

PERTH/BELMONT AU

Latitude = 31.90 S

Longitude = 115.95 E

Period of Record = 1973 to 1996

WMO No. 946100

Elevation = 95 feet

Average Pressure = 29.91 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	105	69	47	9.5	WSW
0.4% Occurrence	100	67	49	9.0	E
1.0% Occurrence	96	67	53	9.2	E
2.0% Occurrence	93	66	54	10.0	E
Mean Daily Range	18	-	-	-	-
97.5% Occurrence	45	44	40	1.8	NE
99.0% Occurrence	43	42	37	1.6	NE
99.6% Occurrence	40	39	34	0.8	NE
Median of Extreme Lows	36	36	30	0.5	NNE
	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	74	91	96	9.0	WSW
0.4% Occurrence	72	88	90	8.9	WSW
1.0% Occurrence	71	87	87	8.8	WSW
2.0% Occurrence	69	84	81	8.8	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	112	77	0.74	5.3	WSW
0.4% Occurrence	103	76	0.69	4.0	S
1.0% Occurrence	97	75	0.65	5.9	WSW
2.0% Occurrence	91	74	0.61	6.3	SW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		182	992	26	531

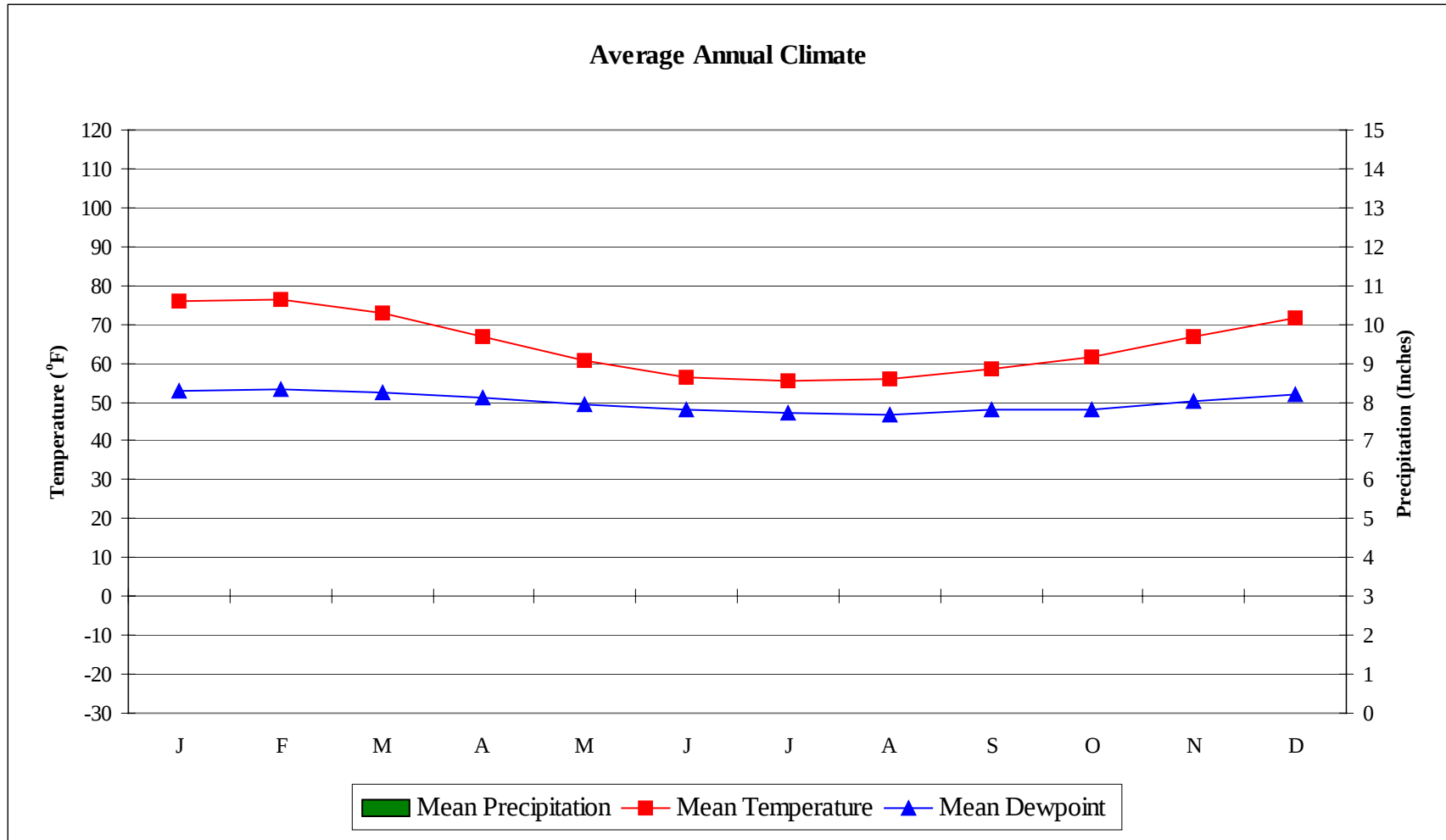
Other Site Data

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
9	N/A	N/A	0.1 + 0.8
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 (#)
67.4	N/A	N/A	0

