

BAKERSFIELD/MEADOWS CA

Latitude = 35.43 N

WMO No. 723840

Longitude = 119.00 W

Elevation = 492 feet

Period of Record = 1973 to 1996

Average Pressure = 29.44 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	109	73	66	11.7	NW
0.4% Occurrence	104	71	62	11.5	NW
1.0% Occurrence	102	70	62	11.1	NW
2.0% Occurrence	99	69	61	10.7	NW
Mean Daily Range	23	-	-	-	-
97.5% Occurrence	38	37	30	4.5	E
99.0% Occurrence	35	34	27	4.4	E
99.6% Occurrence	33	32	25	4.2	E
Median of Extreme Lows	29	28	20	4.2	E
	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	76	101	93	10.1	WNW
0.4% Occurrence	73	97	82	9.7	NW
1.0% Occurrence	72	96	78	9.5	NW
2.0% Occurrence	71	95	75	9.3	NW
	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	105	80	0.69	7.1	NW
0.4% Occurrence	95	83	0.62	6.7	N
1.0% Occurrence	88	84	0.58	6.9	WNW
2.0% Occurrence	82	84	0.54	6.9	NW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		564	1912	62	860

Other Site Data

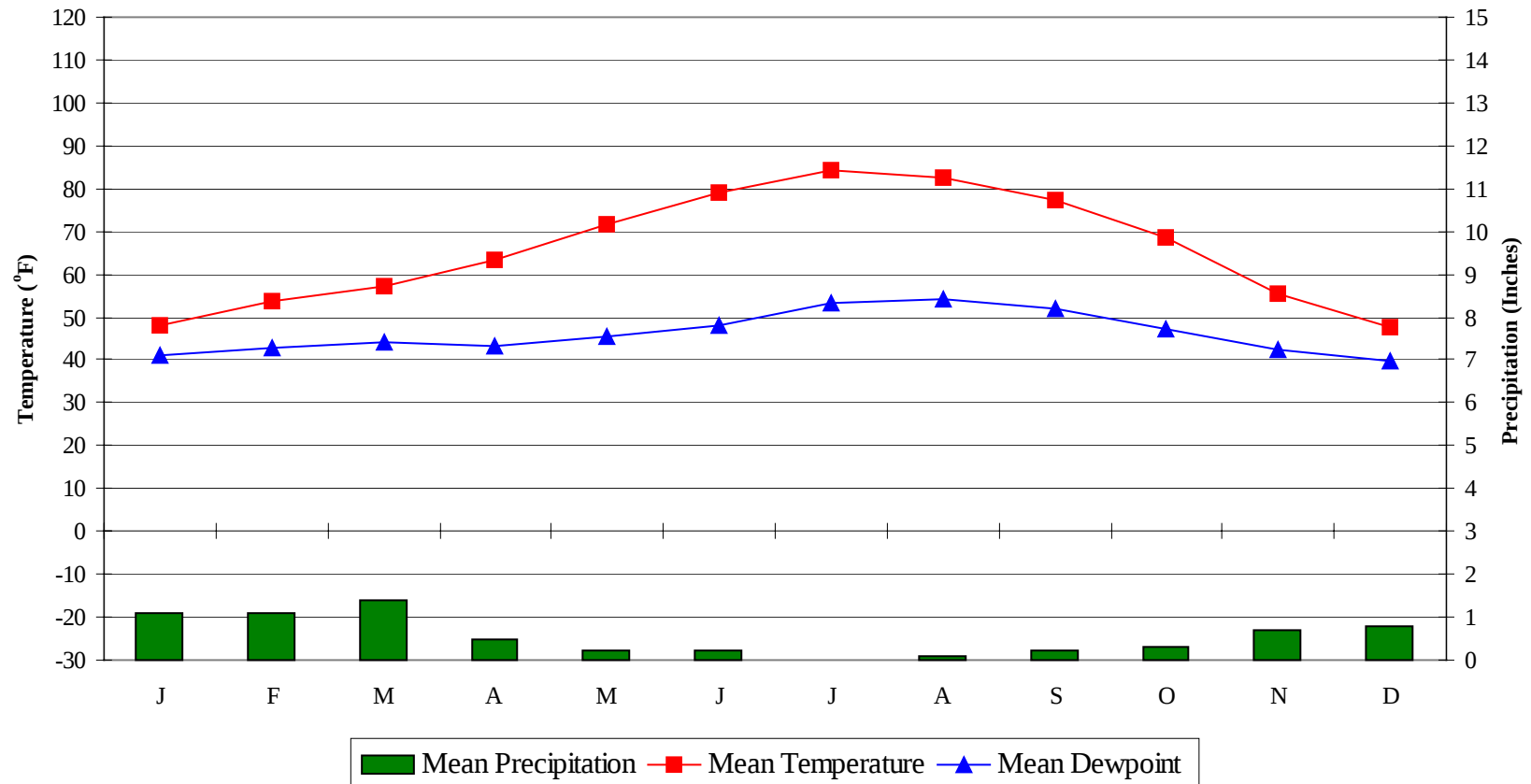
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
11	1.3	85	0.1 + 2.5
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
68.2	N/A	N/A	5

