

# LOCAL CLIMATOLOGICAL DATA

## Monthly Summary

### March 2004

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

Date	Temperature				Humidity	Dew Pt		Precip Ty	Snow Cvr	Precip		Pressure			Wind						Sun		
	Maximum	Minimum	Average	Mean		Mean	Heating Base			Cooling Base	Water Equivalent	Ice Pellets	Adj. to Sea Level			Avg	Res	Res	Peak			Minute	
													Maximum	Minimum	Mean				Speed	Speed		Dir	Speed
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	49.4	28.2	38.8	40.1	29	66	27	0	.....	0	0.00	0.0	30.25	30.01	30.157	2.2	2.1	179	17	S	11	175	
2	47.6	38.3	42.9	43.5	33	68	23	0	.....	9	0.18	0.0	30.01	29.71	29.843	7.7	7.0	201	28	S	20	246	
3	38.5	29.8	34.1	34.4	29	79	31	0	.....	7	0.00	0.0	30.20	29.92	30.105	4.1	3.5	280	21	WSW	0	0	
4	39.3	30.1	34.7	34.8	30	84	31	0	.....	7	T	0.0	30.19	30.06	30.112	1.7	1.5	197	12	S	4	250	
5	44.9	33.4	39.2	38.6	36	92	26	0	.....	6	0.42	0.0	30.19	29.51	29.876	6.2	6.0	173	32	S	0	0	
6	48.3	26.0	37.1	40.0	35	83	28	0	.....	3	0.02	0.1	29.76	29.32	29.480	7.9	4.9	249	28	WNW	6	186	
7	36.8	24.2	30.5	29.1	18	65	35	0	.....	3	0.00	0.0	29.92	29.77	29.842	2.9	2.7	299	22	WNW	0	0	
8	34.6	26.7	30.6	29.9	25	82	35	0	.....	2	0.06	T	29.89	29.66	29.778	0.6	0.4	321	10	WNW	0	0	
9	34.7	22.7	28.7	27.8	20	73	37	0	.....	2	T	T	30.25	29.89	30.065	0.9	0.8	315	13	WNW	2	322	
10	40.9	20.6	30.8	30.3	21	68	35	0	.....	1	0.00	0.0	30.39	30.25	30.321	0.9	0.8	186	11	S	0	0	
11	45.2	21.4	33.3	32.6	23	70	32	0	.....	T	0.00	0.0	30.25	29.68	29.996	0.7	0.6	312	11	WNW	0	0	
12	38.5	26.1	32.3	32.2	26	77	33	0	.....	T	0.02	T	29.84	29.54	29.639	5.5	5.0	248	26	W	9	249	
13	26.1	16.4	21.3	20.7	8	59	44	0	.....	T	0.04	0.8	30.44	29.85	30.177	5.5	5.0	295	25	W	0	0	
14	38.5	10.9	24.7	27.2	9	47	41	0	.....	T	0.00	0.0	30.45	29.86	30.222	5.7	5.5	183	33	S	23	184	
15	35.8	25.0	30.4	33.0	22	64	35	0	.....	T	T	T	30.25	29.82	29.997	8.4	7.0	230	32	S	10	251	
16	24.8	17.5	21.1	19.8	4	51	44	0	.....	T	0.00	0.0	30.37	30.03	30.243	2.0	1.8	341	16	NW	0	0	
