

LOCAL CLIMATOLOGICAL DATA

Monthly Summary

December 2017

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	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	38.6	30.1	34.3	35.3	32	87	30	0	.....	0	0.04	0.0	30.27	29.90	30.113	1.2	0.7	240	20	S	9	212	14
2	36.2	28.7	32.5	32.0	28	85	32	0	.....	0	0.00	0.0	30.27	30.18	30.230	0.2	0.2	215	7	SW	5	219	25
3	38.0	26.2	32.1	30.8	27	87	33	0	.....	0	0.00	0.0	30.28	30.16	30.198	0.1	0.1	65	6	NE	4	37	33
4	44.2	24.1	34.2	33.6	29	84	31	0	.....	0	0.00	0.0	30.42	30.21	30.336	0.8	0.7	184	20	SSW	11	184	52
5	50.2*	38.3	44.3*	43.5	39	85	21	0	.....	0	0.30	0.0	30.21	29.57	29.912	6.2	6.1	190	35	W	25	274	7
6	43.5	31.7	37.6	35.3	25	65	27	0	.....	0	0.07	0.0	29.80	29.63	29.753	3.4	3.2	269	30	NW	18	274	28
7	33.1	27.8	30.4	31.2	23	73	34	0	.....	0	T	T	29.84	29.76	29.803	2.6	2.5	260	22	W	10	274	27
8	31.1	24.9	28.0	27.7	20	73	37	0	.....	T	T	T	29.93	29.83	29.886	2.4	2.2	233	18	W	9	270	23
9	31.1	22.0	26.6	27.1	20	75	38	0	.....	0	0.00	0.0	29.94	29.67	29.834	0.4	0.4	204	10	S	6	215	31
10	30.4	22.2	26.3	26.3	21	82	39	0	.....	1	0.01	0.2	29.81	29.63	29.705	2.0	1.8	247	25	W	14	289	21
11	26.1	8.5	17.3	16.7	13	85	47	0	.....	2	0.08	1.1	30.01	29.80	29.927	0.4	0.1	306	14	WNW	7	308	30
12	31.1	12.9	22.0	24.1	22	90	43	0	.....	5	0.31	3.0	29.93	29.35	29.556	1.6	1.3	192	22	WNW	9	314	6
13	18.0	6.0	12.0	12.0	8	84	53	0	.....	10	0.21	6.6	29.51	29.28	29.360	4.2	4.2	282	25	W	16	276	5
14	11.9	-1.8	5.0	5.6	-1	75	60	0	.....	7	0.00	0.0	29.98	29.51	29.725	0.8	0.8	274	16	W	11	289	67
15	22.4	-2.5	9.9	11.5	6	78	55	0	.....	6	T	T	30.02	29.78	29.924	1.8	1.7	213	15	SSW	8	208	52
16	24.6	6.6	15.6	16.4	12	83	49	0	.....	5	0.02	0.4	30.19	29.75	29.906	1.7	1.4	229	15	WNW	8	216	29
17	15.0	-3.0	6.0	4.9	1	83	59	0	.....	5	0.00	0.0	30.32	30.19	30.267	0.0	0.0	17	7	NNE	3	21	58
18	30.4	2.7	16.5	19.1	16	89	48	0	.....	7	0.21	1.5	30.21	29.78	29.976	1.4	1.4	212	12	SSW	7	213	15
