

MOSULPO KO

Latitude = 33.20 N

Longitude = 126.27 E

Period of Record = 1973 to 1993

WMO No. 471870

Elevation = 89 feet

Average Pressure = 29.90 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	81	147	8.2	E
0.4% Occurrence	88	80	147	8.4	E
1.0% Occurrence	86	80	145	8.2	E
2.0% Occurrence	84	79	140	8.0	E
Mean Daily Range	11	-	-	-	-
97.5% Occurrence	34	31	22	13.5	N
99.0% Occurrence	32	30	21	14.7	N
99.6% Occurrence	28	26	17	16.5	N
Median of Extreme Lows	27	26	17	16.6	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	84	88	166	7.7	SE
0.4% Occurrence	82	86	156	8.0	E
1.0% Occurrence	81	85	153	7.8	ESE
2.0% Occurrence	80	84	148	7.7	E
	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	171	87	1.12	7.3	WSW
0.4% Occurrence	160	85	1.06	7.5	S
1.0% Occurrence	152	83	0.99	8.3	S
2.0% Occurrence	151	83	0.99	7.1	E
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		1	623	1293	2286

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
8	N/A	N/A	3.5 + 0.6
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 (#)
62.1	N/A	N/A	9

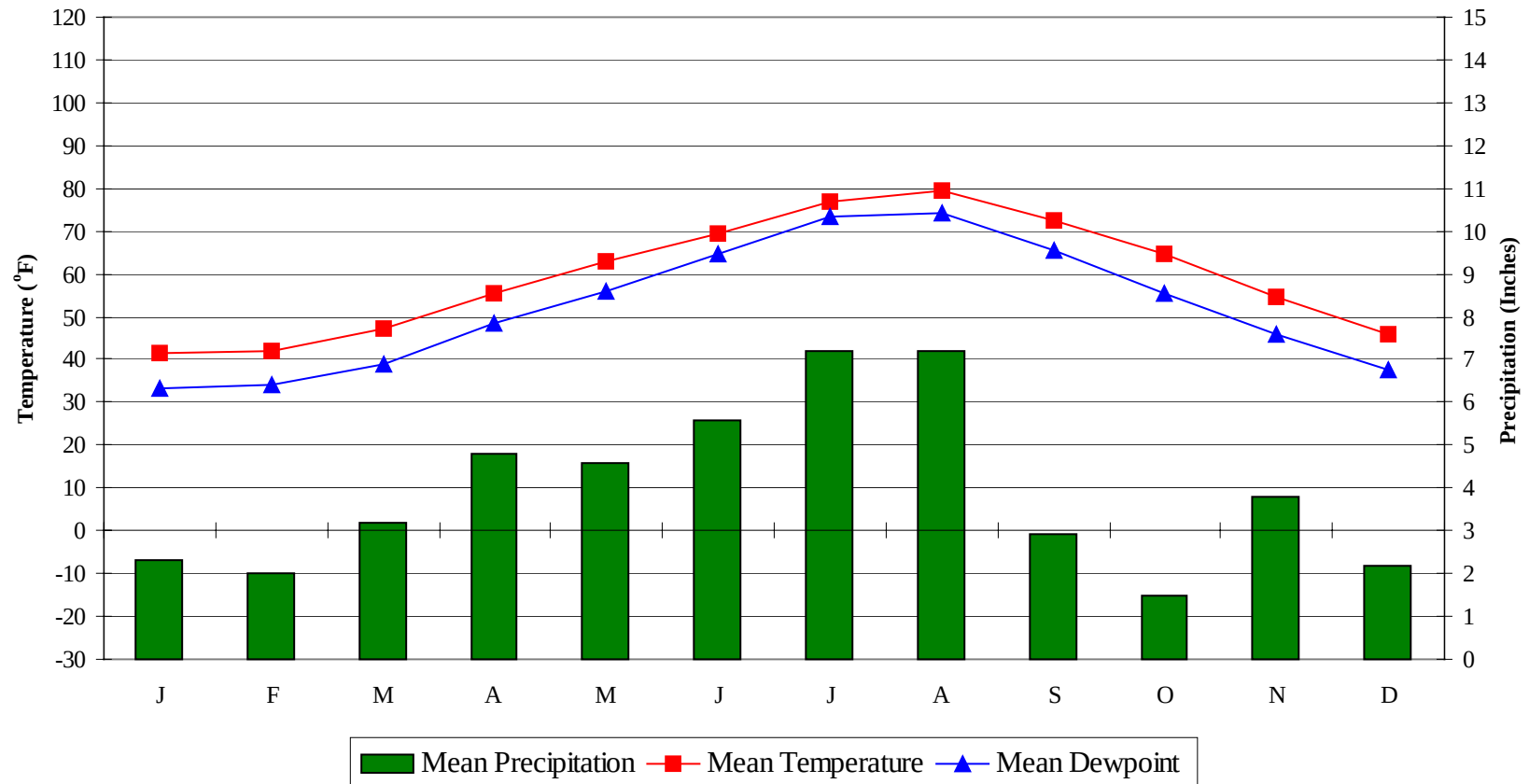
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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Average Annual Climate

