

LOCAL CLIMATOLOGICAL DATA

Monthly Summary

July 2015

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		2 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	72.6	59.6	66.1	64.0	61	91	0	2	..3.....	0	1.37	0.0	29.80	29.57	29.657	1.1	1.0	245	22	WSW	10	261	81	
2	72.0	50.0	61.0	61.1	51	72	4	0	.....	0	0.00	0.0	29.87	29.71	29.815	1.7	1.7	281	19	WNW	9	285	311
3	75.6	46.3	60.9	61.5	52	73	4	0	.....	0	0.00	0.0	29.94	29.86	29.903	0.3	0.2	281	13	NW	7	284	297
4	72.6	49.7	61.1	61.0	57	86	3	0	..3.....	0	0.16	0.0	29.93	29.86	29.900	1.2	1.2	219	19	SW	10	212	152	
5	79.1	56.6	67.8	66.2	61	83	0	3	.....	0	0.01	0.0	30.08	29.92	30.004	0.7	0.6	266	12	NW	8	313	264
6	81.5	54.6	68.0	68.1	61	80	0	4	.....	0	0.00	0.0	30.12	29.98	30.056	0.4	0.3	258	9	SSW	7	299	272
7	83.3	62.3	72.8	73.6	68	82	0	8	.....	0	T	0.0	29.99	29.75	29.868	3.1	3.1	210	24	S	10	213	244
8	72.1	51.9	62.0	63.6	59	85	3	0	.....	0	0.54	0.0	30.01	29.72	29.905	1.0	0.7	265	26	NW	10	317	231
9	73.6	50.4	62.0	61.9	58	87	3	0	.....	0	T	0.0	30.01	29.81	29.906	0.3	0.3	219	13	SW	7	210	160
10	79.2	55.6	67.4	67.3	59	78	0	3	.....	0	0.00	0.0	29.95	29.82	29.896	0.7	0.7	304	15	NW	8	299	293
11	83.3	56.7	70.0	70.3	60	73	0	5	.....	0	0.00	0.0	30.01	29.92	29.966	0.6	0.5	265	14	SSW	8	296	268
12	84.6	64.4	74.5	73.4	64	74	0	10	.....	0	0.00	0.0	29.95	29.86	29.910	0.8	0.8	257	16	WSW	8	314	267
13	84.3	62.3	73.3	72.8	67	84	0	8	.....	0	0.00	0.0	29.89	29.69	29.804	0.5	0.5	218	14	SSW	8	221	244
14	81.3	64.1	72.7	71.3	65	81	0	8	.....	0	T	0.0	29.70	29.48	29.576	1.1	1.1	212	20	SW	9	217	206
15	69.1	49.3	59.2	59.5	54	84	6	0	.....	0	1.16	0.0	29.95	29.51	29.753	0.7	0.7	6	20	NW	6	18	221
16	71.6	42.5*	57.0*	57.1	49	78	7	0	.....	0	0.00	0.0	30.09	29.94	30.037	0.2	0.1	336	11	W	5	295	300
17	75.3	44.8	60.1	61.2	54	80	5	0	.....	0	0.01	0.0	30.06	29.87	29.988	0.6	0.6	215	18	S	8	215	202
18	81.5	62.0	71.8	69.6	66	89	0	7	.....	0	0.27	0.0	29.87	29.74	29.781	2.3	2.2	218	20	S	10	219	186
19	86.2	62.9	74.5	71.9	69	91	0	10	..3.....	0	0.04	0.0	29.79	29.59	29.680	1.1	1.1	218	16	W	8	221	171	
20	82.8	61.9	72.4	72.1	64	78	0	8	..3.....	0	0.00	0.0	29.63	29.57	29.604	1.7	1.6	255	14	NW	9	301	288	
21	81.2	58.5	69.8	67.1	62	85	0	5	..3.....	0	0.61	0.0	29.60	29.47	29.543	0.8	0.7	236	25	WNW	18	298	189	
22	73.4	54.1	63.8	62.7	58	86	1	0	.....	0	0.10	0.0	29.77	29.59	29.669	0.4	0.4	300	16	NW	9	304	205
23	74.7	56.4	65.5	64.0	58	81	0	1	.....	0	0.01	0.0	29.85	29.77	29.809	0.7	0.7	297	19	WNW	9	300	254
24	73.7	54.5	64.1	61.9	58	89	0	0	.....	0	0.17	0.0	29.92	29.84	29.880	0.2	0.2	300	11	WNW	6	289	188
25	80.2	51.5	65.8	65.9	60	81	0	1	.....	0	0.00	0.0	29.96	29.85	29.907	0.1	0.1	237	10	W	5	278	237
