

YELLOWKNIFE CN

Latitude = 62.47 N

Longitude = 114.40 W

Period of Record = 1973 to 1996

WMO No. 719360

Elevation = 676 feet

Average Pressure = 29.18 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	82	62	55	10.0	S
0.4% Occurrence	77	60	54	9.5	S
1.0% Occurrence	73	58	51	9.2	SSE
2.0% Occurrence	72	58	51	9.3	SSE
Mean Daily Range	15	-	-	-	-
97.5% Occurrence	-34	-34	1	5.5	NW
99.0% Occurrence	-38	-38	1	4.9	NW
99.6% Occurrence	-42	-42	0	4.7	NW
Median of Extreme Lows	-45	-44	0	4.2	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	65	77	73	8.7	SSE
0.4% Occurrence	62	73	66	9.0	SSE
1.0% Occurrence	61	71	64	8.8	SSE
2.0% Occurrence	59	69	60	8.6	SSE
	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	82	69	0.54	5.9	SSE
0.4% Occurrence	73	66	0.47	7.7	SSE
1.0% Occurrence	68	65	0.44	7.9	SSE
2.0% Occurrence	63	63	0.42	8.0	SSE
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	15	0	1

Other Site Data

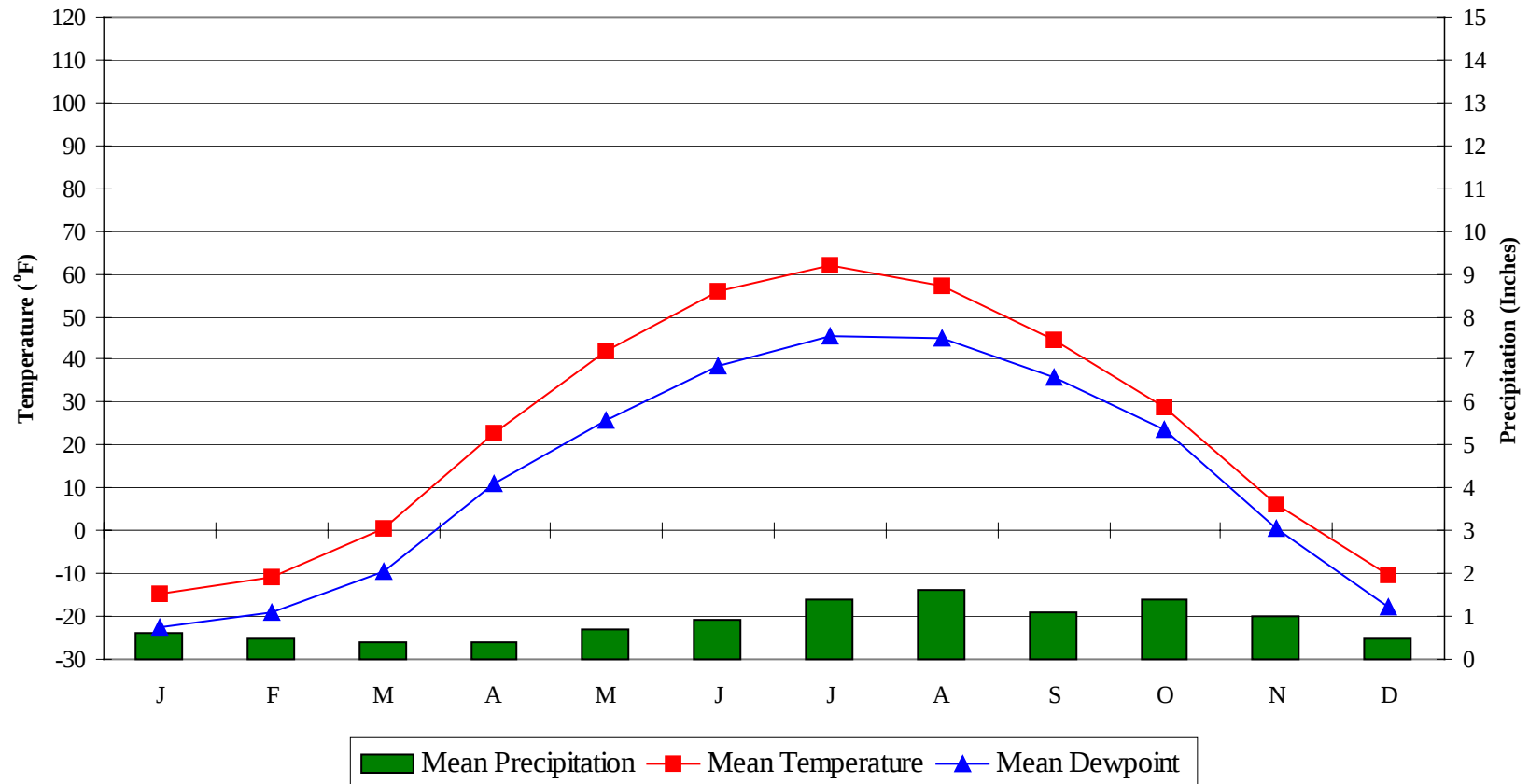
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
1	N/A	N/A	0.0 + 0.0
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
26.2	N/A	N/A	32