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

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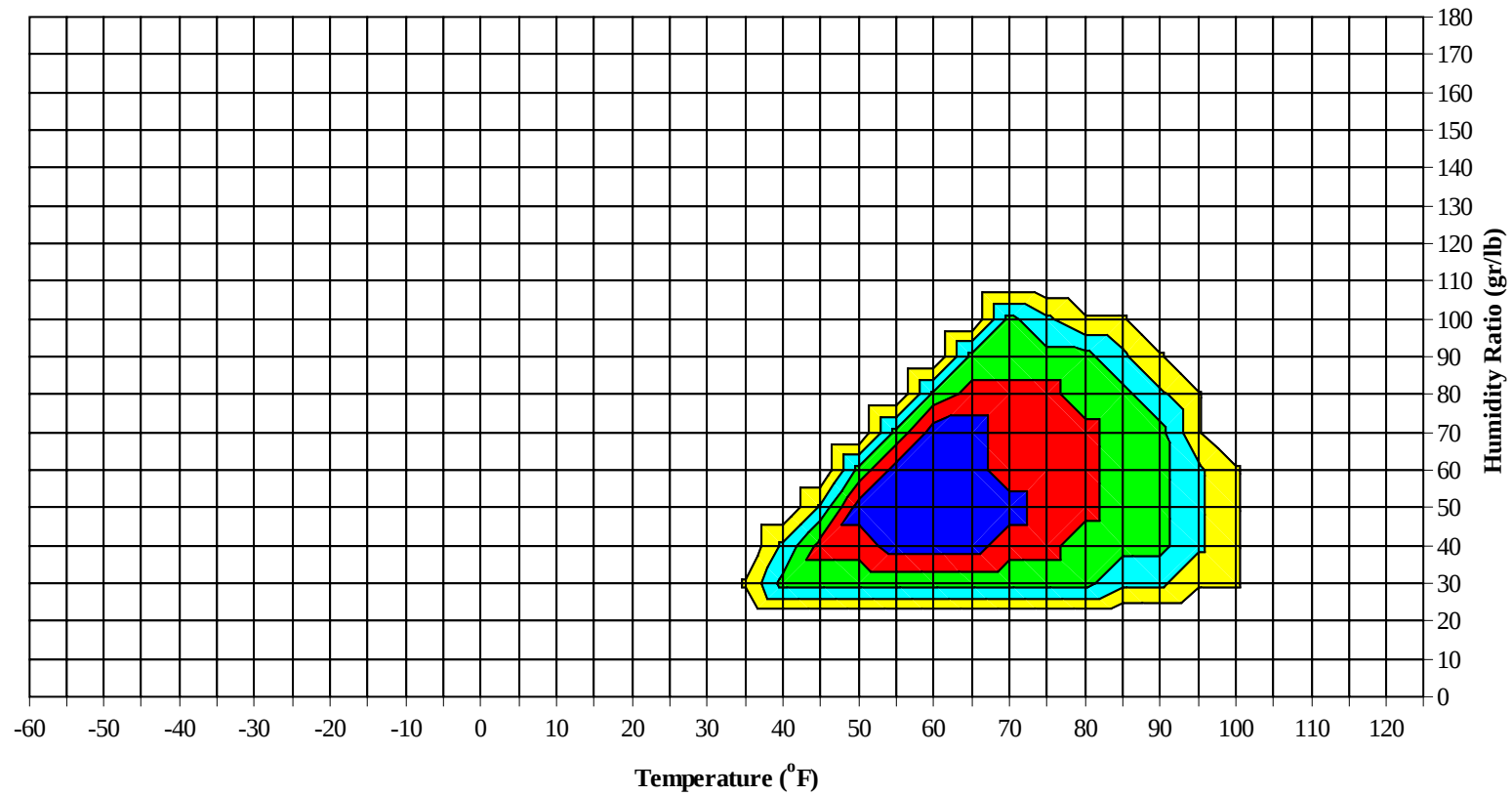


No Precipitation Data Available

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Long Term Psychrometric Summary

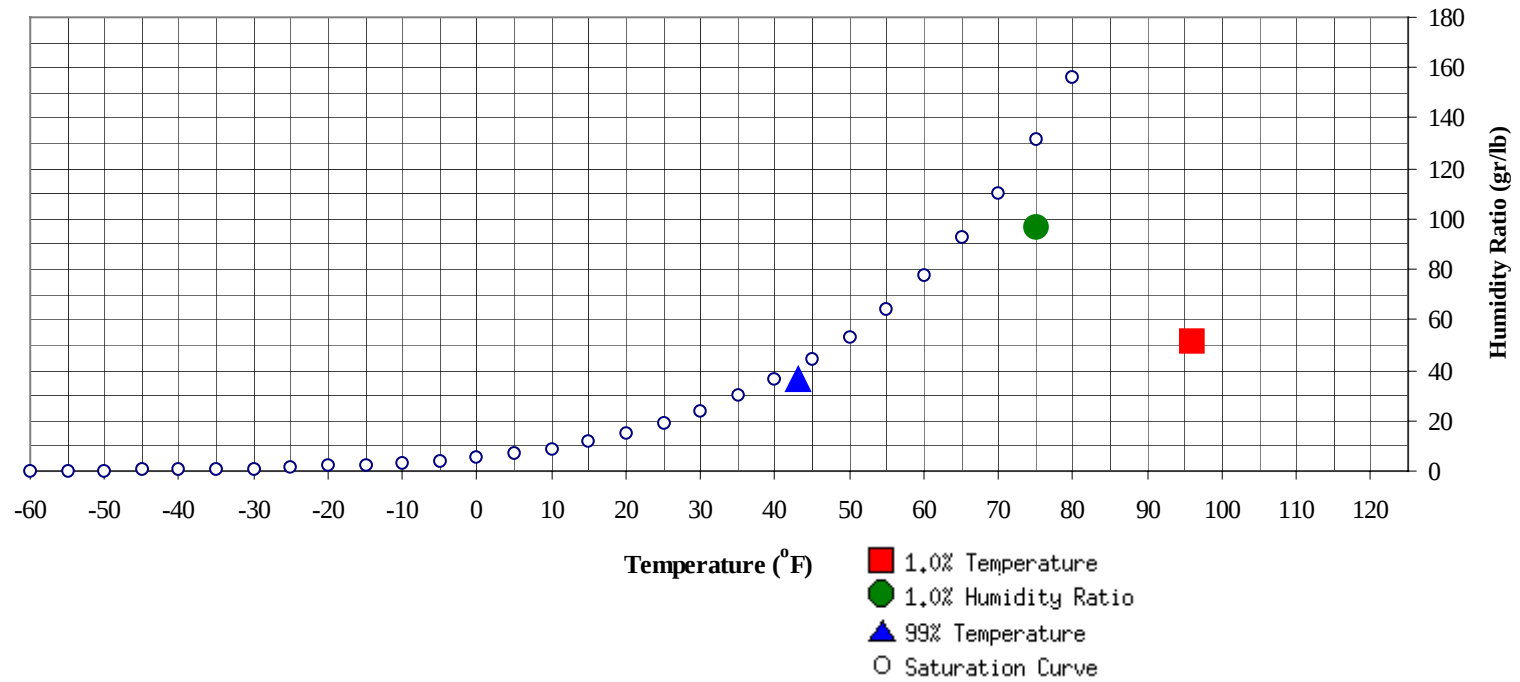


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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)
	43	36.7	16.0		96.6	75	68.9	66.1	33.1

