

FROBISHER/IQALUIT CN

Latitude = 63.75 N

WMO No. 719090

Longitude = 68.53 W

Elevation = 112 feet

Period of Record = 1973 to 1996

Average Pressure = 29.69 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	68	54	42	14.6	NW
0.4% Occurrence	61	51	39	12.2	NW
1.0% Occurrence	56	48	38	10.5	NW
2.0% Occurrence	54	47	37	9.9	NW
Mean Daily Range	12	-	-	-	-
97.5% Occurrence	-33	-33	1	6.5	NW
99.0% Occurrence	-38	-38	1	4.7	NW
99.6% Occurrence	-40	-40	1	3.7	NW
Median of Extreme Lows	-44	-44	0	2.4	NW
	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	56	67	49	15.1	NW
0.4% Occurrence	51	58	43	11.5	NW
1.0% Occurrence	49	55	41	10.1	NW
2.0% Occurrence	47	52	39	8.9	NW
	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	51	55	0.34	10.4	NW
0.4% Occurrence	47	54	0.32	11.0	NW
1.0% Occurrence	44	52	0.30	9.1	NW
2.0% Occurrence	41	50	0.28	8.4	NW
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
1	N/A	N/A	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 (#)
17.2	N/A	N/A	31

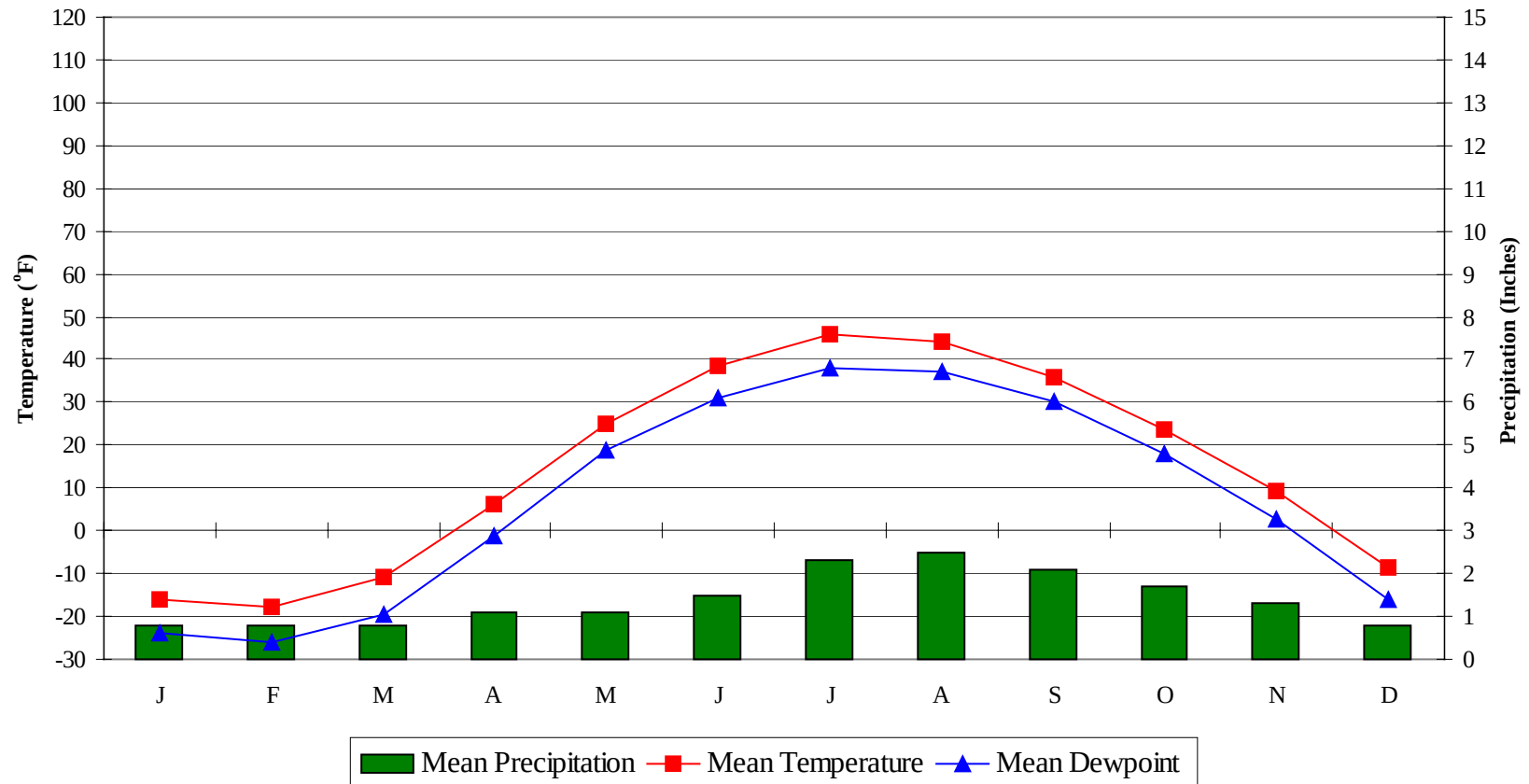
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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Average Annual Climate

