

GOOSE BAY CN

Latitude = 53.32 N

Longitude = 60.42 W

Period of Record = 1973 to 1996

WMO No. 718160

Elevation = 161 feet

Average Pressure = 29.66 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	91	67	61	14.0	WSW
0.4% Occurrence	82	63	58	12.0	WSW
1.0% Occurrence	77	61	58	11.5	SW
2.0% Occurrence	73	60	56	10.5	WSW
Mean Daily Range	16	-	-	-	-
97.5% Occurrence	-15	-15	1	10.7	W
99.0% Occurrence	-20	-21	1	10.8	W
99.6% Occurrence	-24	-24	1	11.0	W
Median of Extreme Lows	-29	-29	1	8.8	W
	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	82	89	10.8	SW
0.4% Occurrence	66	77	78	10.1	S
1.0% Occurrence	64	74	72	10.2	S
2.0% Occurrence	62	71	68	9.5	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	98	75	0.65	10.6	S
0.4% Occurrence	82	68	0.54	8.9	S
1.0% Occurrence	76	67	0.50	8.3	S
2.0% Occurrence	71	66	0.47	8.2	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		2	54	1	24

Other Site Data

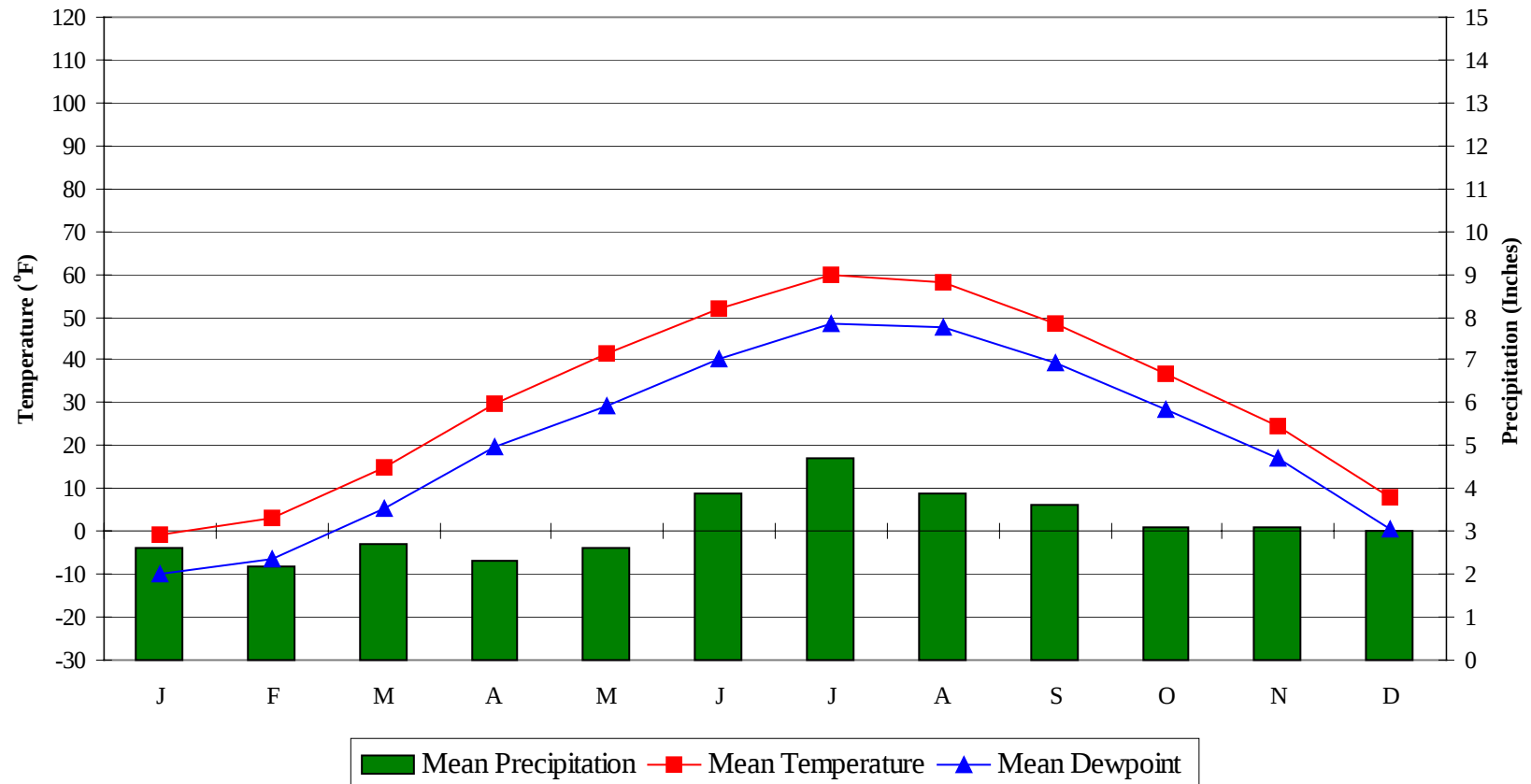
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
3	N/A	N/A	0.0 + 0.1
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
33.8	N/A	N/A	53