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	96	51.2	66.6	31.1

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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		
115 / 119							0		0	70.0					
110 / 114		0		0	73.0		0		0	67.5					
105 / 109	0	2	0	2	68.8		2	0	2	69.5		0	0	0	70.0
100 / 104	0	8	4	12	68.0	0	7	2	9	69.1		2	1	3	66.5
95 / 99	0	19	9	28	67.3	0	16	8	25	67.9	2	8	1	11	65.9
90 / 94	0	28	18	45	66.7	0	23	15	38	66.6	0	19	6	25	65.6
85 / 89	2	32	20	54	65.6	0	30	19	48	65.7	0	28	15	43	65.4
80 / 84	6	40	30	76	64.7	8	43	33	84	65.0	3	47	30	80	64.2
75 / 79	25	56	45	127	63.1	21	43	45	109	63.6	12	53	43	108	62.9
70 / 74	41	44	52	137	61.3	45	40	50	136	61.9	35	51	59	145	61.5
65 / 69	54	17	40	111	59.4	62	16	34	112	59.8	60	31	45	136	59.3
60 / 64	74	2	26	103	56.8	56	3	13	72	56.7	77	9	32	117	56.7
55 / 59	38		4	42	53.2	27	0	4	31	52.8	46	1	13	59	53.5
50 / 54	8		0	8	50.2	5		0	5	49.3	9	0	3	12	49.7
45 / 49	0			0	46.0	2			2	47.6	5		0	5	45.8
40 / 44						0			0	41.0	0		0	0	42.0
35 / 39													0	0	
30 / 34													0	0	
25 / 29													0	0	22.0
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-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 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		
115 / 119															
110 / 114															
105 / 109															
100 / 104															
95 / 99		0		0	62.0										
90 / 94	0	4		4	64.4										
85 / 89	0	11	2	13	63.2		1		1	61.0					
80 / 84	0	22	6	28	62.2	0	4	0	4	58.4		0		0	58.0
75 / 79	3	47	19	69	62.0	0	17	2	19	59.1		2		2	59.5
70 / 74	12	64	49	126	60.5	3	43	8	54	59.4		10	1	11	59.2
65 / 69	33	46	59	139	58.8	8	66	34	107	57.5	3	44	9	56	57.7
60 / 64	66	35	57	158	56.7	37	59	83	179	56.3	20	78	43	141	55.5
55 / 59	71	9	33	113	53.4	77	43	68	188	53.1	50	64	90	204	53.1
50 / 54	42	1	13	56	50.2	72	14	38	124	49.4	78	32	62	173	49.5
45 / 49	12		1	13	45.9	41	2	14	57	45.6	56	10	27	93	45.3
40 / 44	2			2	42.5	11		2	13	41.9	24	1	6	31	41.4
35 / 39						0		0	0	36.7	8	0	1	8	37.2
30 / 34								0	0		2		0	2	33.0
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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WMO No. 946100

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		
115 / 119															
110 / 114															
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89												1		1	63.0
80 / 84							0		0	59.0		2	0	2	61.0
75 / 79		0		0	56.0	0	1		1	57.1	0	10	1	10	59.9
70 / 74		5	1	6	56.4	0	11	1	11	58.1	0	22	8	30	58.7
65 / 69	0	27	5	32	56.8	0	33	6	39	56.2	3	52	18	72	56.9
60 / 64	9	79	31	119	54.9	9	83	42	134	54.5	13	83	63	159	54.9
55 / 59	49	77	93	220	52.8	43	75	93	211	52.2	52	58	72	182	52.7
50 / 54	88	43	78	209	49.6	80	37	64	181	49.3	79	12	50	141	49.6
45 / 49	65	13	30	107	45.6	75	8	33	116	45.3	71	1	26	98	45.7
40 / 44	25	3	10	38	41.2	29	1	8	38	41.3	18		2	20	41.4
35 / 39	12	0	1	13	37.1	12		1	13	37.4	4		0	4	37.5
30 / 34	0			0	34.0	0		0	0	33.5			0	0	
25 / 29													0	0	
20 / 24													0	0	
15 / 19													0	0	
10 / 14													0	0	
5 / 9													0	0	
0 / 4													0	0	
-5 / -1													0	0	
-10 / -6													0	0	
-15 / -11													0	0	
-20 / -16													0	0	
-25 / -21													0	0	-22.0