26	81.3	63.1	72.2	69.8	65	86	0	7	.....	0	0.00	0.0	29.90	29.83	29.857	0.7	0.7	215	14	WSW	7	217	165
27	84.9	59.5	72.2	71.1	66	85	0	8	.....	0	0.00	0.0	29.95	29.88	29.909	0.2	0.2	229	11	SSW	5	217	247
28	86.7	59.8	73.2	72.7	67	84	0	9	..3.....	0	0.41	0.0	29.96	29.87	29.906	0.2	0.2	212	13	N	7	219	258	
29	91.6*	62.7	77.1*	74.7	68	80	0	13	..3.....	0	T	0.0	29.91	29.80	29.858	0.2	0.2	231	13	SSW	7	273	252	
30	79.8	66.0	72.9	72.4	68	86	0	8	.....	0	0.24	0.0	29.80	29.64	29.705	1.2	1.2	217	19	SSW	9	208	131
31	79.6	60.2	69.9	69.0	60	75	0	5	.....	0	0.00	0.0	29.73	29.66	29.693	1.1	1.0	264	21	WNW	9	270	211
Sum	Sum	-----	-----	---	----		Ttl	Ttl			Total	Total	For the month:					---						
	2449	1754					36	133	Number of Days		5.10	0.0	30.12	29.47	29.830	0.8	0.6	242	26	NW	18	298		
Avg	Avg	Avg	Mean	Avg	Avg		----	----	Precip		Season Ttl	Date	Date	-----	----	----	----	Date	Date	Avg				
	79.0	56.6	67.8	67.1	61	82.2	----	----	≥.01 inch	14	25.16	0.0	6	21	-----	----	----	8	21	225				
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			36	198	Thunder	7	Precipitation		Snow, Ice Plts												
≥ 90°F	≤ 32°F	≤ 32°F	≤ 0°F	----	----			Heavy Fog	0	1.37	1	0.0	-	0			-							
1	0	0	0	----	----			Clear	4	Partly Cloudy		22	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 2015: 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						
JUL 19									JUL 20									JUL 21									
01	0	29.78	0.00	64	63	96	12	0	0	0	29.58	0.00	70	69	95	22	1	9	0	29.60	0.00	60	58	93	24	0	0
04	0	29.74	0.00	65	65	97	21	0	5	0	29.59	0.00	66	65	95	20	1	7	0	29.58	0.00	59	57	95	24	0	0
07	44	29.73	0.00	68	67	97	20	5	11	40	29.61	0.00	68	65	91	27	0	11	114	29.57	0.00	64	60	86	22	0	2
10	60	29.73	0.00	71	69	93	10	0	6	663	29.63	0.00	75	66	75	22	0	11	473	29.54	0.00	74	65	73	17	0	9
13	812	29.68	0.00	81	75	82	21	3	131	018	29.62	0.00	79	64	59	25	2	9	346	29.48	0.00	78	66	66	16	3	9
16	285	29.60	0.00	83	75	78	21	5	13	649	29.61	0.00	82	61	49	24	3	13	656	29.51	0.00	70	68	95	20	2	6
19	21	29.61	0.00	74	70	87	03	0	0	86	29.59	0.00	74	63	68	24	0	1	42	29.51	0.00	74	66	77	23	0	5
22	0	29.61	0.00	69	67	93	06	0	0	0	29.60	0.00	63	60	89	24	0	0	0	29.56	0.00	63	60	90	23	0	0
JUL 22									JUL 23									JUL 24									
01	0	29.59	0.00	60	58	94	32	0	4	0	29.78	0.00	59	57	96	28	0	0	0	29.85	0.00	57	55	94	29	0	0
04	0	29.61	0.00	56	55	97	31	0	1	0	29.78	0.00	57	56	96	29	0	0	0	29.85	0.00	56	55	97	29	0	0
07	58	29.65	0.00	58	57	98	06	0	0	54	29.81	0.00	60	58	95	24	0	0	49	29.89	0.00	58	58	98	29	0	0
10	294	29.66	0.00	61	59	93	08	0	0	807	29.84	0.00	68	59	75	33	2	10	95	29.89	0.17	60	59	97	29	0	0
13	946	29.68	0.00	70	61	74	30	2	7	626	29.82	0.00	72	60	65	04	0	5	853	29.88	0.00	68	63	85	29	0	4
