

STEPHENVILLE CN

Latitude = 48.53 N

Longitude = 58.55 W

Period of Record = 1973 to 1996

WMO No. 718150

Elevation = 85 feet

Average Pressure = 29.78 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	81	67	77	8.3	WSW
0.4% Occurrence	73	64	77	9.4	WSW
1.0% Occurrence	72	64	77	9.3	WSW
2.0% Occurrence	68	62	75	9.8	WSW
Mean Daily Range	12	-	-	-	-
97.5% Occurrence	7	6	6	13.9	WNW
99.0% Occurrence	1	0	4	12.7	WNW
99.6% Occurrence	-2	-3	3	12.6	WNW
Median of Extreme Lows	-8	-9	2	10.3	NE
	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	70	74	99	9.2	W
0.4% Occurrence	67	71	91	8.6	WSW
1.0% Occurrence	65	69	85	8.6	WSW
2.0% Occurrence	64	68	82	8.9	WSW
	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	99	70	0.66	7.8	S
0.4% Occurrence	92	69	0.61	8.1	WSW
1.0% Occurrence	87	67	0.58	9.6	WSW
2.0% Occurrence	83	66	0.55	8.7	WSW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	2	0	44

Other Site Data

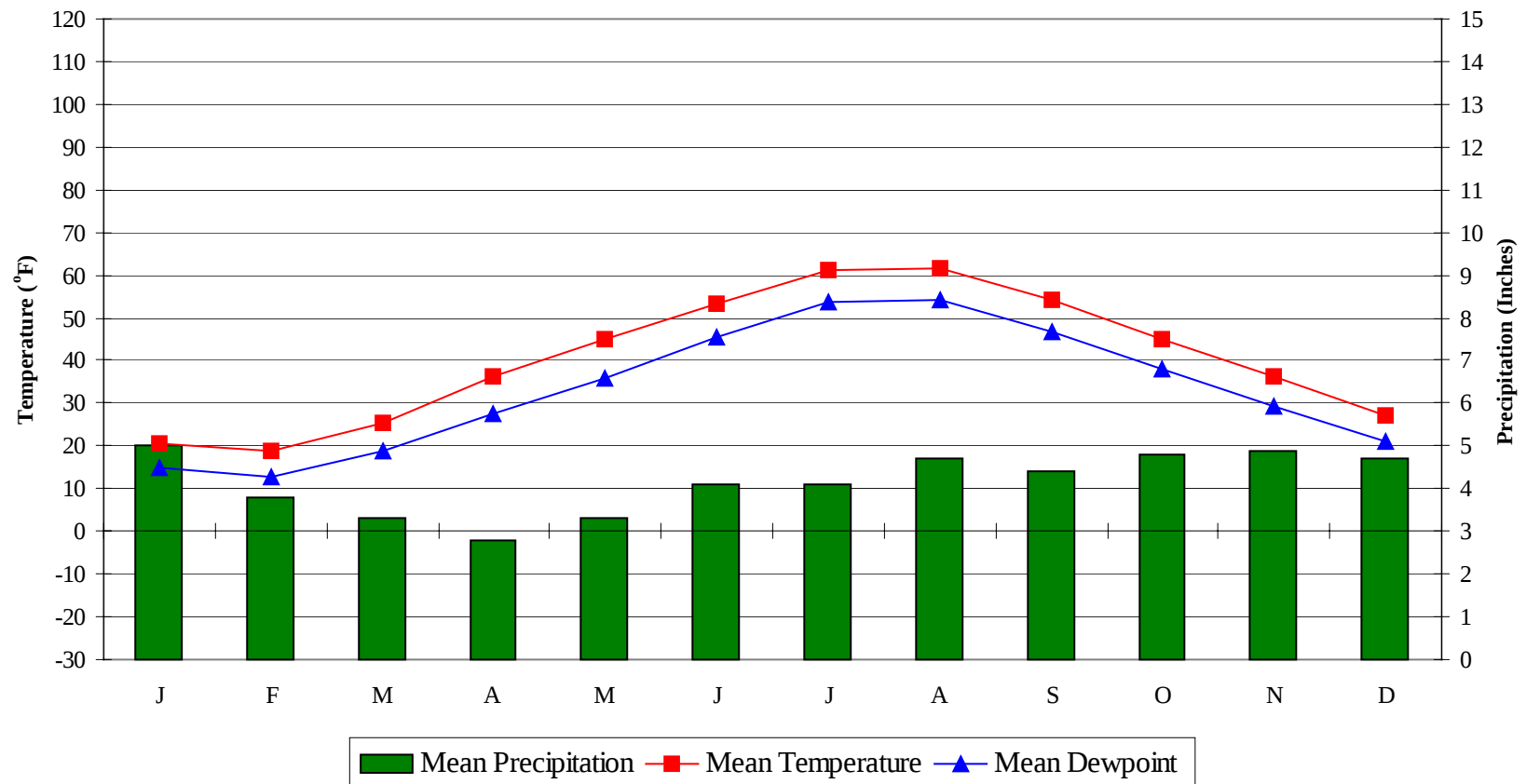
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
4	N/A	N/A	0.1 + 0.0
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
43.0	N/A	N/A	51

