

MCENTIRE ANGSC SC

Latitude = 33.92 N

WMO No. 723105

Longitude = 80.80 W

Elevation = 253 feet

Period of Record = 1967 to 1996

Average Pressure = 29.76 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	99	76	96	7.6	W
0.4% Occurrence	96	76	105	7.1	W
1.0% Occurrence	94	76	107	6.6	W
2.0% Occurrence	92	75	107	6.1	W
Mean Daily Range	19	-	-	-	-
97.5% Occurrence	31	28	16	3.3	NE
99.0% Occurrence	27	24	13	3.3	N
99.6% Occurrence	23	20	11	2.7	N
Median of Extreme Lows	16	14	7	3.9	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	81	92	138	5.4	WSW
0.4% Occurrence	79	90	129	5.4	W
1.0% Occurrence	78	89	125	5.4	W
2.0% Occurrence	77	88	121	5.2	W
	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	144	85	0.94	4.3	SSE
0.4% Occurrence	137	86	0.90	4.4	SSW
1.0% Occurrence	132	84	0.88	4.2	SW
2.0% Occurrence	127	83	0.85	3.9	SW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		135	1699	1253	2877

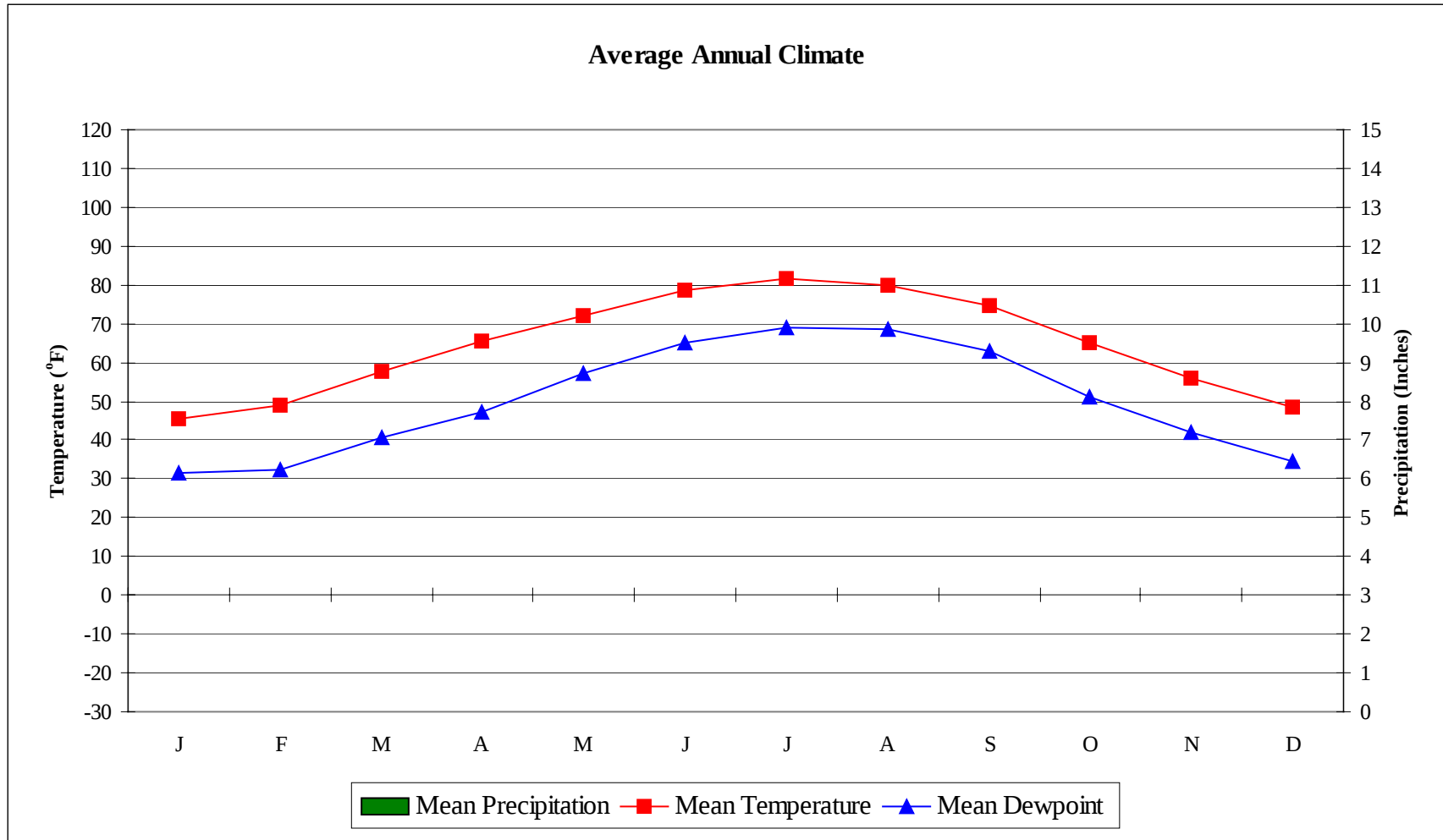
Other Site Data

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
11	4.0	90	2.6 + 1.6
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 (#)
67.2	N/A	N/A	28