19	38.1	30.3	34.2	34.5	33	93	31	0	.....	4	0.17	T	29.79	29.49	29.611	4.6	4.3	224	27	W	14	260	7
20	32.4	13.0	22.7	25.8	19	77	42	0	.....	4	0.01	0.1	30.04	29.53	29.776	4.8	4.3	301	26	W	16	293	20
21	14.8	4.1	9.5	9.0	4	81	55	0	.....	4	T	T	30.35	30.03	30.217	0.1	0.1	318	13	NW	7	324	50
22	21.8	2.8	12.3	12.3	9	88	52	0	.....	9	0.28	5.1	30.37	30.13	30.274	0.0	0.0	213	5	SW	1	212	5
23	34.1	20.6	27.3	26.8	25	94	37	0	.....	8	0.56	1.9	30.13	29.64	29.880	0.6	0.2	296	16	WNW	9	319	3
24	25.8	14.1	19.9	21.3	17	82	45	0	.....	7	0.00	0.0	30.26	29.95	30.140	0.6	0.6	304	13	W	7	285	27
25	27.1	18.1	22.6	21.7	17	81	42	0	.....	8	0.00	1.4	29.95	29.49	29.726	2.7	2.1	249	29	W	15	285	9
26	19.7	3.5	11.6	11.1	2	66	53	0	.....	8	T	T	30.35	29.92	30.179	4.0	3.8	272	29	WSW	15	259	38
27	5.5	-10.1	-2.3	-2.0	-10	68	67	0	.....	8	0.00	0.0	30.46	30.35	30.419	1.1	1.0	312	18	WNW	11	304	69
28	-1.8	-14.5*	-8.1*	-8.8	-15	74	74	0	.....	8	0.00	0.0	30.52	30.44	30.474	2.0	1.9	303	15	W	10	311	62
29	-0.2	-14.1	-7.2	-6.3	-11	81	72	0	.....	8	0.04	0.5	30.44	30.20	30.280	0.0	0.0	0	0	NW	0	318	24
30	8.8	-12.2	-1.7	-1.1	-6	80	67	0	.....	8	T	T	30.20	29.92	30.041	0.1	0.1	211	7	SW	4	225	30
31	-0.9	-10.8	-5.9	-7.0	-12	78	71	0	.....	8	T	T	30.33	30.05	30.226	1.0	1.0	311	15	NW	10	304	51
Sum	Sum	-----	-----	---	----		Ttl	Ttl			Total	Total	For the month:						---					
	781	350					1444	0	Number of Days		2.31	21.8	30.52	29.28	29.989	1.7	1.2	251	35	W	25	274		
Avg	Avg	Avg	Mean	Avg	Avg		----	----	Precip		Season Ttl	Date	Date	-----	----	----	----	Date	Date	Avg				
	25.2	11.3	18.2	18.4	13	80.8	----	----	≥.01 inch	14	41.91	28.4	28	13	-----	----	----	5	5	30				
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			2909	340	Thunder	0	Precipitation		Snow, Ice Plts												
≥ 90°F	≤ 32°F	≤ 32°F	≤ 0°F	----	----			Heavy Fog	0	0.37	5- 6	6.6	13	10			13							
0	22	30	8	----	----			Clear	1	Partly Cloudy		9	Cloudy		21									

