

CAPE NEWENHAM AK

Latitude = 58.65 N

Longitude = 162.00 W

Period of Record = 1967 to 1996

WMO No. 703050

Elevation = 541 feet

Average Pressure = 29.10 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	65	57	56	9.6	ESE
0.4% Occurrence	60	54	54	9.8	SE
1.0% Occurrence	58	53	52	8.9	SE
2.0% Occurrence	56	52	52	9.1	SE
Mean Daily Range	7	-	-	-	-
97.5% Occurrence	-3	-4	3	11.8	N
99.0% Occurrence	-9	-9	2	12.3	N
99.6% Occurrence	-12	-12	2	15.6	N
Median of Extreme Lows	-13	-13	2	14.7	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	59	64	65	11.5	ESE
0.4% Occurrence	55	58	60	9.9	SE
1.0% Occurrence	54	57	58	9.5	S
2.0% Occurrence	53	55	56	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	69	60	0.45	11.9	SSE
0.4% Occurrence	62	57	0.41	9.9	SE
1.0% Occurrence	59	55	0.39	9.4	S
2.0% Occurrence	57	54	0.38	9.6	S
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

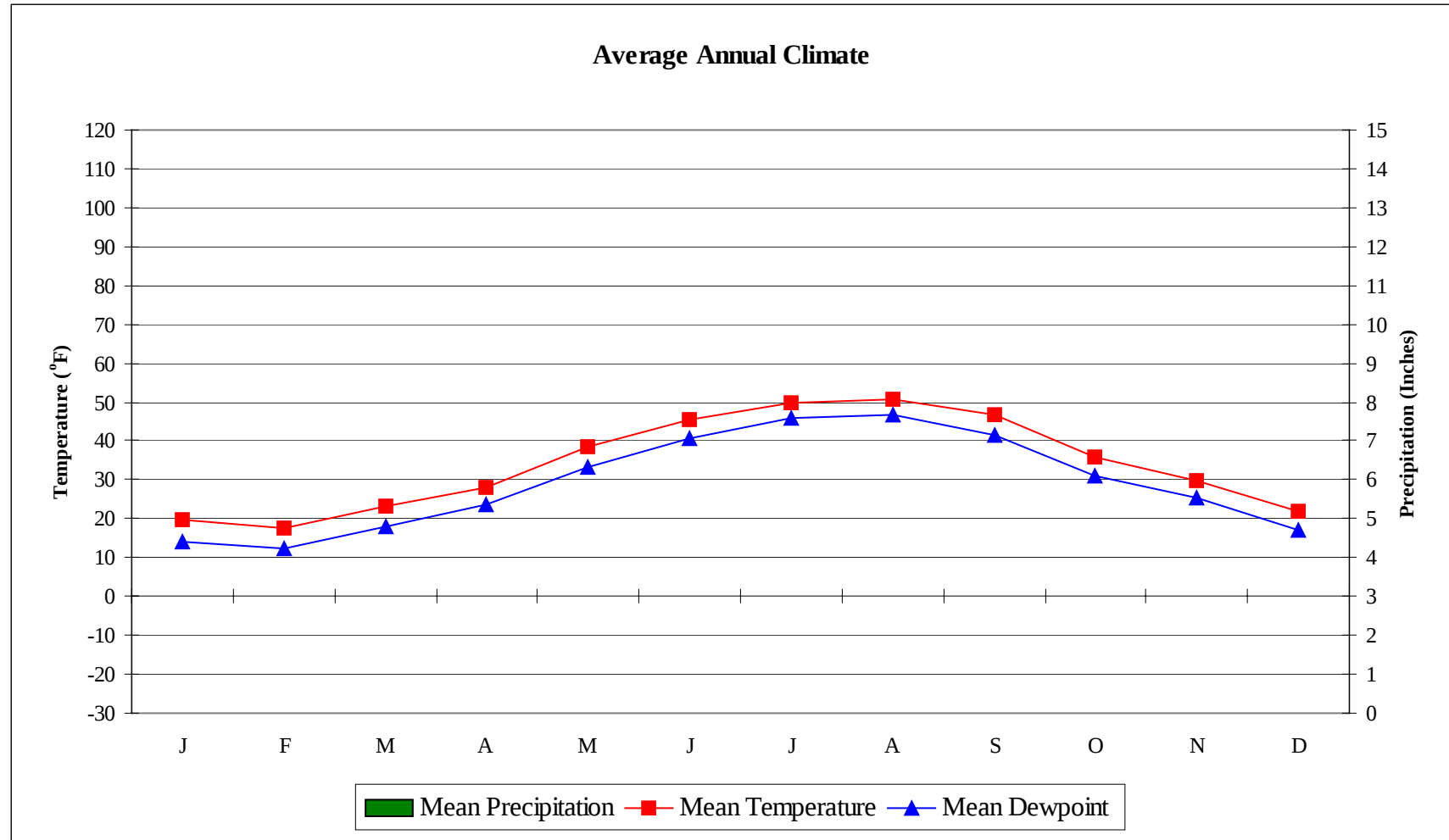
Other Site Data

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
4	0.8	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 (#)
36.7	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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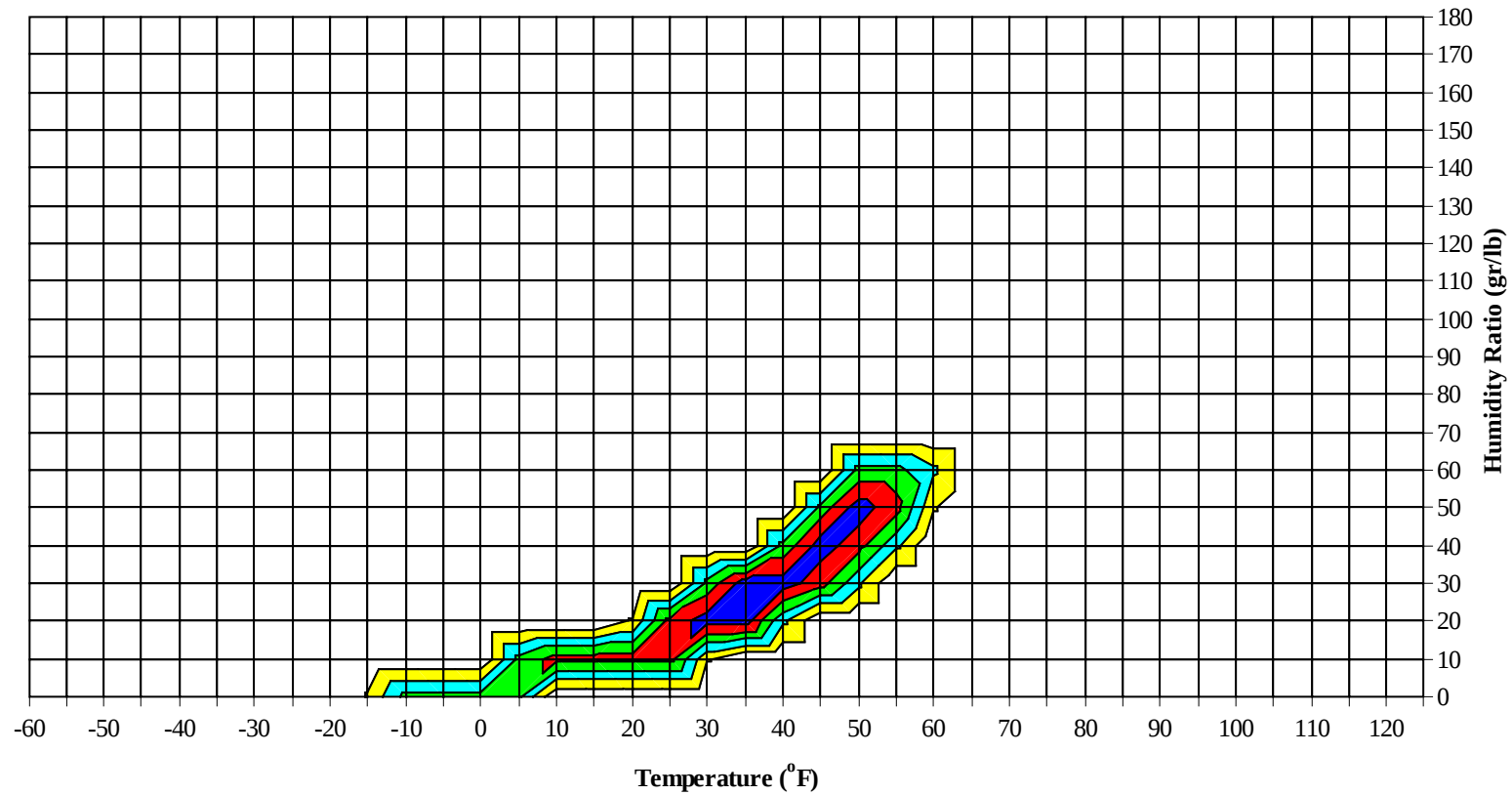


No Precipitation Data Available

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Long Term Psychrometric Summary

