

WHITTIER	AK	WMO No. 702757
Latitude = 60.77 N		Elevation = 30 feet
Longitude = 148.60 W		Average Pressure = 29.75 inches Hg
Period of Record = 1975 to 1996		

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	73	61	60	11.4	S
0.4% Occurrence	70	59	58	10.4	S
1.0% Occurrence	67	57	54	10.2	S
2.0% Occurrence	64	56	53	9.2	S
Mean Daily Range	7	-	-	-	-
97.5% Occurrence	14	12	7	18.0	SW
99.0% Occurrence	9	7	5	23.0	SW
99.6% Occurrence	5	4	4	28.0	SW
Median of Extreme Lows	6	5	4	27.2	SW
	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	71	81	13.1	WSW
0.4% Occurrence	60	68	62	9.7	S
1.0% Occurrence	58	65	59	8.3	S
2.0% Occurrence	56	61	57	7.6	ENE
	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	83	71	0.56	16.3	SW
0.4% Occurrence	67	62	0.45	9.8	ENE
1.0% Occurrence	64	59	0.43	8.4	ENE
2.0% Occurrence	61	57	0.41	7.0	ENE
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	0	0	2

Other Site Data

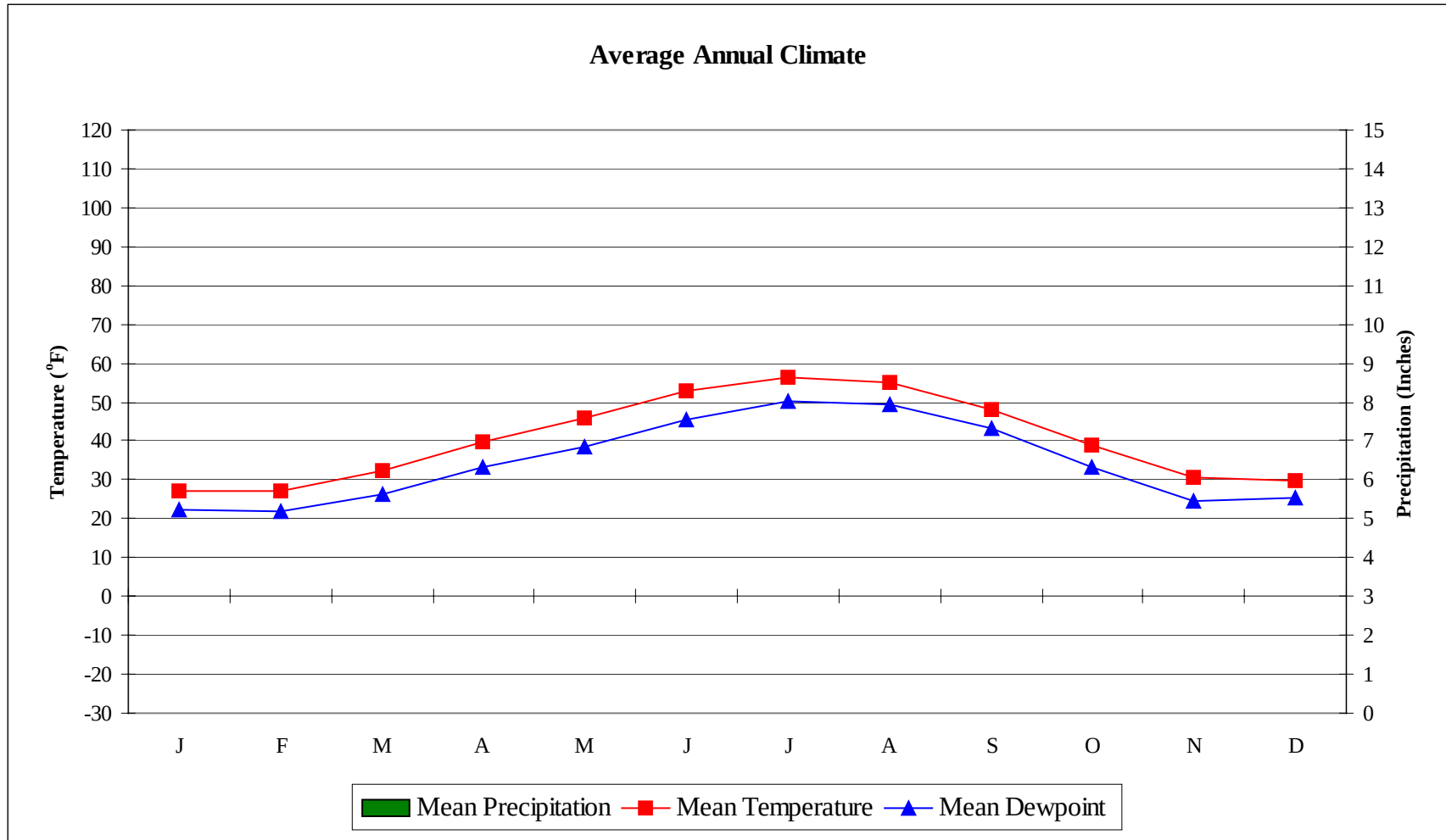
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
6	1.3	120	0.0 + 0.0
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
43.0	118	400	34