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

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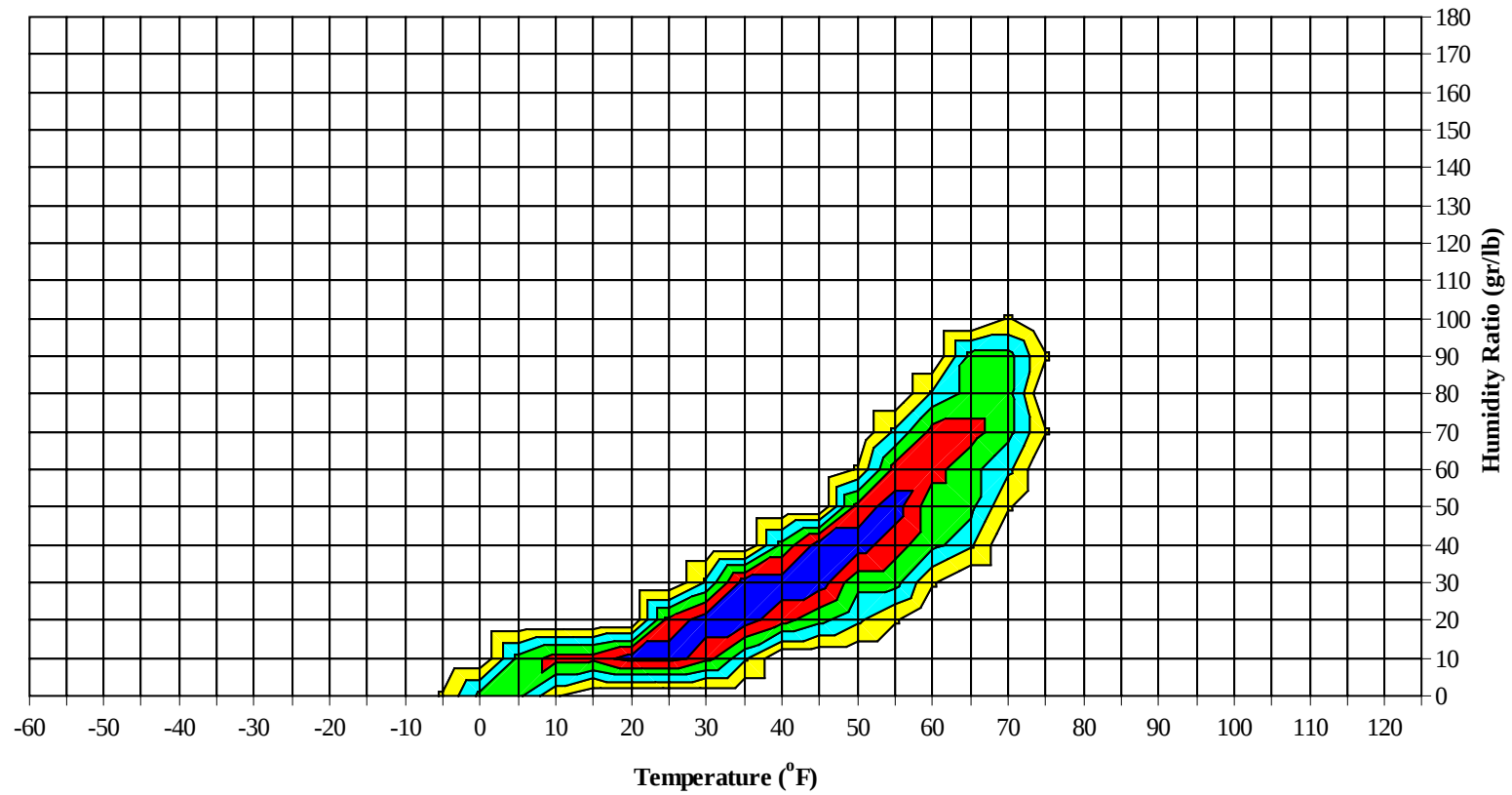
Average Annual Climate



STEPHENVILLE CN

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Long Term Psychrometric Summary

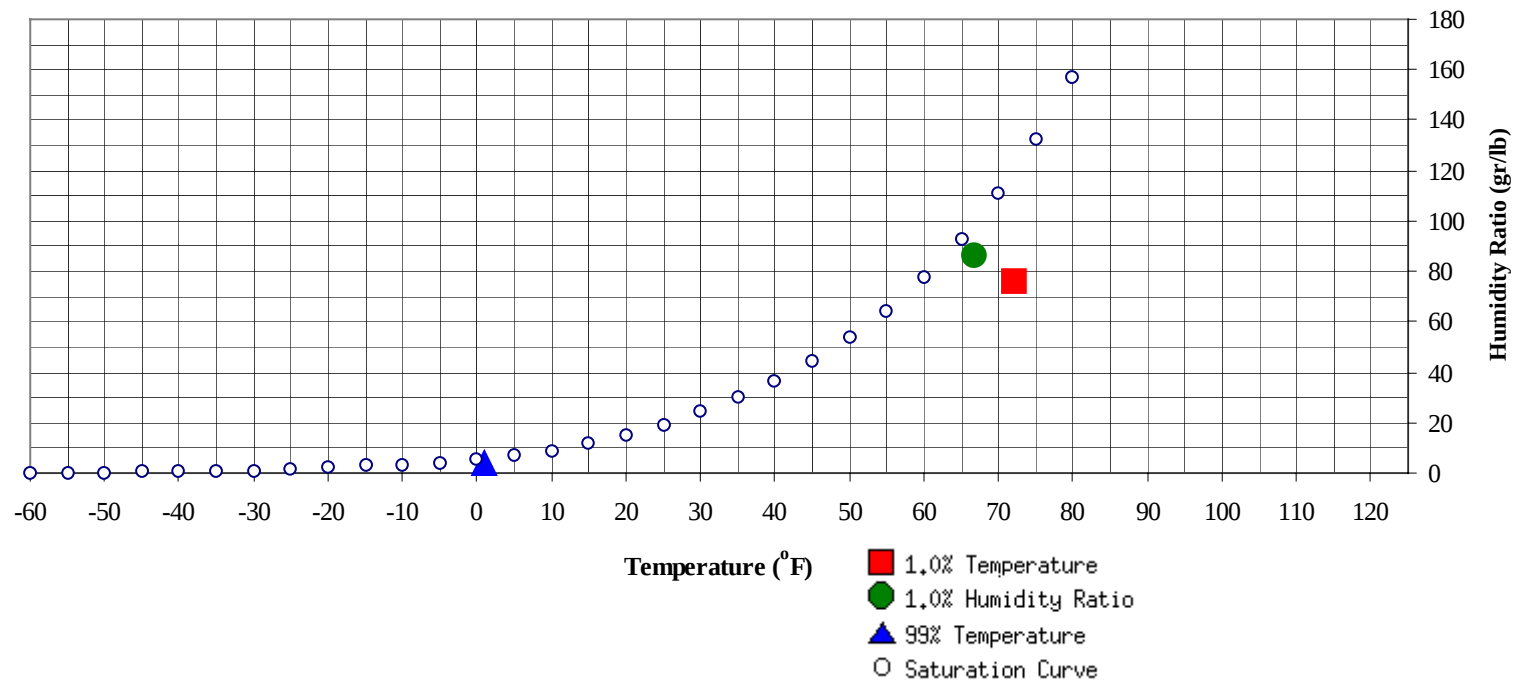


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

STEPHENVILLE CN

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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)
	1	4.2	0.9		86.8	66.8	64.2	62.7	29.6