17	28.8	15.2	22.0	22.3	12	66	44	0	.....	T	T	T	30.06	29.98	30.024	0.8	0.7	340	8	N	0	0	
18	31.6	18.6	25.1	25.2	21	83	40	0	.....	1	0.13	0.7	30.17	30.02	30.080	1.4	1.3	183	13	S	2	209	
19	32.5	18.3	25.4	26.0	21	81	40	0	.....	T	T	T	30.44	30.17	30.314	0.7	0.6	345	12	NNW	0	0	
20	34.4	17.7	26.1	27.2	22	80	39	0	.....	2	0.29	1.7	30.45	29.61	30.064	6.2	5.9	175	29	S	0	0	
21	35.0	13.1	24.1	27.3	25	91	41	0	.....	7	0.50	6.7	29.90	29.52	29.643	6.3	4.7	275	26	WNW	0	0	
22	16.1	2.0	9.1*	9.6	-5	51	56	0	.....	5	0.02	0.3	30.25	29.90	30.126	5.7	5.2	314	26	NW	6	289	
23	31.8	4.8	18.3	21.2	12	67	47	0	.....	4	0.02	0.2	30.30	30.06	30.178	7.3	6.8	189	32	SSW	0	0	
24	43.3	14.1	28.7	31.5	19	60	37	0	.....	2	0.00	0.0	30.48	30.30	30.401	2.3	1.9	176	17	SSW	0	0	
25	48.0	40.1	44.0	42.8	36	77	21	0	.....	T	0.44	0.0	30.39	30.31	30.363	7.2	7.0	182	29	S	0	0	
26	62.9*	43.8	53.4*	52.1	44	75	12	0	.....	0	0.63	0.0	30.39	30.06	30.234	7.4	7.3	180	24	S	0	0	
27	51.0	33.2	42.1	42.6	41	94	23	0	.....	0	0.14	0.0	30.41	30.05	30.236	2.2	1.2	342	16	SSW	4	183	
28	50.2	27.9	39.1	38.4	32	80	26	0	.....	0	0.00	0.0	30.49	30.39	30.447	1.6	1.2	308	16	W	0	0	
29	59.6	34.6	47.1	46.2	22	41	18	0	.....	0	0.00	0.0	30.43	30.22	30.326	5.0	4.8	176	19	SSW	0	0	
30	62.1	33.5	47.8	46.7	19	36	18	0	.....	0	0.00	0.0	30.24	30.00	30.103	5.1	4.7	178	26	SSW	6	195	
31	45.7	36.0	40.9	41.8	36	80	25	0	.....	0	0.03	0.0	30.01	29.90	29.951	2.5	2.0	183	19	S	0	0	
Sum	Sum	-----	-----	---	----	Ttl	Ttl						For the month:						---				
1257	750					1024	0	Number of Days		2.94	10.5	30.49	29.32	30.076	4.0	2.3	218	33	S	23	184		
Avg	Avg	Avg	Mean	Avg	Avg	----	----	Precip		Season Ttl	Date	Date	-----	----	----	----	----	----	Date	Date	Avg		
40.5	24.2	32.4	32.7	23	70.6	----	----	>.01 inch	15	5.05	119.1	28	6	-----	----	----	----	----	----	14	14		
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				7230	0	Thunder	0	Precipitation		Snow, Ice Plts									
> 90°F	< 32°F	< 32°F	< 0°F	----	----	Heavy Fog	0	0.03	31	6.7	21				9		2						
0	6	23	0	----	----	Clear	6	Partly Cloudy	9	Cloudy	16												