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

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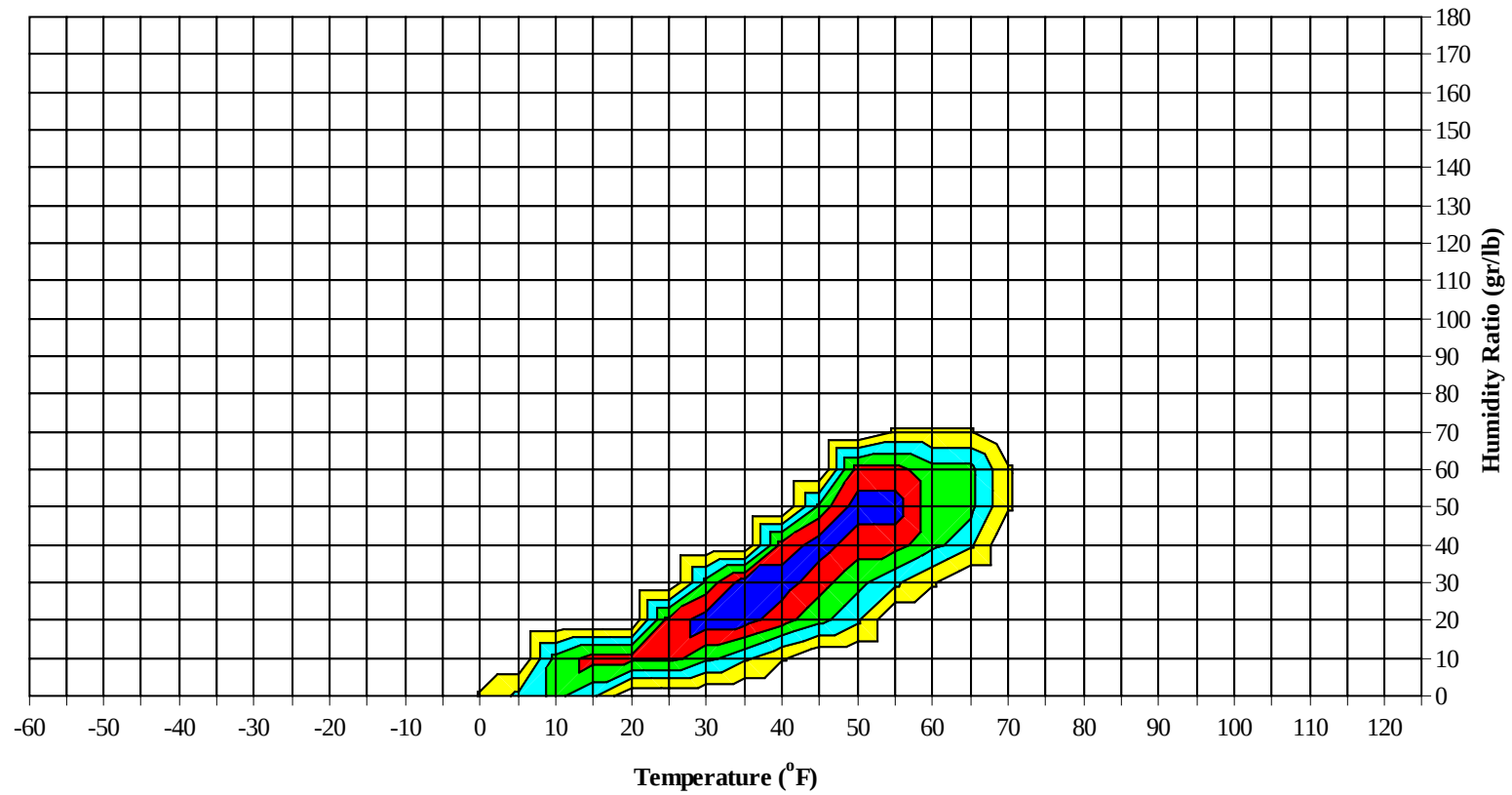
No Precipitation Data Available

WHITTIER

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Long Term Psychrometric Summary



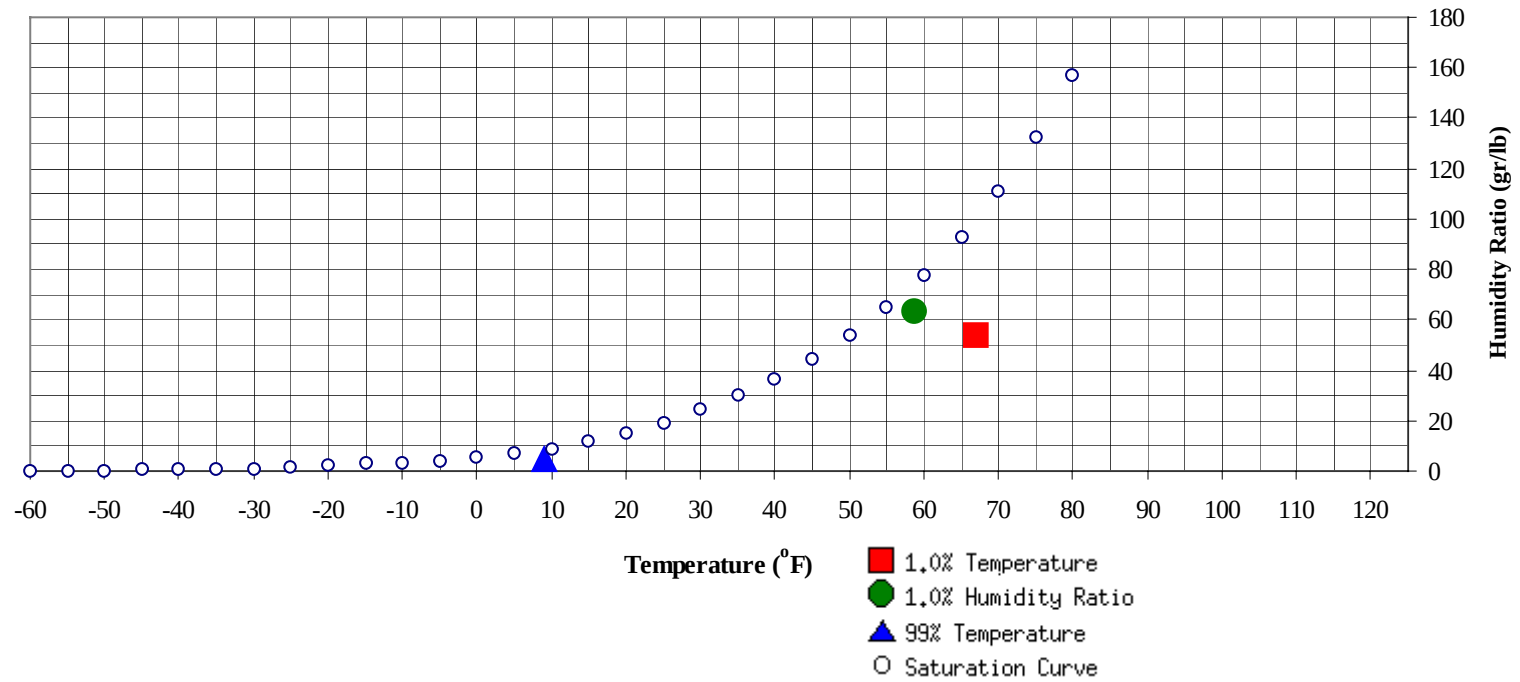
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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	4.8	2.9		63.7	58.7	56.3	54.8	24.0