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

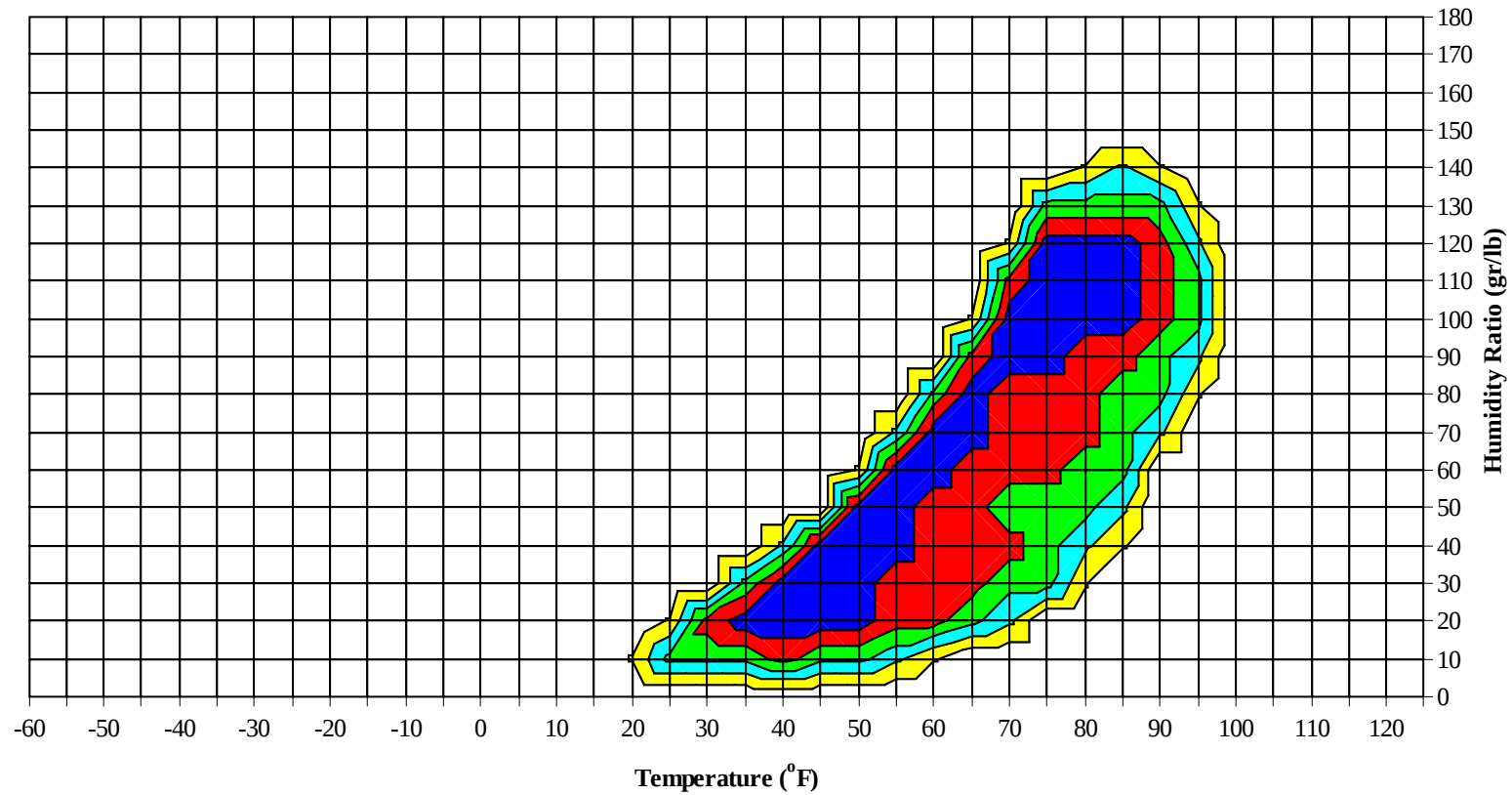
MCENTIRE ANGUS SC

WMO No. 723105



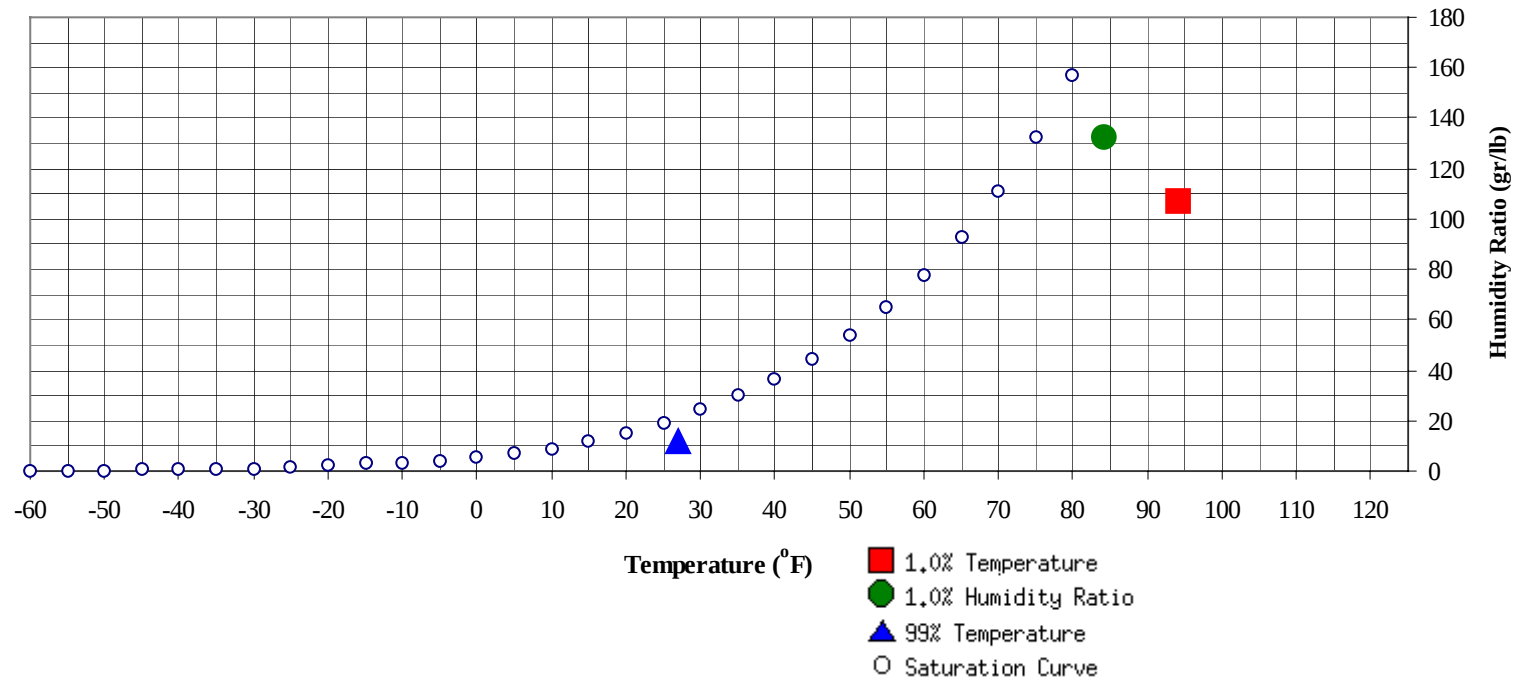
No Precipitation Data Available

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

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	27	12.2	8.4		132.3	84.1	77.5	75	40.9

