

GUATEMALA/LA AURORA GU

Latitude = 14.58 N

WMO No. 786410

Longitude = 90.52 W

Elevation = 4885 feet

Period of Record = 1973 to 1995

Average Pressure = 25.16 inches Hg

Design Criteria Data

	Design Value	Mean Coincident (Average) Values			
		Wet Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Dry Bulb Temperature (T)	(°F)				
Median of Extreme Highs	87	64	64	11.3	N
0.4% Occurrence	82	63	74	11.3	NNE
1.0% Occurrence	81	63	74	11.4	S
2.0% Occurrence	79	63	78	11.7	S
Mean Daily Range	14	-	-	-	-
97.5% Occurrence	54	52	66	10.8	N
99.0% Occurrence	52	50	58	11.6	N
99.6% Occurrence	50	47	53	13.1	N
Median of Extreme Lows	46	44	46	11.7	N
	Design Value	Mean Coincident (Average) Values			
		Dry Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Wet Bulb Temperature (T_{wb})	(°F)				
Median of Extreme Highs	74	76	140	4.4	N
0.4% Occurrence	68	75	106	10.7	S
1.0% Occurrence	67	74	103	9.9	S
2.0% Occurrence	66	73	100	9.6	S
	Design Value	Mean Coincident (Average) Values			
		Dry Bulb Temperature (°F)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Humidity Ratio (HR)	(gr/lb)				
Median of Extreme Highs	127	73	0.70	10.0	N
0.4% Occurrence	109	68	0.61	6.7	S
1.0% Occurrence	109	68	0.61	6.7	S
2.0% Occurrence	109	68	0.61	6.7	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	119	4	102

Other Site Data

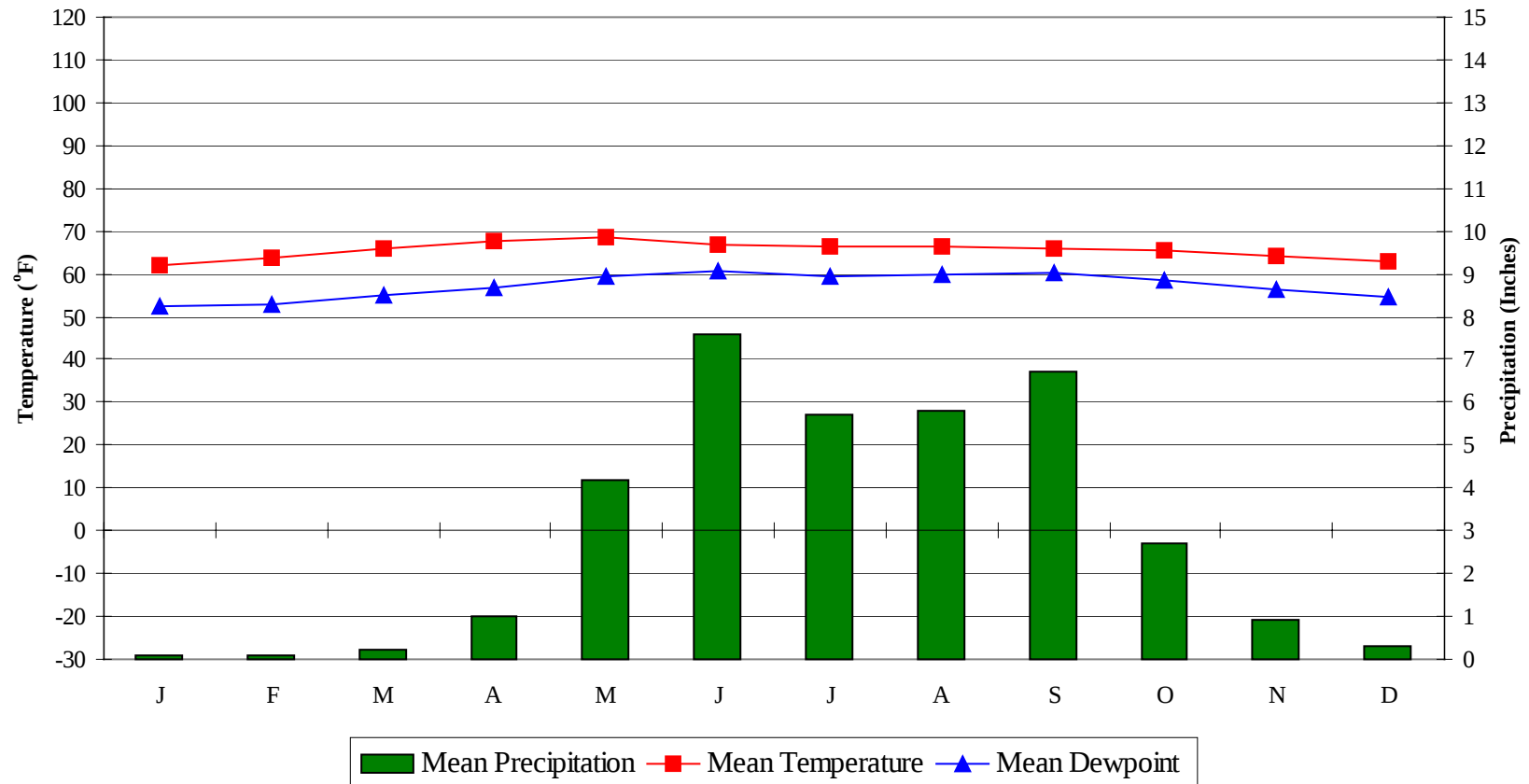
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
9	N/A	N/A	0.3 + 0.1
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
68.1	N/A	N/A	0

