

# LOCAL CLIMATOLOGICAL DATA

## Monthly Summary

### July 2011

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

Date	Temperature					Humidity	Deg. Days		Precip Ty 1 fog 2 hvy 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						Solar Radiation						
	Maximum	Minimum	Average	Mean	Dew Point		Mean	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	72.1	57.0	64.5	63.9	60	87	0	0	.....	0	0.03	0.0	30.03	29.89	29.958	0.5	0.4	298	10	WNW	7	301	133					
2	83.0	54.9	69.0	69.8	60	74	0	4	.....	0	0.00	0.0	30.06	29.83	29.958	0.7	0.7	232	11	W	6	215	296					
3	78.7	64.0	71.3	70.9	64	80	0	7	..3.....	0	0.37	0.0	29.84	29.70	29.757	3.2	3.0	214	18	S	9	223	176					
4	84.4	61.3	72.9	71.8	63	75	0	8	..3.....	0	0.01	0.0	29.78	29.73	29.751	1.2	0.9	240	13	SW	8	221	302					
5	84.2	59.9	72.0	72.7	61	68	0	7	.....	0	0.00	0.0	29.85	29.78	29.820	0.7	0.7	239	11	SW	6	309	279					
6	84.1	60.4	72.3	68.2	62	82	0	7	..3.....	0	0.63	0.0	29.84	29.67	29.793	1.4	1.3	222	26	WNW	14	312	172					
7	75.8	52.2	64.0	65.9	57	76	1	0	.....	0	0.07	0.0	29.93	29.80	29.890	1.0	1.0	310	15	NNW	8	296	289					
8	81.1	49.4	65.3	66.6	57	74	0	0	.....	0	0.00	0.0	29.93	29.71	29.832	0.4	0.4	216	11	ESE	6	252	282					
9	75.3	56.7	66.0	64.8	57	78	0	1	.....	0	0.02	0.0	29.96	29.71	29.833	1.5	1.4	317	17	W	12	308	207					
10	80.5	55.7	68.1	68.8	57	68	0	4	.....	0	0.00	0.0	30.02	29.87	29.953	1.4	1.4	213	14	S	7	217	274					
11	85.9	66.4	76.2	75.7	65	70	0	11	.....	0	0.06	0.0	29.88	29.61	29.772	1.8	1.7	218	16	SSW	7	205	215					
12	84.8	65.1	75.0	72.7	68	87	0	10	.....	0	0.46	0.0	29.66	29.55	29.590	1.0	0.8	287	18	NW	8	314	163					
13	77.5	58.0	67.8	65.0	61	86	0	3	..3.....	0	0.62	0.0	29.89	29.64	29.734	0.9	0.8	318	18	NW	12	304	173					
14	78.3	53.1	65.7	65.0	58	80	0	1	.....	0	0.01	0.0	30.03	29.89	29.974	0.4	0.4	320	11	WNW	6	295	293					
15	81.4	53.1	67.3	67.0	57	73	0	2	.....	0	0.00	0.0	30.07	29.99	30.026	0.4	0.4	313	12	W	7	308	301					
16	85.6	52.6	69.1	68.5	57	70	0	5	.....	0	0.00	0.0	30.11	30.01	30.058	0.2	0.2	268	9	W	5	298	293					
17	86.3	61.0	73.7	74.3	62	67	0	9	.....	0	0.03	0.0	30.02	29.86	29.955	2.0	1.8	244	23	WNW	12	308	262					
18	82.0	64.8	73.4	71.2	66	85	0	9	..3.....	0	0.01	0.0	29.86	29.75	29.799	1.2	1.1	232	12	SW	7	237	177					
19	81.4	58.3	69.9	69.4	61	78	0	5	.....	0	0.01	0.0	29.85	29.76	29.813	0.4	0.4	315	10	NNW	6	308	255					