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

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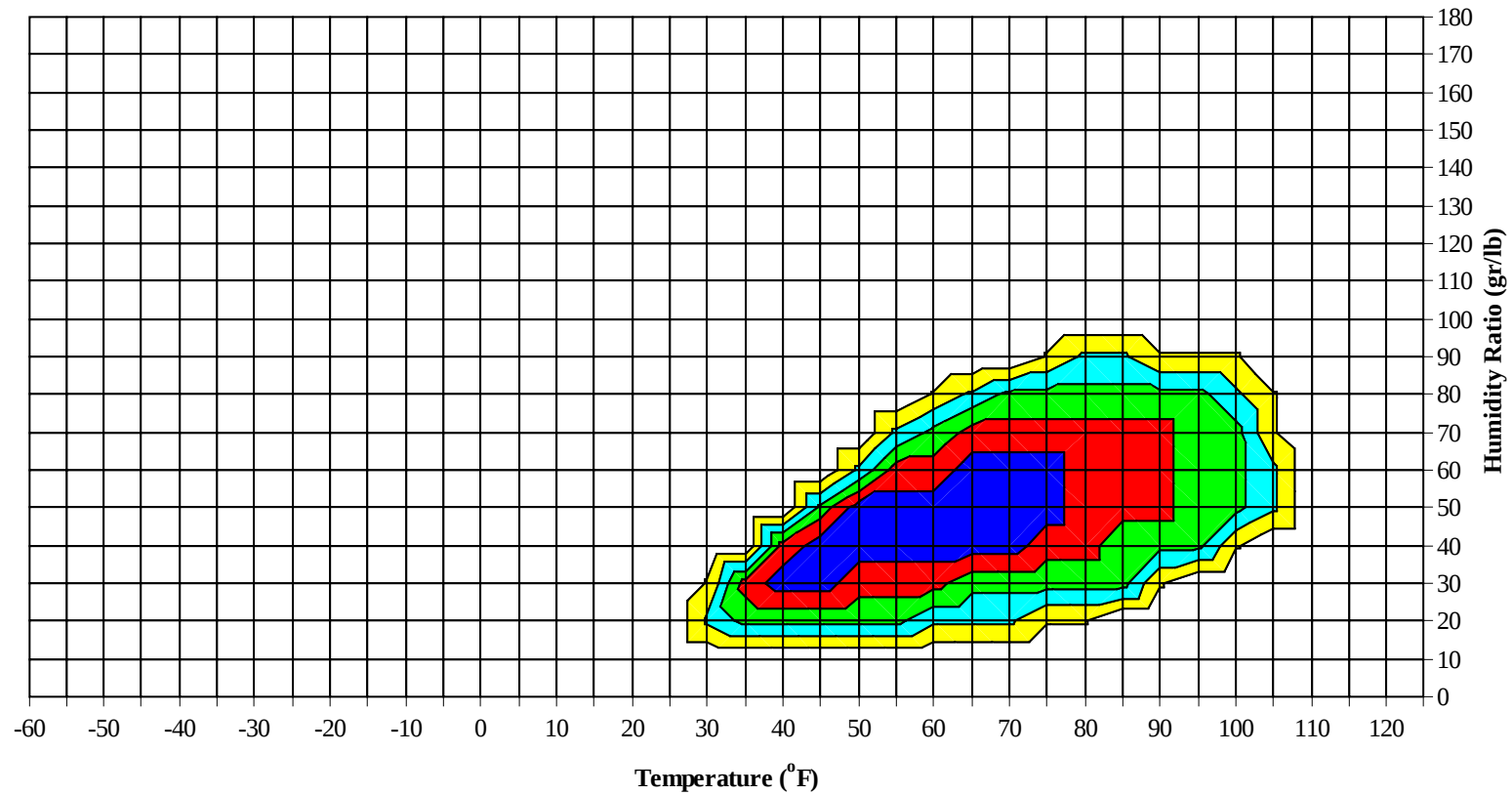
Average Annual Climate