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	72	76.4	64	29.2

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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		
80 / 84															
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59												0		0	46.0
50 / 54	0	1	0	1	48.0	0	1	0	1	48.0	0	2	1	3	45.4
45 / 49	2	4	3	9	43.4	2	2	2	6	43.4	3	9	6	18	42.3
40 / 44	3	5	5	13	39.6	3	5	3	11	39.4	8	15	12	35	38.6
35 / 39	11	13	11	35	34.9	8	12	12	32	34.6	27	39	34	100	34.2
30 / 34	27	30	29	86	30.2	22	24	24	70	30.0	43	51	52	146	29.6
25 / 29	42	45	42	129	24.8	29	37	33	99	24.7	42	43	45	130	24.7
20 / 24	33	37	37	107	20.5	26	32	29	87	20.3	29	30	29	88	20.2
15 / 19	53	53	52	158	16.1	42	41	40	123	16.2	36	30	35	101	16.1
10 / 14	39	33	36	108	11.0	34	30	34	98	11.1	25	18	21	64	10.9
5 / 9	23	19	23	65	6.1	26	22	25	73	6.0	17	7	9	33	6.1
0 / 4	11	7	8	26	1.1	19	10	13	42	0.9	11	3	3	17	1.1
-5 / -1	2	1	2	5	-3.3	7	5	5	17	-3.4	4	1	1	6	-3.9
-10 / -6	1	0	0	1	-6.9	4	2	2	8	-7.9	2	1	1	4	-7.6
-15 / -11		0		0	-11.0	2	1	1	4	-12.2	1	0	0	1	-12.6
-20 / -16						1	0	0	1	-16.2	0	0		0	-17.0
-25 / -21							0		0	-20.0					

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.

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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		
80 / 84												0		0	64.4
75 / 79												1	0	1	63.7
70 / 74		0		0	62.4		1	0	1	57.0		9	2	11	60.4
65 / 69		1	0	1	58.6		4	0	4	55.8	1	17	8	26	58.8
60 / 64	0	3	1	4	54.2	1	14	5	20	53.7	19	47	33	99	56.3
55 / 59	2	6	4	12	50.9	8	29	20	57	50.5	46	70	60	175	52.5
50 / 54	6	16	10	32	45.7	22	57	43	122	46.2	67	63	75	205	48.4
45 / 49	12	29	23	64	41.5	53	74	66	193	42.6	63	26	44	134	44.0
40 / 44	20	37	28	85	37.9	53	42	52	147	38.8	28	6	13	47	39.9
35 / 39	53	72	67	192	33.9	76	22	49	147	34.9	15	1	4	20	35.9
30 / 34	79	52	70	200	29.8	31	5	12	48	30.6	1			1	32.4
25 / 29	43	18	28	89	24.9	4	0	1	5	25.4					
20 / 24	14	4	6	24	20.3	0		0	0	20.0					
15 / 19	8	2	3	13	16.4	0			0	18.0					
10 / 14	3	0	1	4	11.0										
5 / 9	1	0	0	1	5.5										
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															

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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		
80 / 84		0	0	0	67.0		1	0	1	67.2		0		0	70.0
75 / 79		9	2	11	65.9	0	7	1	8	66.2		1	0	1	65.6
70 / 74	6	34	19	59	63.7	4	41	17	62	64.1	0	5	1	6	63.9
65 / 69	21	55	36	112	61.4	22	67	47	136	62.2	3	12	5	20	61.0
60 / 64	69	90	89	248	58.3	78	90	102	270	58.6	21	61	34	116	57.6
55 / 59	84	47	72	203	54.3	83	36	62	181	53.8	58	87	81	226	53.1
50 / 54	53	12	26	91	50.0	45	6	16	67	49.5	72	54	71	197	48.4
45 / 49	14	1	4	19	45.3	13	0	3	16	44.7	55	17	35	107	43.5
40 / 44	2		0	2	40.8	1		0	1	40.3	21	2	10	33	39.6
35 / 39						1			1	36.7	10	0	2	12	36.2
30 / 34											1		0	1	31.3
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															

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STEPHENVILLE CN

WMO No. 718150

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		
80 / 84															
75 / 79															
70 / 74		0		0	60.3										
65 / 69	0	1	1	2	62.8										
60 / 64	2	8	5	15	58.0	0	2	1	3	57.9					
55 / 59	12	23	15	50	53.3	4	4	3	11	53.9	0	0	1	1	52.6
50 / 54	32	56	41	129	48.3	7	11	8	26	49.1	3	3	2	8	48.7
45 / 49	63	82	73	218	43.1	19	26	22	67	43.7	4	4	6	14	44.4
40 / 44	48	43	52	143	38.9	26	35	30	91	39.2	9	11	8	28	39.8
35 / 39	60	28	47	135	34.5	65	72	69	206	34.5	27	31	31	89	34.8
30 / 34	27	6	14	47	30.0	71	58	70	199	29.5	55	60	58	173	29.8
25 / 29	3	0	1	4	25.7	33	23	24	80	24.7	54	54	52	160	24.7
20 / 24						10	7	9	26	20.0	31	35	31	97	20.2
15 / 19						4	2	3	9	16.6	36	31	36	103	16.2
10 / 14						1	0	0	1	11.4	20	14	19	53	11.3
5 / 9						0		0	0	8.1	7	3	4	14	6.7
0 / 4											1	0	1	2	1.4
-5 / -1											0		0	0	-3.5
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															