20	86.7	56.7	71.7	72.7	63	74	0	7	.....	0	0.00	0.0	29.83	29.67	29.756	1.5	1.5	220	15	SW	9	224	271					
21	92.9*	71.0	82.0*	80.1	71	75	0	17	.....	0	T	0.0	29.70	29.48	29.568	3.5	3.3	222	25	SSW	14	230	166					
22	92.1	68.6	80.3	80.7	67	64	0	16	.....	0	0.00	0.0	29.81	29.60	29.717	2.1	2.1	273	18	WNW	11	293	260					
23	89.7	64.5	77.1	77.0	64	66	0	13	.....	0	0.05	0.0	29.84	29.76	29.792	1.6	1.3	269	18	N	10	303	276					
24	79.6	55.4	67.5	67.6	57	71	0	3	.....	0	0.17	0.0	29.95	29.80	29.910	0.8	0.6	346	13	NW	7	298	285					
25	74.3	51.4	62.9*	62.7	58	86	2	0	.....	0	0.10	0.0	29.95	29.67	29.819	0.7	0.6	201	13	SW	6	223	125					
26	78.7	56.9	67.8	66.2	62	87	0	3	..3.....	0	0.14	0.0	29.67	29.52	29.618	2.3	2.0	228	27	NW	15	308	194					
27	77.0	56.1	66.5	64.8	60	84	0	2	.....	0	0.00	0.0	29.97	29.66	29.828	0.7	0.6	322	13	WNW	9	310	206					
28	84.4	53.4	68.9	68.8	59	74	0	4	.....	0	0.00	0.0	30.03	29.91	29.972	0.3	0.3	224	9	SW	5	214	283					
29	77.5	61.9	69.7	69.6	65	87	0	5	.....	0	0.28	0.0	29.93	29.66	29.805	0.9	0.8	219	13	SW	6	222	80					
30	79.5	57.7	68.6	67.5	62	84	0	4	..3.....	0	0.20	0.0	29.98	29.72	29.880	1.0	0.9	315	24	W	14	314	190					
31	83.7	52.9	68.3	67.7	58	75	0	4	.....	0	0.00	0.0	30.03	29.88	29.964	0.3	0.2	278	9	WNW	5	318	275					
<b>Sum</b>	<b>Sum</b>	-----	-----	---	----		<b>Ttl</b>	<b>Ttl</b>					<b>For the month:</b>										---					
2538	1810						3	171					3.27	0.0	30.11	29.48	29.835	1.2	0.8	248	27	NW	15	308				
<b>Avg</b>	<b>Avg</b>	<b>Avg</b>	<b>Mean</b>	<b>Avg</b>	<b>Avg</b>		----	----					<b>Precip</b>	<b>Season Ttl</b>	<b>Date</b>	<b>Date</b>	-----	----	----	---	<b>Date</b>	<b>Date</b>	<b>Avg</b>					
81.9	58.4	70.1	69.6	61	76.9		----	----					≥.01 inch	19	32.02	0.0	16	21	-----	----	----	---	26	26	230			
<b>Number of Days</b>							<b>Season to Date</b>		<b>Snow, Ice ≥1.0 inch</b>		<b>0</b>		<b>Greatest in 24 Hours and Dates</b>					<b>Greatest Depth on Ground of Snow, Ice Pellets or Ice and Date</b>										
<b>Max Temperature</b>			<b>Min Temperature</b>			3		241		<b>Thunder</b>		7		<b>Precipitation</b>			<b>Snow, Ice Plts</b>											
≥ 90°F		≤ 32°F		≤ 32°F		≤ 0°F		----		----		<b>Heavy Fog</b>		0		0.70		6- 7		0.0		-		0			-	
3		0		0		0		----		----		Clear		5		Partly Cloudy		21		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: Solar Radiation 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