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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		
115 / 119															
110 / 114															
105 / 109												0		0	68.0
100 / 104							0		0	65.5		2	1	3	66.9
95 / 99		0		0	64.5		2	0	2	64.1	2	8	4	13	65.8
90 / 94		1	0	1	65.1		6	3	9	63.7	2	14	6	22	65.8
85 / 89	0	5	0	5	62.9	2	10	5	17	63.5	0	20	10	30	64.7
80 / 84	0	11	5	16	61.8	0	22	10	33	62.9	5	38	18	61	63.9
75 / 79	2	19	7	27	60.7	2	37	17	55	61.4	6	59	34	99	62.7
70 / 74	3	41	16	61	59.2	8	67	32	107	59.8	24	71	56	150	60.5
65 / 69	8	69	35	112	57.1	26	59	57	142	58.1	51	28	54	133	59.0
60 / 64	29	73	69	170	54.9	63	30	61	154	56.1	75	7	47	130	56.8
55 / 59	62	27	63	151	52.6	80	6	42	127	53.4	59	0	16	75	53.5
50 / 54	71	2	39	113	49.6	43	1	12	56	49.8	23		2	24	50.3
45 / 49	56	0	13	69	45.7	15	0	2	17	45.9	3		0	3	46.1
40 / 44	15	0	1	16	41.5	2	0	0	2	41.5					
35 / 39	3	0		3	37.5		0		0						
30 / 34		0		0			0		0						
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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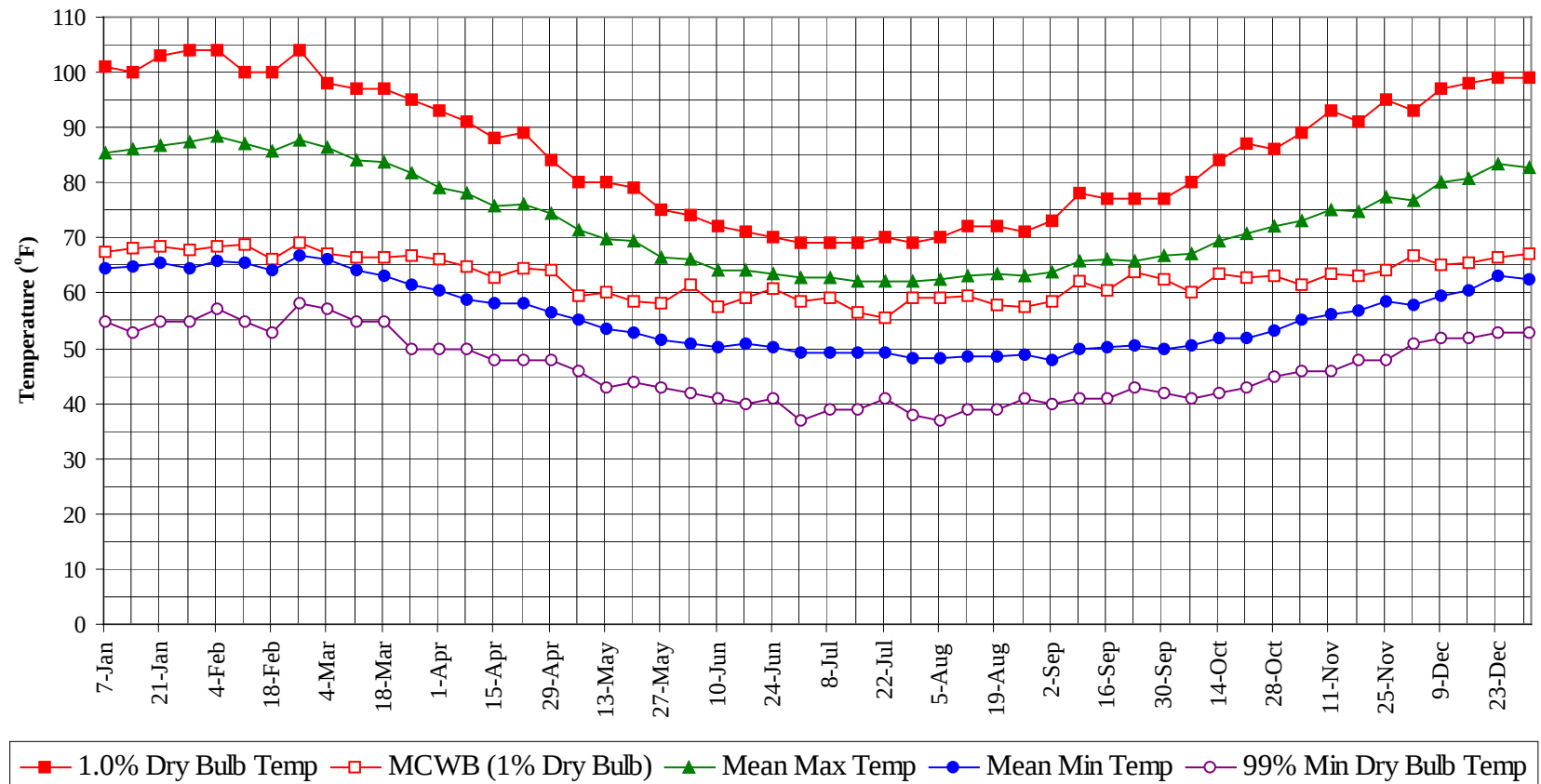
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