16	691	29.68	0.00	71	60	68	00	2	8	659	29.79	0.00	72	60	65	28	0	8	142	29.87	0.00	71	60	69	04	1	7
19	63	29.71	0.00	65	56	72	31	0	6	188	29.80	0.00	68	59	73	26	0	0	116	29.89	0.00	69	61	77	01	0	3
22	0	29.75	0.00	61	58	90	32	0	0	0	29.83	0.00	58	56	93	29	0	0	0	29.92	0.00	58	56	95	04	0	0
JUL 25									JUL 26									JUL 27									
01	0	29.91	0.00	55	54	97	04	0	0	0	29.85	0.00	65	61	88	20	0	0	0	29.89	0.00	63	62	97	26	0	0
04	0	29.92	0.00	53	52	97	20	0	0	0	29.84	0.00	65	62	89	21	0	6	0	29.89	0.00	60	60	98	26	0	0
07	28	29.95	0.00	54	53	98	20	0	0	28	29.84	0.00	65	62	91	22	2	9	58	29.93	0.00	63	63	98	26	0	0
10	661	29.94	0.00	72	62	72	23	0	0	181	29.86	0.00	67	64	90	20	0	9	631	29.95	0.00	76	71	85	15	0	1
13	877	29.92	0.00	75	65	73	21	0	1	327	29.86	0.00	77	68	75	20	2	12	898	29.93	0.00	82	70	67	15	0	7
16	715	29.88	0.00	80	64	59	15	0	1	230	29.85	0.00	81	69	68	22	0	0	315	29.89	0.00	82	68	63	21	0	1
19	28	29.86	0.00	71	63	76	20	0	0	139	29.85	0.00	76	70	80	26	0	0	47	29.88	0.00	76	68	76	23	0	0
22	0	29.86	0.00	67	61	81	20	0	0	0	29.89	0.00	66	64	95	26	0	0	0	29.90	0.00	67	64	91	22	0	1
JUL 28									JUL 29									JUL 30									
01	0	29.96	0.36	67	65	94	04	0	0	0	29.90	0.00	66	65	96	23	0	0	0	29.79	0.00	69	67	92	20	0	5
04	0	29.90	0.00	63	62	96	20	0	0	0	29.89	0.00	64	63	95	23	0	0	0	29.76	0.00	67	64	89	20	0	1
07	39	29.93	0.00	63	63	98	19	0	0	54	29.90	0.00	65	64	96	23	0	0	44	29.74	0.00	70	66	87	21	0	1
10	624	29.93	0.00	77	70	79	24	0	1	671	29.90	0.00	80	71	73	19	0	1	496	29.70	0.00	79	72	78	22	1	9
13	819	29.90	0.00	82	71	70	31	0	1	752	29.86	0.00	86	72	64	28	0	8	137	29.68	0.00	74	71	90	21	1	12
16	717	29.88	0.00	86	69	57	29	0	0	680	29.82	0.00	91	71	52	22	0	2	332	29.66	0.00	72	70	94	22	3	11
19	113	29.88	0.00	82	72	74	31	0	1	91	29.80	0.00	76	68	78	20	0	1	127	29.65	0.00	77	72	85	22	1	8
22	0	29.89	0.00	66	65	95	30	0	1	0	29.81	0.00	68	67	94	20	0	0	0	29.69	0.00	70	63	78	23	1	8
JUL 31																											
01	0	29.69	0.00	67	60	80	23	2	7																		
04	0	29.68	0.00	64	57	79	23	0	5																		
07	39	29.69	0.00	63	58	85	21	0	9																		
10	840	29.72	0.00	71	61	71	23	5	13																		
13	294	29.73	0.00	73	64	72	28	4	10																		
16	155	29.70	0.00	75	63	65	30	0	0																		
19	118	29.66	0.00	76	64	67	20	0	1																		
22	0	29.68	0.00	63	57	83	22	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	29.835	61	59	92	0.5	22	0.5
04	0	29.829	59	57	94	0.3	21	0.3
07	59	29.851	60	58	94	0.3	21	0.3
10	520	29.853	70	62	77	1.1	26	0.7
13	639	29.835	75	63	68	1.9	25	1.4
16	488	29.811	77	64	66	1.1	23	0.8
19	108	29.802	73	64	74	0.5	24	0.3
22	0	29.827	63	60	90	0.2	22	0.2