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

GOOSE BAY CN

WMO No. 718160

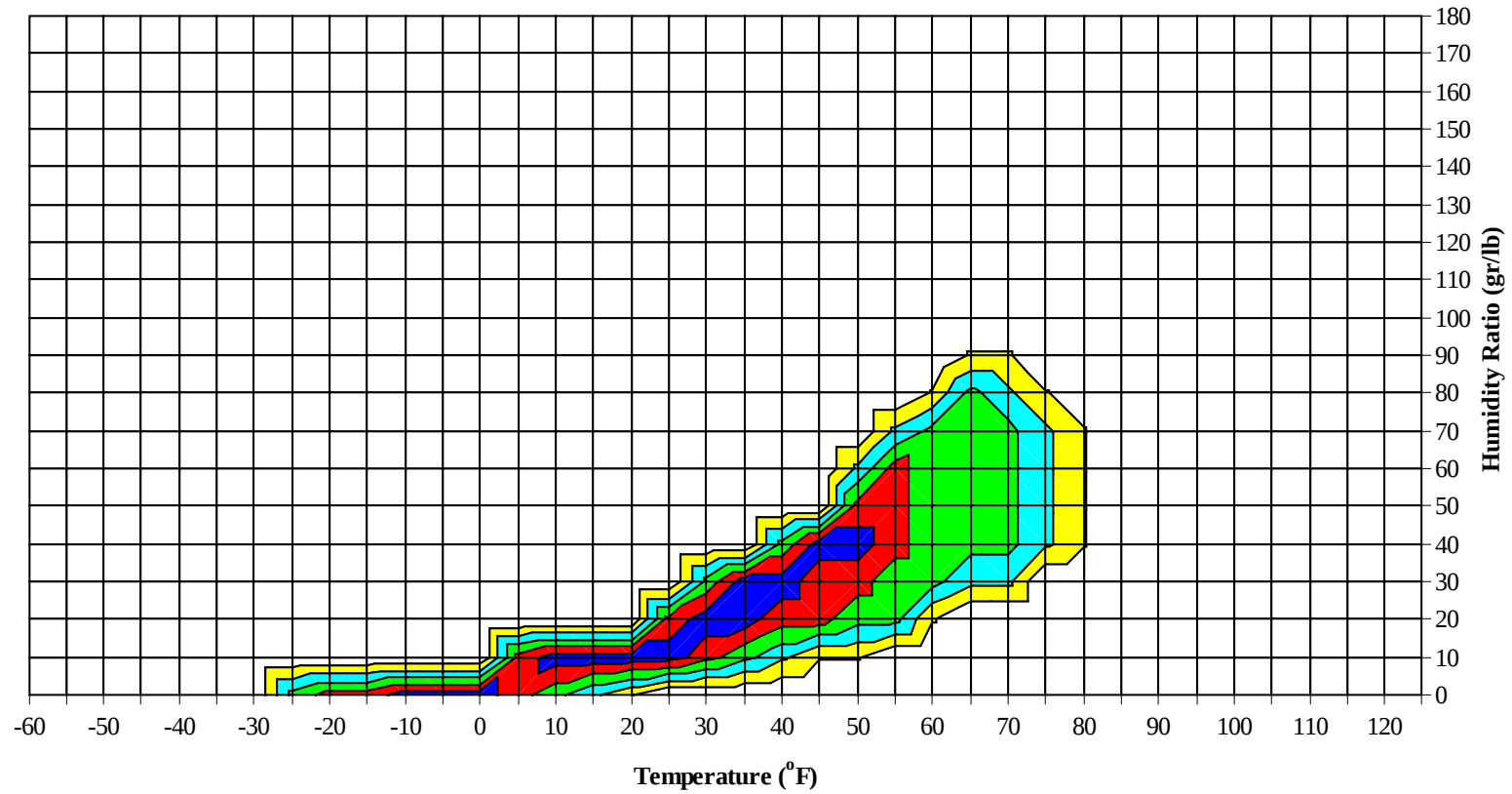
Average Annual Climate



GOOSE BAY CN

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Long Term Psychrometric Summary

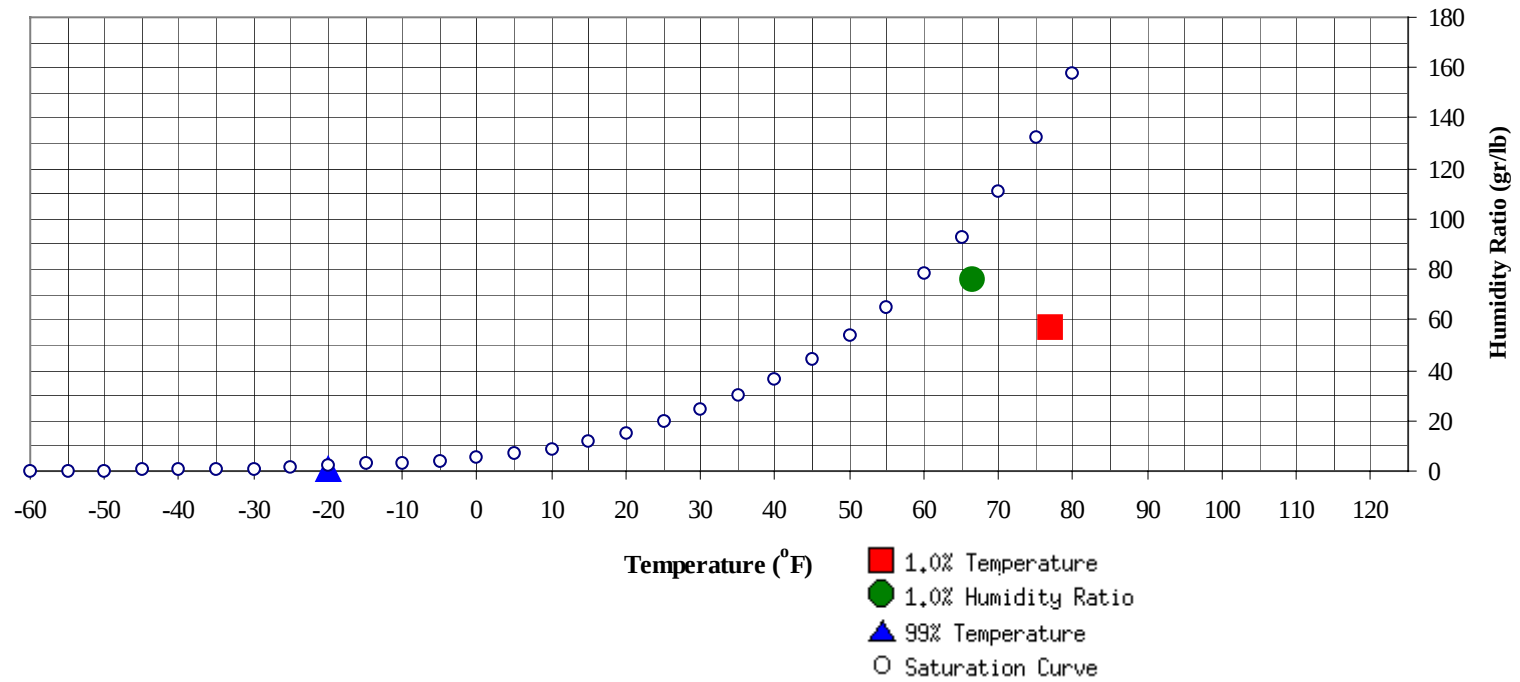


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

GOOSE BAY CN

WMO No. 718160

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	-20	1	-4.6		76.3	66.5	61.8	59	27.8