**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<sup>2</sup> 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 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	Direction	Speed	Gust						Direction	Speed	Gust																																																																																																																																																																									
MAR 01									MAR 02									MAR 03																																																																																																																																																																																					
01	30.12	0.00	38	30	73	01	0	3	30.00	0.00	47	29	49	18	7	13	29.95	0.00	37	34	86	24	10	17	04	30.17	0.00	33	28	82	33	0	0	29.92	0.00	41	35	78	18	7	16	29.99	0.00	36	33	89	24	5	10	07	30.23	0.00	29	27	92	19	0	0	29.87	0.00	43	37	54	18	4	8	30.08	0.00	36	32	85	29	8	12	10	30.24	0.00	41	30	65	20	3	5	29.80	0.00	43	35	75	20	4	9	30.13	0.00	35	29	79	31	8	17	13	30.19	0.00	45	31	56	16	4	10	29.72	0.00	45	37	73	18	7	13	30.14	0.00	35	27	73	33	4	7	16	30.17	0.00	48	30	49	20	1	6	29.75	0.00	46	38	75	24	9	20	30.17	0.00	34	26	73	27	2	6	19	30.12	0.00	41	30	66	13	0	3	29.80	0.00	43	35	72	22	8	16	30.19	0.00	32	25	75	00	0	2	22	30.04	0.00	44	29	56	19	5	12	29.89	0.00	40	34	34	3	7	13	30.16	0.00	30	25	82	00	0	0
MAR 04									MAR 05									MAR 06																																																																																																																																																																																					
01	30.11	0.00	30	27	86	00	0	0	30.18	0.00	34	33	94	00	0	0	29.49	0.00	45	42	90	18	11	19	04	30.09	0.00	32	27	82	20	2	5	30.16	0.00	34	32	94	00	0	0	29.42	0.00	47	44	90	18	9	18	07	30.08	0.00	33	28	81	18	3	7	30.14	0.00	36	34	91	15	3	7	29.39	0.00	47	45	91	18	5	10	10	30.09	0.00	36	31	82	18	5	10	30.02	0.00	37	34	88	15	1	5	29.40	0.00	47	40	75	27	9	19	13	30.07	0.00	37	33	85	18	3	6	29.83	0.00	39	36	89	15	8	15	29.37	0.00	43	33	66	24	9	17	16	30.10	0.00	39	32	78	24	1	5	29.63	0.00	40	39	95	18	12	26	29.46	0.00	38	32	81	31	4	11	19	30.14	0.00	36	33	88	24	1	4	29.57	0.00	44	41	90	18	15	26	29.59	0.00	30	26	84	31	8	18	22	30.17	0.00	35	33	93	00	0	0	29.54	0.00	44	41	91	18	12	28	29.70	0.00	27	23	84	29	9	17
MAR 07									MAR 08									MAR 09																																																																																																																																																																																					
01	29.80	0.00	26	20	77	29	8	19	29.75	0.00	28	24	85	00	0	2	29.90	0.00	26	23	86	00	0	0	04	29.86	0.00	25	20	78	31	6	13	29.66	0.00	30	22	74	11	1	6	29.92	0.00	24	21	88	00	0	0	07	29.90	0.00	25	19	78	29	6	13	29.74	0.00	28	20	69	04	0	2	29.99	0.00	24	21	89	00	0	0	10	29.92	0.00	28	19	68	31	4	8	29.79	0.00	30	27	90	00	1	5	30.04	0.00	30	21	70	00	1	5	13	29.84	0.00	33	16	50	24	0	3	29.76	0.00	34	27	74	00	1	3	30.08	0.00	33	22	63	27	6	10	16	29.81	0.00	35	16	44	06	1	3	29.78	0.00	32	28	83	29	5	8	30.11	0.00	33	19	56	00	1	5	19	29.81	0.00	31	19	62	00	0	1	29.85	0.00	30	26	83	33	0	2	30.20	0.00	27	17	65	00	0	1	22	29.80	0.00	30	18	59	02	1	3	29.87	0.00	29	25	85	00	0	0	30.24	0.00	26	17	68	00	0	0
