

# LOCAL CLIMATOLOGICAL DATA

## Monthly Summary

### November 2023

Station: Westford

Latitude: 43° 37' 38" N Longitude: 73° 02' 30" 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	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	37.0	24.7	30.9	28.8	25	87	34	0	.....	0	0.03	T	30.24	29.99	30.069	0.9	0.8	273	14	W	7	258	48		
2	43.0	23.3	33.1	32.6	26	77	32	0	.....	0	0.00	0.0	30.37	30.24	30.326	2.7	2.7	174	19	SSE	10	182	97		
3	51.8	37.1	44.4	44.5	30	57	20	0	.....	0	0.00	0.0	30.35	30.03	30.203	7.0	7.0	173	29	SSE	16	168	87		
4	49.6	41.6	45.6	46.0	39	76	19	0	.....	0	0.07	0.0	30.12	30.03	30.076	2.9	2.9	183	27	SSE	14	173	17		
5	46.0	33.4	39.7	40.3	36	84	25	0	.....	0	0.01	0.0	30.14	29.97	30.037	0.5	0.5	328	15	W	7	286	55		
6	46.1	24.4	35.2	36.8	31	79	30	0	.....	0	0.06	0.0	30.19	29.73	30.027	3.1	3.0	175	26	S	15	180	73		
7	50.4	30.2	40.3	43.6	40	87	25	0	.....	0	0.25	0.0	29.92	29.51	29.661	8.0	5.3	212	39	S	18	182	13		
8	37.0	26.2	31.6	29.6	23	76	33	0	.....	0	T	T	30.12	29.91	30.058	3.5	3.4	287	24	W	13	269	61		
9	37.5	27.2	32.4	32.5	30	92	32	0	...4.....	0	0.01	T	30.06	29.75	29.856	2.3	2.2	180	20	SSE	12	250	5		
10	43.5	33.9	38.7	38.6	35	86	26	0	.....	0	0.07	0.0	30.08	29.85	29.939	3.9	3.4	213	18	WSW	12	225	21		
11	34.3	29.3	31.8	30.7	25	81	33	0	.....	0	T	T	30.46	30.08	30.314	2.4	2.3	275	15	W	9	267	25		
12	31.3	19.3	25.3	27.9	22	78	40	0	.....	0	T	T	30.53	30.43	30.481	0.5	0.4	325	10	W	7	273	27		
13	33.8	17.9	25.8	27.7	24	85	39	0	.....	0	T	0.1	30.44	30.07	30.243	1.3	1.3	167	12	S	7	175	49		
14	34.3	31.3	32.8	32.8	31	92	32	0	.....	0	0.01	T	30.37	30.07	30.247	0.6	0.3	217	12	WSW	7	170	4		
15	45.0	30.5	37.8	38.1	33	81	27	0	.....	0	0.01	0.0	30.36	30.08	30.223	5.2	5.2	176	28	SSE	16	182	74		
16	54.6	32.2	43.4	42.3	35	75	21	0	.....	0	0.00	0.0	30.19	30.02	30.118	2.5	2.4	184	12	S	7	175	80		
17	58.4*	40.9	49.7*	51.3	41	70	15	0	.....	0	0.45	0.0	30.03	29.66	29.789	6.7	6.1	178	34	SSE	16	168	39		
18	41.0	24.8	32.9	32.0	29	88	32	0	.....	0	0.13	T	29.84	29.73	29.790	1.8	1.7	281	18	W	10	249	39		