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	94	107.1	76	39.4

MCENTIRE ANGSC

WMO No. 723105

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		
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89												2	0	2	65.6
80 / 84		0	0	0	65.4		1	0	1	64.6		9	4	13	63.8
75 / 79		1	0	1	63.4		5	2	7	61.5	0	20	10	30	61.3
70 / 74		7	2	9	60.3	0	12	6	18	58.7	2	30	22	54	59.3
65 / 69	0	13	7	20	57.2	2	21	13	36	56.1	8	35	31	74	56.7
60 / 64	12	20	18	50	54.9	10	27	27	64	53.5	22	45	43	109	53.8
55 / 59	17	30	23	70	49.8	12	29	27	68	48.6	44	38	40	122	49.8
50 / 54	21	40	36	98	45.6	16	33	31	80	44.0	42	31	39	112	45.7
45 / 49	27	42	40	109	41.1	25	32	36	93	40.2	42	20	29	92	41.3
40 / 44	33	39	38	110	36.8	31	29	33	93	36.3	36	11	17	64	37.2
35 / 39	33	29	33	94	32.5	43	21	27	91	32.4	26	6	10	41	33.0
30 / 34	46	16	29	91	28.2	45	9	15	69	28.3	18	1	3	22	28.6
25 / 29	35	8	15	58	23.8	27	3	7	37	23.9	8	0	0	8	24.2
20 / 24	15	2	4	21	19.3	12	1	1	13	19.8	0	0		0	20.0
15 / 19	6	1	2	8	15.1	2	0	0	2	15.1	0			0	13.0
10 / 14	4	0		4	10.4	0			0	10.9	0			0	11.0
5 / 9	0			0	6.8										

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.

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		
105 / 109															
100 / 104												1	0	1	74.1
95 / 99							1		1	72.7		7	2	9	74.8
90 / 94		1	0	1	66.2		9	2	11	71.1		28	11	39	74.6
85 / 89		13	4	17	65.2		29	13	42	69.8	0	62	29	91	72.8
80 / 84		28	12	40	64.5	0	57	27	84	67.8	6	71	48	125	70.9
75 / 79		37	24	61	62.4	6	62	47	115	65.7	40	45	63	148	69.6
70 / 74	7	45	38	91	59.8	37	50	64	151	63.9	98	18	61	177	67.9
65 / 69	31	44	48	123	57.5	79	26	50	155	61.5	62	5	22	89	63.7
60 / 64	51	36	47	135	54.6	57	9	25	91	57.4	26	1	3	31	58.7
55 / 59	49	22	32	103	50.4	37	3	13	52	53.0	6	1	1	8	54.4
50 / 54	43	9	20	72	46.7	26	2	5	34	49.5	2			2	50.4
45 / 49	34	3	9	47	42.9	6	0	1	7	45.4					
40 / 44	15	1	4	20	39.0	0	0		0	42.2					
35 / 39	9	0	0	9	34.6										
30 / 34	2		0	2	30.9										
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															

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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		
105 / 109		0		0	75.2										
100 / 104		4	1	5	75.8		1	0	1	75.8		0		0	76.5
95 / 99		18	6	25	76.6		8	2	11	76.1		1	0	1	75.9
90 / 94		53	20	74	75.9		42	13	54	75.9		14	2	16	74.9
85 / 89	2	75	41	117	74.7	0	71	33	104	74.8		46	13	58	73.3
80 / 84	17	58	59	134	73.5	6	69	55	131	73.4	0	66	33	98	70.9
75 / 79	75	32	71	177	72.0	65	40	81	186	72.0	17	53	62	132	69.2
70 / 74	124	7	47	178	69.6	130	14	53	197	69.3	83	36	70	189	67.1
65 / 69	27	1	3	31	65.4	36	3	10	49	64.4	67	15	35	117	62.6
60 / 64	3			3	60.9	11	0	1	12	59.4	40	7	18	65	58.2
55 / 59						0			0	56.5	23	2	6	31	53.8
50 / 54											9	0	1	10	49.6
45 / 49											2		0	2	45.9
40 / 44															
35 / 39															
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															

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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		
105 / 109															
100 / 104															
95 / 99		1		1	74.0										
90 / 94		1	0	1	72.0										
85 / 89		7	1	8	70.8		0		0	71.7					
80 / 84	0	26	5	31	68.0		4	0	4	67.1		0		0	69.3
75 / 79	2	49	18	69	64.9		18	2	20	64.2		5	0	5	65.6
70 / 74	11	54	41	106	63.1	0	35	14	49	61.5	0	13	4	17	62.3
65 / 69	31	47	50	128	59.4	10	39	27	76	58.6	4	19	10	33	58.7
60 / 64	47	34	52	133	55.8	21	44	39	103	54.7	15	28	20	63	54.6
55 / 59	49	19	38	106	51.8	29	36	38	103	49.9	15	36	30	81	49.7
50 / 54	44	7	24	75	47.7	33	32	38	102	45.7	21	40	38	98	45.3
45 / 49	29	3	13	46	43.3	36	19	33	88	41.6	30	45	42	116	41.1
40 / 44	21	0	5	26	39.0	36	9	26	71	38.0	38	35	43	116	37.0
35 / 39	11	0	1	12	35.0	29	4	15	47	33.7	36	18	32	86	32.7
30 / 34	2		0	2	30.0	31	1	7	38	29.4	43	8	20	72	28.7
25 / 29	0			0	26.0	13	0	2	15	24.8	34	2	8	44	24.2
20 / 24						2		0	2	19.9	11	0	1	12	20.5
15 / 19											2			2	15.9
10 / 14															
5 / 9															

