

TIN CITY AFS AK

Latitude = 65.57 N

Longitude = 167.90 W

Period of Record = 1967 to 1996

WMO No. 701170

Elevation = 272 feet

Average Pressure = 29.50 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	66	57	56	9.6	NNE
0.4% Occurrence	60	54	52	9.7	NNE
1.0% Occurrence	56	52	51	10.1	NNE
2.0% Occurrence	54	51	50	10.7	NNE
Mean Daily Range	8	-	-	-	-
97.5% Occurrence	-20	-20	1	25.2	N
99.0% Occurrence	-24	-24	1	25.5	N
99.6% Occurrence	-28	-28	1	25.5	N
Median of Extreme Lows	-29	-29	1	25.6	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	58	63	63	11.2	NNE
0.4% Occurrence	55	59	58	10.8	NNE
1.0% Occurrence	53	56	54	10.7	NNE
2.0% Occurrence	51	54	51	10.8	NNE
	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	63	58	0.42	10.7	NNE
0.4% Occurrence	60	56	0.39	11.4	NNE
1.0% Occurrence	55	54	0.36	11.7	NNE
2.0% Occurrence	52	52	0.35	12.6	NNE
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	0	0	0

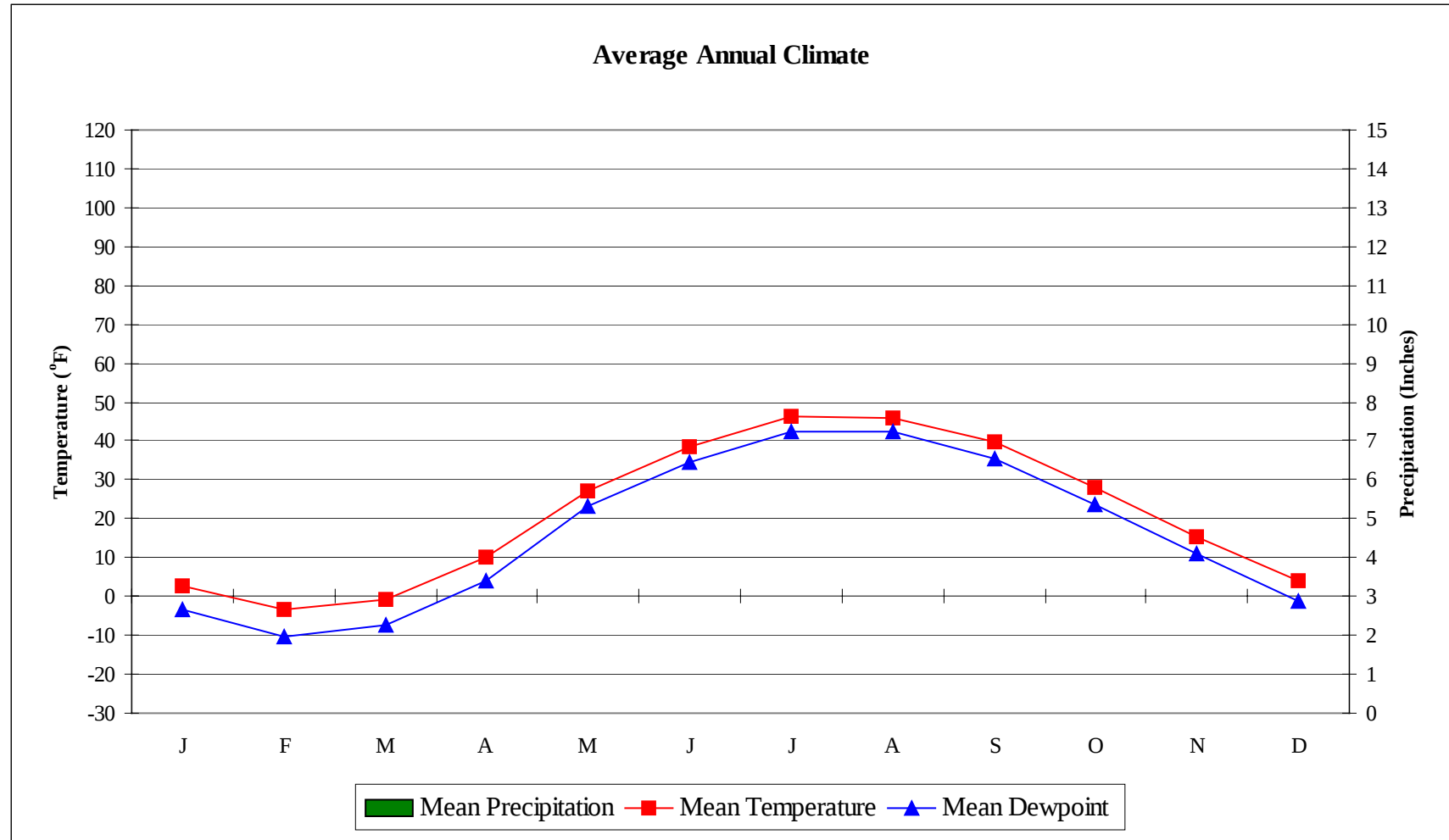
Other Site Data

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	0.5	130	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 (#)
24.2	N/A	N/A	27

