

LOCAL CLIMATOLOGICAL DATA

Monthly Summary

November 2018

Station: Westford

Latitude: 44° 37' 38" N Longitude: 73° 02' 29" W Elevation (Ground): 850 feet Time Zone: Eastern

Date	Temperature					Humidity Mean	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		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
1	2	3	4A	4B	5	6	7	8		11	12	13	14	15	16	17	18	19	20	21	22	23	
1	48.8	40.5	44.6	44.0	42	93	20	0	.....	0	0.48	0.0	29.91	29.76	29.856	0.1	0.1	35	8	WNW	4	300	33
2	47.4	40.6	44.0	42.8	42	97	21	0	.2.....	0	0.43	0.0	29.77	29.53	29.645	0.3	0.2	279	14	W	8	287	16
3	46.3	33.0	39.6	39.4	38	94	25	0	.....	0	1.07	0.0	30.13	29.50	29.689	3.1	2.9	274	28	WNW	15	282	11
4	41.8	26.7	34.3	34.0	28	79	30	0	.....	0	0.00	0.0	30.53	30.13	30.442	1.5	1.5	296	24	NW	12	302	63
5	42.5	26.6	34.6	37.4	33	85	30	0	.....	0	0.04	0.0	30.49	30.15	30.318	1.5	1.4	190	21	S	8	181	27
6	50.8	40.9	45.9*	46.6	45	93	19	0	.....	0	0.29	0.0	30.16	29.57	29.777	2.9	2.9	204	24	SW	13	205	20
7	49.9	40.4	45.2	47.0	39	74	20	0	.....	0	0.02	0.0	29.93	29.60	29.751	4.4	4.3	250	26	W	14	252	30
8	44.6	35.1	39.8	40.2	33	74	25	0	.....	0	0.01	0.0	30.30	29.93	30.132	2.2	2.2	264	19	W	9	269	45
9	39.6	28.0	33.8	34.6	32	90	31	0	.....	0	0.25	0.0	30.34	29.82	30.189	0.4	0.3	177	15	SW	7	200	24
10	38.3	28.2	33.3	34.2	28	79	32	0	.....	0	0.32	T	30.03	29.68	29.775	5.7	5.4	271	33	W	22	286	39
11	34.1	24.7	29.4	27.8	16	62	35	0	.....	0	0.00	0.0	30.31	30.03	30.219	2.7	2.7	293	23	W	14	302	77
12	42.0	21.4	31.7	32.1	25	74	33	0	.....	0	0.00	0.0	30.34	30.24	30.307	0.9	0.8	215	21	S	11	209	48
13	36.8	18.4	27.6	30.9	28	90	37	0	.2.....	2	0.13	2.1	30.26	29.84	30.012	2.4	2.3	301	27	W	18	295	3
14	18.6	7.4	13.0	14.9	9	76	52	0	.....	2	0.00	T	30.60	30.06	30.345	4.3	4.2	315	26	W	15	309	47
15	25.3	6.7	16.0	16.2	10	79	49	0	.....	2	0.00	0.0	30.62	30.09	30.454	0.0	0.0	193	7	SSW	2	216	45
16	31.7	20.9	26.3	25.6	24	92	38	0	.....	11	0.03	9.0	30.09	29.60	29.740	0.4	0.3	215	11	S	6	213	11
17	39.4	25.1	32.3	32.6	29	87	33	0	.....	9	0.26	0.6	30.24	29.74	29.988	1.8	1.6	270	18	WNW	11	253	25