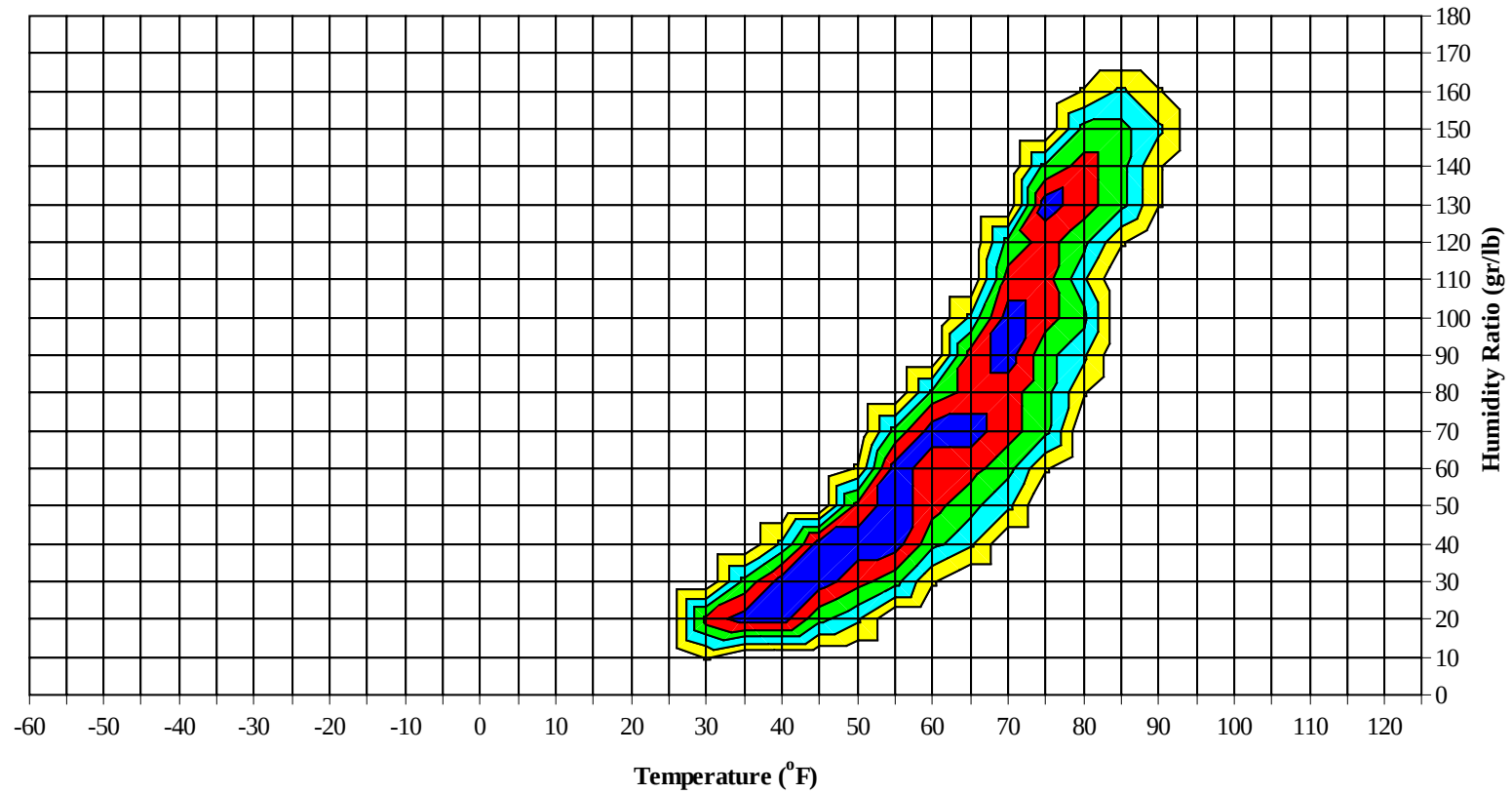


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Long Term Psychrometric Summary

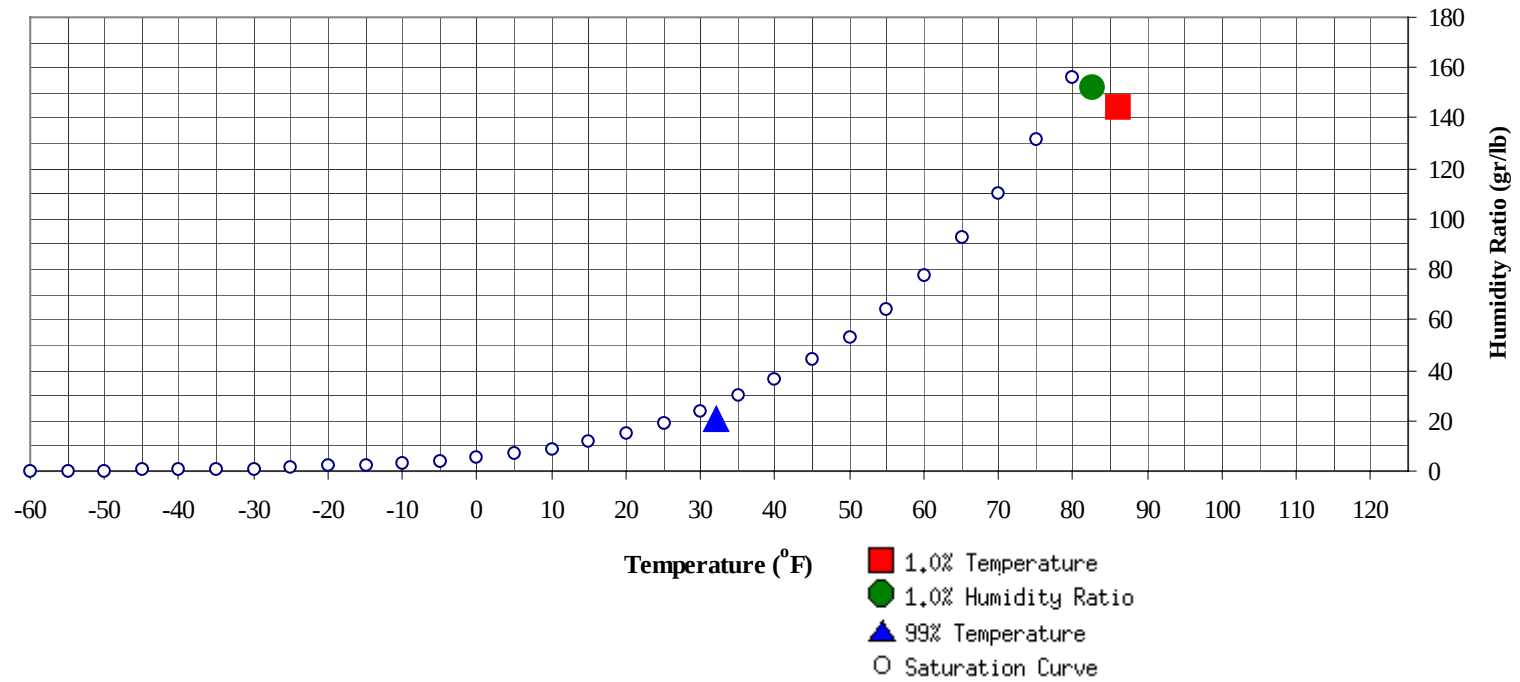


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values



	(°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	32	20.8	10.9		151.9	82.5	79.8	78.8	43.6