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

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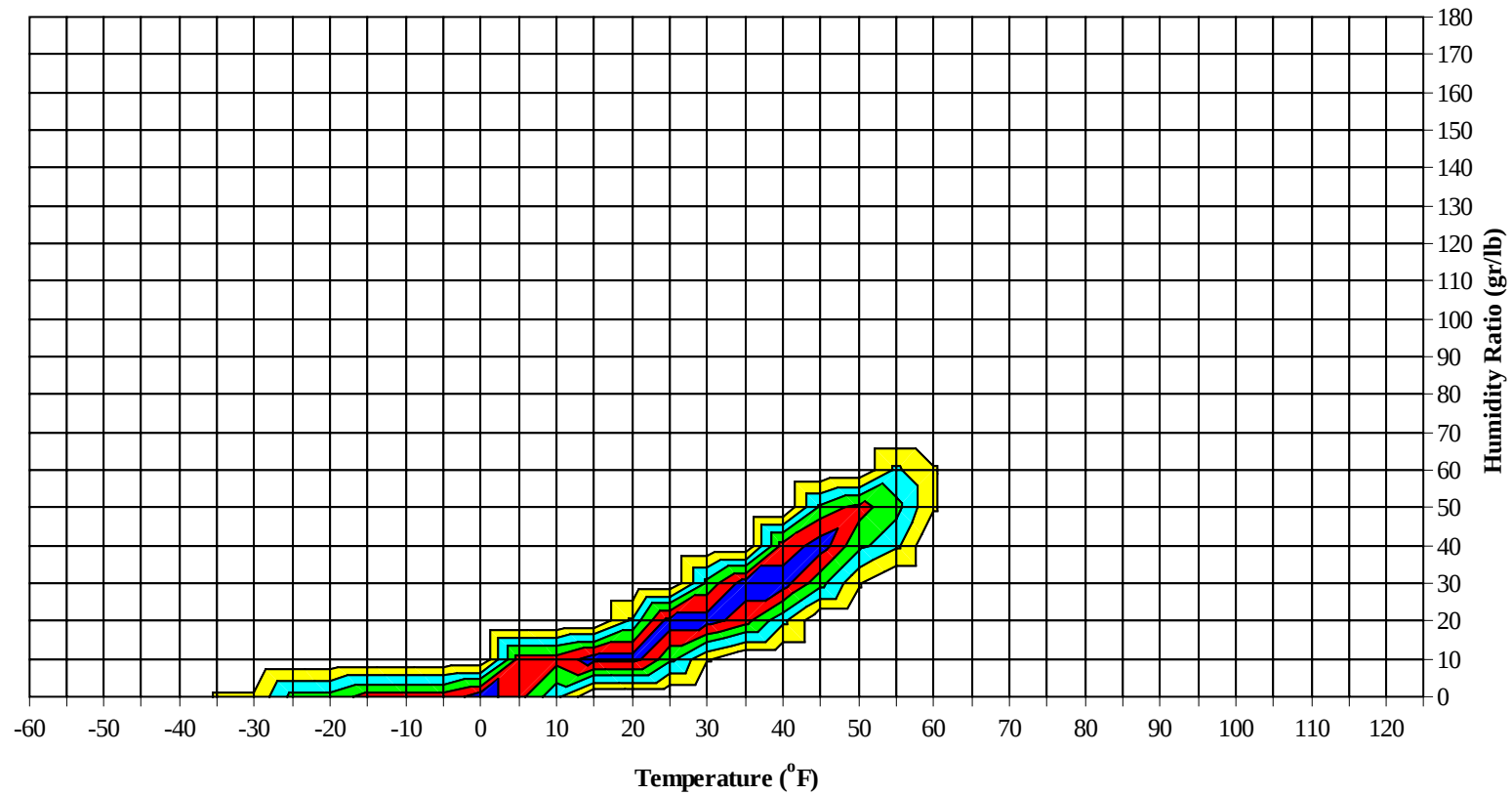


No Precipitation Data Available

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Long Term Psychrometric Summary

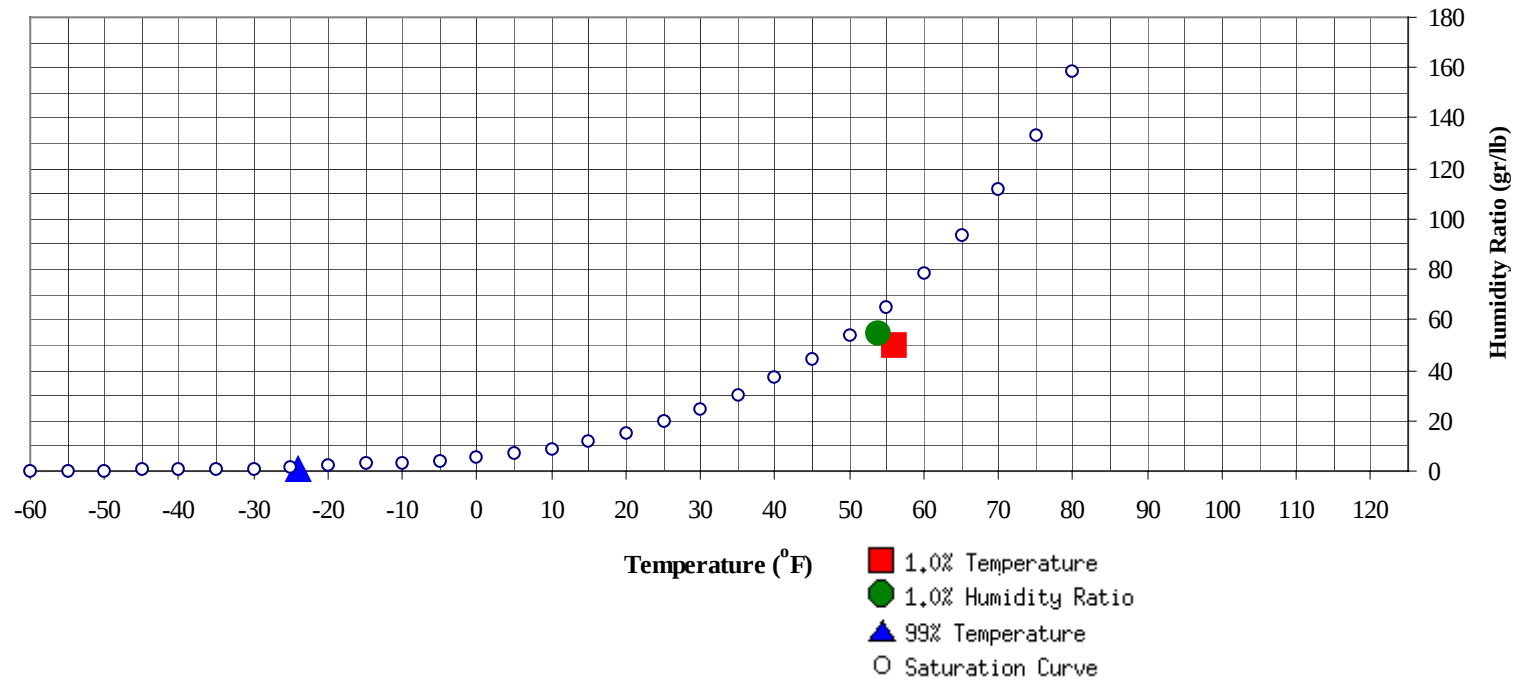


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values



	(°F)	MCHR	Enthalpy	1.0% Humidity Ratio	(gr/lb)	MCDB	MCWB	MC Dewpt	Enthalpy
		(gr/lb)	(btu/lb)			(°F)	(°F)	(°F)	(btu/lb)
99% Dry Bulb	-24	0.9	-5.6	Ratio	54.6	53.8	51.7	50	21.4