18	28.3	11.5	19.9	22.7	16	77	45	0	.....	9	0.01	T	30.36	30.16	30.280	0.4	0.3	224	16	NW	7	311	62
19	38.6	25.4	32.0	30.9	27	85	33	0	.....	7	0.01	T	30.16	29.96	30.045	1.8	1.7	211	15	S	7	205	38
20	28.0	18.9	23.4	23.4	21	92	41	0	.....	8	0.00	1.6	29.96	29.85	29.906	0.1	0.1	311	8	NW	5	298	19
21	27.8	3.8	15.8	18.8	14	83	49	0	.....	10	0.00	2.0	30.21	29.72	29.920	5.3	4.0	290	30	W	16	317	12
22	10.1	0.9	5.5*	6.2	-0	75	59	0	.....	9	T	T	30.55	30.21	30.386	6.1	6.1	315	28	WNW	19	290	50
23	24.4	-2.7*	10.8	13.6	2	62	54	0	.....	8	0.00	0.0	30.57	30.17	30.411	2.2	2.2	212	22	WSW	11	212	68
24	38.4	22.5	30.5	30.6	20	66	34	0	.....	7	0.08	0.0	30.17	29.79	29.993	3.8	3.8	209	28	WSW	15	216	60
25	39.7	33.3	36.5	36.5	35	94	28	0	.....	5	0.58	0.0	29.89	29.75	29.804	0.9	0.9	200	9	SSW	5	204	16
26	40.4	33.1	36.8	36.5	34	92	28	0	.2.....	2	0.02	0.0	29.90	29.52	29.769	0.7	0.6	173	23	SSW	8	180	23
27	33.1	30.0	31.5	31.0	30	95	33	0	.....	8	0.64	5.8	29.53	29.23	29.332	0.0	0.0	0	0	ENE	0	68	2
28	32.3	30.2	31.3	31.2	30	96	34	0	.....	12	0.70	5.6	29.61	29.22	29.350	0.0	0.0	0	0	ENE	0	68	2
29	32.4	29.1	30.8	30.8	30	95	34	0	.....	11	0.08	0.7	29.95	29.61	29.814	0.0	0.0	0	0	ENE	0	68	1
30	32.4	28.0	30.2	29.3	28	93	35	0	.....	11	0.01	0.1	30.08	29.95	30.005	0.0	0.0	0	0	ENE	0	68	1
Sum	Sum	-----	-----	---	----	Ttl	Ttl						Total	Total	For the month:						---		
1084	729					1037	0		Number of Days	5.45	27.5	30.62	29.22	29.988	1.9	1.3	266	33	W	22	286		
Avg	Avg	Avg	Mean	Avg	Avg	----	----		Precip	Season Ttl		Date	Date	-----	----	----	---	Date	Date	Avg			
36.1	24.3	30.2	30.7	26	84.2	----	----		≥.01 inch	21	39.15	27.5	15	28	-----	----	---		10	10	31		
Number of Days						Season to Date	Snow, Ice ≥1.0 inch	6	Greatest in 24 Hours and Dates						Greatest Depth on Ground of Snow, Ice Pellets or Ice and Date								
Max Temperature			Min Temperature			1853	209	Thunder	0	Precipitation			Snow, Ice Plts										
≥ 90°F	≤ 32°F	≤ 32°F	≤ 0°F	----	----	Heavy Fog	3	1.09	2- 3	9.0	16				12		28						
0	11	22	1	----	----	Clear	2	Partly Cloudy			4	Cloudy		24									