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

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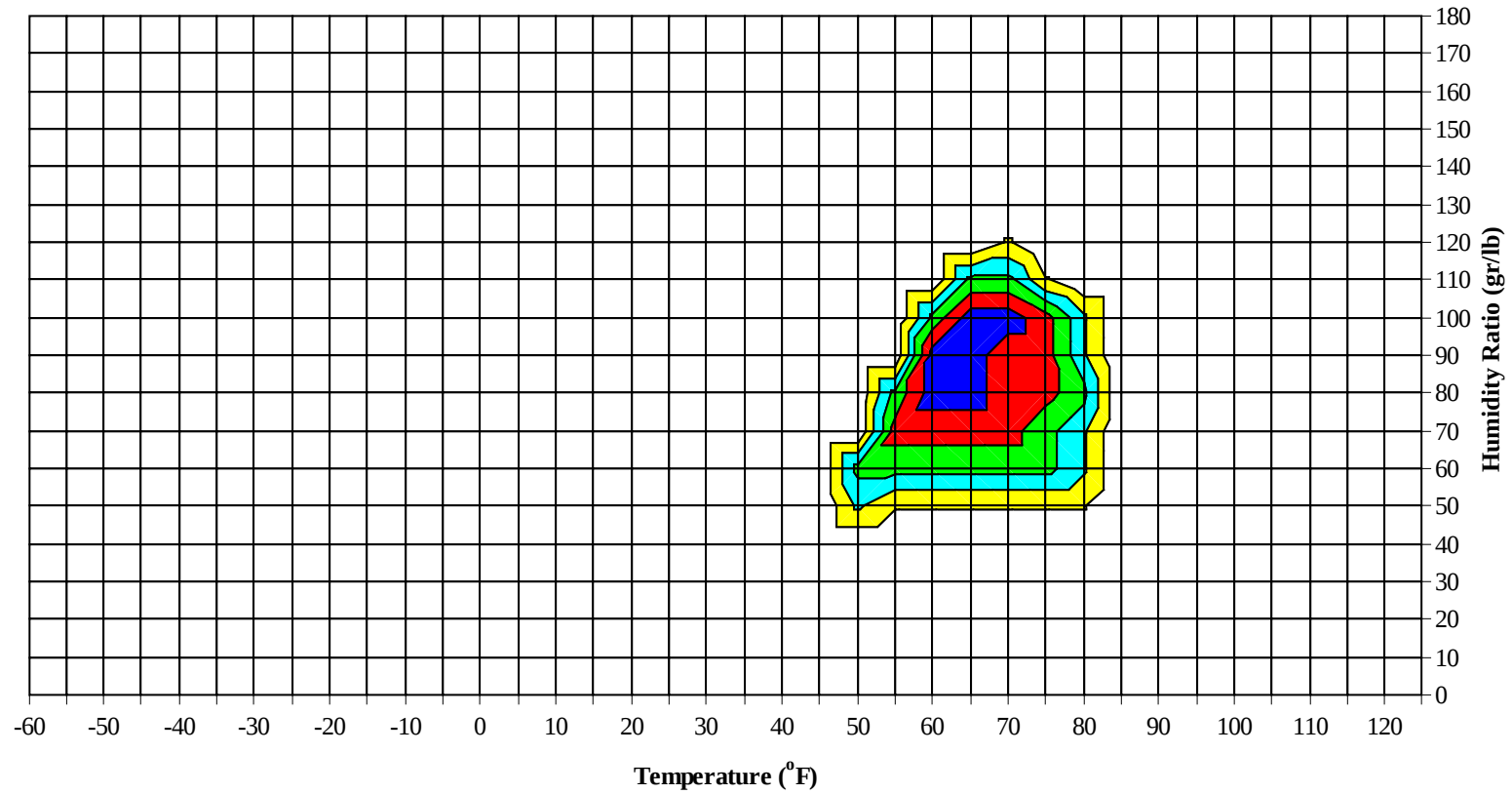
Average Annual Climate