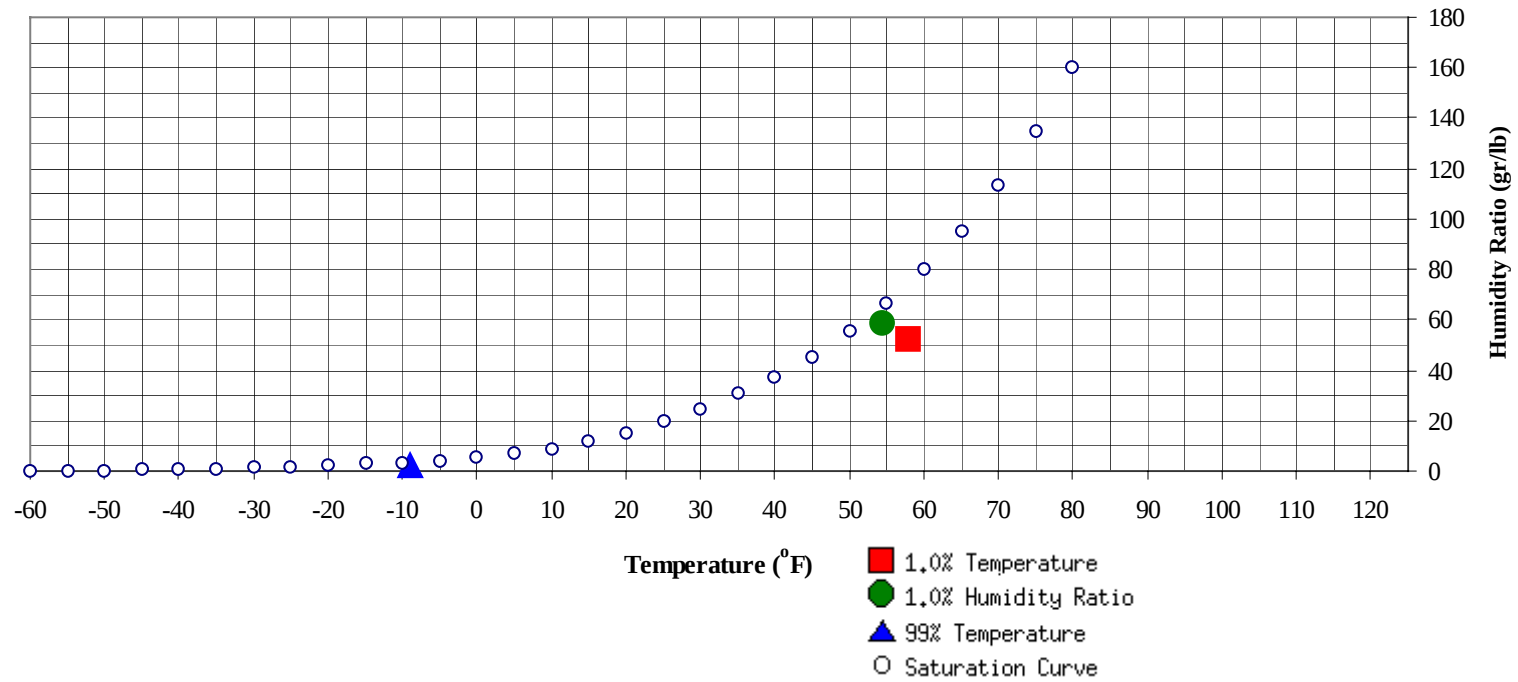


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values



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)
	-9	2.3	-1.8		58.8	54.5	53.1	51.9	22.2

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	58	52.2	52.7	22.0

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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		
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59															
50 / 54															
45 / 49	0			0	41.0	1	0	0	1	37.1		0	0	0	40.3
40 / 44	3	4	3	10	37.9	4	5	4	12	38.4	1	3	2	6	36.6
35 / 39	36	36	33	105	34.3	23	25	26	74	34.3	25	33	33	90	34.0
30 / 34	49	53	54	155	30.7	43	44	43	130	30.6	73	81	78	232	30.6
25 / 29	36	32	37	105	25.9	27	27	25	79	25.7	46	34	42	122	25.8
20 / 24	19	20	22	60	20.9	16	17	19	51	20.6	21	24	20	65	20.6
15 / 19	18	18	18	54	16.0	18	17	15	50	15.5	22	19	20	61	15.8
10 / 14	21	18	18	57	11.2	19	14	18	50	10.8	15	15	14	44	10.9
5 / 9	13	13	13	39	5.9	19	17	19	54	6.2	13	15	15	43	6.1
0 / 4	13	14	15	42	0.9	15	18	19	51	1.0	15	10	11	37	1.3
-5 / -1	17	17	13	46	-3.4	18	18	20	55	-3.2	8	6	3	17	-3.0
-10 / -6	16	13	15	44	-7.6	14	12	12	38	-7.4	4	4	5	12	-7.8
-15 / -11	7	8	6	21	-11.9	7	8	5	20	-11.8	6	4	5	14	-12.6
-20 / -16	1	2	2	5	-17.2	3	2	1	6	-16.3	1	1	0	2	-16.4
-25 / -21	0	0		0	-21.3										

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		
75 / 79															
70 / 74															
65 / 69							0	0	0	53.1		0	0	0	55.7
60 / 64						0	1	0	1	50.7	0	2	1	3	52.4
55 / 59						1	4	3	8	48.7	3	16	13	33	49.9
50 / 54		0		0	43.0	3	11	9	23	45.8	23	53	45	121	47.6
45 / 49	0	2	1	3	40.8	12	38	32	82	42.6	80	89	89	259	44.5
40 / 44	3	12	9	24	37.9	61	69	70	201	39.1	91	60	71	222	40.9
35 / 39	37	53	48	137	34.5	79	74	72	224	35.3	38	18	18	74	36.6
30 / 34	77	76	78	231	30.8	70	40	50	160	31.2	6	1	1	8	32.8
25 / 29	50	38	42	131	25.9	15	9	8	32	26.1					
20 / 24	28	22	23	73	20.7	5	3	3	11	21.0					
15 / 19	17	16	18	51	16.0	2	0	0	2	17.3					
10 / 14	15	12	13	41	11.1										
5 / 9	9	6	6	21	6.4										
0 / 4	4	2	2	8	1.4										
-5 / -1	0	0	0	0	-1.9										
-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 = 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		
75 / 79		0		0	61.0										
70 / 74		0	0	0	59.3			0	0	64.0					
65 / 69	0	2	2	4	56.8		1	1	2	58.3					
60 / 64	2	11	8	21	55.1	2	7	3	12	55.3		1	0	1	53.8
55 / 59	17	38	34	89	52.3	12	42	32	86	53.0	2	11	7	20	51.3
50 / 54	73	101	91	265	49.4	100	128	126	355	49.7	39	67	58	164	48.8
45 / 49	115	84	93	292	45.9	124	69	83	276	46.0	116	110	113	340	45.0
40 / 44	39	11	20	70	42.1	10	1	2	14	42.0	60	36	46	142	40.2
35 / 39	2	0	0	2	38.3	0			0	35.0	20	11	13	45	34.6
30 / 34											4	3	2	9	29.8
25 / 29											0	0	0	0	26.4
20 / 24															
15 / 19															
10 / 14															
5 / 9															
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 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		
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59															
50 / 54	0	1	1	2	47.5										
45 / 49	21	32	23	76	44.1	1	1	2	4	43.0	0	0	0	0	41.9
40 / 44	57	63	58	179	39.7	20	24	23	68	39.4	5	4	6	14	38.7
35 / 39	64	62	68	194	35.0	58	59	54	171	35.2	40	41	41	121	34.9
30 / 34	56	51	57	163	30.2	59	57	60	176	30.7	49	46	46	141	30.8
25 / 29	32	25	30	87	25.3	42	44	44	129	25.5	40	38	39	117	25.5
20 / 24	12	10	9	31	20.8	28	25	28	81	20.7	23	25	26	73	20.6
15 / 19	4	4	2	10	16.3	16	15	17	47	16.1	24	24	21	69	15.9
10 / 14	2	0	0	2	10.8	8	6	6	20	11.4	15	18	20	54	11.0
5 / 9	0	0		0	7.8	6	6	4	16	6.6	20	18	18	56	6.1
0 / 4						3	3	2	8	1.9	16	15	15	46	1.2
-5 / -1						0		0	0	-1.3	11	12	10	34	-3.0
-10 / -6											6	5	6	16	-7.0
-15 / -11											1	1	0	2	-11.6
-20 / -16											0	0		0	-15.4
-25 / -21															