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 W/m² 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

November 2018: Westford

Hour	NOV 19									NOV 20									NOV 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
00	0	30.16	0.00	28	22	79	19	4	12	0	29.96	0.00	25	24	93	03	0	0	0	29.94	0.00	21	17	83	27	2	6
03	0	30.12	0.00	29	25	85	19	1	9	0	29.93	0.00	25	23	94	03	0	0	0	29.91	0.00	20	17	87	22	0	0
06	0	30.08	0.00	30	27	88	21	4	10	0	29.92	0.00	25	23	94	04	0	0	0	29.87	0.00	20	15	81	24	0	0
09	105	30.06	0.00	33	29	86	21	4	11	76	29.90	0.00	26	25	94	03	0	0	21	29.78	0.00	24	20	84	21	7	18
12	162	30.03	0.00	36	31	82	21	0	7	81	29.86	0.00	27	24	88	32	1	5	25	29.76	0.00	26	24	92	30	4	11
15	91	30.01	0.00	37	27	66	27	0	7	12	29.85	0.00	24	22	91	30	0	0	88	29.84	0.00	22	19	88	29	10	26
18	0	29.99	0.00	28	26	90	31	0	0	0	29.90	0.00	20	18	91	31	1	5	0	30.02	0.00	14	10	82	31	8	21
21	0	30.00	0.00	28	26	93	03	0	0	0	29.95	0.00	19	17	91	34	0	0	0	30.13	0.00	9	3	75	31	13	28
NOV 22									NOV 23									NOV 24									
00	0	30.21	0.00	4	-2	77	30	12	22	0	30.55	0.00	6	1	80	29	0	0	0	30.17	0.00	24	7	48	21	3	14
03	0	30.24	0.00	1	-4	78	30	10	21	0	30.56	0.00	-0	-4	86	19	0	0	0	30.15	0.00	24	6	46	21	9	18
06	0	30.28	0.00	1	-4	77	31	7	16	0	30.54	0.00	2	-2	86	19	0	0	0	30.10	0.00	24	10	53	19	3	13
09	113	30.35	0.00	5	-1	78	33	4	21	213	30.54	0.00	6	2	83	21	0	9	121	30.07	0.00	26	13	58	20	8	15
12	287	30.39	0.00	9	2	73	31	8	16	403	30.44	0.00	18	6	57	22	1	6	373	29.96	0.00	34	22	62	20	5	16
15	70	30.42	0.00	10	1	67	33	3	16	58	30.33	0.00	22	-0	38	21	1	13	54	29.93	0.00	37	29	75	19	5	19
18	0	30.49	0.00	9	2	71	31	9	18	0	30.28	0.00	22	1	39	21	7	18	0	29.92	0.04	37	31	79	21	2	8
21	0	30.53	0.00	8	3	78	33	2	11	0	30.22	0.00	24	4	42	20	6	18	0	29.84	0.00	34	29	83	19	0	0
NOV 25									NOV 26									NOV 27									
00	0	29.79	0.00	34	31	90	17	0	0	0	29.88	0.00	35	34	96	20	0	0	0	29.52	0.00	33	31	93	06	0	0
03	0	29.78	0.00	34	31	92	16	0	0	0	29.89	0.00	35	34	97	20	0	0	0	29.47	0.00	32	31	95	06	0	0
06	0	29.77	0.00	34	33	95	16	0	0	0	29.89	0.00	34	33	96	20	0	0	0	29.41	0.00	31	30	95	04	0	0
09	51	29.77	0.07	36	35	96	16	0	0	67	29.86	0.00	37	37	97	15	0	0	0	29.38	0.00	31	30	96	04	0	0
12	60	29.75	0.04	39	38	96	16	0	0	56	29.79	0.00	39	36	91	14	2	10	7	29.29	0.00	31	29	96	02	0	0
15	32	29.79	0.00	39	38	96	19	2	6	12	29.75	0.00	38	35	88	15	0	0	0	29.25	0.00	31	30	95	02	0	0
18	0	29.86	0.00	38	37	96	20	0	0	0	29.69	0.00	37	34	88	19	5	11	0	29.25	0.00	30	29	96	02	0	0
21	0	29.88	0.00	38	36	96	19	3	6	0	29.61	0.00	37	33	85	24	1	7	0	29.24	0.00	30	29	96	02	0	0
NOV 28									NOV 29									NOV 30									
00	0	29.23	0.00	30	29	96	02	0	0	0	29.61	0.00	31	30	97	03	0	0	0	29.95	0.00	29	28	95	03	0	0
03	0	29.23	0.00	30	29	96	03	0	0	0	29.67	0.00	31	30	97	03	0	0	0	29.98	0.00	29	28	95	03	0	0
06	0	29.23	0.00	30	30	97	03	0	0	0	29.73	0.00	31	30	97	03	0	0	0	29.98	0.00	29	28	96	03	0	0
09	7	29.27	0.00	31	31	97	03	0	0	0	29.80	0.00	31	30	96	03	0	0	0	30.00	0.00	30	28	95	04	0	0
12	11	29.30	0.00	32	31	96	03	0	0	0	29.82	0.00	32	31	95	03	0	0	5	30.00	0.00	32	29	88	04	0	0
15	0	29.36	0.00	32	31	96	03	0	0	0	29.87	0.00	31	29	93	03	0	0	0	30.00	0.00	30	28	91	04	0	0
18	0	29.45	0.00	32	30	96	03	0	0	0	29.92	0.00	30	28	93	03	0	0	0	30.03	0.00	29	27	94	04	0	0
21	0	29.54	0.00	32	31	97	03	0	0	0	29.93	0.00	30	28	94	03	0	0	0	30.04	0.00	28	27	95	04	0	0

WEATHER NOTES

NOTES:
 Units: 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
00	0	30.000	30	26	85	2.1	26	1.5
03	0	29.995	29	25	88	1.8	27	1.4
06	0	29.990	29	25	87	1.5	28	1.0
09	72	29.997	31	27	87	2.1	25	1.5
12	132	29.967	33	28	81	1.9	26	1.2
15	46	29.961	34	27	78	2.4	26	1.8
18	0	29.988	31	26	84	2.4	26	1.7
21	0	30.005	30	26	83	2.2	26	1.5