GUATEMALA/LA AURORA GU

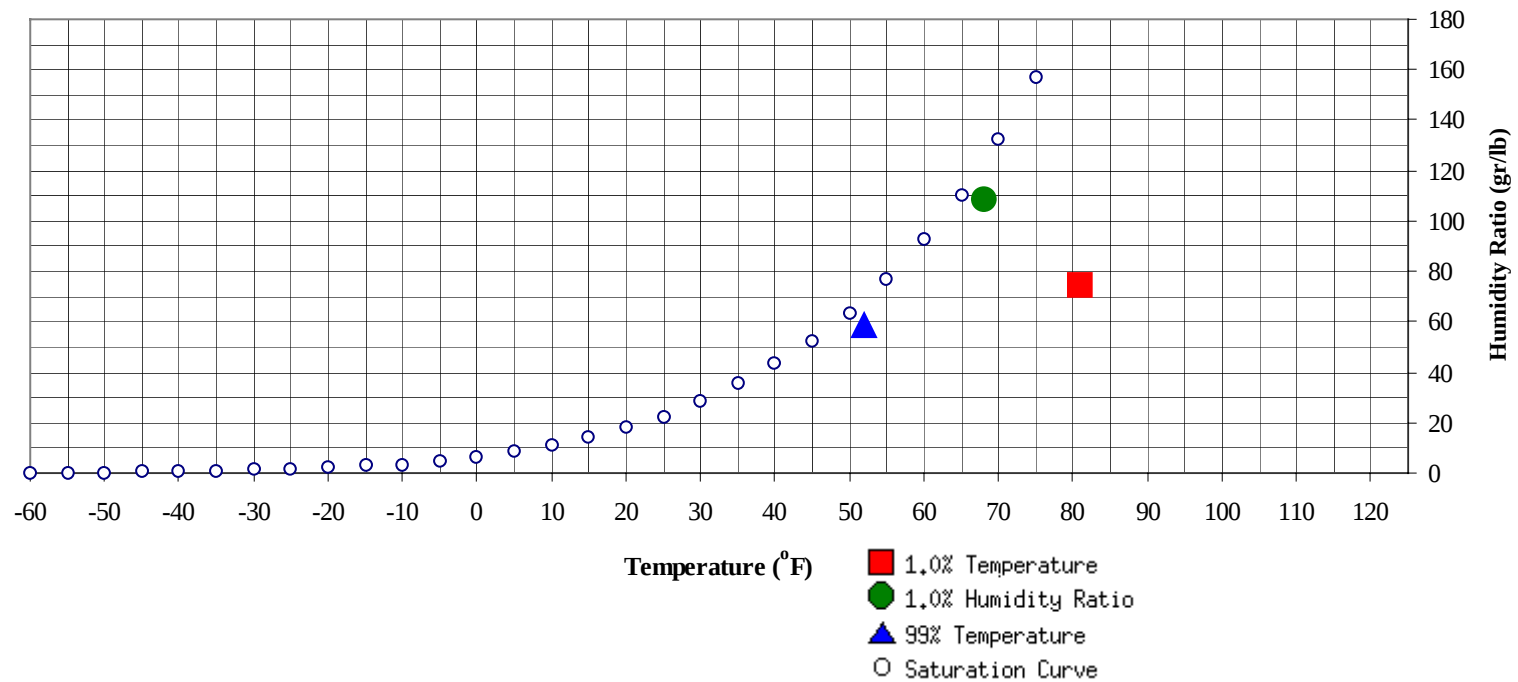
WMO No. 786410

Long Term Psychrometric Summary



- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

Psychrometric Summary of Peak Design Values



99% Dry Bulb	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
	52	58.5	21.5		108.5	68.2	65.7	64.4	33.3

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	81	74.8	63.2	31.2

Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)

Period of Record = 1973 to 1995

Temperature Range (°F)	January					February					March				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99															
90 / 94							0		0			0		0	59.0
85 / 89		0		0	65.0		0		0	59.0		1		1	63.3
80 / 84		1	0	1	62.6	0	8	0	8	61.2		26	0	26	62.4
75 / 79		31	1	32	60.2	0	62	4	66	60.7	0	97	8	105	61.8
70 / 74	0	97	17	114	59.3	0	77	28	105	59.6	1	72	39	111	60.8
65 / 69	0	57	31	88	58.0	0	39	37	75	58.5	6	33	57	96	60.4
60 / 64	26	50	102	178	57.3	41	32	94	167	57.8	106	16	114	235	59.1
55 / 59	154	10	79	243	55.0	133	6	50	189	55.1	112	3	26	141	55.4
50 / 54	58	1	16	75	50.4	43	1	11	55	50.2	19	0	5	24	49.7
45 / 49	10	0	2	12	45.2	6		1	7	44.9	4			4	44.9
40 / 44						0			0	41.0					

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 (Sheet 2 of 5)

Period of Record = 1973 to 1995

Temperature Range (°F)	April					May					June				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99		0		0	75.0										
90 / 94		0		0	63.0		0		0	77.0					
85 / 89		1	0	1	63.0		1		1	61.3		0		0	78.0
80 / 84	0	37	0	37	63.2	0	34	1	35	63.5		2	0	2	66.3
75 / 79	1	114	10	125	62.5	0	107	11	118	64.1	0	68	3	71	64.7
70 / 74	1	62	47	110	62.0	4	79	52	135	63.6	2	109	31	142	64.1
65 / 69	21	21	87	129	61.9	44	20	97	161	63.2	24	51	85	160	63.4
60 / 64	147	4	88	239	59.8	180	7	87	273	61.0	203	11	120	334	61.3
55 / 59	67	0	8	75	55.8	20	0	1	21	57.2	11	0	1	12	57.9
50 / 54	4	0	0	4	49.8										
45 / 49		0		0	42.0										
40 / 44															

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Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)

Period of Record = 1973 to 1995

Temperature Range (°F)	July					August					September				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99															
90 / 94															
85 / 89				0	0 73.0		0		0	80.0					
80 / 84		1	0	1	68.4		0		0	67.3		0		0	66.5
75 / 79	0	60	3	63	63.6	1	62	3	66	64.1	0	44	1	44	64.7
70 / 74	0	125	36	161	63.0	0	124	32	157	63.4	1	115	15	132	63.8
65 / 69	13	52	73	138	62.3	13	52	75	140	62.6	11	59	62	132	63.2
60 / 64	209	10	133	351	60.8	212	10	137	359	61.0	205	22	158	385	61.2
55 / 59	26	0	3	29	57.6	22	0	1	23	57.9	23	0	4	26	57.7
50 / 54								0	0	50.0	0			0	48.0
45 / 49															
40 / 44															

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Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1973 to 1995

Temperature Range (°F)	October					November					December				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99															
90 / 94		0		0	76.0										
85 / 89		0		0	78.0							0	0	0	73.7
80 / 84		0		0	65.0	0	0		0	65.8		1	0	1	62.1
75 / 79	0	36	1	37	63.9	0	32	0	32	63.3		29	0	29	62.1
70 / 74	1	135	17	154	62.9	0	122	13	135	61.9	0	110	12	122	60.4
65 / 69	7	62	62	131	62.1	2	62	45	109	60.5	1	64	35	100	59.2
60 / 64	186	15	155	356	60.5	113	22	140	274	59.4	58	39	118	215	58.4
55 / 59	52	0	12	64	56.0	111	2	39	153	55.6	147	5	75	227	55.4
50 / 54	2			2	51.5	14		3	17	50.6	39	0	9	47	50.9
45 / 49						0			0	45.0	3	0	0	3	46.1
40 / 44															