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	67	53.7	57.2	24.4

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Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)**Period of Record = 1975 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				0	0 38.0										
45 / 49				1	1 38.5	1	1	1	3	40.6	0	6	1	7	41.4
40 / 44	4	4	6	14	38.6	3	6	5	14	38.2	5	37	18	60	37.5
35 / 39	42	48	40	130	35.2	41	60	51	152	35.5	68	93	96	257	34.7
30 / 34	84	82	83	249	31.3	57	47	56	160	31.4	101	64	83	248	31.2
25 / 29	39	38	37	114	25.5	39	39	29	107	25.2	37	22	25	83	25.1
20 / 24	27	31	34	93	20.2	31	33	36	100	20.2	13	10	10	33	19.5
15 / 19	25	21	22	68	15.1	26	18	25	69	15.2	9	10	8	27	14.8
10 / 14	17	12	17	46	10.2	14	11	11	36	10.4	9	5	5	19	10.2
5 / 9	5	8	6	19	5.6	8	6	8	22	5.9	4	2	3	9	5.6
0 / 4	3	2	2	7	1.5	4	3	2	9	1.3	0	0		0	2.3
-5 / -1	0	0	0	0	-2.3										
-10 / -6	0	1	0	1	-8.6										
-15 / -11	0	0	1	1	-11.8										
-20 / -16	1	1	0	2	-16.3										

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 = 1975 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												0		0	62.0
70 / 74							0	0	0	54.3	0	4	3	7	59.8
65 / 69						0	2	2	4	54.2	3	16	15	34	55.7
60 / 64		0	0	0	51.0	1	7	5	13	50.9	9	34	26	69	53.4
55 / 59		2	1	3	45.9	5	25	24	54	48.0	29	55	50	134	51.0
50 / 54	0	17	11	28	43.8	20	51	38	109	45.7	81	74	72	228	48.9
45 / 49	8	52	34	94	41.3	70	80	76	227	43.5	99	50	65	215	45.9
40 / 44	54	81	77	212	38.6	105	64	78	247	40.4	19	7	9	34	42.5
35 / 39	133	72	95	301	35.6	45	19	24	88	37.0					
30 / 34	37	13	17	67	31.5	2	1	0	3	31.7					
25 / 29	4	3	3	10	24.2										
20 / 24	2	1	2	5	19.9										
15 / 19	1	0		1	15.9										
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															

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Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)**Period of Record = 1975 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	1	1	2	61.1		1	0	1	64.9					
70 / 74	1	11	8	20	59.7	0	4	3	7	61.9					
65 / 69	8	23	23	54	57.5	3	16	14	33	57.7					
60 / 64	22	47	41	110	55.3	13	38	36	87	54.8	1	5	2	8	52.3
55 / 59	55	78	73	206	53.2	48	83	75	206	52.8	5	22	17	43	50.7
50 / 54	138	84	95	317	50.8	142	99	106	347	50.9	57	81	75	214	49.4
45 / 49	25	4	6	35	47.7	42	8	14	64	47.1	107	97	104	309	45.4
40 / 44											54	26	31	112	40.5
35 / 39											9	8	9	26	34.1
30 / 34											5	1	2	8	28.4
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															

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WMO No. 702757

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

Period of Record = 1975 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		0	0	0	49.3										
50 / 54	1	6	4	11	46.2	0			0	45.0					
45 / 49	19	37	33	88	43.6	0	3	2	5	42.2			0	0	42.0
40 / 44	79	82	82	243	39.8	15	22	19	56	39.1	2	6	6	14	38.3
35 / 39	90	82	81	253	35.4	69	70	67	207	35.3	57	60	66	183	35.5
30 / 34	45	31	36	112	29.9	67	64	69	201	30.7	85	86	76	247	31.5
25 / 29	13	11	11	34	24.5	39	41	40	119	24.9	44	45	51	140	25.5
20 / 24	1	0	2	3	21.0	24	18	19	61	20.0	28	27	21	76	20.1
15 / 19	0	0		0	16.0	9	9	11	29	14.9	21	15	20	57	15.4
10 / 14						7	6	6	19	9.9	7	6	4	17	10.5
5 / 9						8	5	6	19	5.1	3	2	3	8	6.5
0 / 4						0	2	2	4	0.5	1	1	0	2	-0.5
-5 / -1						1	0		1	-2.8					
-10 / -6															
-15 / -11															
-20 / -16															

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WHITTIER**AK**

WMO No. 702757

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

Period of Record = 1975 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	3	1	4	62.7
70 / 74	2	20	15	37	60.1
65 / 69	14	58	55	127	57.0
60 / 64	49	133	112	294	54.4
55 / 59	149	271	246	666	52.0
50 / 54	456	416	410	1283	49.6
45 / 49	376	338	342	1055	44.8
40 / 44	332	331	326	989	39.6
35 / 39	545	508	525	1579	35.4
30 / 34	476	386	417	1280	31.1
25 / 29	212	198	195	606	25.2
20 / 24	126	118	121	364	20.1
15 / 19	91	72	84	247	15.1
10 / 14	53	37	42	132	10.3
5 / 9	28	23	24	74	5.7
0 / 4	8	8	6	22	1.1
-5 / -1	1	0	0	1	-2.5
-10 / -6	0	0	0	0	-8.6
-15 / -11	0	0	0	0	-11.8
-20 / -16	1	1	0	2	-16.3

