

MC GRATH, AK	Station ID = ICAO_PAMC
Latitude = 62.97 N	Elevation = 345 Feet
Longitude = 155.62 W	Average Pressure = 29.43 inches Hg
Period of Record = 1988 To 2017	

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	49	6	N
0.4% Occurrence	79	61	51	6.6	N
1.0% Occurrence	75	59	50	6.8	N
2.0% Occurrence	72	58	49	6.5	N
Mean Daily Range	18	-	-	-	W
97.5% Occurrence	-29	-29	1	1.5	W
99.0% Occurrence	-38	-38	1	1	N
99.6% Occurrence	-45	-45	0	0.7	N
Median of Extreme Lows	-48	-48	0	0.7	NNW

	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	66	78	75	4.5	N
0.4% Occurrence	63	74	67	5.4	N
1.0% Occurrence	61	71	63	5.6	N
2.0% Occurrence	59	68	60	5.3	N

	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	84	67	0.56	4.2	S
0.4% Occurrence	73	65	0.48	5.4	S
1.0% Occurrence	68	63	0.45	4.7	S
2.0% Occurrence	66	63	0.44	4.2	S

Air Conditioning/ Humid Area Criteria	Threshold	T ≥ 93 °F	T ≥ 80 °F	T _{wb} ≥ 73 °F	T _{wb} ≥ 67 °F
	# of Hours	1	29	0	8

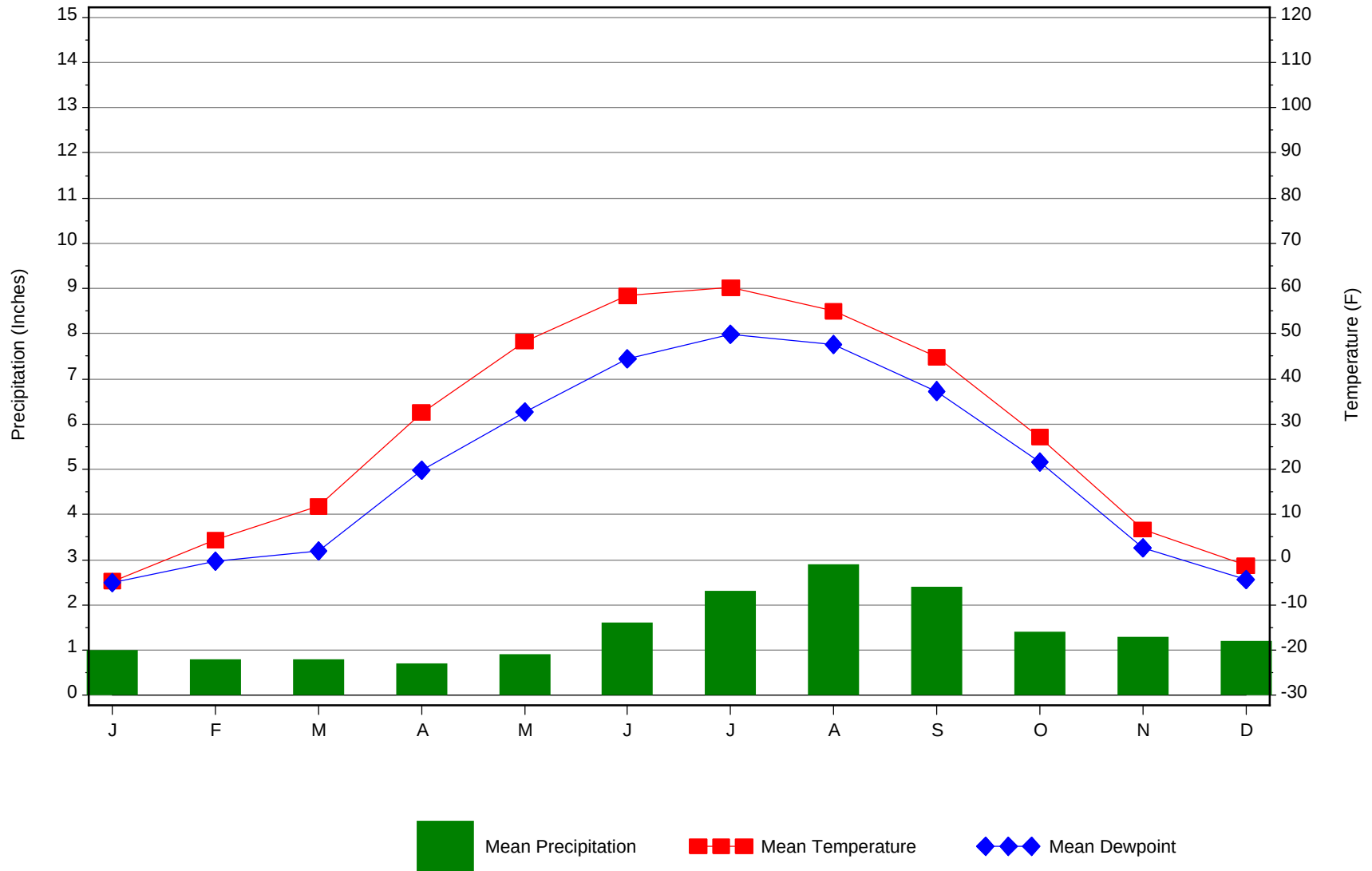
Other Site Data

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	0.8	100	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 (#)
31.4	N/A	70	59