BAKERSFIELD/MEADOWS CA

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Long Term Psychrometric Summary

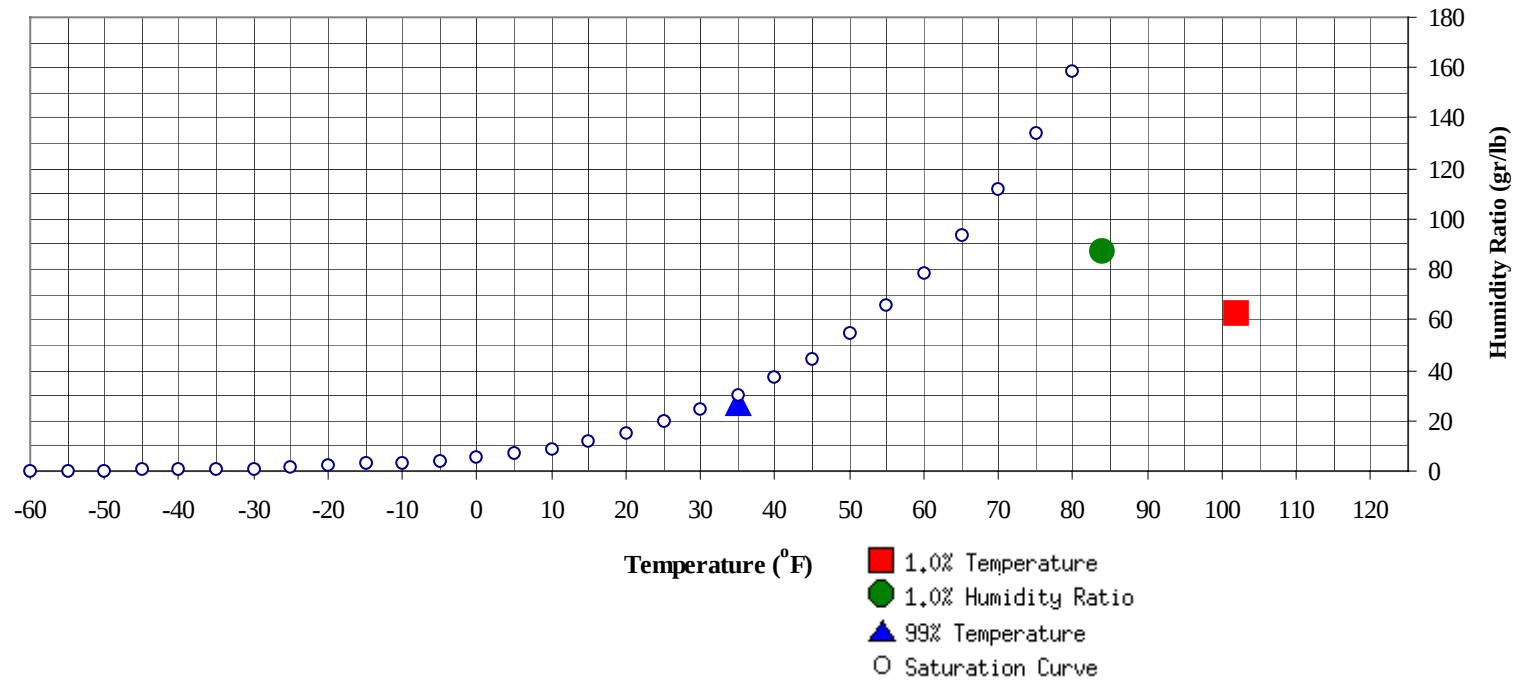


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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	35	26.6	12.5		87.5	83.9	69.6	63	33.9