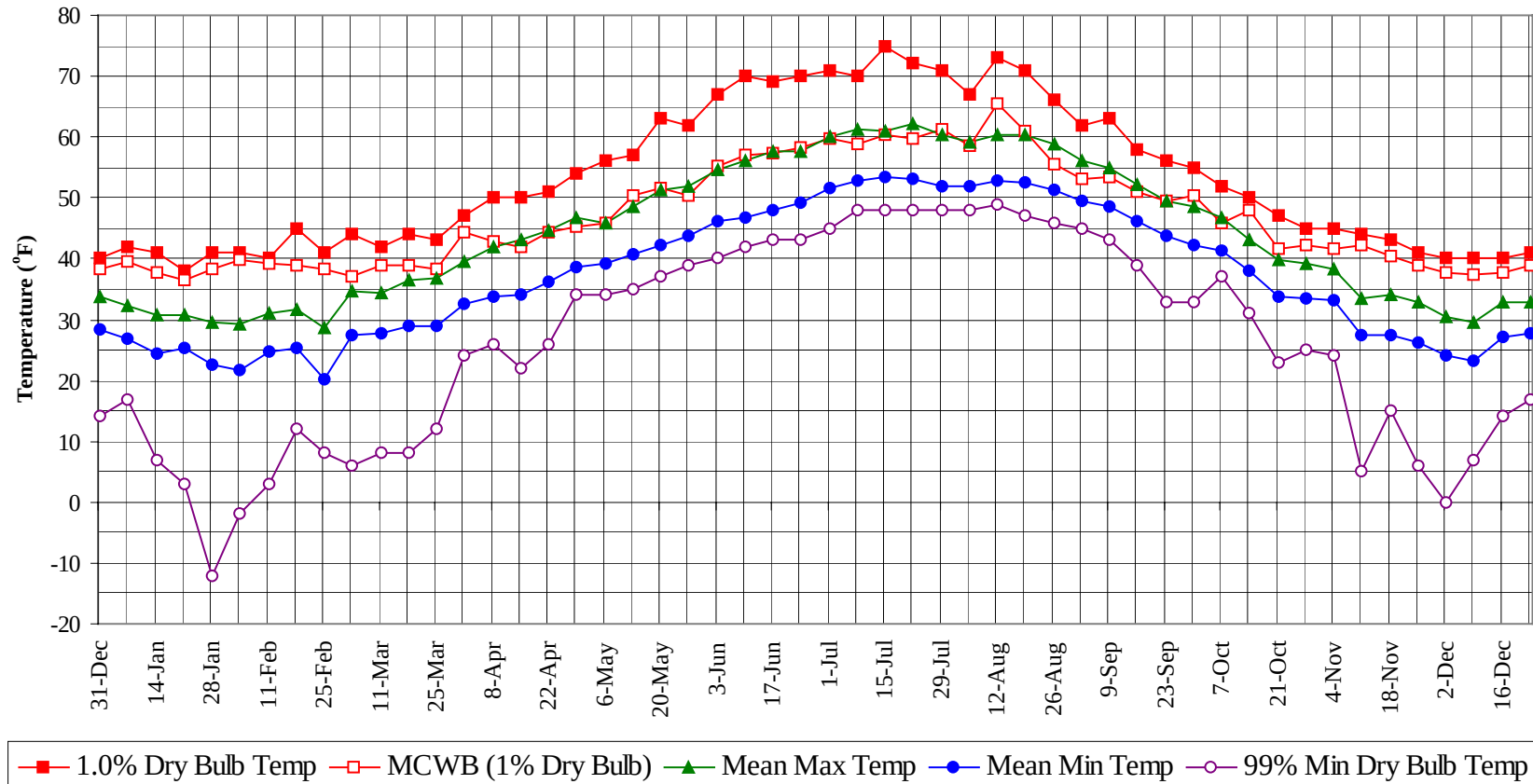
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