NOTES:
 Units: 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 December 2017: 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																																																																																																																																																																																																										
DEC 01																						DEC 02																						DEC 03																																																																																																																																																																																			
00	0	29.90	0.00	38	36	92	19	5	13	0	30.26	0.00	30	27	87	06	0	0	0	30.20	0.00	29	26	91	21	0	0	03	0	29.93	0.00	38	36	93	21	2	6	0	30.26	0.00	30	27	87	11	0	0	0	30.18	0.00	29	26	91	21	0	0	06	0	30.00	0.00	37	35	92	25	0	0	0	30.26	0.00	30	27	89	11	0	0	0	30.17	0.00	27	26	94	10	0	0	09	19	30.09	0.00	36	35	94	29	0	0	35	30.27	0.00	31	28	88	11	0	0	54	30.19	0.00	29	27	93	05	0	0	12	30	30.14	0.00	36	34	92	32	0	0	142	30.23	0.00	35	29	77	21	4	6	162	30.18	0.00	38	31	75	06	1	6	15	40	30.17	0.00	36	30	79	34	1	7	33	30.21	0.00	36	29	76	21	0	0	40	30.17	0.00	37	30	76	09	0	0	18	0	30.22	0.00	33	28	80	03	0	6	0	30.20	0.00	33	29	86	21	0	0	0	30.21	0.00	31	28	88	06	0	0	21	0	30.26	0.00	32	27	82	03	1	7	0	30.20	0.00	32	28	86	21	0	0	0	30.24	0.00	27	26	93	06	0	0
DEC 04																						DEC 05																						DEC 06																																																																																																																																																																																			
00	0	30.28	0.00	29	27	93	06	0	0	0	30.21	0.00	39	30	72	17	5	15	0	29.63	0.34	44	40	88	28	18	35	03	0	30.32	0.00	28	26	94	06	0	0	0	30.14	0.00	39	33	77	19	8	18	0	29.70	0.00	38	33	80	28	8	23	06	0	30.35	0.00	24	23	94	06	0	0	0	30.08	0.00	40	34	79	19	9	24	0	29.78	0.00	34	22	60	27	12	26	09	37	30.42	0.00	27	26	95	06	0	0	16	30.02	0.00	44	37	77	18	5	16	83	29.79	0.00	35	23	63	26	6	12	12	274	30.39	0.00	39	32	77	04	0	0	19	29.93	0.00	42	39	88	18	7	16	93	29.76	0.00	36	24	60	26	1	11	15	74	30.35	0.00	41	33	73	23	0	0	28	29.83	0.00	44	42	92	16	7	15	49	29.75	0.00	36	22	55	25	0	5	18	0	30.33	0.00	37	31	77	17	1	6	0	29.75	0.00	47	43	87	17	5	16	0	29.77	0.00	34	20	56	24	2	14	21	0	30.30	0.00	39	30	72	22	0	6	0	29.67	0.07	47	45	94	19	6	11	0	29.77	0.00	32	21	63	21	1	7
DEC 07																						DEC 08																						DEC 09																																																																																																																																																																																			
00	0	29.77	0.00	32	22	67	19	2	6	0	29.83	0.00	28	24	86	26	3	10	0	29.88	0.00	26	18	70	21	2	6	03	0	29.77	0.00	31	26	80	21	2	6	0	29.87	0.00	27	21	77	26	7	12	0	29.91	0.00	22	17	82	21	0	0	06	0	29.80	0.00	32	24	72	26	3	11	0	29.90	0.00	27	19	74	24	2	8	0	29.91	0.00	23	18	79	20	0	0	09	84	29.84	0.00	31	21	65	26	2	14	74	29.91	0.00	27	24	88	21	4	9	81	29.93	0.00	28	18	67	20	3	8	12	250	29.81	0.00	33	22	64	25	3	18	95	29.90	0.00	30	22	71	23	3	11	153	29.87	0.00	31	19	62	18	0	0	15	25	29.78	0.00	33	21	62	24	0	7	25	29.87	0.00	31	20	63	21	3	10	32	29.80	0.00	30	21	67	03	0	0	18	0	29.80	0.00	31	24	75	23	0	0	0	29.89	0.00	27	19	71	22	2	8	0	29.76	0.00	28	22	77	03	0	0	21	0	29.82	0.00	29	26	88	23	4	9	0	29.88	0.00	25	18	73	19	2	9	0	29.71	0.00	27	23	87	07	0	0