19	40.8	26.7	33.8	33.1	27	77	31	0	.....	0	T	T	30.09	29.69	29.819	4.9	3.6	233	21	WSW	13	262	38		
20	28.5	15.3	21.9	23.1	17	78	43	0	.....	0	0.00	T	30.56	30.09	30.382	1.2	1.1	283	13	W	8	254	32		
21	36.5	11.3	23.9	25.0	16	73	41	0	...4.....	0	0.00	0.5	30.56	30.06	30.390	2.2	2.1	153	21	ESE	10	151	51		
22	40.0	31.3	35.6	35.5	34	93	29	0	.....	0	0.32	T	30.06	29.65	29.783	1.3	1.2	164	20	SSE	10	154	27		
23	39.3	31.5	35.4	35.7	33	89	29	0	.....	0	0.17	0.0	29.89	29.69	29.781	2.6	2.0	235	29	W	14	252	33		
24	37.3	15.4	26.3	24.8	17	73	39	0	.....	0	0.01	T	30.28	29.89	30.102	4.3	4.2	272	24	W	13	274	68		
25	33.4	10.0*	21.7*	23.3	15	71	43	0	.....	0	0.00	0.0	30.36	30.24	30.299	3.4	2.7	191	20	W	11	259	66		
26	42.2	23.8	33.0	33.3	25	74	32	0	.....	0	0.05	0.0	30.25	29.75	30.065	2.9	2.8	162	22	SSE	10	170	61		
27	38.4	30.5	34.5	33.9	30	86	30	0	.....	2	0.70	1.5	29.75	29.53	29.603	3.2	3.0	215	20	SSW	11	274	18		
28	30.7	19.3	25.0	26.2	19	74	40	0	.....	3	0.00	0.7	29.85	29.60	29.669	5.9	5.6	251	27	W	14	265	39		
29	27.7	18.2	23.0	23.5	16	73	42	0	.....	3	T	T	29.94	29.85	29.904	4.2	3.6	197	20	SSE	12	254	40		
30	40.7	26.3	33.5	33.4	25	70	31	0	.....	2	0.01	0.0	29.97	29.84	29.903	7.5	7.5	174	29	S	15	171	51		
<b>Sum</b>	<b>Sum</b>	-----	-----	---	----	Ttl	Ttl						<b>Total</b>	<b>Total</b>	<b>For the month:</b>						---				
	1210	788				945	0		<b>Number of Days</b>				2.36	2.8	30.56	29.51	30.039	3.3	2.3	204	39	S	18	182	
<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>			
	40.3	26.3	33.3	33.6	28	79.4	----	----	≥.01 inch	17	49.75	2.8	20	7	-----	----	---		7	7	45				
<b>Number of Days</b>						<b>Season to Date</b>	<b>Snow, Ice ≥1.0 inch</b>	1	<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>			1536	405	<b>Thunder</b>	0	<b>Precipitation</b>			<b>Snow, Ice Plts</b>												
≥ 90°F	≤ 32°F	≤ 32°F	≤ 0°F	----	----			<b>Heavy Fog</b>	0	0.75	26-27	1.5	27				3			28+					
0	4	25	0	----	----			<b>Clear</b>	2	<b>Partly Cloudy</b>		14	<b>Cloudy</b>		14										

