0	0	30.09	0.00	63	52	66	18	1	6		
22		30.07	0.00	67	61	81	29	2	7	30.23	0.00	49	48	95	00	0	0	30.06	0.00	62	45	53	18	3	7		
SEP 25									SEP 26									SEP 27									
01		30.04	0.00	61	51	71	20	3	7	29.97	0.00	55	53	91	31	0	3	30.08	0.00	46	45	97	00	0	0		
04		30.00	0.00	60	56	85	18	5	12	30.00	0.00	53	51	96	00	0	0	30.09	0.00	46	44	96	00	0	0		
07		29.98	0.00	61	58	89	18	7	17	30.05	0.00	52	51	96	33	0	1	30.13	0.00	45	44	96	00	0	0		
10		29.95	0.00	66	61	84	18	6	12	30.10	0.00	57	52	85	31	0	3	30.11	0.00	61	53	76	18	5	11		
13		29.91	0.00	70	63	77	20	6	13	30.08	0.00	63	49	61	24	2	8	30.06	0.00	70	54	56	22	4	11		
16		29.85	0.00	70	65	83	24	1	6	30.04	0.00	67	48	50	31	1	5	29.99	0.00	73	54	50	18	3	7		
19		29.90	0.00	64	62	91	18	1	5	30.06	0.00	53	49	86	00	0	0	29.97	0.00	62	52	71	18	0	1		
22		29.94	0.00	60	56	87	24	0	2	30.08	0.00	47	46	96	00	0	0	29.94	0.00	59	53	79	18	2	6		
SEP 28									SEP 29									SEP 30									
01		29.91	0.00	57	54	90	18	1	5	29.94	0.00	47	44	89	00	0	0	29.97	0.00	41	40	97	00	0	0		
04		29.88	0.00	57	55	93	20	2	6	29.94	0.00	45	42	89	00	0	0	29.97	0.00	41	40	97	00	0	0		
07		29.88	0.00	57	56	96	18	2	6	29.98	0.00	43	40	90	33	0	1	30.01	0.00	40	39	97	00	0	0		
10		29.88	0.00	61	59	91	18	4	8	29.99	0.00	53	45	73	29	0	3	30.02	0.00	50	49	97	00	0	0		
13		29.85	0.00	67	61	82	27	3	6	29.98	0.00	62	47	59	00	2	7	30.00	0.00	60	48	66	13	3	8		
16		29.86	0.00	65	58	79	29	0	3	29.94	0.00	62	49	63	29	5	13	29.97	0.00	62	51	68	24	1	3		
19		29.91	0.00	56	51	84	02	3	12	29.96	0.00	50	45	84	00	0	0	29.99	0.00	54	52	92	00	0	0		
22		29.94	0.00	52	47	83	02	1	7	29.97	0.00	44	42	95	00	0	0	30.03	0.00	54	52	92	18	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**