1.0% Dry Bulb	(°F)	MCHR	MCWB	Enthalpy
		(gr/lb)	(°F)	(btu/lb)
56	50.3	51.6	21.2	

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

Period of Record = 1967 to 1996

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		
70 / 74															
65 / 69															
60 / 64															
55 / 59															
50 / 54															
45 / 49							0		0	38.8					
40 / 44	0	0	0	0	37.5		0		0	35.3					
35 / 39	1	1	1	3	33.8	2	2	1	5	34.2	1	1	0	2	32.9
30 / 34	10	10	10	30	30.1	5	7	8	19	30.5	4	7	7	19	29.6
25 / 29	22	23	20	65	26.1	8	9	8	26	25.8	13	12	12	38	25.9
20 / 24	16	16	16	48	21.1	9	9	8	27	20.8	10	10	9	29	20.4
15 / 19	17	18	16	51	15.9	10	8	8	27	15.9	13	16	14	43	16.0
10 / 14	18	19	20	57	10.9	15	13	14	42	10.7	16	19	20	55	10.9
5 / 9	24	25	23	71	6.1	19	19	21	58	5.6	22	22	25	69	6.0
0 / 4	21	21	24	66	1.2	23	25	25	73	1.1	21	22	25	68	1.1
-5 / -1	22	20	20	62	-3.2	15	14	18	46	-3.1	29	26	30	84	-3.2
-10 / -6	27	28	29	84	-7.5	21	20	20	61	-7.6	33	34	39	107	-7.4
-15 / -11	27	26	26	80	-12.1	31	31	30	92	-12.3	33	30	32	96	-12.1
-20 / -16	23	22	20	65	-17.1	25	26	23	75	-17.0	25	25	23	73	-17.0
-25 / -21	15	15	16	46	-21.7	27	23	23	74	-22.0	16	16	10	42	-21.7
-30 / -26	4	4	5	12	-26.6	10	12	9	32	-26.6	7	4	1	12	-26.2
-35 / -31	1	1	1	3	-30.7	5	5	5	14	-31.9	2	2	1	5	-31.8
-40 / -36						0	1	1	2	-36.0	2	2	0	4	-35.7

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.

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Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1967 to 1996

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		
70 / 74															
65 / 69												0	0	0	55.0
60 / 64											0	2	1	3	52.0
55 / 59							0		0	49.0	1	8	5	13	49.6
50 / 54						0	1	0	1	44.9	7	17	14	37	47.0
45 / 49						1	4	2	7	41.1	18	28	28	74	43.6
40 / 44		1	0	1	36.7	7	11	9	26	37.9	39	48	54	142	39.9
35 / 39	2	4	2	8	33.4	16	24	24	64	34.3	68	68	67	203	35.8
30 / 34	14	20	24	57	30.2	62	77	88	226	30.6	83	63	63	209	31.6
25 / 29	21	19	21	61	25.7	76	61	70	206	26.2	23	7	8	38	27.2
20 / 24	16	16	19	51	20.7	43	35	32	109	21.1	1	0		1	22.4
15 / 19	22	25	31	78	15.7	23	19	15	57	16.3					
10 / 14	29	29	29	86	10.9	11	10	5	26	11.6					
5 / 9	34	38	42	114	5.8	6	4	2	12	6.0					
0 / 4	36	35	36	107	1.1	3	2	1	6	1.6					
-5 / -1	31	28	20	79	-3.0	1	1	0	2	-3.1					
-10 / -6	21	16	11	48	-7.1	1	0	0	1	-6.3					
-15 / -11	9	7	4	19	-11.5										
-20 / -16	3	3	1	7	-16.6										
-25 / -21	2	1	1	4	-21.3										
-30 / -26	0	0		0	-25.5										
-35 / -31															
-40 / -36															

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

Period of Record = 1967 to 1996

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		
70 / 74		0	0	0	58.0										
65 / 69	0	4	2	6	57.6	0	1	0	1	58.0		0	0	0	55.2
60 / 64	1	8	8	16	54.8	1	4	3	8	55.4		1	0	1	52.3
55 / 59	9	23	20	53	52.1	6	16	13	35	53.1	1	4	1	6	50.3
50 / 54	29	39	37	105	48.9	30	42	39	112	49.6	5	11	9	24	47.9
45 / 49	79	85	88	251	45.2	91	99	97	287	45.4	26	43	39	108	44.7
40 / 44	92	73	79	243	41.4	85	71	80	236	40.8	72	77	76	225	40.3
35 / 39	34	15	13	62	37.1	33	14	16	63	36.0	77	64	68	210	35.6
30 / 34	5	1	1	7	32.7	2	0	0	2	32.1	47	36	40	123	30.7
25 / 29											11	5	7	23	26.1
20 / 24											1	0	0	1	20.9
15 / 19											0	0	0	0	16.6
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															
-40 / -36															

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.