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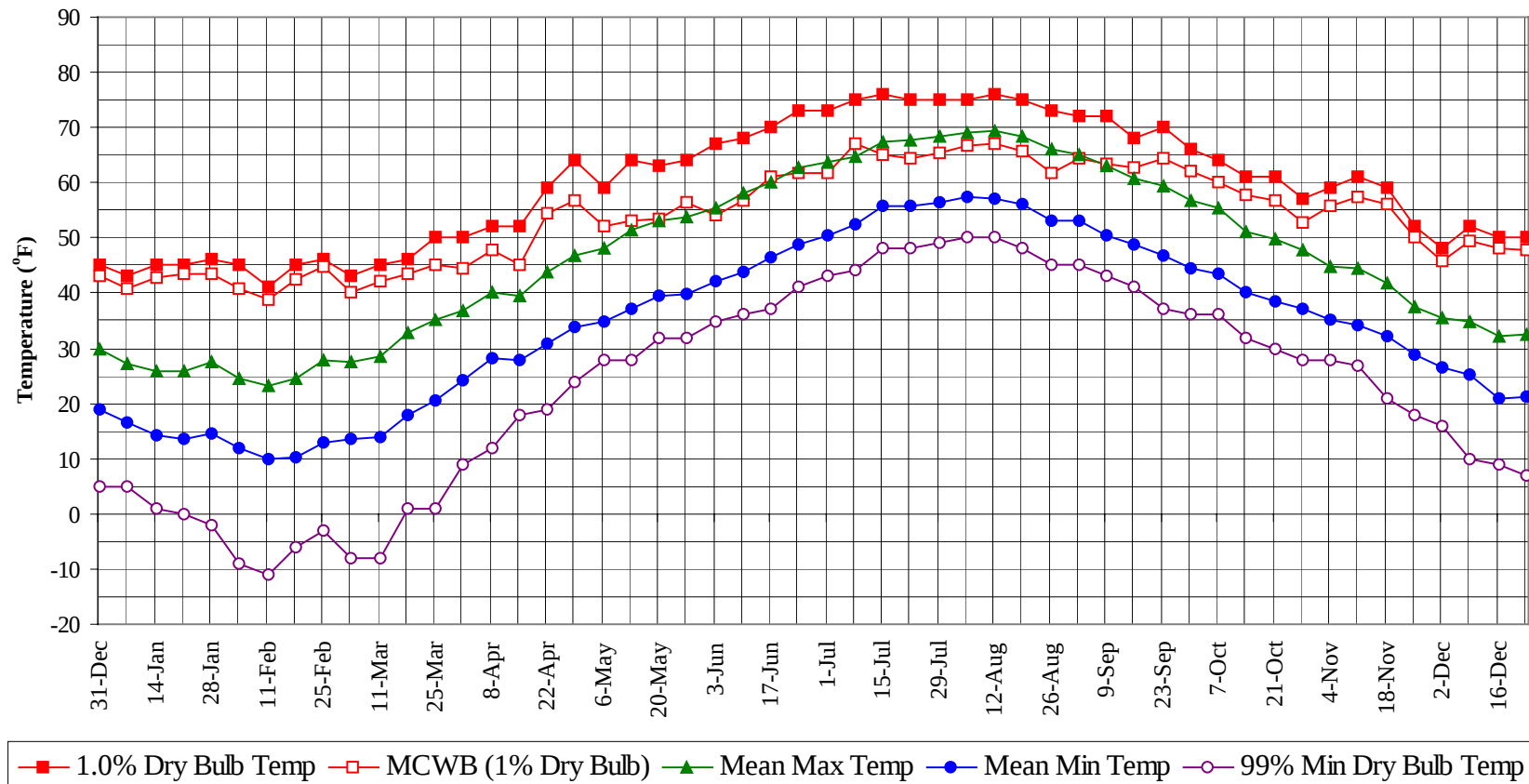
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