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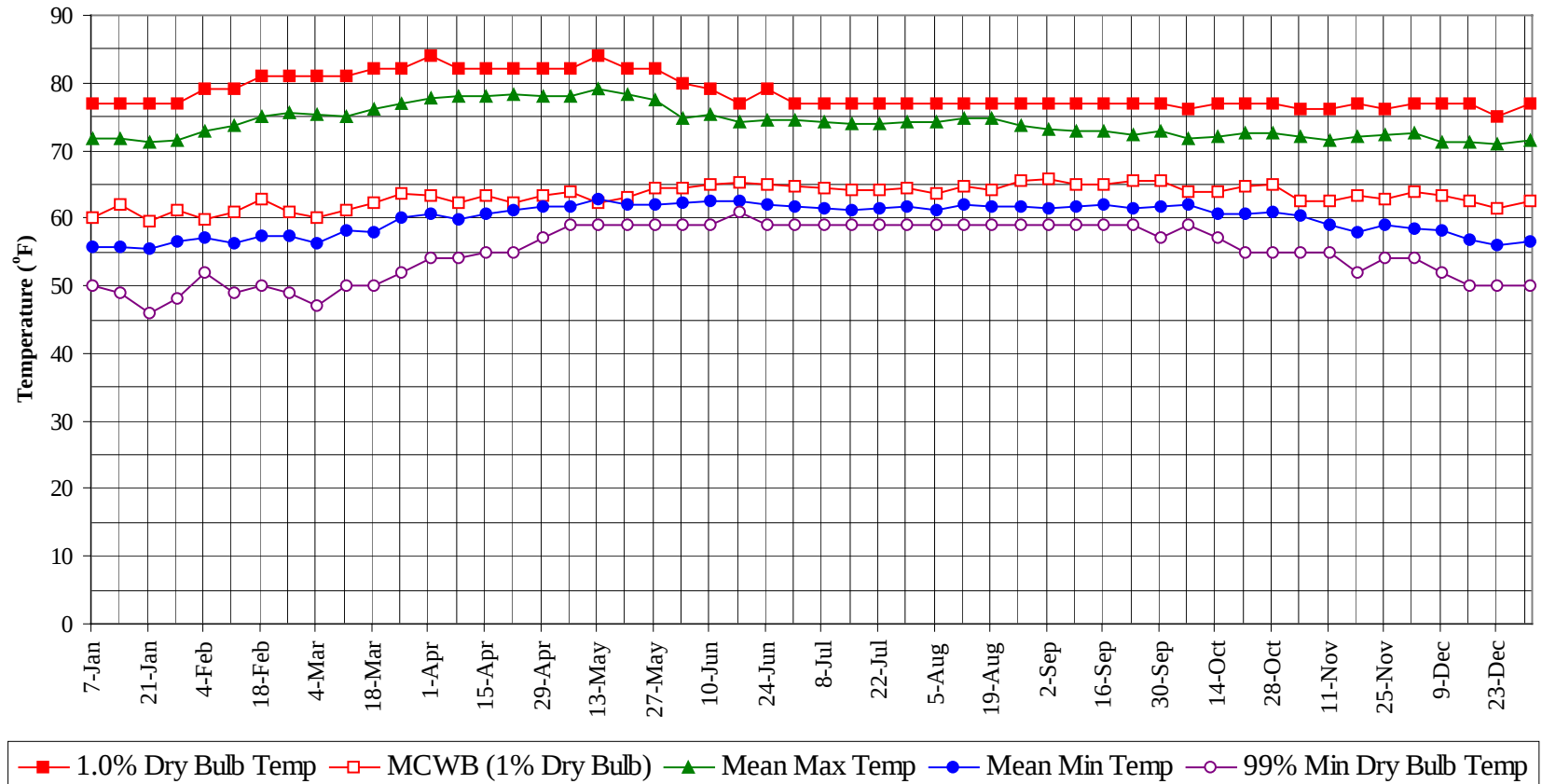
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1995

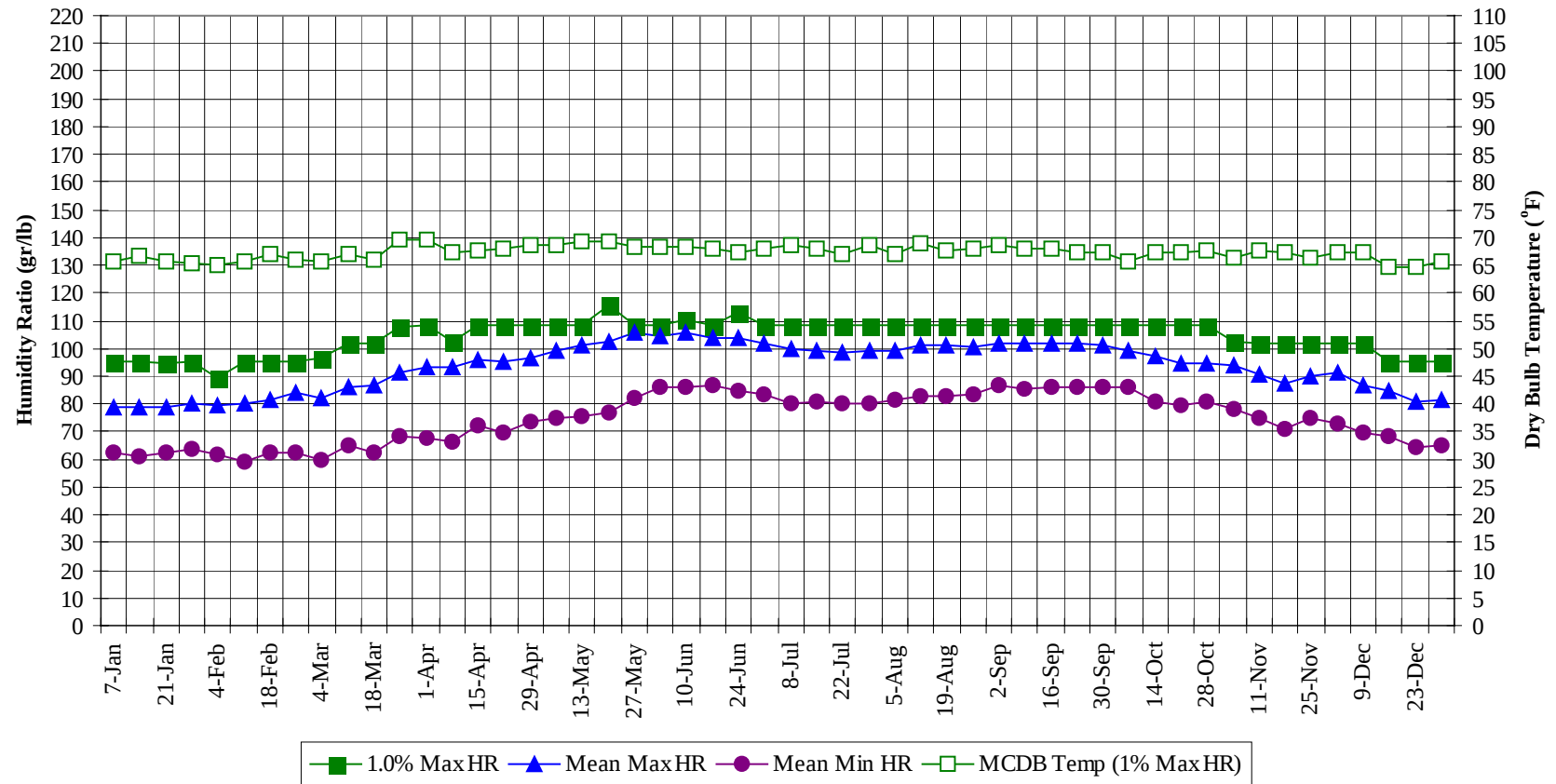
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
95 / 99		0		0	75.0
90 / 94		0		0	67.6
85 / 89		5	0	5	63.9
80 / 84	0	112	2	114	63.1
75 / 79	3	749	46	798	63.0
70 / 74	10	1225	341	1576	62.2
65 / 69	143	569	747	1458	61.7
60 / 64	1690	232	1443	3366	60.1
55 / 59	875	26	296	1196	55.6
50 / 54	176	3	43	222	50.4
45 / 49	23	0	3	26	45.2
40 / 44	0			0	41.0