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

Period of Record = 1967 to 1996

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		
70 / 74															
65 / 69															
60 / 64															
55 / 59															
50 / 54															
45 / 49	0	1	0	1	43.2										
40 / 44	7	8	9	25	39.5	0	0	0	0	37.3	0		0	0	36.2
35 / 39	34	39	35	109	35.3	4	5	5	13	34.5	1	2	2	5	34.1
30 / 34	58	65	60	183	30.5	21	21	21	63	30.9	9	10	9	29	30.3
25 / 29	66	66	67	200	25.5	30	31	30	90	25.4	18	18	15	51	25.8
20 / 24	47	40	43	130	21.0	32	36	35	104	20.7	14	13	17	43	21.0
15 / 19	23	20	24	66	16.5	40	42	45	127	16.1	15	14	15	44	15.8
10 / 14	7	5	7	19	11.6	41	38	37	115	11.3	18	21	25	65	11.0
5 / 9	4	3	2	9	6.5	31	29	31	90	6.1	34	29	31	94	5.9
0 / 4	1	1	0	2	2.3	19	20	20	59	1.5	34	34	33	102	1.1
-5 / -1						12	9	9	31	-2.8	28	30	28	86	-3.0
-10 / -6						6	7	5	18	-7.0	35	35	34	105	-7.3
-15 / -11						3	3	2	8	-11.4	26	25	25	76	-11.9
-20 / -16						1	0	0	1	-15.8	11	11	11	33	-16.4
-25 / -21											5	4	1	9	-21.8
-30 / -26											1	1	0	2	-26.1
-35 / -31											0	1		1	-30.5
-40 / -36															

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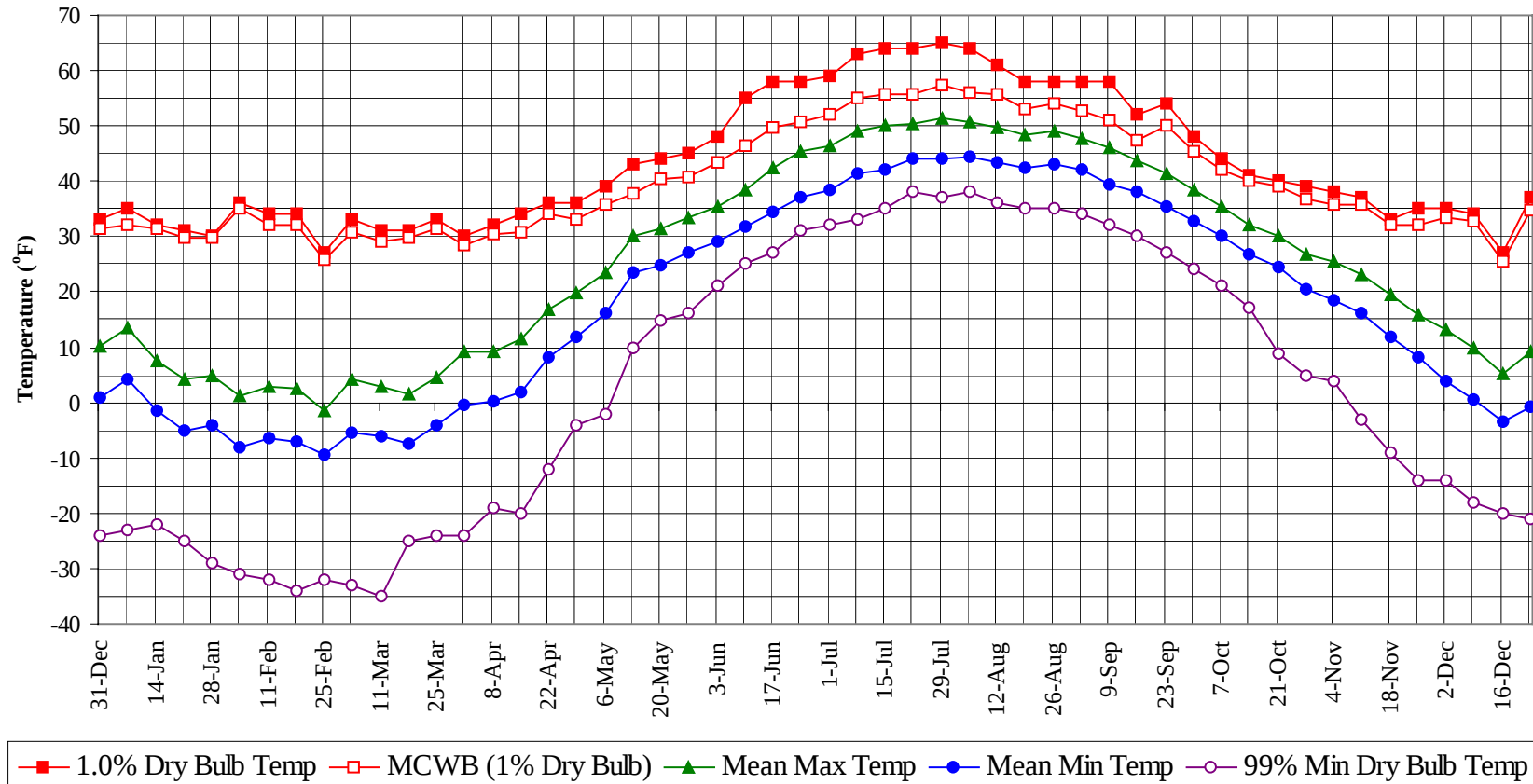
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1967 to 1996