## July 2011: Westford

Hour	JUL 01									JUL 02									JUL 03								
	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	0	29.90	0.08	59	57	94	31	0	2	0	30.01	0.00	57	56	96	01	0	0	0	29.81	0.00	70	59	68	20	2	8
04	0	29.90	0.00	58	57	95	28	0	0	0	30.02	0.00	55	54	96	01	0	0	0	29.78	0.00	69	60	71	21	4	9
07	51	29.95	0.00	59	58	96	31	0	2	49	30.03	0.00	60	59	97	23	1	5	18	29.77	0.00	67	61	81	23	4	8
10	754	29.96	0.00	65	61	85	29	0	4	700	30.02	0.00	75	65	71	19	0	4	155	29.77	0.00	67	65	92	20	2	12
13	253	29.97	0.00	68	61	80	29	0	6	868	29.98	0.00	80	66	63	16	0	4	469	29.74	0.00	74	68	81	22	3	14
16	309	29.97	0.00	71	64	79	30	0	1	661	29.88	0.00	82	61	49	21	2	8	404	29.73	0.00	77	69	75	22	4	11
19	139	29.98	0.00	71	63	75	01	0	0	116	29.88	0.00	78	61	56	20	0	10	44	29.70	0.00	75	69	83	22	1	8
22	0	30.02	0.00	59	57	93	01	0	0	0	29.84	0.00	70	59	68	21	2	7	0	29.74	0.00	69	66	91	21	2	6
JUL 04									JUL 05									JUL 06									
01	0	29.75	0.00	63	60	92	20	0	5	0	29.78	0.00	68	57	68	25	3	9	0	29.84	0.00	61	58	88	22	0	1
04	0	29.73	0.00	62	61	96	21	1	4	0	29.80	0.00	62	56	80	24	0	1	0	29.83	0.00	62	57	85	21	0	3
07	65	29.75	0.00	66	65	96	21	4	11	104	29.82	0.00	63	61	91	22	0	5	74	29.83	0.00	66	58	76	20	1	6
10	113	29.77	0.00	74	68	81	25	2	7	550	29.84	0.00	76	64	67	18	2	8	206	29.81	0.00	71	62	72	21	1	15
13	882	29.77	0.00	81	62	52	31	3	8	851	29.82	0.00	83	61	49	21	1	5	250	29.76	0.00	79	66	63	22	4	12
16	670	29.75	0.00	84	60	45	30	2	8	274	29.83	0.00	84	67	56	31	0	5	190	29.74	0.00	66	62	89	20	1	10
19	90	29.74	0.00	80	63	56	32	0	0	93	29.82	0.00	78	65	64	22	0	3	151	29.76	0.05	68	66	93	09	0	3
22	0	29.76	0.00	64	58	83	32	0	0	0	29.84	0.00	69	61	77	21	0	1	0	29.79	0.00	64	63	95	21	0	4
JUL 07									JUL 08									JUL 09									
01	0	29.81	0.00	65	64	96	23	1	3	0	29.93	0.00	51	48	89	02	0	0	0	29.71	0.00	67	62	85	22	0	5
04	0	29.83	0.00	62	61	95	30	2	6	0	29.91	0.00	50	48	93	02	0	0	0	29.72	0.00	58	56	92	03	0	0
07	37	29.88	0.00	61	59	96	31	0	3	62	29.90	0.00	52	51	95	02	0	0	84	29.78	0.00	59	58	95	01	0	5
10	698	29.92	0.00	70	60	70	30	5	10	737	29.88	0.00	74	60	61	22	1	4	318	29.82	0.00	63	59	88	31	6	13
13	911	29.92	0.00	74	57	57	30	2	8	816	29.83	0.00	78	60	54	18	1	7	158	29.85	0.00	70	62	76	32	0	7
16	657	29.92	0.00	76	53	45	31	4	9	575	29.77	0.00	80	61	52	21	1	8	698	29.87	0.00	75	57	53	30	6	12
19	127	29.91	0.00	71	57	61	34	0	2	105	29.74	0.00	76	64	68	19	1	3	88	29.91	0.00	71	56	58	30	1	10
22	0	29.92	0.00	54	50	86	02	0	0	0	29.74	0.00	68	62	82	20	0	2	0	29.95	0.00	60	53	78	27	1	4