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	77	57	61.4	27.4

GOOSE BAY CN

WMO No. 718160

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		
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59												0	0	0	44.5
50 / 54	0	0	0	0	46.5							0	0	0	42.6
45 / 49	0	1	1	2	44.4	0	0	0	0	41.6	0	5	2	7	39.4
40 / 44	0	1	0	1	39.2	1	1	0	2	38.8	2	7	4	13	36.5
35 / 39	1	3	3	7	35.1	1	4	3	8	34.9	7	16	15	38	33.4
30 / 34	7	7	6	20	30.8	8	9	8	25	30.5	23	32	31	86	29.8
25 / 29	7	9	9	25	25.0	9	11	12	32	24.7	22	32	30	84	24.2
20 / 24	8	7	6	21	20.6	9	13	11	33	20.4	20	24	23	67	19.9
15 / 19	13	14	15	42	15.9	14	19	20	53	15.9	27	33	30	90	15.5
10 / 14	16	21	19	56	10.8	16	25	19	60	10.5	26	31	30	87	10.3
5 / 9	21	27	22	70	5.5	20	30	26	76	5.3	26	27	27	80	5.3
0 / 4	23	36	32	91	0.3	22	31	30	83	0.2	26	20	26	72	0.3
-5 / -1	22	25	28	75	-4.0	19	23	25	67	-4.1	16	8	13	37	-4.0
-10 / -6	37	36	37	110	-8.3	33	27	34	94	-8.3	26	7	11	44	-8.2
-15 / -11	28	25	32	85	-12.8	24	13	18	55	-12.7	14	3	4	21	-12.7
-20 / -16	38	24	26	88	-17.1	30	11	13	54	-17.0	10	1	2	13	-16.7
-25 / -21	20	9	11	40	-22.0	15	3	5	23	-21.9	3	0	1	4	-21.8
-30 / -26	9	2	2	13	-27.0	5	1	1	7	-26.9	0			0	-25.5
-35 / -31	1	0	0	1	-30.7	0			0	-31.7					

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.

GOOSE BAY CN

WMO No. 718160

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		
95 / 99												0	0	0	66.4
90 / 94							0	0	0	63.0		1	1	2	65.1
85 / 89							0	0	0	61.0		1	1	2	64.8
80 / 84							1	0	1	59.2		4	2	6	62.1
75 / 79							2	1	3	56.2	0	10	5	15	60.2
70 / 74		0	0	0	54.0	0	4	2	6	54.3	2	16	11	29	57.6
65 / 69		0	0	0	51.6	0	4	2	6	51.6	4	17	11	32	56.0
60 / 64		2	1	3	50.4	2	10	6	18	49.7	13	34	25	71	53.4
55 / 59		4	2	6	46.8	2	20	12	34	46.5	25	43	37	104	50.3
50 / 54	1	8	5	14	42.5	8	36	23	67	43.8	37	46	50	132	46.7
45 / 49	3	21	13	37	39.8	21	54	44	119	40.4	50	39	47	136	43.0
40 / 44	10	19	18	47	36.7	29	43	42	114	37.6	48	17	27	93	39.5
35 / 39	28	49	42	119	33.3	76	48	66	190	34.3	49	11	21	81	35.8
30 / 34	49	53	58	160	29.4	70	21	40	131	29.9	11	1	3	15	31.3
25 / 29	44	40	48	132	24.1	30	5	9	44	24.9	1			1	27.1
20 / 24	28	20	23	71	19.8	7	0	1	8	20.0					
15 / 19	32	13	19	64	15.7	2	0	0	2	16.2					
10 / 14	24	6	8	38	10.7	1			1	11.8					
5 / 9	13	2	3	18	5.7										
0 / 4	5	1	2	8	0.7										
-5 / -1	2	0	0	2	-4.0										
-10 / -6	1		0	1	-7.6										
-15 / -11	0		0	0	-12.0										
-20 / -16	0			0	-16.3										
-25 / -21															
-30 / -26															
-35 / -31															

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GOOSE BAY CN

WMO No. 718160

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		
95 / 99		0	0	0	70.2		0		0	73.3					
90 / 94		1	0	1	68.5		1	0	1	67.7					
85 / 89		3	1	4	65.6		2	1	3	65.6		0		0	70.0
80 / 84	0	12	6	18	63.6	0	8	4	12	64.0		1	0	1	65.3
75 / 79	1	23	13	37	61.7	1	16	9	26	61.9	0	2	1	3	62.5
70 / 74	6	43	29	78	59.6	3	34	21	58	60.0	0	6	3	9	59.2
65 / 69	16	35	28	79	58.1	10	34	24	68	57.9	1	9	4	14	57.0
60 / 64	38	48	51	137	56.1	31	48	48	127	55.7	5	24	14	43	53.8
55 / 59	55	37	54	146	52.7	55	51	58	164	52.3	16	43	31	90	50.7
50 / 54	66	29	41	136	49.0	71	37	53	161	48.8	33	66	54	152	47.1
45 / 49	47	14	20	81	44.8	58	14	26	98	44.5	66	55	68	189	43.3
40 / 44	15	2	4	21	40.8	15	1	4	20	40.3	51	22	35	108	39.0
35 / 39	4		1	5	37.2	5		1	6	36.8	51	9	25	85	35.3
30 / 34	0			0	34.0						16	2	6	24	30.8
25 / 29											2		0	2	27.0
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															

