

# LOCAL CLIMATOLOGICAL DATA

## Monthly Summary

### January 2018

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
1	2	3	4A	4B	5	6	7	8	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	1.1	-16.5	-7.7	-8.8	-14	76	73	0	.....	8	0.00	0.0	30.35	30.27	30.313	0.3	0.3	314	14	WNW	7	282	86	
2	14.5	-16.1	-0.8	0.4	-4	82	66	0	.....	9	0.09	1.0	30.33	30.08	30.201	1.9	1.9	212	21	S	9	212	49	
3	20.8	12.2	16.5	16.1	7	67	48	0	.....	8	0.00	0.0	30.17	30.01	30.096	2.6	2.6	209	22	SW	10	215	61	
4	17.5	7.8	12.7	13.8	9	80	52	0	.....	14	0.27	6.9	30.02	29.35	29.661	2.4	2.4	328	32	WNW	19	299	9	
5	7.8	-8.2	-0.2	-3.5	-7	85	65	0	.....	16	0.30	3.0	29.80	29.36	29.580	6.0	5.9	290	30	WNW	16	300	26	
6	-6.7	-13.6	-10.2*	-10.4	-14	82	76	0	.....	16	0.15	1.5	30.39	29.80	30.103	4.1	4.0	291	24	WNW	16	304	22	
7	9.5	-19.3*	-4.9	-4.1	-8	82	70	0	.....	16	0.00	0.0	30.54	30.12	30.373	2.9	2.7	209	29	S	14	197	35	
8	28.2	9.5	18.9	21.5	18	87	46	0	.....	13	0.10	1.0	30.12	29.76	29.914	4.6	4.6	205	33	S	15	205	16	
9	31.5	20.4	25.9	26.9	22	82	39	0	.....	14	0.06	0.2	30.33	29.79	30.032	3.2	2.6	290	24	WNW	14	302	23	
10	34.9	8.7	21.8	23.5	16	74	43	0	.....	13	T	0.0	30.43	30.11	30.304	2.7	2.7	206	36	SSW	15	203	66	
11	49.6	34.4	42.0*	42.6	36	79	23	0	.....	8	T	0.0	30.16	29.97	30.090	6.5	6.5	208	34	SSW	16	210	22	
12	57.4*	24.3	40.9	47.6	46	94	24	0	.....	0	1.29	0.0	29.97	29.51	29.713	5.4	4.3	216	32	SW	16	218	7	
13	24.3	-1.7	11.3	9.6	7	89	54	0	...4.6...	6	0.92	6.3	30.44	29.65	30.003	2.6	2.5	350	22	NNE	11	342	13	
14	5.5	-12.2	-3.3	-4.5	-9	82	68	0	.....	6	0.00	0.0	30.80	30.44	30.682	0.0	0.0	34	5	NNE	0	34	43	
15	14.0	-12.0	1.0	-1.0	-5	82	64	0	.....	6	0.00	0.0	30.83	30.50	30.707	0.0	0.0	0	0	NNE	0	34	60	
16	23.3	0.4	11.8	17.0	14	89	53	0	.....	7	0.07	0.6	30.50	30.36	30.416	1.0	1.0	213	12	SSW	7	220	16	
17	25.3	11.5	18.4	19.2	17	90	46	0	.....	7	0.02	0.3	30.37	30.02	30.222	0.2	0.1	240	10	WNW	5	313	22	
18	22.1	12.0	17.1	18.1	14	85	48	0	.....	7	T	T	30.03	29.90	29.940	2.8	2.8	211	15	S	9	203	21	
19	26.6	19.4	23.0	23.0	19	86	42	0	.....	6	0.00	0.0	29.92	29.67	29.853	4.5	4.5	211	22	SSW	12	215	17	
20	37.9	26.4	32.2	34.5	27	73	33	0	.....	6	0.00	0.0	29.90	29.52	29.699	4.3	4.0	232	28	S	12	230	22	
21	38.9	29.2	34.1	33.1	27	79	31	0	.....	5	0.00	0.0	30.15	29.90	30.069	0.3	0.3	287	13	WSW	9	252	42	
22	33.0	19.4	26.2	24.8	22	89	39	0	.....	5	0.17	T	30.27	29.93	30.149	0.8	0.7	208	18	SW	9	194	24	
23	43.3	32.9	38.1	37.5	35	92	27	0	.....	0	0.64	0.0	29.94	29.39	29.601	3.3	3.0	215	21	WSW	11	260	15	
24	36.8	10.3	23.5	19.1	13	75	41	0	.....	4	0.00	0.0	30.15	29.44	29.867	4.3	3.9	304	29	WSW	17	292	81	
25	14.0	1.8	7.9	8.5	0	69	57	0	.....	4	0.00	0.0	30.55	30.15	30.355	1.5	1.4	320	22	WNW	12	302	85	
26	26.4	2.1	14.2	15.9	5	64	51	0	.....	4	0.00	0.0	30.70	30.40	30.575	0.8	0.8	207	21	S	8	199	86	
27	42.0	26.3	34.1	35.4	25	64	31	0	.....	3	0.00	0.0	30.40	30.01	30.150	6.8	6.7	207	35	SSW	15	208	31	
28	42.0	29.1	35.6	37.0	29	73	29	0	.....	2	0.00	0.0	30.27	30.01	30.160	2.6	2.3	254	20	WNW	11	181	76	
29	29.1	13.3	21.2	19.9	15	81	44	0	.....	2	T	T	30.33	30.11	30.258	0.2	0.2	315	8	N	5	307	59	
30	16.3	9.6	12.9	12.5	8	82	52	0	.....	2	0.00	0.0	30.13	30.02	30.072	0.7	0.7	331	16	NW	7	309	63	
31	25.9	2.2	14.0	14.3	6	69	51	0	.....	1	0.00	0.0	30.22	29.81	30.041	2.5	2.3	212	26	SSW	14	203	78	
<b>Sum</b>	<b>Sum</b>	-----	-----	---	----		<b>Ttl</b>	<b>Ttl</b>					<b>Total</b>	<b>Total</b>	<b>For the month:</b>					---				
	793	264					1486	0	<b>Number of Days</b>				4.08	20.8	30.83	29.35	30.103	2.6	1.8	237	36	SSW	19	299
<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>		
	25.6	8.5	17.0	17.4	12	80.1	----	----	≥.01 inch	12			4.08	49.2	15	4	-----	----	---	10	4	41		
<b>Number of Days</b>							<b>Season to Date</b>	<b>Snow, Ice ≥1.0 inch</b>	6	<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>			4395	0	<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	0.00	-	6.9	4	16		5+								
0	21	29	9	----	----			<b>Clear</b>	5	<b>Partly Cloudy</b>		9	<b>Cloudy</b>		16									