JUL 10									JUL 11									JUL 12									
01	0	29.97	0.00	56	52	84	22	3	5	0	29.88	0.00	68	58	71	20	2	6	0	29.60	0.14	69	67	95	00	0	1
04	0	29.97	0.00	57	52	83	20	0	1	0	29.86	0.00	67	59	74	20	1	7	0	29.56	0.00	68	67	96	21	0	3
07	100	30.00	0.00	60	54	79	20	1	4	74	29.87	0.00	69	60	75	21	2	8	76	29.57	0.00	69	68	97	24	0	3
10	299	30.01	0.00	70	58	64	22	1	9	694	29.84	0.00	79	66	66	19	1	8	102	29.58	0.00	71	69	95	24	0	3
13	863	29.96	0.00	78	59	53	22	3	8	464	29.78	0.00	84	68	59	23	1	8	221	29.59	0.00	78	71	78	29	4	8
16	661	29.92	0.00	80	61	53	21	2	11	206	29.71	0.00	82	69	63	19	0	9	668	29.57	0.00	83	71	68	28	1	7
19	77	29.90	0.00	76	60	57	21	2	11	53	29.65	0.00	81	69	67	21	1	7	32	29.61	0.00	72	67	85	31	0	5
22	0	29.89	0.00	71	58	65	21	2	8	0	29.65	0.00	76	67	75	30	1	8	0	29.64	0.00	69	64	86	31	0	1
JUL 13									JUL 14									JUL 15									
01	0	29.66	0.00	68	65	89	30	4	8	0	29.90	0.00	59	57	96	02	0	3	0	30.00	0.00	58	55	91	34	0	0
04	0	29.65	0.00	60	57	90	01	0	2	0	29.91	0.00	54	53	96	03	0	0	0	30.00	0.00	54	53	95	34	0	0
07	120	29.70	0.00	62	61	96	31	3	7	44	29.98	0.00	54	53	96	03	0	0	40	30.04	0.00	57	56	96	34	0	0
10	139	29.72	0.00	72	62	72	28	5	8	663	30.03	0.00	69	63	81	01	0	3	657	30.06	0.00	74	60	63	03	1	4
13	049	29.71	0.00	76	62	64	31	2	7	877	30.00	0.00	76	62	62	29	0	7	868	30.03	0.00	78	60	55	30	4	9
16	12	29.75	0.68	65	60	84	31	6	10	473	29.99	0.00	77	59	54	02	1	7	675	30.01	0.00	81	59	47	31	3	6
19	39	29.81	0.40	63	61	94	04	1	8	120	29.97	0.00	72	61	68	34	0	0	70	30.01	0.00	78	62	57	34	0	0
22	0	29.86	0.00	59	57	95	03	0	2	0	30.00	0.00	58	54	89	34	0	0	0	30.04	0.00	58	52	83	34	0	0
JUL 16									JUL 17									JUL 18									
01	0	30.05	0.00	55	52	90	34	0	0	0	30.01	0.00	62	55	77	21	0	4	0	29.86	0.00	66	62	89	22	1	5
04	0	30.07	0.00	53	51	94	34	0	0	0	30.00	0.00	62	55	79	21	1	4	0	29.81	0.00	67	62	84	20	1	7
07	62	30.10	0.00	57	55	96	34	0	0	42	30.01	0.00	66	58	75	20	0	8	95	29.82	0.00	67	64	90	23	0	5
10	438	30.10	0.00	76	60	58	22	0	1	622	29.99	0.00	77	66	68	22	1	10	120	29.82	0.00	70	67	91	22	3	9
13	779	30.08	0.00	82	62	52	27	0	5	490	29.96	0.00	83	66	58	22	2	9	438	29.79	0.00	75	69	81	22	4	9
16	675	30.04	0.00	84	58	41	26	1	5	659	29.91	0.00	85	66	52	28	2	9	707	29.77	0.00	82	71	70	26	2	9
19	86	30.01	0.00	82	61	49	20	0	2	86	29.87	0.00	83	68	60	25	1	6	37	29.76	0.00	76	69	81	29	0	1
22	0	30.02	0.00	61	56	84	20	0	0	0	29.92	0.00	79	62	56	27	10	22	0	29.78	0.00	67	64	92	22	1	4

