

NENANA MUNI, AK	
Latitude = 64.55 N	Station ID = ICAO_PANN
Longitude = 149.07 W	Elevation = 362 Feet
Period of Record = 1988 To 2017	Average Pressure = 29.42 inches Hg

Design Criteria Data

	Mean Coincident (Average) Values				
Dry Bulb Temperature (T)	Design Value (°F)	Wet Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	84	62	50	5.9	VRB
0.4% Occurrence	80	60	49	6	VRB
1.0% Occurrence	77	60	50	5.6	VRB
2.0% Occurrence	73	58	49	6.1	VRB
Mean Daily Range	19	-	-	-	E
97.5% Occurrence	-27	-27	1	1.5	E
99.0% Occurrence	-38	-38	0	1.7	***
99.6% Occurrence	-45	-45	0	1.2	***
Median of Extreme Lows	-47	-47	0	1.8	***

	Design Value (°F)	Dry Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Wet Bulb Temperature (T _{wb})					
Median of Extreme Highs	67	79	78	3.6	VRB
0.4% Occurrence	63	75	66	4.8	VRB
1.0% Occurrence	61	72	62	5	VRB
2.0% Occurrence	60	70	60	5	VRB

	Design Value (gr/lb)	Dry Bulb Temperature (°F)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Humidity Ratio (HR)					
Median of Extreme Highs	86	71	0.57	2	S
0.4% Occurrence	73	66	0.48	4	VRB
1.0% Occurrence	69	64	0.45	4	VRB
2.0% Occurrence	65	64	0.44	4.2	SW

Air Conditioning/ Humid Area Criteria	Threshold	T ≥ 93 °F	T ≥ 80 °F	Twb ≥ 73 °F	Twb ≥ 67 °F
	# of Hours	0	38	1	8

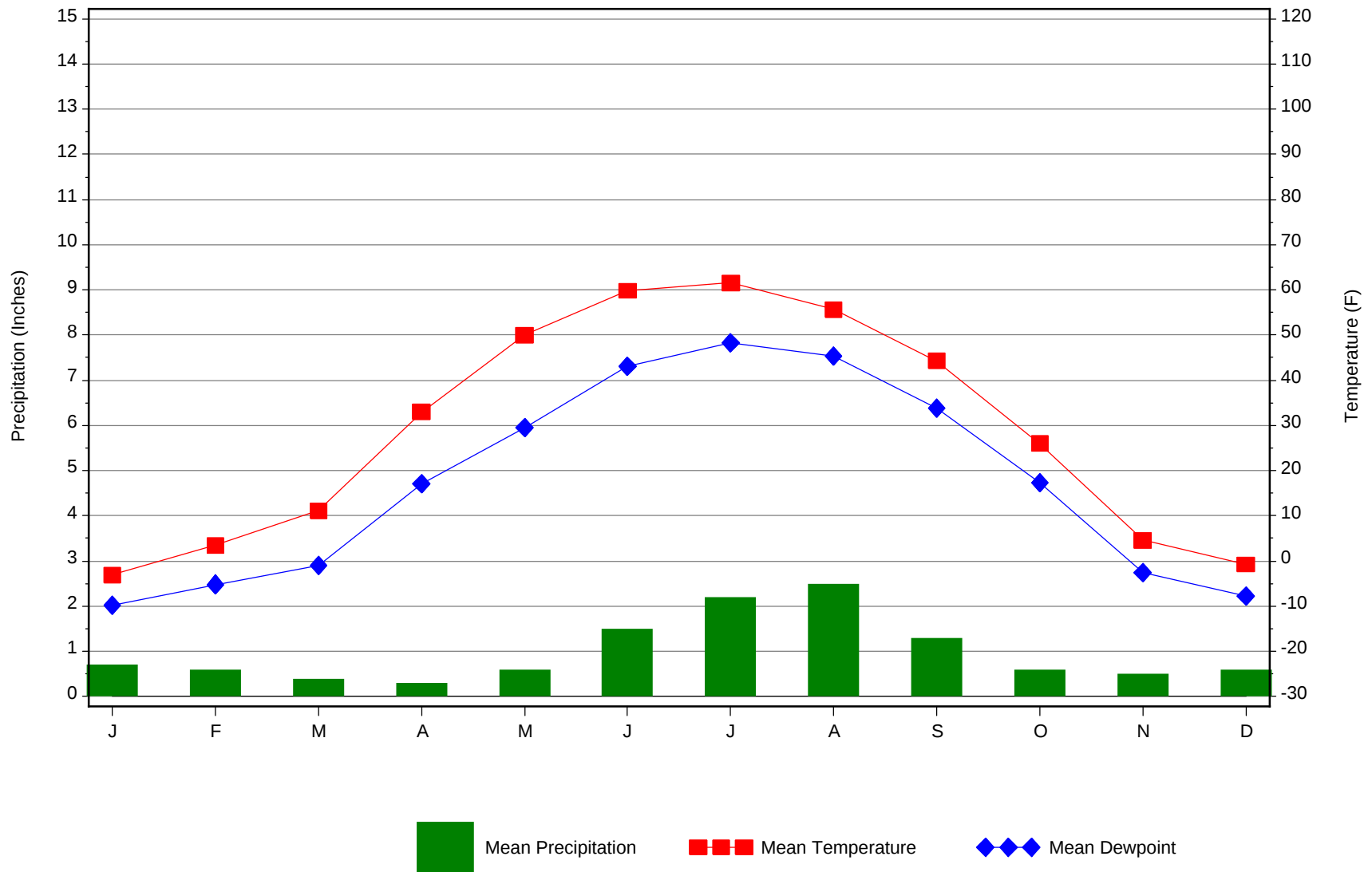
Other Site Data

Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75° F-RH 60% Latent + Sensible
2	0.9	90	0.0 + 0.0
Ground Water Temperature (°F) 50 Foot Depth*	Frost Depth 50 Year Recurrence (in)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
31.7	N/A	N/A	69