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	102	63	70.5	34.4

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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		
110 / 114															
105 / 109															
100 / 104															
95 / 99											0			0	71.5
90 / 94											0	0		0	63.0
85 / 89										0	1	0		1	60.8
80 / 84		0		0	54.7		2	0	2	58.6	0	5	1	6	59.5
75 / 79		1	0	1	56.7		5	1	6	56.7	0	17	5	22	59.1
70 / 74	0	5	1	6	55.8	0	18	5	23	56.8	0	35	12	47	57.3
65 / 69	1	15	4	20	55.6	1	33	12	46	55.3	2	50	25	77	55.5
60 / 64	3	30	13	46	53.5	6	52	31	89	53.4	12	61	52	125	53.4
55 / 59	13	47	29	89	50.8	23	49	55	127	51.2	46	47	64	157	51.1
50 / 54	28	57	54	139	47.7	53	42	61	156	48.0	83	25	56	164	47.9
45 / 49	54	49	68	171	44.4	66	17	38	121	44.3	67	7	27	101	44.2
40 / 44	67	31	54	152	40.5	49	5	15	69	40.1	31	1	6	38	39.9
35 / 39	61	12	22	95	36.4	22	1	4	27	35.5	6	0	0	6	36.0
30 / 34	20	1	3	24	31.6	3	0	1	4	31.2	0			0	32.5
25 / 29	2		0	2	27.2	1		0	1	26.4					
20 / 24															
15 / 19															

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		
110 / 114												0	0	0	71.1
105 / 109							1	0	1	68.9		5	2	7	70.3
100 / 104		0	0	0	68.0		3	1	4	68.3		16	7	23	69.4
95 / 99	0	2	0	2	66.4		12	5	17	66.7		29	15	45	67.4
90 / 94	0	5	1	6	64.6		24	11	35	65.1	1	44	26	72	65.7
85 / 89	0	14	5	19	62.0	1	34	19	55	63.3	6	46	38	90	63.8
80 / 84	0	26	11	37	60.1	4	44	32	81	61.2	16	42	46	104	62.1
75 / 79	1	34	18	53	58.6	13	46	42	101	59.3	36	30	45	111	60.1
70 / 74	3	45	30	78	56.4	28	37	43	108	57.3	53	18	34	105	58.2
65 / 69	13	48	42	103	54.5	46	26	40	112	55.2	57	8	17	83	56.2
60 / 64	36	39	51	126	52.4	59	16	31	107	52.8	44	2	8	54	53.9
55 / 59	65	21	44	130	50.1	54	5	17	77	50.3	21	0	2	23	51.1
50 / 54	72	7	27	106	47.4	32	0	5	37	47.3	4	0	0	4	48.0
45 / 49	38	1	9	48	43.8	8		1	9	43.6	0			0	43.1
40 / 44	10	0	1	11	40.2	1		0	1	39.8					
35 / 39	1			1	36.0	0			0	36.7					
30 / 34															
25 / 29															
20 / 24															
15 / 19															

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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		
110 / 114		0	0	0	73.7		0	0	0	73.0					
105 / 109		9	3	12	72.3		7	2	9	72.5		1	0	1	71.7
100 / 104		35	16	51	70.6		27	10	37	70.5	0	11	2	13	70.2
95 / 99	0	56	29	85	69.1		50	23	73	69.2	0	29	8	37	68.7
90 / 94	2	59	39	100	67.7	2	55	31	88	68.0	0	43	16	59	67.0
85 / 89	12	46	51	109	66.1	7	49	46	102	66.6	1	47	29	77	65.8
80 / 84	40	28	52	120	64.3	30	34	58	123	65.1	9	44	49	102	64.0
75 / 79	71	12	37	120	62.4	61	19	49	129	63.1	34	36	54	124	62.4
70 / 74	66	4	17	87	60.3	72	6	23	101	60.9	62	21	45	128	60.5
65 / 69	40	0	3	43	58.0	54	1	5	60	58.7	67	8	25	100	57.9
60 / 64	14		1	15	55.8	20		0	20	56.4	48	2	8	58	55.2
55 / 59	2			2	52.8	2			2	53.6	16	0	2	18	52.0
50 / 54	0			0	48.5						3			3	48.4
45 / 49											0			0	45.5
40 / 44															
35 / 39															
30 / 34															
25 / 29															
20 / 24															
15 / 19															