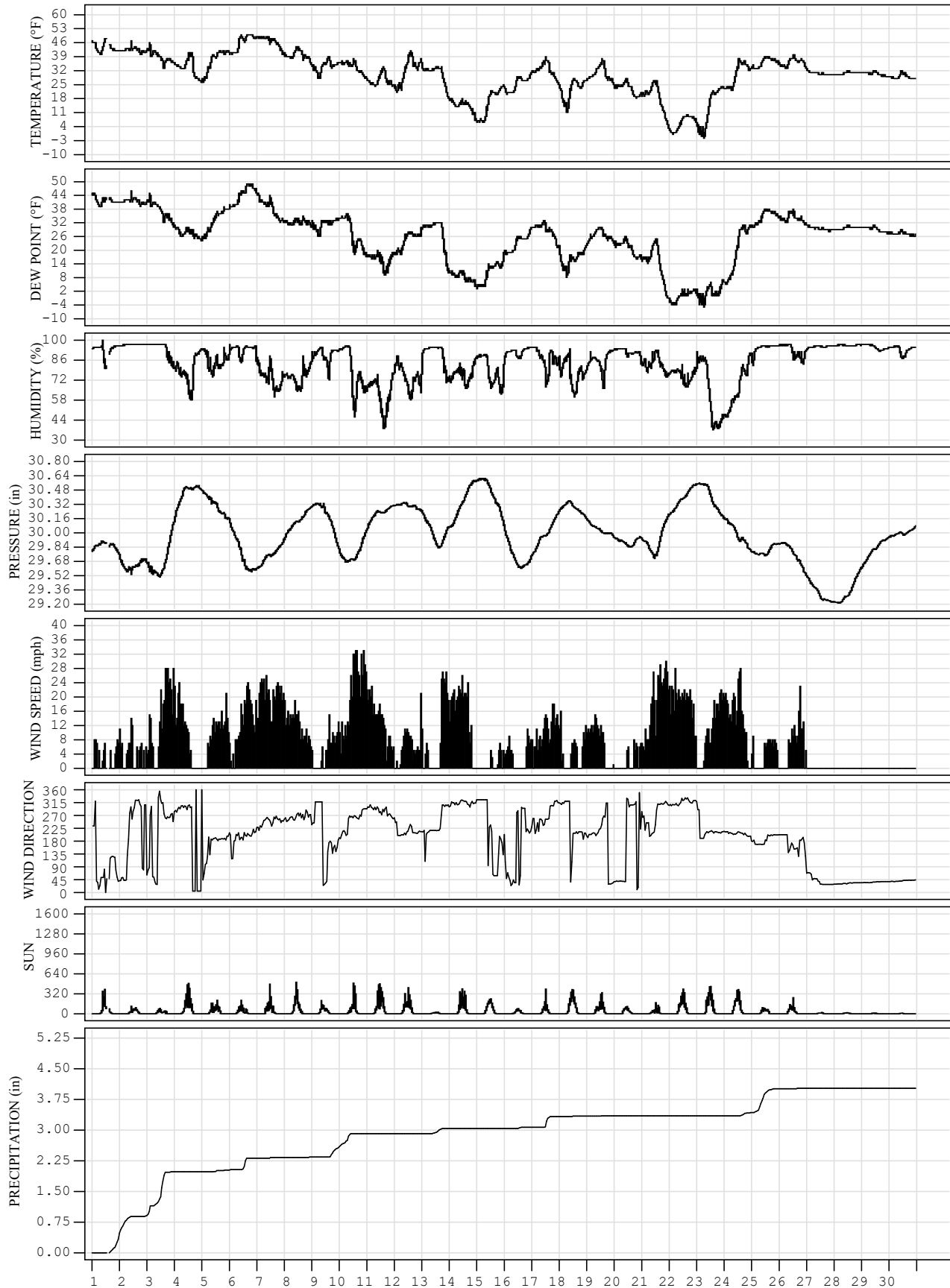
HOURLY PRECIPITATION (Water Equivalent) November 2018: Westford

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	0.08	0.05	0.04	0.06	0.06	0.02	0.04	0.02	0.02	0.02															02
03	0.03	0.07	0.13	0.01			0.02	0.02	0.02	0.04	0.06	0.06	0.22	0.16	0.14	0.08					0.01				03
04																									04
05											0.01		0.02							0.01					05
06	0.01												0.02	0.06	0.14	0.06									06
07												0.02													07
08																									08
09																						0.01			09
10	0.03	0.03	0.02	0.01	0.01	0.04	0.02	0.10	0.04	0.02						0.01	0.05	0.04	0.04	0.03	0.03	0.01	0.02	10	
11																									11
12																									12
13									0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.02	0.01	0.01							13
14																									14
15																									15
16													0.01	0.01	0.01										16
17												0.01	0.14	0.07	0.02	0.02									17
18												0.01													18
19													0.01												19
20																									20
21																									21
22																									22
23																									23
24																									24
25			0.02	0.01	0.01	0.02	0.08	0.08	0.07	0.06	0.09	0.04	0.02	0.03	0.01	0.01	0.02	0.02	0.01	0.01			0.01	25	
26																0.01									26
27																									27
28																									28
29																									29
30																									30
Sum	0.15	0.15	0.21	0.09	0.08	0.08	0.16	0.22	0.15	0.15	0.17	0.17	0.49	0.43	0.29	0.18	0.11	0.11	0.08	0.07	0.09	0.10	0.11	0.18	Sum