**NOTES:**

- Units: Temperature=°F, Wind=mph, Pressure=Inches Hg, Precipitation=inches.
- Column 4A: value is (MAX+MIN) ÷ 2.
- Data in columns 4B, 5, 6, 15, 16, 23 are updated continuously, there by achieving a "true" mean.
- 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.



# OBSERVATIONS AT 3-HOUR INTERVALS

## November 2023: 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	29.74	0.00	28	25	88	18	4	8	0	30.09	0.00	27	20	74	29	5	9	0	30.56	0.00	15	13	91	27	0	0
03	0	29.70	0.00	31	27	83	16	6	11	0	30.17	0.00	24	17	73	32	0	5	0	30.55	0.00	13	11	91	27	0	0
06	0	29.71	0.00	31	27	86	17	5	10	0	30.26	0.00	24	18	79	29	1	8	0	30.53	0.00	12	10	90	27	0	0
09	109	29.74	0.00	35	30	84	17	2	7	40	30.37	0.00	25	18	76	30	0	0	141	30.51	0.00	18	16	93	27	0	0
12	111	29.76	0.00	39	27	63	25	6	19	179	30.41	0.00	27	19	70	26	4	9	306	30.43	0.00	35	19	52	16	4	8
15	62	29.81	0.00	37	26	66	24	9	18	65	30.45	0.00	28	18	65	26	2	6	33	30.34	0.00	33	14	45	15	3	6
18	0	29.92	0.00	33	28	81	28	5	13	0	30.51	0.00	20	16	85	27	0	0	0	30.27	0.00	33	17	50	16	4	13
21	0	30.01	0.00	31	24	77	26	0	9	0	30.55	0.00	17	14	90	27	0	0	0	30.19	0.00	32	26	79	15	6	14
NOV 22									NOV 23									NOV 24									
00	0	30.06	0.00	31	29	91	14	3	11	0	29.69	0.00	36	35	96	27	1	8	0	29.89	0.00	37	34	88	25	5	10
03	0	29.93	0.00	34	31	86	14	7	14	0	29.71	0.00	34	33	96	27	6	13	0	29.94	0.00	34	29	81	28	3	15
06	0	29.90	0.00	33	31	93	16	1	5	0	29.75	0.00	33	32	96	29	0	9	0	30.04	0.00	27	22	81	27	6	17
09	54	29.84	0.00	35	34	95	11	0	0	39	29.81	0.00	32	31	96	26	0	3	72	30.12	0.00	23	16	74	28	5	16
12	141	29.72	0.00	40	38	94	18	0	4	195	29.78	0.00	38	32	80	23	5	10	413	30.11	0.00	27	14	59	25	4	13
15	23	29.68	0.00	38	37	95	15	0	0	39	29.78	0.00	38	33	81	14	2	7	69	30.13	0.00	26	13	59	26	5	10
18	0	29.66	0.00	35	34	95	15	0	0	0	29.80	0.00	36	33	87	16	5	9	0	30.18	0.00	19	11	69	21	1	3
21	0	29.67	0.00	36	35	96	27	0	0	0	29.84	0.00	38	35	89	20	3	8	0	30.21	0.00	16	11	81	21	0	0
NOV 25									NOV 26									NOV 27									
00	0	30.28	0.00	19	9	65	28	5	17	0	30.25	0.00	27	23	83	16	4	8	0	29.75	0.00	33	31	93	14	2	6
03	0	30.32	0.00	16	9	72	26	1	10	0	30.24	0.00	28	24	85	19	2	7	0	29.64	0.00	33	31	94	12	0	0
06	0	30.34	0.00	11	8	85	28	0	0	0	30.21	0.00	25	21	86	17	1	3	0	29.53	0.00	32	31	95	12	0	0
09	134	30.35	0.00	18	13	80	18	3	9	118	30.19	0.00	31	25	78	17	4	8	7	29.55	0.00	33	32	96	18	4	9
12	394	30.33	0.00	31	17	57	18	2	10	285	30.10	0.00	39	25	57	14	3	11	83	29.57	0.06	36	34	92	21	4	11
15	65	30.28	0.00	32	19	58	18	6	12	70	30.02	0.00	40	24	53	16	2	10	37	29.58	0.05	37	30	77	23	7	13
18	0	30.26	0.00	28	19	68	17	7	12	0	29.94	0.00	35	24	63	15	4	11	0	29.64	0.00	34	27	76	22	3	14
21	0	30.25	0.00	29	21	71	17	5	11	0	29.84	0.00	38	32	79	13	5	12	0	29.63	0.00	34	27	76	22	7	11
NOV 28									NOV 29									NOV 30									
00	0	29.63	0.00	31	25	81	24	6	13	0	29.85	0.00	21	14	72	21	4	11	0	29.91	0.00	27	19	72	16	5	14
03	0	29.61	0.00	29	23	76	24	6	14	0	29.90	0.00	19	12	73	24	5	15	0	29.89	0.00	27	19	73	15	4	14
06	0	29.61	0.00	28	20	73	22	5	7	0	29.92	0.00	19	12	72	22	3	9	0	29.93	0.00	28	20	74	16	5	14
09	70	29.63	0.00	27	22	82	23	2	7	100	29.94	0.00	23	15	72	21	2	7	39	29.96	0.00	30	22	74	17	7	13
12	179	29.61	0.00	29	18	65	23	6	13	156	29.92	0.00	25	17	73	17	4	12	313	29.92	0.00	37	27	69	18	6	18
15	62	29.63	0.00	28	19	71	23	4	12	105	29.89	0.00	28	19	69	17	3	13	49	29.88	0.00	38	28	66	17	6	20
18	0	29.72	0.00	24	17	74	28	7	23	0	29.89	0.00	26	19	75	16	5	11	0	29.88	0.00	37	27	68	16	6	19
21	0	29.81	0.00	20	15	83	29	7	18	0	29.90	0.00	25	19	76	16	3	8	0	29.85	0.00	39	28	65	17	8	20

### 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 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	30.045	32	27	83	3.1	21	2.0
03	0	30.037	31	27	83	3.1	20	2.0
06	0	30.045	30	26	85	2.2	20	1.5
09	78	30.062	32	28	83	3.0	19	2.1
12	233	30.034	38	29	72	3.9	20	2.9
15	70	30.018	38	29	70	3.9	21	2.9
18	0	30.034	34	28	78	3.1	20	2.1
21	0	30.041	33	28	81	3.0	21	1.9