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GOOSE BAY CN

WMO No. 718160

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		
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74		0		0	56.0										
65 / 69		0	0	0	53.3										
60 / 64	0	2	0	2	53.5	0	0		0	54.8					
55 / 59	2	7	3	12	50.6	1	1	1	3	51.8					
50 / 54	5	16	9	30	46.4	2	2	2	6	47.9					
45 / 49	15	37	25	77	42.3	2	5	4	11	42.2	0	1	0	1	43.3
40 / 44	25	50	36	110	38.4	4	6	4	14	38.3	2	2	2	6	39.6
35 / 39	68	71	75	214	34.5	22	31	26	79	34.5	5	5	5	15	34.7
30 / 34	72	45	64	181	29.7	45	53	51	149	30.0	15	16	15	46	30.7
25 / 29	37	16	27	80	24.6	44	50	47	141	24.6	16	17	16	49	24.9
20 / 24	14	3	6	23	20.1	30	28	30	88	20.1	16	20	17	53	20.8
15 / 19	7	1	3	11	16.2	32	29	31	92	15.8	22	28	25	75	16.1
10 / 14	2	0	1	3	11.0	26	16	22	64	10.8	23	29	32	84	10.9
5 / 9	1		0	1	7.0	16	11	13	40	5.7	29	30	28	87	5.8
0 / 4	0			0	3.0	12	6	7	25	0.6	28	31	30	89	0.4
-5 / -1						4	1	2	7	-3.6	23	21	23	67	-4.0
-10 / -6						1	0	1	2	-7.4	29	25	29	83	-8.2
-15 / -11						0	0		0	-12.5	20	12	14	46	-12.6
-20 / -16						0			0	-15.0	14	7	10	31	-16.7
-25 / -21											5	2	2	9	-22.0
-30 / -26											1	0	0	1	-26.6
-35 / -31											0			0	-31.0

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GOOSE BAY CN

WMO No. 718160

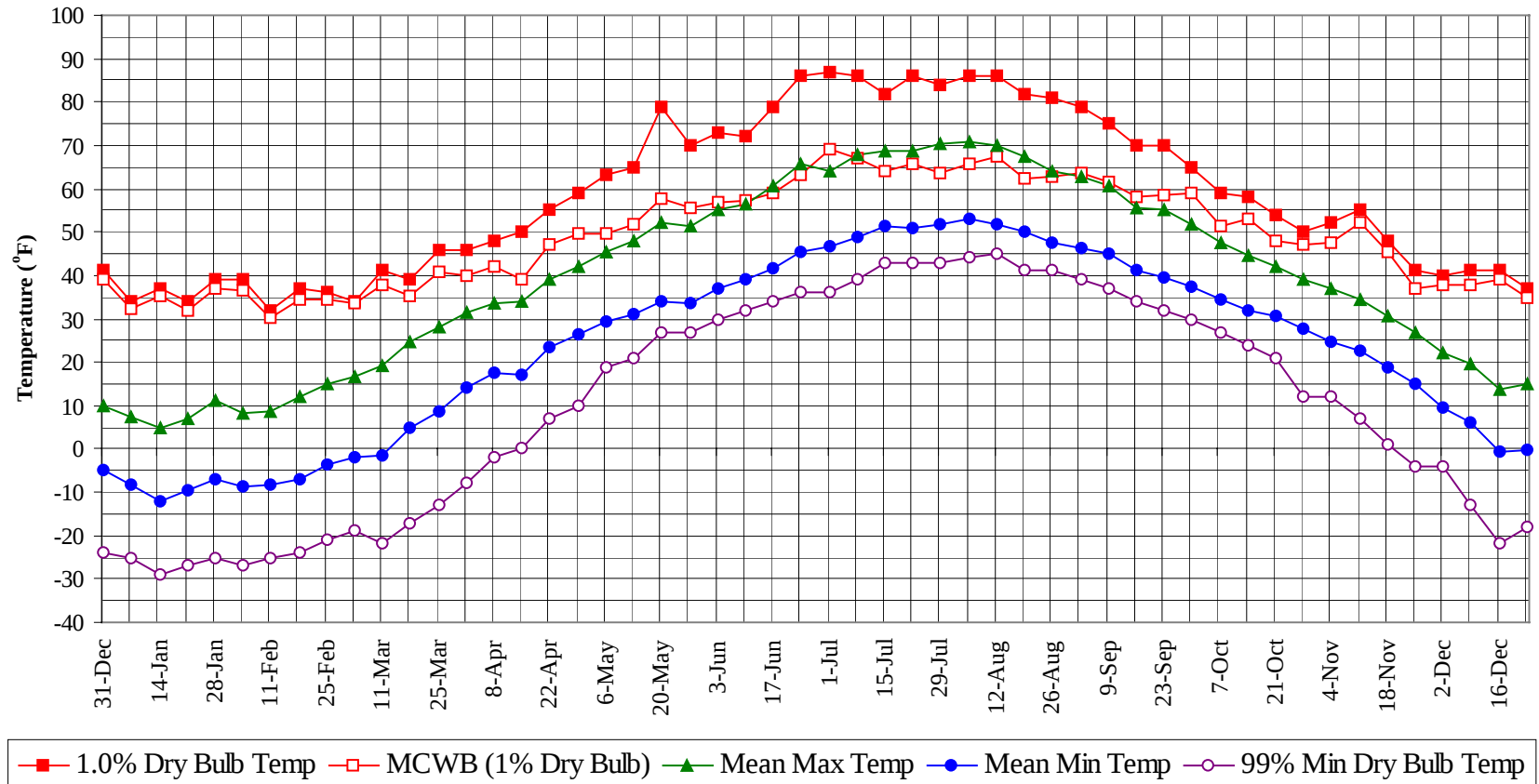
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