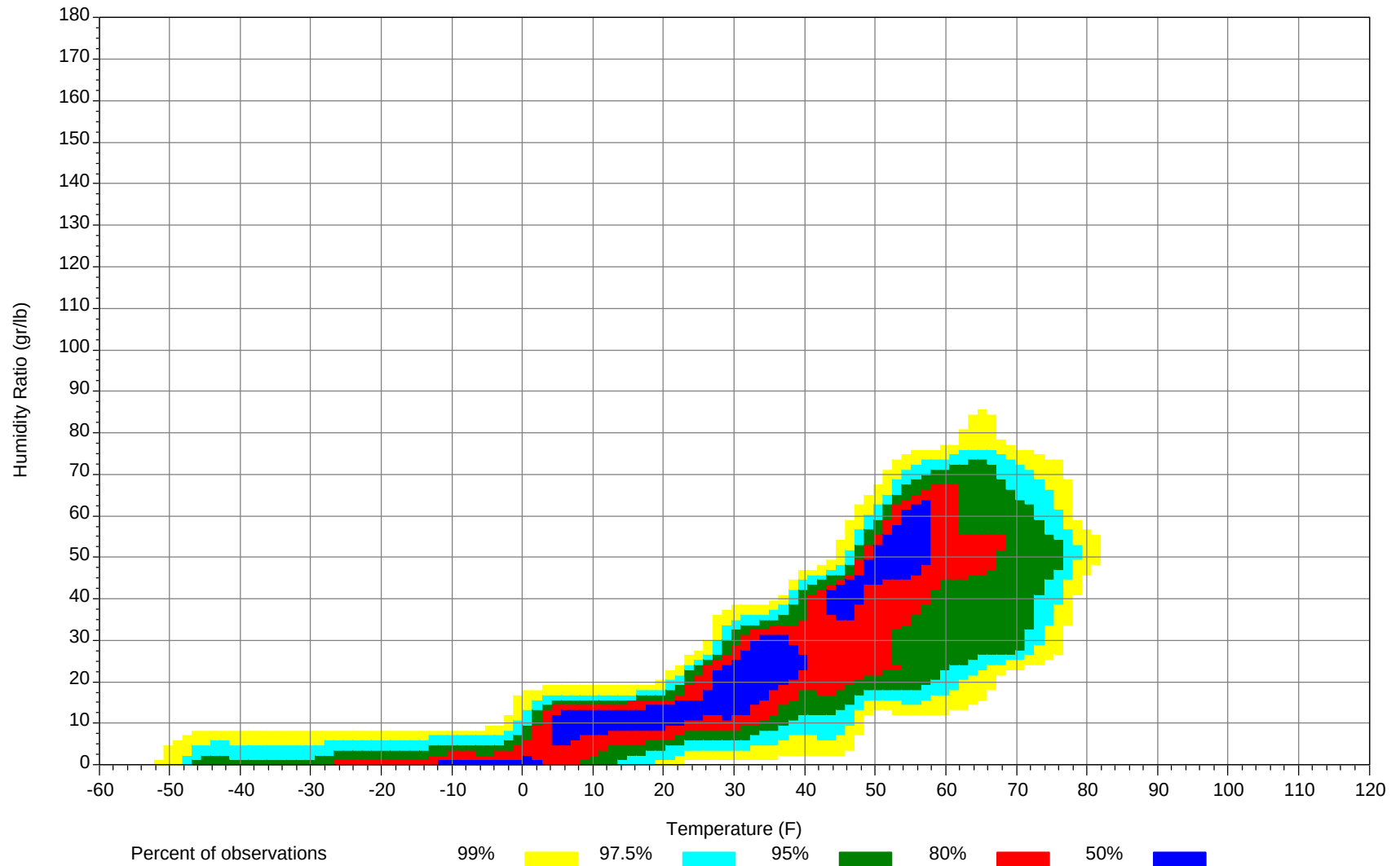
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.



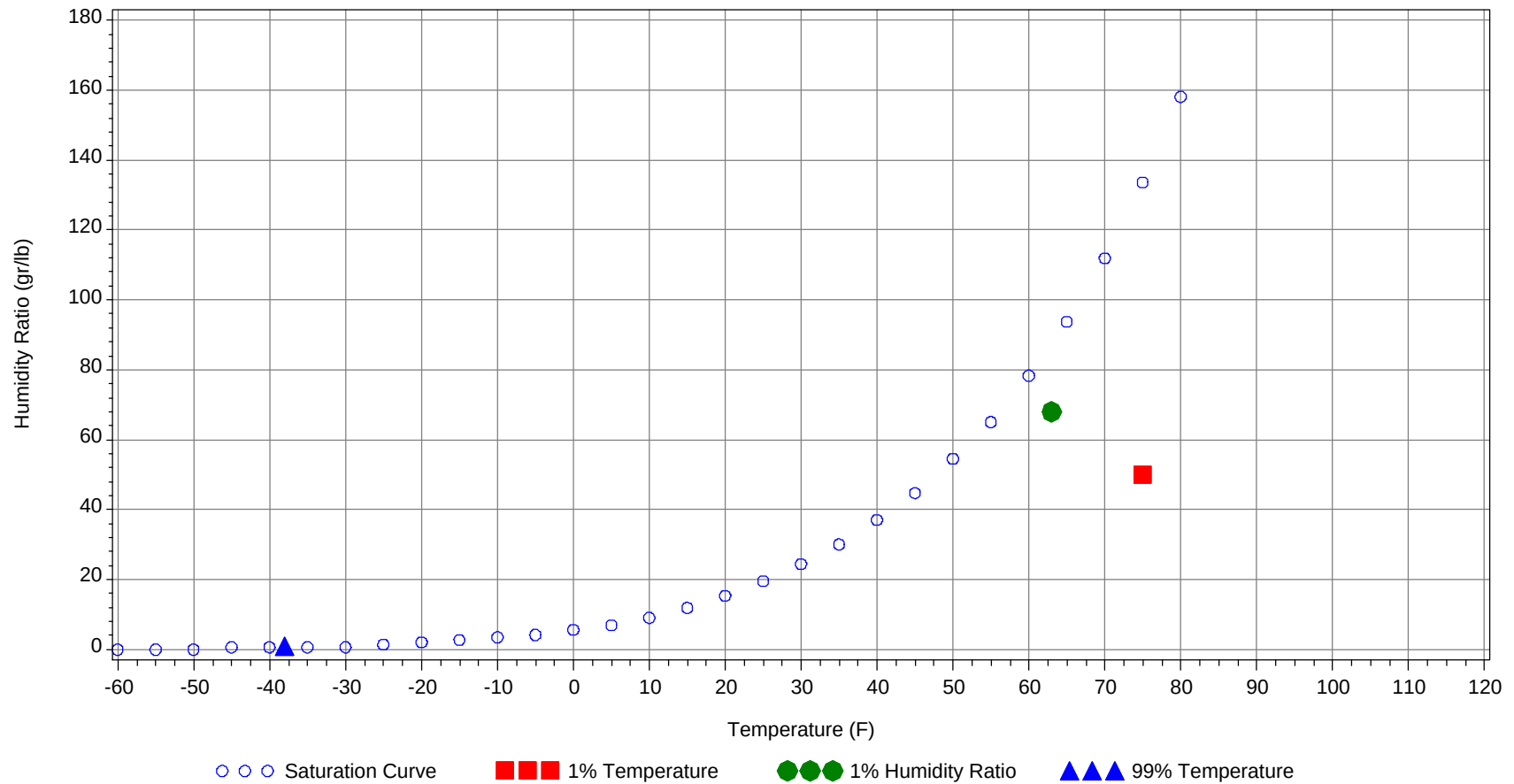
Average Annual Climate



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	75.0		59		50.0	25.8
99.0% Dry Bulb	-38.0				1.0	-9.0
1.0% Humidity Ratio	68.0	63.0	58.5	55.8		25.6