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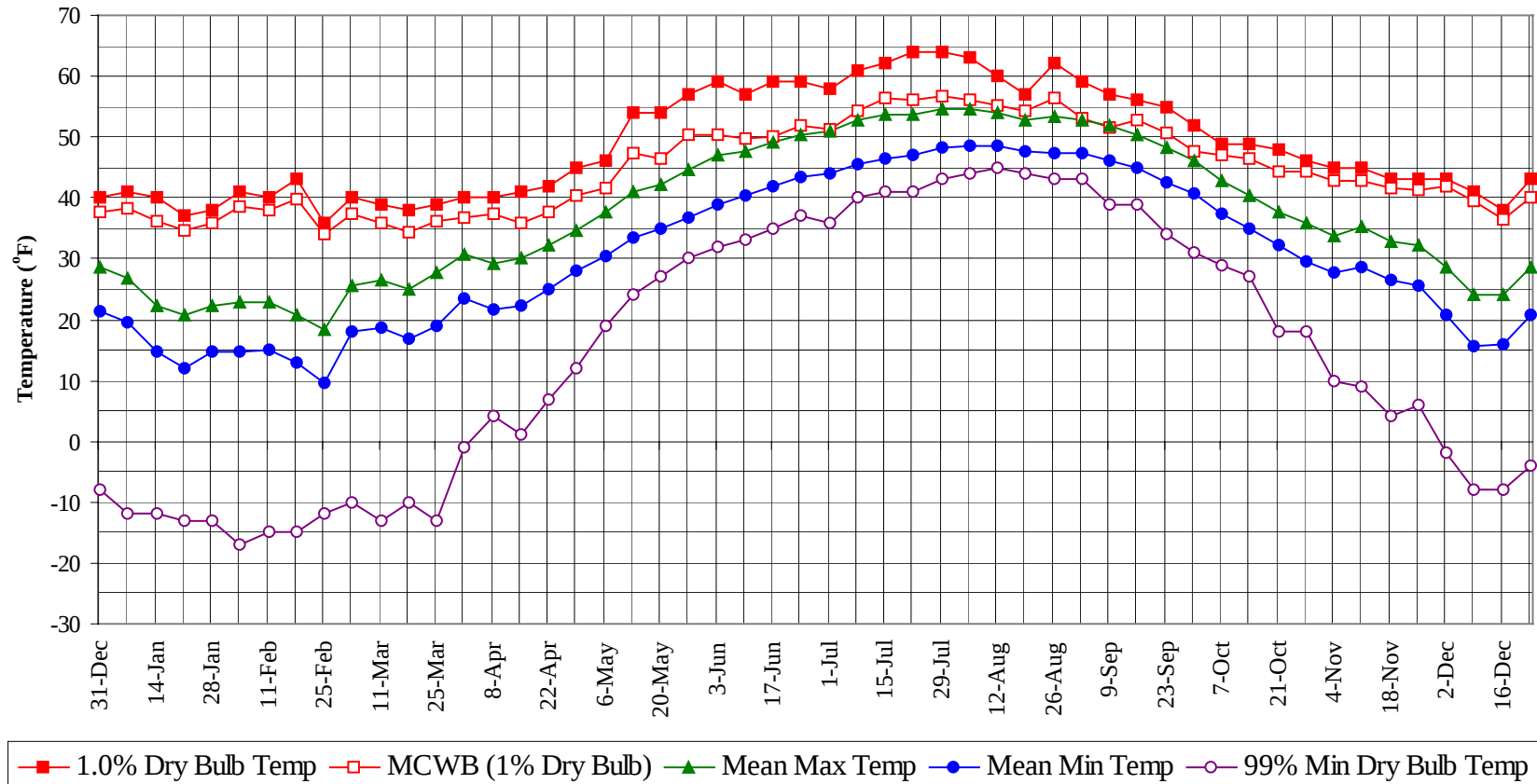
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1967 to 1996