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	86	144.7	79.7	43.4

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Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)

Period of Record = 1973 to 1993

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												1		1	59.8
60 / 64	0	2	0	2	55.5	0	3	0	3	56.4	2	18	4	25	56.5
55 / 59	4	16	8	28	52.4	9	24	10	42	52.7	13	63	25	102	52.3
50 / 54	19	39	22	80	47.4	14	39	29	81	47.8	41	69	60	169	47.5
45 / 49	33	58	42	133	42.3	38	55	45	138	42.4	71	63	75	209	42.7
40 / 44	42	49	46	137	38.1	37	33	34	104	38.3	52	20	43	116	38.4
35 / 39	96	61	88	246	34.1	67	43	61	170	34.1	57	10	33	100	34.3
30 / 34	49	20	38	106	30.3	50	23	37	110	30.0	12	3	7	22	30.2
25 / 29	4	3	5	12	25.9	10	4	8	21	26.1	1	0	0	1	26.7
20 / 24	0		0	0	21.0	1	0	1	2	21.6					

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 1993

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															
90 / 94															
85 / 89							0		0	69.0	0	0	0	0	68.7
80 / 84						0	3	0	3	67.9	0	9	1	10	71.3
75 / 79		1		1	67.9	0	16	3	18	66.2	4	72	17	93	70.3
70 / 74		6	1	7	63.2	3	69	18	90	64.4	66	115	95	276	68.4
65 / 69	1	26	5	32	60.7	27	72	45	144	62.4	80	33	79	193	65.0
60 / 64	21	87	44	152	58.1	81	66	98	245	59.3	74	11	44	128	61.2
55 / 59	63	81	81	225	53.7	87	21	62	170	54.3	15	1	4	20	56.4
50 / 54	77	31	67	175	48.7	43	2	19	64	50.3	1	0		1	53.2
45 / 49	55	8	32	94	43.5	6	0	2	8	45.1					
40 / 44	17	1	9	27	39.0	0	0		0	41.5					
35 / 39	5	0	2	7	35.9	0			0						
30 / 34	0	0	0	0	31.5										
25 / 29															
20 / 24															

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Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)

Period of Record = 1973 to 1993

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	82.0	0	0		0	82.0	0			0	79.0
90 / 94	0	8	1	9	81.0	0	11	1	12	81.2	0	0	0	0	75.7
85 / 89	0	28	7	34	80.2	0	59	13	71	80.1	0	9	1	10	78.8
80 / 84	19	77	49	145	78.1	43	113	82	238	77.7	4	55	14	73	75.4
75 / 79	112	88	108	308	75.2	140	56	118	313	75.0	32	98	57	186	71.7
70 / 74	91	43	70	205	70.6	58	10	32	100	69.8	83	60	93	236	67.6
65 / 69	21	4	12	37	65.8	8	0	2	9	64.6	68	13	47	128	63.7
60 / 64	5	0	1	6	61.9	0	0	0	0	61.0	44	4	25	73	59.5
55 / 59			0	0	56.0	0			0	59.0	10	1	3	14	55.7
50 / 54											0		0	0	51.0
45 / 49													0	0	42.0
40 / 44															
35 / 39															
30 / 34															
25 / 29															
20 / 24															

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

Period of Record = 1973 to 1993

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		0		0											
85 / 89		0	0	0	62.0	0	0		0						
80 / 84	1	4	1	6	73.2	0	0		0	69.0					
75 / 79	1	46	6	53	68.3	0	2	0	2	67.1					
70 / 74	16	90	36	143	65.1	0	15	1	16	64.0		0		0	61.5
65 / 69	32	51	48	131	61.9	5	28	10	43	61.2	1	4	0	5	60.5
60 / 64	95	39	86	219	58.0	28	60	37	125	57.6	3	17	6	26	56.5
55 / 59	70	16	51	137	53.2	53	60	55	167	52.5	14	33	20	67	52.1
50 / 54	27	3	18	48	48.2	66	45	69	180	47.4	32	54	36	122	47.1
45 / 49	5	0	2	7	44.6	58	23	47	128	42.6	65	63	70	198	42.2
40 / 44	0	0	0	0	39.0	22	6	15	43	38.8	65	39	57	161	38.4
35 / 39	0	0		0	36.3	7	2	6	14	35.9	53	31	47	132	34.7
30 / 34						1	0	0	1	32.1	14	7	13	34	31.2
25 / 29											0	0	0	0	26.1
20 / 24															