### MAXIMUM SHORT DURATION PRECIPITATION

Time Period (minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation	0.26	0.43	0.57	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Ended: Date	06	06	06	06	06	06	06	06	06	06	06	06
Ended: Time	1500	1507	1508	1509	1509	1509	1509	1509	1509	1509	1509	1509

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

## July 2011: Westford

Hour	JUL 19									JUL 20									JUL 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	0	29.78	0.00	65	64	95	24	2	6	0	29.82	0.00	58	56	93	34	0	0	0	29.68	0.00	73	65	78	20	2	10
04	0	29.78	0.00	64	63	95	28	0	2	0	29.82	0.00	57	55	94	34	0	0	0	29.63	0.00	73	66	80	20	4	11
07	44	29.82	0.00	63	62	96	29	2	5	81	29.81	0.00	63	57	81	21	1	5	84	29.60	0.00	74	68	80	22	5	18
10	603	29.84	0.00	74	62	66	34	0	4	550	29.79	0.00	76	65	70	19	1	7	58	29.53	0.00	75	69	82	21	5	14
13	847	29.84	0.00	79	64	60	30	3	8	802	29.76	0.00	83	69	63	21	3	8	582	29.50	0.00	83	73	73	22	8	17
16	624	29.82	0.00	81	63	54	31	1	7	585	29.70	0.00	86	70	59	22	5	11	724	29.49	0.00	92	76	61	25	3	21
19	100	29.82	0.00	74	62	67	00	0	0	118	29.68	0.00	84	72	68	20	0	7	58	29.53	0.00	88	76	67	25	1	7
22	0	29.83	0.00	59	55	87	00	0	0	0	29.70	0.00	73	64	72	23	0	1	0	29.56	0.00	84	74	73	22	2	11
JUL 22									JUL 23									JUL 24									
01	0	29.62	0.00	82	74	77	23	3	9	0	29.78	0.00	69	62	79	20	0	0	0	29.83	0.00	70	66	88	02	1	8
04	0	29.62	0.00	79	71	76	23	2	8	0	29.79	0.00	73	57	56	20	0	8	0	29.85	0.00	61	56	82	03	0	5
07	46	29.69	0.00	76	68	76	27	2	9	56	29.83	0.00	66	62	89	21	0	1	28	29.92	0.00	59	53	81	01	0	3
10	628	29.72	0.00	83	71	68	29	6	12	631	29.81	0.00	79	68	67	25	2	9	654	29.94	0.00	70	57	63	06	0	5
13	849	29.73	0.00	87	68	53	25	3	13	833	29.78	0.00	85	67	55	24	4	12	860	29.93	0.00	74	59	59	30	5	11
16	671	29.74	0.00	92	63	38	29	0	9	225	29.76	0.00	88	66	48	30	1	9	329	29.92	0.00	78	60	54	00	1	7
19	60	29.78	0.00	79	61	54	24	1	7	149	29.76	0.00	84	68	59	28	0	4	171	29.91	0.00	75	56	53	02	0	6
22	0	29.80	0.00	71	62	74	18	0	0	0	29.79	0.00	74	64	73	24	0	6	0	29.95	0.00	57	53	87	02	0	0