**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 January 2018: Westford

Hour	Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	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
JAN 01																											
00	0	30.32	0.00	-9	-15	77	31	2	8	0	30.27	0.00	-11	-14	83	34	0	0	0	30.10	0.00	14	12	89	21	2	8
03	0	30.33	0.00	-11	-15	81	35	0	6	0	30.30	0.00	-9	-13	80	06	0	0	0	30.14	0.00	15	10	83	21	2	16
06	0	30.33	0.00	-14	-18	82	02	0	0	0	30.32	0.00	-11	-15	81	02	0	0	0	30.14	0.00	13	8	82	19	1	8
09	21	30.34	0.00	-15	-18	83	02	0	0	58	30.31	0.00	-9	-12	84	23	0	0	42	30.17	0.00	14	8	78	20	3	12
12	457	30.32	0.00	-2	-11	64	35	0	9	214	30.23	0.00	2	-5	71	21	4	12	397	30.11	0.00	18	8	65	20	8	18
15	109	30.31	0.00	-1	-11	61	30	0	8	42	30.11	0.00	6	2	84	20	5	15	125	30.05	0.00	20	4	50	20	2	22
18	0	30.29	0.00	-11	-15	79	34	0	0	0	30.08	0.00	10	6	86	21	3	13	0	30.04	0.00	18	3	52	20	3	16
21	0	30.28	0.00	-11	-15	81	34	0	0	0	30.08	0.00	14	11	90	20	4	10	0	30.06	0.00	17	2	52	22	0	5
JAN 02																											
JAN 03																											
JAN 04																											
JAN 05																											
JAN 06																											
JAN 07																											
JAN 08																											
JAN 09																											
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JAN 11																											
JAN 12																											
JAN 13																											
JAN 14																											
JAN 15																											
JAN 16																											
JAN 17																											
JAN 18																											