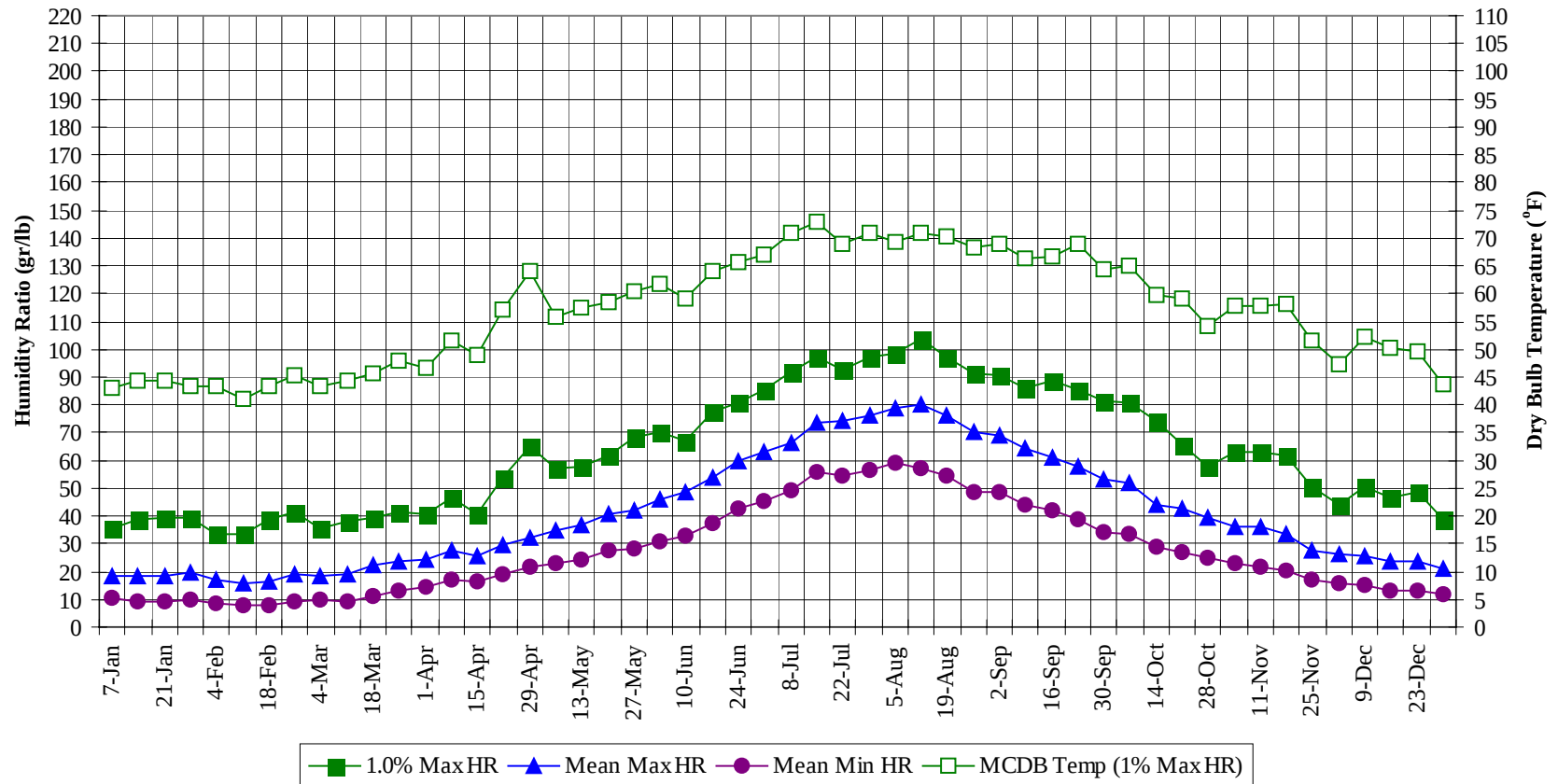
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
80 / 84		2	0	2	67.2
75 / 79	0	18	4	22	65.8
70 / 74	10	89	40	139	63.6
65 / 69	46	156	97	299	61.4
60 / 64	191	316	270	777	57.9
55 / 59	297	301	317	915	53.2
50 / 54	309	281	293	884	48.2
45 / 49	304	274	287	866	43.2
40 / 44	220	201	212	633	39.0
35 / 39	351	290	323	965	34.5
30 / 34	357	286	327	971	29.8
25 / 29	251	220	226	697	24.7
20 / 24	143	145	142	430	20.3
15 / 19	180	160	171	511	16.2
10 / 14	122	96	112	330	11.1
5 / 9	74	51	62	187	6.1
0 / 4	42	20	25	87	1.0
-5 / -1	13	7	8	28	-3.5
-10 / -6	7	3	3	13	-7.7
-15 / -11	3	1	1	5	-12.3
-20 / -16	1	0	0	1	-16.3
-25 / -21		0		0	-20.0

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



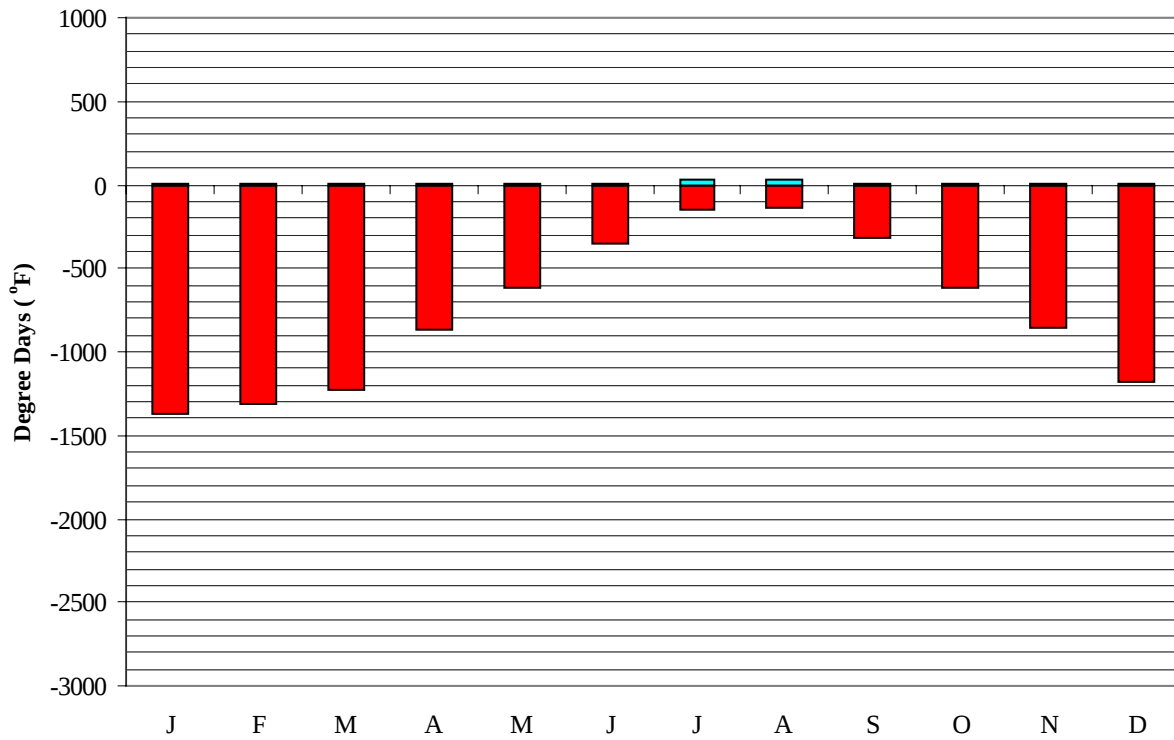
STEPHENVILLE CN**WMO No. 718150****Long Term Dry Bulb Temperature and Humidity Summary**