JUL 25									JUL 26									JUL 27									
01	0	29.93	0.00	56	54	91	02	0	1	0	29.66	0.00	62	60	93	22	2	8	0	29.67	0.00	57	56	95	20	0	4
04	0	29.90	0.00	52	50	93	02	0	0	0	29.63	0.00	64	62	95	22	3	8	0	29.71	0.00	58	57	96	25	1	6
07	47	29.90	0.00	53	52	95	02	0	0	98	29.64	0.00	65	63	95	20	3	8	30	29.78	0.00	60	59	96	27	1	7
10	476	29.85	0.00	73	61	66	22	4	7	244	29.62	0.00	72	64	75	24	2	10	98	29.83	0.00	65	61	86	32	2	8
13	102	29.83	0.00	69	64	84	24	0	2	935	29.58	0.00	71	68	90	23	1	9	417	29.86	0.00	71	62	74	31	5	10
16	698	29.76	0.00	74	65	72	15	2	9	167	29.54	0.00	75	65	71	24	5	11	791	29.88	0.00	74	62	66	03	2	8
19	35	29.73	0.00	64	61	90	20	3	10	192	29.61	0.00	67	60	77	10	0	3	153	29.90	0.00	73	60	64	03	1	3
22	0	29.70	0.00	62	59	92	19	0	3	0	29.65	0.00	58	56	94	20	0	4	0	29.95	0.00	58	55	91	03	0	0
JUL 28									JUL 29									JUL 30									
01	0	29.98	0.00	55	54	94	03	0	0	0	29.91	0.00	66	58	76	20	0	1	0	29.75	0.00	68	67	96	22	0	1
04	0	29.98	0.00	54	53	95	03	0	0	0	29.85	0.00	64	60	87	17	0	1	0	29.76	0.00	62	61	96	28	2	4
07	35	30.02	0.00	56	55	96	03	0	0	51	29.86	0.00	68	64	89	20	2	5	54	29.85	0.00	61	60	96	31	0	7
10	540	30.02	0.00	75	64	70	19	0	1	257	29.83	0.00	73	67	81	21	4	9	190	29.90	0.00	65	63	95	35	1	5
13	925	29.99	0.00	81	65	57	20	0	5	234	29.79	0.00	77	68	75	20	2	10	972	29.93	0.00	74	66	78	30	5	8
16	636	29.95	0.00	84	62	49	22	1	6	49	29.75	0.00	74	69	85	20	0	10	643	29.92	0.00	79	68	68	32	0	9
19	40	29.93	0.00	80	60	51	22	0	5	37	29.70	0.00	72	70	95	28	1	7	155	29.92	0.00	75	62	64	31	0	9
22	0	29.93	0.00	66	58	76	21	0	4	0	29.75	0.00	67	66	95	22	0	0	0	29.96	0.00	58	54	86	31	0	1
JUL 31																											
01	0	29.98	0.00	59	55	86	31	0	1																		
04	0	29.98	0.00	54	52	93	32	0	0																		
07	26	30.02	0.00	56	55	96	28	0	3																		
10	635	30.02	0.00	74	61	65	21	1	6																		
13	854	30.00	0.00	79	61	55	31	0	4																		
16	520	29.93	0.00	83	62	49	28	0	3																		
19	72	29.89	0.00	76	64	67	32	0	0																		
22	0	29.91	0.00	61	58	89	32	0	0																		