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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		
110 / 114															
105 / 109															
100 / 104		2		2	69.9										
95 / 99		5	1	6	68.1										
90 / 94		16	2	18	65.8										
85 / 89		27	7	34	64.0		1		1	61.2					
80 / 84	0	41	15	57	62.5		5	0	5	59.4		0		0	56.0
75 / 79	4	50	34	89	60.6		16	1	17	58.5		1	0	1	56.4
70 / 74	19	46	48	114	58.7	0	30	6	36	56.9		4	0	4	55.3
65 / 69	40	34	59	134	56.5	1	43	18	62	55.1	1	18	2	21	53.9
60 / 64	70	19	46	135	54.0	10	50	43	103	53.2	3	35	10	48	52.4
55 / 59	65	6	22	93	50.8	39	50	60	148	50.6	10	49	30	89	50.6
50 / 54	34	2	10	46	46.9	64	32	58	154	47.5	25	55	54	134	47.5
45 / 49	13	0	2	15	42.8	64	11	39	114	43.7	52	48	71	171	44.0
40 / 44	2		0	2	39.6	44	3	14	61	39.6	76	27	52	154	40.1
35 / 39	0			0	36.0	16	0	2	18	35.7	56	11	24	91	36.0
30 / 34						2		0	2	31.5	20	2	5	27	31.3
25 / 29						0			0	29.0	3	0	1	4	26.6
20 / 24											1	0		1	21.7
15 / 19											0			0	19.0

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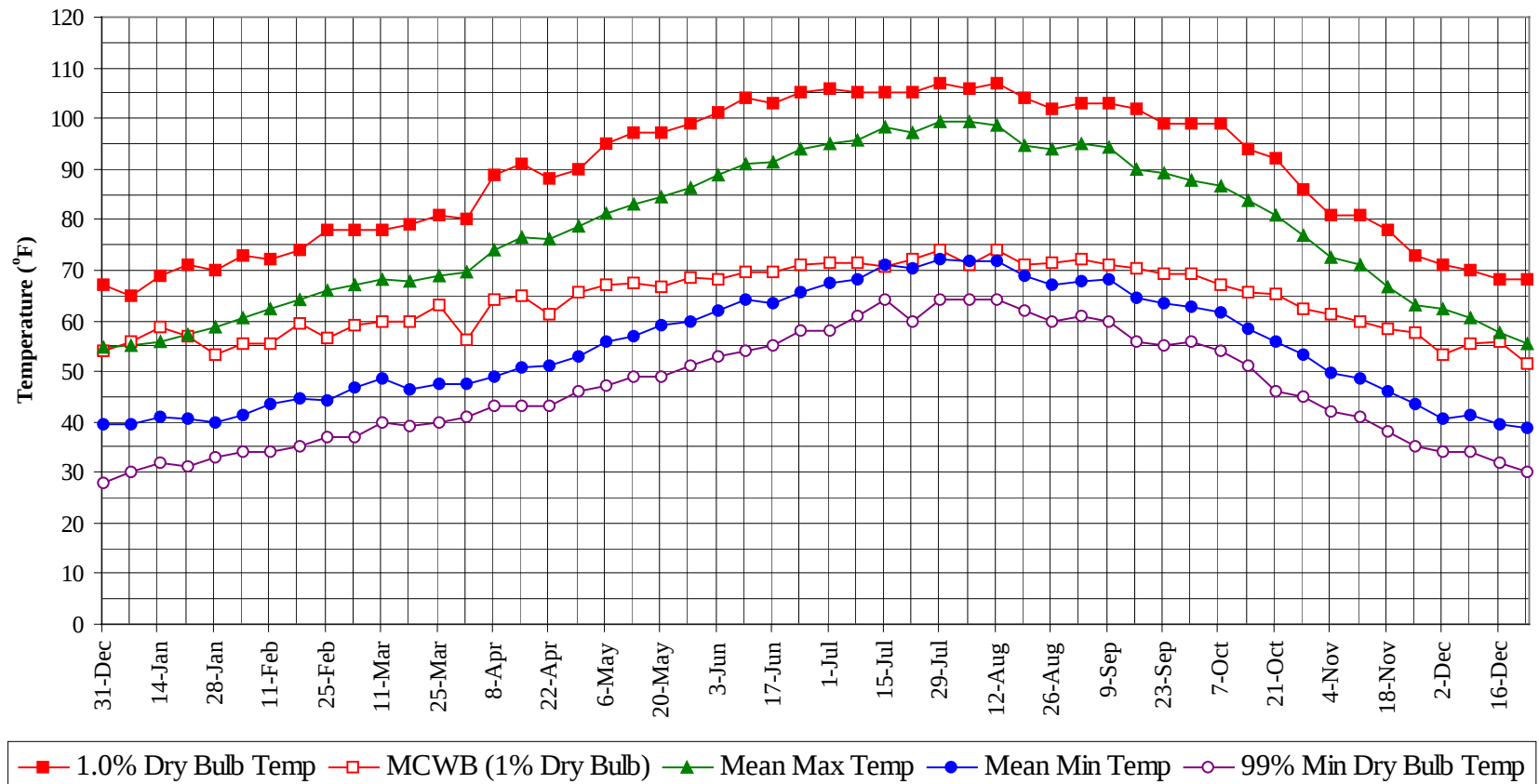
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