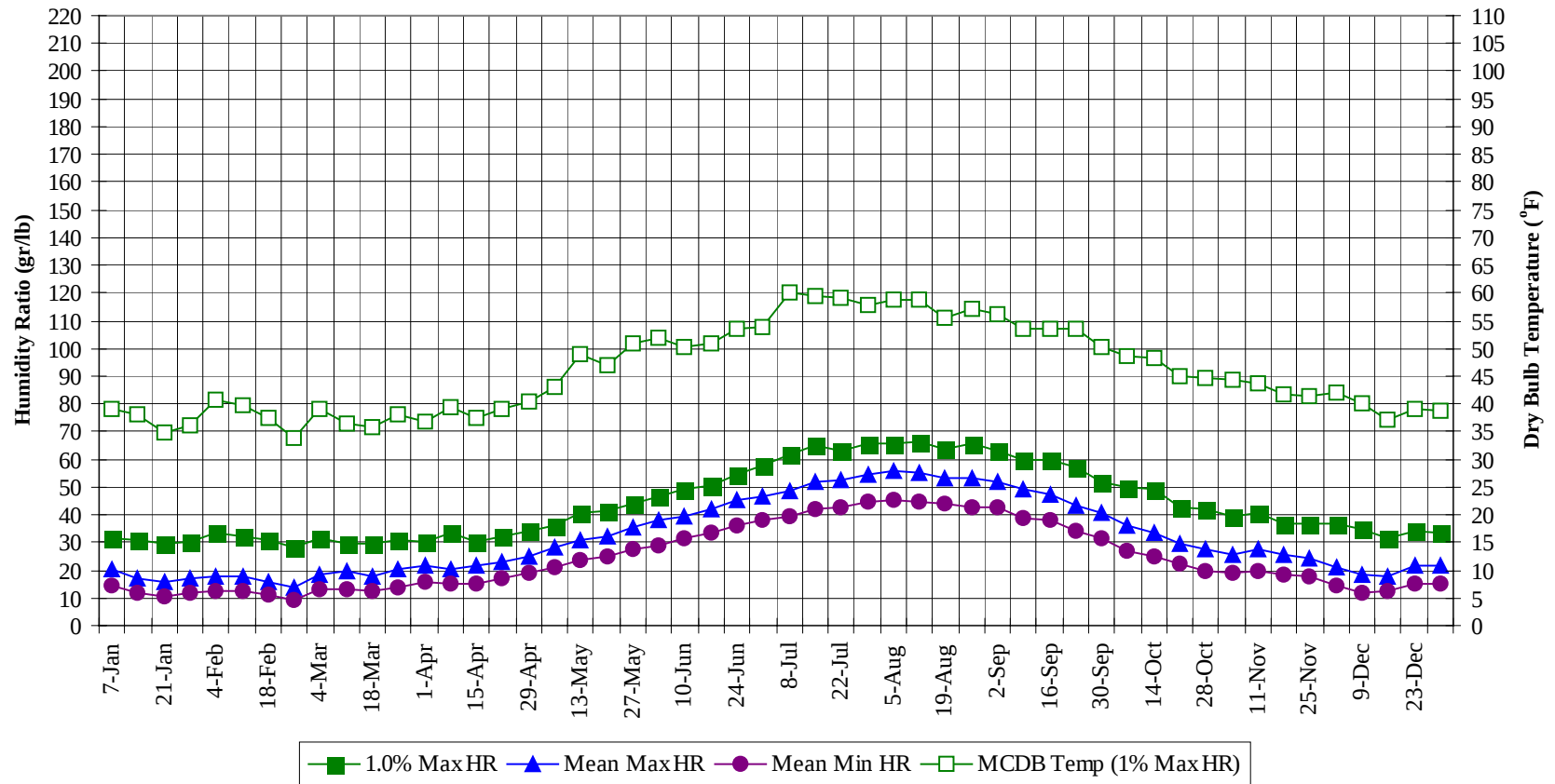
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
75 / 79		0		0	61.0
70 / 74		0	0	0	60.0
65 / 69	0	4	3	7	56.8
60 / 64	4	21	15	39	54.8
55 / 59	36	114	87	237	52.0
50 / 54	242	368	331	941	49.1
45 / 49	474	432	433	1338	45.1
40 / 44	354	293	312	959	40.0
35 / 39	418	411	409	1237	34.9
30 / 34	483	451	475	1409	30.7
25 / 29	288	246	268	802	25.7
20 / 24	149	143	150	442	20.7
15 / 19	117	111	112	341	15.9
10 / 14	94	83	89	266	11.0
5 / 9	78	74	73	225	6.1
0 / 4	65	62	64	190	1.1
-5 / -1	53	51	44	148	-3.2
-10 / -6	38	34	36	109	-7.5
-15 / -11	22	19	16	56	-12.0
-20 / -16	6	4	3	13	-16.6
-25 / -21	0	0		0	-21.3