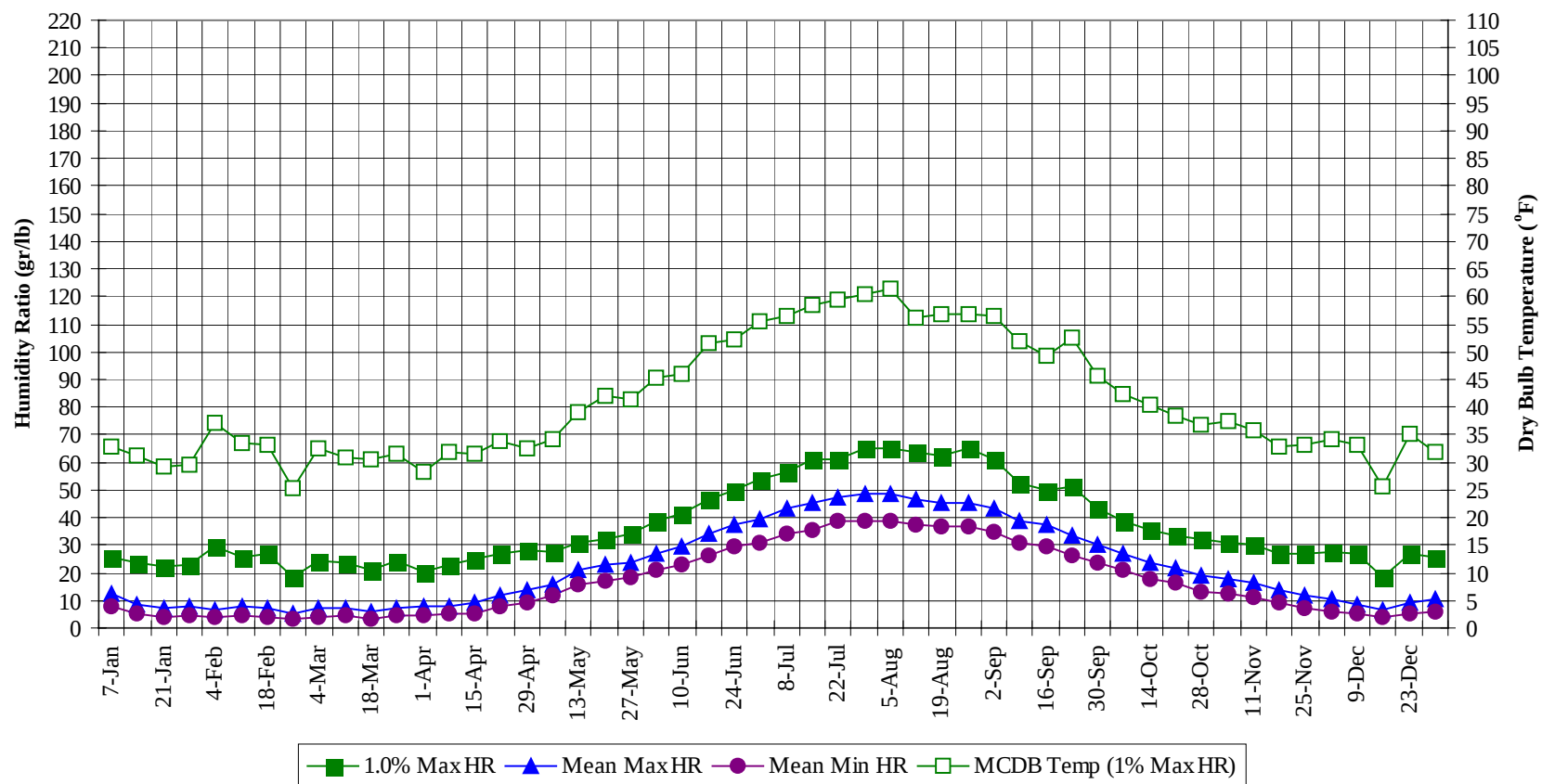
Annual Totals						
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	
	01 To 08	09 To 16	17 To 00			
70 / 74		0	0	0	58.0	
65 / 69		0	5	2	7	57.4
60 / 64		2	14	13	29	54.6
55 / 59		18	51	41	109	52.0
50 / 54		72	111	104	287	48.8
45 / 49		219	264	267	749	45.0
40 / 44		310	294	324	927	40.6
35 / 39		278	243	248	769	35.6
30 / 34		325	319	343	987	30.8
25 / 29		291	252	261	804	25.9
20 / 24		187	176	177	539	20.9
15 / 19		162	162	163	487	16.1
10 / 14		153	152	150	456	11.0
5 / 9		169	165	168	502	5.9
0 / 4		155	158	155	468	1.2
-5 / -1		133	125	117	374	-3.1
-10 / -6		141	136	129	407	-7.4
-15 / -11		126	120	113	359	-12.1
-20 / -16		86	86	75	246	-16.9
-25 / -21		63	58	49	169	-21.8
-30 / -26		21	19	15	55	-26.5
-35 / -31		7	8	6	21	-31.7
-40 / -36		2	3	1	6	-35.7