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	43.0	40.7	27.2	16.6	5.0	35.7	43.0	18.4	10.3
14-Jan	45.0	42.8	26.0	14.2	1.0	38.5	44.5	18.2	9.3
21-Jan	45.0	43.4	26.0	13.5	0.0	39.2	44.2	18.2	9.0
28-Jan	46.0	43.6	27.7	14.7	-2.0	39.2	43.4	19.7	10.1
4-Feb	45.0	40.8	24.7	12.0	-9.0	33.6	43.2	16.9	8.5
11-Feb	41.0	38.9	23.2	9.9	-11.0	33.6	40.9	15.6	7.7
18-Feb	45.0	42.4	24.6	10.4	-6.0	38.5	43.3	16.7	7.7
25-Feb	46.0	44.7	28.0	12.8	-3.0	41.3	45.4	18.8	9.3
4-Mar	43.0	40.2	27.6	13.4	-8.0	35.7	43.2	18.6	9.5
11-Mar	45.0	42.1	28.4	13.8	-8.0	37.8	44.4	19.0	9.4
18-Mar	46.0	43.5	32.8	17.7	1.0	39.2	45.7	22.0	11.5
25-Mar	50.0	45.2	35.2	20.4	1.0	41.3	47.9	23.3	12.9
1-Apr	50.0	44.5	36.8	24.2	9.0	40.6	46.6	24.0	14.5
8-Apr	52.0	47.9	40.1	28.2	12.0	46.9	51.6	27.4	17.3
15-Apr	52.0	45.1	39.4	27.9	18.0	40.6	49.0	25.8	16.3
22-Apr	59.0	54.4	43.7	30.7	19.0	53.9	57.1	29.8	19.2
29-Apr	64.0	56.6	46.9	33.8	24.0	65.1	64.2	32.3	21.5
6-May	59.0	52.0	48.3	34.9	28.0	57.4	55.7	34.8	23.2
13-May	64.0	53.0	51.5	37.2	28.0	58.1	57.6	36.7	24.3
20-May	63.0	53.6	53.0	39.4	32.0	61.6	58.6	40.6	27.6
27-May	64.0	56.5	53.9	39.9	32.0	68.6	60.5	42.3	28.1
3-Jun	67.0	54.0	55.4	42.0	35.0	70.0	61.6	45.8	31.1
10-Jun	68.0	56.6	58.1	43.8	36.0	67.2	59.2	48.6	33.1
17-Jun	70.0	61.1	59.9	46.5	37.0	77.7	64.0	54.0	37.3
24-Jun	73.0	61.9	62.9	48.9	41.0	80.5	65.7	59.7	42.5
1-Jul	73.0	61.9	63.9	50.3	43.0	85.4	67.0	63.0	45.3
8-Jul	75.0	67.0	64.7	52.5	44.0	91.7	71.0	66.5	49.1
15-Jul	76.0	65.0	67.5	55.7	48.0	97.3	72.8	73.4	55.7
22-Jul	75.0	64.4	67.8	55.7	48.0	92.4	68.9	74.3	54.6
29-Jul	75.0	65.5	68.5	56.5	49.0	97.3	71.0	76.1	56.2
5-Aug	75.0	66.7	69.1	57.3	50.0	98.7	69.3	78.7	59.0
12-Aug	76.0	67.0	69.5	57.2	50.0	103.6	71.1	79.9	57.4
19-Aug	75.0	65.9	68.3	56.0	48.0	97.3	70.2	76.4	54.5
26-Aug	73.0	61.7	66.0	53.0	45.0	91.0	68.2	70.0	48.4
2-Sep	72.0	64.6	64.9	53.2	45.0	90.3	68.9	69.1	48.3
9-Sep	72.0	63.5	63.0	50.5	43.0	86.1	66.3	64.5	43.8
16-Sep	68.0	62.8	60.6	48.9	41.0	88.9	66.7	60.9	41.7
23-Sep	70.0	64.5	59.4	46.7	37.0	85.4	69.0	57.6	38.6
30-Sep	66.0	62.0	56.9	44.4	36.0	81.2	64.5	53.1	34.2
7-Oct	64.0	60.2	55.3	43.5	36.0	80.5	65.1	51.9	33.5
14-Oct	61.0	57.6	51.1	40.0	32.0	74.2	59.9	43.8	28.7
21-Oct	61.0	56.8	49.7	38.6	30.0	65.8	59.0	42.5	27.0
28-Oct	57.0	52.6	47.8	37.1	28.0	58.1	54.3	39.7	25.0
4-Nov	59.0	55.8	44.9	35.1	28.0	63.0	57.7	36.3	23.0
11-Nov	61.0	57.5	44.4	34.2	27.0	63.0	57.8	36.1	21.8
18-Nov	59.0	56.0	41.7	32.3	21.0	61.6	58.1	33.4	20.1
25-Nov	52.0	50.1	37.6	29.0	18.0	50.4	51.6	27.9	17.2
2-Dec	48.0	45.7	35.6	26.6	16.0	44.1	47.2	26.1	15.6
9-Dec	52.0	49.4	34.8	25.2	10.0	50.4	52.1	25.6	15.3
16-Dec	50.0	48.2	32.1	21.0	9.0	46.9	50.2	23.4	12.8
23-Dec	50.0	47.7	32.5	21.3	7.0	48.3	49.7	23.5	13.0
31-Dec	45.0	43.1	29.9	18.9	5.0	38.5	43.8	21.0	11.6