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

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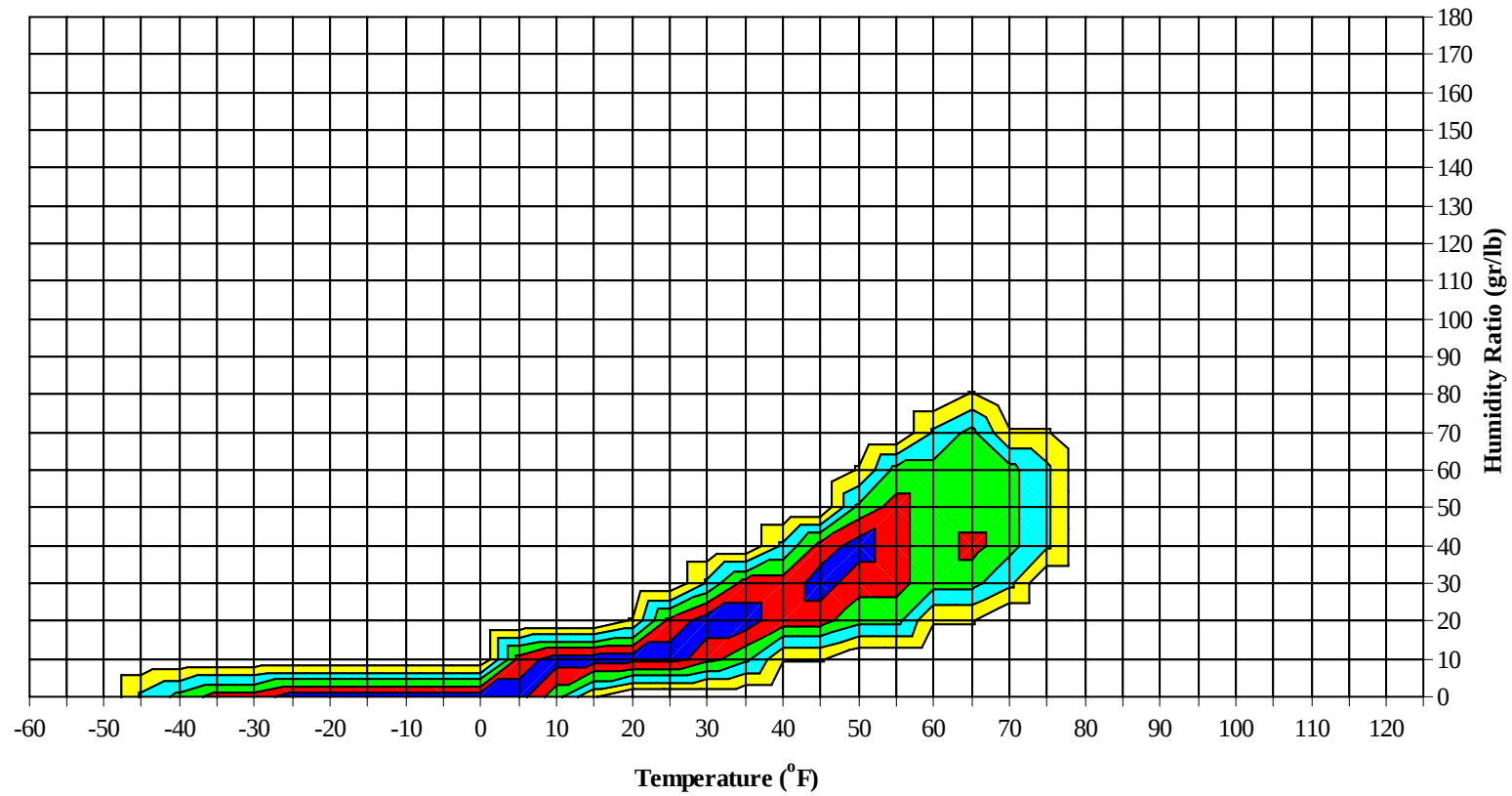
Average Annual Climate



YELLOWKNIFE CN

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Long Term Psychrometric Summary

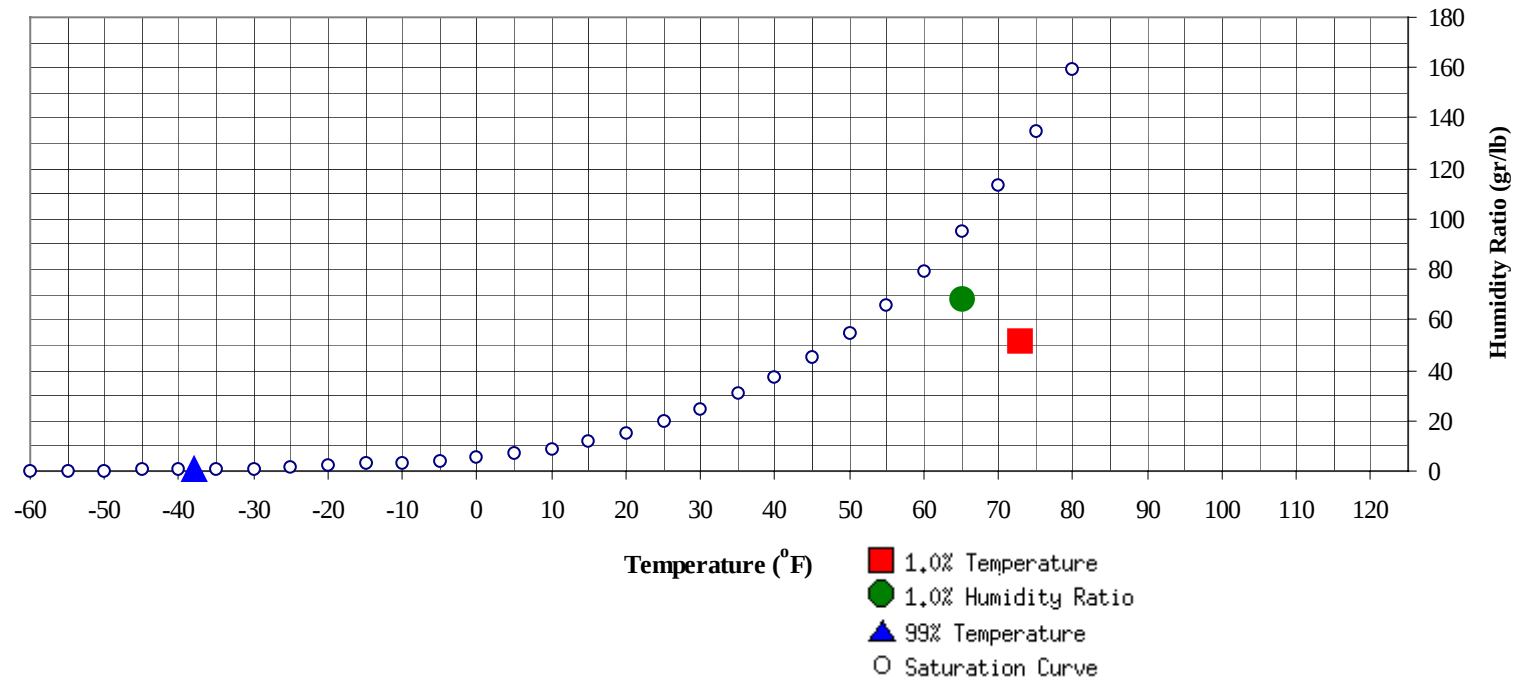


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

YELLOWKNIFE CN

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Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
99% Dry Bulb	-38	0.6	-9.0		67.9	65.1	59.2	55.4	26.2