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

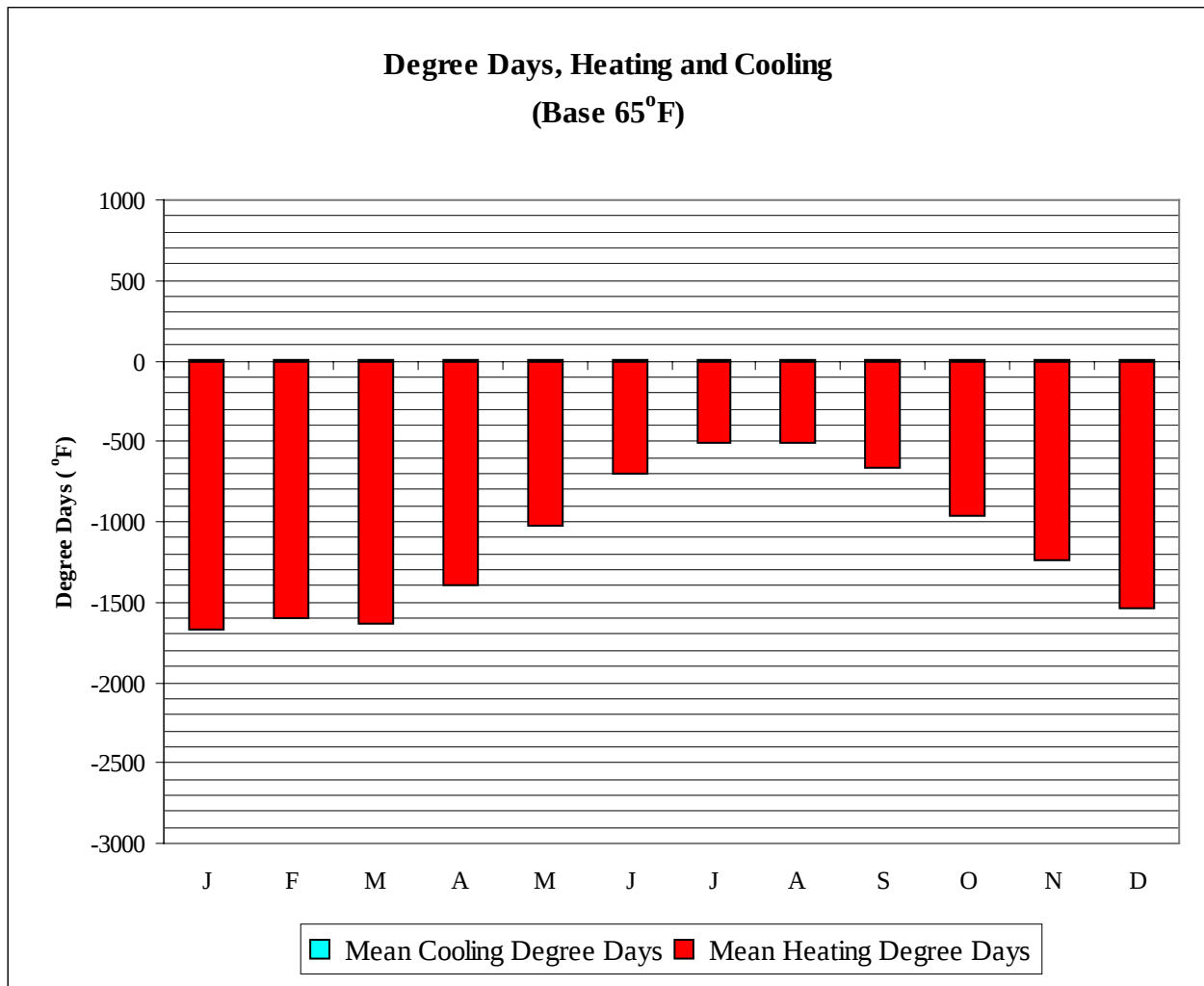


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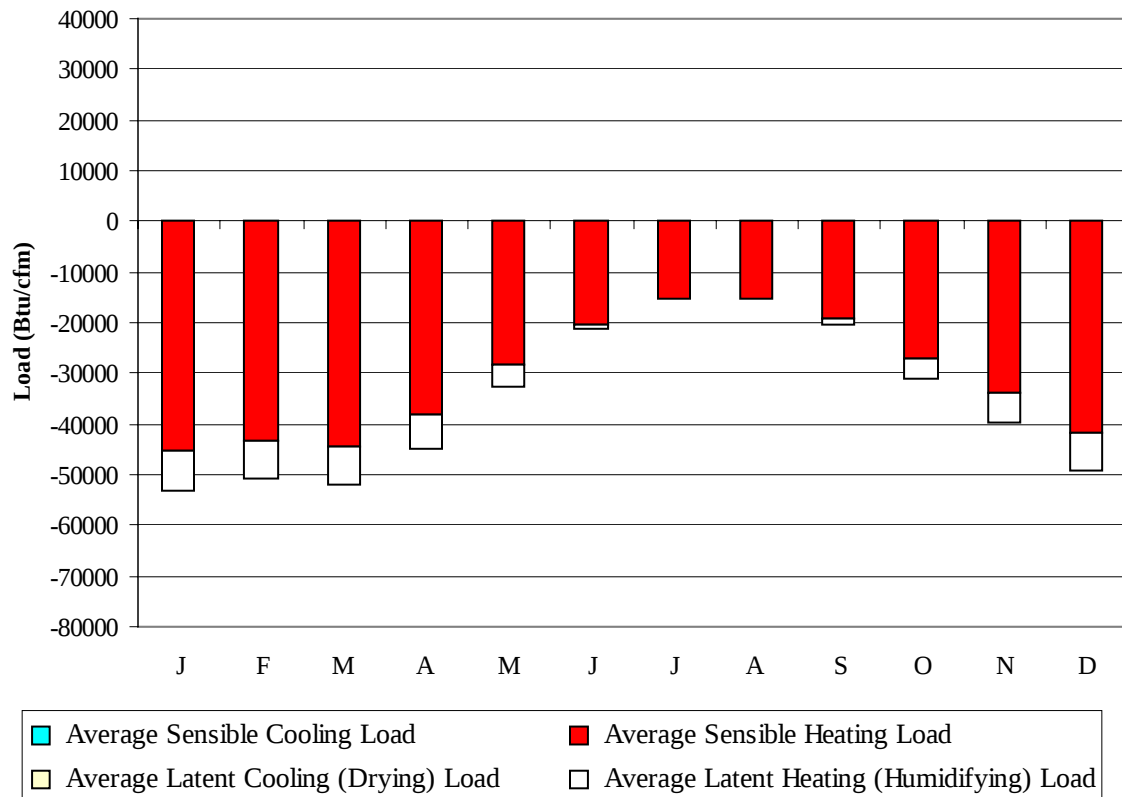
Long Term Dry Bulb Temperature and Humidity Summary