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

Period of Record = 1973 to 1993

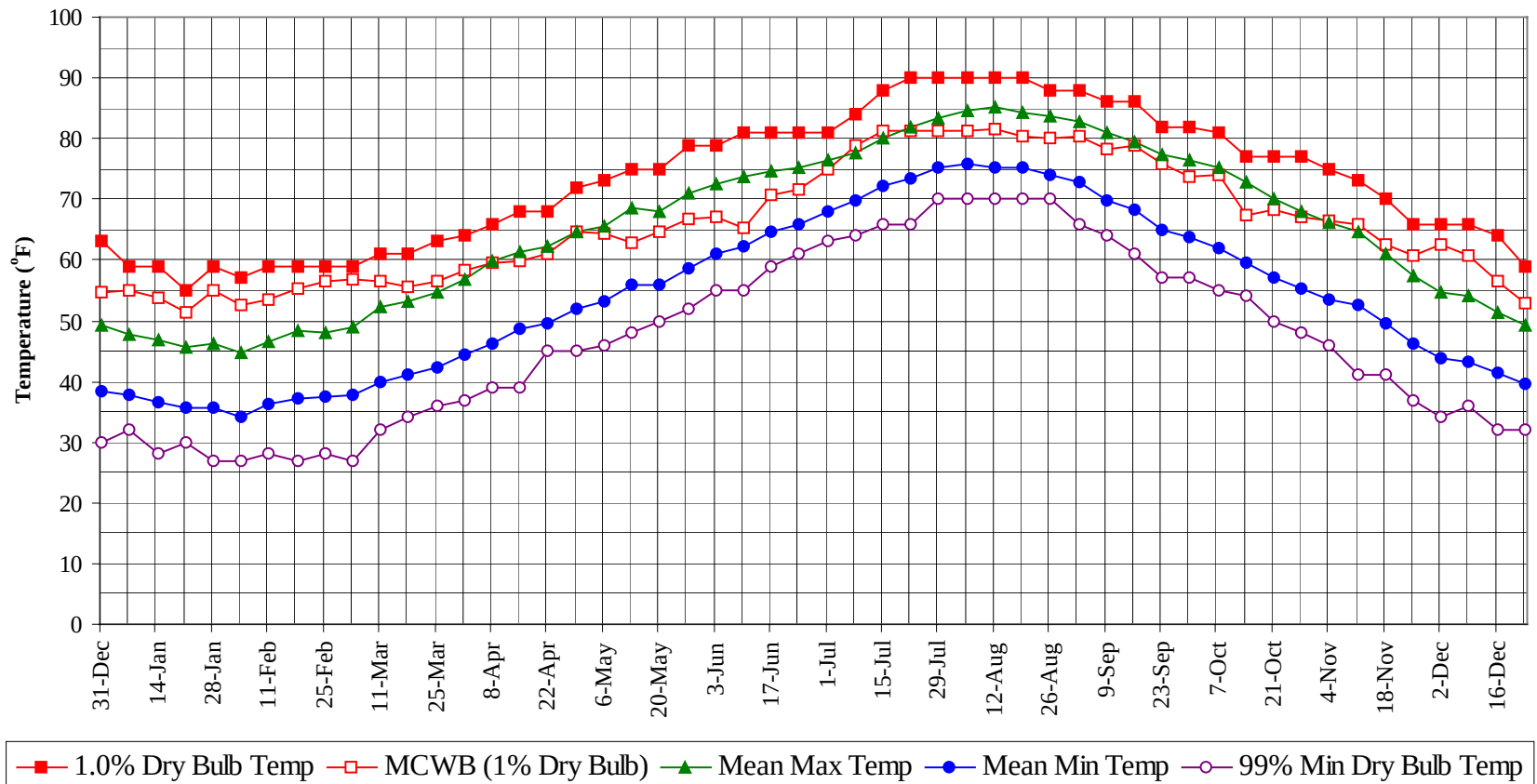
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
95 / 99	0	0		0	81.3
90 / 94	0	20	2	22	81.0
85 / 89	1	99	21	121	79.9
80 / 84	71	269	151	491	77.2
75 / 79	304	382	319	1006	73.5
70 / 74	328	407	351	1086	67.9
65 / 69	243	228	247	718	63.3
60 / 64	349	303	346	997	58.7
55 / 59	331	312	316	958	53.3
50 / 54	315	278	316	909	47.9
45 / 49	326	268	310	904	42.6
40 / 44	231	148	200	579	38.4
35 / 39	281	147	234	662	34.3
30 / 34	123	53	94	270	30.3
25 / 29	15	7	13	34	26.0
20 / 24	1	0	1	2	21.5