STEPHENVILLE CN

WMO No. 718150

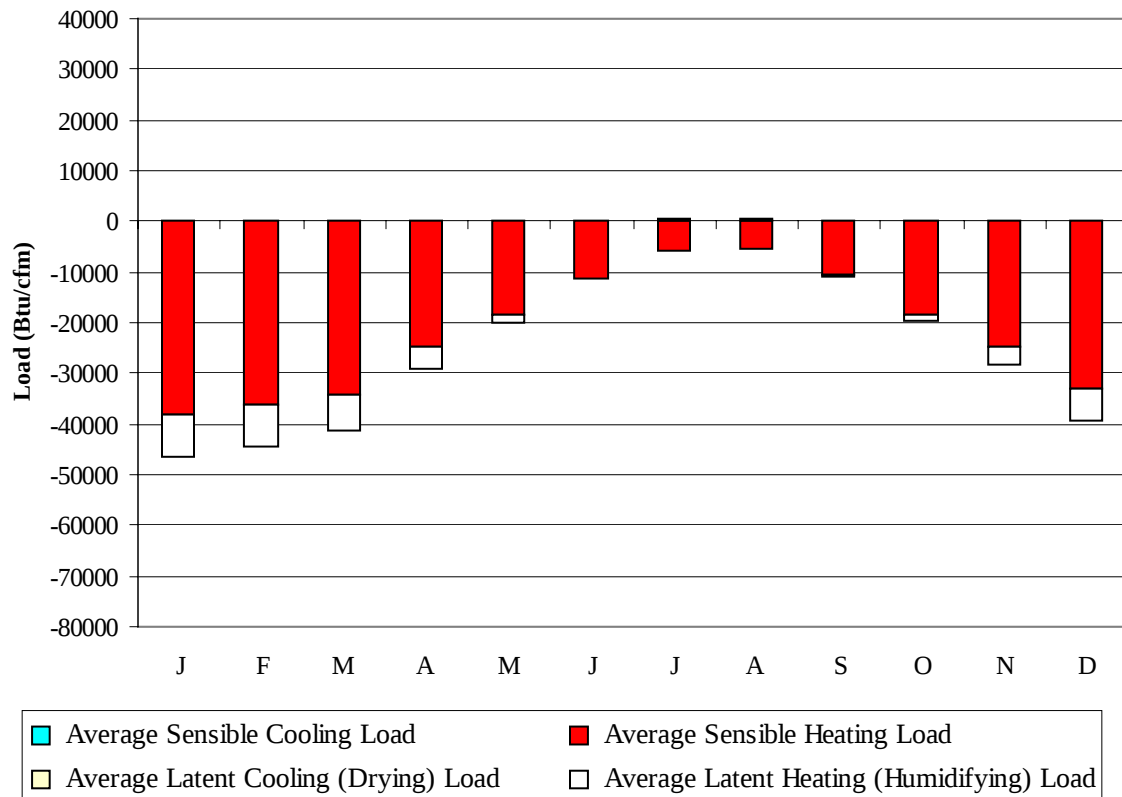
Degree Days, Heating and Cooling (Base 65°F)



■ Mean Cooling Degree Days
 ■ Mean Heating Degree Days

	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1372
FEB	0	1309
MAR	0	1225
APR	0	867
MAY	0	621
JUN	5	351
JUL	28	154
AUG	29	134
SEP	4	323
OCT	0	615
NOV	0	862
DEC	0	1174
ANN	67	9007

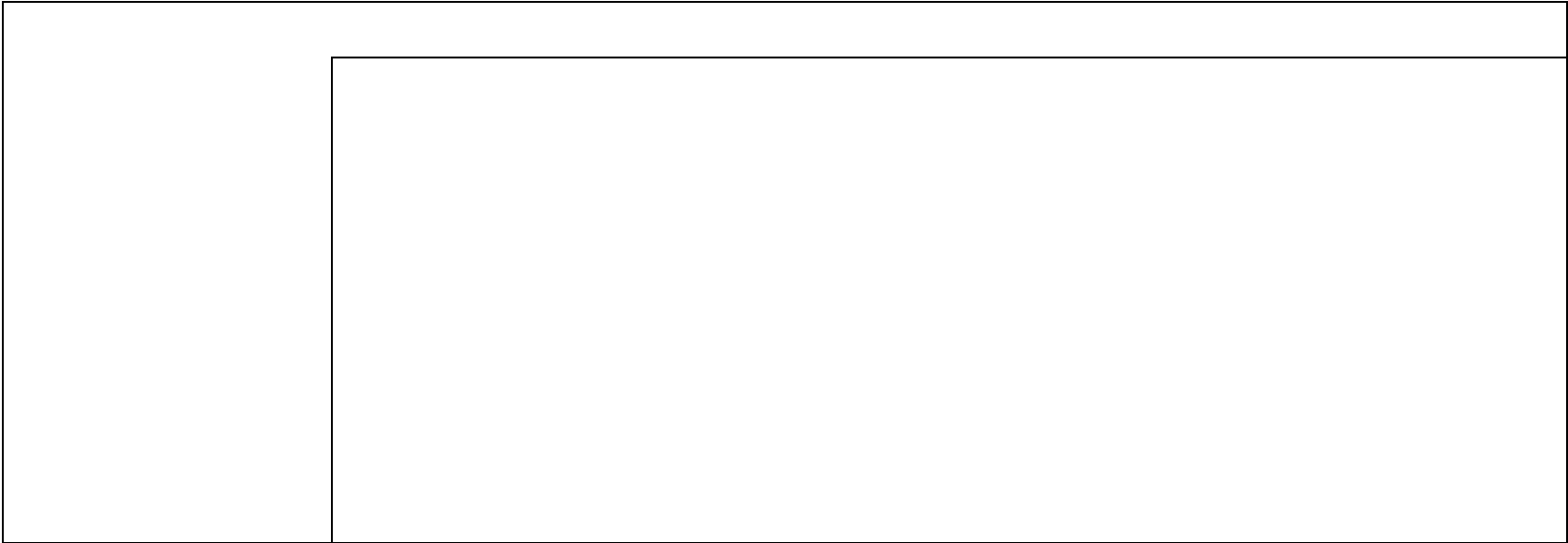
Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	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	-37967	0	-8502
FEB	0	-36131	0	-8241
MAR	0	-34157	0	-7227
APR	0	-24806	0	-4134
MAY	0	-18500	0	-1463
JUN	4	-11345	21	-150
JUL	11	-5978	478	-3
AUG	15	-5422	624	-4
SEP	2	-10655	67	-133
OCT	0	-18321	6	-1239
NOV	0	-24668	0	-3681
DEC	0	-32846	0	-6666
ANN	32	-260796	1196	-41443