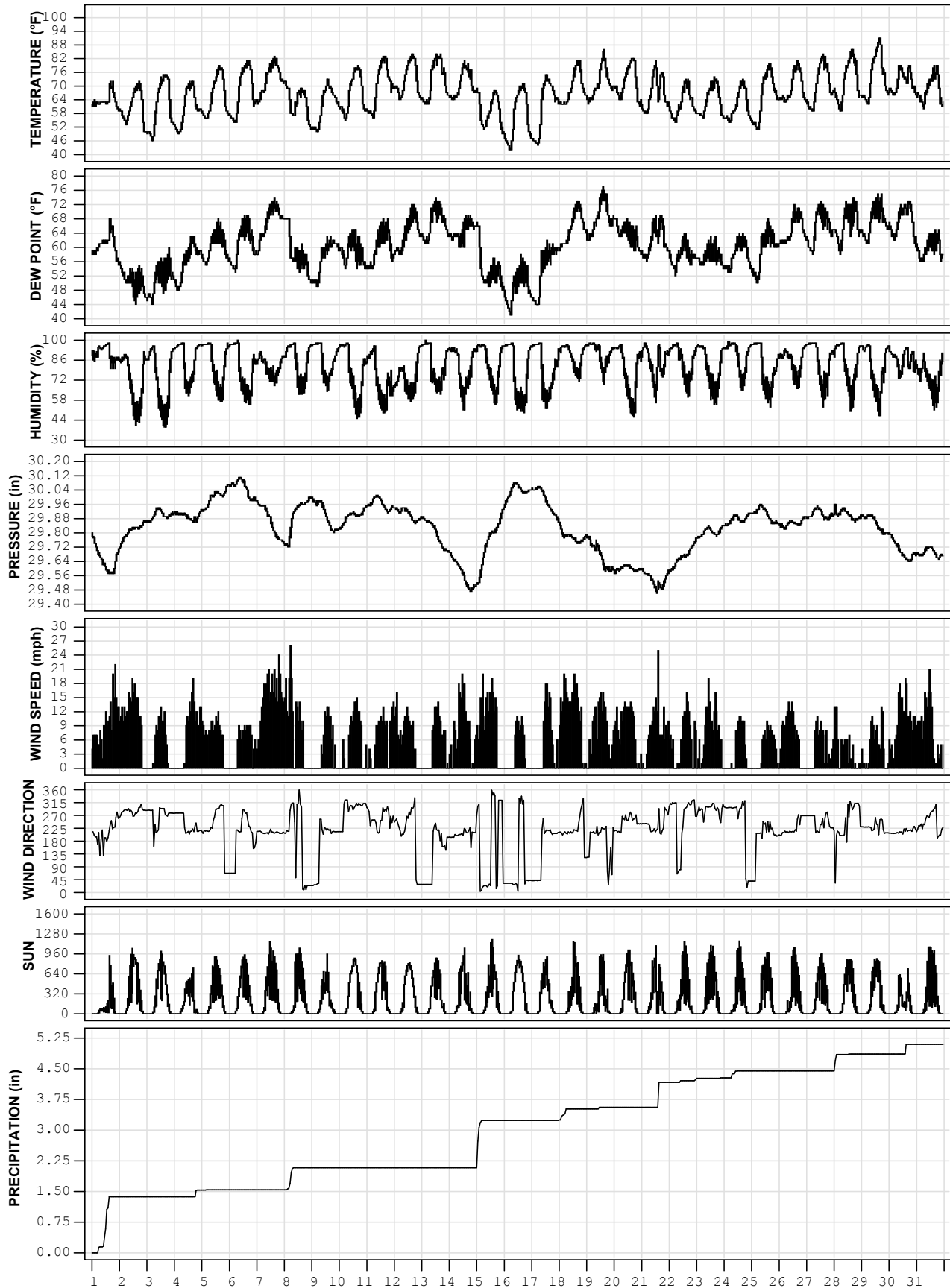
HOURLY PRECIPITATION (Water Equivalent) July 2015: Westford