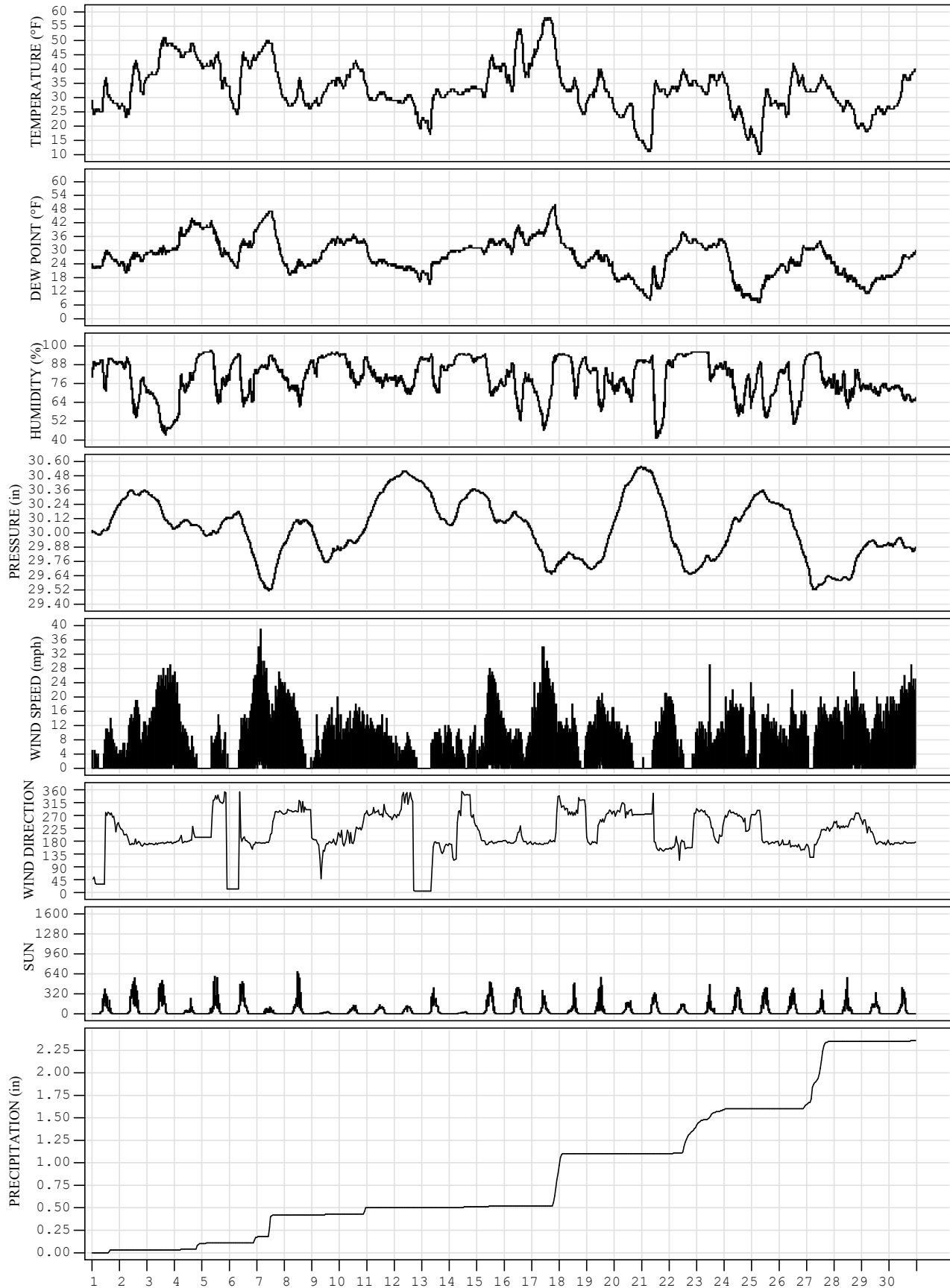
## HOURLY PRECIPITATION (Water Equivalent) November 2023: Westford

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															0.01	0.02								01	
02																									02
03																									03
04				0.01		0.01													0.04	0.01	0.01				04
05																									05
06																									06
07	0.01										0.10	0.12	0.01	0.01							0.03	0.03			07
08																									08
09												0.01													09
10																					0.03	0.04			10
11																									11
12																									12
13																									13
14												0.01													14
15											0.01														15
16																									16
17																			0.04	0.07	0.10	0.08	0.07	0.09	17
18	0.09	0.03	0.01																						18
19																									19
20																									20
21																									21
22				0.01								0.01	0.06	0.05	0.03	0.03	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.03	22
23	0.02	0.01	0.01	0.01		0.01				0.01	0.01	0.02	0.02	0.01	0.01						0.01				23
24	0.01																								24
25																									25
26																									26
27	0.01	0.01		0.04	0.13	0.03	0.02	0.01	0.02	0.02	0.05	0.06	0.09	0.10	0.06	0.03	0.01		0.01			0.02	0.02	0.01	27
28																									28
29																				0.01					29
30																									30
Sum	0.14	0.05	0.02	0.07	0.13	0.05	0.02	0.01	0.02	0.03	0.17	0.22	0.19	0.17	0.11	0.08	0.04	0.01	0.08	0.12	0.13	0.19	0.18	0.13	Sum