DEC 10																						DEC 11																						DEC 12																																																																																																																																																																																			
00	0	29.67	0.00	25	23	91	07	0	0	0	29.80	0.00	26	23	89	20	2	10	0	29.93	0.00	13	10	86	09	0	0	03	0	29.64	0.00	25	23	94	06	0	0	0	29.81	0.00	26	24	92	22	0	0	0	29.83	0.00	15	12	88	07	0	0	06	0	29.65	0.00	25	24	93	29	0	0	0	29.86	0.00	20	17	90	34	0	5	0	29.71	0.00	24	21	85	22	1	12	09	19	29.66	0.00	26	25	94	23	2	10	12	29.94	0.00	16	13	88	01	0	4	11	29.62	0.00	27	24	91	19	4	14	12	135	29.68	0.00	30	22	71	26	5	23	127	29.98	0.00	18	12	78	00	1	5	19	29.49	0.00	29	27	89	22	0	11	15	26	29.74	0.00	28	17	64	27	7	16	60	29.98	0.00	16	9	74	03	1	4	9	29.41	0.00	31	28	87	17	1	11	18	0	29.78	0.00	26	18	73	23	0	1	0	30.01	0.00	10	7	88	02	0	0	0	29.37	0.00	30	29	94	19	0	0	21	0	29.79	0.00	27	20	76	23	1	6	0	29.95	0.00	9	6	86	05	0	0	0	29.38	0.00	21	19	93	31	0	7
DEC 13																						DEC 14																						DEC 15																																																																																																																																																																																			
00	0	29.35	0.00	18	16	91	08	0	0	0	29.51	0.00	6	-0	74	28	6	12	0	29.98	0.00	6	1	78	27	1	9	03	0	29.31	0.00	17	15	91	31	0	0	0	29.53	0.00	6	1	81	26	0	0	0	30.01	0.00	-2	-5	86	21	0	0	06	0	29.30	0.00	16	14	91	28	3	9	0	29.58	0.00	2	-2	84	02	0	0	0	30.00	0.00	1	-3	86	21	0	0	10	5	29.29	0.00	12	10	90	29	0	4	18	29.67	0.00	-1	-4	86	02	0	0	21	30.02	0.00	9	5	84	19	3	10	12	14	29.30	0.00	11	7	85	27	3	12	427	29.71	0.00	8	1	73	01	0	0	232	29.96	0.00	19	10	67	20	6	10	15	9	29.36	0.00	10	4	77	28	7	19	225	29.77	0.00	10	1	64	30	0	0	44	29.90	0.00	19	10	66	20	3	9	18	0	29.43	0.00	9	4	79	27	2	16	0	29.86	0.00	6	-2	68	26	2	7	0	29.83	0.00	18	11	75	22	3	9	21	0	29.47	0.00	9	3	77	27	12	21	0	29.93	0.00	6	-1	73	25	1	8	0	29.81	0.00	18	12	77	21	6	8
DEC 16																						DEC 17																						DEC 18																																																																																																																																																																																			
00	0	29.78	0.00	16	13	88	19	1	7	0	30.19	0.00	7	4	88	33	0	0	0	30.21	0.00	3	0	87	05	0	0	03	0	29.76	0.00	14	11	86	20	4	7	0	30.22	0.00	7	4	89	34	0	0	0	30.17	0.00	8	5	87	05	0	0	06	0	29.76	0.00	16	13	87	21	5	10	0	30.26	0.00	-0	-3	88	01	0	0	0	30.09	0.00	9	6	87	05	0	0	09	49	29.81	0.00	19	16	87	21	5	9	23	30.31	0.00	3	-0	88	07	0	0	28	30.05	0.00	15	12	85	22	0	2	12	107	29.82	0.00	23	19	83	23	0	6	341	30.31	0.00	13	5	72	01	0	0	77	29.95	0.00	24	21	89	22	4	8	15	91	29.91	0.00	16	12	83	02	0	4	56	30.28	0.00	12	4	69	04	0	0	12	29.89	0.00	25	23	90	22	0	0	18	0	30.05	0.00	15	10	81	01	0	0	0	30.29	0.00	3	-1	84	05	0	0	0	29.85	0.00	26	24	93	20	3	7	21	0	30.15	0.00	13	8	81	32	1	6	0	30.26	0.00	2	-1	88	05	0	0	0	29.82	0.00	28	27	95	20	4	9