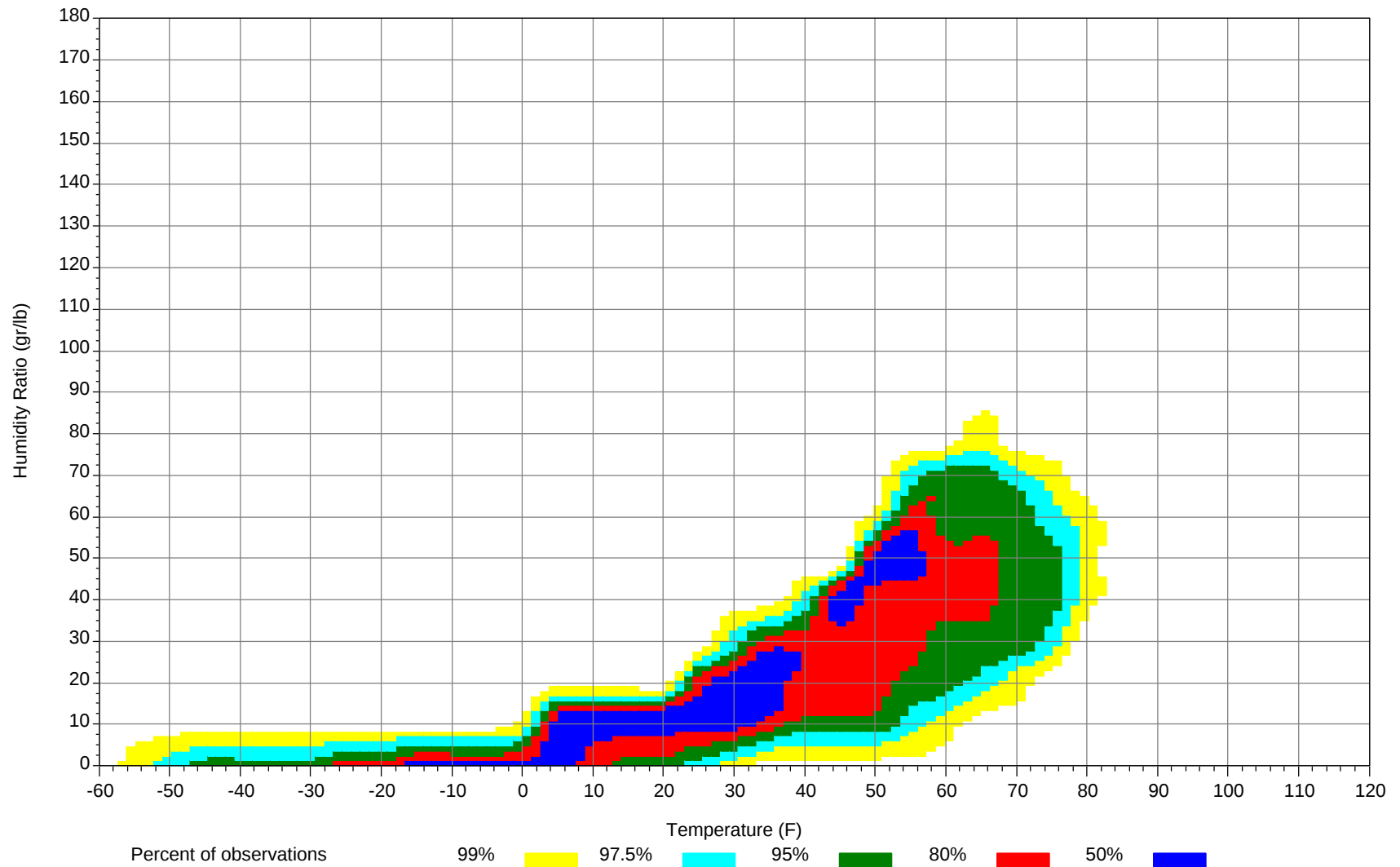
*Note: Temperatures at greater depths can be estimated by adding 1.5° F per 100 feet additional depth.



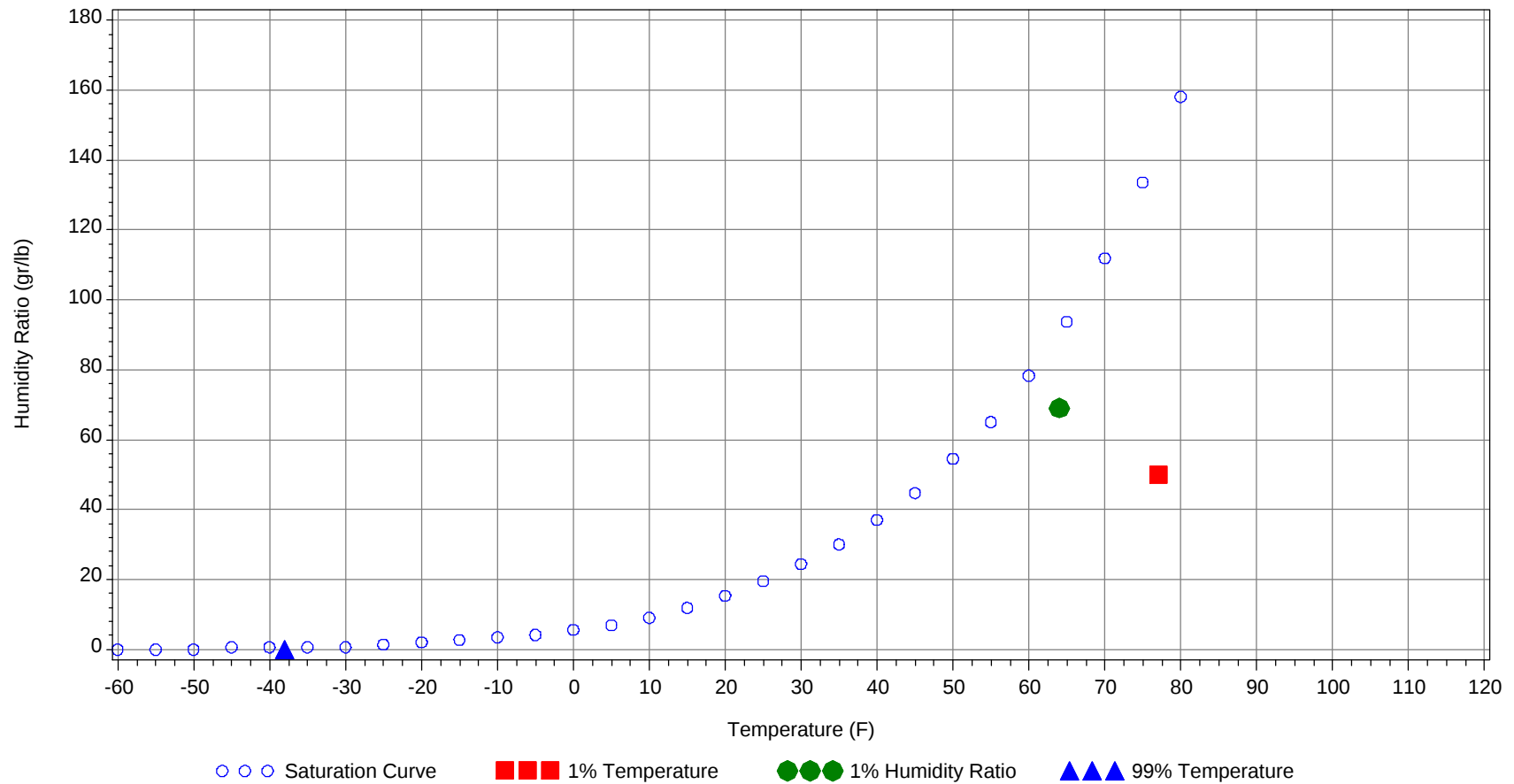
Average Annual Climate



Long Term Psychrometric Summary



Psychrometric Summary of Peak Design Values



	(° F) / (gr/lb)	MCDB (° F)	MCWB (° F)	MCDP (° F)	MCHR (gr/lb)	Enthalpy (btu/lb)
1.0% Dry Bulb	77.0		60		50.0	26.5
99.0% Dry Bulb	-38.0				0.0	-9.1
1.0% Humidity Ratio	69.0	64.0	59.2	56.1		26.1