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	39.3							0	0	0	41.6
45/ 49	0	0	0	0	35.6	0	1	0	1	35.9	0	2	2	4	36.4
40/ 44	1	1	1	3	35.6	0	1	2	3	35.8	1	5	5	11	34.4
35/ 39	5	4	4	13	33.2	5	6	7	18	33.5	5	16	16	37	32
30/ 34	9	9	10	28	30.3	7	11	11	29	29.5	9	22	23	54	28.3
25/ 29	7	9	10	26	25.4	12	17	17	46	24.5	17	27	33	77	23.5
20/ 24	9	9	8	26	20.8	11	14	14	39	20.4	15	24	26	65	19.3
15/ 19	15	17	16	48	16.3	22	27	27	76	16.1	25	37	37	99	15.2
10/ 14	17	21	22	60	11.2	22	26	27	75	10.8	24	29	29	82	10.1
5/ 9	19	19	19	57	6.3	23	23	23	69	6.2	23	25	23	71	5.7
0/ 4	26	26	26	78	1	22	24	23	69	0.9	27	23	22	72	0.5
-5/ -1	15	17	16	48	-3.5	13	14	15	42	-3.6	19	10	10	39	-3.6
-10/ -6	24	22	23	69	-8	21	18	20	59	-8	27	12	11	50	-8
-15/-11	12	14	15	41	-12.5	13	11	9	33	-12.5	15	5	4	24	-12.4
-20/-16	17	18	19	54	-17.1	14	10	10	34	-17	17	4	3	24	-17
-25/-21	17	14	14	45	-22.2	11	7	7	25	-22.1	11	3	2	16	-22.1
-30/-26	13	14	15	42	-27.3	10	5	5	20	-27.2	8	1	1	10	-27.2
-35/-31	7	8	9	24	-31.9	5	3	3	11	-31.8	2	1	0	3	-31.8
-40/-36	12	8	10	30	-36.4	5	2	2	9	-36.7	1	0		1	-36.5
-45/-41	7	7	6	20	-41.8	4	2	1	7	-41.5	0	0		0	-41
-50/-46	8	6	4	18	-46.6	2	1	0	3	-46					
-55/-51	4	3	2	9	-52.3	1	0	0	1	-51.2					
-60/-56	3	1	0	4	-55	0	0		0						
-65/-61	1	0		1		0	0		0						
-70/-66	0	0		0											
-75/-71	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	0	65.3
85/ 89												0	1	1	62.7
80/ 84							1	1	2	56.7		5	4	9	60.5
75/ 79							3	3	6	55.2	0	12	11	23	58.7
70/ 74							9	10	19	53.3	0	33	29	62	56.4
65/ 69			0	0	49.2	0	13	12	25	50.9	2	36	34	72	54.7
60/ 64		1	1	2	45.8	1	33	28	62	48.8	13	65	57	135	52.9
55/ 59		6	6	12	43.3	6	45	44	95	46.5	41	50	60	151	51.1
50/ 54	0	19	16	35	40.7	24	52	52	128	44.4	94	29	34	157	48.7
45/ 49	2	37	35	74	38.1	55	46	46	147	41.5	67	9	10	86	44.9
40/ 44	5	37	36	78	35.5	46	21	23	90	38.4	16	1	1	18	40.7
35/ 39	33	49	54	136	32.7	63	16	20	99	34.5	6	0	0	6	36.7
30/ 34	60	34	39	133	29	37	6	7	50	29.9	0			0	29.9
25/ 29	53	23	24	100	24.3	11	2	2	15	24.7	0			0	26
20/ 24	23	10	9	42	19.7	3	1	1	5	19.5					
15/ 19	23	11	11	45	15.5	1	1	1	3	14.8					
10/ 14	11	6	5	22	10.2	1	0	0	1	9.9					
5/ 9	10	3	3	16	6	0		0	0	6.5					
0/ 4	8	2	1	11	0.8	0			0	0.8					
-5/ -1	4	0	0	4	-3.5										
-10/ -6	5	0	0	5	-7.7										
-15/-11	2	0	0	2	-12.4										
-20/-16	1	0	0	1	-16.7										
-25/-21	0			0	-22.4										
-30/-26	0			0	-28										
-35/-31															
-40/-36															
-45/-41															
-50/-46															
-55/-51															
-60/-56															
-65/-61															
-70/-66															
-75/-71															

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Dry-Bulb Temperature Hours For An Average Year

	July					August					September				
Temperature Range (°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)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)
90/ 94		0	0	0	67										
85/ 89		0	0	0	63.6		0	0	0	66.7					
80/ 84		6	6	12	62.3		1	2	3	64.1					
75/ 79		18	15	33	60.8		4	4	8	62.3					
70/ 74	0	37	33	70	59.1		15	12	27	59.5		1	1	2	55.7
65/ 69	3	42	37	82	57.6	1	22	17	40	57.1	0	4	2	6	53.4
60/ 64	26	63	67	156	56	9	55	50	114	55.3	0	16	12	28	51.6
55/ 59	86	53	59	198	53.6	40	71	69	180	53.1	2	32	26	60	49.8
50/ 54	93	26	27	146	50.3	86	57	66	209	49.8	18	52	51	121	47.6
45/ 49	35	3	5	43	46	68	18	21	107	45.4	61	58	64	183	44.1
40/ 44	5	0	0	5	41.6	24	4	4	32	40.8	48	29	32	109	39.9
35/ 39	1			1	37.7	16	1	2	19	36.7	49	27	31	107	35.1
30/ 34	0			0	31.3	4	0	0	4	31.8	38	13	16	67	30.5
25/ 29						0			0	27.8	17	4	5	26	25.7
20/ 24											4	1	1	6	20.8
15/ 19											2	0	0	2	16.3
10/ 14											0	0	0	0	11.2
5/ 9											0	0		0	6.4
0/ 4											0			0	3
-5/ -1															
-10/ -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															
-75/-71															