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MCENTIRE ANGSC

WMO No. 723105

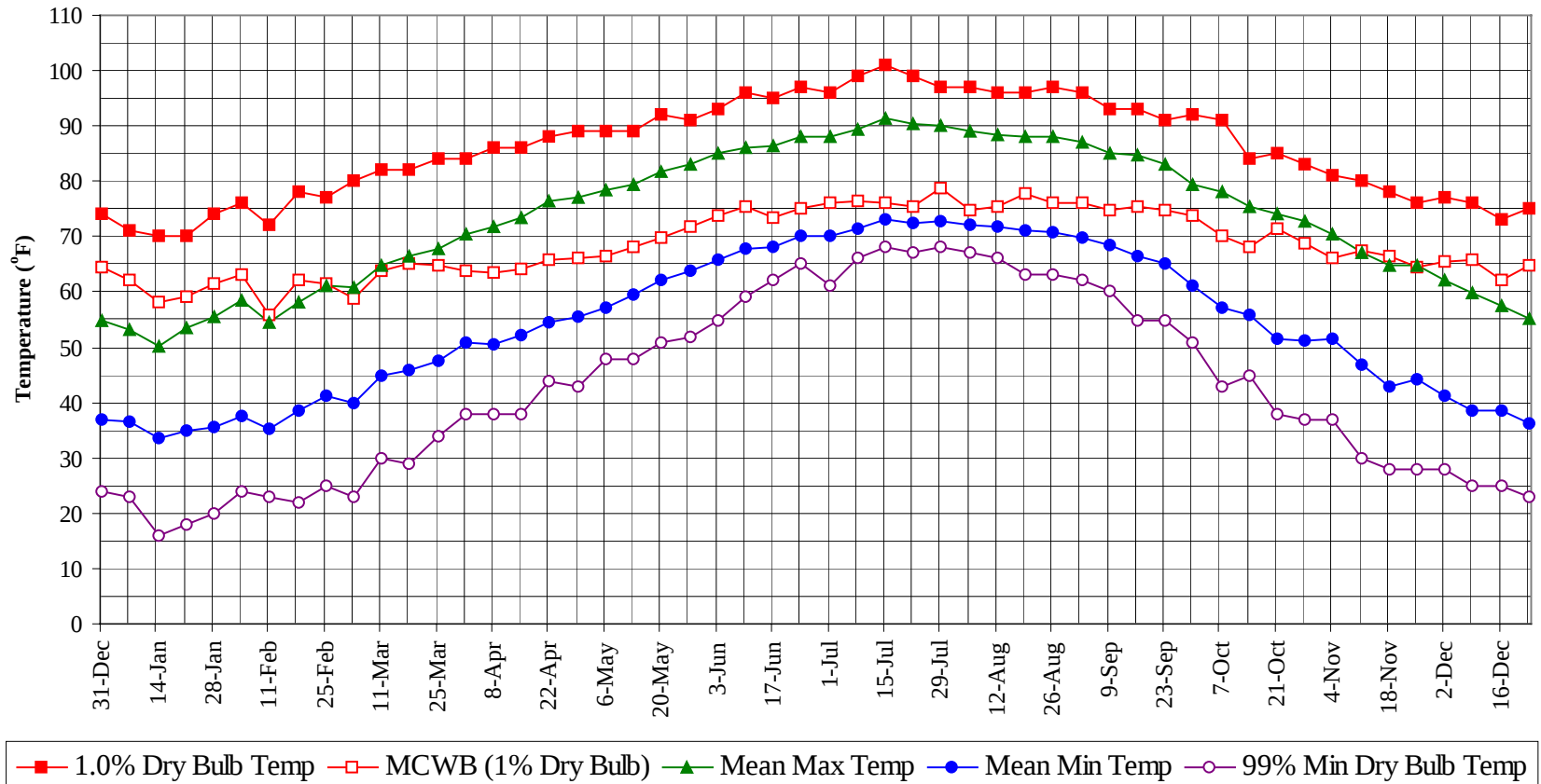
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1967 to 1996