### MAXIMUM SHORT DURATION PRECIPITATION

Time Period (minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ended: Date	--	--	--	--	--	--	--	--	--	--	--	--
Ended: Time	----	----	----	----	----	----	----	----	----	----	----	----

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 January 2018: Westford

Hour	JAN 19									JAN 20									JAN 21								
	Sunshine	Pressure	Rainfall rate	Temperature	Dew Point	Humidity	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
00	0	29.92	0.00	21	17	84	21	4	9	0	29.67	0.00	27	21	78	20	8	22	0	29.90	0.00	37	31	79	25	2	12
03	0	29.89	0.00	21	18	87	21	2	8	0	29.58	0.00	30	22	72	21	8	24	0	29.98	0.00	34	29	82	30	0	5
06	0	29.90	0.00	21	19	92	22	6	10	0	29.56	0.00	32	23	69	23	7	19	0	30.04	0.00	32	27	83	04	0	0
09	26	29.90	0.00	22	19	90	22	3	6	127	29.62	0.00	34	25	68	22	2	8	44	30.08	0.00	32	26	78	04	0	0
12	90	29.87	0.00	24	20	84	19	2	12	42	29.65	0.00	37	28	71	25	3	12	156	30.09	0.00	36	27	72	32	0	0
15	39	29.85	0.00	24	20	83	21	4	10	25	29.72	0.00	37	30	75	24	5	14	58	30.09	0.00	38	29	69	05	0	0
18	0	29.83	0.00	24	20	83	22	3	12	0	29.81	0.00	38	30	74	25	4	15	0	30.12	0.00	32	26	80	05	0	0
21	0	29.78	0.00	24	20	85	20	3	11	0	29.87	0.00	37	31	76	24	3	10	0	30.13	0.00	30	25	82	05	0	0

JAN 22									JAN 23									JAN 24									
00	0	30.14	0.00	29	25	85	05	0	0	0	29.94	0.00	33	31	91	20	5	18	0	29.45	0.00	36	32	87	20	2	11
03	0	30.16	0.00	26	23	87	05	0	0	0	29.85	0.00	34	32	91	19	3	8	0	29.53	0.00	32	26	81	26	7	19
06	0	30.19	0.00	22	19	88	29	2	5	0	29.74	0.00	37	34	91	22	1	7	0	29.73	0.00	21	15	78	31	7	23
09	46	30.25	0.00	20	18	91	28	0	0	18	29.64	0.00	38	35	89	21	3	6	53	29.87	0.00	15	9	77	32	10	18
12	137	30.21	0.00	22	18	84	30	0	5	69	29.55	0.00	39	38	96	20	6	13	427	29.92	0.00	19	9	66	34	5	11
15	35	30.15	0.00	24	20	83	35	0	0	76	29.44	0.00	43	42	96	19	1	8	160	29.95	0.00	17	8	68	31	5	15
18	0	30.11	0.00	24	22	92	31	0	0	0	29.40	0.00	40	39	96	20	0	6	0	30.04	0.00	13	6	73	32	0	6
21	0	30.04	0.00	29	27	93	22	1	8	0	29.47	0.00	38	35	89	26	6	13	0	30.11	0.00	13	6	73	30	7	16