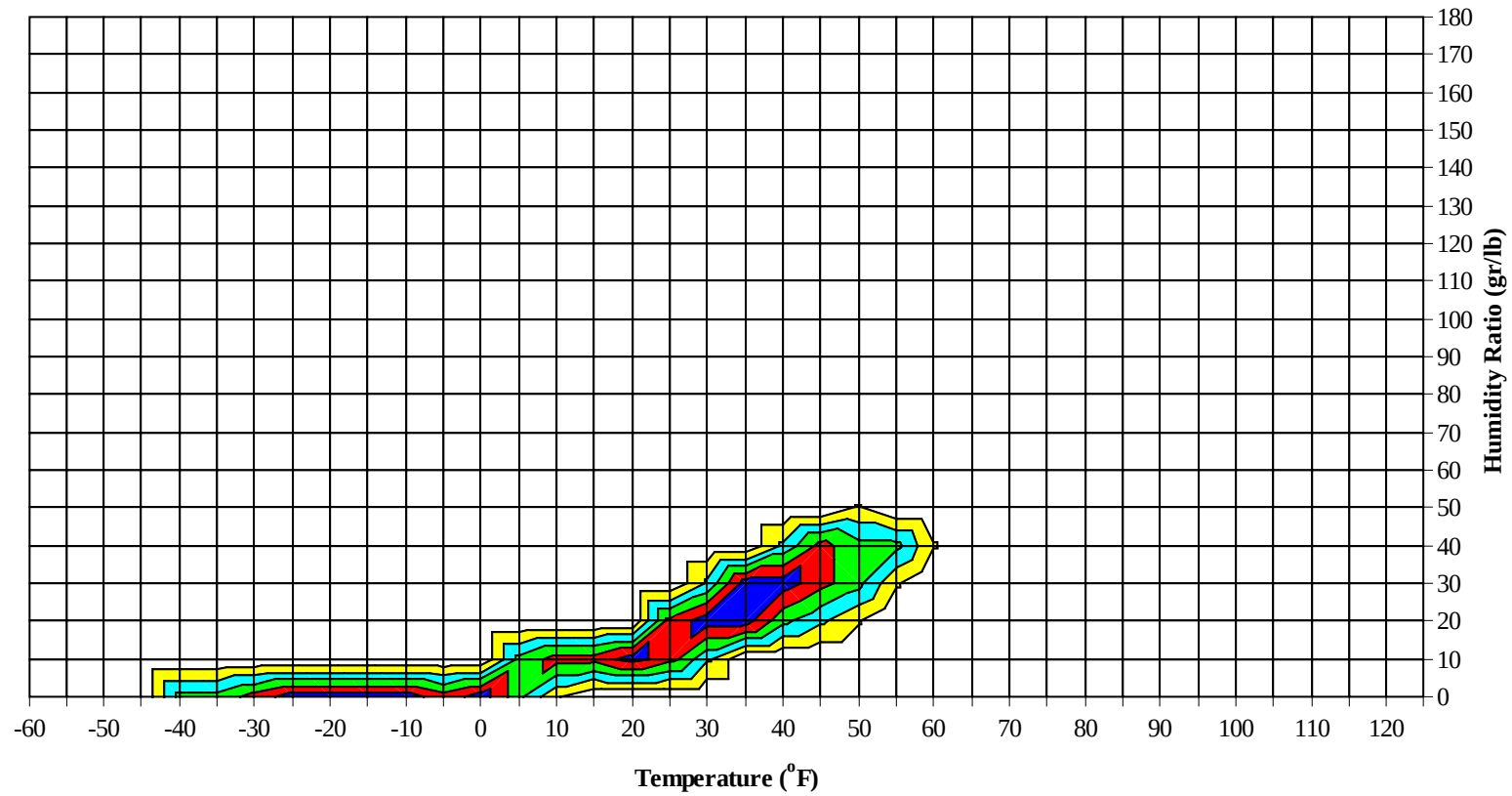


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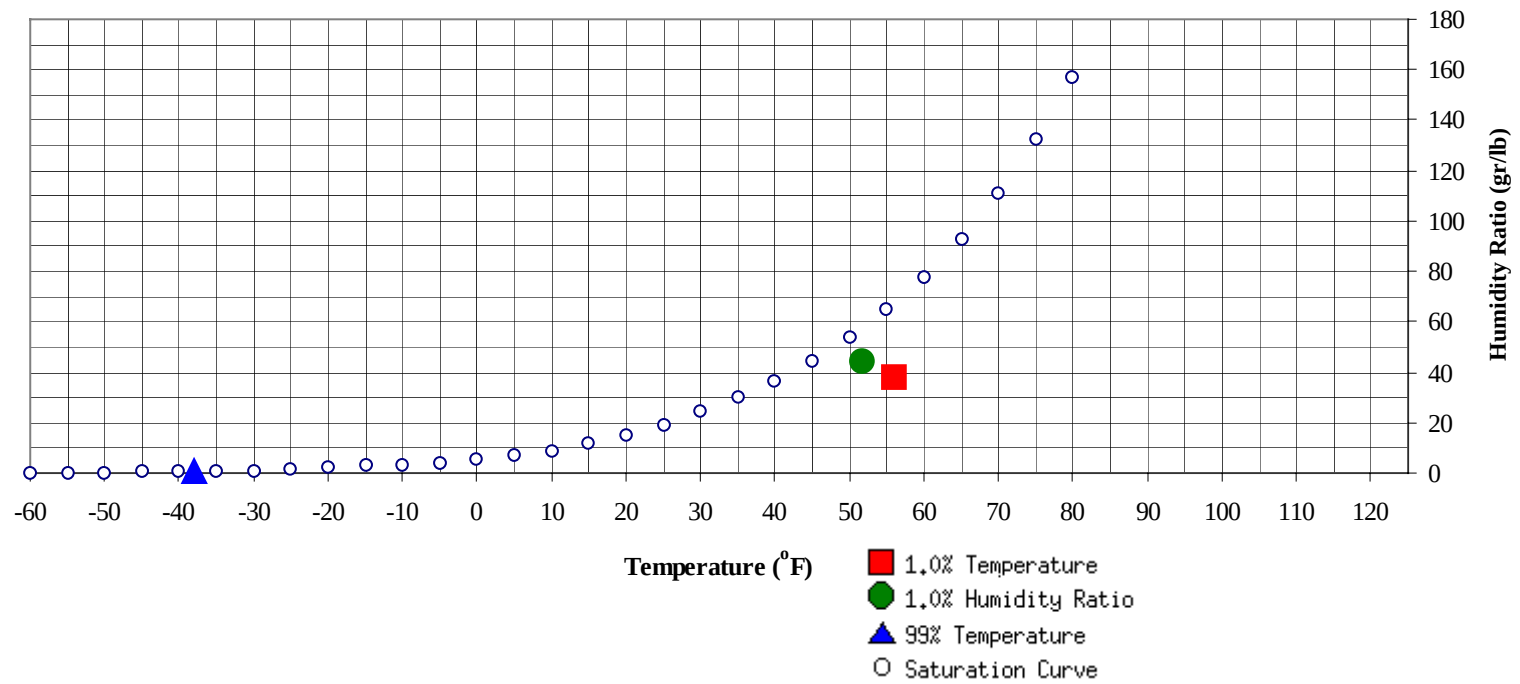
WMO No. 719090

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)
	-38	0.7	-9.0		44.1	51.7	48	44.6	19.2