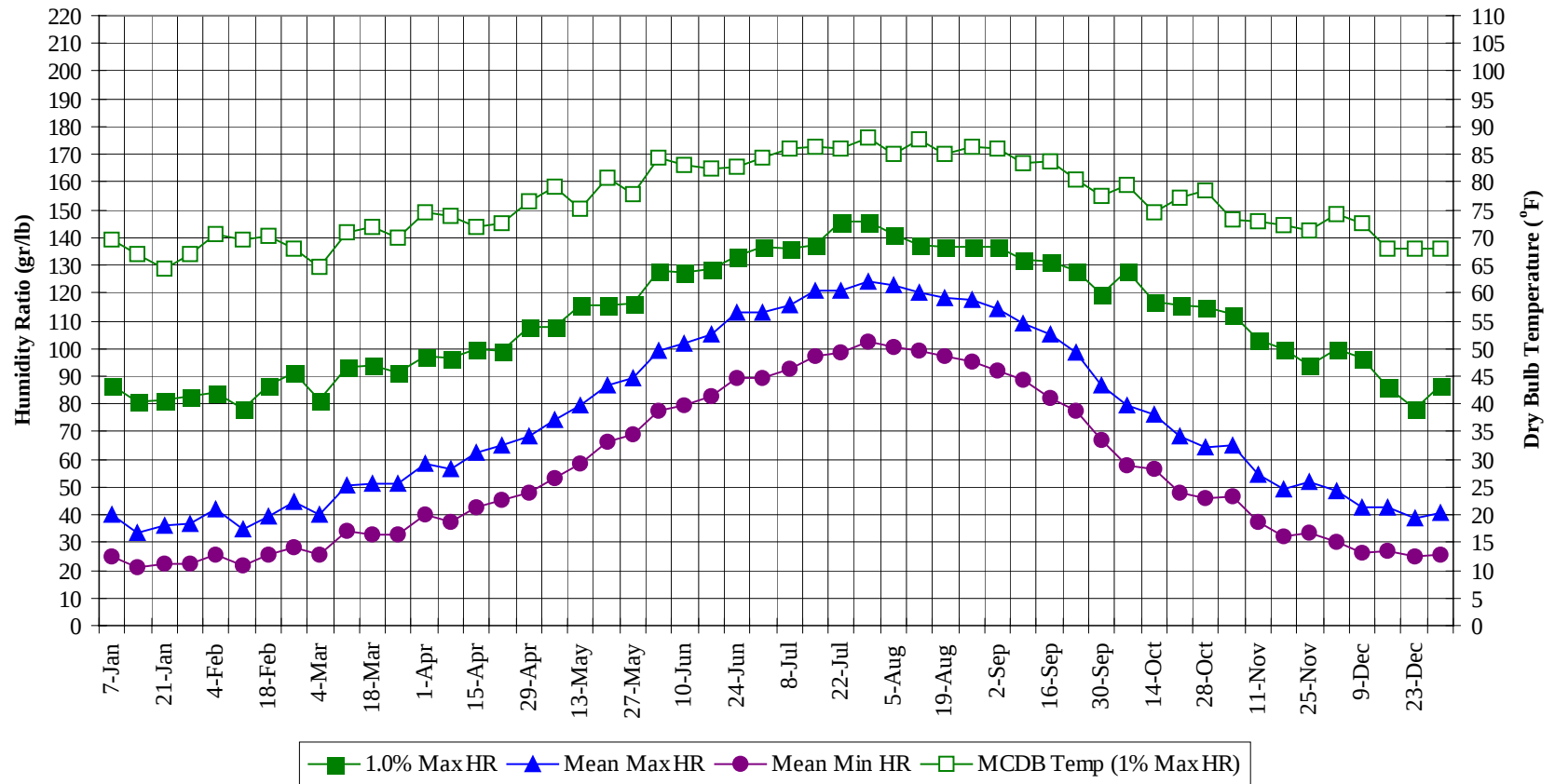
Annual Totals						
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	
	01 To 08	09 To 16	17 To 00			
105 / 109	0			0	75.2	
100 / 104	6			1	7	75.6
95 / 99	36			10	46	76.0
90 / 94	148			45	193	75.2
85 / 89	2	307	126	436	73.1	
80 / 84	33	393	235	661	70.7	
75 / 79	224	372	366	962	68.3	
70 / 74	543	324	412	1279	65.2	
65 / 69	387	269	308	964	59.9	
60 / 64	327	251	300	878	55.3	
55 / 59	279	214	255	748	50.4	
50 / 54	243	190	241	674	45.9	
45 / 49	214	161	213	588	41.4	
40 / 44	190	122	170	483	37.1	
35 / 39	165	75	124	364	32.8	
30 / 34	161	35	76	272	28.5	
25 / 29	103	13	31	147	24.0	
20 / 24	36	3	5	44	19.7	
15 / 19	9	1	2	11	15.2	
10 / 14	3	0		3	10.5	
5 / 9	0			0	6.8	