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	73	51.4	58.4	25.5

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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		
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59															
50 / 54															
45 / 49												0	0	0	36.9
40 / 44							0		0	34.0		1	1	2	34.5
35 / 39	0			0	32.0	0	1	1	2	31.5	0	2	2	4	31.8
30 / 34	0	1	0	1	27.6	1	1	1	3	28.1	1	7	6	14	27.7
25 / 29	1	1	1	3	24.6	1	2	1	4	24.2	5	14	12	31	23.2
20 / 24	1	1	1	3	20.1	2	2	3	7	20.0	6	13	13	32	19.5
15 / 19	4	4	4	12	15.9	7	9	9	25	15.4	16	24	23	63	15.3
10 / 14	7	9	8	24	10.8	10	17	14	41	10.6	19	28	28	75	10.2
5 / 9	14	15	13	42	5.6	18	23	20	61	5.5	24	29	27	80	5.2
0 / 4	21	21	23	65	0.5	21	20	24	65	0.4	27	36	32	95	0.2
-5 / -1	20	18	19	57	-3.9	14	16	18	48	-3.9	20	25	24	69	-4.0
-10 / -6	27	29	29	85	-8.2	23	24	21	68	-8.4	30	28	29	87	-8.3
-15 / -11	20	22	21	63	-12.8	15	20	19	54	-12.9	21	16	18	55	-12.8
-20 / -16	29	31	27	87	-17.0	21	27	26	74	-17.1	30	13	19	62	-17.1
-25 / -21	25	23	25	73	-22.3	22	24	26	72	-22.3	23	7	9	39	-22.1
-30 / -26	24	27	27	78	-27.6	23	19	21	63	-27.5	15	3	4	22	-27.3
-35 / -31	15	16	18	49	-32.0	15	9	11	35	-31.9	4	1	2	7	-31.9
-40 / -36	19	17	19	55	-36.5	19	8	8	35	-36.4	4	1	0	5	-36.2
-45 / -41	14	9	10	33	-41.5	8	3	3	14	-41.1	1	0		1	-41.4
-50 / -46	5	2	2	9	-46.5	2	1	0	3	-45.0					
-55 / -51	1	0	0	1	-51.0	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.

YELLOWKNIFE CN

WMO No. 719360

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		
90 / 94															
85 / 89												0		0	62.0
80 / 84												1	1	2	60.8
75 / 79							0	0	0	56.8		9	6	15	58.2
70 / 74							3	2	5	54.6		1	21	15	37
65 / 69						0	6	5	11	52.3	4	32	23	59	53.5
60 / 64		1	0	1	48.2	2	16	11	29	48.6	20	54	52	126	51.4
55 / 59		2	1	3	45.0	6	35	24	65	45.8	50	51	56	157	48.6
50 / 54	0	5	3	8	41.6	14	38	40	92	43.0	69	36	43	148	45.2
45 / 49	1	13	10	24	38.1	30	42	43	115	39.4	53	22	30	105	41.3
40 / 44	3	17	16	36	35.3	34	31	33	98	36.2	24	8	8	40	37.6
35 / 39	15	34	34	83	32.1	57	36	39	132	32.6	17	4	6	27	34.5
30 / 34	29	34	34	97	28.2	47	21	27	95	28.2	2		0	2	29.4
25 / 29	35	37	39	111	23.5	30	11	12	53	23.5					
20 / 24	25	24	25	74	19.3	11	5	5	21	19.2					
15 / 19	30	29	25	84	15.2	8	4	4	16	15.2					
10 / 14	29	18	22	69	10.3	5	1	2	8	10.4					
5 / 9	28	11	12	51	5.5	3	0	0	3	5.5					
0 / 4	15	8	8	31	0.3	1		0	1	1.3					
-5 / -1	8	3	4	15	-4.0										
-10 / -6	9	3	4	16	-8.5										
-15 / -11	6	1	1	8	-12.6										
-20 / -16	5	0	1	6	-16.8										
-25 / -21	3	0	0	3	-22.2										
-30 / -26	1			1	-27.0										
-35 / -31	0			0	-30.0										
-40 / -36	0			0	-35.0										
-45 / -41															
-50 / -46															
-55 / -51															

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YELLOWKNIFE CN

WMO No. 719360

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		
90 / 94		0		0	66.0										
85 / 89		1	1	2	64.8		0	0	0	63.0					
80 / 84		5	3	8	62.5		2	2	4	63.0					
75 / 79	0	21	14	35	60.0		11	6	17	61.6					
70 / 74	4	50	37	91	57.6	2	21	16	39	59.4		1	0	1	57.0
65 / 69	14	48	43	105	55.9	8	30	23	61	57.1		3	1	4	55.7
60 / 64	63	63	68	194	53.8	29	60	52	142	54.6	0	9	6	15	52.8
55 / 59	86	39	54	179	50.9	67	58	66	191	51.4	5	28	19	52	50.3
50 / 54	63	18	25	106	47.3	70	43	50	164	47.4	24	55	47	126	46.9
45 / 49	17	3	4	24	43.3	47	16	25	88	42.9	63	62	67	192	43.0
40 / 44	1	0	0	1	38.4	17	5	6	28	38.7	53	36	42	131	38.9
35 / 39	0			0	37.0	7	1	1	9	35.2	55	28	35	118	34.7
30 / 34						1		0	1	29.9	28	13	17	58	29.6
25 / 29											9	5	5	19	24.4
20 / 24											3	0	1	4	20.5
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															
-45 / -41															
-50 / -46															
-55 / -51															