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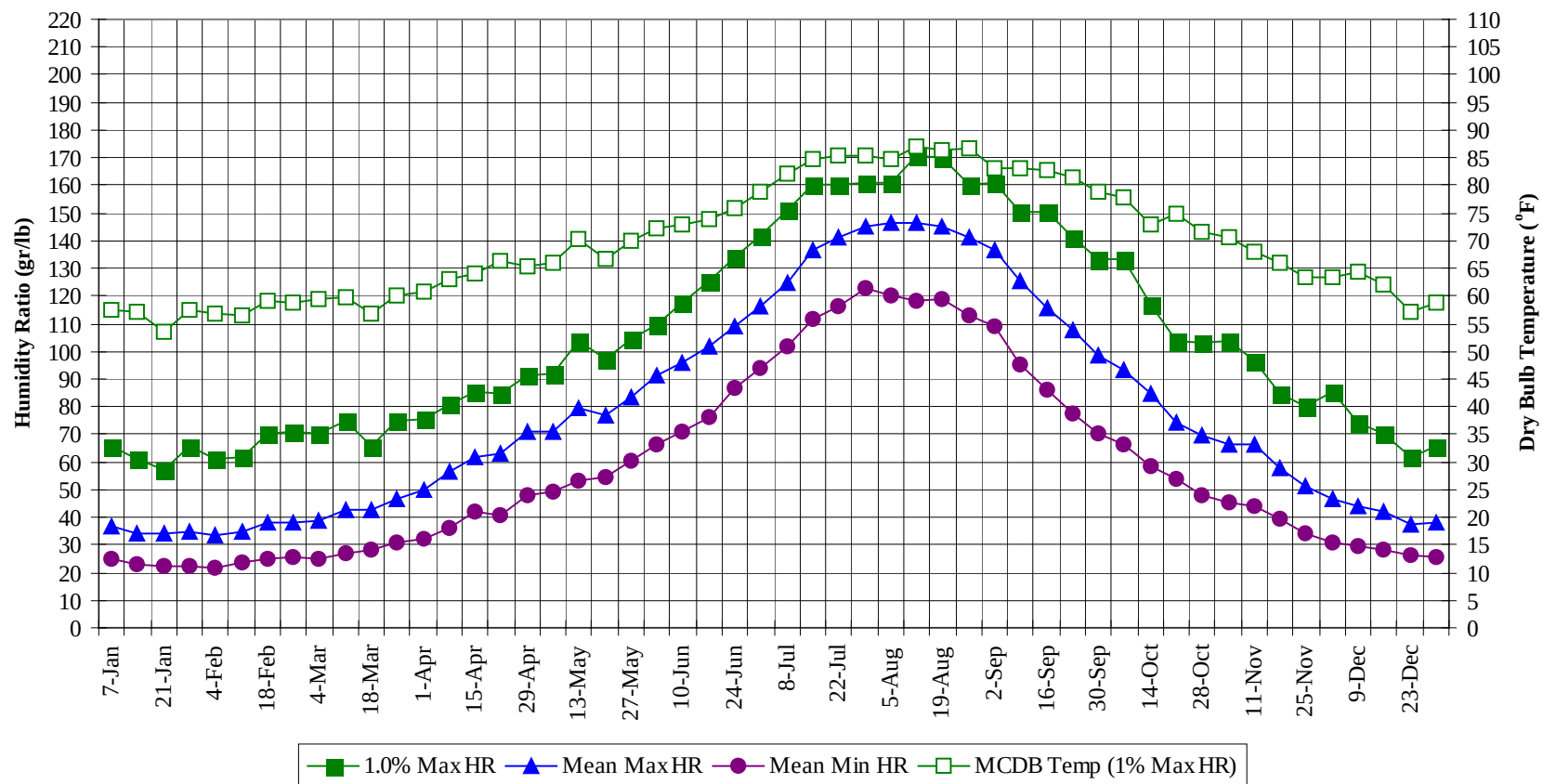
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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

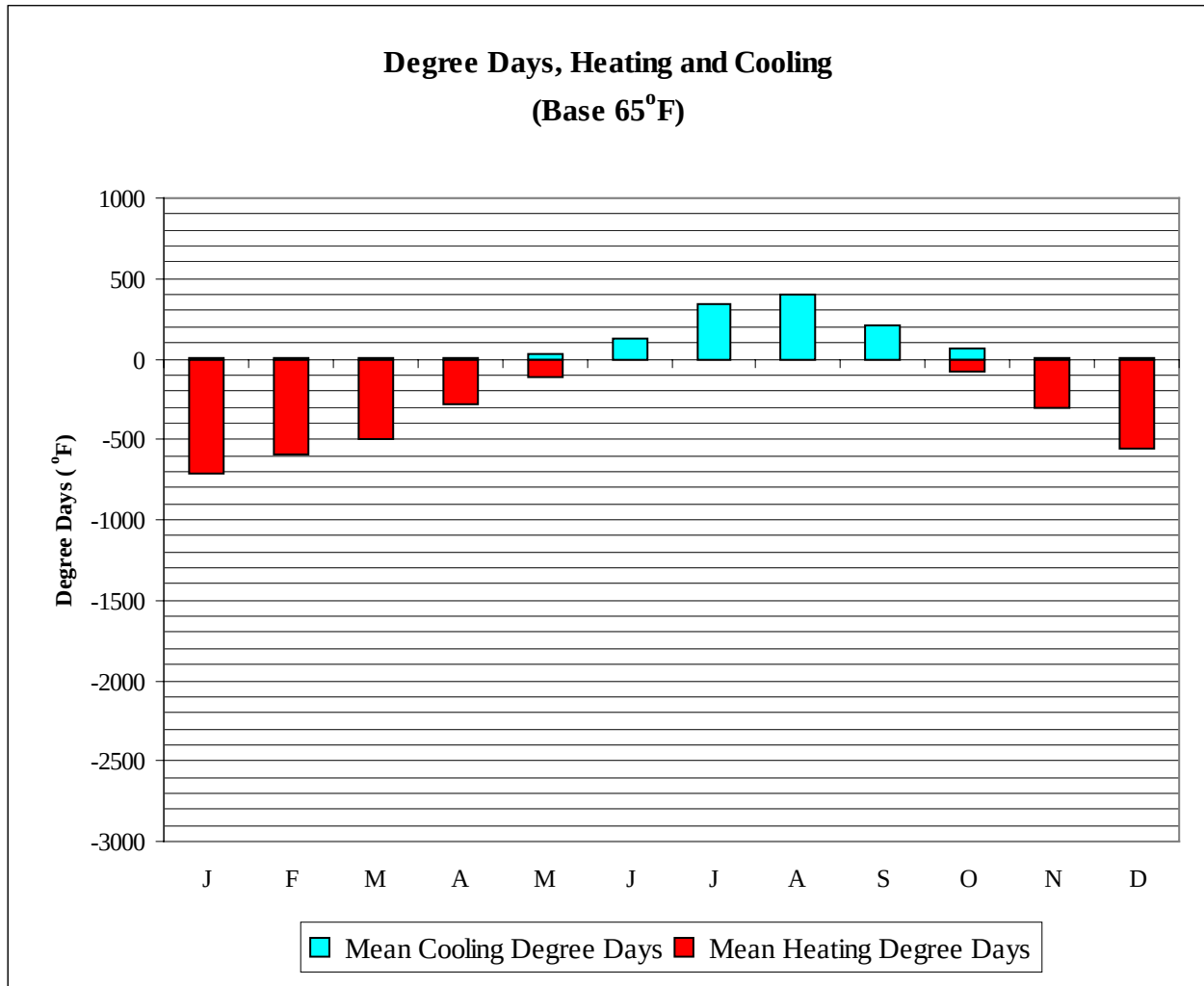


MOSULPO**KO****WMO No. 471870****Long Term Dry Bulb Temperature and Humidity Summary**