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

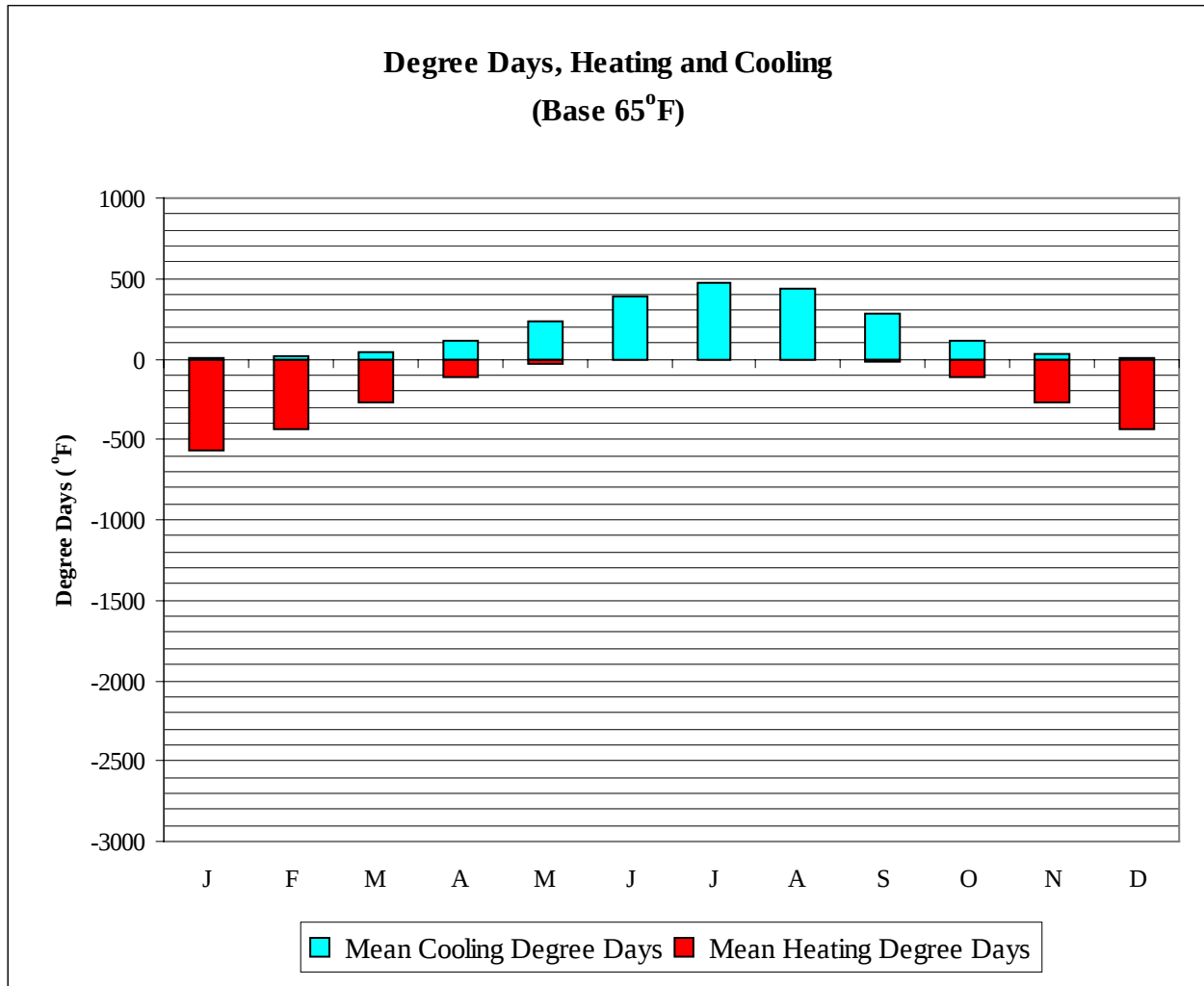


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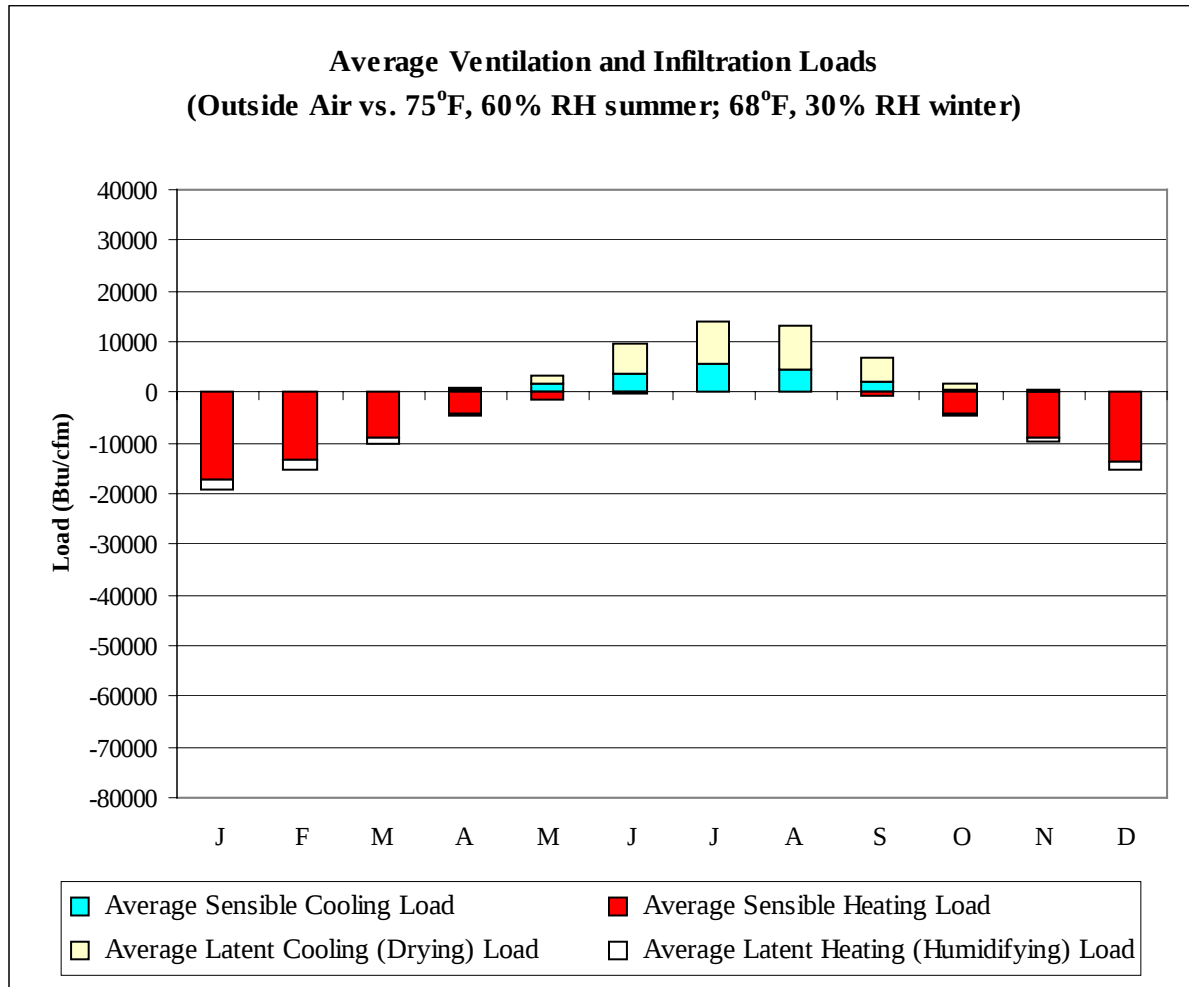
WMO No. 723105