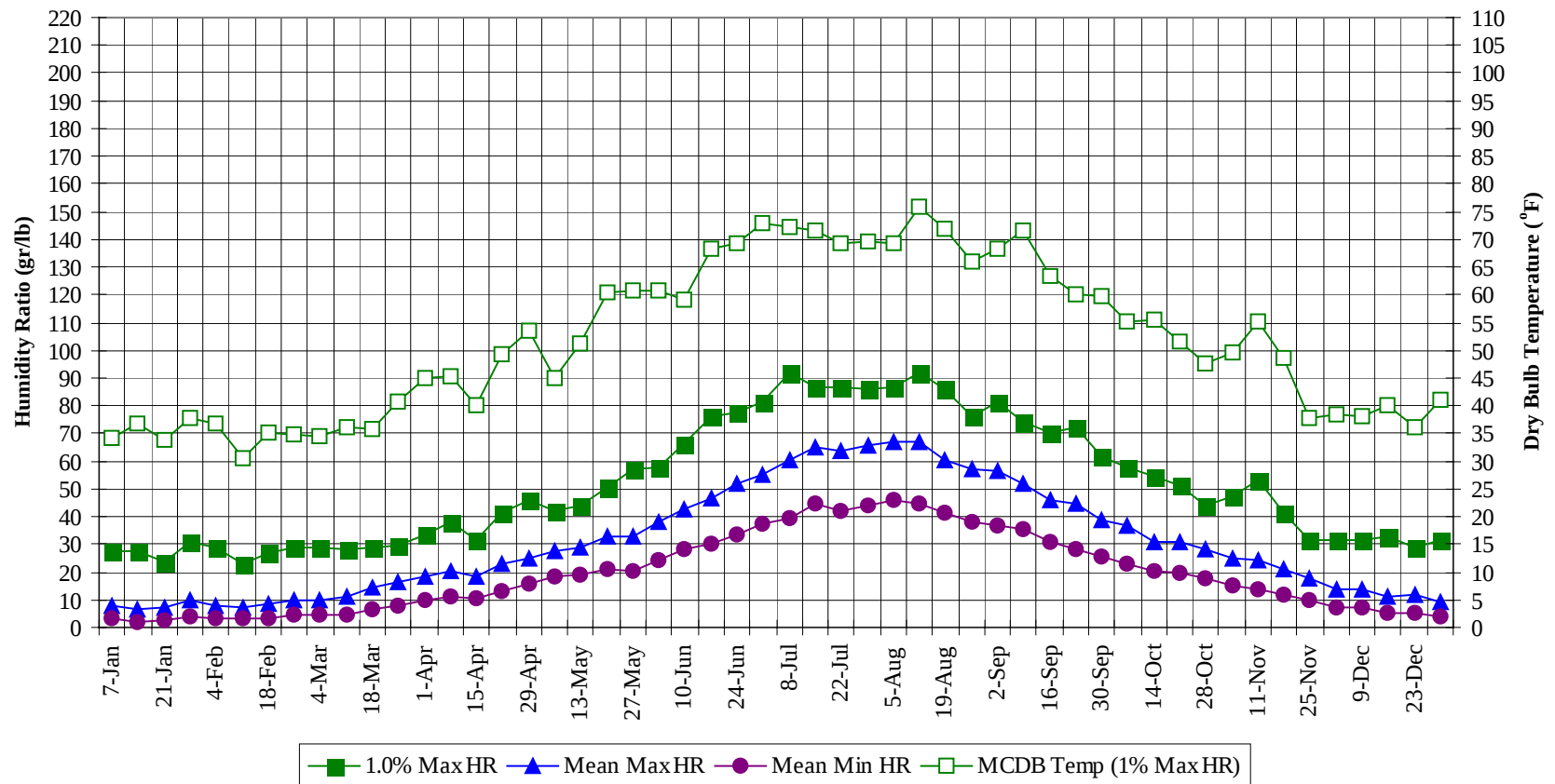
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
95 / 99		0	0	0	69.7
90 / 94		4	1	5	67.0
85 / 89		8	3	11	65.2
80 / 84	0	26	13	39	63.4
75 / 79	2	54	30	85	61.3
70 / 74	11	102	66	179	59.2
65 / 69	32	99	70	200	57.4
60 / 64	89	168	142	399	54.9
55 / 59	154	206	196	556	51.3
50 / 54	221	242	234	697	47.4
45 / 49	261	245	249	755	42.8
40 / 44	202	171	176	549	38.5
35 / 39	316	248	281	845	34.5
30 / 34	316	239	282	837	29.9
25 / 29	212	181	197	590	24.5
20 / 24	132	116	119	368	20.2
15 / 19	148	139	142	430	15.8
10 / 14	133	128	131	393	10.7
5 / 9	124	127	119	371	5.5
0 / 4	116	126	126	369	0.3
-5 / -1	86	79	91	255	-4.0
-10 / -6	127	96	112	336	-8.3
-15 / -11	86	55	67	207	-12.7
-20 / -16	93	43	51	187	-17.0
-25 / -21	44	14	19	77	-22.0
-30 / -26	14	3	3	20	-26.9
-35 / -31	1	0	0	1	-30.8

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Annual Summary of Temperatures