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

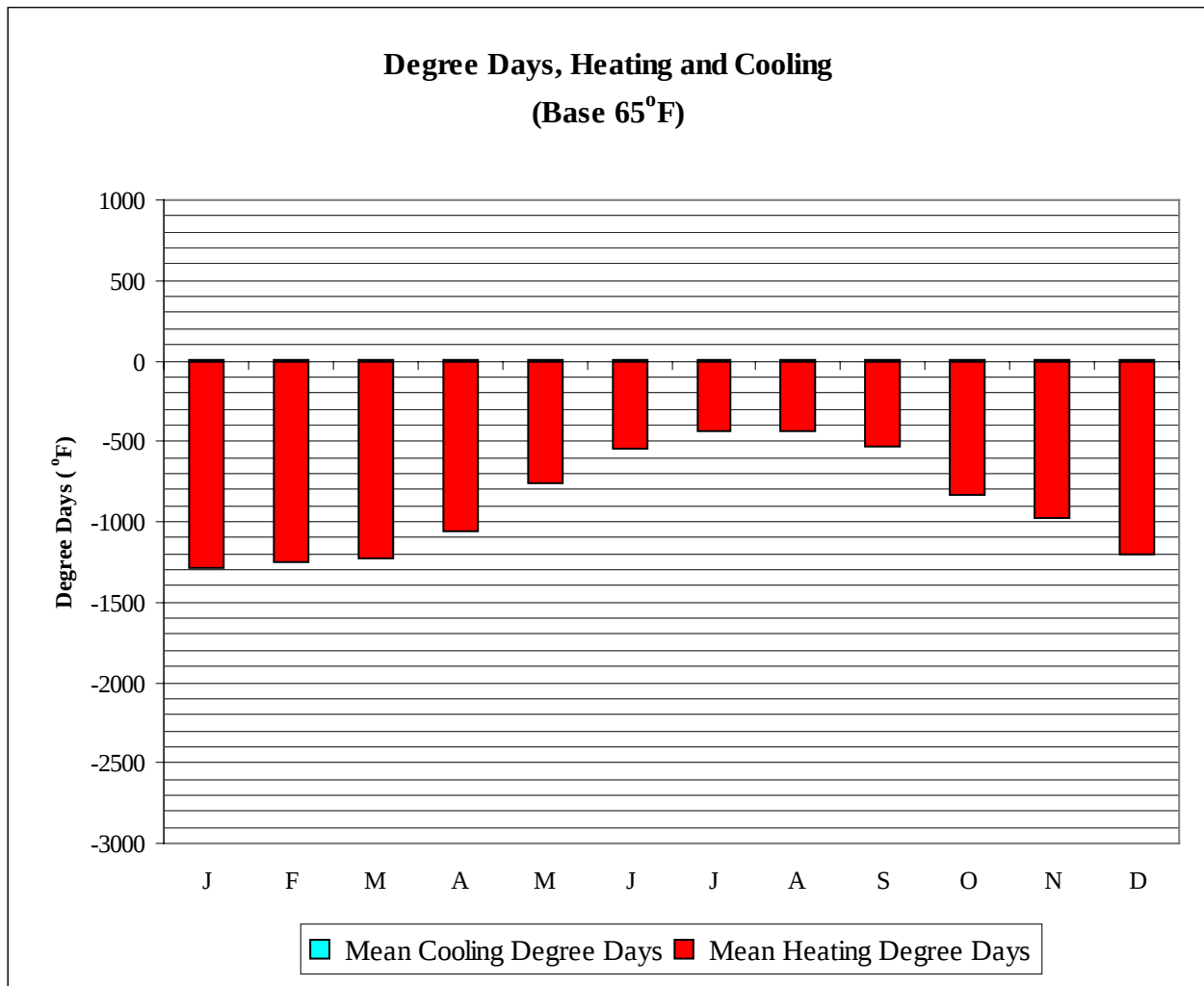


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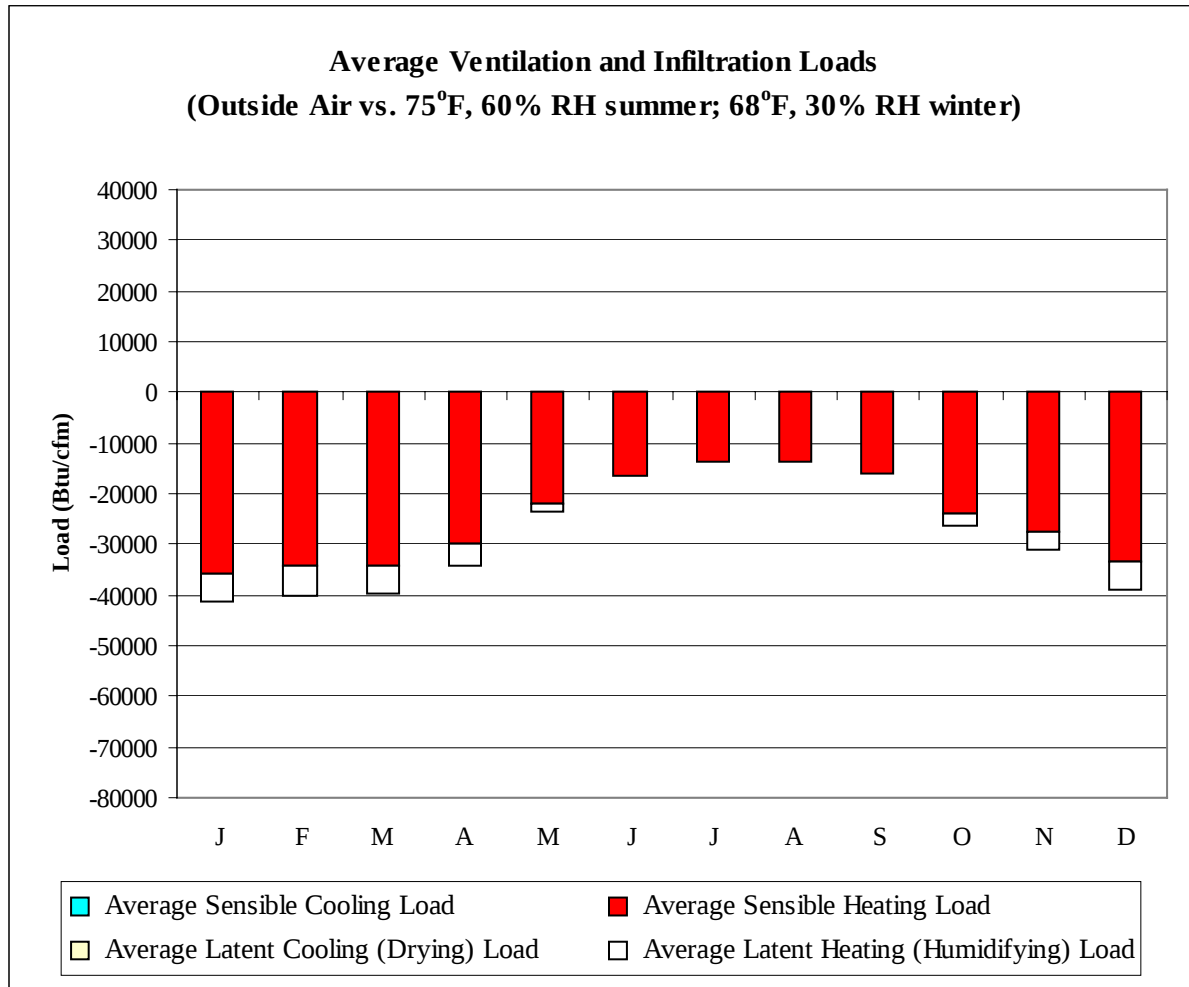
WMO No. 703050