MAR 10									MAR 11									MAR 12																																																																																																																																																																																					
01	30.27	0.00	24	16	74	00	0	0	30.23	0.00	27	21	77	06	1	3	29.66	0.00	32	26	76	18	3	6	04	30.30	0.00	22	15	73	00	0	0	30.21	0.00	23	19	84	00	0	0	29.59	0.00	34	25	69	18	3	6	07	30.35	0.00	23	17	77	00	0	0	30.17	0.00	23	19	85	00	0	2	29.57	0.00	33	30	89	18	0	2	10	30.39	0.00	32	25	73	18	1	5	30.06	0.00	38	22	52	04	1	5	29.54	0.00	38	31	74	31	2	8	13	30.36	0.00	39	23	53	15	0	2	29.95	0.00	41	25	52	31	2	6	29.58	0.00	29	28	93	24	8	13	16	30.33	0.00	39	23	51	20	1	3	29.84	0.00	44	25	46	31	1	5	29.64	0.00	32	24	72	24	8	14	19	30.30	0.00	32	23	68	00	0	0	29.82	0.00	33	26	74	00	0	0	29.72	0.00	30	24	77	22	4	9	22	30.27	0.00	30	22	70	00	0	0	29.75	0.00	30	26	83	00	0	0	29.79	0.00	29	22	76	24	12	20
MAR 13									MAR 14									MAR 15																																																																																																																																																																																					
01	29.89	0.00	25	16	70	29	10	18	30.44	0.00	17	1	49	00	0	0	29.87	0.00	34	25	68	20	12	20	04	29.97	0.00	21	14	74	27	7	13	30.44	0.00	15	2	54	04	0	2	29.86	0.00	33	29	87	20	9	19	07	30.07	0.00	19	8	62	24	6	11	30.44	0.00	12	3	67	00	0	0	29.93	0.00	33	20	58	22	6	13	10	30.17	0.00	17	10	72	31	7	14	30.38	0.00	25	5	40	18	5	8	29.94	0.00	34	22	60	24	10	17	13	30.21	0.00	22	10	58	31	6	12	30.23	0.00	33	4	28	18	6	12	29.98	0.00	35	21	56	24	12	19	16	30.27	0.00	23	7	49	31	7	14	30.04	0.00	38	7	27	18	8	17	30.04	0.00	34	20	56	22	7	14	19	30.36	0.00	20	2	46	31	3	7	29.99	0.00	36	15	41	18	11	22	30.12	0.00	33	21	61	24	8	16	22	30.42	0.00	19	1	45	29	2	6	29.90	0.00	35	23	60	18	17	27	30.19	0.00	30	25	81	00	0	0
MAR 16									MAR 17									MAR 18																																																																																																																																																																																					
01	30.28	0.00	22	11	62	31	3	7	30.03	0.00	18	1	46	00	0	0	30.03	0.00	21	18	85	24	0	2	04	30.30	0.00	19	10	69	00	1	5	30.04	0.00	15	12	85	00	2	5	30.03	0.00	20	17	88	00	0	0	07	30.34	0.00	18	8	66	00	0	7	30.04	0.00	16	12	84	00	1	5	30.06	0.00	21	19	90	18	0	2	10	30.36	0.00	20	5	51	00	2	6	30.06	0.00	23	10	58	33	2	5	30.07	0.00	27	20	77	20	4	10	13	30.26	0.00	23	-6	28	31	3	5	30.01	0.00	27	14	58	00	0	0	30.07	0.00	29	21	70	18	5	8	16	30.21	0.00	21	4	47	31	2	7	29.99	0.00	28	15	56	33	1	3	30.08	0.00	31	21	66	27	1	2	19	30.15	0.00	18	2	48	00	1	7	30.02	0.00	26	18	70	00	0	2	30.13	0.00	27	24	88	00	1	2	22	30.09	0.00	18	-2	41	00	1	6	30.02	0.00	25	17	72	00	0	0	30.16	0.00	27	25	93	00	0	0