JAN 25									JAN 26									JAN 27									
00	0	30.15	0.00	10	5	77	32	2	10	0	30.54	0.00	11	2	66	29	0	0	0	30.40	0.00	26	12	54	20	4	21
03	0	30.19	0.00	5	0	79	33	0	0	0	30.58	0.00	7	-0	72	30	0	0	0	30.32	0.00	28	16	59	20	6	21
06	0	30.26	0.00	3	-2	79	00	0	0	0	30.63	0.00	3	-1	84	30	0	0	0	30.25	0.00	30	19	63	20	5	21
09	25	30.35	0.00	4	-3	74	33	1	11	26	30.68	0.00	9	5	84	30	0	0	63	30.19	0.00	34	23	66	20	10	27
12	420	30.36	0.00	11	0	60	32	1	13	425	30.64	0.00	21	7	55	21	0	2	95	30.11	0.00	36	26	65	21	8	19
15	197	30.39	0.00	13	2	59	35	0	11	202	30.57	0.00	25	8	49	22	0	4	37	30.05	0.00	39	27	62	20	5	20
18	0	30.45	0.00	11	0	62	30	0	0	0	30.53	0.00	19	10	66	15	0	0	0	30.02	0.00	42	29	61	21	6	20
21	0	30.51	0.00	10	1	66	28	0	7	0	30.47	0.00	23	9	54	21	4	11	0	30.02	0.00	41	33	72	20	6	24

JAN 28									JAN 29									JAN 30									
00	0	30.01	0.00	41	35	80	20	8	15	0	30.27	0.00	29	26	87	03	0	5	0	30.11	0.00	13	11	89	33	0	0
03	0	30.05	0.00	40	36	84	21	5	12	0	30.30	0.00	25	20	83	35	0	0	0	30.04	0.00	12	9	89	32	0	0
06	0	30.12	0.00	39	31	75	27	5	12	0	30.31	0.00	20	14	80	31	0	0	0	30.06	0.00	10	7	88	32	0	5
09	105	30.16	0.00	36	28	72	20	0	0	95	30.33	0.00	17	13	83	30	0	5	86	30.06	0.00	11	7	85	32	0	8
12	348	30.16	0.00	41	28	61	29	7	13	313	30.29	0.00	22	15	75	31	0	0	267	30.04	0.00	15	9	77	34	2	10
15	72	30.17	0.00	40	28	62	28	5	10	144	30.23	0.00	22	15	75	31	0	0	125	30.03	0.00	16	9	75	01	0	4
18	0	30.22	0.00	34	26	72	01	0	0	0	30.22	0.00	18	13	80	04	0	3	0	30.10	0.00	13	8	82	32	3	16
21	0	30.27	0.00	31	25	78	01	0	0										0	30.13	0.00	12	7	81	32	1	6

JAN 31																		
00	0	30.13	0.00	11	5	76	33	1	12									
03	0	30.16	0.00	9	4	80	29	0	5									
06	0	30.19	0.00	5	1	83	33	0	0									
09	28	30.21	0.00	5	1	84	02	0	0									
12	427	30.12	0.00	17	4	58	19	2	6									
15	74	30.01	0.00	19	6	56	21	6	11									
18	0	29.87	0.00	20	11	67	20	11	23									
21	0	29.83	0.00	22	10	58	19	4	16									

## 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	30.098	16	12	82	2.8	23	2.2
03	0	30.108	15	11	83	2.2	23	1.6
06	0	30.114	14	10	84	2.2	26	1.2
09	40	30.140	14	10	83	2.6	24	1.6
12	199	30.106	20	14	75	3.0	24	2.0
15	77	30.080	21	14	75	2.7	24	1.9
18	0	30.090	19	14	79	2.4	23	1.6
21	0	30.092	18	13	80	2.7	25	1.7