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

No Solar Radiation
Data Available

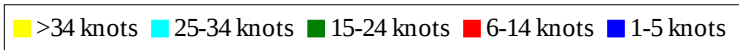
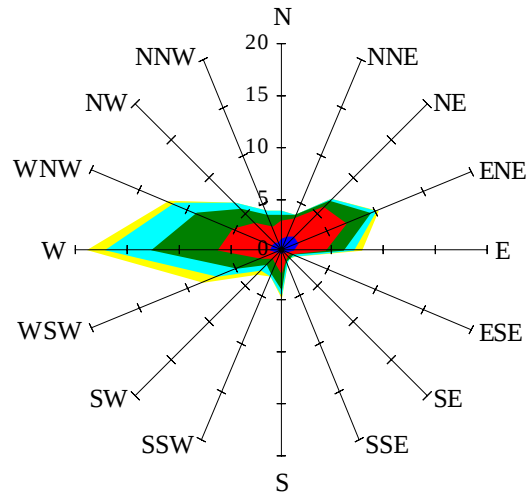


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

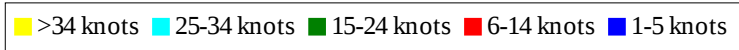
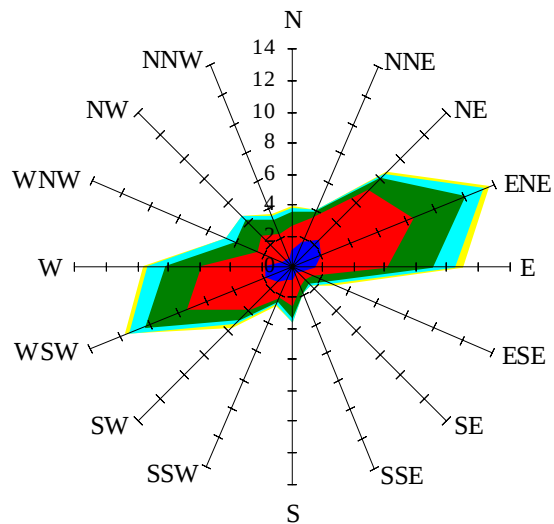
Labels of Percent Frequency on North Axis



Percent Calm = 4.38

Wind Summary - March, April, and May

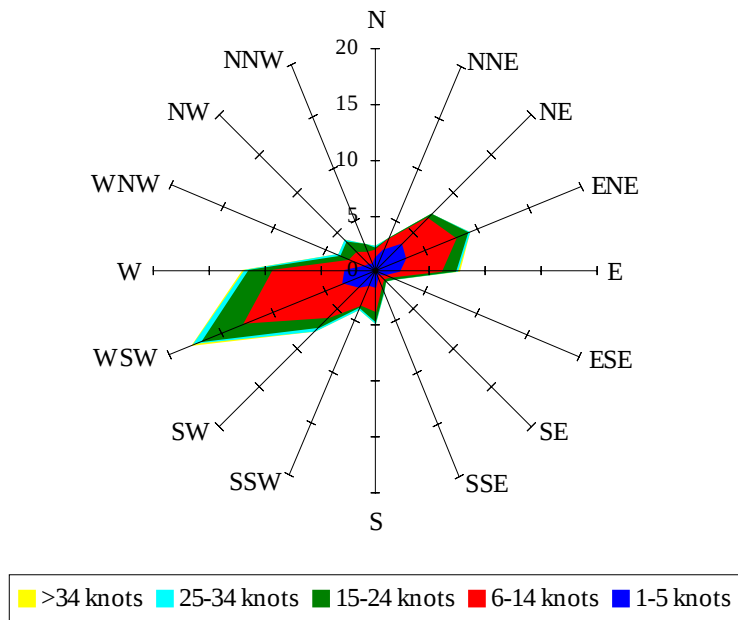
Labels of Percent Frequency on North Axis



Percent Calm = 7.63

Wind Summary - June, July, and August

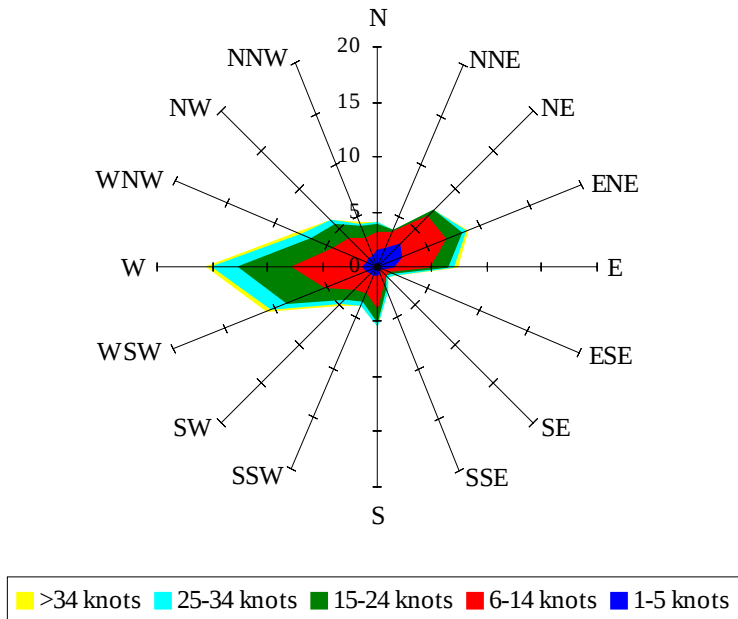
Labels of Percent Frequency on North Axis



Percent Calm = 10.52

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 5.39