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	56	38.1	48.3	19.4

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

Period of Record = 1973 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		
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59															
50 / 54															
45 / 49															
40 / 44															
35 / 39	0	0	0	0	32.6	0	0	0	0	32.4	0	0	0	0	33.9
30 / 34	2	1	2	5	30.3	0	0	0	0	30.2	1	2	1	4	29.5
25 / 29	1	2	2	5	25.2	1	1	2	4	23.7	4	5	4	13	24.5
20 / 24	4	3	2	9	20.2	1	1	2	4	19.6	4	5	5	14	21.0
15 / 19	6	7	7	20	16.0	3	4	4	11	15.7	6	10	7	23	16.4
10 / 14	9	7	6	22	10.8	7	6	4	17	10.7	9	10	10	29	11.1
5 / 9	10	9	11	30	5.5	6	8	7	21	5.6	11	13	12	36	5.9
0 / 4	14	15	16	45	0.4	9	11	10	30	0.4	13	22	15	50	0.3
-5 / -1	11	13	10	34	-3.9	11	12	10	33	-3.9	11	19	17	47	-3.9
-10 / -6	18	21	20	59	-8.3	15	19	20	54	-8.3	22	37	26	85	-8.4
-15 / -11	23	19	17	59	-12.6	17	24	17	58	-12.7	24	33	28	85	-12.7
-20 / -16	32	31	34	97	-17.1	30	32	32	94	-17.2	39	42	45	126	-17.1
-25 / -21	38	37	38	113	-22.4	35	34	33	102	-22.4	42	32	41	115	-22.2
-30 / -26	34	39	35	108	-27.5	32	36	35	103	-27.5	34	14	26	74	-27.3
-35 / -31	23	20	21	64	-31.9	23	15	20	58	-32.0	17	4	9	30	-31.9
-40 / -36	19	16	21	56	-36.4	21	14	18	53	-36.4	9	1	3	13	-35.8
-45 / -41	6	5	5	16	-41.1	11	5	9	25	-41.4	1	0	0	1	-40.9
-50 / -46	1	1	0	2	-45.7	2	0	1	3	-45.4	0		0	0	-46.7
-55 / -51						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 (Sheet 2 of 5)

Period of Record = 1973 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		
75 / 79															
70 / 74													0	0	57.0
65 / 69													0	0	53.4
60 / 64													3	1	50.2
55 / 59												0	8	4	47.6
50 / 54												3	19	11	44.5
45 / 49						0	1	1	2	39.5	13	37	26	77	41.3
40 / 44			0	0	37.0	1	7	2	10	37.0	30	49	37	117	38.2
35 / 39	1	4	2	7	33.3	16	38	25	80	33.7	93	89	96	278	34.7
30 / 34	8	12	10	30	30.3	51	65	62	178	30.3	80	30	55	165	30.8
25 / 29	14	19	18	51	25.0	53	53	53	159	24.9	18	4	8	30	25.7
20 / 24	12	16	12	40	20.9	35	31	34	100	20.4	2	0	1	3	20.5
15 / 19	18	26	25	69	16.0	39	31	35	105	16.2	0		0	0	17.2
10 / 14	28	35	29	92	10.9	25	16	21	62	11.0					
5 / 9	23	36	29	88	5.7	17	4	10	31	6.2					
0 / 4	26	39	36	101	0.4	9	1	3	13	0.9					
-5 / -1	26	21	23	70	-3.9	2	0	1	3	-3.5					
-10 / -6	33	21	29	83	-8.1	1			1	-6.9					
-15 / -11	21	7	14	42	-12.5										
-20 / -16	21	3	9	33	-16.7										
-25 / -21	8	0	2	10	-22.0										
-30 / -26	2		0	2	-26.5										
-35 / -31															
-40 / -36															
-45 / -41															
-50 / -46															
-55 / -51															

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

Period of Record = 1973 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		
75 / 79						0			0	62.5					
70 / 74	0	2	1	3	55.5	1	0	1	1	57.1					
65 / 69	0	3	1	4	53.8	1	1	2	2	53.9					
60 / 64	0	11	6	17	51.5	0	6	3	9	51.5					
55 / 59	3	29	17	49	48.6	2	18	9	29	48.6		0	0	0	47.3
50 / 54	22	63	43	128	45.8	11	49	29	89	45.9	0	6	1	7	43.8
45 / 49	67	76	81	224	42.6	51	84	73	208	42.6	4	27	13	44	41.4
40 / 44	83	41	57	181	39.7	85	57	78	221	39.6	24	48	30	101	38.6
35 / 39	69	23	40	132	36.7	92	30	52	174	36.5	86	99	97	282	35.1
30 / 34	4	1	1	6	33.0	7	1	3	11	31.6	94	49	77	219	30.5
25 / 29						0		0	0	27.3	26	10	19	55	25.2
20 / 24											6	1	4	11	20.7
15 / 19											0	0	0	0	18.1
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															
-40 / -36															
-45 / -41															
-50 / -46															
-55 / -51															

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

Period of Record = 1973 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		
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59															
50 / 54															
45 / 49		0		0	40.7										
40 / 44	0	2	1	3	37.7	0		0	0	37.3					
35 / 39	14	20	13	47	34.0	1	2	2	5	33.6	0	0	0	0	32.8
30 / 34	58	72	62	191	30.0	12	13	12	37	29.6	2	2	2	6	30.5
25 / 29	65	65	65	195	24.9	27	27	26	80	24.8	4	4	4	12	24.5
20 / 24	34	27	32	93	20.5	23	23	20	66	20.4	4	6	6	16	20.5
15 / 19	30	27	33	90	16.4	32	33	32	97	16.2	10	11	11	32	16.2
10 / 14	20	16	17	53	11.2	28	27	29	84	11.0	15	15	13	43	11.1
5 / 9	13	11	12	36	6.1	29	30	29	88	6.0	18	18	18	54	5.8
0 / 4	8	6	8	22	0.9	26	23	23	72	0.6	23	21	24	68	0.5
-5 / -1	3	1	4	8	-3.8	17	16	15	48	-3.8	18	16	15	49	-3.9
-10 / -6	3	1	2	6	-7.5	19	22	22	63	-8.0	28	28	27	83	-8.2
-15 / -11	0	0	0	0	-12.3	10	10	13	33	-12.4	23	24	24	71	-12.7
-20 / -16	0			0	-16.0	10	9	10	29	-16.8	35	37	35	107	-17.1
-25 / -21						5	4	5	14	-22.1	31	28	33	92	-22.3
-30 / -26						2	1	2	5	-26.7	22	22	22	66	-27.3
-35 / -31						0		0	0	-31.7	8	8	8	24	-31.7
-40 / -36											6	6	7	19	-36.2
-45 / -41											1	0	1	2	-41.0
-50 / -46															
-55 / -51															