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.

Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



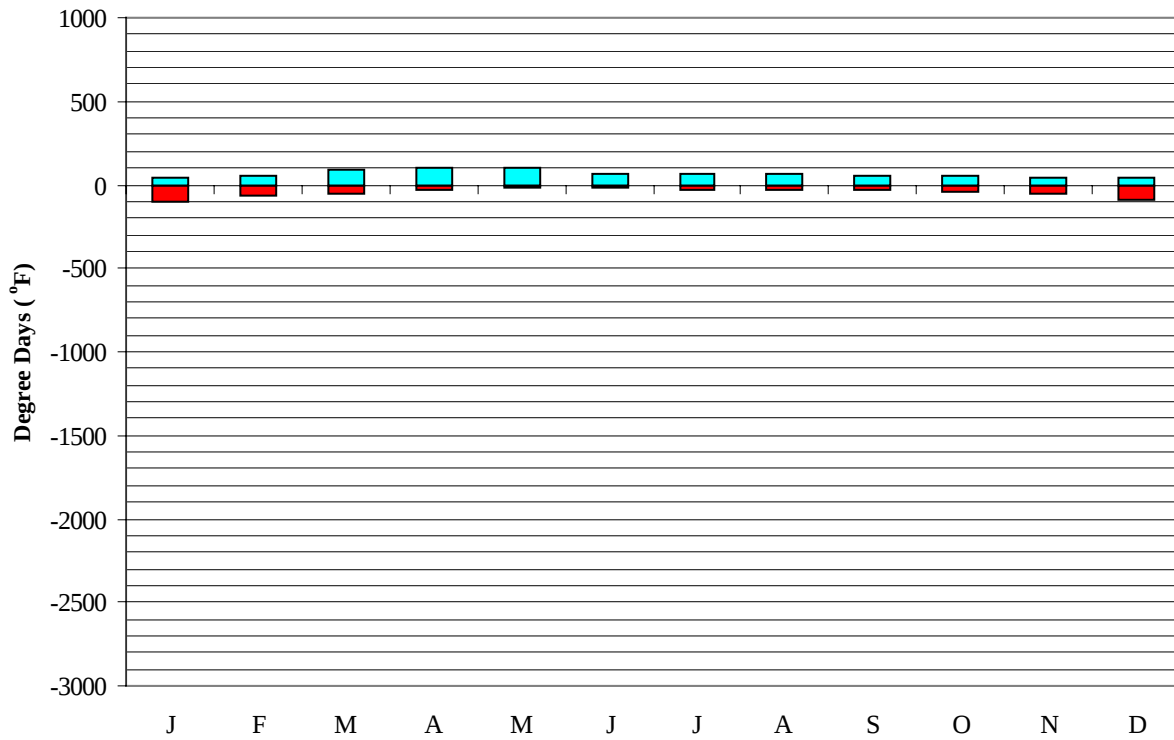
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Long Term Dry Bulb Temperature and Humidity Summary