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WMO No. 719360

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		
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74															
65 / 69															
60 / 64		0	0	0	51.4										
55 / 59		1	0	1	49.5										
50 / 54	0	2	1	3	45.9										
45 / 49	3	10	6	19	42.1										
40 / 44	12	21	16	49	39.1	0	0		0	35.5					
35 / 39	43	51	52	146	35.0	1	2	2	5	34.4					
30 / 34	66	56	61	183	30.3	8	7	7	22	29.9	1	0	0	1	28.4
25 / 29	52	46	45	143	25.0	17	20	20	57	25.0	2	1	2	5	24.5
20 / 24	25	22	23	70	20.7	17	20	20	57	21.0	2	2	2	6	20.6
15 / 19	23	22	23	68	16.3	31	32	30	93	16.4	9	8	10	27	16.2
10 / 14	12	9	10	31	11.3	32	35	29	96	11.1	14	16	12	42	11.1
5 / 9	6	4	6	16	6.2	33	31	30	94	6.0	22	23	22	67	5.8
0 / 4	3	1	2	6	1.2	26	25	28	79	0.8	28	29	28	85	0.5
-5 / -1	1	1	1	3	-3.7	14	12	16	42	-3.8	19	21	19	59	-3.7
-10 / -6	2	1	2	5	-8.0	19	19	17	55	-8.1	24	26	28	78	-8.3
-15 / -11	0	0	0	0	-12.3	11	11	14	36	-12.6	21	20	21	62	-12.9
-20 / -16	0	0		0	-16.2	14	13	13	40	-17.0	27	26	25	78	-17.0
-25 / -21						9	7	8	24	-22.2	24	25	24	73	-22.3
-30 / -26						6	4	4	14	-27.2	24	23	25	72	-27.6
-35 / -31						1	1	1	3	-31.9	12	10	12	34	-31.9
-40 / -36						1	0	1	2	-35.6	13	12	11	36	-36.2
-45 / -41											7	4	6	17	-41.0
-50 / -46											1	1	1	3	-45.0
-55 / -51															

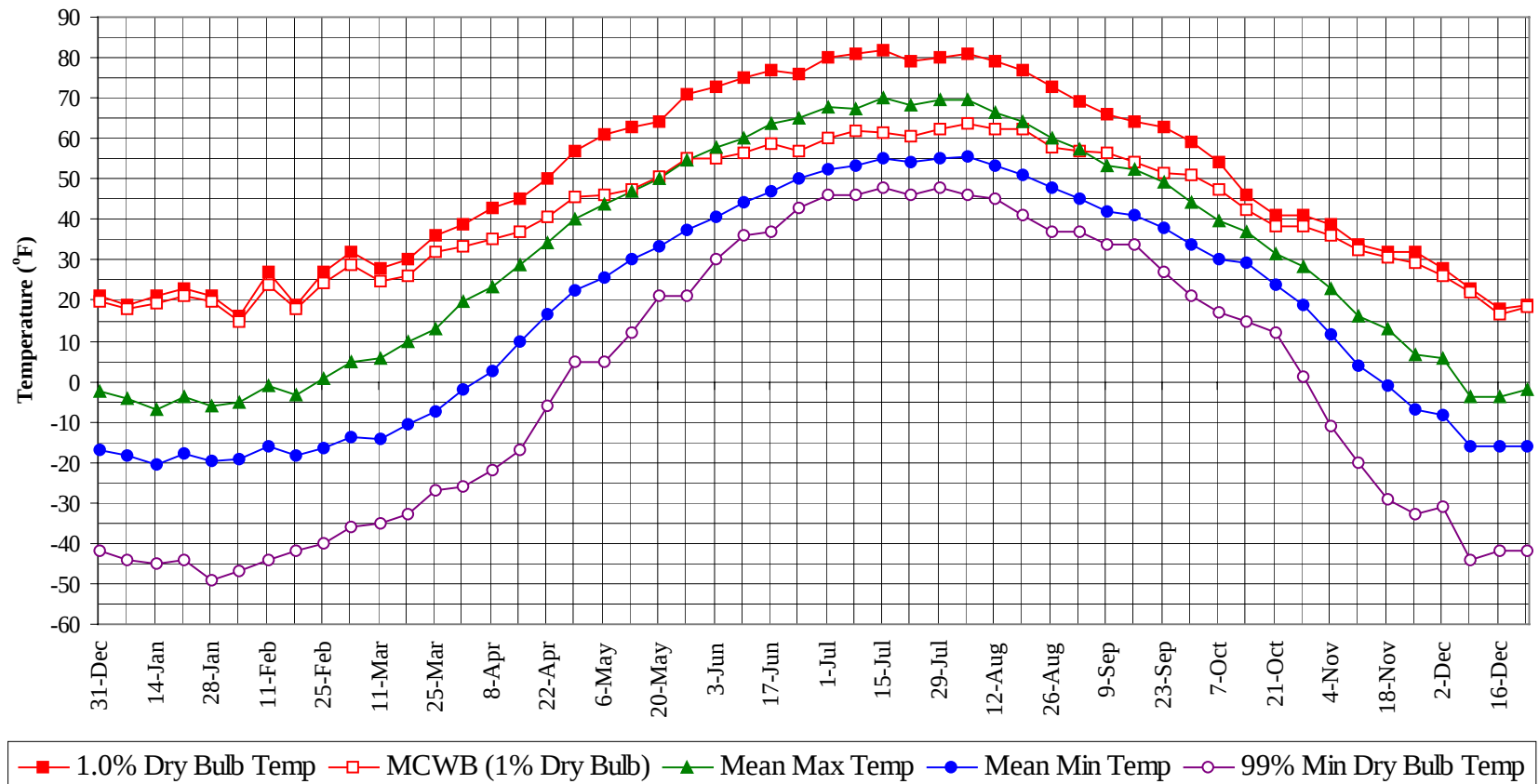
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YELLOWKNIFE CN**WMO No. 719360****Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)****Period of Record = 1973 to 1996**