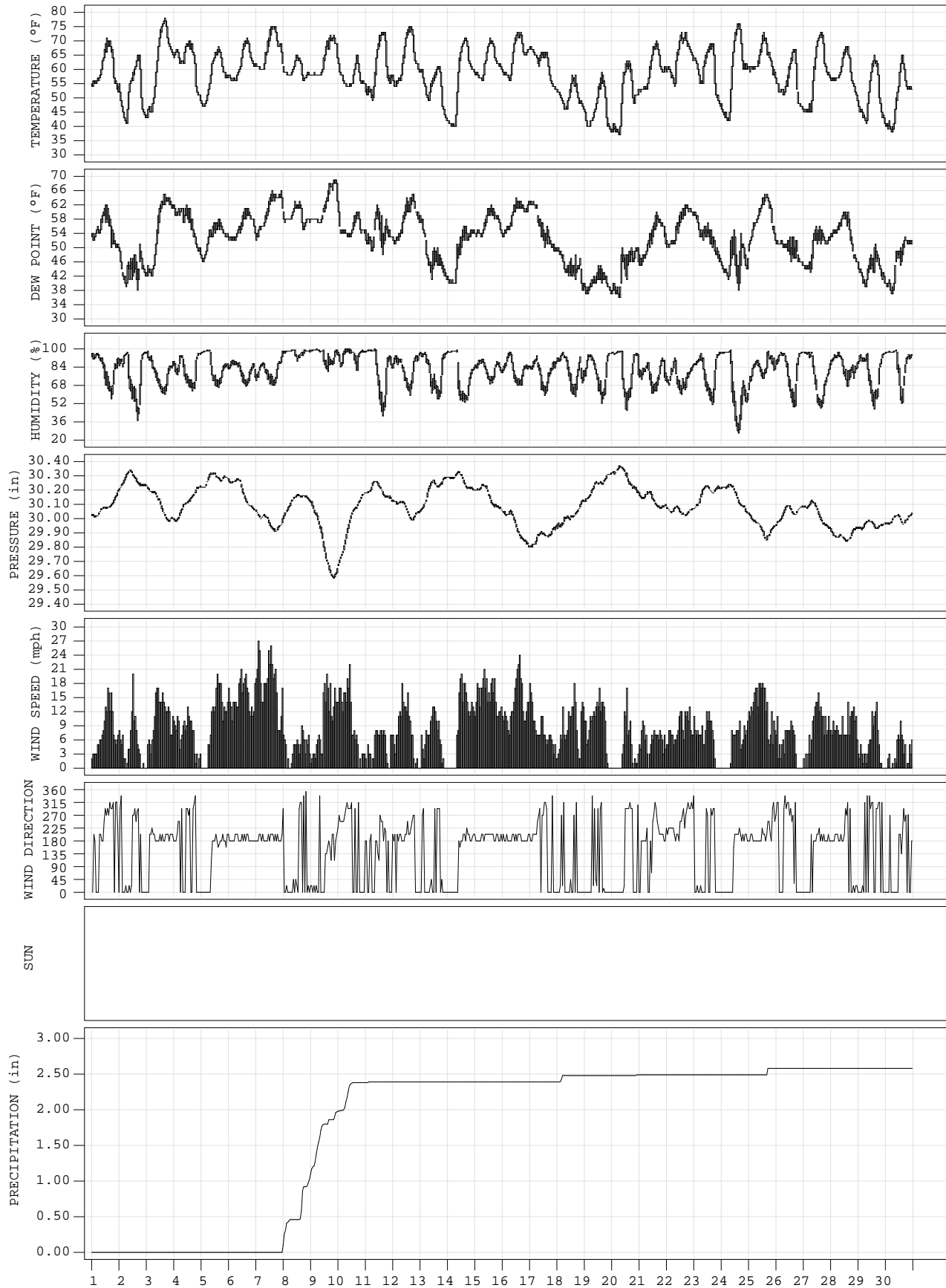
Hour	Averages						Resultant Wind	
	Sunshine	Pressure	Temperature	Dew Point	Humidity	Wind Speed	Direction	Speed
01		30.084	54	51	89	1.3	19	1.1
04		30.083	53	51	91	1.3	20	1.1
07		30.117	52	50	93	1.5	19	1.0
10		30.128	60	54	80	2.5	19	1.6
13		30.098	66	55	68	3.3	22	2.0
16		30.063	68	56	66	2.8	23	1.8
19		30.067	60	55	81	1.2	19	0.9
22		30.082	56	53	88	1.4	20	1.0