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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															
65/ 69		0		0	51.5										
60/ 64	0	0	0	0	49.8										
55/ 59	0	1	1	2	48.8										
50/ 54	1	3	2	6	45.1		0		0	41					
45/ 49	4	15	12	31	42	0	1	0	1	37	0	0	0	0	34.5
40/ 44	13	21	19	53	39.1	1	1	1	3	37.2	1	0	0	1	34
35/ 39	27	38	38	103	34.8	6	7	6	19	34.5	2	2	3	7	33
30/ 34	47	50	51	148	30.2	12	14	14	40	30.8	6	7	7	20	30.2
25/ 29	50	42	47	139	25.2	15	18	17	50	25.5	9	10	10	29	25.1
20/ 24	28	25	26	79	20.5	16	17	17	50	20.7	11	13	11	35	20.8
15/ 19	30	27	25	82	16.4	26	26	27	79	16.3	18	17	17	52	16.4
10/ 14	19	13	13	45	11.2	22	29	27	78	11	23	21	25	69	11
5/ 9	12	6	7	25	6.7	28	32	31	91	6.1	26	28	27	81	6.4
0/ 4	7	4	5	16	1.2	32	30	29	91	1.2	30	32	31	93	1
-5/ -1	4	1	1	6	-3.4	14	12	15	41	-3.4	17	18	18	53	-3.4
-10/ -6	2	1	1	4	-7.6	21	18	20	59	-7.7	26	28	23	77	-7.9
-15/ -11	2	0	0	2	-12.2	10	8	10	28	-12.4	15	13	14	42	-12.4
-20/ -16	1	0		1	-16.3	13	10	11	34	-16.9	17	17	18	52	-17
-25/ -21	0	0		0	-21	11	8	6	25	-22.1	14	13	14	41	-22.3
-30/ -26						6	4	5	15	-27.3	14	14	14	42	-27.4
-35/ -31						3	2	2	7	-31.7	9	7	7	23	-31.8
-40/ -36						3	1	1	5	-35.8	5	5	5	15	-36.2
-45/ -41						1	0	0	1	-42.1	3	3	3	9	-41.4
-50/ -46						0	0	0	0	-45	2	1	1	4	-47.4
-55/ -51							0		0		0	0	0	0	-50.3
-60/ -56											0	0	0	0	
-65/ -61															
-70/ -66															
-75/ -71															

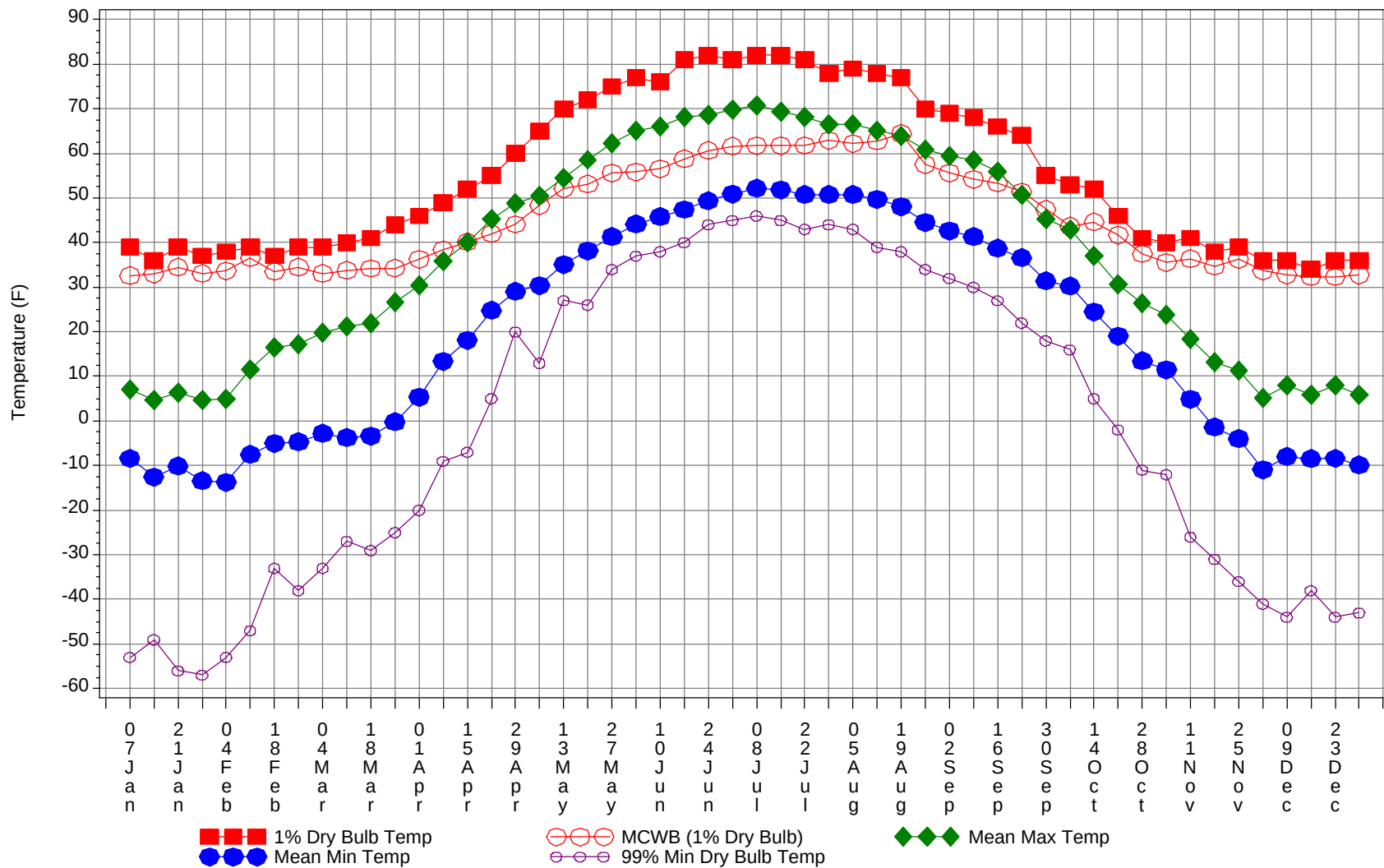
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