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WMO No. 702757

Annual Summary of Temperatures

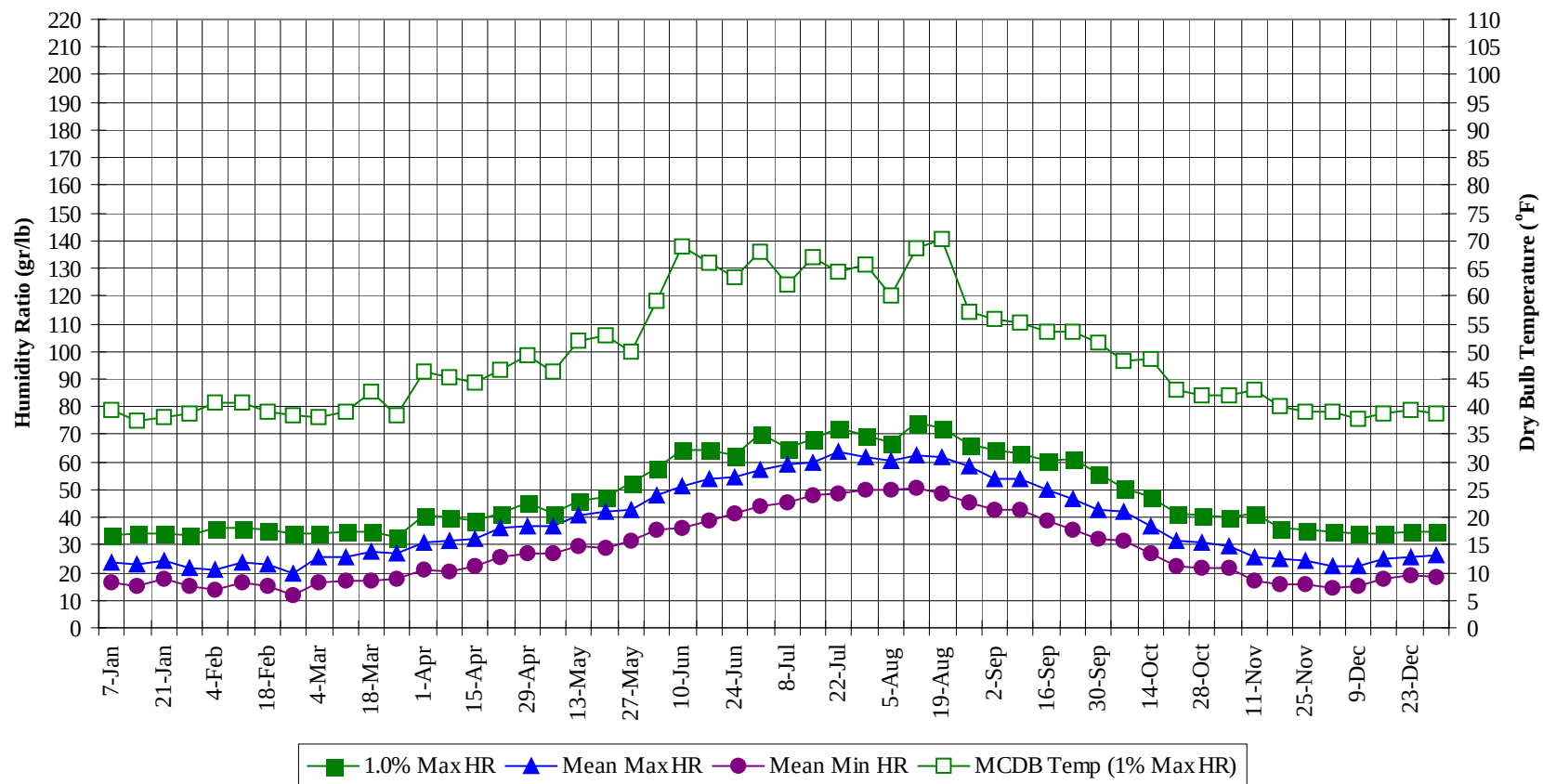


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WMO No. 702757

Long Term Humidity and Dry Bulb Temperature Summary



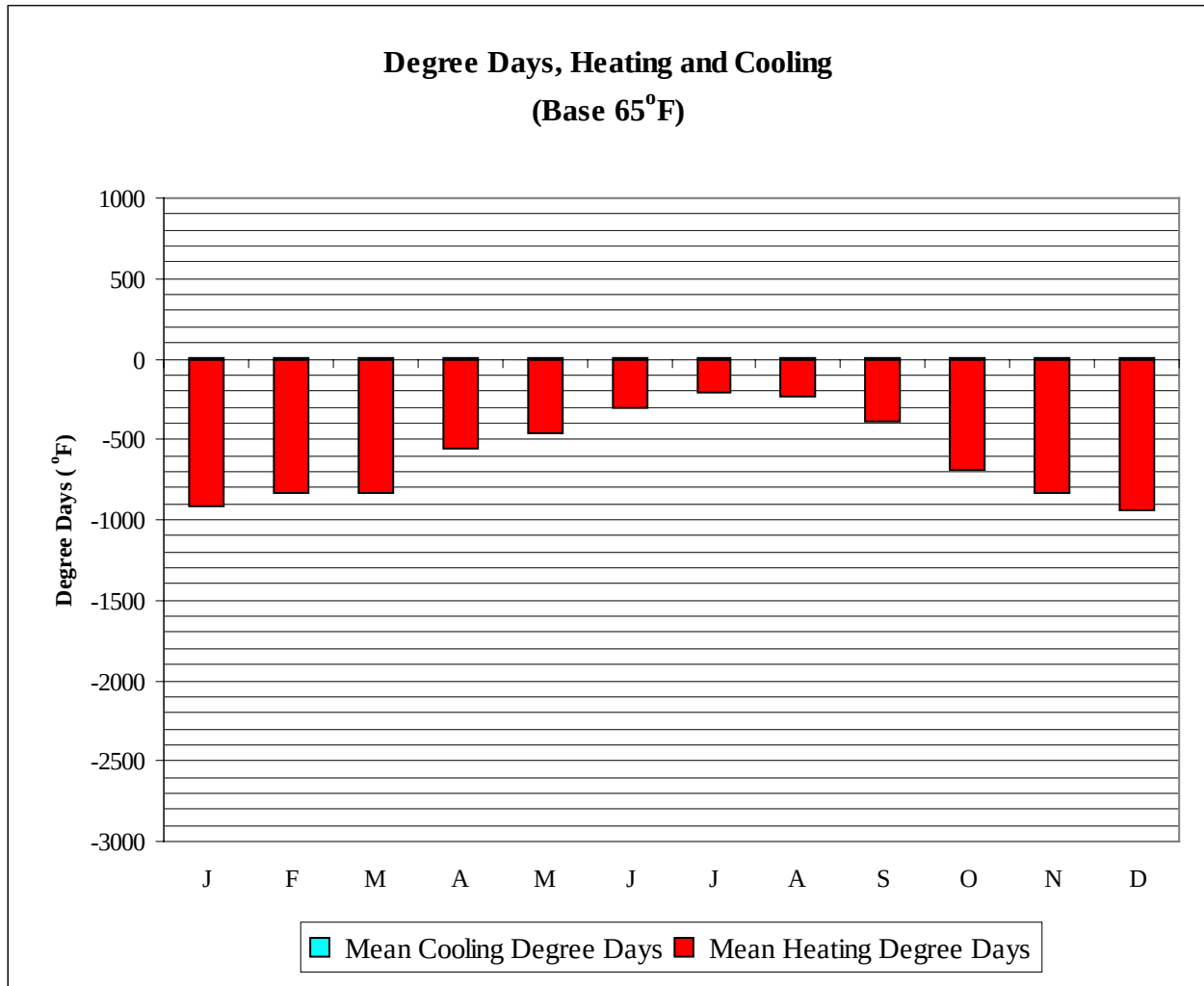
WHITTIER**AK****WMO No. 702757****Long Term Dry Bulb Temperature and Humidity Summary**