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

March 2004: Westford

Hour	MAR 19								MAR 20								MAR 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																														
04																														
07																														
10																														
13																														
16																														
19																														
22																														
MAR 22								MAR 23								MAR 24														
01																														
04																														
07																														
10																														
13																														
16																														
19																														
22																														
MAR 25								MAR 26								MAR 27														
01																														
04																														
07																														
10																														
13																														
16																														
19																														
22																														
MAR 28								MAR 29								MAR 30														
01																														
04																														
07																														
10																														
13																														
16																														
19																														
22																														
MAR 31																														
01																														
04																														
07																														
10																														
13																														
16																														
19																														
22																														

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

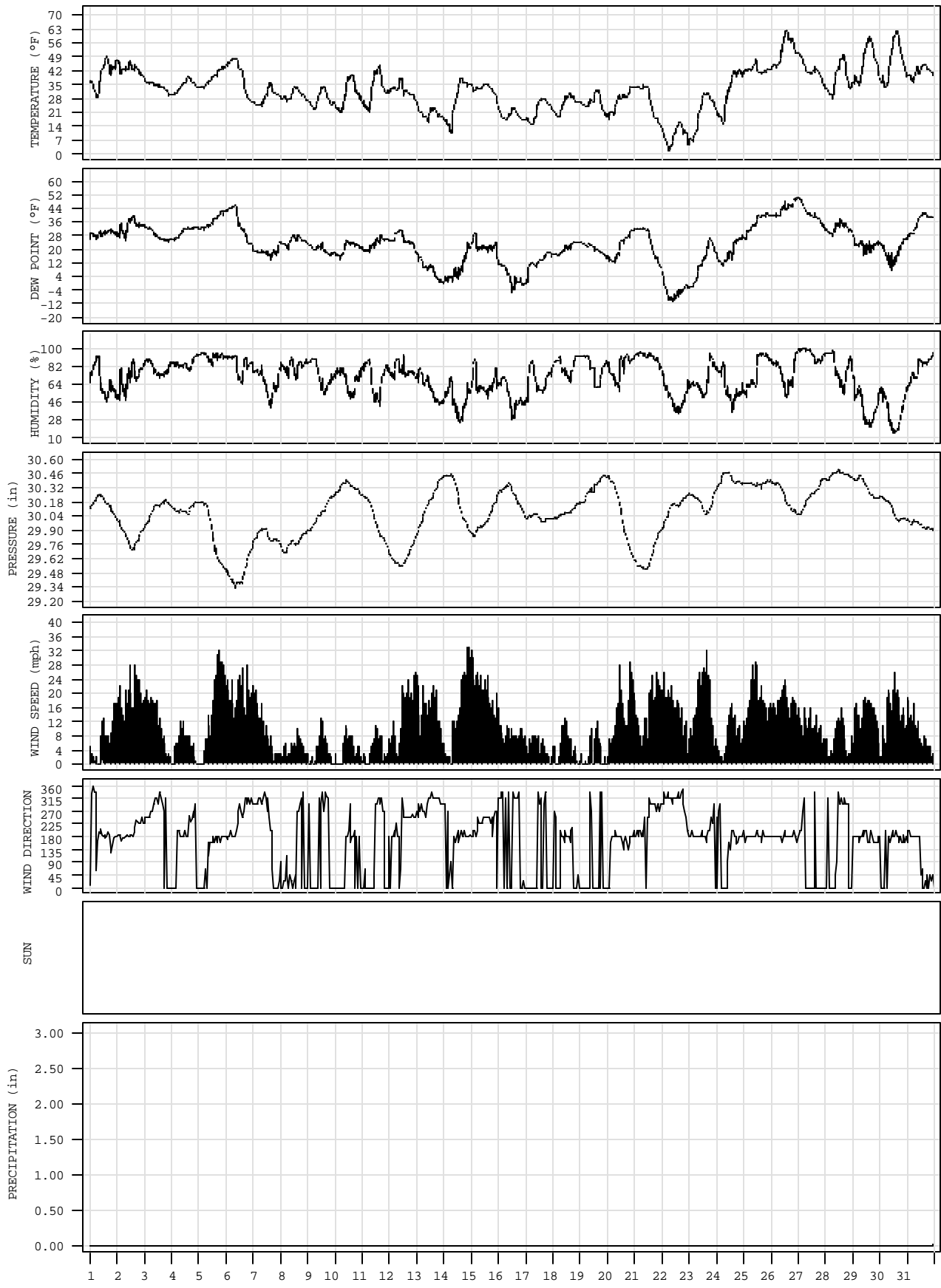
Hour	Averages						Resultant Wind	
	Sunshine	Pressure	Temperature	Dew Point	Humidity	Wind Speed	Direction	Speed
01		30.084	30	23	75	3.4	22	2.2
04		30.080	29	23	78	2.9	21	1.8
07		30.106	29	22	77	2.8	20	1.8
10		30.100	34	23	67	4.7	23	2.6
13		30.059	37	24	63	5.3	22	2.7
16		30.043	37	24	62	4.6	23	2.3
19		30.064	34	24	70	3.8	21	2.4
22		30.072	32	24	75	3.8	21	2.6