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						0.13	0.01						0.48	0.04	0.27										01
02																									02
03																									03
04																			0.15	0.01					04
05				0.01																					05
06																									06
07																									07
08			0.02	0.02	0.12	0.27	0.09	0.02																	08
09																									09
10																									10
11																									11
12																									12
13																									13
14																									14
15	0.65	0.33	0.12	0.05	0.01																				15
16																									16
17																								0.01	17
18		0.08	0.03	0.01	0.03	0.12																			18
19											0.04														19
20																									20
21															0.61										21
22										0.04															22
23																				0.01		0.02	0.04		23
24																									24
25							0.10			0.06		0.01													25
26																									26
27																									27
28	0.25	0.15											0.01												28
29														0.01	0.23										29
30																									30
31																									31
Sum	0.90	0.56	0.17	0.09	0.16	0.52	0.20	0.02	0.00	0.12	0.25	0.22	0.49	0.05	1.11	0.00	0.00	0.00	0.15	0.01	0.01	0.00	0.02	0.05	Sum

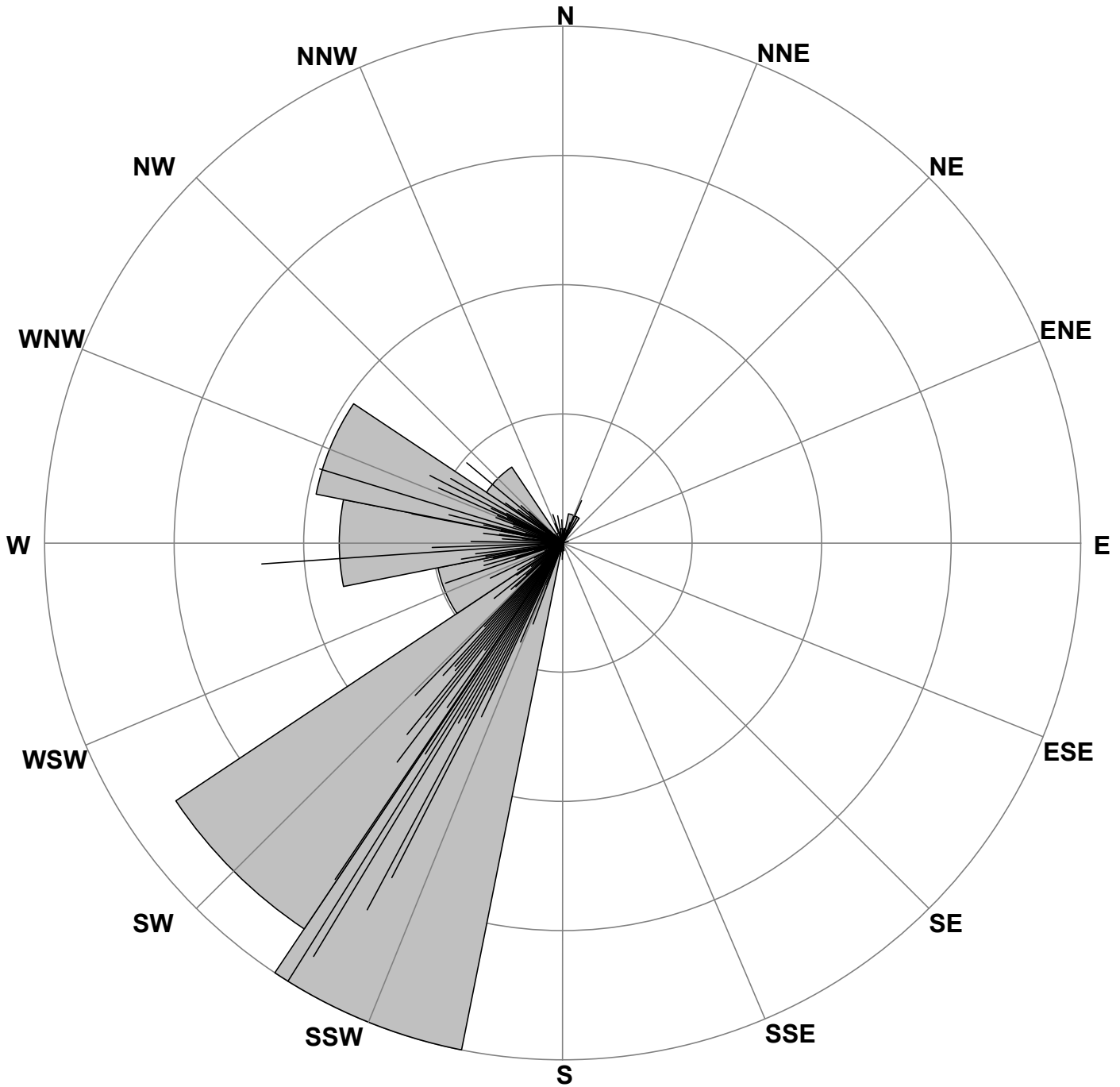
During a frozen precipitation event, hourly precipitation totals may not be recorded. In this case, daily amounts are typically entered in the last column (hour ending at 12 A.M.)

HOUR-BY-HOUR DATA

July 2015: Westford



**Wind Rose: July 2015
Westford**



**Maximum direction of wind: 30.8 miles from 212°
Maximum sector of wind: 184.6 miles from SSW
621.3 total miles of wind**