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	71.0	62.0	53.3	36.6	23.0	86.8	69.5	40.0	24.9
14-Jan	70.0	58.1	50.1	33.5	16.0	80.5	67.1	33.4	20.9
21-Jan	70.0	59.3	53.6	34.9	18.0	81.2	64.5	35.9	22.3
28-Jan	74.0	61.5	55.4	35.5	20.0	82.6	67.1	36.6	22.6
4-Feb	76.0	63.1	58.4	37.6	24.0	84.0	70.5	41.7	25.5
11-Feb	72.0	55.9	54.4	35.3	23.0	78.4	69.5	34.6	21.5
18-Feb	78.0	62.3	58.2	38.4	22.0	86.8	70.4	39.2	25.4
25-Feb	77.0	61.6	61.1	41.1	25.0	91.0	68.0	44.9	27.9
4-Mar	80.0	58.7	60.8	40.0	23.0	81.2	64.8	39.9	25.7
11-Mar	82.0	63.9	64.7	44.9	30.0	93.1	71.0	50.4	33.9
18-Mar	82.0	65.0	66.5	45.8	29.0	93.8	72.0	50.9	32.8
25-Mar	84.0	64.9	68.0	47.5	34.0	91.0	70.1	51.2	33.0
1-Apr	84.0	63.9	70.5	50.8	38.0	97.3	74.4	58.3	39.9
8-Apr	86.0	63.5	71.9	50.5	38.0	96.6	73.9	56.4	37.6
15-Apr	86.0	64.1	73.6	52.3	38.0	100.1	72.0	62.1	42.6
22-Apr	88.0	65.9	76.4	54.5	44.0	99.4	72.6	64.9	45.1
29-Apr	89.0	66.3	77.1	55.6	43.0	107.8	76.6	68.3	48.1
6-May	89.0	66.5	78.3	57.2	48.0	107.8	79.1	74.3	53.5
13-May	89.0	68.2	79.5	59.4	48.0	115.5	75.0	79.7	58.6
20-May	92.0	69.9	81.7	62.2	51.0	115.5	80.9	86.8	66.4
27-May	91.0	71.7	82.9	63.8	52.0	116.2	77.8	89.4	68.8
3-Jun	93.0	73.9	84.9	65.9	55.0	128.1	84.3	99.4	77.5
10-Jun	96.0	75.3	86.2	67.7	59.0	127.4	83.2	102.0	79.7
17-Jun	95.0	73.4	86.3	68.2	62.0	128.8	82.4	104.9	82.8
24-Jun	97.0	75.3	88.2	70.1	65.0	133.0	82.9	113.1	89.3
1-Jul	96.0	75.9	88.1	70.3	61.0	136.5	84.6	112.7	89.5
8-Jul	99.0	76.3	89.6	71.4	66.0	135.8	86.2	115.4	92.3
15-Jul	101.0	76.1	91.6	73.2	68.0	137.2	86.2	121.0	97.2
22-Jul	99.0	75.5	90.5	72.6	67.0	145.6	86.0	121.0	98.3
29-Jul	97.0	78.9	89.9	72.9	68.0	145.6	88.0	124.3	102.6
5-Aug	97.0	74.6	89.2	72.2	67.0	141.4	85.2	122.9	100.3
12-Aug	96.0	75.6	88.4	71.7	66.0	137.2	87.6	120.0	99.2
19-Aug	96.0	77.7	88.0	71.1	63.0	136.5	84.9	118.3	97.3
26-Aug	97.0	76.0	88.0	70.9	63.0	136.5	86.2	117.4	95.1
2-Sep	96.0	76.2	87.1	69.9	62.0	136.5	86.0	114.6	91.8
9-Sep	93.0	74.7	85.2	68.6	60.0	132.3	83.4	109.3	88.5
16-Sep	93.0	75.5	84.7	66.5	55.0	131.6	83.9	105.2	82.0
23-Sep	91.0	74.7	82.9	65.0	55.0	128.1	80.4	98.4	77.8
30-Sep	92.0	73.7	79.4	61.2	51.0	119.7	77.6	86.6	66.9
7-Oct	91.0	70.0	78.2	57.1	43.0	128.1	79.6	79.2	58.0
14-Oct	84.0	68.0	75.5	55.9	45.0	116.9	74.4	76.0	56.4
21-Oct	85.0	71.5	74.1	51.5	38.0	115.5	77.2	68.6	48.0
28-Oct	83.0	68.8	72.8	51.3	37.0	114.8	78.4	64.6	46.3
4-Nov	81.0	66.2	70.4	51.6	37.0	112.0	73.3	64.9	46.4
11-Nov	80.0	67.5	67.1	46.7	30.0	102.9	72.9	54.5	37.1
18-Nov	78.0	66.4	64.7	42.9	28.0	100.1	72.3	49.2	32.1
25-Nov	76.0	64.5	64.8	44.1	28.0	93.8	71.4	52.0	33.7
2-Dec	77.0	65.5	62.2	41.3	28.0	100.1	74.1	48.9	30.3
9-Dec	76.0	65.8	59.7	38.5	25.0	96.6	72.5	42.5	26.4
16-Dec	73.0	62.1	57.5	38.7	25.0	86.1	67.8	42.7	26.9
23-Dec	75.0	64.9	55.3	36.2	23.0	78.4	68.1	39.0	24.8
31-Dec	74.0	64.6	54.8	37.0	24.0	86.8	68.0	40.6	25.6



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	4	573
FEB	12	440
MAR	46	274
APR	119	112
MAY	231	30
JUN	384	3
JUL	469	0
AUG	439	1
SEP	279	14
OCT	109	115
NOV	33	272
DEC	9	442
ANN	2134	2276



	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	4	-17186	26	-2125
FEB	24	-13481	37	-1829
MAR	162	-9117	139	-954
APR	600	-4243	372	-374
MAY	1548	-1352	1938	-20
JUN	3824	-203	5627	0
JUL	5628	-15	8311	0
AUG	4665	-56	8648	0
SEP	2237	-717	4560	-1
OCT	481	-4364	1108	-171
NOV	59	-8973	303	-787
DEC	7	-13555	79	-1517
ANN	19239	-73262	31148	-7778