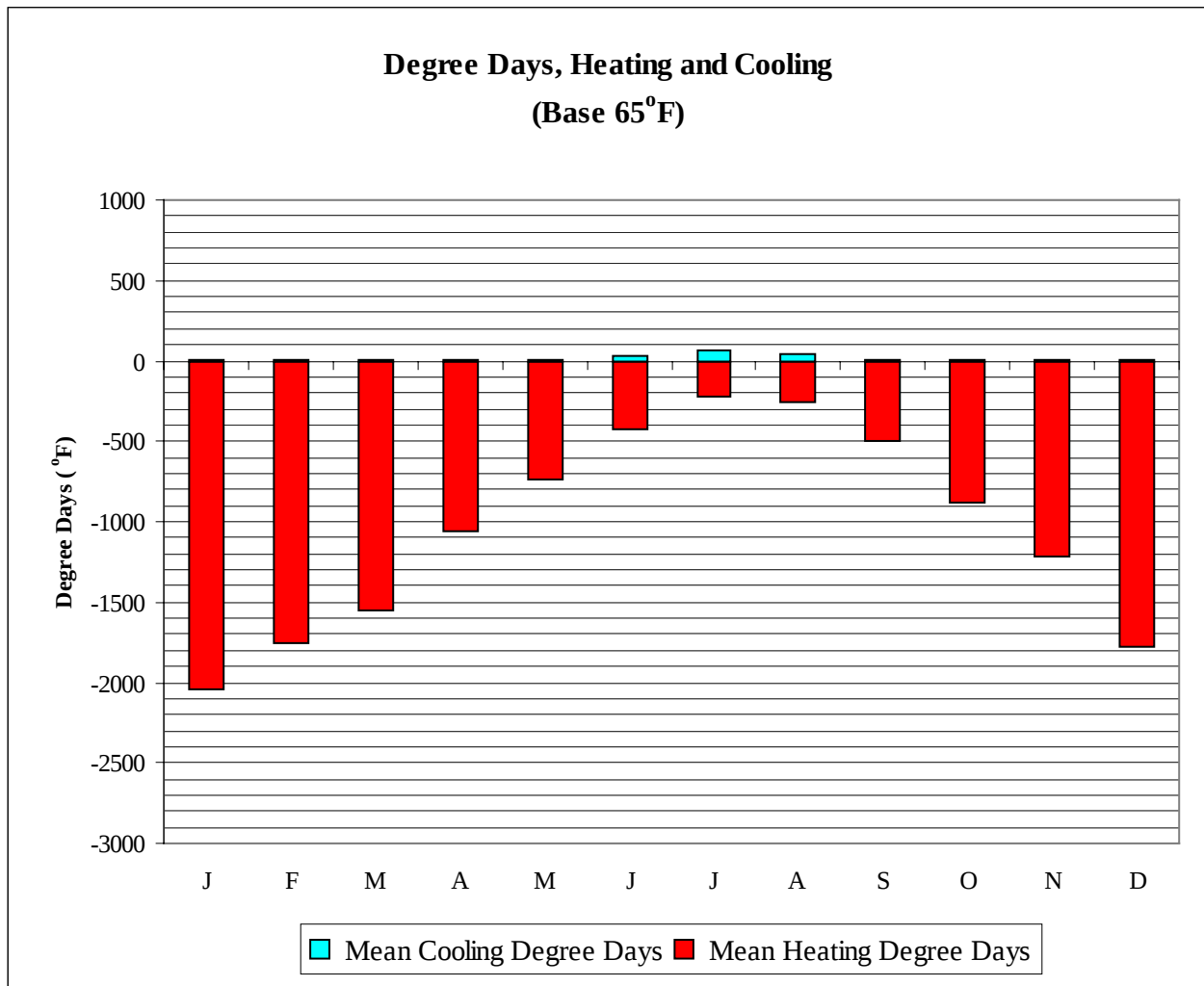


Long Term Humidity and Dry Bulb Temperature Summary



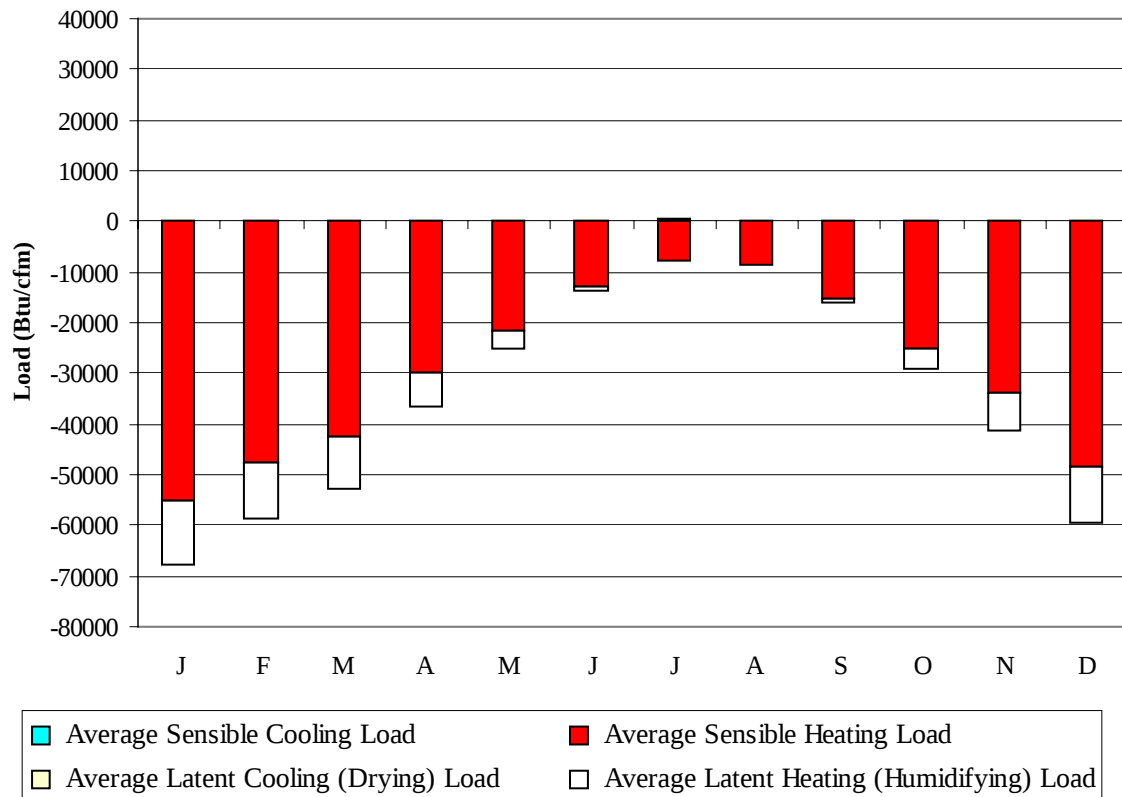
GOOSE BAY**CN****WMO No. 718160****Long Term Dry Bulb Temperature and Humidity Summary**