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	59.0	55.0	47.9	37.9	32.0	65.8	57.4	36.8	24.9
14-Jan	59.0	53.8	46.7	36.7	28.0	60.9	57.2	34.2	23.2
21-Jan	55.0	51.3	45.7	35.6	30.0	57.4	53.5	33.8	22.3
28-Jan	59.0	54.9	46.3	35.7	27.0	65.8	57.4	34.6	22.3
4-Feb	57.0	52.7	44.9	34.1	27.0	60.9	56.8	33.2	21.5
11-Feb	59.0	53.4	46.4	36.3	28.0	61.6	56.5	34.8	23.6
18-Feb	59.0	55.4	48.3	37.1	27.0	70.0	59.1	37.8	24.8
25-Feb	59.0	56.4	47.9	37.4	28.0	70.7	58.9	38.4	25.5
4-Mar	59.0	56.8	49.0	37.7	27.0	70.0	59.6	38.7	24.9
11-Mar	61.0	56.4	52.4	39.9	32.0	74.9	59.8	42.6	26.9
18-Mar	61.0	55.6	53.1	41.1	34.0	65.8	56.7	42.6	28.1
25-Mar	63.0	56.5	54.7	42.3	36.0	74.9	60.1	46.8	30.8
1-Apr	64.0	58.2	56.9	44.5	37.0	75.6	60.6	49.8	32.5
8-Apr	66.0	59.4	59.7	46.2	39.0	80.5	63.2	56.6	35.9
15-Apr	68.0	59.8	61.5	48.8	39.0	85.4	63.9	61.8	42.1
22-Apr	68.0	61.2	62.3	49.5	45.0	84.7	66.2	63.2	40.5
29-Apr	72.0	64.8	64.6	52.1	45.0	91.0	65.4	71.1	47.7
6-May	73.0	64.5	65.6	53.3	46.0	91.7	66.1	70.7	49.0
13-May	75.0	62.8	68.6	55.8	48.0	103.6	70.3	79.3	52.9
20-May	75.0	64.7	67.9	55.8	50.0	97.3	66.6	76.5	54.7
27-May	79.0	66.7	71.0	58.5	52.0	104.3	69.9	83.5	60.2
3-Jun	79.0	67.1	72.6	60.9	55.0	109.9	72.4	91.4	66.6
10-Jun	81.0	65.2	73.7	62.4	55.0	117.6	72.7	95.6	71.2
17-Jun	81.0	70.7	74.7	64.6	59.0	125.3	74.0	102.1	76.4
24-Jun	81.0	71.7	75.1	65.9	61.0	133.7	75.9	109.0	86.6
1-Jul	81.0	75.0	76.4	68.0	63.0	142.1	78.7	116.4	94.2
8-Jul	84.0	78.8	77.7	69.8	64.0	151.2	82.2	124.5	101.5
15-Jul	88.0	81.4	80.1	72.2	66.0	160.3	84.9	136.6	111.6
22-Jul	90.0	81.4	82.0	73.4	66.0	160.3	85.3	140.9	116.2
29-Jul	90.0	81.4	83.5	75.2	70.0	161.0	85.4	145.2	122.6
5-Aug	90.0	81.4	84.7	75.8	70.0	161.0	84.6	146.7	120.2
12-Aug	90.0	81.7	85.1	75.3	70.0	170.8	87.1	146.3	118.2
19-Aug	90.0	80.2	84.2	75.3	70.0	170.1	86.4	145.1	118.6
26-Aug	88.0	80.1	83.8	74.0	70.0	160.3	86.7	141.1	112.8
2-Sep	88.0	80.4	82.8	72.7	66.0	161.0	83.1	136.3	108.9
9-Sep	86.0	78.3	81.0	69.8	64.0	150.5	83.2	125.2	95.0
16-Sep	86.0	78.9	79.4	68.3	61.0	150.5	82.7	115.9	85.7
23-Sep	82.0	75.9	77.4	65.0	57.0	141.4	81.3	107.4	77.5
30-Sep	82.0	73.8	76.5	63.7	57.0	133.0	78.7	98.7	70.3
7-Oct	81.0	74.1	75.1	62.0	55.0	133.0	77.7	93.1	66.4
14-Oct	77.0	67.4	72.8	59.4	54.0	116.9	73.0	84.7	58.4
21-Oct	77.0	68.1	70.1	57.2	50.0	103.6	74.9	74.3	53.9
28-Oct	77.0	66.9	68.0	55.3	48.0	102.9	71.5	69.8	47.6
4-Nov	75.0	66.4	66.3	53.5	46.0	103.6	70.6	66.6	45.2
11-Nov	73.0	65.9	64.8	52.5	41.0	96.6	68.0	66.1	44.3
18-Nov	70.0	62.5	61.1	49.6	41.0	84.7	66.1	57.9	39.2
25-Nov	66.0	60.8	57.5	46.2	37.0	79.8	63.3	51.0	34.0
2-Dec	66.0	62.5	54.8	43.7	34.0	85.4	63.4	46.5	30.9
9-Dec	66.0	60.7	54.1	43.1	36.0	74.2	64.5	43.8	29.2
16-Dec	64.0	56.5	51.4	41.3	32.0	70.0	61.9	41.8	28.1
23-Dec	59.0	52.9	49.2	39.5	32.0	61.6	57.3	37.7	26.0
31-Dec	63.0	54.7	49.1	38.3	30.0	65.8	58.8	37.9	25.6