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	42.0	39.4	32.2	27.0	17.0	33.6	39.5	23.9	16.6
14-Jan	41.0	37.7	30.8	24.4	7.0	34.3	37.4	22.9	15.2
21-Jan	38.0	36.5	30.7	25.3	3.0	34.3	38.0	24.3	17.9
28-Jan	41.0	38.4	29.6	22.7	-12.0	33.6	38.7	21.4	15.1
4-Feb	41.0	39.8	29.1	21.6	-2.0	36.4	40.8	21.1	14.0
11-Feb	40.0	39.2	31.1	24.6	3.0	36.4	40.7	23.4	16.4
18-Feb	45.0	38.9	31.8	25.4	12.0	35.7	39.0	23.0	15.2
25-Feb	41.0	38.2	28.6	20.2	8.0	34.3	38.4	19.8	11.6
4-Mar	44.0	37.0	34.5	27.4	6.0	34.3	38.0	25.5	16.7
11-Mar	42.0	38.9	34.5	27.8	8.0	35.0	39.2	25.6	17.2
18-Mar	44.0	38.9	36.4	29.0	8.0	35.0	42.5	27.3	17.4
25-Mar	43.0	38.2	36.8	28.9	12.0	32.9	38.3	26.6	17.6
1-Apr	47.0	44.2	39.6	32.5	24.0	40.6	46.1	30.6	20.8
8-Apr	50.0	42.9	41.8	33.7	26.0	39.9	45.2	31.3	20.5
15-Apr	50.0	42.1	43.1	34.1	22.0	38.5	44.5	32.5	22.0
22-Apr	51.0	44.5	44.8	36.3	26.0	41.3	46.6	36.0	25.6
29-Apr	54.0	45.3	46.8	38.6	34.0	45.5	49.2	37.1	26.8
6-May	56.0	46.0	45.9	39.1	34.0	41.3	46.2	36.5	27.3
13-May	57.0	50.3	48.7	40.6	35.0	46.2	52.0	40.5	29.8
20-May	63.0	51.5	51.2	42.1	37.0	47.6	52.9	41.9	29.0
27-May	62.0	50.3	52.0	43.9	39.0	52.5	49.8	42.6	31.3
3-Jun	67.0	55.1	54.5	46.1	40.0	58.1	59.2	47.8	35.4
10-Jun	70.0	57.0	56.1	46.6	42.0	64.4	69.0	51.6	36.1
17-Jun	69.0	57.4	57.7	48.0	43.0	64.4	66.0	53.9	38.5
24-Jun	70.0	58.1	57.6	49.2	43.0	62.3	63.4	54.6	41.2
1-Jul	71.0	59.8	60.1	51.5	45.0	70.0	68.0	57.3	43.9
8-Jul	70.0	58.8	61.4	52.7	48.0	65.1	62.0	59.3	45.6
15-Jul	75.0	60.5	61.0	53.4	48.0	68.6	67.0	59.7	47.9
22-Jul	72.0	59.8	62.2	53.2	48.0	72.1	64.2	63.6	48.7
29-Jul	71.0	61.4	60.5	52.0	48.0	69.3	65.6	62.0	49.7
5-Aug	67.0	58.6	59.2	51.9	48.0	67.2	60.0	60.5	50.0
12-Aug	73.0	65.5	60.3	52.8	49.0	74.2	68.6	62.4	50.7
19-Aug	71.0	61.0	60.3	52.5	47.0	72.1	70.4	61.5	48.8
26-Aug	66.0	55.4	58.9	51.4	46.0	66.5	57.1	58.5	45.0
2-Sep	62.0	53.0	56.1	49.6	45.0	64.4	55.7	54.0	42.4
9-Sep	63.0	53.5	54.8	48.4	43.0	63.0	55.1	53.6	42.7
16-Sep	58.0	50.9	52.3	46.1	39.0	60.2	53.4	49.8	39.0
23-Sep	56.0	49.4	49.6	43.7	33.0	60.9	53.4	46.5	35.4
30-Sep	55.0	50.4	48.7	42.2	33.0	56.0	51.7	42.6	32.1
7-Oct	52.0	45.8	46.9	41.3	37.0	50.4	48.4	41.9	31.3
14-Oct	50.0	48.0	43.1	38.0	31.0	47.6	48.7	36.6	26.6
21-Oct	47.0	41.6	39.9	33.9	23.0	41.3	43.1	31.6	22.3
28-Oct	45.0	42.3	39.4	33.5	25.0	40.6	42.2	31.0	21.9
4-Nov	45.0	41.7	38.2	33.1	24.0	39.9	42.0	29.7	21.4
11-Nov	44.0	42.1	33.6	27.4	5.0	41.3	43.2	25.5	17.1
18-Nov	43.0	40.4	34.2	27.5	15.0	36.4	39.9	24.9	15.6
25-Nov	41.0	38.9	32.9	26.3	6.0	35.7	39.2	24.4	16.0
2-Dec	40.0	37.6	30.5	24.1	0.0	35.0	38.9	22.1	14.7
9-Dec	40.0	37.4	29.7	23.4	7.0	34.3	37.7	22.5	14.8
16-Dec	40.0	37.8	33.0	27.1	14.0	34.3	38.6	25.0	17.6
23-Dec	41.0	39.0	33.0	27.7	17.0	35.0	39.3	25.5	18.8
31-Dec	40.0	38.2	33.9	28.4	14.0	35.0	38.6	26.0	18.6