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

No Solar Radiation
Data Available

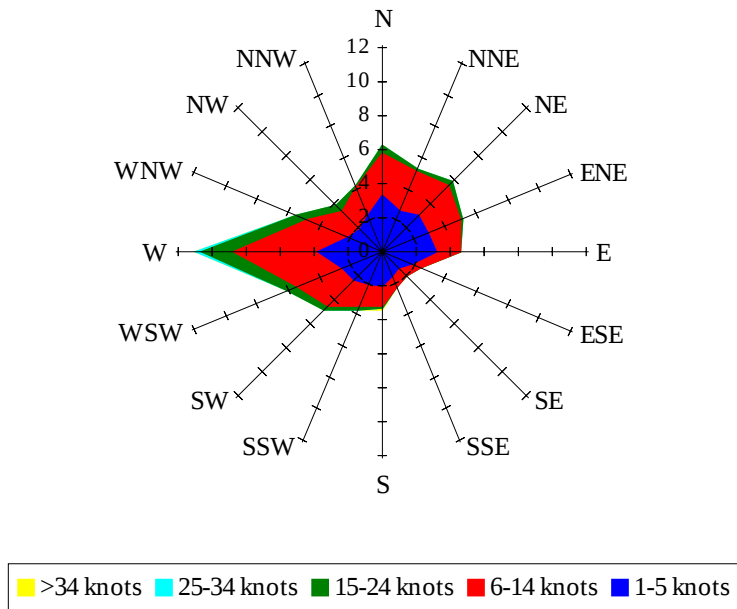


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

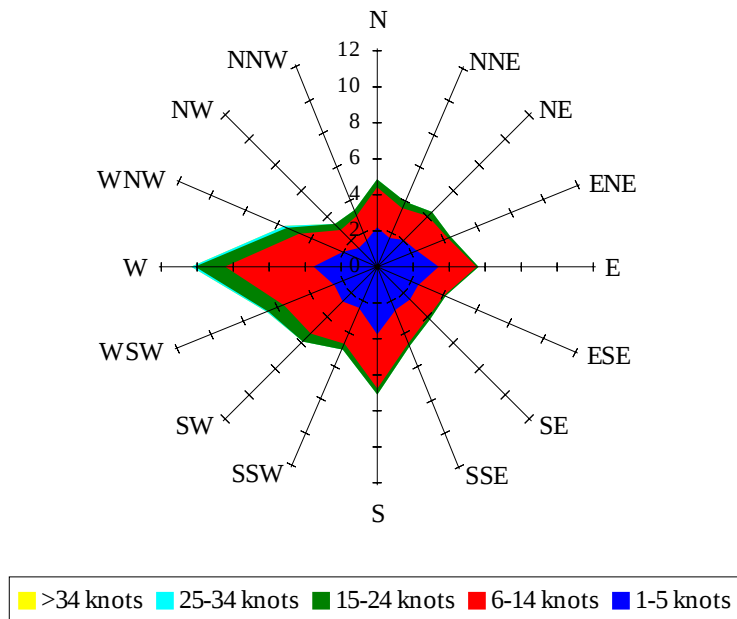
Labels of Percent Frequency on North Axis



Percent Calm = 24.62

Wind Summary - March, April, and May

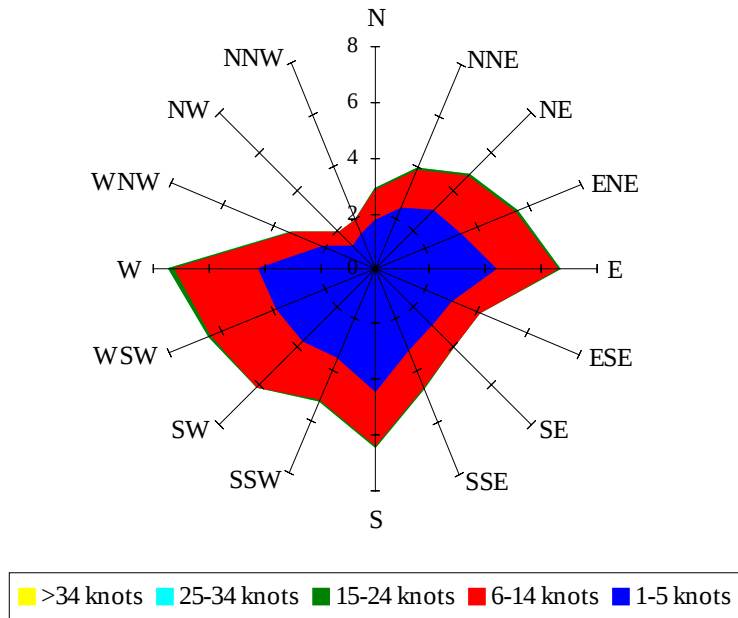
Labels of Percent Frequency on North Axis



Percent Calm = 18.39

Wind Summary - June, July, and August

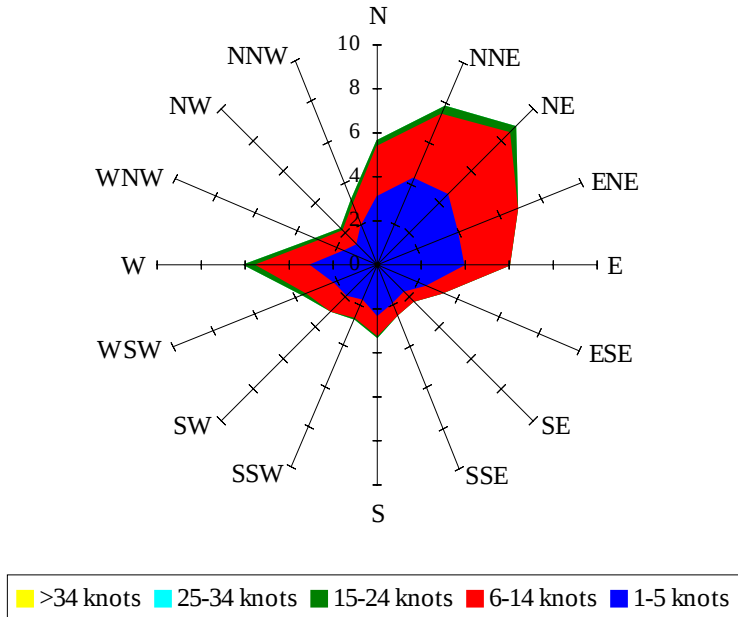
Labels of Percent Frequency on North Axis



Percent Calm = 24.71

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 29.76