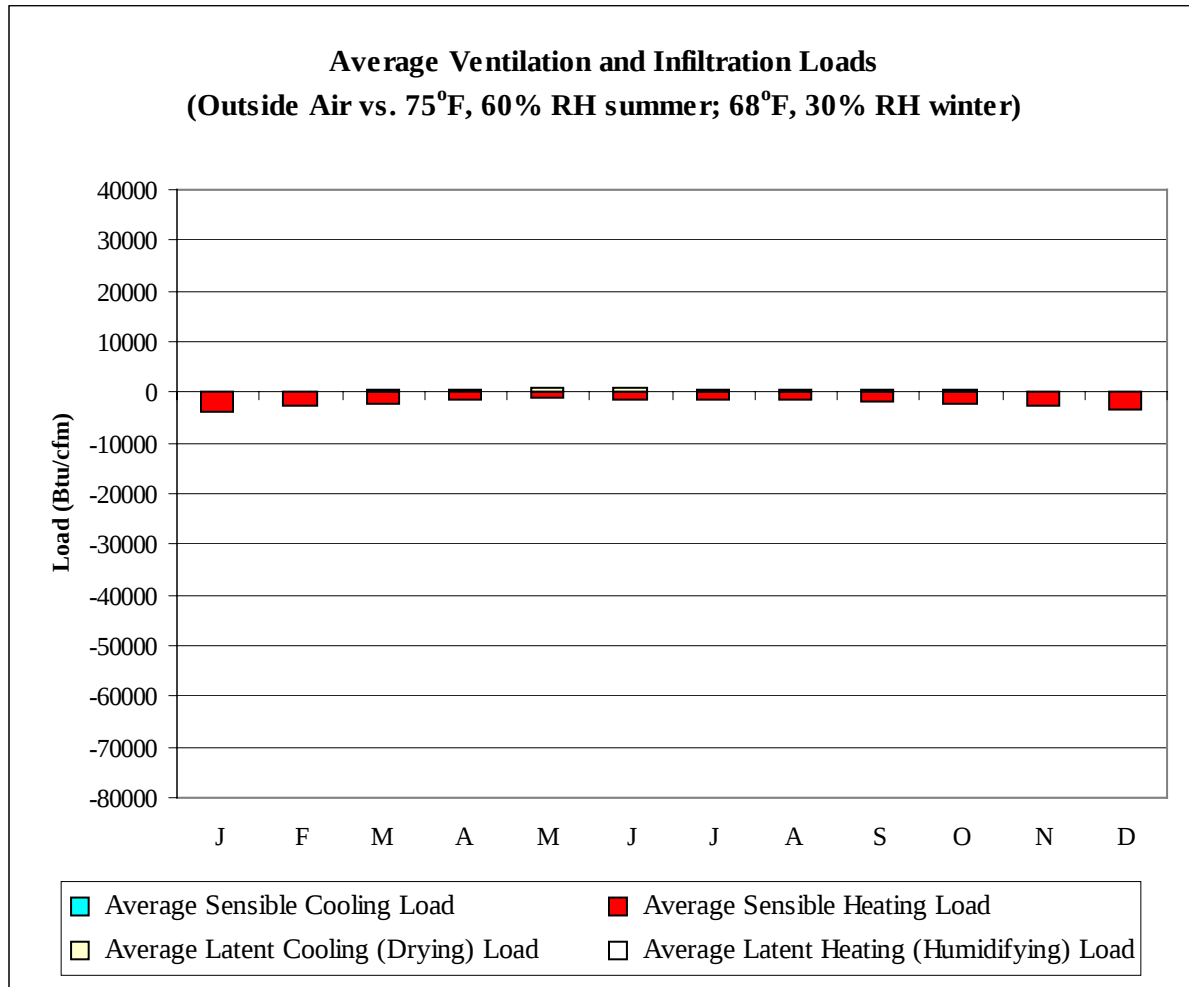
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	77.0	60.2	71.7	55.7	50.0	95.2	65.8	79.0	62.7
14-Jan	77.0	62.0	71.7	55.9	49.0	95.2	66.5	79.0	61.0
21-Jan	77.0	59.6	71.3	55.5	46.0	94.5	65.8	78.5	62.3
28-Jan	77.0	61.2	71.6	56.6	48.0	95.2	65.2	80.4	63.9
4-Feb	79.0	59.7	72.9	57.0	52.0	89.6	64.9	79.3	61.7
11-Feb	79.0	61.0	73.6	56.3	49.0	95.2	65.8	79.9	59.2
18-Feb	81.0	62.9	75.0	57.5	50.0	95.2	67.0	81.7	62.1
25-Feb	81.0	61.0	75.5	57.5	49.0	95.2	66.0	84.3	62.1
4-Mar	81.0	60.0	75.2	56.2	47.0	96.6	65.8	82.1	59.5
11-Mar	81.0	61.3	75.0	58.1	50.0	101.5	66.9	86.0	64.7
18-Mar	82.0	62.2	76.1	57.9	50.0	101.5	66.0	86.6	62.2
25-Mar	82.0	63.5	77.0	60.0	52.0	107.8	69.5	91.4	68.0
1-Apr	84.0	63.3	77.7	60.6	54.0	108.5	69.6	93.1	67.4
8-Apr	82.0	62.3	78.1	59.9	54.0	102.2	67.4	93.2	66.3
15-Apr	82.0	63.3	78.0	60.7	55.0	108.5	67.8	95.7	72.0
22-Apr	82.0	62.3	78.2	61.2	55.0	108.5	68.0	94.9	69.9
29-Apr	82.0	63.5	78.0	61.6	57.0	108.5	68.5	96.7	73.6
6-May	82.0	63.9	78.0	61.6	59.0	108.5	68.7	98.9	74.8
13-May	84.0	62.2	79.0	62.8	59.0	108.5	69.4	100.8	75.6
20-May	82.0	63.0	78.3	61.9	59.0	115.5	69.1	102.6	76.6
27-May	82.0	64.6	77.6	62.1	59.0	108.5	68.4	105.7	82.3
3-Jun	80.0	64.5	74.7	62.4	59.0	108.5	68.2	104.4	85.9
10-Jun	79.0	65.0	75.2	62.5	59.0	110.6	68.4	105.6	86.1
17-Jun	77.0	65.2	74.3	62.5	61.0	108.5	67.9	104.1	86.7
24-Jun	79.0	65.1	74.5	61.9	59.0	112.7	67.4	103.8	84.9
1-Jul	77.0	64.7	74.4	61.9	59.0	108.5	67.9	101.9	83.2
8-Jul	77.0	64.5	74.1	61.4	59.0	108.5	68.6	99.8	79.9
15-Jul	77.0	64.2	73.9	61.2	59.0	108.5	67.8	99.0	81.1
22-Jul	77.0	64.1	74.0	61.4	59.0	108.5	67.0	98.6	79.8
29-Jul	77.0	64.5	74.4	61.7	59.0	108.5	68.6	99.0	80.2
5-Aug	77.0	63.6	74.2	61.3	59.0	108.5	67.0	99.4	81.3
12-Aug	77.0	64.7	74.6	62.1	59.0	108.5	68.9	100.9	83.0
19-Aug	77.0	64.2	74.7	61.8	59.0	108.5	67.7	101.0	83.0
26-Aug	77.0	65.5	73.6	61.8	59.0	108.5	68.0	100.4	83.5
2-Sep	77.0	65.8	73.2	61.5	59.0	108.5	68.7	101.5	86.8
9-Sep	77.0	64.9	73.0	61.7	59.0	108.5	68.1	101.9	85.5
16-Sep	77.0	65.0	72.8	61.9	59.0	108.5	67.8	101.8	86.2
23-Sep	77.0	65.5	72.3	61.5	59.0	108.5	67.4	101.6	86.2
30-Sep	77.0	65.7	72.8	61.7	57.0	108.5	67.3	100.9	86.2
7-Oct	76.0	64.0	71.7	61.9	59.0	108.5	65.7	99.2	85.8
14-Oct	77.0	63.8	72.2	60.7	57.0	108.5	67.2	97.3	80.5
21-Oct	77.0	64.6	72.6	60.6	55.0	108.5	67.3	94.4	79.3
28-Oct	77.0	65.1	72.6	60.9	55.0	108.5	67.7	94.4	81.0
4-Nov	76.0	62.5	72.0	60.3	55.0	102.2	66.4	93.7	78.2
11-Nov	76.0	62.5	71.6	59.0	55.0	101.5	67.8	90.9	74.9
18-Nov	77.0	63.5	72.0	58.0	52.0	101.5	67.2	87.2	71.0
25-Nov	76.0	62.7	72.4	58.9	54.0	101.5	66.4	89.9	74.6
2-Dec	77.0	64.0	72.7	58.6	54.0	101.5	67.3	91.0	73.2
9-Dec	77.0	63.3	71.4	58.1	52.0	101.5	67.2	86.6	69.5
16-Dec	77.0	62.5	71.2	56.9	50.0	95.2	64.5	84.5	68.5
23-Dec	75.0	61.4	70.9	56.0	50.0	95.2	64.7	80.6	64.2
31-Dec	77.0	62.6	71.5	56.5	50.0	95.2	65.6	81.6	64.8