WHITTIER

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WMO No. 702757



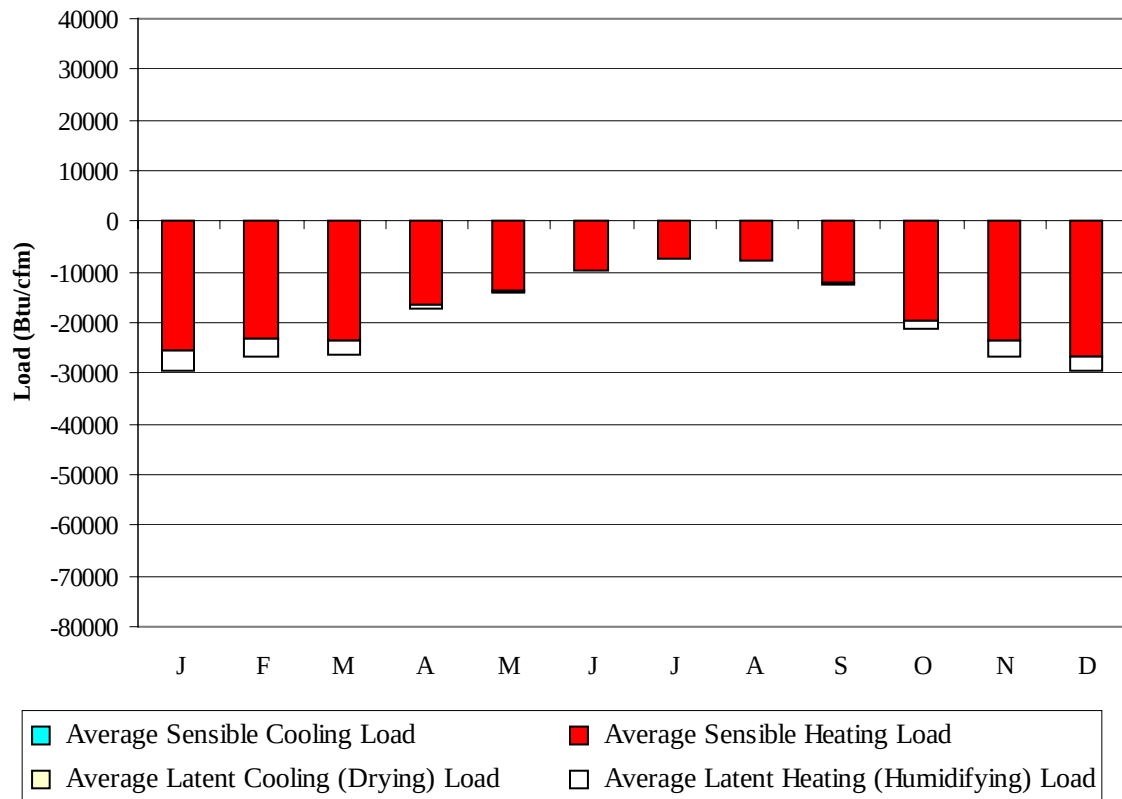
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	919
FEB	0	828
MAR	0	829
APR	0	561
MAY	0	458
JUN	2	303
JUL	6	214
AUG	2	232
SEP	0	395
OCT	0	684
NOV	0	832
DEC	0	945
ANN	10	7200

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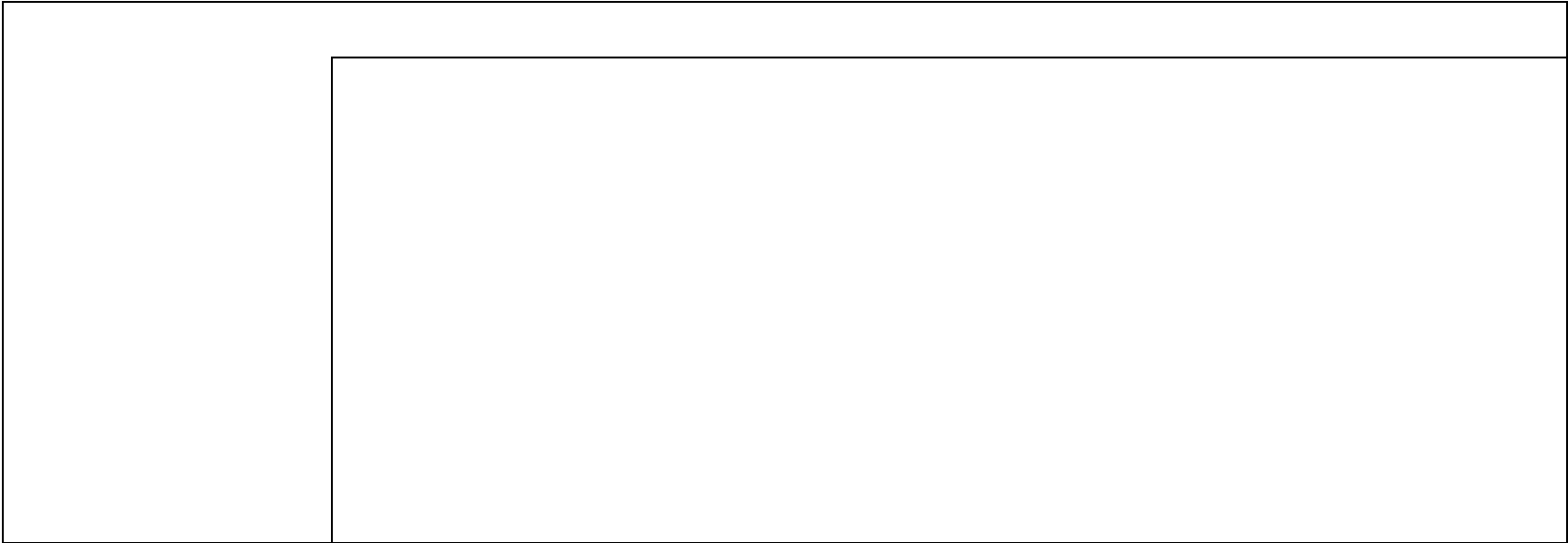
Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	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	-25716	0	-3696
FEB	0	-23177	0	-3480
MAR	0	-23466	0	-2920
APR	0	-16274	0	-1142
MAY	0	-13730	0	-312
JUN	0	-9709	5	-5
JUL	0	-7314	9	0
AUG	1	-7798	11	-5
SEP	0	-12055	0	-321
OCT	0	-19753	0	-1471
NOV	0	-23434	0	-3263
DEC	0	-26546	0	-3068
ANN	1	-208972	25	-19683