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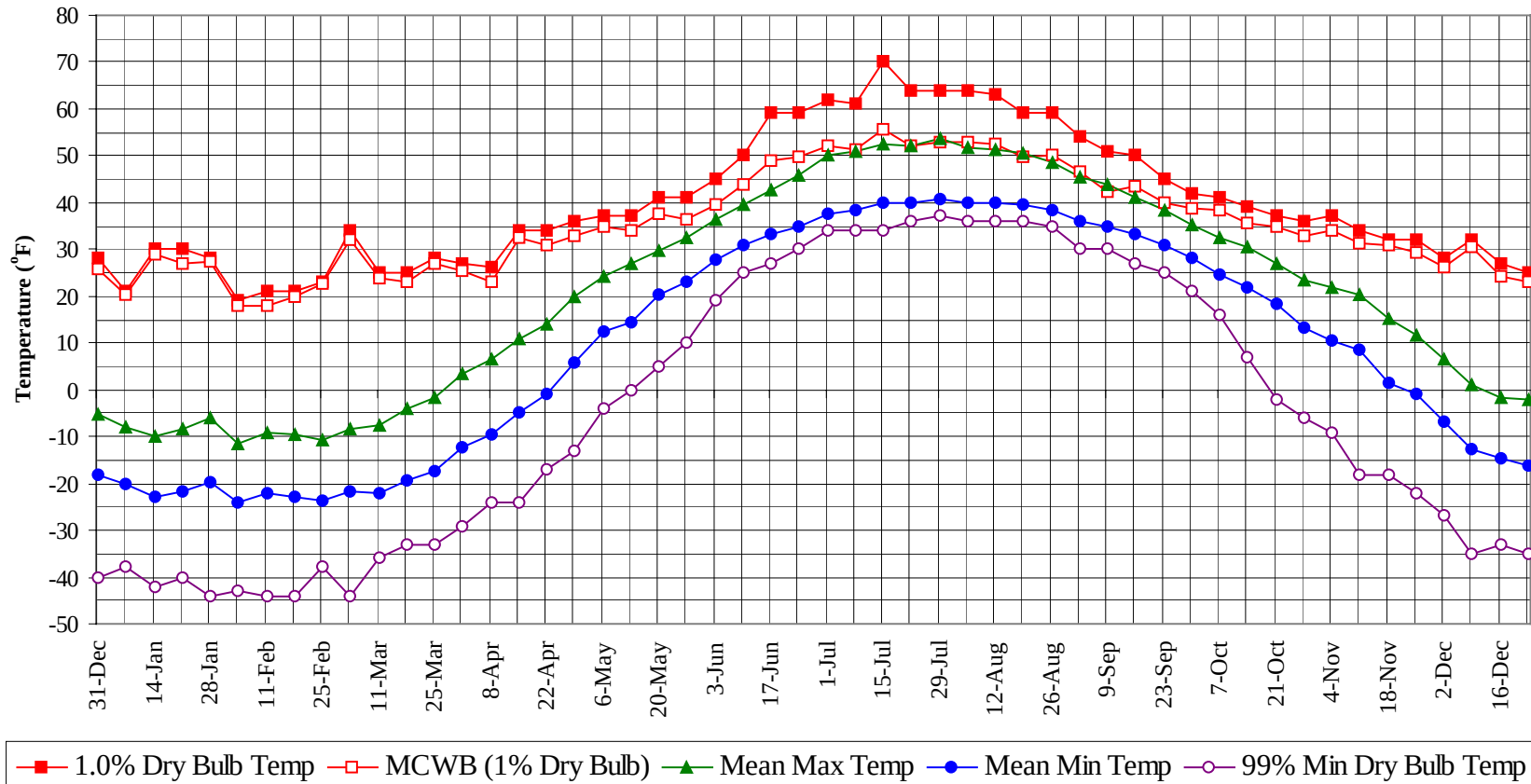
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