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	41.0	38.4	26.8	19.5	-12.0	31.5	39.0	20.4	14.4
14-Jan	40.0	36.2	22.4	14.7	-12.0	30.8	38.0	17.0	11.6
21-Jan	37.0	34.7	20.7	11.9	-13.0	29.4	34.8	16.1	10.5
28-Jan	38.0	35.9	22.2	14.6	-13.0	30.1	36.2	17.4	11.9
4-Feb	41.0	38.6	22.9	14.6	-17.0	33.6	40.7	17.8	12.5
11-Feb	40.0	38.0	22.9	14.9	-15.0	32.2	39.7	17.8	12.3
18-Feb	43.0	39.9	20.6	12.8	-15.0	30.8	37.4	15.9	10.9
25-Feb	36.0	34.0	18.3	9.7	-12.0	28.0	33.9	14.0	9.3
4-Mar	40.0	37.5	25.7	18.0	-10.0	31.5	39.1	18.7	13.1
11-Mar	39.0	35.8	26.5	18.5	-13.0	29.4	36.5	19.5	13.2
18-Mar	38.0	34.4	25.0	16.9	-10.0	29.4	35.8	17.7	12.2
25-Mar	39.0	36.3	27.8	19.1	-13.0	30.8	38.1	20.0	13.7
1-Apr	40.0	36.8	30.8	23.4	-1.0	30.1	36.9	21.8	16.0
8-Apr	40.0	37.5	29.3	21.6	4.0	33.6	39.3	20.6	14.8
15-Apr	41.0	35.8	30.1	22.4	1.0	30.1	37.4	21.6	15.0
22-Apr	42.0	37.7	32.3	24.9	7.0	32.2	39.0	23.3	17.2
29-Apr	45.0	40.3	34.8	27.9	12.0	34.3	40.3	25.3	19.1
6-May	46.0	41.6	37.7	30.5	19.0	36.4	43.0	28.1	21.2
13-May	54.0	47.5	40.9	33.4	24.0	40.6	49.0	30.9	23.7
20-May	54.0	46.6	42.2	35.0	27.0	41.3	46.8	32.4	25.3
27-May	57.0	50.3	44.6	36.9	30.0	44.1	50.8	35.3	27.8
3-Jun	59.0	50.4	47.1	38.8	32.0	46.9	51.9	37.8	29.2
10-Jun	57.0	49.7	47.8	40.4	33.0	49.0	50.4	39.5	31.6
17-Jun	59.0	50.2	49.2	41.9	35.0	50.4	50.8	42.1	33.6
24-Jun	59.0	51.8	50.3	43.4	37.0	54.6	53.4	45.4	36.4
1-Jul	58.0	51.2	51.1	44.1	36.0	58.1	53.9	46.5	37.8
8-Jul	61.0	54.1	52.8	45.4	40.0	61.6	60.2	48.6	39.5
15-Jul	62.0	56.4	53.8	46.5	41.0	65.1	59.4	52.1	42.0
22-Jul	64.0	56.1	53.7	47.0	41.0	63.0	59.2	52.5	42.7
29-Jul	64.0	56.6	54.7	48.4	43.0	65.8	57.7	54.5	44.4
5-Aug	63.0	56.1	54.7	48.6	44.0	65.8	58.8	55.5	45.4
12-Aug	60.0	55.2	53.9	48.4	45.0	66.5	58.8	54.9	44.5
19-Aug	57.0	54.3	52.9	47.6	44.0	63.7	55.4	53.3	43.8
26-Aug	62.0	56.5	53.2	47.4	43.0	65.8	57.3	53.3	42.6
2-Sep	59.0	53.1	52.7	47.4	43.0	63.0	56.1	51.8	42.8
9-Sep	57.0	51.6	51.8	46.0	39.0	59.5	53.5	49.1	38.7
16-Sep	56.0	52.8	50.3	44.8	39.0	59.5	53.5	47.4	37.8
23-Sep	55.0	50.5	48.3	42.6	34.0	57.4	53.6	43.1	33.9
30-Sep	52.0	47.8	46.2	40.7	31.0	51.8	50.2	40.7	31.4
7-Oct	49.0	47.0	42.9	37.4	29.0	49.7	48.5	35.9	27.2
14-Oct	49.0	46.3	40.5	34.9	27.0	49.0	48.4	33.3	25.1
21-Oct	48.0	44.4	37.8	32.3	18.0	42.7	45.1	29.8	22.5
28-Oct	46.0	44.2	35.9	29.5	18.0	42.0	44.7	27.7	20.0
4-Nov	45.0	42.9	33.9	27.6	10.0	39.2	44.4	25.9	18.9
11-Nov	45.0	43.0	35.2	28.7	9.0	40.6	43.7	27.4	19.9
18-Nov	43.0	41.6	32.9	26.4	4.0	37.1	41.6	25.7	18.1
25-Nov	43.0	41.3	32.4	25.7	6.0	37.1	41.2	24.6	17.6
2-Dec	43.0	42.0	28.5	20.8	-2.0	37.1	42.2	21.3	14.7
9-Dec	41.0	39.4	24.2	15.7	-8.0	35.0	40.0	18.5	12.0
16-Dec	38.0	36.4	24.0	15.9	-8.0	31.5	37.2	18.0	12.2
23-Dec	43.0	40.2	28.5	20.6	-4.0	34.3	39.0	21.4	15.0
31-Dec	40.0	37.8	28.6	21.4	-8.0	33.6	38.7	21.7	15.4



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1290
FEB	0	1247
MAR	0	1232
APR	0	1063
MAY	0	763
JUN	0	545
JUL	0	443
AUG	0	432
SEP	0	528
OCT	0	836
NOV	0	973
DEC	0	1207
ANN	0	10559



	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	-35638	0	-5752
FEB	0	-34381	0	-5873
MAR	0	-34214	0	-5527
APR	0	-29798	0	-4408
MAY	0	-21988	0	-1498
JUN	0	-16278	0	-118
JUL	0	-13788	0	-3
AUG	0	-13537	0	-5
SEP	0	-15905	0	-286
OCT	0	-23885	0	-2377
NOV	0	-27371	0	-3717
DEC	0	-33482	0	-5279
ANN	0	-300265	0	-34843