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	34.0	32.4	7.4	-8.3	-25.0	27.3	34.1	7.8	3.2
14-Jan	37.0	35.5	4.7	-12.0	-29.0	27.3	36.9	6.7	2.2
21-Jan	34.0	31.9	6.8	-9.6	-27.0	23.8	33.8	7.2	2.6
28-Jan	39.0	37.1	11.3	-6.9	-25.0	30.8	37.6	9.6	4.0
4-Feb	39.0	36.6	8.1	-8.6	-27.0	28.7	36.9	8.0	3.4
11-Feb	32.0	30.4	8.8	-8.1	-25.0	23.1	30.5	7.5	3.1
18-Feb	37.0	34.3	12.0	-7.1	-24.0	26.6	35.3	8.5	3.3
25-Feb	36.0	34.4	14.9	-3.7	-21.0	28.7	34.9	9.8	4.4
4-Mar	34.0	33.5	16.6	-2.1	-19.0	28.7	34.4	10.1	4.6
11-Mar	41.0	37.7	19.2	-1.6	-22.0	28.0	36.1	11.0	4.5
18-Mar	39.0	35.3	24.8	4.8	-17.0	28.7	35.7	14.3	6.3
25-Mar	46.0	40.8	27.9	8.7	-13.0	29.4	40.6	16.1	7.6
1-Apr	46.0	39.9	31.3	14.1	-8.0	33.6	44.8	18.1	9.5
8-Apr	48.0	42.2	33.7	17.5	-2.0	37.8	45.3	20.1	11.3
15-Apr	50.0	39.0	33.8	17.0	0.0	31.5	40.0	18.4	10.2
22-Apr	55.0	47.1	39.0	23.4	7.0	41.3	49.2	22.9	13.4
29-Apr	59.0	49.6	41.9	26.4	10.0	46.2	53.6	25.0	15.6
6-May	63.0	49.5	45.5	29.5	19.0	42.0	45.1	27.5	18.2
13-May	65.0	51.7	47.9	31.0	21.0	44.1	51.2	29.0	19.0
20-May	79.0	57.6	52.3	34.2	27.0	50.4	60.6	32.5	21.1
27-May	70.0	55.4	51.6	33.7	27.0	57.4	60.7	32.6	20.4
3-Jun	73.0	56.9	55.0	37.0	30.0	58.1	60.6	38.4	24.2
10-Jun	72.0	57.1	56.5	39.1	32.0	66.5	59.2	42.9	28.0
17-Jun	79.0	58.8	60.8	41.8	34.0	76.3	68.3	46.9	30.1
24-Jun	86.0	63.3	65.6	45.6	36.0	77.7	69.2	52.1	33.8
1-Jul	87.0	69.0	64.2	46.6	36.0	81.2	72.9	55.3	37.2
8-Jul	86.0	67.0	68.0	48.8	39.0	91.7	72.3	60.4	39.6
15-Jul	82.0	63.9	68.6	51.5	43.0	86.8	71.7	65.1	44.6
22-Jul	86.0	65.6	68.9	50.9	43.0	86.8	69.4	63.6	42.3
29-Jul	84.0	63.8	70.2	51.9	43.0	86.1	69.6	65.7	43.9
5-Aug	86.0	65.6	71.0	52.9	44.0	86.8	69.3	66.8	45.9
12-Aug	86.0	67.5	69.9	51.8	45.0	91.7	75.8	66.8	44.8
19-Aug	82.0	62.3	67.3	50.0	41.0	86.1	72.0	60.2	41.1
26-Aug	81.0	62.7	63.9	47.5	41.0	76.3	66.1	57.1	38.1
2-Sep	79.0	63.4	62.6	46.4	39.0	81.2	68.3	56.5	37.0
9-Sep	75.0	61.4	60.5	44.9	37.0	74.2	71.7	51.7	35.2
16-Sep	70.0	58.2	55.6	41.3	34.0	70.0	63.5	46.1	31.1
23-Sep	70.0	58.5	55.3	39.7	32.0	72.1	59.9	44.6	28.1
30-Sep	65.0	59.0	51.8	37.4	30.0	61.6	59.7	39.0	25.8
7-Oct	59.0	51.5	47.7	34.5	27.0	58.1	55.1	36.9	23.2
14-Oct	58.0	53.0	44.5	32.0	24.0	54.6	55.5	30.9	20.1
21-Oct	54.0	48.1	42.1	30.7	21.0	51.1	51.5	30.7	19.4
28-Oct	50.0	47.0	39.0	27.5	12.0	44.1	47.5	28.1	17.7
4-Nov	52.0	47.4	36.9	24.9	12.0	47.6	49.6	25.1	14.9
11-Nov	55.0	52.1	34.6	22.8	7.0	53.2	55.3	24.1	14.1
18-Nov	48.0	45.3	30.8	19.0	1.0	41.3	48.8	21.2	12.1
25-Nov	41.0	36.9	26.9	15.2	-4.0	31.5	37.8	17.8	10.1
2-Dec	40.0	37.7	22.3	9.3	-4.0	31.5	38.6	14.0	7.4
9-Dec	41.0	37.8	19.6	6.0	-13.0	31.5	38.0	13.8	7.1
16-Dec	41.0	39.0	13.9	-0.7	-22.0	32.9	40.1	10.9	5.1
23-Dec	37.0	34.7	15.2	-0.5	-18.0	28.7	36.1	11.9	5.2
31-Dec	41.0	38.9	9.8	-5.0	-24.0	31.5	41.1	9.0	4.2



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	2040
FEB	0	1754
MAR	0	1551
APR	0	1064
MAY	5	737
JUN	26	422
JUL	64	223
AUG	46	254
SEP	6	500
OCT	0	880
NOV	0	1217
DEC	0	1774
ANN	146	12416