MAXIMUM SHORT DURATION PRECIPITATION

Time Period (minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.12	0.14	0.14	0.16	0.17
Ended: Date	05	06	06	06	06	06	06	06	05	05	05	05
Ended: Time	2358	0001	0007	0014	0017	0028	0040	0040	2140	2136	2200	2217

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.

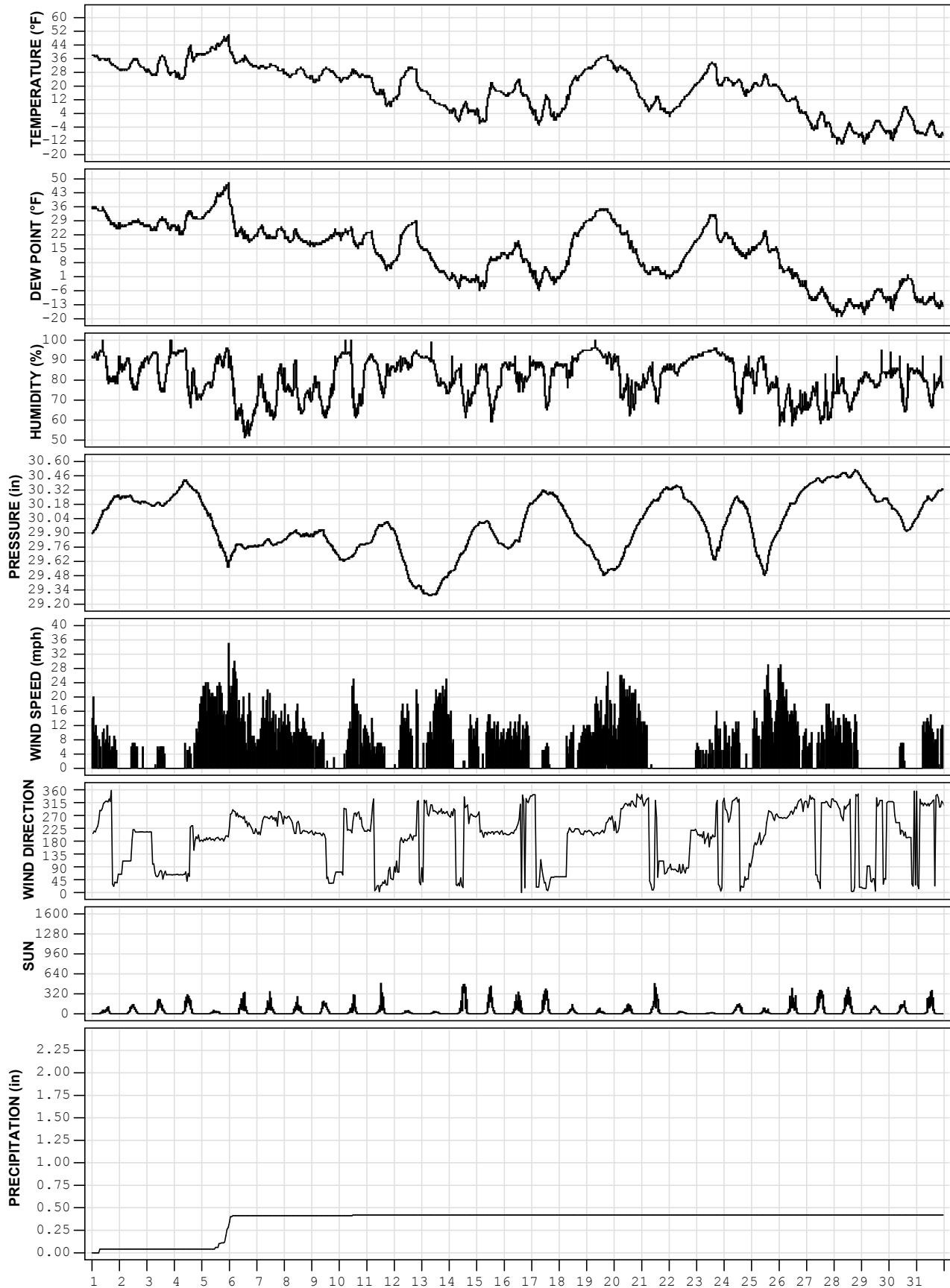
HOURLY PRECIPITATION (Water Equivalent) December 2017: Westford

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							0.04																		01	
02																										02
03																										03
04																										04
05											0.02			0.04	0.01			0.01	0.07	0.07	0.02	0.06			05	
06	0.06		0.01																						06	
07																									07	
08																									08	
09																									09	
10											0.01														10	
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27																									27	
28																									28	
29																									29	
30																									30	
31																									31	
Sum	0.06	0.00	0.01	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04	0.00	0.01	0.00	0.00	0.01	0.07	0.07	0.02	0.06	Sum	