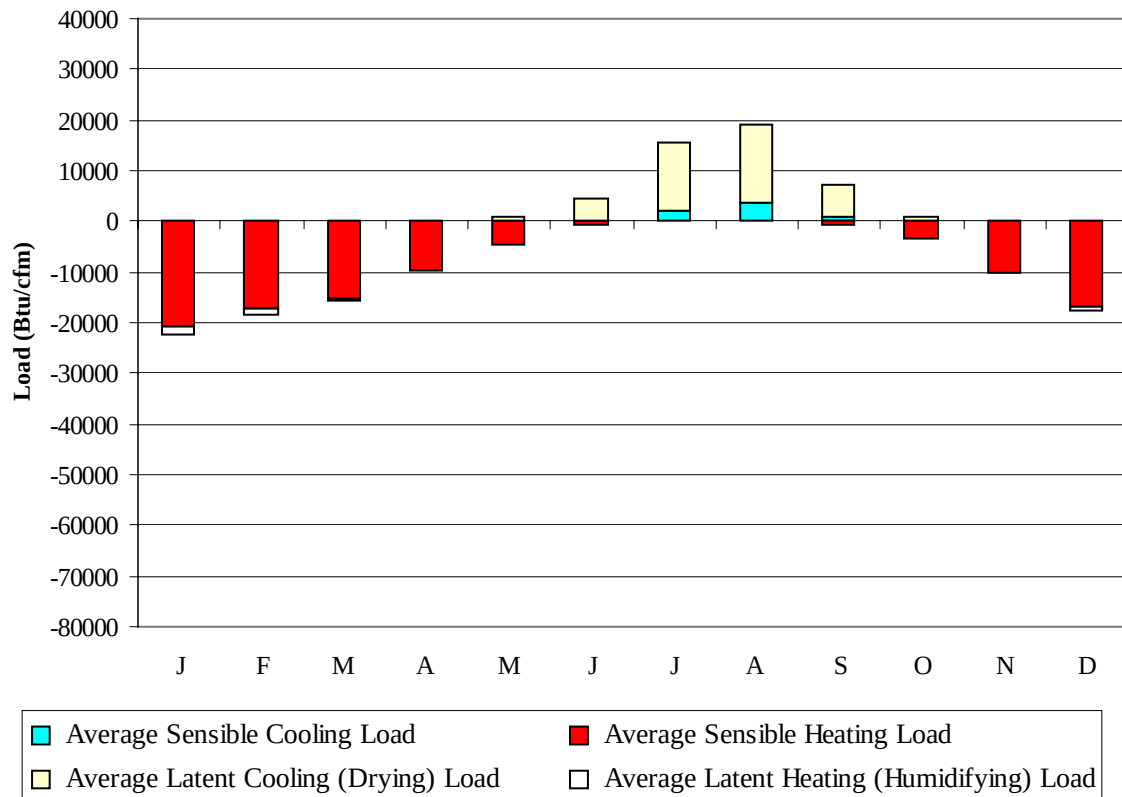
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	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	716
FEB	0	595
MAR	0	498
APR	3	284
MAY	35	108
JUN	130	11
JUL	336	0
AUG	403	0
SEP	208	7
OCT	61	80
NOV	6	309
DEC	0	562
ANN	1184	3170

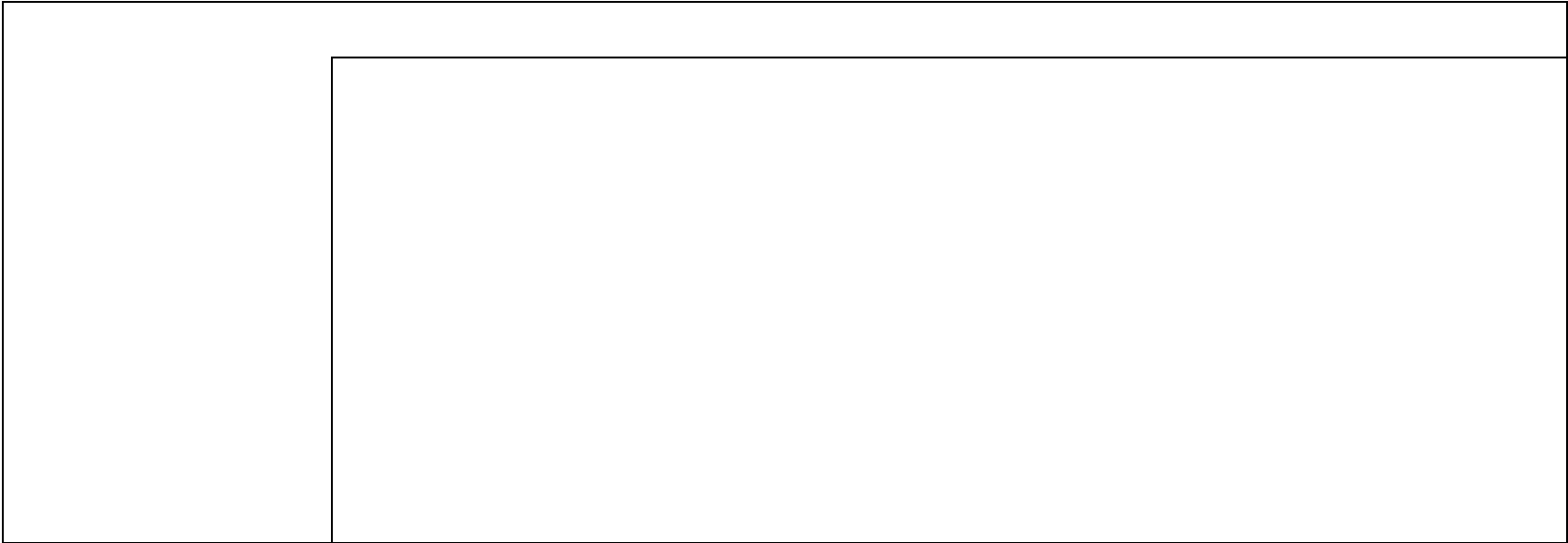
Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	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	-20892	0	-1468
FEB	0	-17415	0	-1198
MAR	0	-15127	1	-622
APR	1	-9604	75	-82
MAY	34	-4521	737	-4
JUN	149	-834	4469	0
JUL	2129	-37	13518	0
AUG	3576	-6	15369	0
SEP	934	-494	6151	0
OCT	73	-3422	1026	-2
NOV	4	-10089	110	-128
DEC	0	-16833	3	-706
ANN	6900	-99274	41459	-4210