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

No Solar Radiation
Data Available

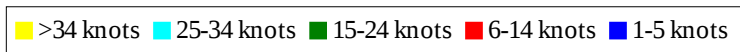
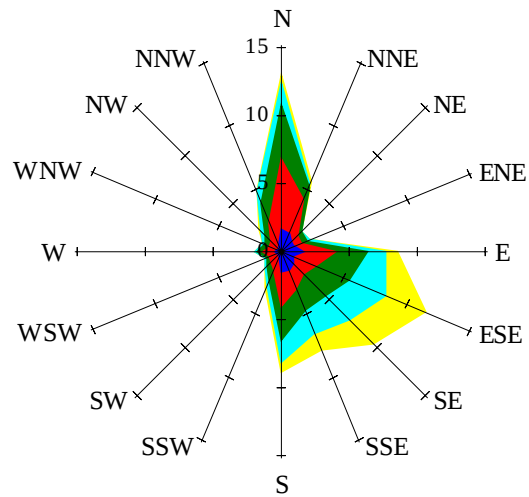


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

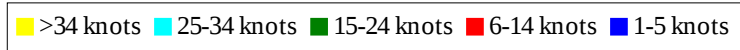
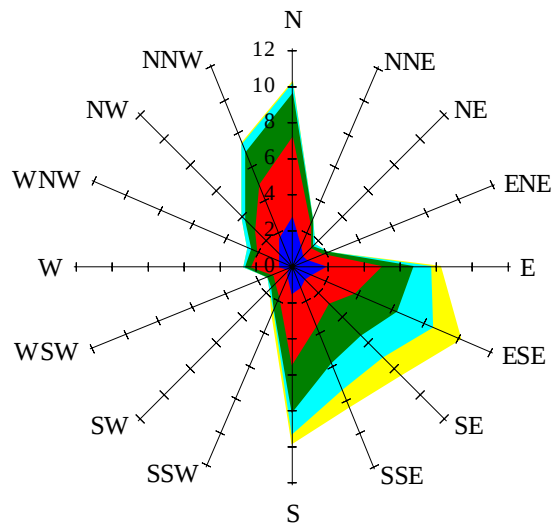
Labels of Percent Frequency on North Axis



Percent Calm = 15.27

Wind Summary - March, April, and May

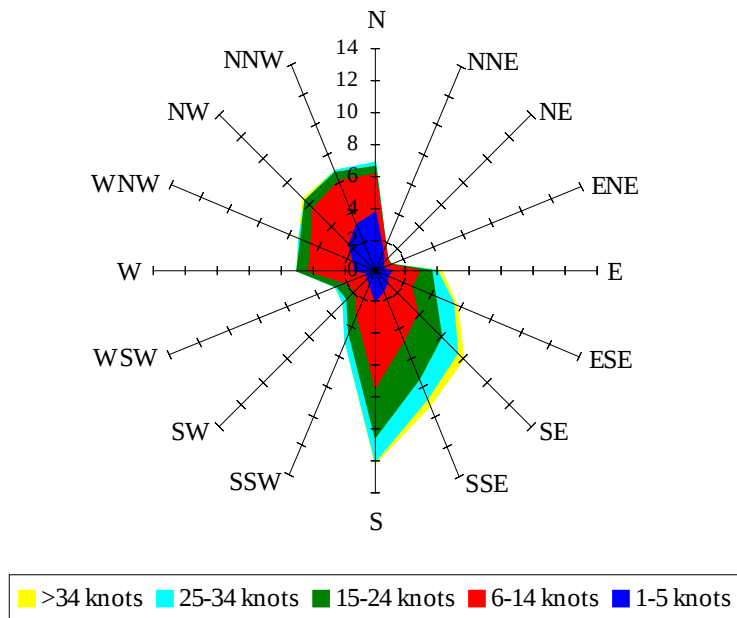
Labels of Percent Frequency on North Axis



Percent Calm = 16.22

Wind Summary - June, July, and August

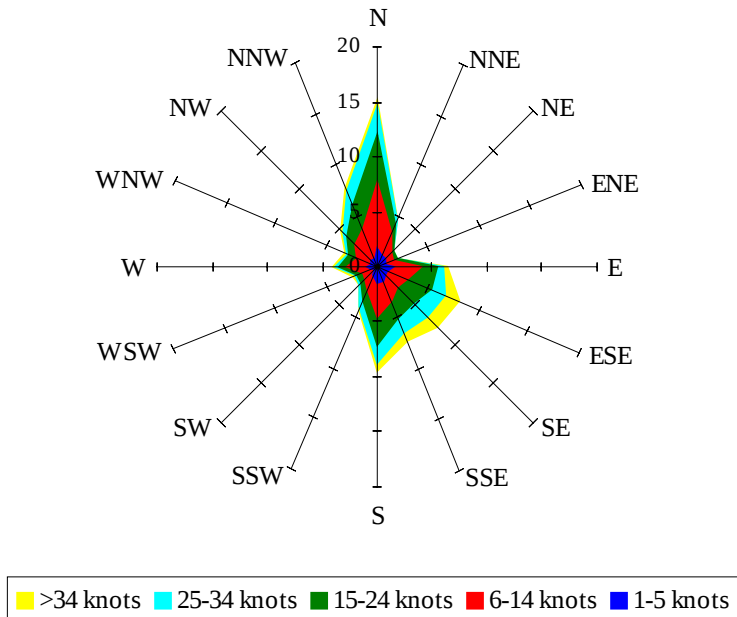
Labels of Percent Frequency on North Axis



Percent Calm = 16.63

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 9.26