Degree Days, Heating and Cooling (Base 65°F)



■ Mean Cooling Degree Days ■ Mean Heating Degree Days

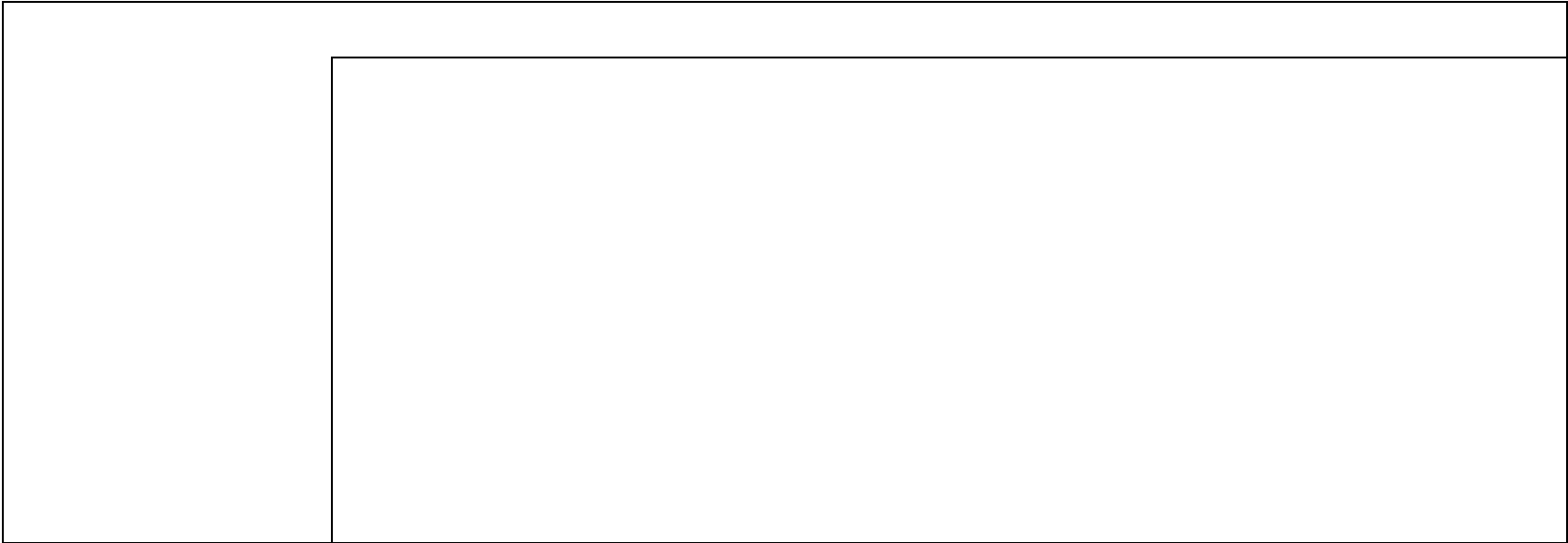
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	38	97
FEB	58	69
MAR	86	56
APR	102	29
MAY	96	16
JUN	66	19
JUL	66	26
AUG	65	24
SEP	48	29
OCT	50	36
NOV	46	57
DEC	37	84
ANN	760	542



	Average Sensible Cooling Load	Average Sensible Heating Load	Average Latent Cooling Load	Average Latent Heating Load
	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)
JAN	25	-3884	8	-2
FEB	111	-2825	13	-2
MAR	289	-2424	120	-4
APR	342	-1538	310	-1
MAY	290	-1149	787	-1
JUN	65	-1359	865	0
JUL	55	-1623	413	0
AUG	52	-1544	465	0
SEP	29	-1910	669	0
OCT	22	-2075	322	0
NOV	18	-2714	92	0
DEC	21	-3492	31	0
ANN	1319	-26537	4095	-10