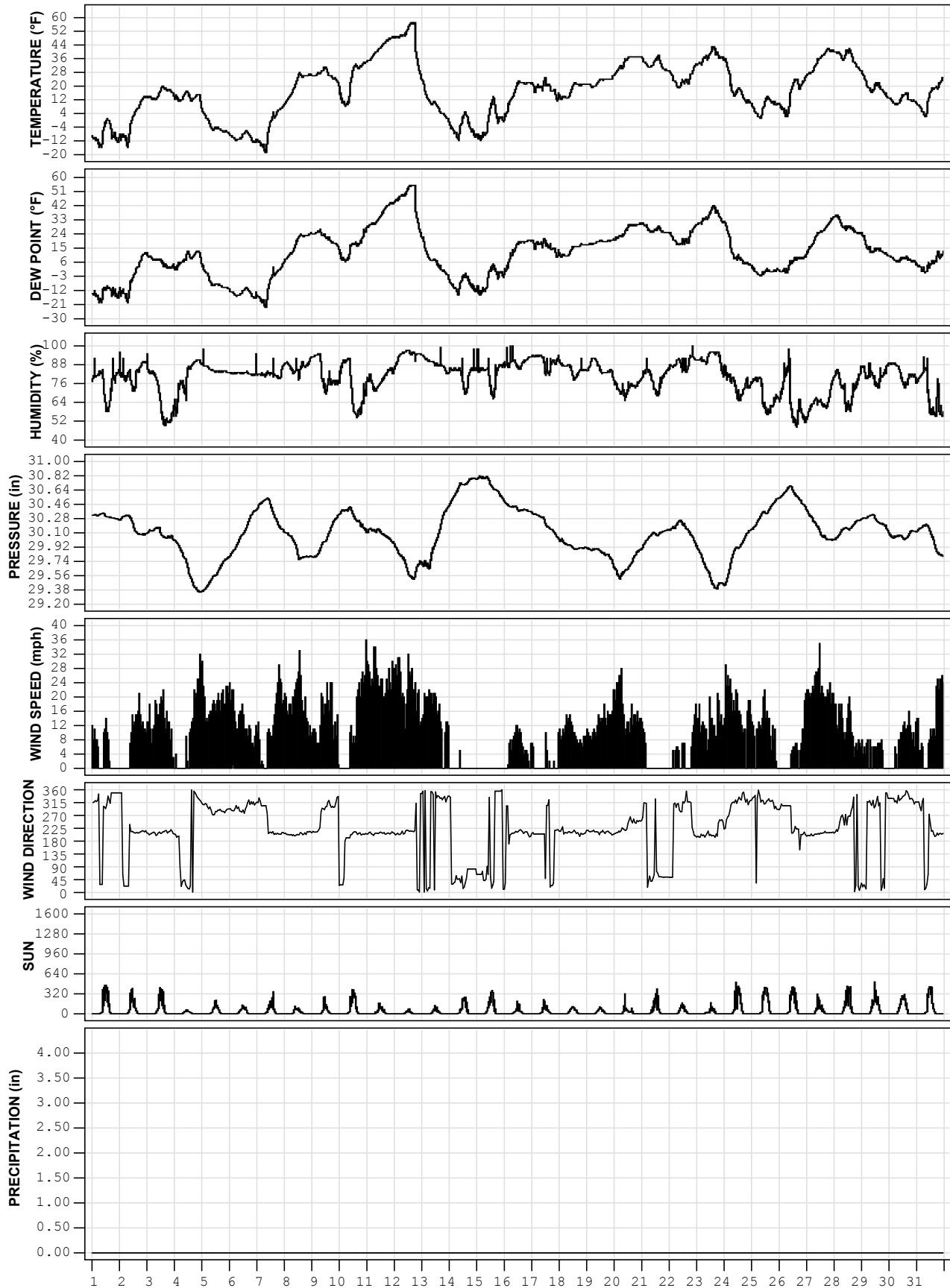
## HOURLY PRECIPITATION (Water Equivalent) January 2018: Westford

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																									02
03																									03
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30																									30
31																									31
<b>Sum</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>Sum</b>