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

No Solar Radiation
Data Available

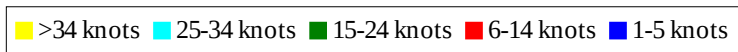
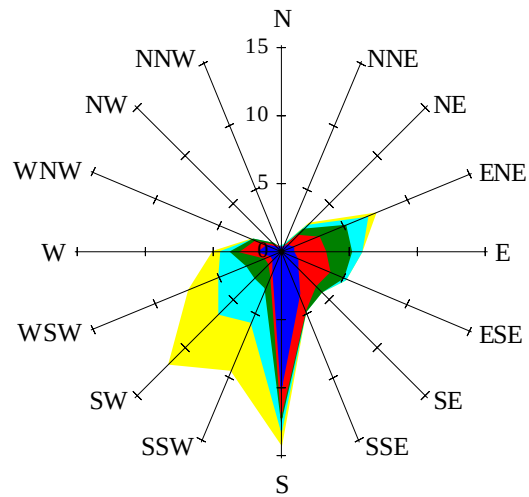


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

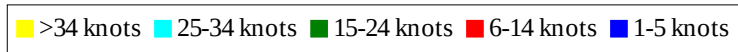
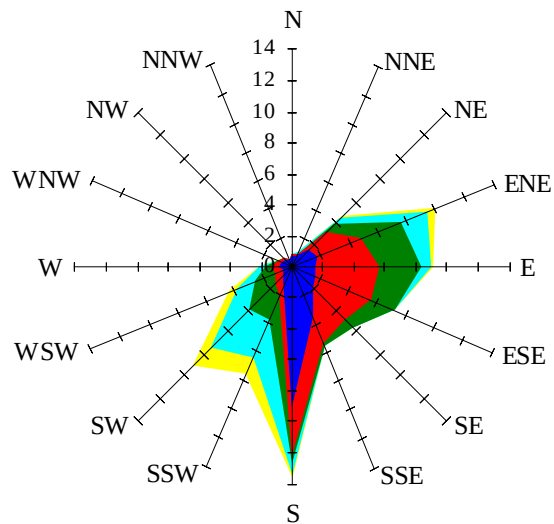
Labels of Percent Frequency on North Axis



Percent Calm = 18.95

Wind Summary - March, April, and May

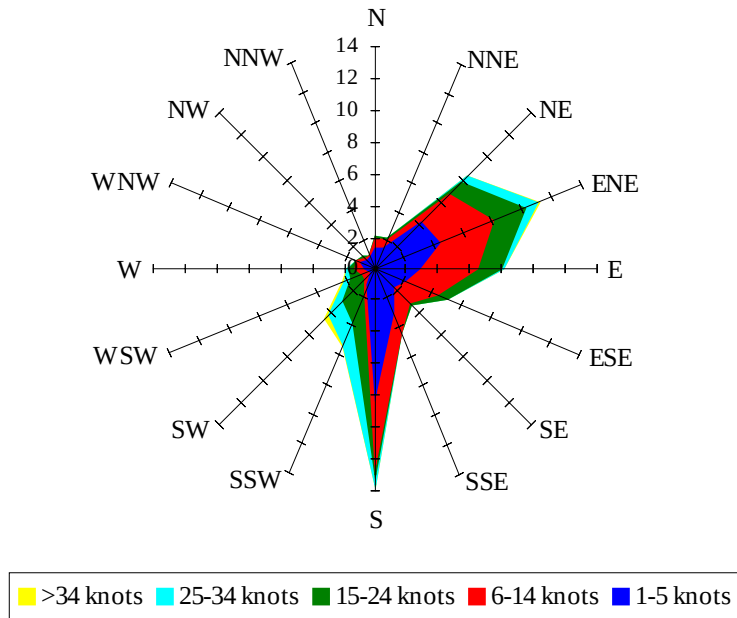
Labels of Percent Frequency on North Axis



Percent Calm = 18.71

Wind Summary - June, July, and August

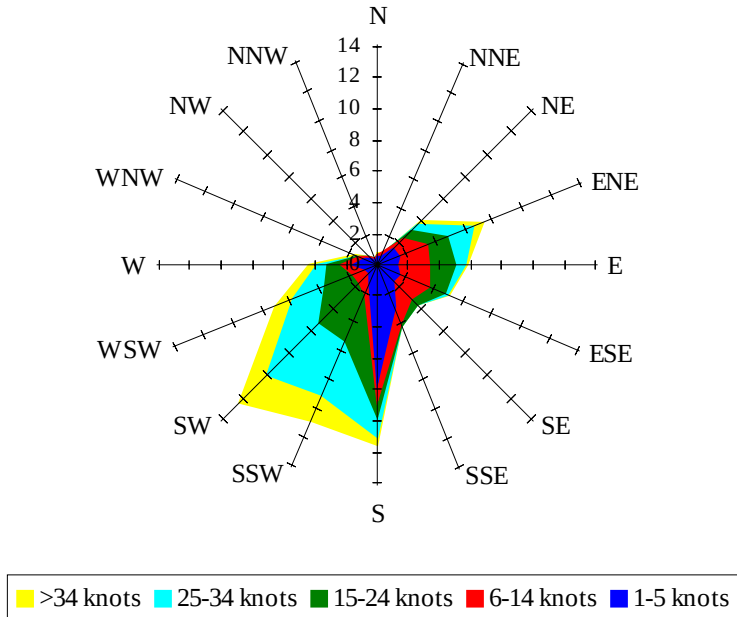
Labels of Percent Frequency on North Axis



Percent Calm = 25.78

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 20.20