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

No Solar Radiation
Data Available

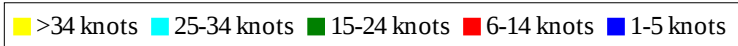
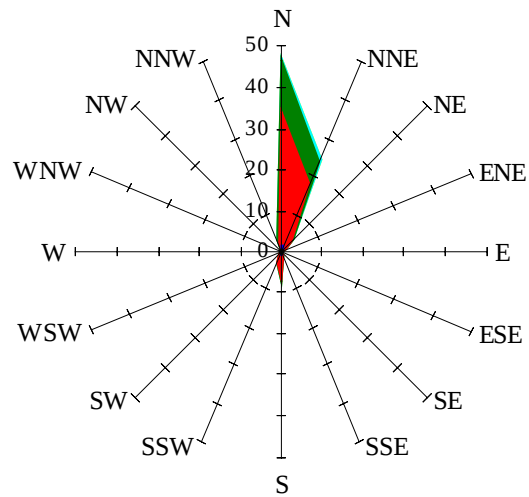


Average Annual Solar Heat and Illumination – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

Wind Summary - December, January, and February

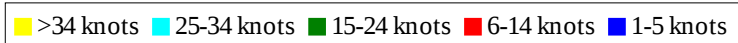
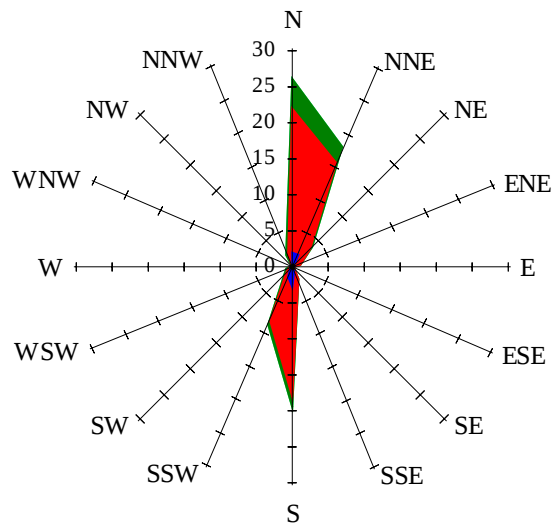
Labels of Percent Frequency on North Axis



Percent Calm = 8.52

Wind Summary - March, April, and May

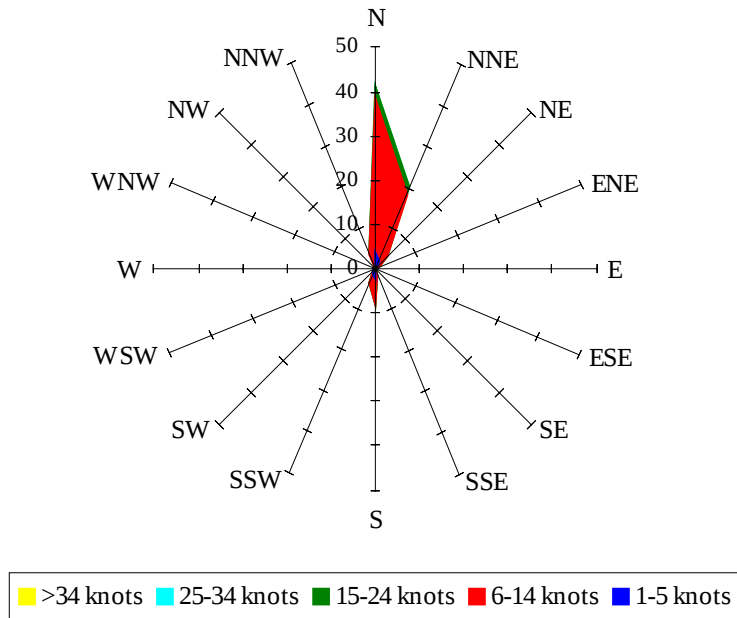
Labels of Percent Frequency on North Axis



Percent Calm = 16.01

Wind Summary - June, July, and August

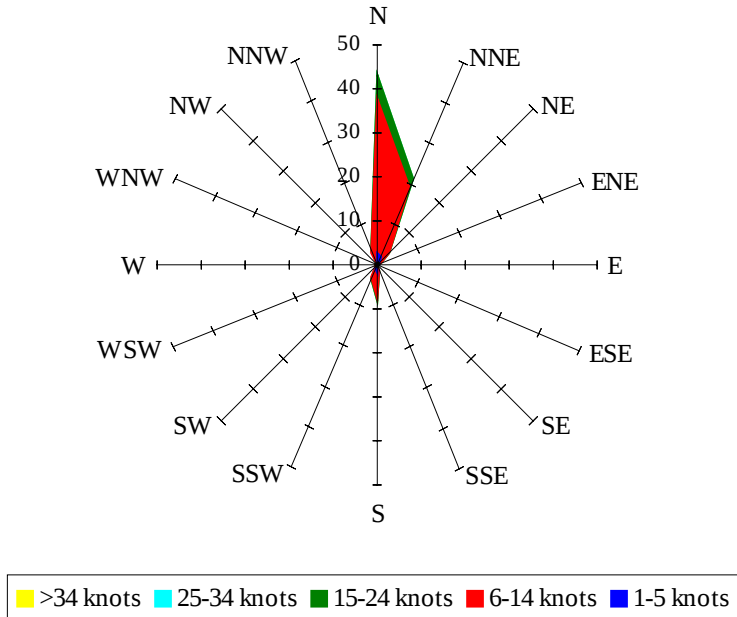
Labels of Percent Frequency on North Axis



Percent Calm = 14.81

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 11.90