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

No Solar Radiation
Data Available

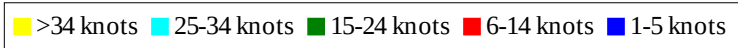
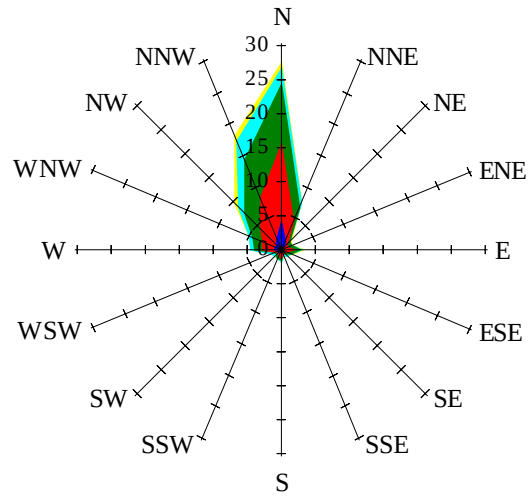


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

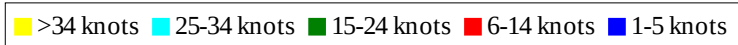
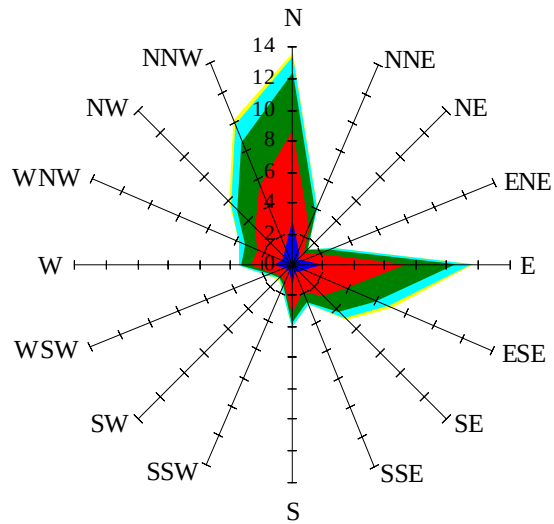
Labels of Percent Frequency on North Axis



Percent Calm = 13.57

Wind Summary - March, April, and May

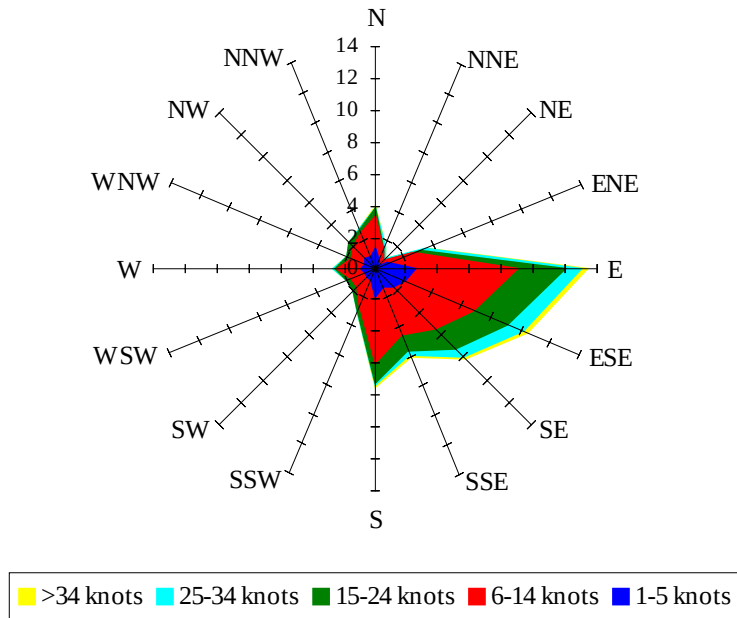
Labels of Percent Frequency on North Axis



Percent Calm = 21.54

Wind Summary - June, July, and August

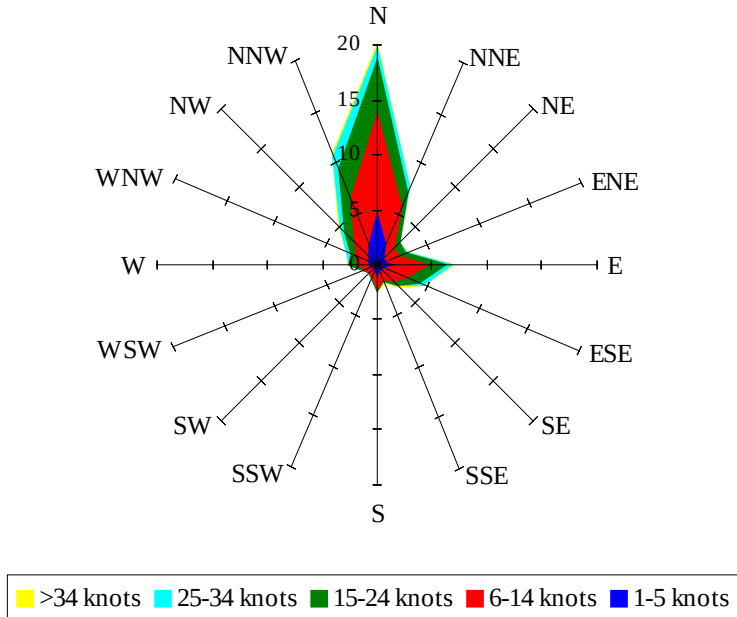
Labels of Percent Frequency on North Axis



Percent Calm = 28.56

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 23.66