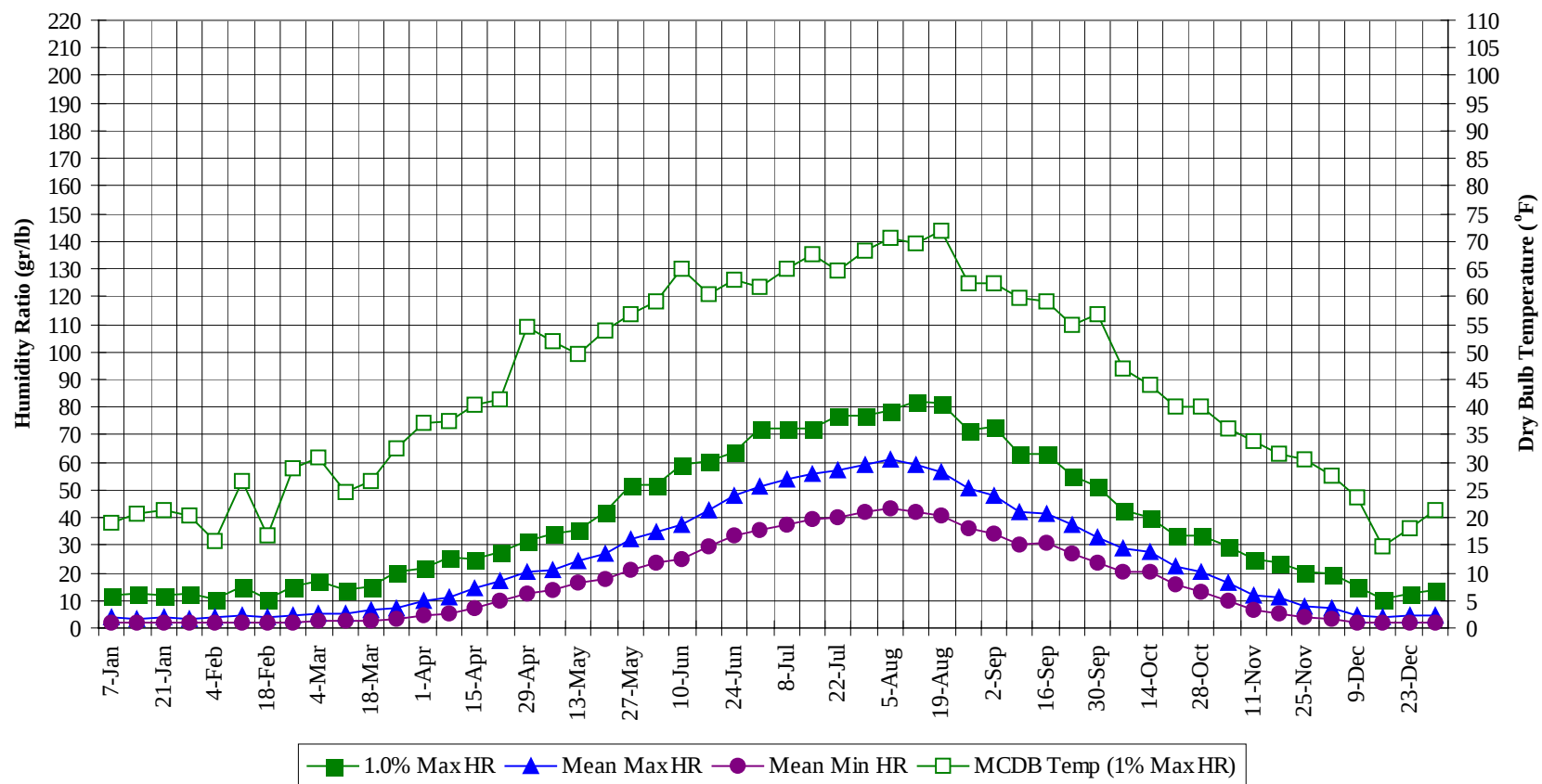
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
90 / 94	0			0	66.0
85 / 89	1			1	2 64.5
80 / 84	8			6	14 62.4
75 / 79	0	41	26	67	60.0
70 / 74	7	96	70	173	57.6
65 / 69	25	117	95	237	55.5
60 / 64	112	203	189	504	53.1
55 / 59	213	214	218	645	49.9
50 / 54	239	197	208	644	46.1
45 / 49	214	170	184	568	41.7
40 / 44	143	118	122	384	37.7
35 / 39	197	159	172	528	33.8
30 / 34	185	141	154	480	29.2
25 / 29	152	138	137	427	24.2
20 / 24	92	89	95	276	20.1
15 / 19	129	132	128	390	15.8
10 / 14	129	135	125	389	10.7
5 / 9	148	138	131	417	5.7
0 / 4	142	141	145	428	0.5
-5 / -1	96	96	100	293	-3.9
-10 / -6	133	130	130	394	-8.3
-15 / -11	94	89	94	277	-12.8
-20 / -16	126	110	111	348	-17.0
-25 / -21	107	86	93	286	-22.3
-30 / -26	93	76	81	250	-27.5
-35 / -31	47	37	43	127	-31.9
-40 / -36	56	38	40	134	-36.4
-45 / -41	30	16	19	65	-41.3
-50 / -46	8	3	3	14	-46.3
-55 / -51	1	0	0	1	-51.0

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Annual Summary of Temperatures