Dry-Bulb Temperature Hours For An Average Year

Temperature Range (°F)	January					February					March				
	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)
90/ 94															
85/ 89															
80/ 84															
75/ 79															
70/ 74															
65/ 69															
60/ 64															
55/ 59															
50/ 54						0	0	0	0	40.2		0	0	0	38.8
45/ 49	0	1	0	1	39.4	0	1	1	2	37.5	0	2	2	4	36.7
40/ 44	2	2	1	5	36.7	1	2	1	4	35.7	0	6	4	10	34.3
35/ 39	3	4	3	10	31.8	3	7	5	15	31.2	3	15	13	31	30.9
30/ 34	6	7	7	20	28	11	10	12	33	27.9	10	21	20	51	27.2
25/ 29	14	11	12	37	23.6	10	15	12	37	23.1	15	28	28	71	22.6
20/ 24	10	10	11	31	19.5	10	13	12	35	19.2	15	22	23	60	18.6
15/ 19	15	16	14	45	15.4	21	23	25	69	15.1	26	37	35	98	14.6
10/ 14	15	18	18	51	10.2	21	25	23	69	10.2	29	30	33	92	9.8
5/ 9	23	24	23	70	5.7	20	25	26	71	5.9	29	26	26	81	5.5
0/ 4	31	31	27	89	0.4	25	25	26	76	0.5	32	25	26	83	0.3
-5/ -1	16	19	19	54	-3.6	14	16	15	45	-3.7	17	11	11	39	-3.7
-10/ -6	24	25	28	77	-8.1	25	21	23	69	-8	21	12	13	46	-8.2
-15/-11	14	14	13	41	-12.5	14	10	12	36	-12.5	13	5	6	24	-12.6
-20/-16	18	17	17	52	-17.2	16	10	11	37	-17.1	14	4	5	23	-16.9
-25/-21	15	14	16	45	-22.2	10	7	6	23	-22.1	9	2	3	14	-22.1
-30/-26	14	11	13	38	-27.4	8	5	7	20	-27.4	8	1	2	11	-27.2
-35/-31	4	4	5	13	-31.9	4	3	3	10	-31.9	2	0	0	2	-31.8
-40/-36	6	6	7	19	-36.8	4	2	2	8	-36.6	2	0	0	2	-36.7
-45/-41	7	5	6	18	-41.9	4	1	2	7	-42.2	1	0	0	1	-42.1
-50/-46	4	3	4	11	-46.9	3	0	1	4	-46.6	0	0	0	0	-47
-55/-51	4	3	3	10	-52	1	0	0	1	-51.5					
-60/-56	2	1	1	4	-56.2		0		0	-56					
-65/-61	0	0	0	0	-61.3										
-70/-66	0	0		0											

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

Dry-Bulb Temperature Hours For An Average Year

Temperature Range (°F)	April					May					June				
	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)
90/ 94													0	0	61
85/ 89							0	0	0	55.3		1	1	2	62.9
80/ 84							2	1	3	55.9		6	6	12	60.2
75/ 79							5	4	9	55.3	0	19	15	34	58.7
70/ 74		0	0	0	50		13	11	24	52.9	1	43	33	77	56.2
65/ 69		1	0	1	49	0	23	15	38	50.3	5	45	35	85	54.1
60/ 64	0	4	3	7	46	4	43	34	81	47.9	25	62	55	142	52.6
55/ 59	0	11	8	19	43	13	51	42	106	45.3	53	39	48	140	50.5
50/ 54	0	24	17	41	40.4	29	48	47	124	42.9	76	19	34	129	48
45/ 49	4	39	33	76	37.3	51	35	43	129	40.2	58	4	11	73	43.7
40/ 44	9	33	29	71	34.6	45	13	22	80	37	16	0	2	18	39
35/ 39	33	42	46	121	31.5	57	8	16	81	33.4	6	0	0	6	35
30/ 34	51	30	39	120	28	32	4	7	43	29.2	0		0	0	29.5
25/ 29	54	23	31	108	23.7	11	2	3	16	24.1	0			0	24.2
20/ 24	23	10	10	43	19.3	4	1	1	6	19.7					
15/ 19	22	12	12	46	15.1	2	0	0	2	16.2					
10/ 14	13	7	6	26	10.1	1		0	1	10.2					
5/ 9	12	3	4	19	5.6	0			0	6.4					
0/ 4	9	1	2	12	1										
-5/ -1	4	0	0	4	-3.4										
-10/ -6	3	0	0	3	-7.6										
-15/-11	1		0	1	-12.2										
-20/-16	1			1	-15.9										
-25/-21	0			0	-21										
-30/-26															
-35/-31															
-40/-36															
-45/-41															
-50/-46															
-55/-51															
-60/-56															
-65/-61															
-70/-66															

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Dry-Bulb Temperature Hours For An Average Year

Temperature Range (°F)	July					August					September				
	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)
90/ 94		0	0	0	64.4			0	0	65					
85/ 89		1	1	2	64.5		0	0	0	63.8					
80/ 84	0	7	6	13	62.2		3	2	5	63.3			0	0	58
75/ 79	0	24	19	43	60.3	0	9	6	15	61.5		0	0	0	58.4
70/ 74	2	55	40	97	58.6	0	22	14	36	58.7	0	1	1	2	55
65/ 69	7	48	40	95	56.9	2	30	23	55	56.5	0	5	4	9	52.6
60/ 64	37	61	60	158	55.4	12	59	47	118	54.3	1	23	15	39	50.4
55/ 59	82	35	51	168	52.7	41	59	60	160	51.9	5	35	24	64	48.3
50/ 54	80	13	25	118	49.6	75	44	55	174	48.8	17	46	39	102	46
45/ 49	33	3	6	42	44.7	72	18	30	120	44.6	49	47	53	149	42.7
40/ 44	5		0	5	39.8	25	3	8	36	39.6	46	29	35	110	38.8
35/ 39	1			1	35.3	16	0	3	19	35.8	54	30	35	119	34.6
30/ 34	0			0	28.5	4		0	4	30.4	39	15	24	78	30.1
25/ 29						1			1	24.7	19	4	8	31	25.3
20/ 24											5	1	3	9	20.1
15/ 19											3	1	1	5	15.9
10/ 14											1	0	0	1	11.4
5/ 9											0	0	0	0	7.3
0/ 4											0	0	0	0	1.2
-5/ -1											0			0	-3.3
-10/ -6											0			0	-6
-15/-11															
-20/-16															
-25/-21															
-30/-26															
-35/-31															
-40/-36															
-45/-41															
-50/-46															
-55/-51															
-60/-56															
-65/-61															
-70/-66															