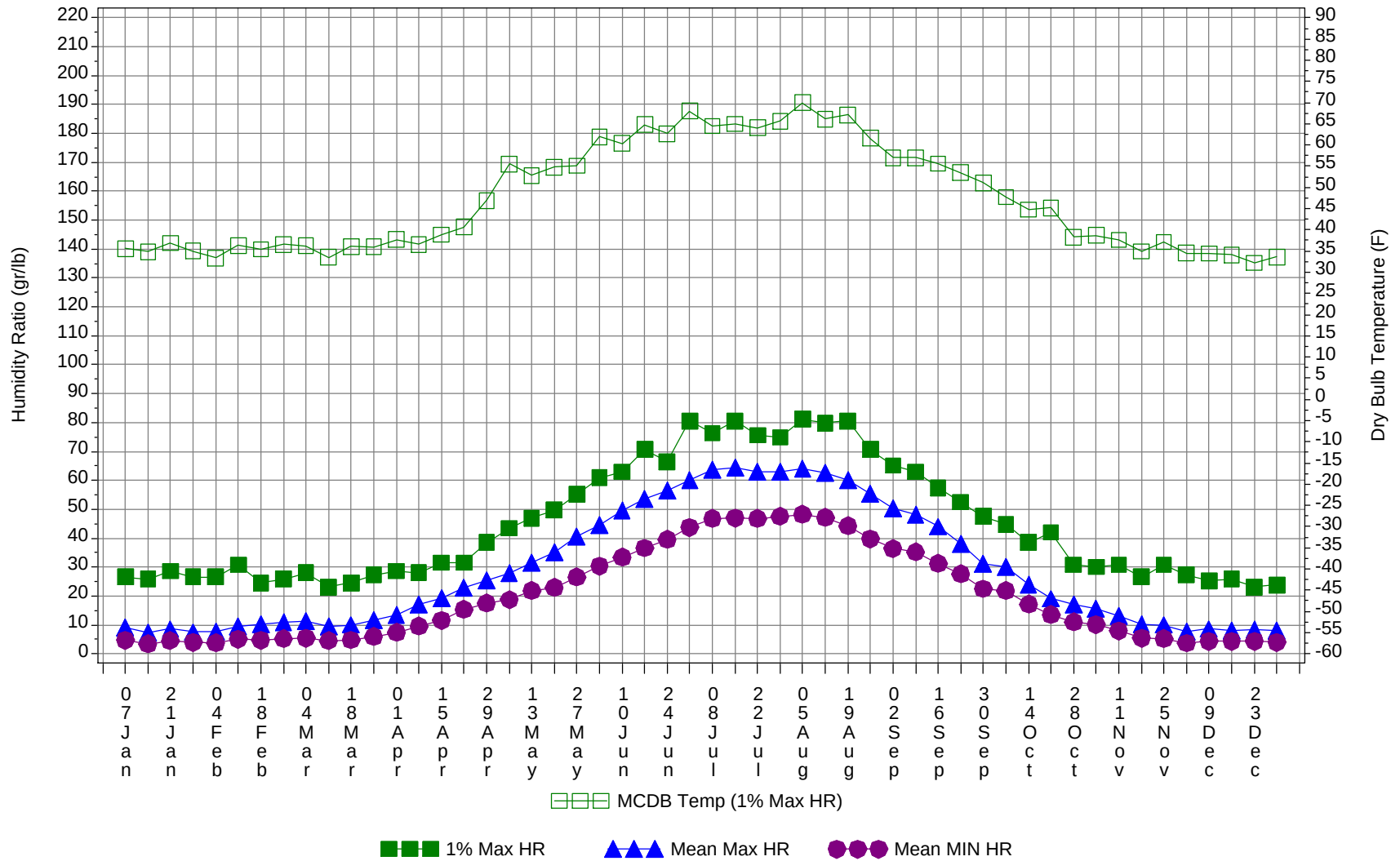
Temperature Range (° F)	Annual				
	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)
90/ 94		0	0	0	65.6
85/ 89		1	1	2	63.3
80/ 84		13	12	25	61.6
75/ 79	0	38	33	71	59.8
70/ 74	1	96	85	182	57.6
65/ 69	5	117	103	225	55.7
60/ 64	50	234	215	499	53.8
55/ 59	175	259	265	699	51.4
50/ 54	318	240	250	808	48.1
45/ 49	293	191	197	681	43.1
40/ 44	161	122	124	407	38.5
35/ 39	220	166	182	568	34.1
30/ 34	230	168	179	577	29.8
25/ 29	192	153	164	509	24.7
20/ 24	122	114	113	349	20.2
15/ 19	162	164	161	487	16
10/ 14	140	144	146	430	10.8
5/ 9	142	136	132	410	6.2
0/ 4	151	140	137	428	0.9
-5/ -1	85	72	74	231	-3.5
-10/ -6	125	99	97	321	-7.9
-15/-11	69	51	52	172	-12.4
-20/-16	80	59	61	200	-17
-25/-21	63	44	42	149	-22.2
-30/-26	50	37	38	125	-27.3
-35/-31	26	20	20	66	-31.8
-40/-36	24	17	17	58	-36.4
-45/-41	15	11	11	37	-41.6
-50/-46	11	8	6	25	-46.5
-55/-51	5	3	2	10	-51.7
-60/-56	3	2	0	5	-55
-65/-61	1	0		1	
-70/-66	0	0		0	
-75/-71	0	0		0	

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Annual Summary of Temperatures



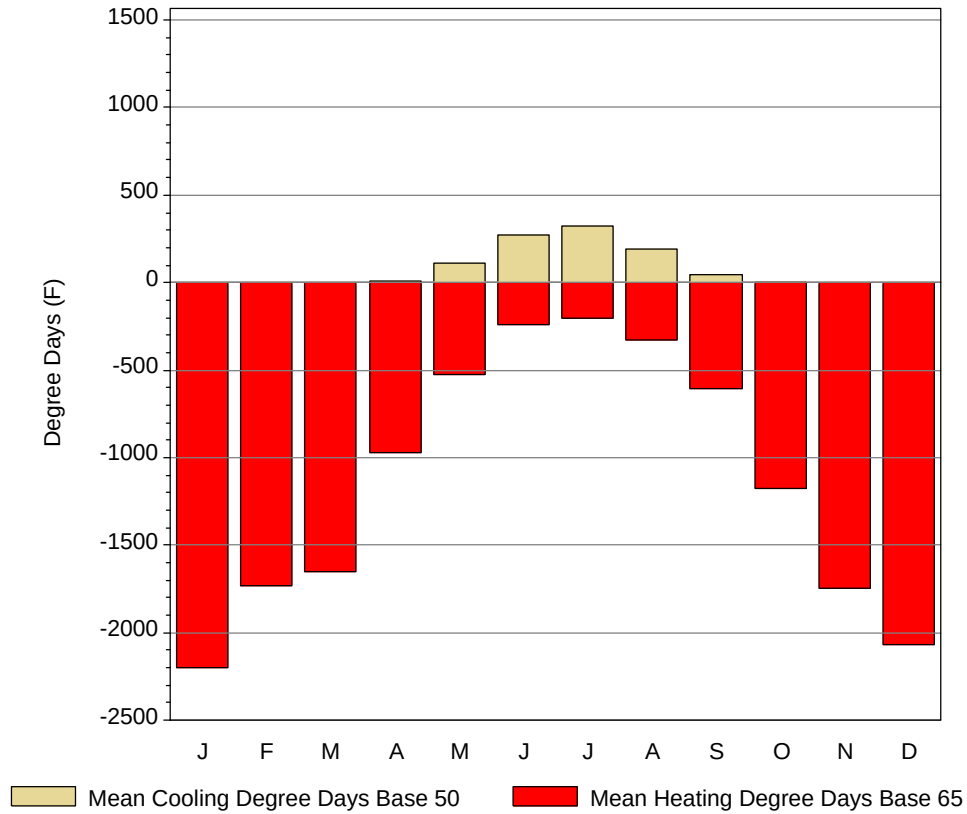
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