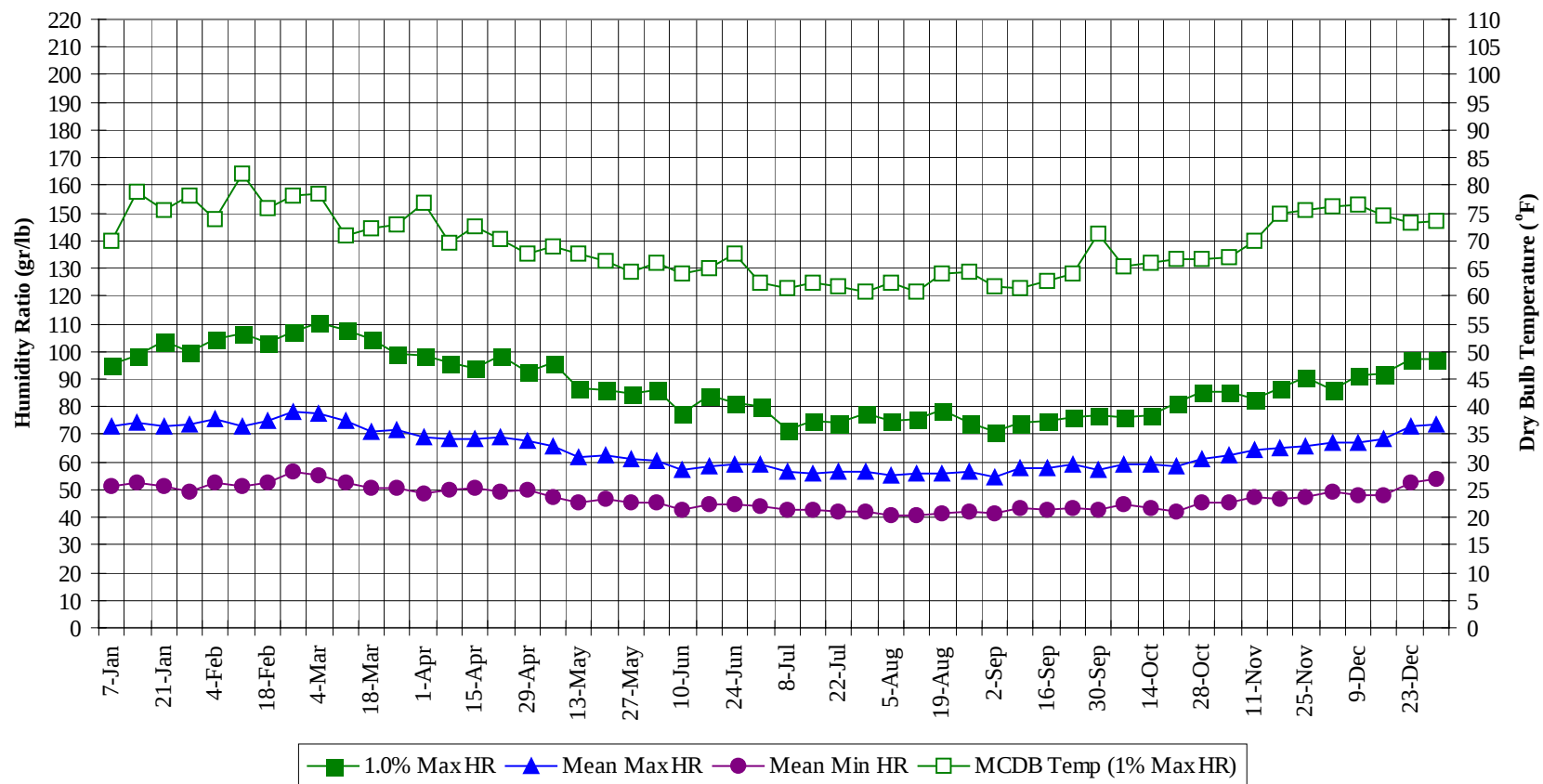
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
115 / 119	0			0	70.0
110 / 114	1			1	69.3
105 / 109	0	3	0	3	69.1
100 / 104	0	19	7	27	68.1
95 / 99	2	55	22	78	66.9
90 / 94	3	93	49	145	66.1
85 / 89	5	137	71	213	65.0
80 / 84	21	227	133	382	63.9
75 / 79	70	340	213	623	62.5
70 / 74	168	466	333	968	60.5
65 / 69	307	490	396	1192	58.3
60 / 64	525	544	564	1634	55.7
55 / 59	650	362	592	1603	52.9
50 / 54	599	143	361	1104	49.6
45 / 49	404	34	145	583	45.5
40 / 44	126	5	30	161	41.4
35 / 39	39	0	3	42	37.3
30 / 34	2	0	1	2	31.7
25 / 29			0	0	
20 / 24			0	0	
15 / 19			0	0	
10 / 14			0	0	
5 / 9			0	0	
0 / 4			0	0	
-5 / -1			0	0	
-10 / -6			0	0	
-15 / -11			0	0	
-20 / -16			0	0	
-25 / -21			0	0	-22.0