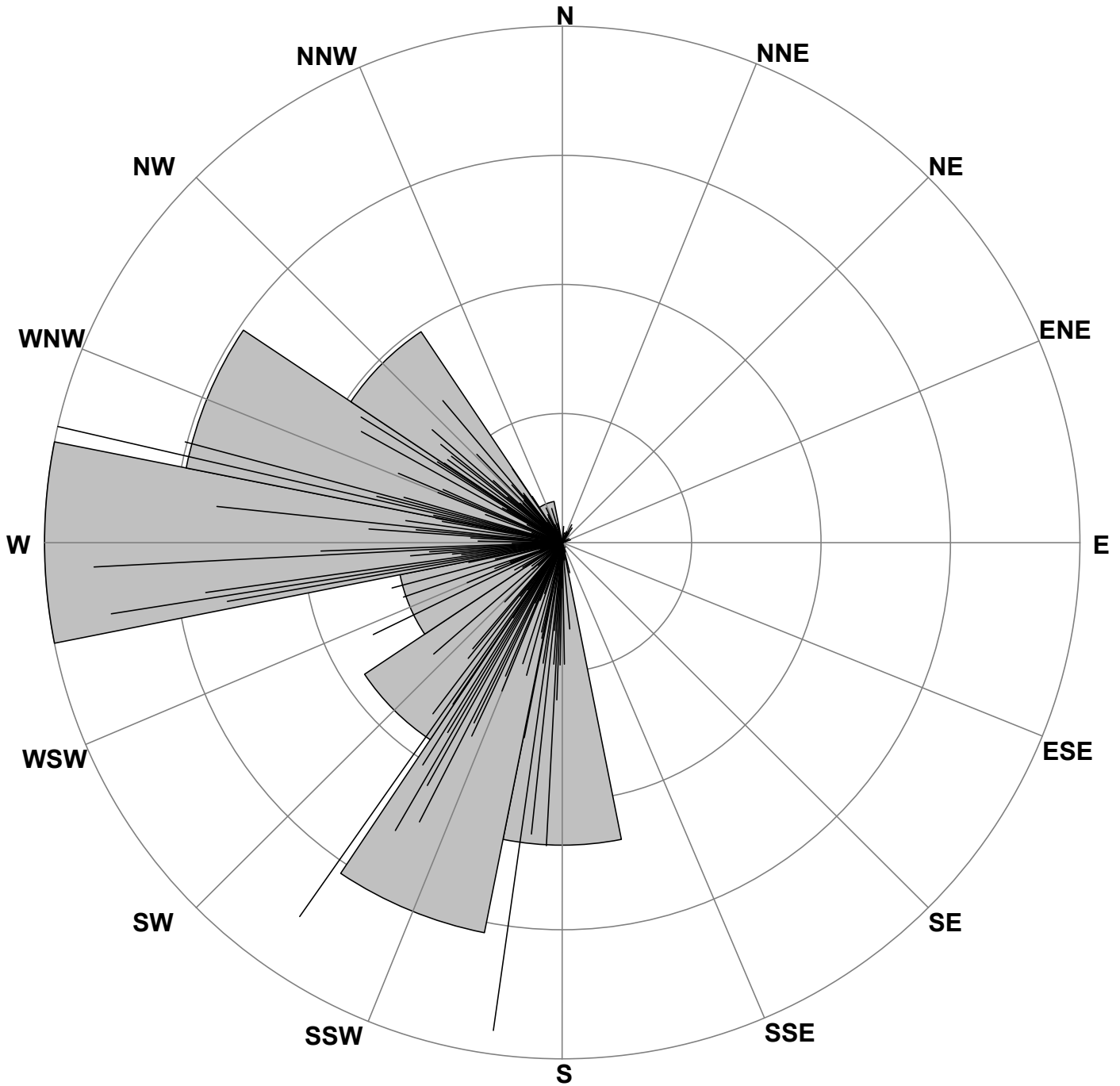
During a frozen precipitation event, hourly precipitation totals may not be recorded. In this case, daily amounts are typically entered in the last column (hour ending at 12 A.M.)

HOURLY-BY-HOURLY DATA

December 2017: Westford



**Wind Rose: December 2017
Westford**



**Maximum direction of wind: 38.9 miles from 283°
Maximum sector of wind: 280.7 miles from W
1264.3 total miles of wind**