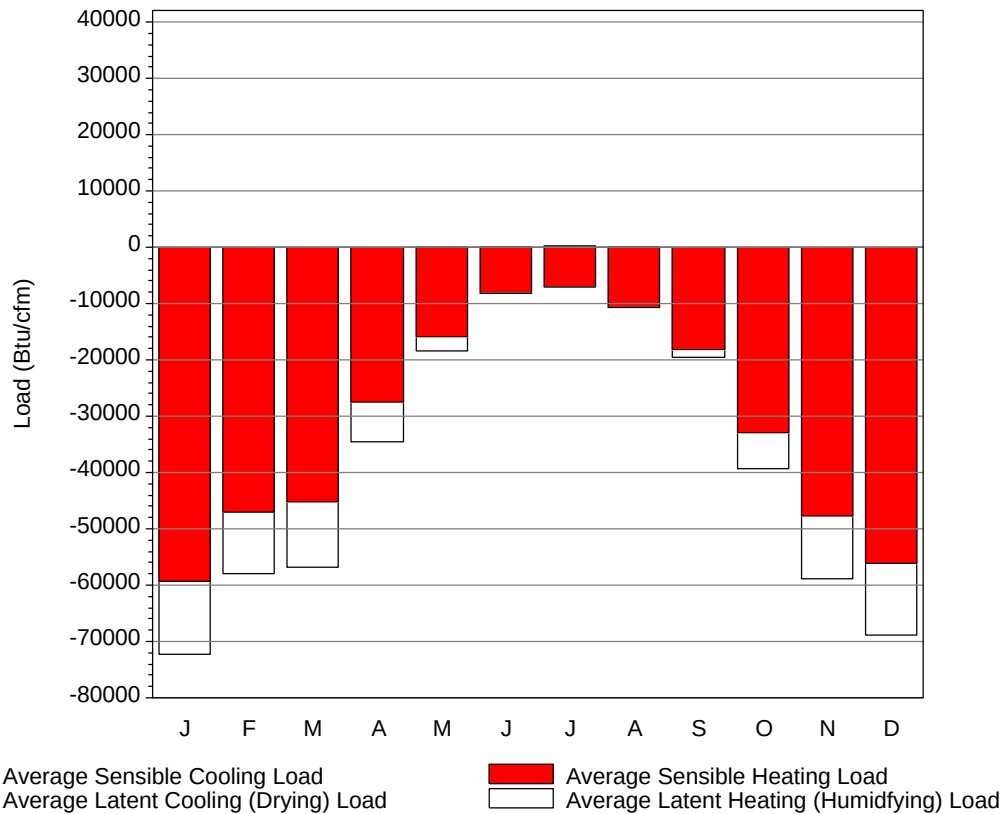
Week Ending	1.0% Temp (° F)	MCWB@ 1% Temp (° F)	Mean Max Temp (° F)	Mean Min Temp (° F)	99% Temp (° F)	1.0% HR (gr/lb)	MCDB@ 1% HR (° F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	39	32.6	7.1	-8.4	-53	26.6	35.6	9	4.7
14-Jan	36	32.9	4.8	-12.6	-49	25.9	34.8	7.4	3.4
21-Jan	39	34.5	6.4	-10.1	-56	28.7	36.9	8.6	4.6
28-Jan	37	33.1	4.7	-13.4	-57	26.6	35	7.5	3.9
4-Feb	38	33.7	4.9	-13.8	-53	26.6	33.4	7.6	3.8
11-Feb	39	36.6	11.5	-7.5	-47	30.8	36.3	9.6	5
18-Feb	37	33.5	16.4	-5	-33	24.5	35.4	10.3	4.7
25-Feb	39	34.5	17.2	-4.7	-38	25.9	36.6	11	5.2
4-Mar	39	33.1	19.7	-2.8	-33	28	36.2	11.3	5.5
11-Mar	40	33.8	21.3	-3.7	-27	23.1	33.5	9.6	4.6
18-Mar	41	34.2	21.9	-3.4	-29	24.5	36.1	10	4.8
25-Mar	44	34.3	26.7	-0.2	-25	27.3	36	11.7	5.9
1-Apr	46	36.3	30.5	5.3	-20	28.7	37.7	13.6	7.4
8-Apr	49	38.4	35.8	13.4	-9	28	36.6	17.1	9.6
15-Apr	52	40.1	40.1	18.1	-7	31.5	38.9	19.2	11.5
22-Apr	55	42	45.2	24.8	5	31.5	40.7	22.8	15.3
29-Apr	60	44.1	48.9	29.1	20	38.5	46.9	25.4	17.6
6-May	65	48.3	50.5	30.3	13	43.4	55.5	27.8	18.7
13-May	70	52.1	54.4	35.1	27	46.9	52.8	31.6	21.8
20-May	72	53.1	58.6	38.1	26	49.7	54.8	35.1	23
27-May	75	55.6	62.2	41.3	34	55.3	55.1	40.5	26.6
4-Jun	77	55.8	65	44.2	37	60.9	61.9	44.6	30.3
10-Jun	76	56.5	66.1	45.8	38	63	60.4	49.6	33.4
17-Jun	81	58.8	68.1	47.4	40	70.7	64.8	53.5	36.6
24-Jun	82	60.7	68.7	49.4	44	66.5	62.7	56.4	39.5
1-Jul	81	61.6	69.8	50.9	45	80.5	68	60	43.8
8-Jul	82	61.7	70.7	52.2	46	76.3	64.5	63.8	46.8
15-Jul	82	61.7	69.4	51.8	45	80.5	65	64.4	47
22-Jul	81	61.8	68.1	50.8	43	75.6	64.1	62.9	46.8
29-Jul	78	62.9	66.6	50.8	44	74.9	65.6	63.1	47.6
5-Aug	79	62.2	66.4	50.8	43	81.2	70	64.1	48.3
12-Aug	78	62.8	65.1	49.7	39	79.8	66.1	62.6	47.2
19-Aug	77	64.4	63.8	48.1	38	80.5	67.1	60.1	44.3
26-Aug	70	57.5	60.8	44.5	34	70.7	61.6	55.3	39.7
2-Sep	69	55.6	59.5	42.6	32	65.1	57	50.4	36.4
9-Sep	68	54.2	58.4	41.3	30	63	57	48.2	35.2
16-Sep	66	53.4	55.9	38.7	27	57.4	55.6	44	31.3
23-Sep	64	51.3	50.8	36.6	22	52.5	53.5	38	27.6
30-Sep	55	47.5	45.3	31.4	18	47.6	51.1	31.2	22.5
7-Oct	53	43.7	43	30.2	16	44.8	47.7	30.1	21.9
14-Oct	52	44.6	37	24.5	5	38.5	44.8	23.9	17.1
21-Oct	46	41.7	30.6	19	-2	42	45.2	19.1	13.5
28-Oct	41	37.5	26.3	13.5	-11	30.8	38.3	17.1	11.1
4-Nov	40	35.5	23.8	11.5	-12	30.1	38.7	15.7	10.1
11-Nov	41	36.4	18.3	4.9	-26	30.8	37.6	13.1	7.9
18-Nov	38	34.7	13.3	-1.4	-31	26.6	34.9	10.2	5.5
25-Nov	39	36.2	11.3	-4	-36	30.8	37.1	10	5.2
2-Dec	36	33.7	5.1	-10.9	-41	27.3	34.5	7.7	3.7
9-Dec	36	32.7	8.1	-8	-44	25.2	34.4	8.6	4.4
16-Dec	34	32.4	5.9	-8.5	-38	25.9	34.1	8.1	4.3
23-Dec	36	32.3	8.1	-8.4	-44	23.1	32.2	8.3	4.3
31-Dec	36	32.7	5.8	-9.9	-43	23.8	33.6	8.1	4