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

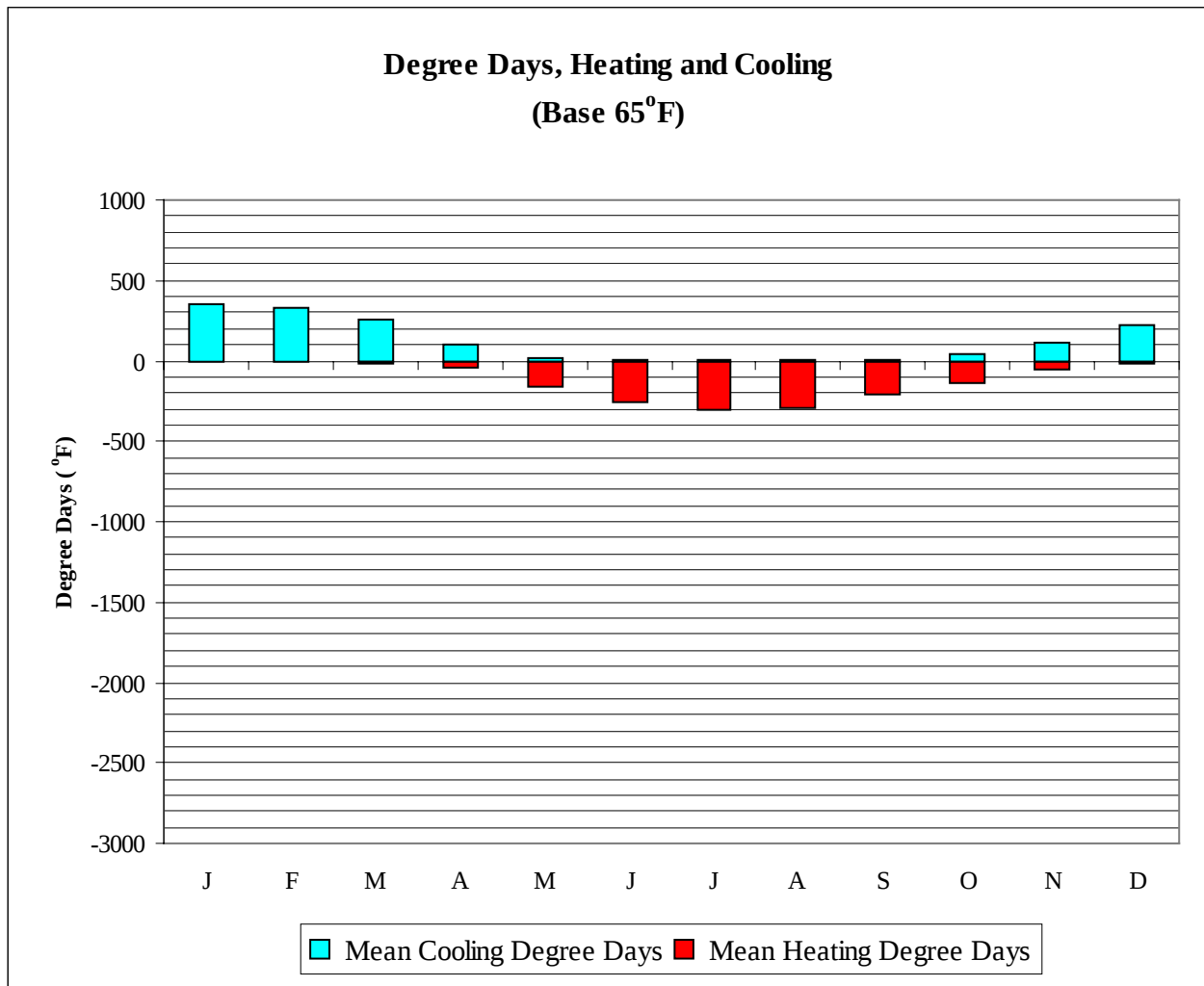


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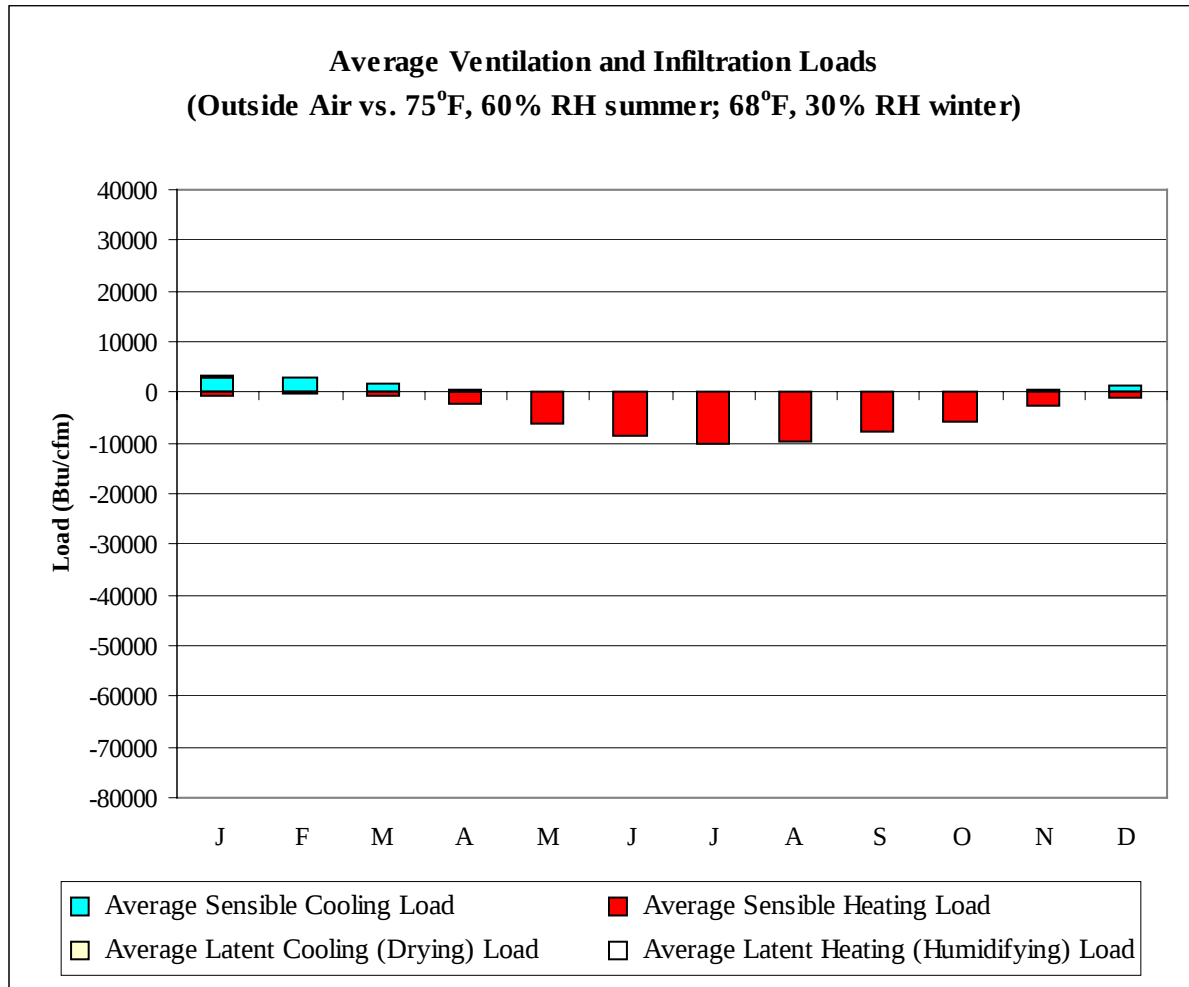
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Long Term Dry Bulb Temperature and Humidity Summary