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	35.0	32.3	13.4	4.2	-23.0	25.9	32.7	12.4	7.8
14-Jan	32.0	31.5	7.4	-1.3	-22.0	23.8	31.1	8.3	4.9
21-Jan	31.0	29.7	4.3	-5.1	-25.0	22.4	29.3	7.4	4.2
28-Jan	30.0	29.7	5.0	-4.0	-29.0	23.1	29.5	7.9	4.7
4-Feb	36.0	34.9	1.3	-8.2	-31.0	29.4	37.1	6.9	3.9
11-Feb	34.0	32.1	2.8	-6.4	-32.0	25.9	33.6	7.6	4.3
18-Feb	34.0	32.2	2.5	-7.0	-34.0	26.6	33.2	7.3	4.0
25-Feb	27.0	25.8	-1.4	-9.5	-32.0	18.2	25.4	5.1	3.1
4-Mar	33.0	30.9	4.1	-5.5	-33.0	24.5	32.7	7.4	4.1
11-Mar	31.0	29.0	3.0	-6.0	-35.0	23.8	30.8	7.2	4.3
18-Mar	31.0	29.8	1.6	-7.3	-25.0	21.0	30.7	5.9	3.5
25-Mar	33.0	31.4	4.4	-4.2	-24.0	24.5	31.6	7.3	4.4
1-Apr	30.0	28.4	9.0	-0.6	-24.0	20.3	28.3	7.9	4.7
8-Apr	32.0	30.5	9.1	0.3	-19.0	23.1	31.9	8.2	5.0
15-Apr	34.0	30.7	11.6	2.0	-20.0	25.2	31.6	9.0	5.6
22-Apr	36.0	34.0	16.7	8.1	-12.0	26.6	33.9	12.0	7.8
29-Apr	36.0	33.2	19.9	12.0	-4.0	28.0	32.6	13.5	9.3
6-May	39.0	35.8	23.4	16.3	-2.0	27.3	34.3	16.1	11.6
13-May	43.0	37.7	30.2	23.6	10.0	30.8	38.9	21.2	15.9
20-May	44.0	40.6	31.5	25.0	15.0	32.2	42.1	22.7	16.9
27-May	45.0	40.6	33.5	27.0	16.0	34.3	41.3	23.7	18.5
3-Jun	48.0	43.3	35.3	29.2	21.0	38.5	45.4	26.7	20.9
10-Jun	55.0	46.4	38.5	31.7	25.0	41.3	45.9	29.7	23.3
17-Jun	58.0	49.7	42.5	34.4	27.0	46.9	51.5	34.3	26.2
24-Jun	58.0	50.8	45.3	37.2	31.0	49.7	52.2	37.5	29.4
1-Jul	59.0	51.9	46.4	38.5	32.0	53.9	55.6	39.1	30.6
8-Jul	63.0	55.1	49.1	41.4	33.0	56.7	56.4	43.2	34.4
15-Jul	64.0	55.8	50.0	42.1	35.0	60.9	58.3	45.5	35.7
22-Jul	64.0	55.6	50.5	44.1	38.0	60.9	59.3	47.4	38.9
29-Jul	65.0	57.3	51.3	44.1	37.0	65.1	60.6	48.5	38.7
5-Aug	64.0	56.0	50.9	44.4	38.0	65.1	61.5	48.4	38.7
12-Aug	61.0	55.6	49.7	43.4	36.0	63.7	56.3	46.5	37.5
19-Aug	58.0	53.0	48.6	42.4	35.0	62.3	56.9	45.5	36.9
26-Aug	58.0	54.1	48.9	43.0	35.0	65.1	56.7	45.4	36.5
2-Sep	58.0	52.7	47.7	41.9	34.0	60.9	56.4	43.3	34.9
9-Sep	58.0	51.1	46.0	39.3	32.0	52.5	52.0	39.0	30.7
16-Sep	52.0	47.3	43.9	38.1	30.0	49.7	49.1	37.2	29.7
23-Sep	54.0	50.1	41.3	35.5	27.0	51.1	52.6	33.4	26.2
30-Sep	48.0	45.6	38.3	32.8	24.0	43.4	45.8	30.1	23.4
7-Oct	44.0	42.2	35.5	30.2	21.0	38.5	42.3	27.0	20.7
14-Oct	41.0	40.2	32.0	26.8	17.0	35.7	40.6	23.7	17.7
21-Oct	40.0	39.1	30.0	24.4	9.0	33.6	38.5	21.4	16.1
28-Oct	39.0	36.7	26.9	20.5	5.0	32.2	36.8	18.9	13.3
4-Nov	38.0	35.8	25.3	18.6	4.0	30.8	37.3	18.0	12.6
11-Nov	37.0	35.8	23.3	16.1	-3.0	30.1	35.8	16.6	11.3
18-Nov	33.0	32.0	19.4	11.9	-9.0	26.6	32.8	13.7	9.1
25-Nov	35.0	32.2	15.9	8.1	-14.0	26.6	33.2	11.8	7.5
2-Dec	35.0	33.5	13.0	4.0	-14.0	27.3	34.0	10.5	6.2
9-Dec	34.0	32.6	10.0	0.5	-18.0	26.6	33.3	8.7	5.4
16-Dec	27.0	25.6	5.4	-3.5	-20.0	18.2	25.7	6.6	4.0
23-Dec	37.0	34.9	9.2	-0.6	-21.0	26.6	35.1	8.9	5.4
31-Dec	33.0	31.3	10.2	0.9	-24.0	25.9	31.8	10.3	6.2



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1666
FEB	0	1597
MAR	0	1640
APR	0	1396
MAY	0	1018
JUN	0	704
JUL	0	509
AUG	0	508
SEP	0	663
OCT	0	970
NOV	0	1234
DEC	0	1538
ANN	0	13443

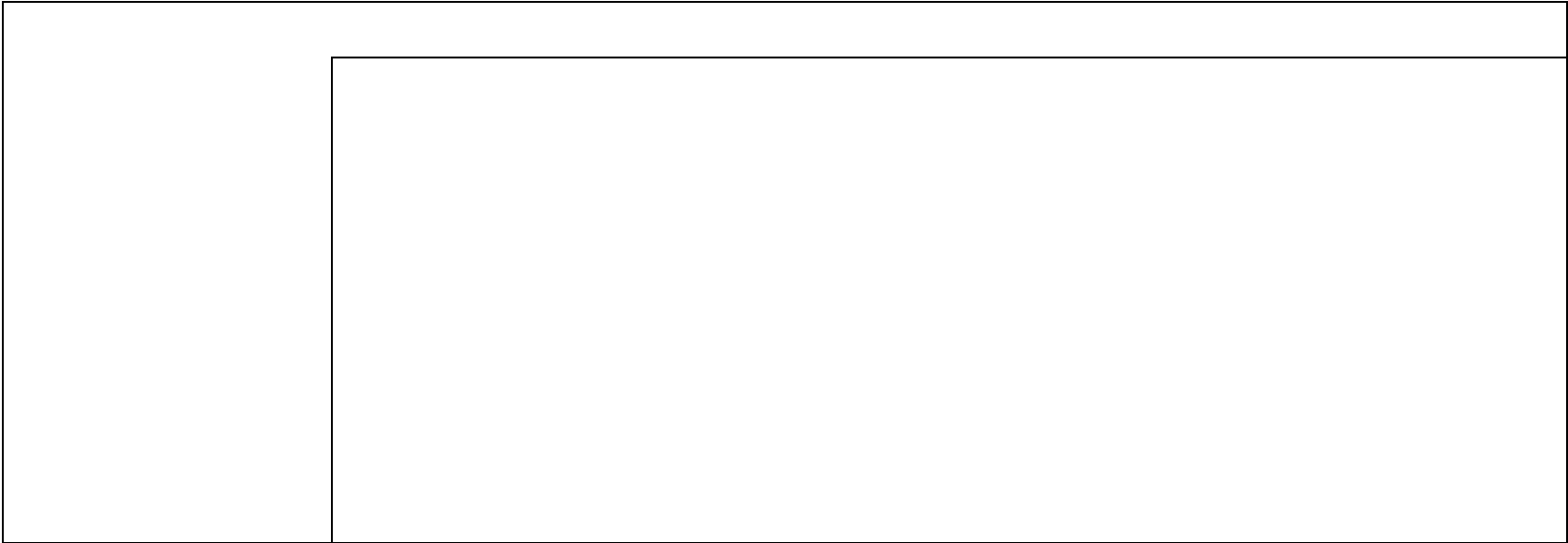
Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	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	0	-45253	0	-7802
FEB	0	-43211	0	-7450
MAR	0	-44443	0	-7691
APR	0	-38137	0	-6760
MAY	0	-28484	0	-4079
JUN	0	-20270	0	-1056
JUL	0	-15293	0	-64
AUG	0	-15246	0	-137
SEP	0	-19199	0	-1017
OCT	0	-27170	0	-3898
NOV	0	-33906	0	-5946
DEC	0	-41820	0	-7239
ANN	0	-372432	0	-53139