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Dry-Bulb Temperature Hours For An Average Year

Temperature Range (°F)	October					November					December				
	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)
90/ 94															
85/ 89															
80/ 84															
75/ 79															
70/ 74	0	0	0	0	53.8										
65/ 69	0	0	0	0	51.8										
60/ 64	0	0	0	0	49										
55/ 59	1	2	1	4	45.4										
50/ 54	1	5	3	9	43	0	0		0	47.7	0			0	41
45/ 49	5	15	10	30	40	0	0	0	0	43.5	0	0	0	0	38.7
40/ 44	9	16	12	37	36.8	0	1	0	1	38.6	1	1	1	3	37
35/ 39	23	34	32	89	33.1	3	4	3	10	32	2	2	2	6	32.2
30/ 34	40	41	45	126	29.1	9	11	11	31	29.2	6	6	7	19	28.2
25/ 29	48	47	48	143	24.8	13	18	15	46	24.1	8	9	8	25	23.9
20/ 24	32	26	28	86	20	15	14	15	44	19.6	10	12	9	31	19.5
15/ 19	36	31	31	98	15.9	24	26	24	74	15.6	18	16	18	52	15.4
10/ 14	22	14	17	53	10.7	27	29	29	85	10.7	24	24	23	71	10.3
5/ 9	13	7	11	31	6.2	25	25	24	74	5.8	28	31	29	88	5.9
0/ 4	8	4	6	18	1	33	36	32	101	0.7	34	35	33	102	0.6
-5/ -1	3	1	2	6	-3.4	17	17	20	54	-3.5	18	19	18	55	-3.7
-10/ -6	4	1	1	6	-7.8	23	20	22	65	-7.9	28	25	28	81	-8.1
-15/-11	1	1	0	2	-12.5	13	9	10	32	-12.6	15	12	15	42	-12.6
-20/-16	0	0	0	0	-16.8	14	13	13	40	-17.1	17	20	19	56	-17
-25/-21	0	0	0	0	-23	9	8	8	25	-22.2	13	12	13	38	-22.3
-30/-26	1	0	0	1	-27.1	7	5	7	19	-27.3	12	11	12	35	-27.3
-35/-31	0			0	-30	3	1	3	7	-31.8	4	4	4	12	-31.8
-40/-36						3	1	2	6	-36.2	4	3	4	11	-36.7
-45/-41						1	1	0	2	-42.2	3	3	3	9	-42.2
-50/-46						1	0	0	1	-47	2	2	2	6	-46.8
-55/-51						0	0	0	0	-51.6	1	0	0	1	-51.2
-60/-56						0	0		0	-55.5					
-65/-61															
-70/-66															

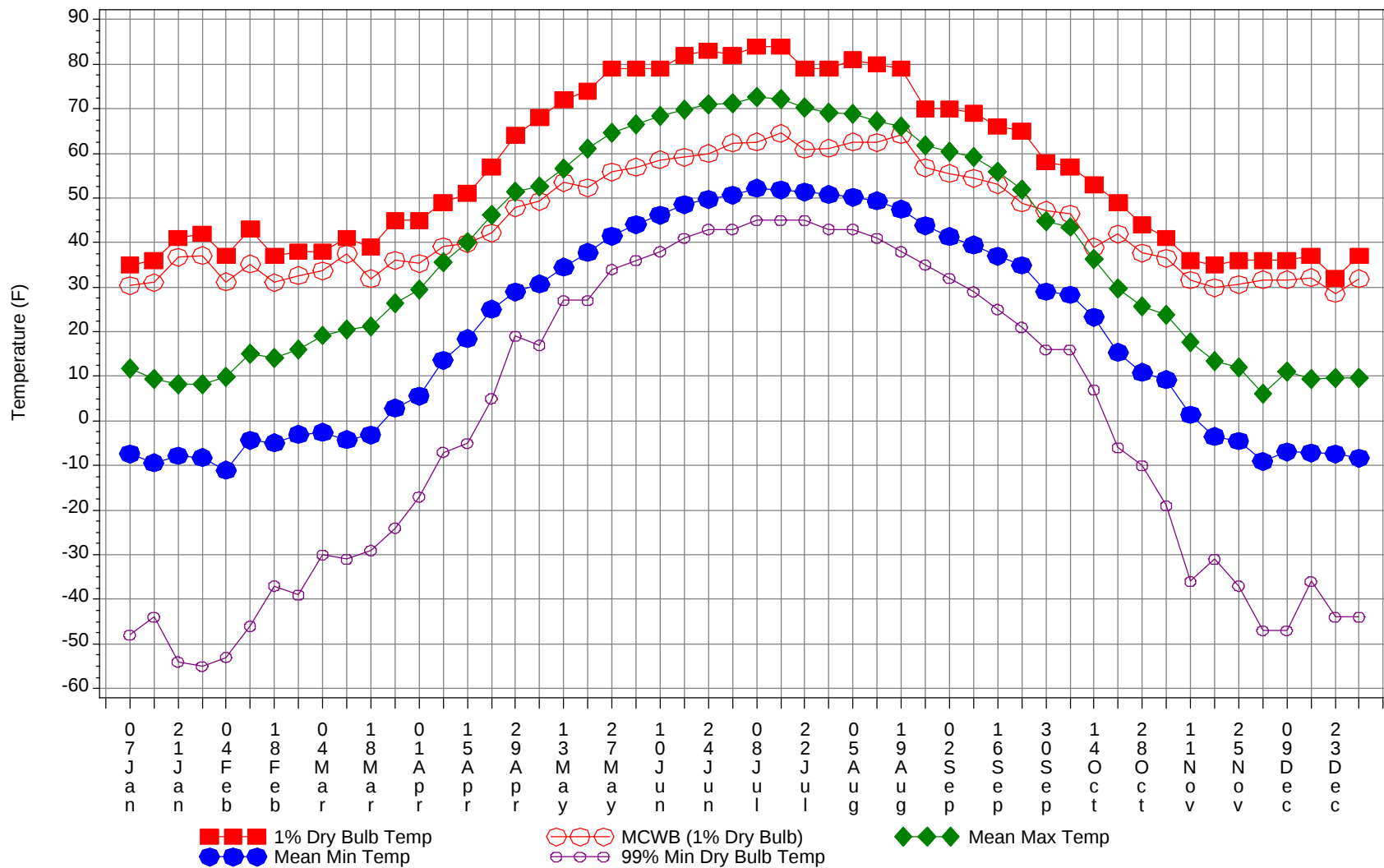
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Dry-Bulb Temperature Hours For An Average Year