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	101.0	67.3	85.5	64.4	55.0	95.2	70.0	73.0	51.1
14-Jan	100.0	68.0	85.9	64.7	53.0	98.7	78.8	74.1	52.7
21-Jan	103.0	68.5	86.6	65.3	55.0	103.6	75.6	72.6	51.0
28-Jan	104.0	67.9	87.3	64.6	55.0	100.1	78.3	73.7	49.5
4-Feb	104.0	68.5	88.5	65.9	57.0	104.3	73.8	75.5	52.4
11-Feb	100.0	68.8	87.0	65.3	55.0	106.4	82.3	72.9	51.0
18-Feb	100.0	66.0	85.8	64.3	53.0	102.9	75.7	74.8	52.3
25-Feb	104.0	69.0	87.8	66.8	58.0	107.1	78.0	78.1	56.2
4-Mar	98.0	67.0	86.4	66.1	57.0	110.6	78.5	77.2	55.2
11-Mar	97.0	66.5	84.2	64.0	55.0	107.8	71.0	74.6	52.7
18-Mar	97.0	66.4	83.7	63.3	55.0	104.3	72.4	71.2	50.6
25-Mar	95.0	66.8	81.7	61.6	50.0	99.4	73.0	71.3	50.5
1-Apr	93.0	66.0	79.2	60.6	50.0	98.7	77.0	68.9	48.4
8-Apr	91.0	64.7	78.0	58.9	50.0	95.9	69.8	68.4	49.6
15-Apr	88.0	62.8	75.9	58.2	48.0	93.8	72.4	68.5	50.7
22-Apr	89.0	64.5	76.1	58.2	48.0	98.7	70.2	68.8	49.3
29-Apr	84.0	64.3	74.4	56.5	48.0	92.4	67.7	67.4	49.7
6-May	80.0	59.4	71.6	55.1	46.0	95.9	69.0	65.4	47.3
13-May	80.0	60.0	69.9	53.4	43.0	86.8	67.6	61.6	45.3
20-May	79.0	58.5	69.5	52.8	44.0	86.1	66.3	62.5	46.9
27-May	75.0	58.2	66.4	51.5	43.0	84.7	64.2	61.3	45.5
3-Jun	74.0	61.5	66.0	51.0	42.0	86.1	66.0	60.6	45.1
10-Jun	72.0	57.5	64.3	50.2	41.0	77.7	64.2	56.8	42.5
17-Jun	71.0	59.0	64.2	50.7	40.0	84.0	64.9	58.4	44.9
24-Jun	70.0	60.7	63.4	50.0	41.0	81.2	67.7	59.1	44.7
1-Jul	69.0	58.6	62.7	49.3	37.0	79.8	62.5	59.1	44.0
8-Jul	69.0	59.0	62.9	49.1	39.0	71.4	61.4	56.8	42.6
15-Jul	69.0	56.4	62.2	49.3	39.0	74.9	62.3	56.1	42.9
22-Jul	70.0	55.4	62.2	49.3	41.0	74.2	61.6	56.2	42.3
29-Jul	69.0	59.0	62.0	48.2	38.0	77.7	60.7	56.3	42.2
5-Aug	70.0	59.1	62.5	48.3	37.0	74.9	62.4	55.2	40.9
12-Aug	72.0	59.4	63.0	48.7	39.0	75.6	60.8	55.5	40.5
19-Aug	72.0	57.9	63.4	48.6	39.0	79.1	64.1	56.1	41.1
26-Aug	71.0	57.4	63.2	48.9	41.0	74.2	64.5	56.2	42.0
2-Sep	73.0	58.5	63.7	47.8	40.0	70.7	61.8	54.7	41.1
9-Sep	78.0	62.0	65.8	50.0	41.0	74.2	61.5	57.8	43.2
16-Sep	77.0	60.4	66.0	50.2	41.0	74.9	62.6	57.7	42.9
23-Sep	77.0	63.8	65.9	50.7	43.0	76.3	64.2	59.3	43.1
30-Sep	77.0	62.4	66.7	49.8	42.0	77.0	71.4	57.2	43.0
7-Oct	80.0	60.0	67.3	50.5	41.0	76.3	65.4	59.1	44.4
14-Oct	84.0	63.6	69.3	51.7	42.0	77.0	65.9	58.9	43.5
21-Oct	87.0	62.7	70.9	51.9	43.0	81.2	66.7	58.5	42.2
28-Oct	86.0	63.0	72.1	53.1	45.0	85.4	66.8	61.4	45.4
4-Nov	89.0	61.5	73.2	55.1	46.0	85.4	67.0	62.2	45.1
11-Nov	93.0	63.6	75.1	56.3	46.0	82.6	70.1	64.5	47.1
18-Nov	91.0	63.3	74.6	56.9	48.0	86.8	74.8	64.8	46.8
25-Nov	95.0	64.0	77.6	58.5	48.0	90.3	75.7	65.5	47.3
2-Dec	93.0	66.8	76.7	58.0	51.0	86.1	76.3	67.0	49.4
9-Dec	97.0	65.0	80.1	59.5	52.0	91.0	76.5	67.2	48.2
16-Dec	98.0	65.3	80.8	60.4	52.0	91.7	74.6	68.4	47.7
23-Dec	99.0	66.6	83.5	63.1	53.0	97.3	73.3	72.6	52.6
31-Dec	99.0	67.3	82.6	62.5	53.0	97.3	73.4	73.4	53.6



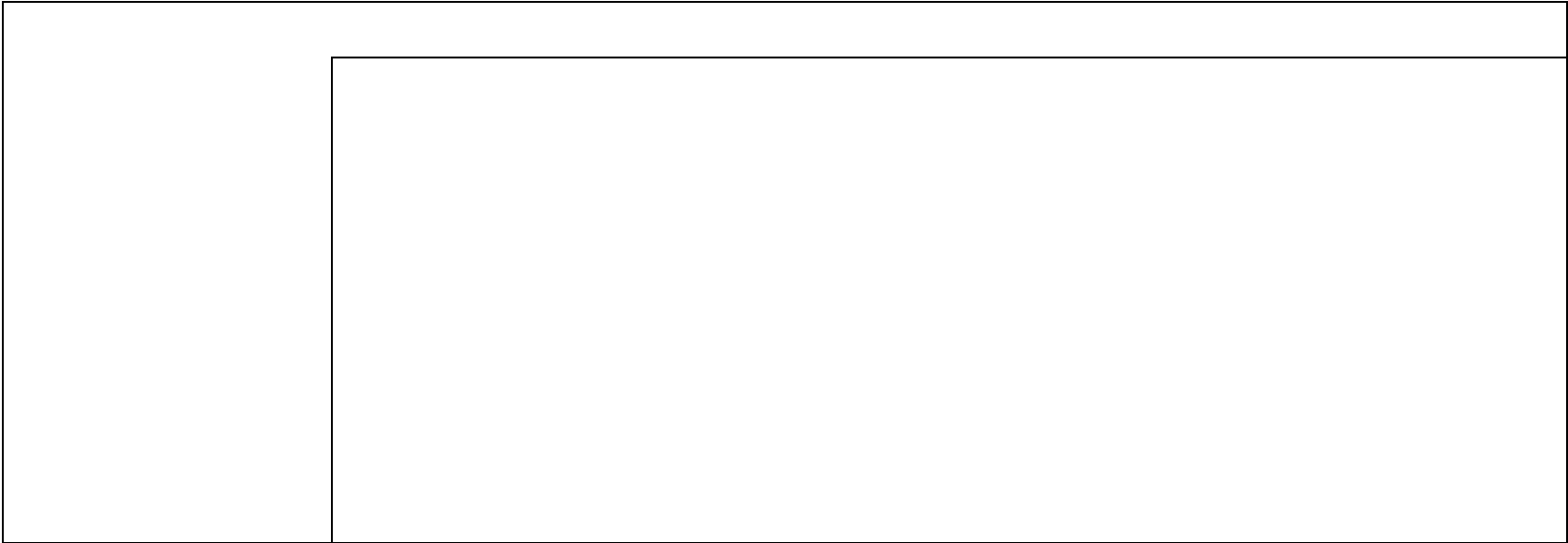
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	350	6
FEB	326	6
MAR	261	13
APR	102	47
MAY	19	159
JUN	3	258
JUL	1	301
AUG	2	290
SEP	10	213
OCT	39	142
NOV	110	53
DEC	224	15
ANN	1447	1503