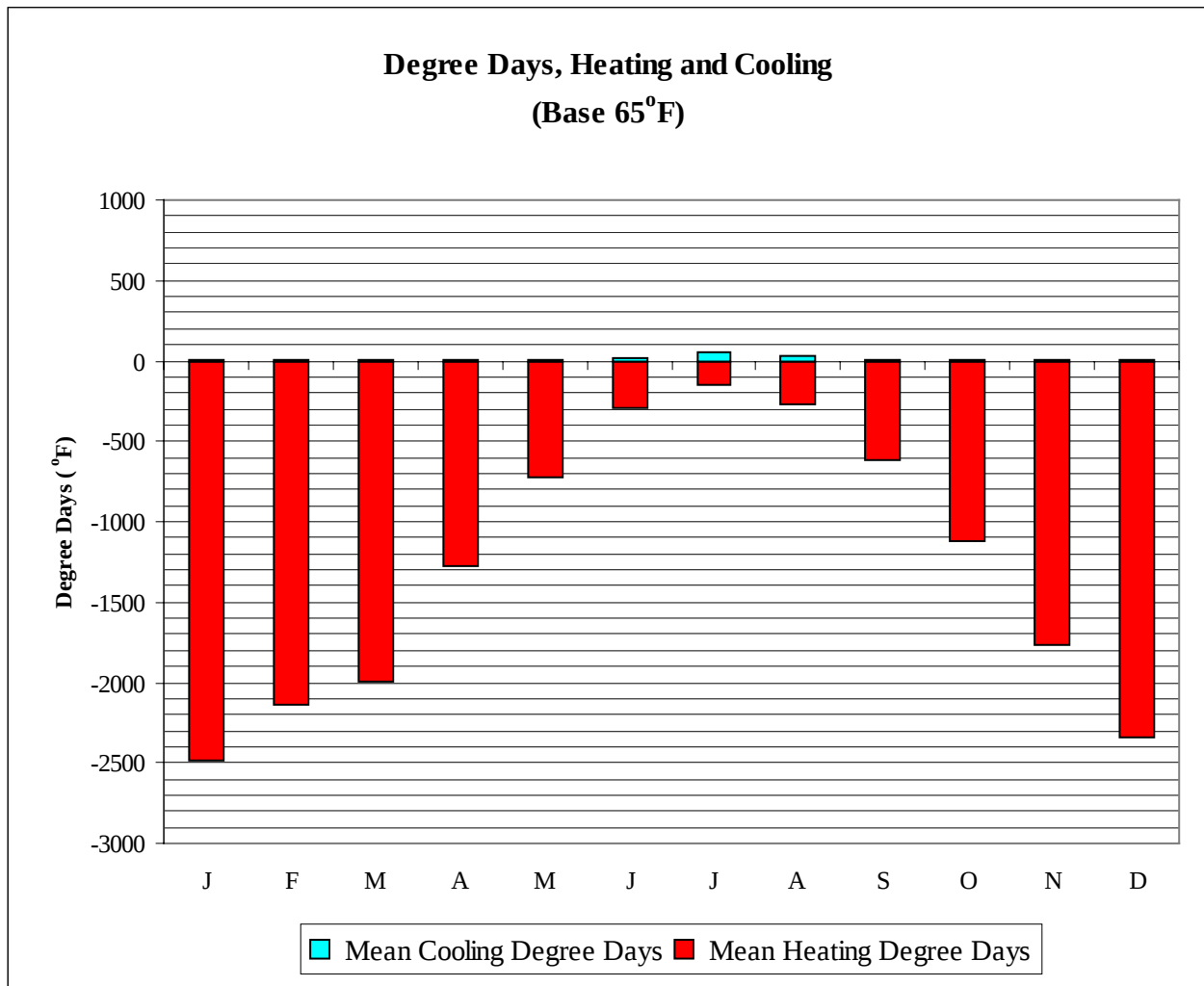


Long Term Humidity and Dry Bulb Temperature Summary



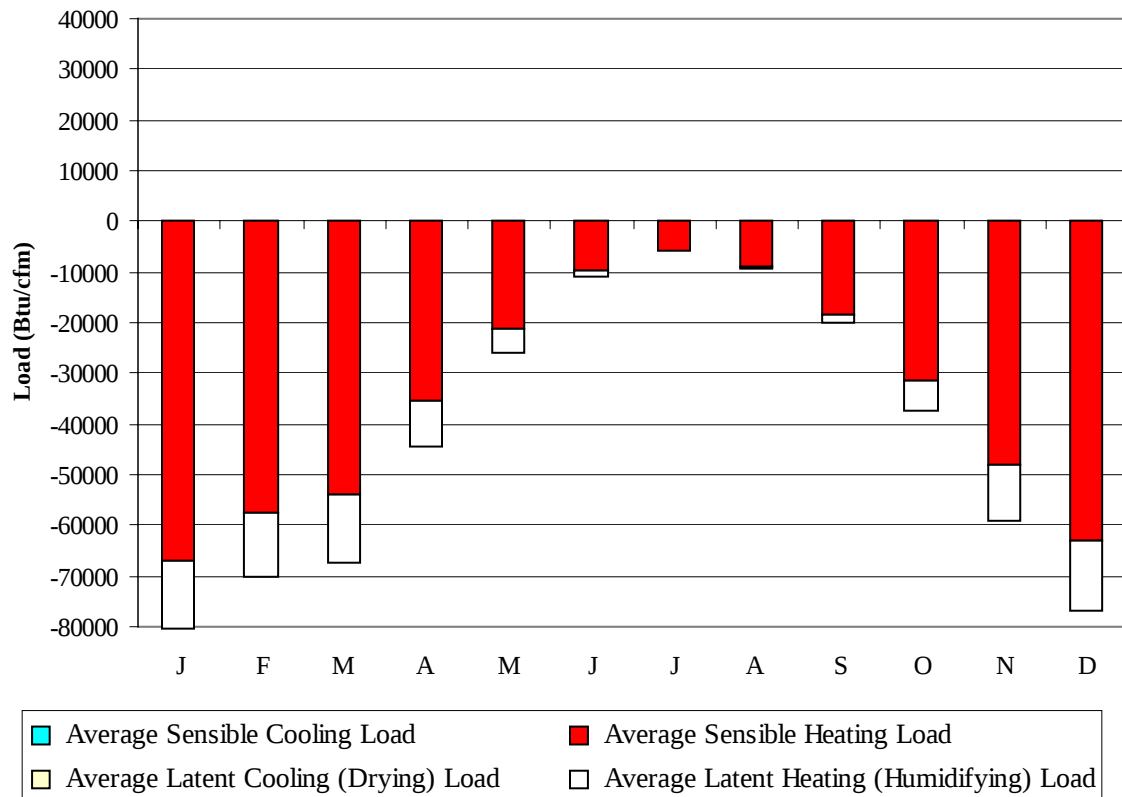
YELLOWKNIFE CN**WMO No. 719360****Long Term Dry Bulb Temperature and Humidity Summary**