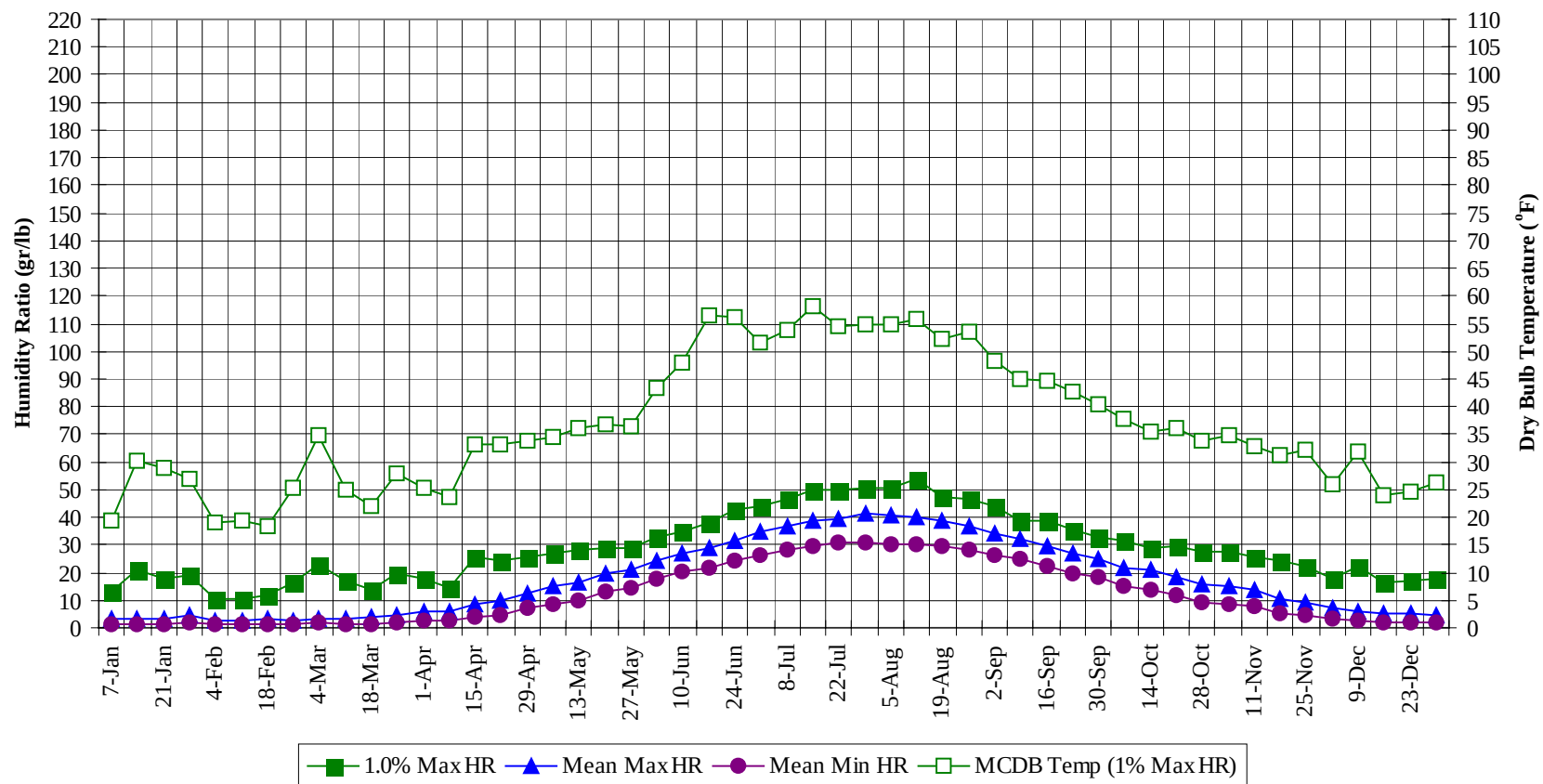
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
75 / 79	0			0	62.5
70 / 74	0	2	1	3	55.9
65 / 69	0	5	2	7	53.8
60 / 64	1	19	11	31	51.3
55 / 59	4	56	30	90	48.5
50 / 54	36	137	84	256	45.6
45 / 49	134	225	193	552	42.3
40 / 44	222	203	206	631	39.2
35 / 39	371	304	326	1002	35.3
30 / 34	317	248	287	853	30.4
25 / 29	214	190	202	606	25.0
20 / 24	125	115	117	357	20.5
15 / 19	144	150	154	448	16.2
10 / 14	140	132	131	403	11.0
5 / 9	126	129	128	383	5.9
0 / 4	128	139	136	403	0.5
-5 / -1	99	98	94	291	-3.9
-10 / -6	138	150	145	433	-8.2
-15 / -11	118	118	112	348	-12.6
-20 / -16	168	156	165	489	-17.1
-25 / -21	158	137	153	448	-22.3
-30 / -26	124	112	119	355	-27.4
-35 / -31	71	47	58	176	-31.9
-40 / -36	56	38	49	143	-36.3
-45 / -41	19	11	16	46	-41.2
-50 / -46	4	1	2	7	-45.7
-55 / -51	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.

Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

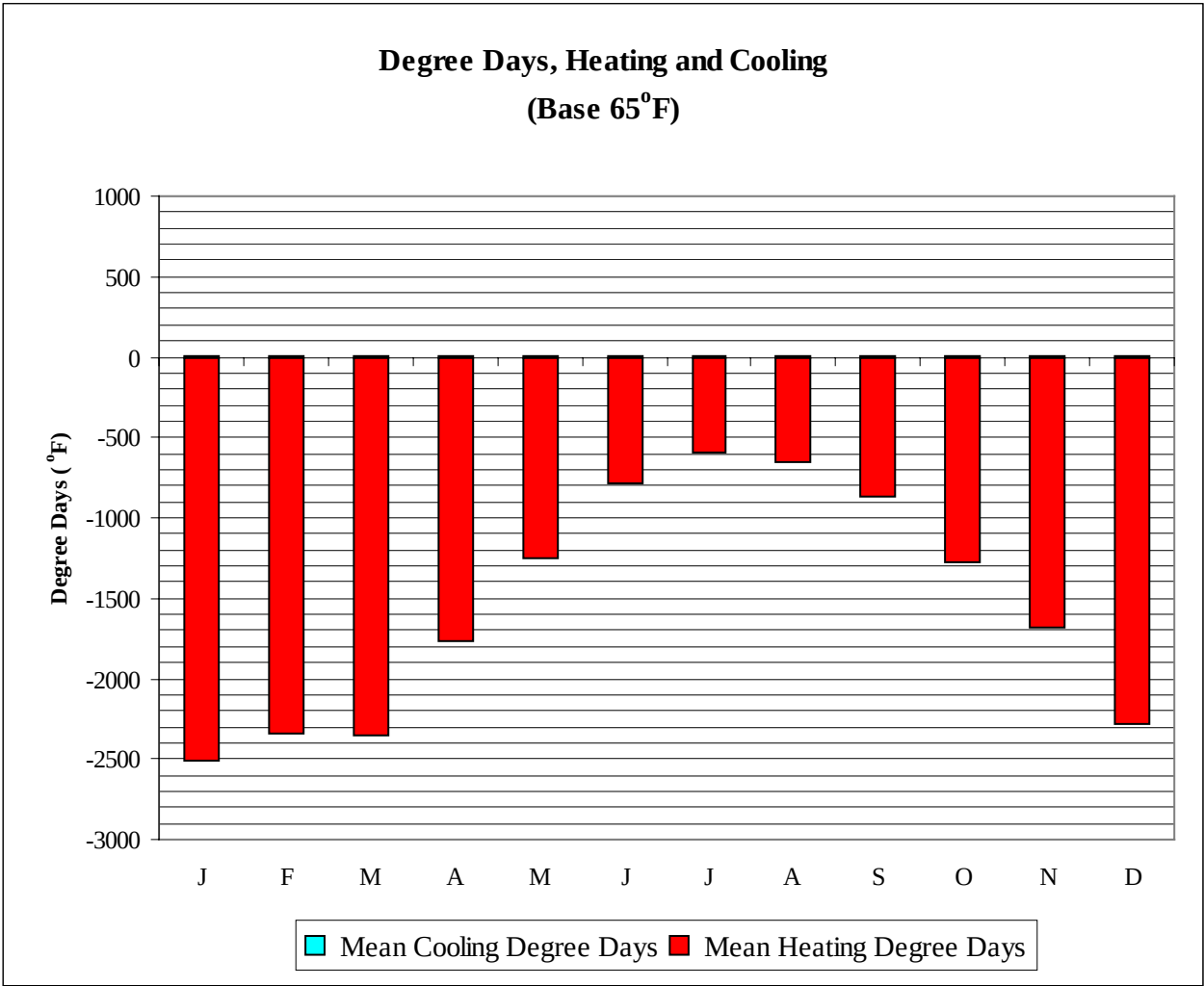


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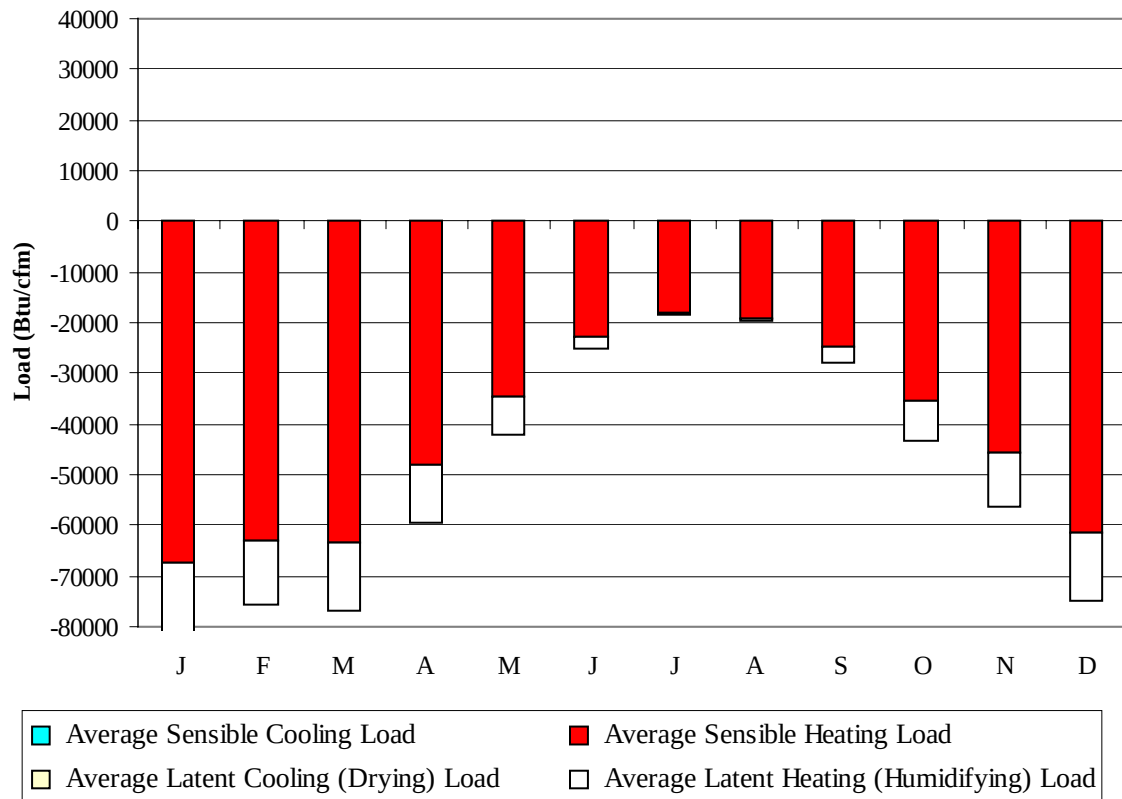
Long Term Dry Bulb Temperature and Humidity Summary

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	21.0	20.4	-8.1	-20.0	-38.0	13.3	19.4	3.5	1.6
14-Jan	30.0	29.0	-10.1	-23.1	-42.0	21.0	30.1	3.4	1.5
21-Jan	30.0	27.0	-8.5	-21.8	-40.0	17.5	28.8	3.5	1.5
28-Jan	28.0	27.4	-6.1	-19.6	-44.0	18.9	26.9	4.5	2.1
4-Feb	19.0	17.8	-11.5	-23.9	-43.0	10.5	19.2	2.5	1.3
11-Feb	21.0	18.1	-9.2	-22.1	-44.0	10.5	19.2	2.9	1.4
18-Feb	21.0	20.1	-9.5	-22.7	-44.0	11.9	18.2	3.0	1.4
25-Feb	23.0	22.8	-10.9	-23.8	-38.0	16.1	25.2	2.8	1.3
4-Mar	34.0	32.0	-8.4	-21.8	-44.0	23.1	34.9	3.5	1.8
11-Mar	25.0	23.7	-7.4	-22.3	-36.0	16.8	25.1	3.4	1.5
18-Mar	25.0	22.9	-3.9	-19.3	-33.0	14.0	22.2	3.9	1.6
25-Mar	28.0	27.2	-1.8	-17.3	-33.0	19.6	27.9	4.7	2.1
1-Apr	27.0	25.3	3.4	-12.3	-29.0	17.5	25.2	5.6	2.6
8-Apr	26.0	23.0	6.7	-9.7	-24.0	14.7	23.6	6.2	2.7
15-Apr	34.0	32.5	10.7	-4.7	-24.0	25.9	33.2	8.5	4.1
22-Apr	34.0	31.0	14.1	-1.0	-17.0	24.5	33.3	9.8	4.7
29-Apr	36.0	32.8	20.1	5.9	-13.0	25.9	33.9	12.8	7.1
6-May	37.0	34.8	24.2	12.4	-4.0	26.6	34.6	15.0	8.7
13-May	37.0	33.9	26.8	14.4	0.0	28.0	36.3	16.7	9.7
20-May	41.0	37.4	29.9	20.2	5.0	28.7	36.6	19.7	13.0
27-May	41.0	36.2	32.6	23.2	10.0	28.7	36.6	20.7	14.4
3-Jun	45.0	39.5	36.5	28.0	19.0	32.9	43.3	24.3	17.5
10-Jun	50.0	43.9	39.5	31.0	25.0	35.0	47.9	26.8	20.5
17-Jun	59.0	48.8	42.8	33.1	27.0	37.8	56.3	28.7	21.9
24-Jun	59.0	49.9	45.8	35.0	30.0	42.7	56.2	31.6	24.5
1-Jul	62.0	52.3	50.1	37.6	34.0	44.1	51.5	34.8	26.5
8-Jul	61.0	51.3	50.9	38.5	34.0	46.9	53.7	37.0	28.1
15-Jul	70.0	55.7	52.5	39.8	34.0	49.7	58.2	39.0	29.8
22-Jul	64.0	52.1	52.0	40.0	36.0	49.7	54.6	39.6	30.6
29-Jul	64.0	52.8	53.8	40.9	37.0	50.4	54.8	41.2	30.7
5-Aug	64.0	53.1	51.5	39.9	36.0	50.4	54.8	40.4	30.2
12-Aug	63.0	52.5	51.5	39.9	36.0	53.9	55.7	39.8	30.4
19-Aug	59.0	49.6	50.6	39.5	36.0	47.6	52.1	38.5	29.4
26-Aug	59.0	50.1	48.5	38.2	35.0	46.9	53.6	36.7	28.1
2-Sep	54.0	46.8	45.5	35.9	30.0	44.1	48.4	34.0	26.0
9-Sep	51.0	42.3	44.0	35.0	30.0	38.5	44.9	32.3	25.0
16-Sep	50.0	43.7	41.3	33.1	27.0	38.5	44.6	29.7	22.5
23-Sep	45.0	40.1	38.4	30.7	25.0	35.7	42.5	26.7	19.7
30-Sep	42.0	38.8	35.3	28.2	21.0	32.9	40.4	24.8	18.1
7-Oct	41.0	38.2	32.3	24.7	16.0	31.5	37.8	21.8	15.0
14-Oct	39.0	35.7	30.6	21.8	7.0	28.7	35.6	20.8	13.7
21-Oct	37.0	34.9	27.1	18.5	-2.0	29.4	36.3	18.5	12.0
28-Oct	36.0	33.0	23.4	13.4	-6.0	27.3	33.8	15.6	9.5
4-Nov	37.0	34.0	22.1	10.5	-9.0	27.3	34.9	14.8	8.4
11-Nov	34.0	31.2	20.3	8.7	-18.0	25.9	32.8	13.6	7.8
18-Nov	32.0	30.8	15.2	1.5	-18.0	24.5	31.2	10.8	5.5
25-Nov	32.0	29.4	11.8	-1.0	-22.0	22.4	32.1	9.4	4.7
2-Dec	28.0	26.0	6.5	-6.8	-27.0	17.5	26.1	7.5	3.6
9-Dec	32.0	30.4	1.0	-12.8	-35.0	22.4	31.7	5.7	2.5
16-Dec	27.0	24.3	-1.7	-14.8	-33.0	16.1	23.8	4.9	2.2
23-Dec	25.0	23.2	-2.2	-16.1	-35.0	16.8	24.5	5.0	2.2
31-Dec	28.0	25.9	-5.4	-18.3	-40.0	17.5	26.1	4.3	2.1