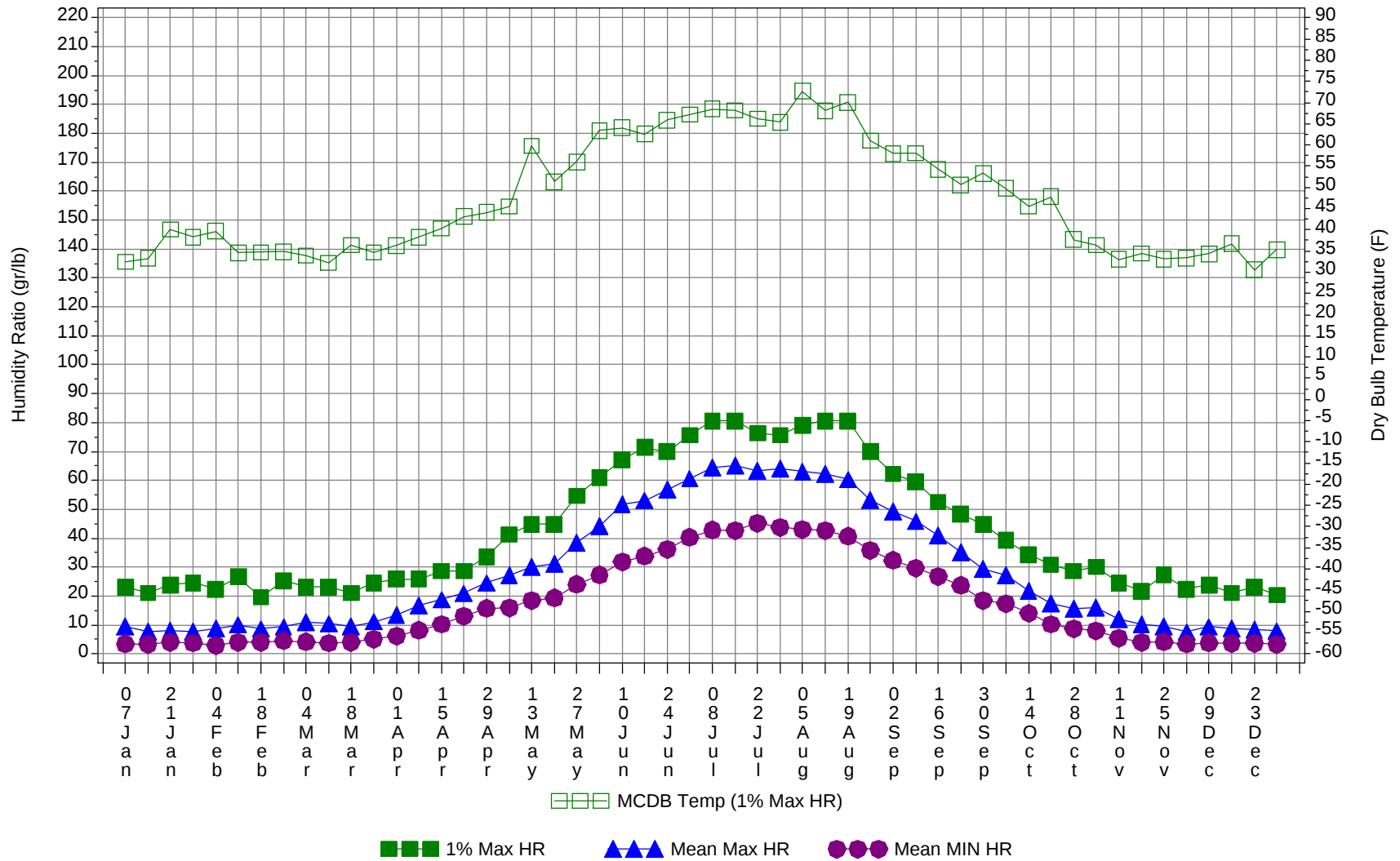
Temperature Range (° F)	Annual				
	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)
90/ 94		0	0	0	63.9
85/ 89		3	2	5	63.7
80/ 84	0	18	16	34	61.1
75/ 79	0	58	45	103	59.5
70/ 74	3	136	100	239	57.2
65/ 69	15	154	119	288	54.9
60/ 64	80	256	216	552	52.9
55/ 59	198	237	235	670	50.1
50/ 54	283	203	222	708	46.8
45/ 49	277	165	190	632	41.9
40/ 44	161	107	115	383	37.3
35/ 39	206	147	158	511	33
30/ 34	208	145	170	523	28.7
25/ 29	192	156	163	511	23.9
20/ 24	124	110	112	346	19.4
15/ 19	166	161	160	487	15.3
10/ 14	150	145	148	443	10.3
5/ 9	150	141	142	433	5.8
0/ 4	170	155	151	476	0.6
-5/ -1	88	83	85	256	-3.6
-10/ -6	125	104	114	343	-8
-15/-11	70	51	56	177	-12.6
-20/-16	80	63	64	207	-17.1
-25/-21	56	42	45	143	-22.2
-30/-26	50	33	40	123	-27.3
-35/-31	18	12	15	45	-31.9
-40/-36	18	13	15	46	-36.6
-45/-41	14	10	11	35	-42.1
-50/-46	10	6	7	23	-46.8
-55/-51	5	4	4	13	-51.8
-60/-56	2	1	1	4	-56.2
-65/-61	0	0	0	0	-61.3
-70/-66	0	0		0	

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Annual Summary of Temperatures