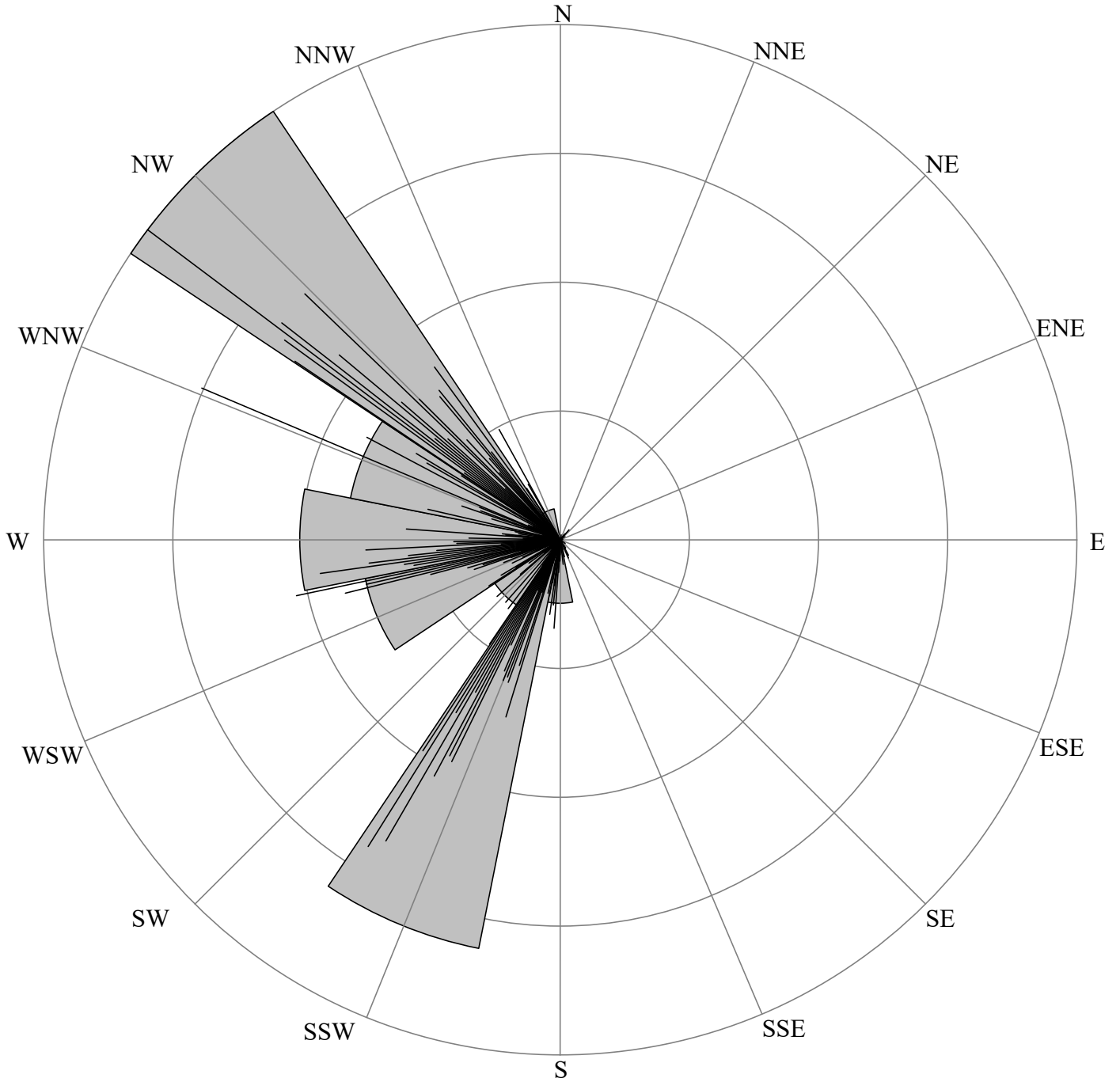
During a frozen precipitation event, hourly precipitation totals may not be recorded. In this case, daily amounts are typically entered in the last column (hour ending at 12 A.M.)

HOUR-BY-HOUR DATA

November 2018: Westford



Wind Rose: November 2018
Westford



Maximum direction of wind: 48.3 miles from 307°
Maximum sector of wind: 386.0 miles from NW
1345.2 total miles of wind