### 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

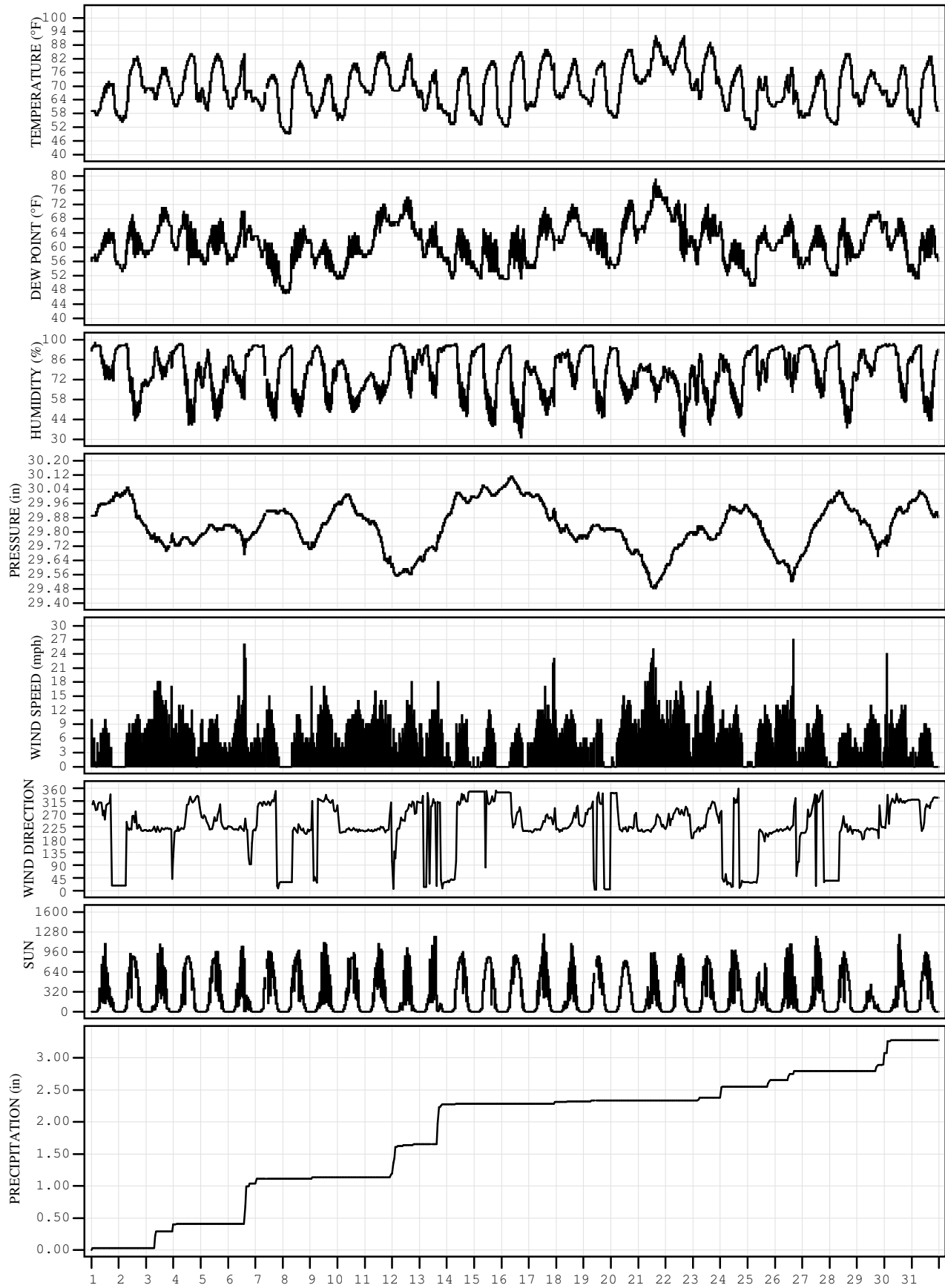
Hour	Averages						Resultant Wind	
	Sunshine	Pressure	Temperature	Dew Point	Humidity	Wind Speed	Direction	Speed
01	0	29.833	63	59	87	0.9	24	0.7
04	0	29.828	61	57	88	0.7	23	0.6
07	61	29.857	62	59	90	1.0	24	0.8
10	436	29.859	72	63	74	1.9	26	1.3
13	668	29.840	78	64	65	2.4	26	1.8
16	511	29.816	80	64	60	1.9	27	1.3
19	93	29.814	75	64	68	0.5	23	0.3
22	0	29.835	65	60	83	0.7	25	0.6