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

No Solar Radiation
Data Available

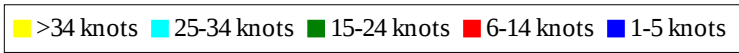
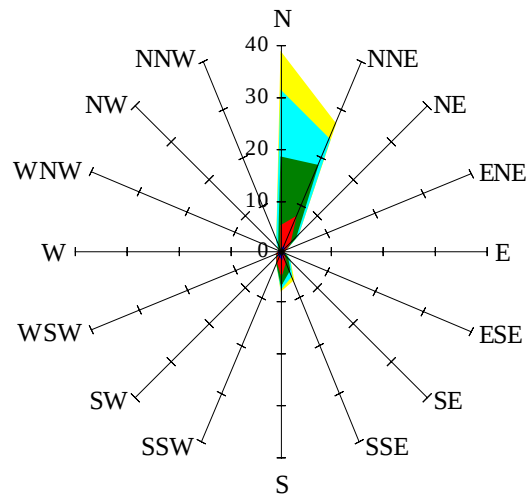


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

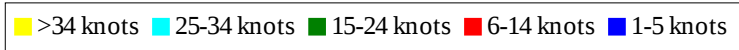
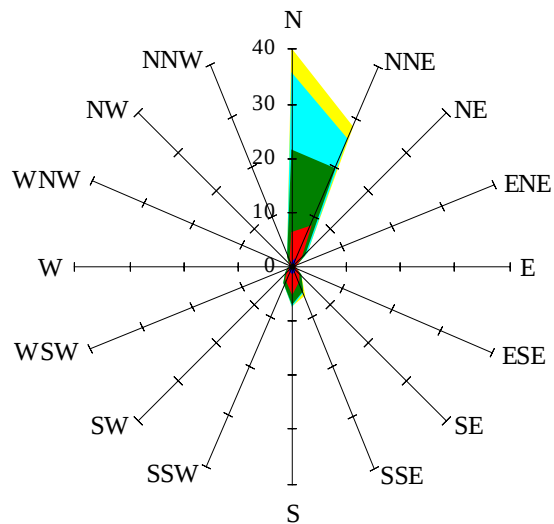
Labels of Percent Frequency on North Axis



Percent Calm = 5.53

Wind Summary - March, April, and May

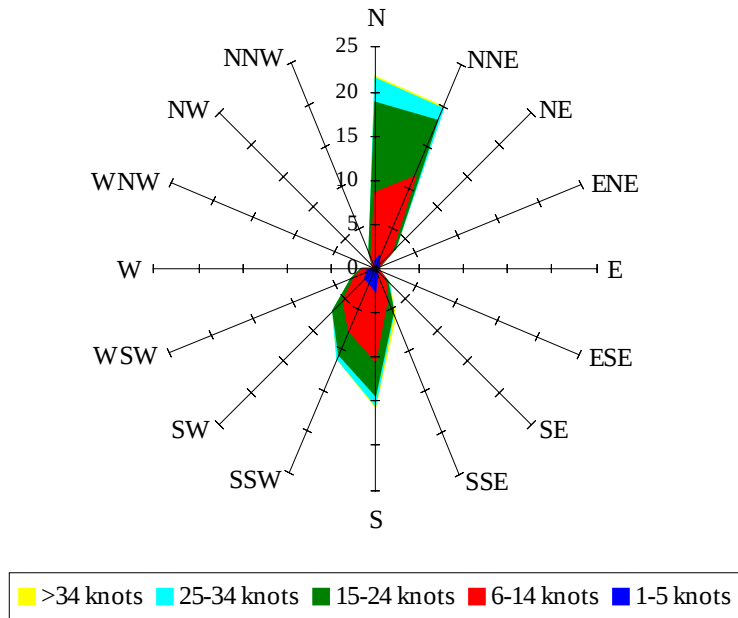
Labels of Percent Frequency on North Axis



Percent Calm = 4.30

Wind Summary - June, July, and August

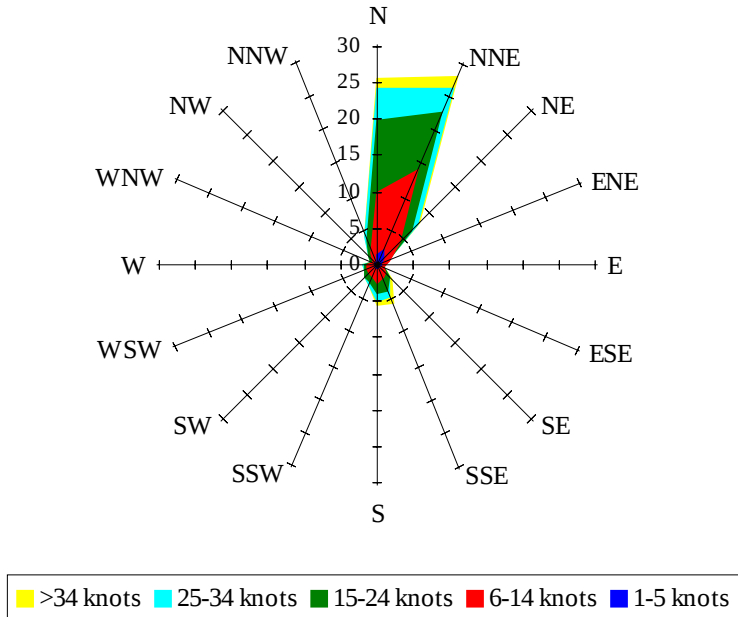
Labels of Percent Frequency on North Axis



Percent Calm = 5.31

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 5.12