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	19.0	17.8	-4.2	-18.1	-44.0	11.9	18.9	4.0	1.7
14-Jan	21.0	19.2	-7.2	-20.7	-45.0	12.6	20.6	3.6	1.7
21-Jan	23.0	21.0	-3.8	-17.9	-44.0	11.9	21.4	4.0	1.8
28-Jan	21.0	19.6	-6.0	-19.9	-49.0	12.6	20.4	3.4	1.8
4-Feb	16.0	14.6	-5.0	-19.0	-47.0	10.5	15.6	3.8	1.8
11-Feb	27.0	23.9	-1.2	-16.1	-44.0	15.4	26.6	4.9	2.2
18-Feb	19.0	17.7	-3.2	-18.4	-42.0	10.5	16.8	3.8	1.7
25-Feb	27.0	24.2	0.7	-16.5	-40.0	15.4	28.8	4.9	2.2
4-Mar	32.0	28.7	4.6	-13.7	-36.0	16.8	30.9	5.5	2.3
11-Mar	28.0	24.8	5.7	-14.0	-35.0	14.0	24.8	5.5	2.4
18-Mar	30.0	26.1	9.9	-10.6	-33.0	15.4	26.4	6.5	2.6
25-Mar	36.0	31.9	13.1	-7.6	-27.0	20.3	32.5	7.2	3.1
1-Apr	39.0	33.3	19.6	-2.0	-26.0	21.7	37.2	9.7	4.3
8-Apr	43.0	35.3	23.2	2.4	-22.0	25.9	37.4	11.3	5.2
15-Apr	45.0	37.1	28.8	9.6	-17.0	25.2	40.4	14.3	7.4
22-Apr	50.0	40.6	34.5	16.5	-6.0	27.3	41.5	17.1	9.8
29-Apr	57.0	45.5	40.1	22.6	5.0	31.5	54.4	20.1	12.3
6-May	61.0	46.3	43.6	25.7	5.0	34.3	51.7	21.2	13.7
13-May	63.0	47.5	46.9	30.2	12.0	35.7	49.6	24.6	16.4
20-May	64.0	50.4	50.2	33.2	21.0	42.0	53.8	26.8	17.8
27-May	71.0	55.0	54.8	37.6	21.0	51.8	56.9	31.9	21.3
3-Jun	73.0	55.1	57.8	40.5	30.0	51.8	59.0	35.1	23.9
10-Jun	75.0	56.7	60.1	44.2	36.0	58.8	65.1	37.7	25.3
17-Jun	77.0	58.7	63.7	47.1	37.0	60.2	60.5	42.4	29.7
24-Jun	76.0	57.0	65.3	49.9	43.0	63.7	63.2	48.2	33.4
1-Jul	80.0	60.0	67.8	52.6	46.0	72.1	61.8	51.2	35.5
8-Jul	81.0	62.0	67.4	53.3	46.0	72.1	65.1	53.6	37.3
15-Jul	82.0	61.6	69.9	55.2	48.0	72.1	67.7	56.1	39.4
22-Jul	79.0	60.7	68.3	54.4	46.0	77.0	64.6	57.1	40.1
29-Jul	80.0	62.5	69.7	55.2	48.0	77.0	68.2	59.2	42.1
5-Aug	81.0	63.7	69.7	55.4	46.0	79.1	70.5	60.8	43.3
12-Aug	79.0	62.2	66.4	53.1	45.0	81.9	69.6	59.2	42.2
19-Aug	77.0	62.2	64.2	50.9	41.0	81.2	71.8	56.3	40.5
26-Aug	73.0	57.9	60.0	47.6	37.0	71.4	62.5	50.5	36.1
2-Sep	69.0	57.0	57.3	45.0	37.0	72.8	62.4	47.7	34.0
9-Sep	66.0	56.7	53.3	41.8	34.0	63.0	59.8	42.2	30.4
16-Sep	64.0	54.1	52.3	41.2	34.0	63.0	59.0	41.6	30.9
23-Sep	63.0	51.4	49.0	37.8	27.0	55.3	54.7	37.5	26.9
30-Sep	59.0	51.0	44.2	34.0	21.0	51.1	56.7	32.6	23.5
7-Oct	54.0	47.4	39.6	30.4	17.0	42.7	47.1	28.9	20.1
14-Oct	46.0	42.3	37.0	29.1	15.0	39.9	44.0	27.7	20.2
21-Oct	41.0	38.5	31.7	24.0	12.0	33.6	40.1	22.4	15.8
28-Oct	41.0	38.3	28.5	18.8	1.0	33.6	40.1	20.1	13.2
4-Nov	39.0	35.9	22.8	11.6	-11.0	29.4	36.1	16.3	9.7
11-Nov	34.0	32.5	16.2	3.8	-20.0	25.2	33.9	12.0	6.4
18-Nov	32.0	30.7	13.1	-1.1	-29.0	23.8	31.5	11.1	5.5
25-Nov	32.0	29.5	6.4	-7.1	-33.0	20.3	30.4	7.7	3.9
2-Dec	28.0	26.3	5.5	-8.4	-31.0	19.6	27.7	7.4	3.5
9-Dec	23.0	21.8	-3.6	-16.1	-44.0	15.4	23.7	4.6	2.3
16-Dec	18.0	16.6	-3.8	-16.2	-42.0	10.5	14.7	4.2	2.0
23-Dec	19.0	18.2	-1.8	-15.9	-42.0	12.6	18.0	4.7	2.0
31-Dec	21.0	19.9	-2.6	-17.0	-42.0	14.0	21.3	4.7	2.2



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	2487
FEB	0	2140
MAR	0	1995
APR	0	1270
MAY	2	722
JUN	22	298
JUL	56	152
AUG	26	271
SEP	1	615
OCT	0	1121
NOV	0	1762
DEC	0	2344
ANN	107	15177

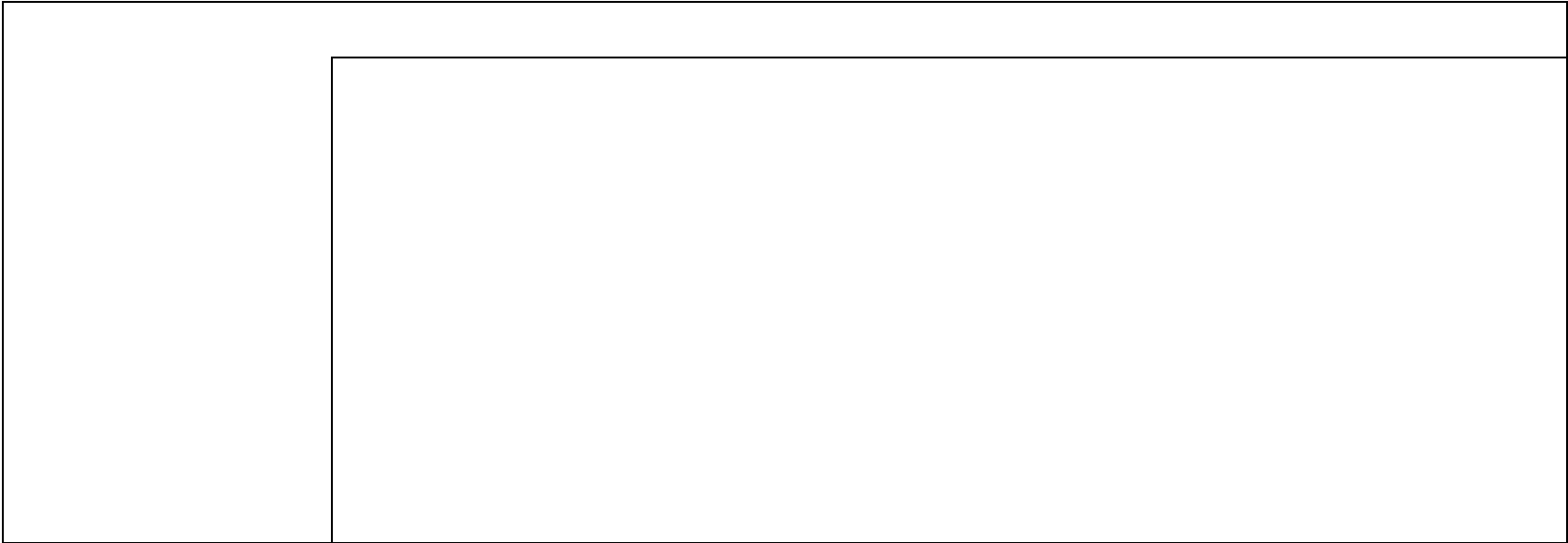
Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	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	-66869	0	-13704
FEB	0	-57658	0	-12468
MAR	0	-54131	0	-13140
APR	0	-35242	0	-9157
MAY	0	-21097	0	-4911
JUN	34	-9765	1	-1048
JUL	130	-5699	2	-95
AUG	51	-9118	8	-287
SEP	0	-18267	0	-1564
OCT	0	-31456	0	-5760
NOV	0	-47996	0	-11178
DEC	0	-63156	0	-13682
ANN	215	-420454	11	-86994