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	2509
FEB	0	2345
MAR	0	2351
APR	0	1768
MAY	0	1248
JUN	0	790
JUL	1	596
AUG	0	648
SEP	0	870
OCT	0	1280
NOV	0	1679
DEC	0	2283
ANN	1	18367

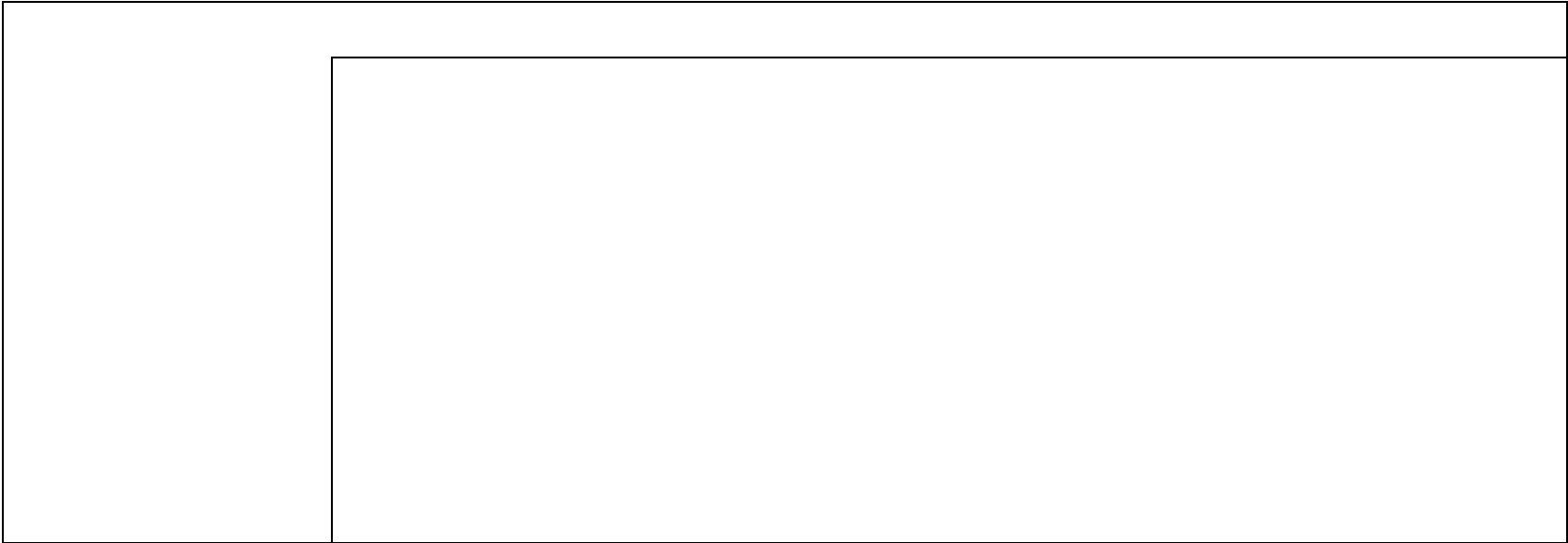
Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	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	-67441	0	-13786
FEB	0	-62974	0	-12661
MAR	0	-63342	0	-13585
APR	0	-48150	0	-11175
MAY	0	-34750	0	-7391
JUN	0	-22788	0	-2523
JUL	0	-17837	0	-394
AUG	0	-19214	0	-571
SEP	0	-24879	0	-2985
OCT	0	-35580	0	-7568
NOV	0	-45841	0	-10667
DEC	0	-61575	0	-13417
ANN	0	-504371	0	-96723