	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	2975	-478	163	-11
FEB	2729	-368	254	-10
MAR	1664	-822	214	-8
APR	308	-2395	109	-9
MAY	26	-6015	34	-15
JUN	1	-8695	8	-9
JUL	0	-9983	1	-8
AUG	1	-9827	1	-6
SEP	13	-7832	2	-5
OCT	100	-5898	8	-7
NOV	433	-2816	30	-12
DEC	1310	-1108	102	-12
ANN	9560	-56237	926	-112

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

No Solar Radiation
Data Available

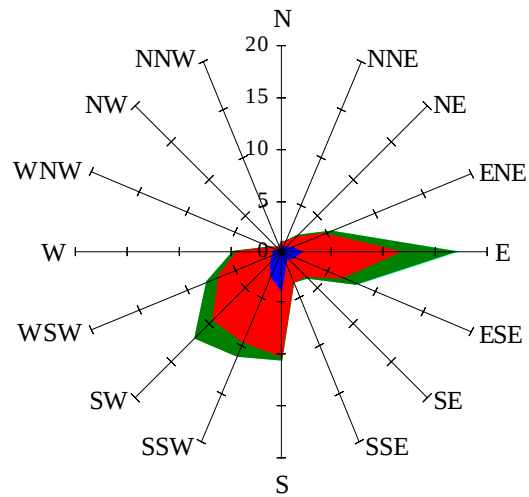


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

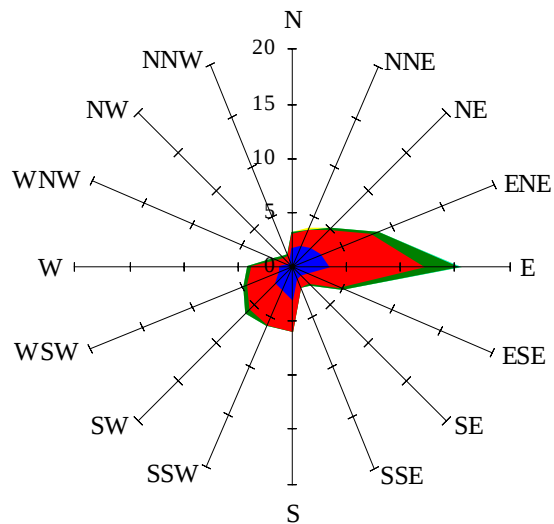
Labels of Percent Frequency on North Axis



Percent Calm = 11.39

Wind Summary - March, April, and May

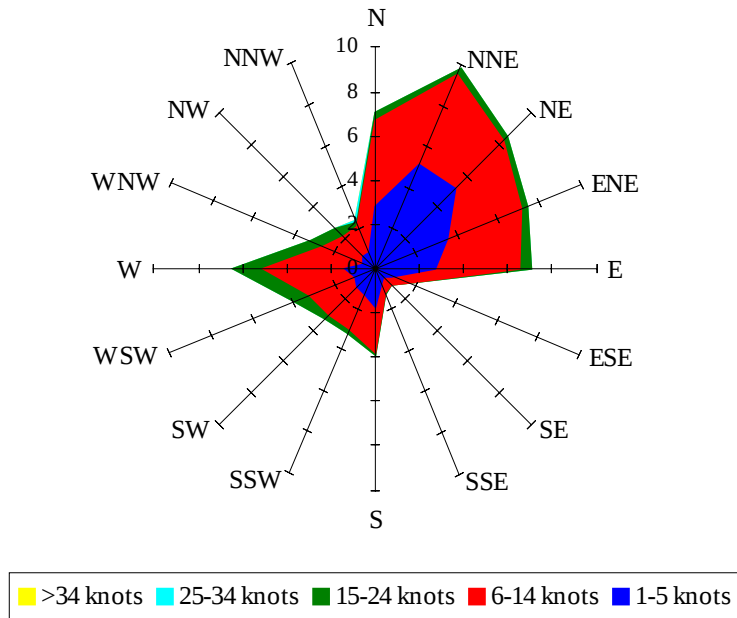
Labels of Percent Frequency on North Axis



Percent Calm = 24.69

Wind Summary - June, July, and August

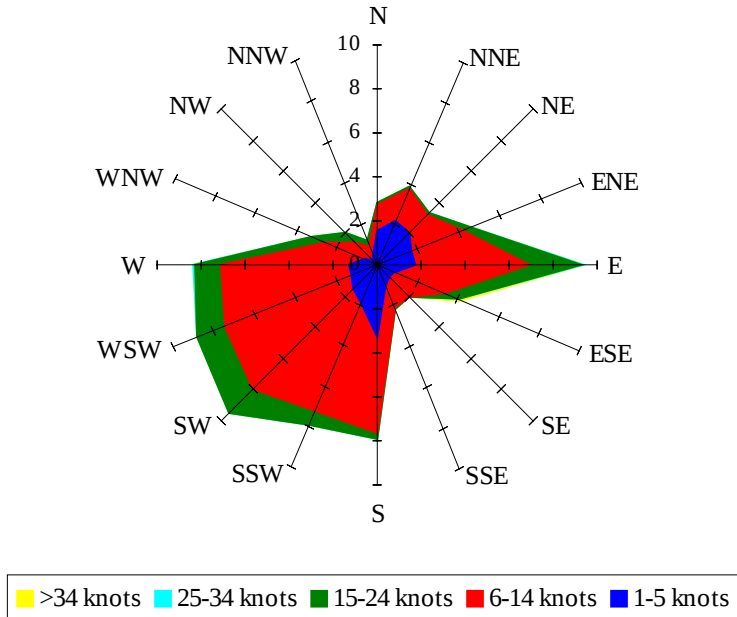
Labels of Percent Frequency on North Axis



Percent Calm = 27.72

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 18.90