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

No Solar Radiation
Data Available

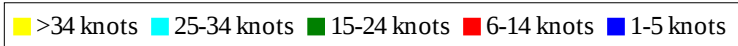
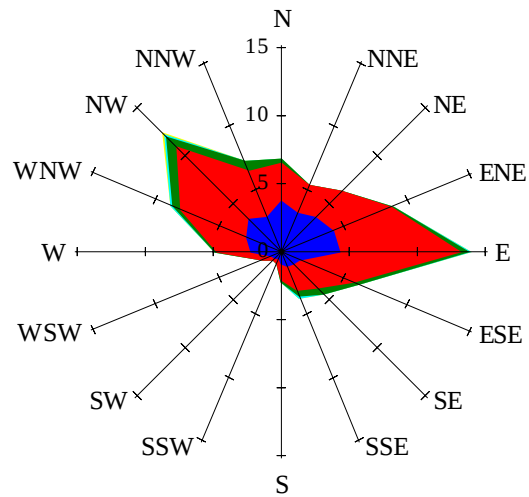


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

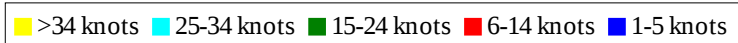
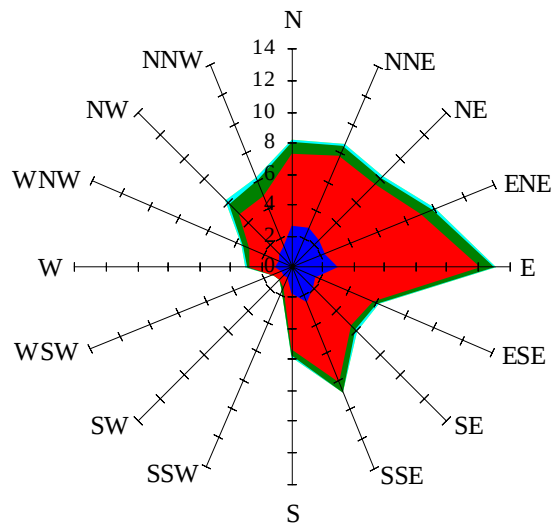
Labels of Percent Frequency on North Axis



Percent Calm = 7.12

Wind Summary - March, April, and May

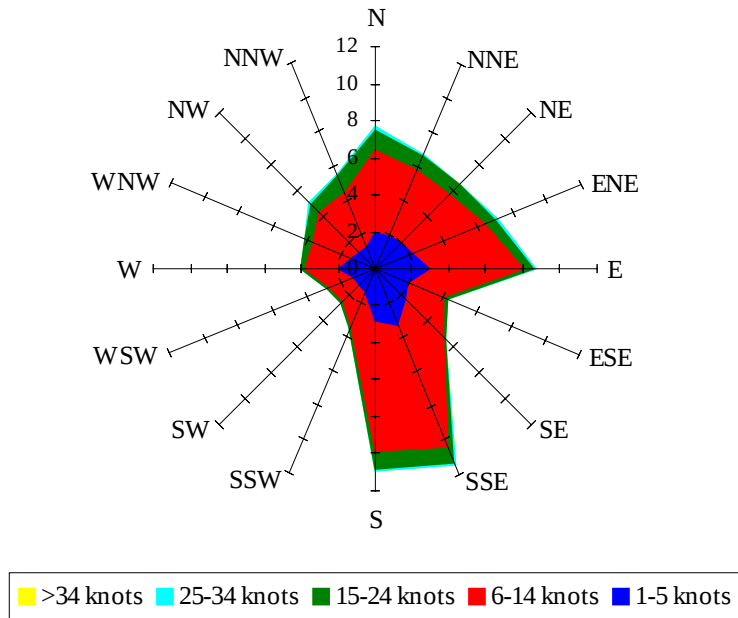
Labels of Percent Frequency on North Axis



Percent Calm = 4.23

Wind Summary - June, July, and August

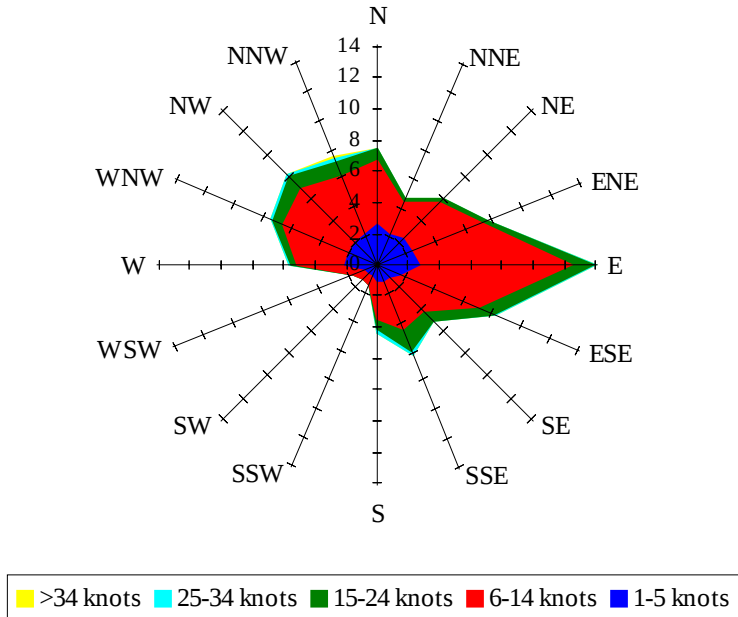
Labels of Percent Frequency on North Axis



Percent Calm = 3.79

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 4.08