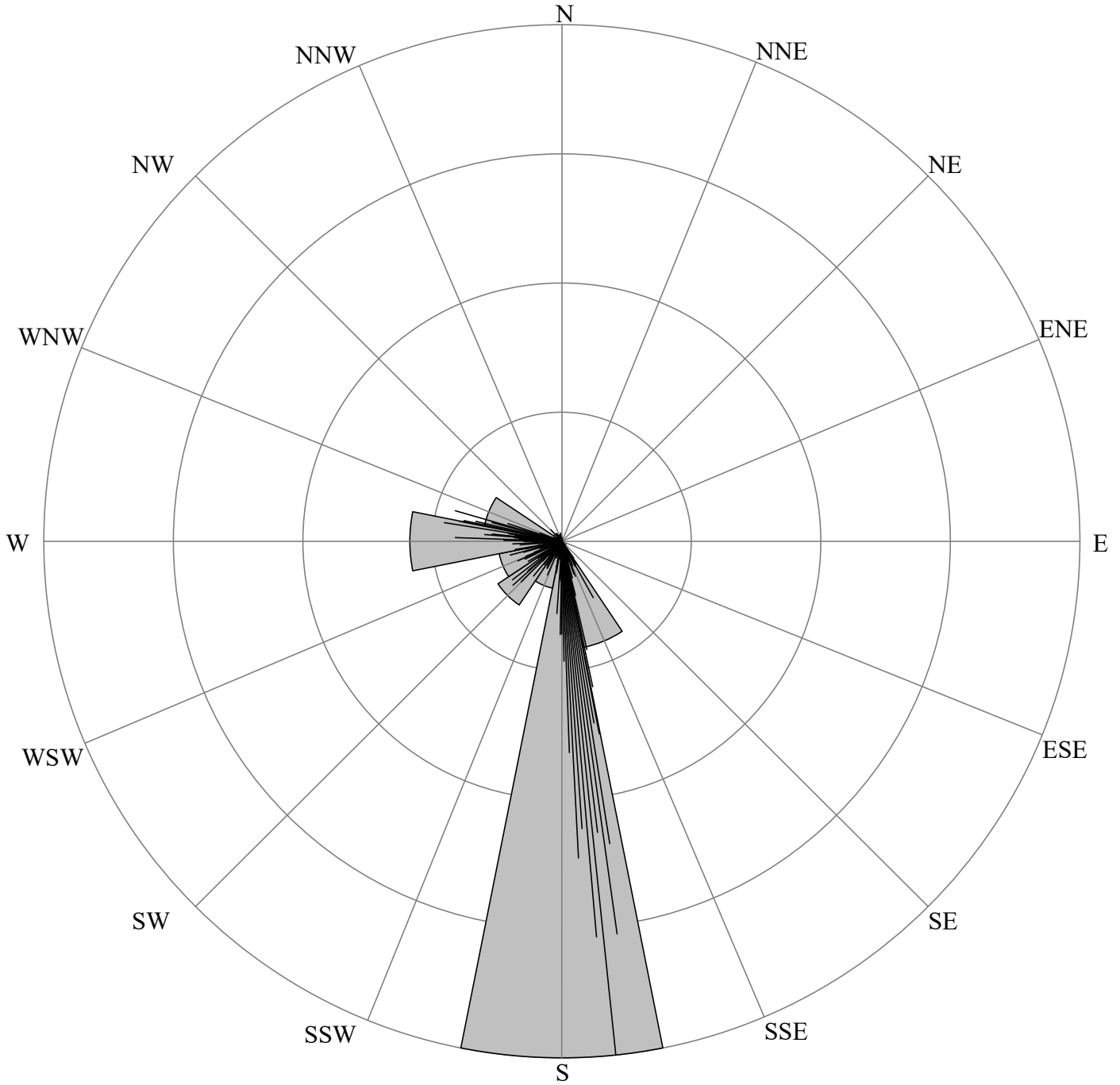
During a frozen precipitation event, hourly precipitation totals may not be recorded. In this case, daily amounts are typically entered in the last column (hour ending at 12 A.M.)

# HOUR-BY-HOUR DATA

## November 2023: Westford



Wind Rose: November 2023  
Westford



Maximum direction of wind: 163.5 miles from 174°  
Maximum sector of wind: 1154.6 miles from S  
2385.1 total miles of wind