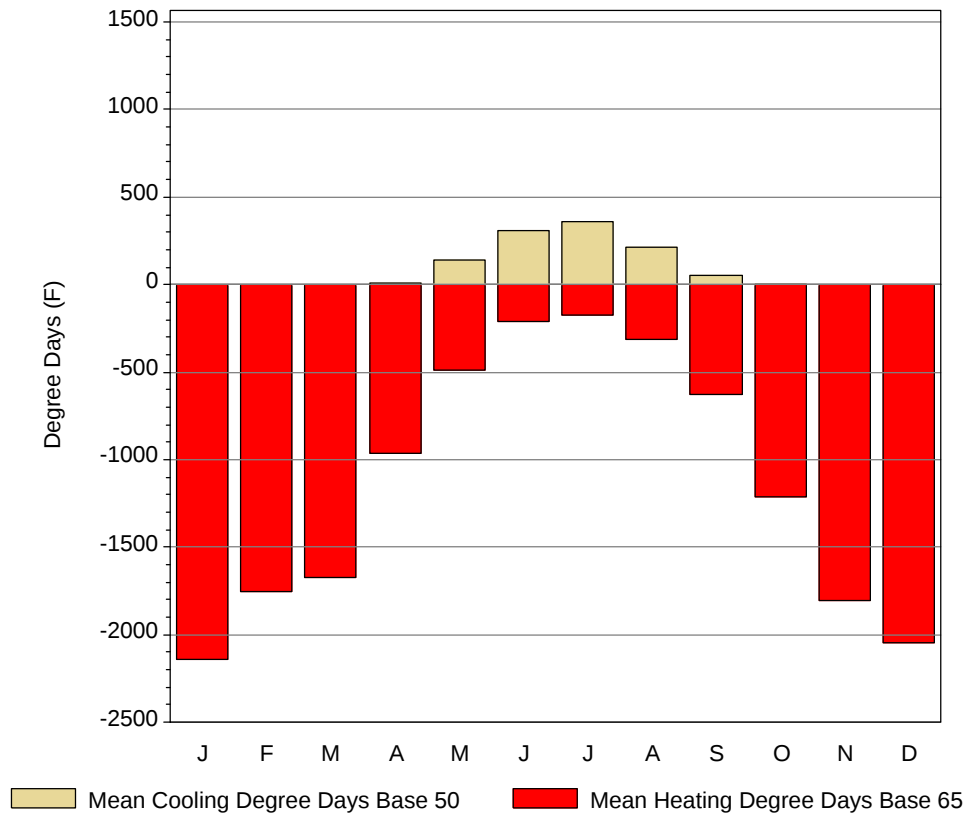
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

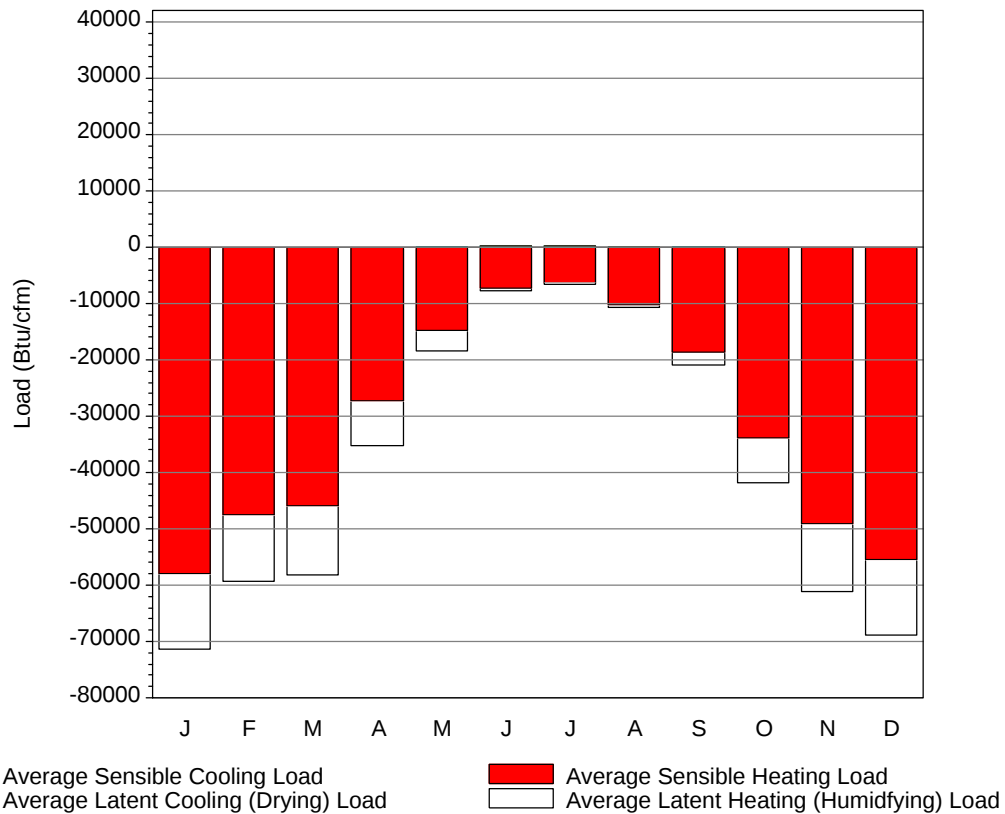
Week Ending	1.0% Temp (°F)	MCWB@ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB@ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	35	30.3	11.7	-7.4	-48	23.1	32.5	9.4	3.5
14-Jan	36	31	9.3	-9.4	-44	21	33.3	7.7	3.2
21-Jan	41	36.7	8.2	-7.8	-54	23.8	40.1	8	4
28-Jan	42	37.1	8.3	-8.2	-55	24.5	38.3	7.8	3.7
4-Feb	37	31.2	9.8	-11	-53	22.4	39.7	8.7	2.9
11-Feb	43	35.2	15	-4.3	-46	26.6	34.6	10	4
18-Feb	37	31	14.2	-4.9	-37	19.6	34.7	8.6	4
25-Feb	38	32.6	16.1	-3	-39	25.2	34.8	9.3	4.5
4-Mar	38	33.7	19.2	-2.6	-30	23.1	33.9	10.9	4.1
11-Mar	41	37.4	20.4	-4.2	-31	23.1	32.2	10.4	3.7
18-Mar	39	31.9	21.2	-3.2	-29	21	36.4	9.6	3.9
25-Mar	45	36	26.3	2.9	-24	24.5	34.7	11.1	5
1-Apr	45	35.3	29.4	5.6	-17	25.9	36.3	13.5	6.1
8-Apr	49	39.1	35.7	13.6	-7	25.9	38.3	16.7	8.2
15-Apr	51	39.8	40.1	18.4	-5	28.7	40.3	18.7	10.2
22-Apr	57	42.1	46.3	25	5	28.7	43.1	20.9	13
29-Apr	64	47.8	51.3	28.9	19	33.6	44.1	24.5	15.7
6-May	68	49.2	52.5	30.7	17	41.3	45.5	27.2	15.9
13-May	72	53.5	56.7	34.5	27	44.8	59.8	30.2	18.4
20-May	74	52.3	61	37.8	27	44.8	51.3	31.2	19.4
27-May	79	55.8	64.7	41.4	34	54.6	56	38.5	24.1
4-Jun	79	56.9	66.5	44	36	60.9	63.4	44.1	27.3
10-Jun	79	58.6	68.4	46.2	38	67.2	64.1	51.9	31.8
17-Jun	82	59.1	69.8	48.5	41	71.4	62.6	53	33.8
24-Jun	83	60	71	49.7	43	70	65.9	56.8	36.1
1-Jul	82	62.3	71.2	50.6	43	75.6	67.2	60.6	40.3
8-Jul	84	62.6	72.7	52.2	45	80.5	68.5	64.4	42.8
15-Jul	84	64.5	72.1	51.8	45	80.5	68.2	65.1	42.6
22-Jul	79	60.9	70.2	51.4	45	76.3	66.2	63.2	45.1
29-Jul	79	61.1	69.2	50.8	43	75.6	65.4	64	43.8
5-Aug	81	62.6	68.8	50.2	43	79.1	72.7	63.1	43
12-Aug	80	62.4	67.2	49.3	41	80.5	68.1	62.2	42.6
19-Aug	79	64.2	66	47.5	38	80.5	70.1	60.3	40.7
26-Aug	70	56.8	61.9	43.8	35	70	61	53.1	35.7
2-Sep	70	55.5	60.3	41.3	32	62.3	58	49.1	32.3
9-Sep	69	54.4	59.3	39.4	29	59.5	58.1	45.8	29.6
16-Sep	66	53	55.8	37	25	52.5	54.3	40.8	26.7
23-Sep	65	48.9	51.8	34.9	21	48.3	50.6	35.2	23.6
30-Sep	58	47.2	44.9	29	16	44.8	53.3	29.3	18.5
7-Oct	57	46.4	43.5	28.3	16	39.2	49.8	27.3	17.3
14-Oct	53	39	36.4	23.3	7	34.3	45.5	21.7	14
21-Oct	49	41.9	29.6	15.4	-6	30.8	47.8	17.5	10.2
28-Oct	44	37.7	25.8	10.9	-10	28.7	37.7	15.7	8.7
4-Nov	41	36.5	23.7	9.2	-19	30.1	36.4	15.9	7.9
11-Nov	36	31.6	17.6	1.4	-36	24.5	33	12	5.5
18-Nov	35	29.9	13.5	-3.5	-31	21.7	34.4	10.2	4
25-Nov	36	30.6	12.1	-4.5	-37	27.3	33.1	9.4	4.2
2-Dec	36	31.7	6.2	-9.1	-47	22.4	33.4	7.5	3.5
9-Dec	36	31.7	11	-6.9	-47	23.8	34.3	9.3	3.8
16-Dec	37	32.1	9.5	-7.2	-36	21	36.7	8.9	3.6
23-Dec	32	28.6	9.6	-7.4	-44	23.1	30.6	8.3	3.6
31-Dec	37	31.9	9.6	-8.3	-44	20.3	35.3	7.9	3.2