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	2196.2
FEB	0	0	1729.6
MAR	0	0	1648.8
APR	7.3	0	973.9
MAY	111.5	10.8	528.3
JUN	271.3	41	238.9
JUL	321.8	49.9	200
AUG	192.4	16.1	324.9
SEP	46.2	1	608.6
OCT	1.2	0	1173.5
NOV	0	0	1749.4
DEC	0	0	2068.4
ANN	951.7	118.8	13440.5

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	-59337	0	-12952
FEB	0	-47030	0	-11013
MAR	0	-45148	0	-11616
APR	0	-27576	0	-6944
MAY	18	-15972	0	-2505
JUN	117	-8085	7	-131
JUL	150	-7071	11	-9
AUG	36	-10638	21	-92
SEP	0	-18089	0	-1418
OCT	0	-32827	0	-6575
NOV	0	-47676	0	-11124
DEC	0	-56024	0	-12815
ANN	321	-375473	39	-77194

Station Information		Shading Geometry in Dimensionless Units	
City, State, WBAN	MCGRATH, AK 26510	Window:	1.000
Lat, Lon, Elev	62.97N 155.62W 338ft	Overhang:	0.165
Press, Stn_Type	14.5psia Secondary	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	72	300	770	1320	1510	1610	1470	1090	700	340	120	32	780
	Std.Dev.	6	28	70	101	138	140	133	117	96	30	11	4	37
	Minimum	60	250	590	1090	1230	1360	1280	900	540	280	92	25	700
	Maximum	82	360	900	1480	1810	1860	1710	1300	880	390	130	38	870
	Diffuse	48	170	390	690	760	850	820	630	400	230	84	23	430
Clear Day	Global	82	340	900	1680	2260	2550	2380	1810	1090	480	130	38	1150
NORTH	Global	29	100	240	430	580	670	600	410	240	130	48	15	290
	Diffuse	29	100	240	410	480	540	500	380	240	130	48	15	260
Clear Day	Global	29	82	190	390	720	980	840	470	220	110	38	13	340
EAST	Global	80	280	630	970	1070	1080	970	740	510	270	110	38	560
	Diffuse	38	140	320	530	580	630	590	450	300	170	63	18	320
Clear Day	Global	140	420	910	1440	1750	1870	1780	1480	1030	550	200	76	970
SOUTH	Global	380	840	1260	1340	1140	1060	1000	930	840	590	400	210	830
	Diffuse	100	260	450	620	610	640	610	500	370	250	140	53	380
Clear Day	Global	770	1460	2000	2060	1830	1720	1730	1860	1910	1610	920	510	1530
WEST	Global	82	290	640	960	1010	1030	950	760	520	270	110	39	560
	Diffuse	38	140	320	540	580	640	590	460	300	170	63	18	320
Clear Day	Global	140	420	910	1440	1750	1870	1780	1480	1030	550	200	76	970

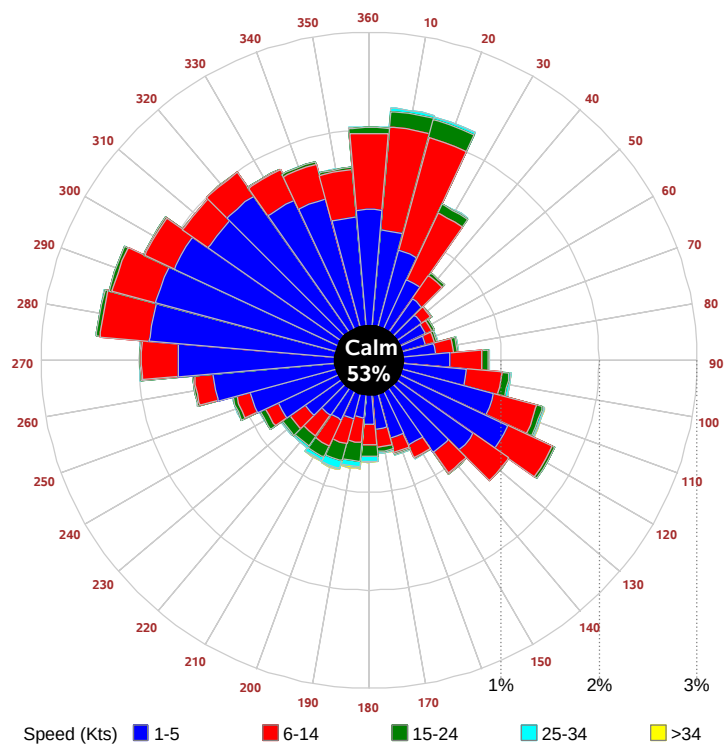
Average Annual Solar Radiation - Nearest Available Site Source: National Renewable Energy Laboratory, Golden CO, 1995