HOURLY PRECIPITATION (Water Equivalent)  
**September 2004: Westford**

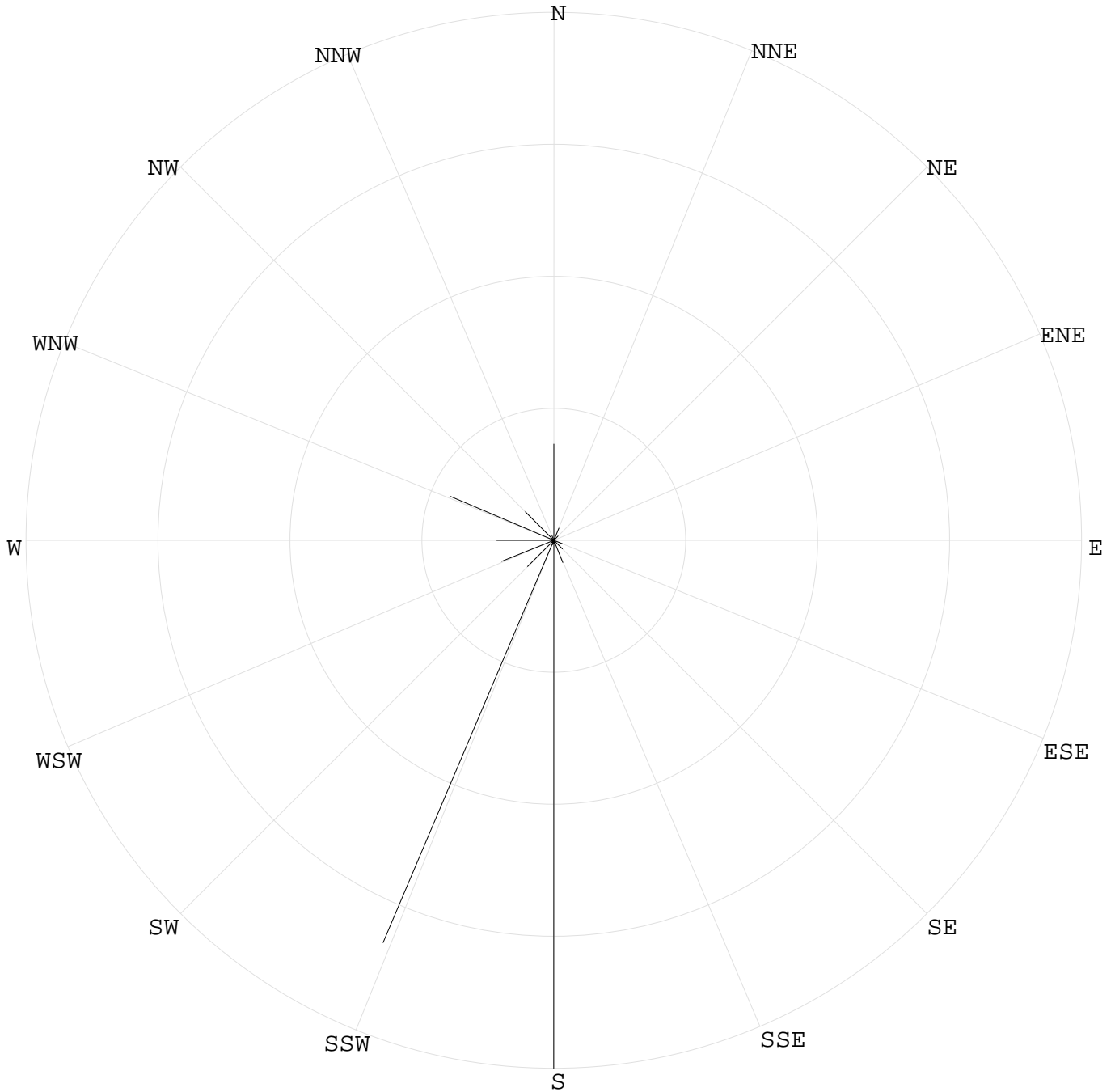
Date	A.M. Hour Ending at												P.M. Hour Ending at												Date
	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	
01																								01	
02																									02
03																									03
04																									04
05																									05
06																									06
07																									07
08	0.16	0.05	0.10	0.01	0.02	0.02										0.01	0.12	0.28	0.05					0.10	08
09	0.07	0.03	0.01	0.06	0.11	0.09	0.07	0.07	0.10	0.06	0.02	0.01								0.01	0.05	0.04	0.08	0.08	09
10		0.01			0.01	0.03	0.08	0.06	0.09	0.07	0.03	0.01	0.01							0.03	0.07	0.01	0.01	0.01	10
11			0.01																						11
12																									12
13																									13
14																									14
15																									15
16																									16
17																									17
18				0.04	0.05																				18
19																									19
20																						0.01			20
21																									21
22																									22
23																									23
24																									24
25																0.09									25
26																									26
27																									27
28																									28
29																									29
30																									30
Sum	0.23	0.09	0.12	0.11	0.19	0.14	0.15	0.13	0.19	0.13	0.05	0.02	0.01	0.00	0.01	0.18	0.37	0.05	0.00	0.00	0.04	0.13	0.05	0.19	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.)

HOURLY-BY-HOURLY DATA  
September 2004: Westford



Wind Rose: September 2004  
Westford



Maximum direction of wind: 511.9 miles from 180°.  
1403.4 total miles of wind.