Degree Days, Heating and Cooling (Base 65 F) & Cooling (Base 50F)



Month	Mean Cooling Degree Days (°F) Base 50	Mean Cooling Degree Days (°F) Base 65	Mean Heating Degree Days (°F) Base 65
JAN	0	0	2143.6
FEB	0	0	1750.1
MAR	0	0	1676.2
APR	12.5	0.3	963.8
MAY	141.9	15.2	485.9
JUN	311.3	53.5	210.2
JUL	359.8	63.9	176.1
AUG	215.2	24.8	315.3
SEP	52.6	1.4	630.2
OCT	2.8	0.1	1215.8
NOV	0	0	1806.8
DEC	0	0	2046.6
ANN	1096.1	159.2	13420.6

Average Ventilation and Infiltration Loads (Outside Air vs 75F, 60% RH summer; 68F, 30% RH winter)



Month	Average Sensible Cooling Load (Btu/cfm)	Average Sensible Heating Load (Btu/cfm)	Average Latent Cooling Load (Btu/cfm)	Average Latent Heating Load (Btu/cfm)
JAN	0	-57972	0	-13394
FEB	0	-47561	0	-11674
MAR	0	-45857	0	-12317
APR	0	-27310	0	-7857
MAY	36	-14824	0	-3663
JUN	168	-7219	4	-523
JUL	192	-6316	14	-242
AUG	67	-10299	16	-445
SEP	1	-18645	0	-2231
OCT	0	-33923	0	-7989
NOV	0	-49166	0	-12026
DEC	0	-55458	0	-13281
ANN	464	-374550	34	-85642

Station Information		Shading Geometry in Dimensionless Units	
City, State, WBAN	FAIRBANKS, AK 26411	Window:	1.000
Lat, Lon, Elev	64.82N 147.87W 453ft	Overhang:	0.176
Press, Stn_Type	14.4psia Primary	Vert Gap:	0.200

AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day) Percentage Uncertainty = 9														
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ.	Global	38	240	720	1270	1610	1780	1630	1190	720	300	83	5	800
	Std.Dev.	4	18	49	94	99	134	122	81	76	23	7	2	26
	Minimum	32	220	570	1030	1430	1490	1300	1020	570	250	73	3	750
	Maximum	44	290	810	1470	1820	2010	1840	1350	920	340	98	6	860
	Diffuse	26	140	360	640	770	900	840	660	400	210	58	3	420
Clear Day	Global	44	260	810	1580	2190	2500	2320	1730	1000	390	79	6	1080
NORTH	Global	16	87	230	410	610	750	650	430	240	120	34	1	300
	Diffuse	16	87	230	390	500	590	540	400	240	120	34	1	260
Clear Day	Global	19	73	180	370	710	1000	840	460	220	100	29	0	340
EAST	Global	46	230	620	970	1190	1210	1090	810	550	240	84	11	590
	Diffuse	20	120	310	520	620	690	630	480	310	150	45	2	330
Clear Day	Global	86	340	830	1380	1720	1870	1770	1440	960	460	130	25	920
SOUTH	Global	240	740	1280	1380	1290	1230	1180	1060	940	590	350	94	860
	Diffuse	60	240	440	600	650	700	660	540	390	240	110	5	390
Clear Day	Global	500	1250	1890	2030	1870	1780	1790	1870	1860	1430	680	240	1430
WEST	Global	47	240	620	950	1080	1180	1090	850	560	250	85	11	580
	Diffuse	21	120	310	520	620	700	650	500	310	150	45	2	330
Clear Day	Global	86	340	830	1380	1720	1870	1770	1440	960	460	130	25	920

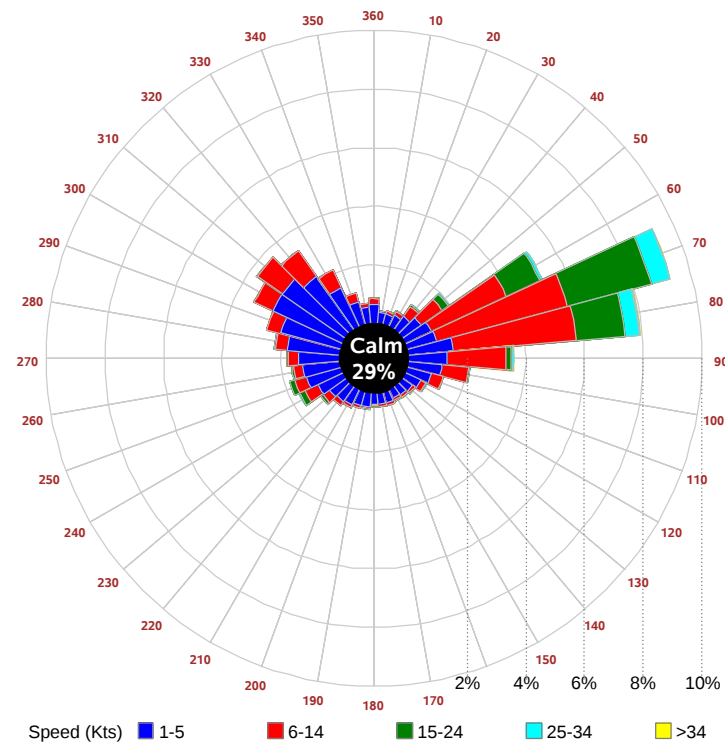
Average Annual Solar Radiation - Nearest Available Site Source: National Renewable Energy Laboratory, Golden CO, 1995

AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING Percentage Uncertainty = 9														
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ.	Unshaded	19	130	440	860	1120	1250	1140	820	470	180	45	3	540
NORTH	Unshaded	10	60	160	280	410	510	440	290	170	82	24	0	200
	Shaded	10	58	150	270	400	500	430	280	160	79	23	0	200
EAST	Unshaded	27	160	440	700	860	870	780	580	390	170	54	5	420
	Shaded	27	150	430	680	840	850	760	560	380	170	53	5	410
SOUTH	Unshaded	190	570	950	990	900	850	810	750	690	440	270	74	620
	Shaded	190	560	940	970	880	820	790	740	680	440	270	73	610
WEST	Unshaded	28	160	440	680	780	840	780	610	400	170	54	5	410
	Shaded	27	160	430	660	760	820	760	590	390	170	54	5	400

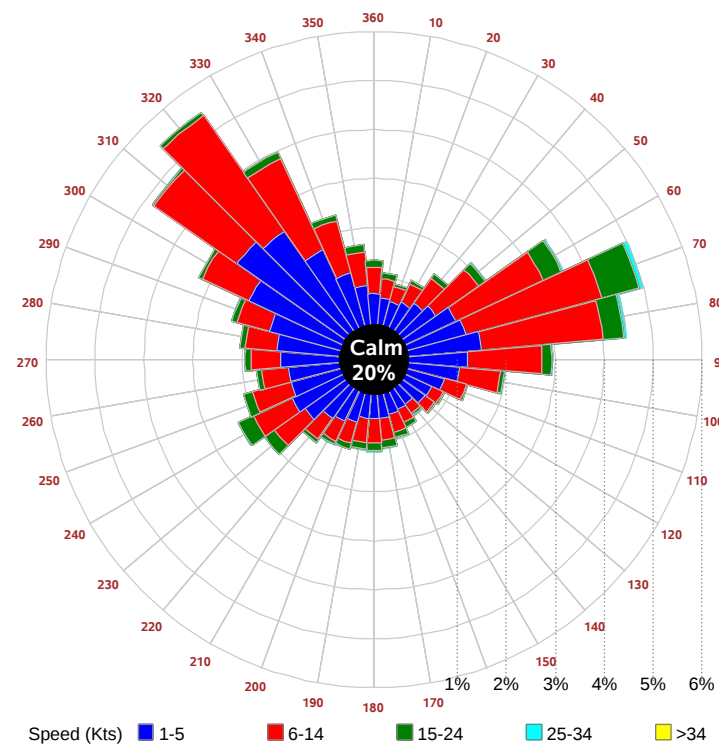
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS Percentage Uncertainty = 9												
		March					June					
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm	
HORIZ.	M.Clear	9	29	40	36	20	37	60	73	75	64	
	M.Cloudy	8	23	32	29	16	25	41	52	55	46	
NORTH	M.Clear	4	8	10	9	7	12	13	15	15	14	
	M.Cloudy	4	9	12	11	7	10	14	16	16	15	
EAST	M.Clear	34	51	21	9	7	75	75	44	15	14	
	M.Cloudy	14	26	17	11	7	34	42	32	16	15	
SOUTH	M.Clear	16	60	86	77	38	10	45	72	76	55	
	M.Cloudy	8	30	45	40	19	10	28	46	50	36	
WEST	M.Clear	4	8	10	40	51	10	13	15	29	65	
	M.Cloudy	4	9	12	24	24	10	14	16	24	41	
M.Clear	(% hrs)	39	42	41	39	39	25	24	22	19	16	

		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	8	28	43	46	34	0	0	1	0	0
	M.Cloudy	5	18	27	29	21	0	0	1	0	0
NORTH	M.Clear	4	8	10	11	9	0	0	0	0	0
	M.Cloudy	3	7	10	11	8	0	0	0	0	0
EAST	M.Clear	31	58	37	11	9	0	0	1	0	0
	M.Cloudy	9	21	19	11	8	0	0	0	0	0
SOUTH	M.Clear	7	45	77	81	55	0	0	4	0	0
	M.Cloudy	3	18	32	36	24	0	0	1	0	0
WEST	M.Clear	4	8	10	26	55	0	0	0	0	0
	M.Cloudy	3	7	10	16	24	0	0	0	0	0
M.Clear	(% hrs)	22	23	23	21	22	35	29	27	30	30

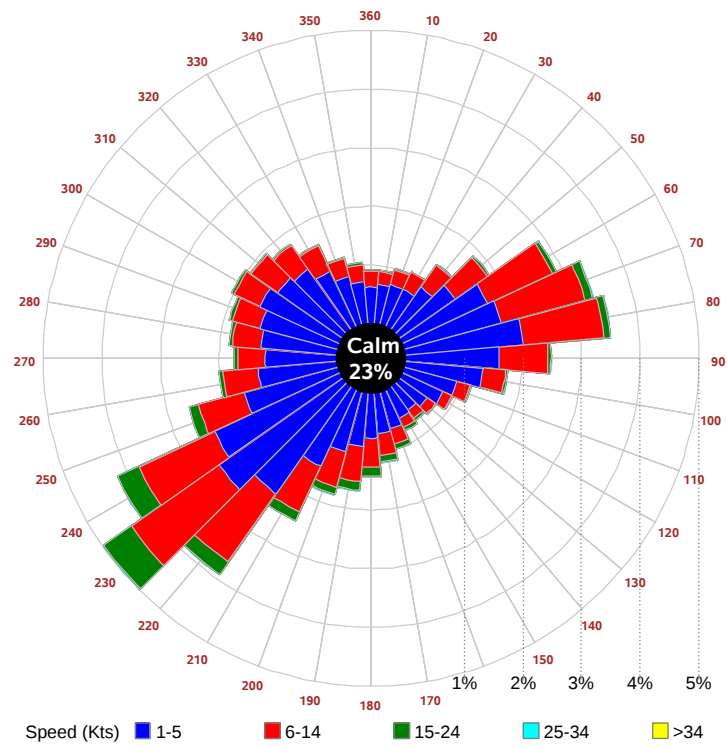
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November