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	37	160	480	890	1050	1130	1030	760	460	210	65	17	530
NORTH	Unshaded	20	71	160	290	390	460	400	270	170	90	33	10	200
	Shaded	19	68	160	280	380	450	390	270	160	87	32	10	190
EAST	Unshaded	50	190	450	700	770	770	690	530	370	180	73	22	400
	Shaded	49	190	440	690	760	760	680	520	360	180	71	21	390
SOUTH	Unshaded	290	640	930	950	790	730	690	650	610	450	310	170	600
	Shaded	290	640	920	940	780	700	670	640	600	440	300	170	590
WEST	Unshaded	51	200	460	690	730	740	680	540	370	190	72	22	400
	Shaded	50	200	450	680	710	720	670	530	370	180	71	22	390

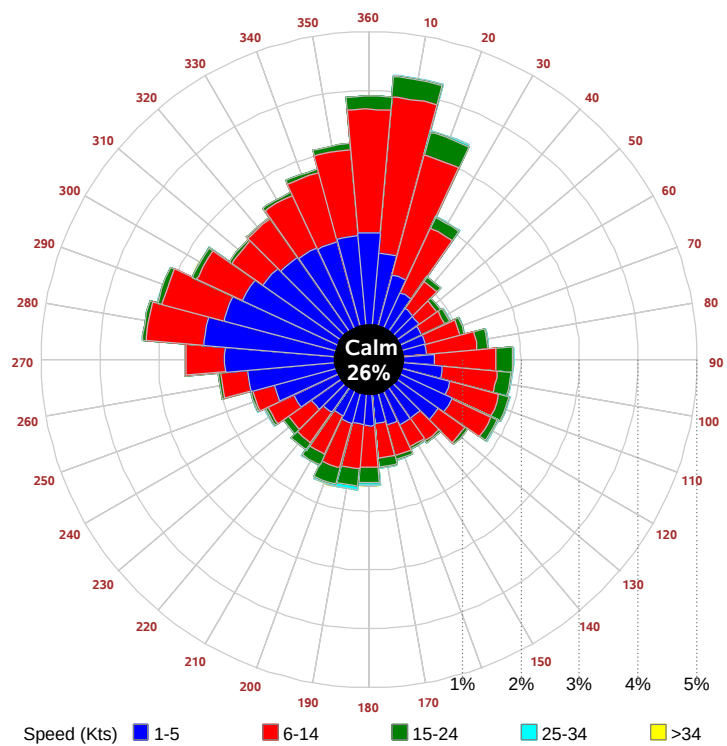
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS Percentage Uncertainty = 9												
		March					June					
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm	
HORIZ.	M.Clear	6	27	43	43	28	31	54	71	76	68	
	M.Cloudy	5	20	32	31	21	19	34	46	52	47	
NORTH	M.Clear	3	8	10	10	8	18	12	14	14	14	
	M.Cloudy	2	8	12	12	8	11	12	15	16	15	
EAST	M.Clear	26	58	33	10	8	70	78	54	14	14	
	M.Cloudy	8	26	21	12	8	27	37	33	16	15	
SOUTH	M.Clear	8	53	87	87	55	8	33	64	75	60	
	M.Cloudy	4	24	42	41	24	8	20	37	45	37	
WEST	M.Clear	3	8	10	32	59	8	12	14	17	57	
	M.Cloudy	2	8	12	20	25	8	12	15	17	36	
M.Clear	(% hrs)	35	36	36	37	37	21	20	16	11	8	

		Sept					Dec					
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm	
HORIZ.	M.Clear	4	25	44	49	40	0	0	4	3	0	
	M.Cloudy	3	14	24	29	24	0	0	3	3	0	
NORTH	M.Clear	2	7	10	11	10	0	0	2	2	0	
	M.Cloudy	1	6	9	11	9	0	0	2	1	0	
EAST	M.Clear	20	61	47	11	10	0	0	6	2	0	
	M.Cloudy	4	18	19	11	9	0	0	3	1	0	
SOUTH	M.Clear	2	37	73	85	66	0	0	23	20	0	
	M.Cloudy	1	12	25	34	26	0	0	6	4	0	
WEST	M.Clear	2	7	10	15	52	0	0	2	7	0	
	M.Cloudy	1	6	9	12	22	0	0	2	2	0	
M.Clear	(% hrs)	19	19	19	17	17	38	31	29	31	33	

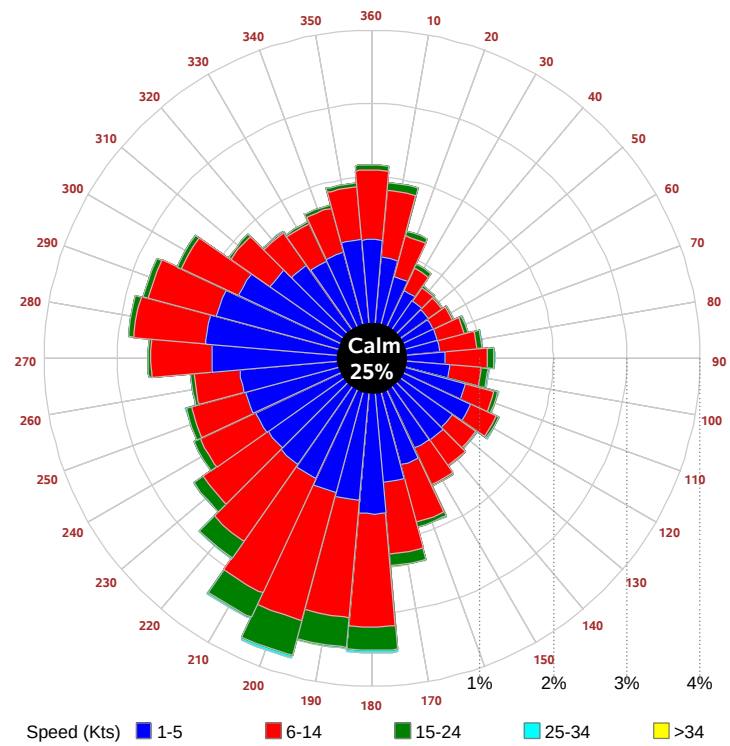
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November