## HOURLY PRECIPITATION (Water Equivalent) July 2011: Westford

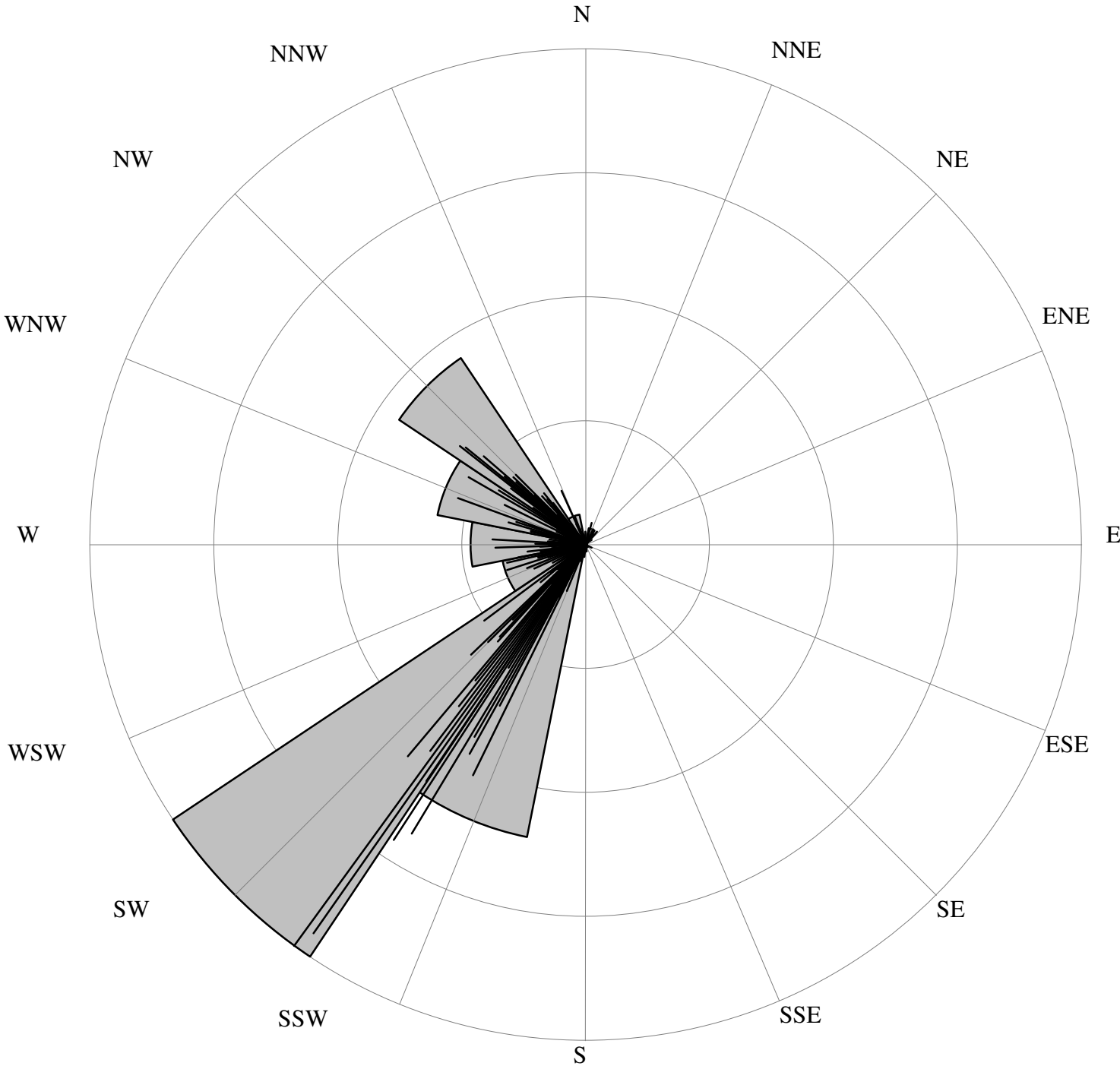
Date	A.M. Hour Ending at												P.M. Hour Ending at												Date
	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	
01	0.03																							01	
02																								02	
03							0.19	0.07															0.11	03	
04			0.01																					04	
05																								05	
06															0.27	0.31			0.05					06	
07	0.07																							07	
08																								08	
09		0.02																						09	
10																								10	
11																						0.05	0.01	11	
12	0.17	0.07	0.18		0.01					0.02									0.01					12	
13															0.32	0.26			0.02	0.02				13	
14							0.01																	14	
15																								15	
16																								16	
17																						0.03		17	
18										0.01														18	
19							0.01																	19	
20																								20	
21																								21	
22																								22	
23					0.02	0.03																		23	
24	0.16	0.01																						24	
25																	0.05	0.04	0.01					25	
26											0.06	0.04				0.04								26	
27																								27	
28																								28	
29																0.06	0.03	0.01				0.01	0.17	29	
30			0.19			0.01																		30	
31																								31	
<b>Sum</b>	0.43	0.10	0.38	0.00	0.03	0.04	0.01	0.20	0.07	0.03	0.00	0.06	0.04	0.00	0.27	0.63	0.36	0.08	0.13	0.03	0.00	0.00	0.09	0.29	<b>Sum</b>

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  
July 2011: Westford



Wind Rose: July 2011  
Westford



Maximum direction of wind: 45.2 miles from 216°  
Maximum sector of wind: 296.2 miles from SW  
859.7 total miles of wind