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

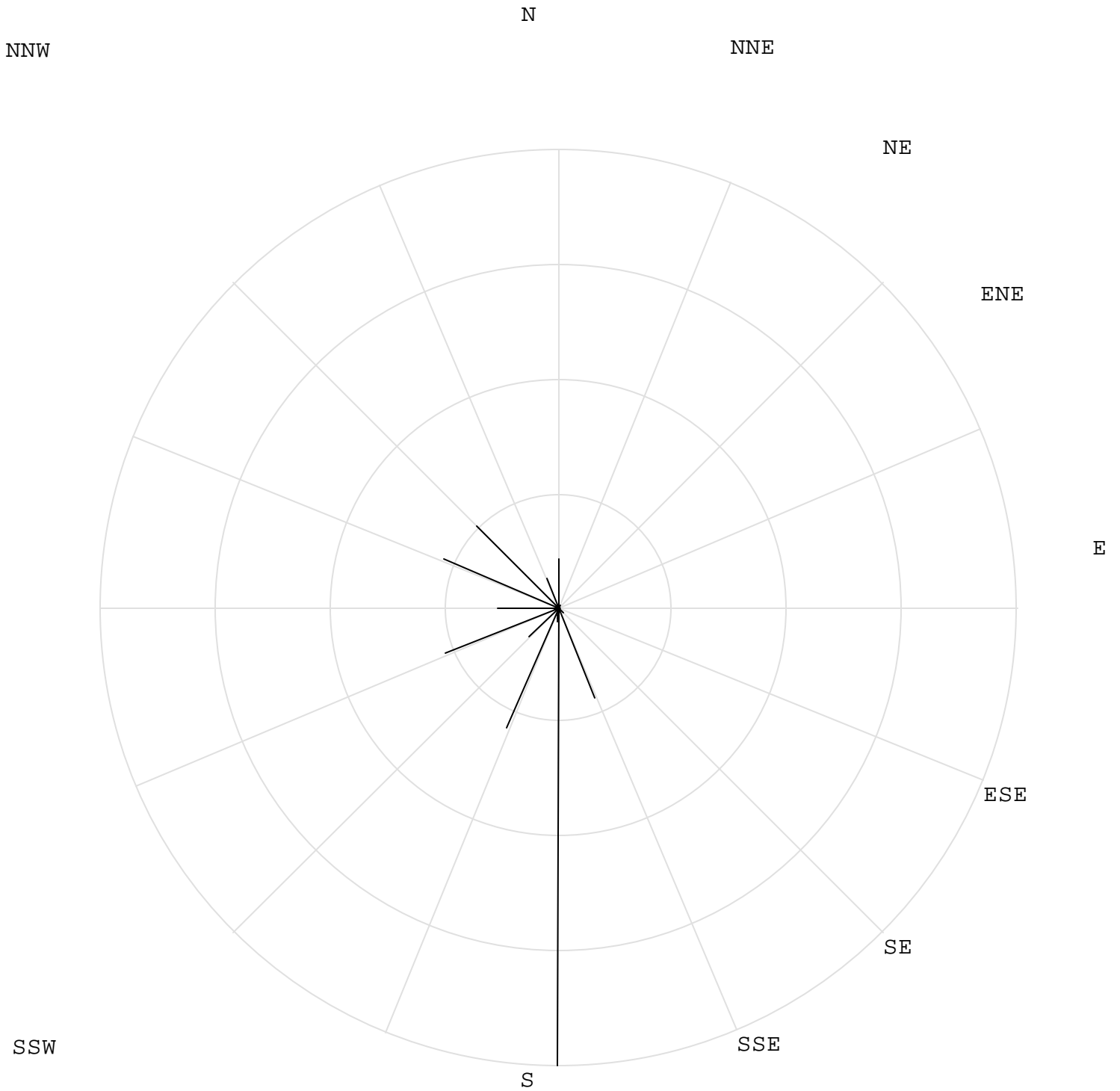
Date	A.M. Hour Ending at												P.M. Hour Ending at												Date
	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	
01																								01	
02																									02
03																									03
04																									04
05																									05
06																									06
07																									07
08																									08
09																									09
10																									10
11																									11
12																									12
13																									13
14																									14
15																									15
16																									16
17																									17
18																									18
19																									19
20																									20
21																									21
22																									22
23																									23
24																									24
25																									25
26																									26
27																									27
28																									28
29																									29
30																									30
31											0.01												0.01	0.01	31
Sum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	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 2004: Westford



Wind Rose: March 2004  
Westford



Maximum direction of wind: 1005.2 miles from 180°.  
2992.3 total miles of wind.