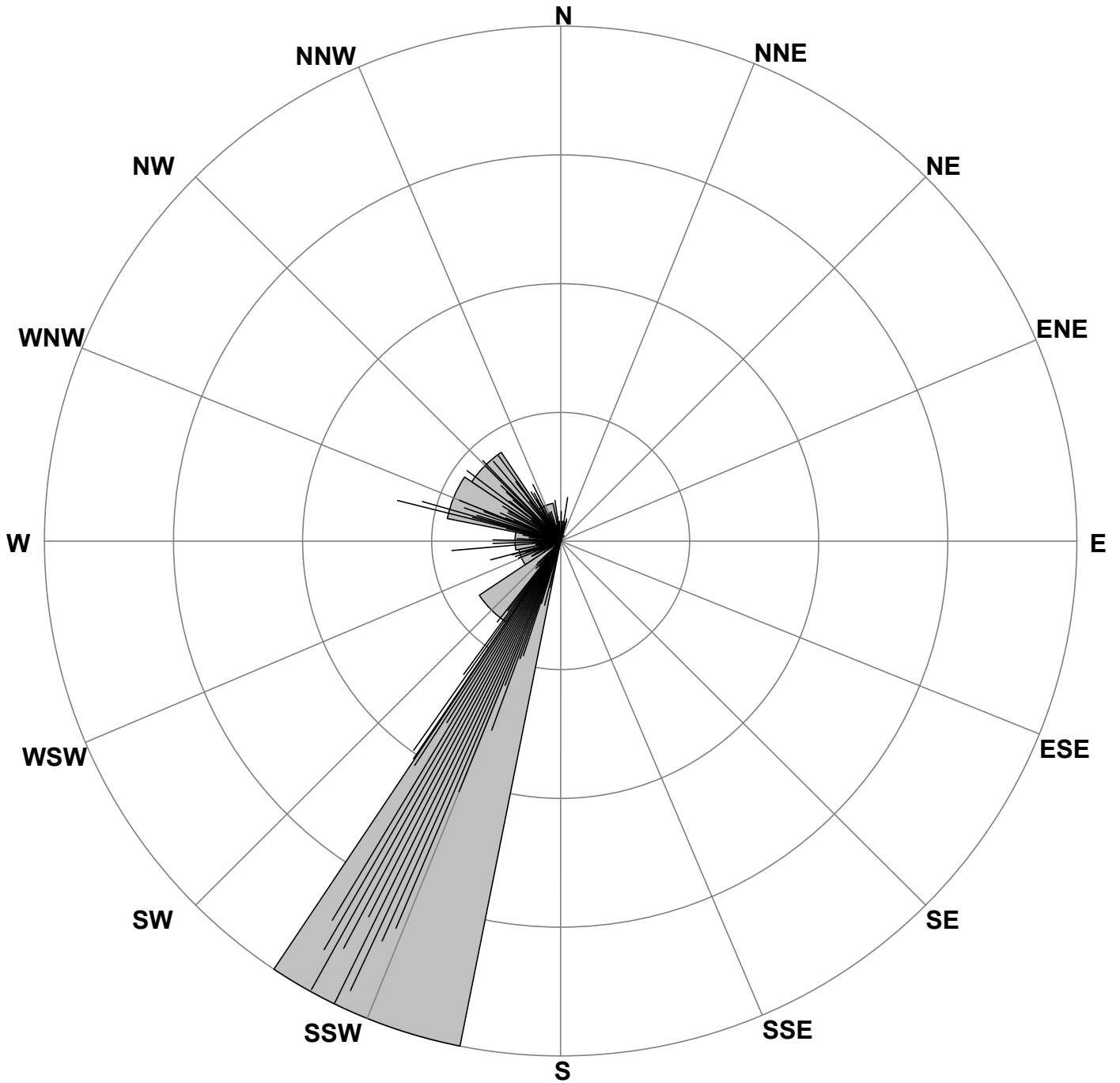
During a frozen precipitation event, hourly precipitation totals may not be recorded. In this case, daily amounts are typically entered in the last column (hour ending at 12 A.M.)

# HOUR-BY-HOUR DATA

## January 2018: Westford



**Wind Rose: January 2018  
Westford**



**Maximum direction of wind: 91.8 miles from 206°  
Maximum sector of wind: 1021.5 miles from SSW  
1957.2 total miles of wind**