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

No Solar Radiation
Data Available

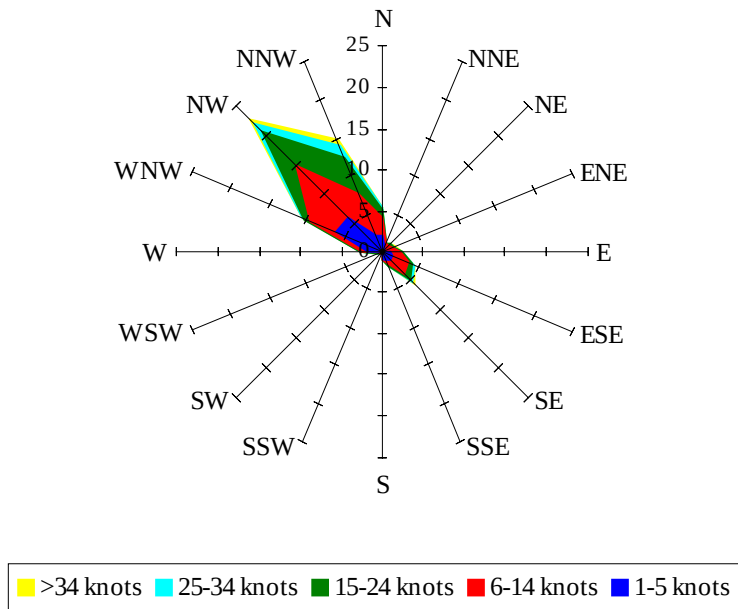


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

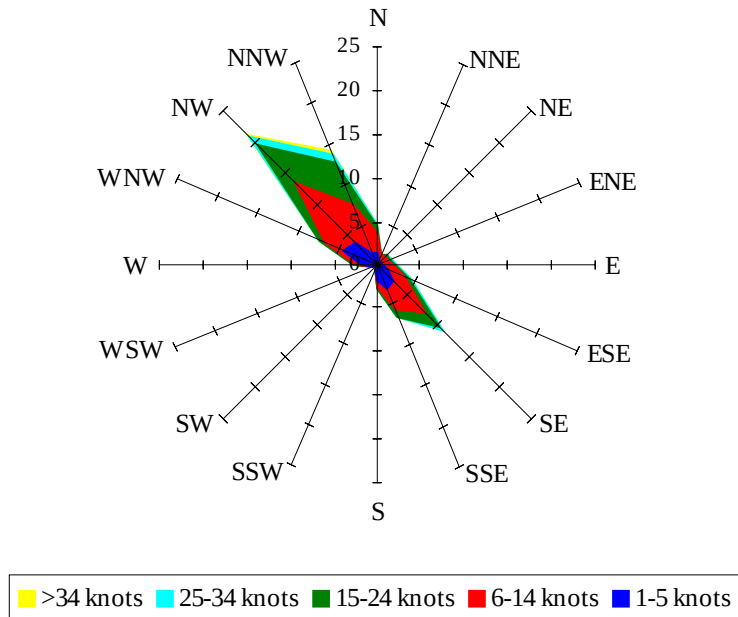
Labels of Percent Frequency on North Axis



Percent Calm = 24.12

Wind Summary - March, April, and May

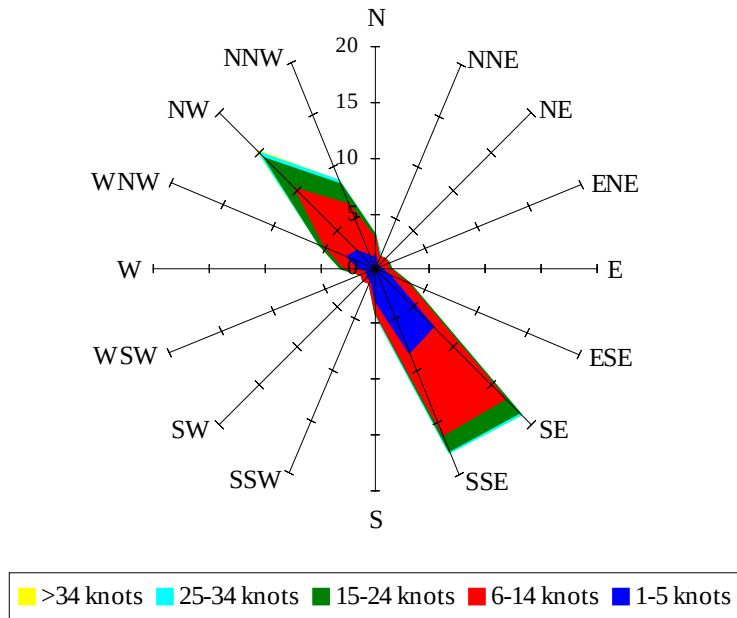
Labels of Percent Frequency on North Axis



Percent Calm = 17.72

Wind Summary - June, July, and August

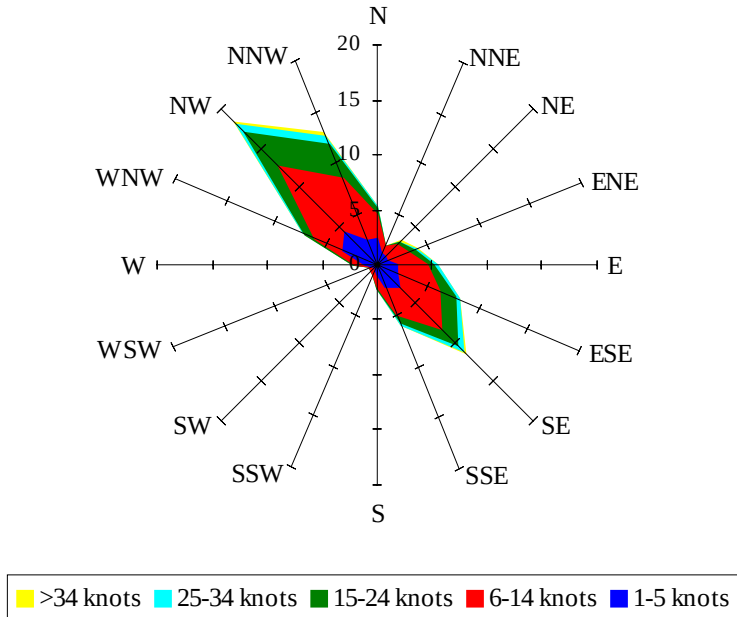
Labels of Percent Frequency on North Axis



Percent Calm = 11.34

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 9.95