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	-55283	0	-12659
FEB	0	-47663	0	-11150
MAR	0	-42610	0	-10240
APR	0	-29921	0	-6680
MAY	23	-21470	0	-3515
JUN	135	-13029	16	-685
JUL	292	-7598	105	-19
AUG	195	-8536	74	-48
SEP	17	-15218	7	-842
OCT	0	-25219	0	-3905
NOV	0	-33872	0	-7325
DEC	0	-48389	0	-11201
ANN	662	-348808	202	-68269

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

No Solar Radiation
Data Available

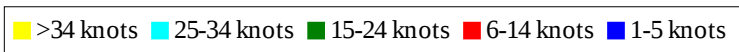
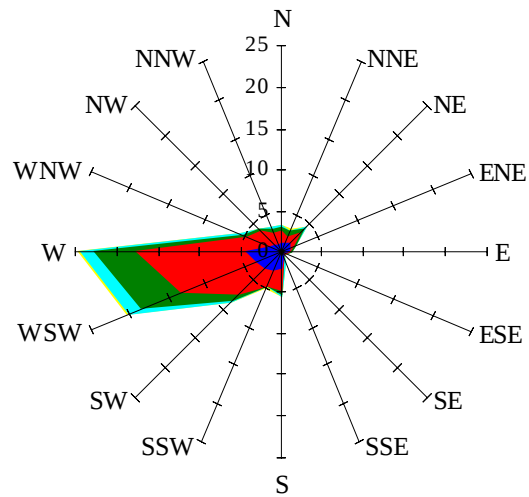


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

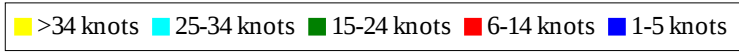
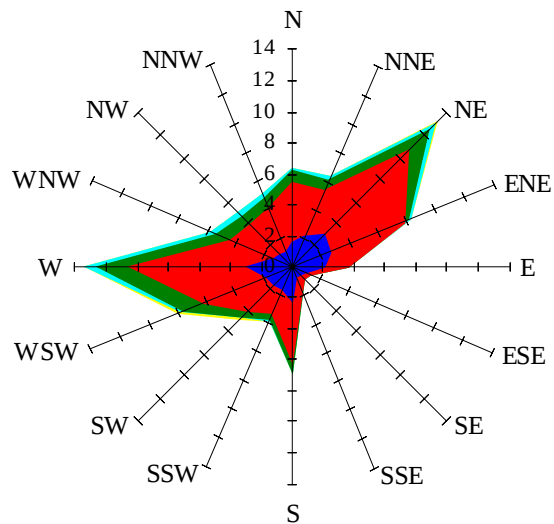
Labels of Percent Frequency on North Axis



Percent Calm = 8.68

Wind Summary - March, April, and May

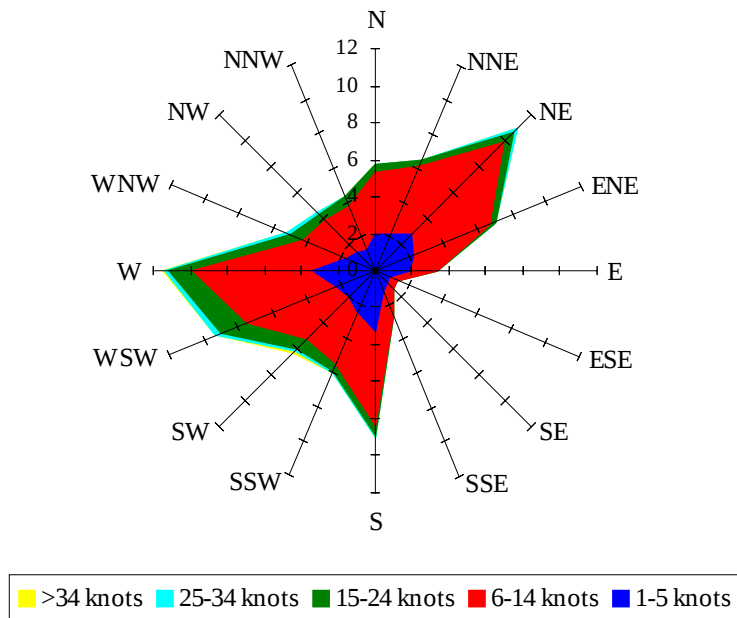
Labels of Percent Frequency on North Axis



Percent Calm = 6.57

Wind Summary - June, July, and August

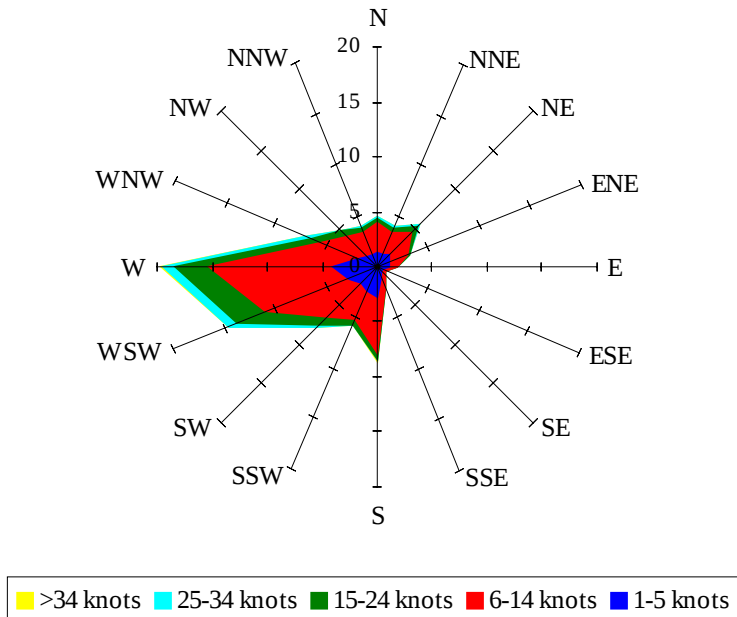
Labels of Percent Frequency on North Axis



Percent Calm = 5.43

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 5.09