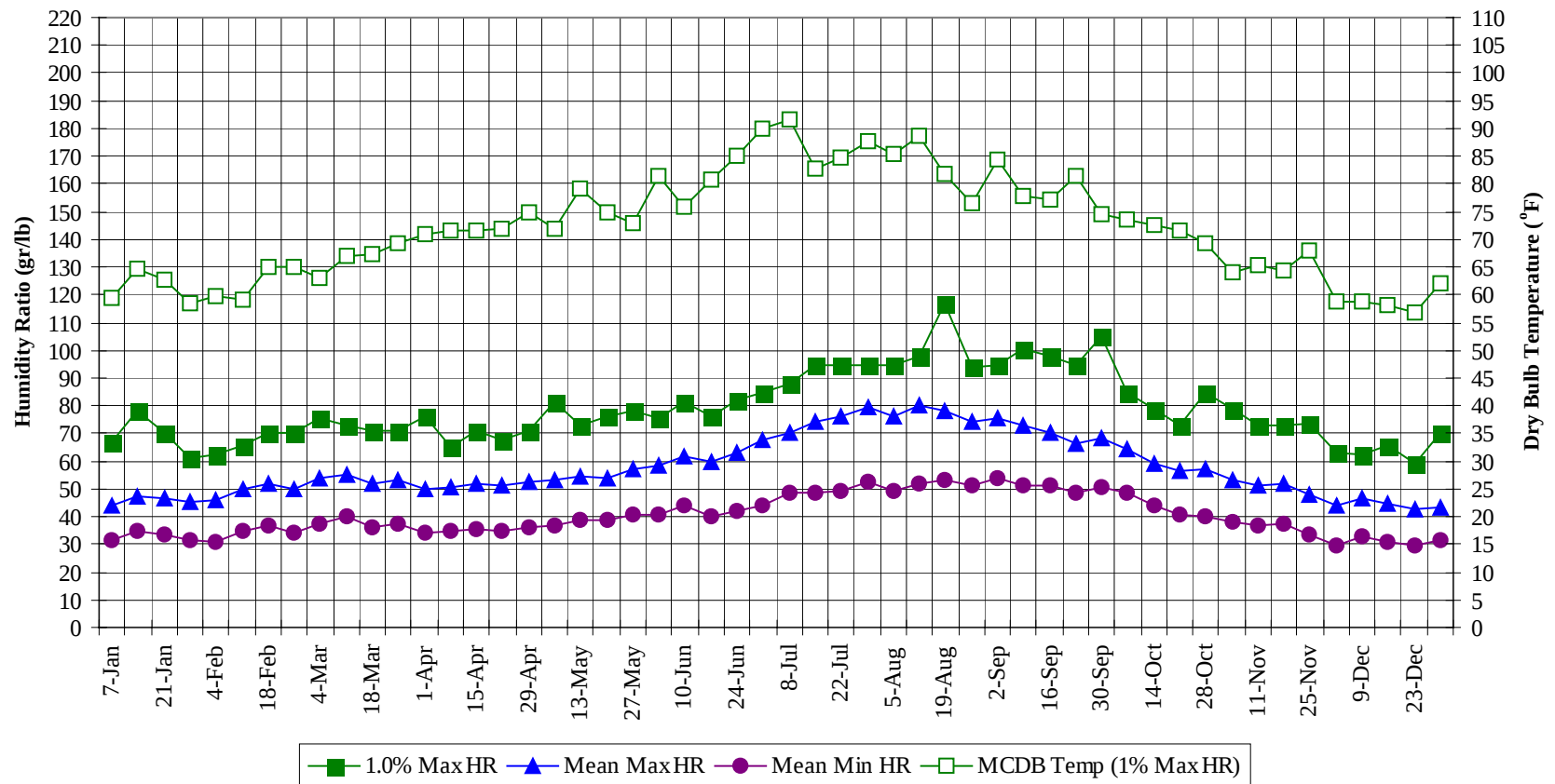
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
110 / 114		1	0	1	72.5
105 / 109		23	8	31	71.8
100 / 104		0	91	36	127
95 / 99		0	181	81	263
90 / 94		5	244	125	374
85 / 89		26	264	194	484
80 / 84		100	271	263	633
75 / 79		218	267	282	767
70 / 74		300	269	261	829
65 / 69		320	283	252	854
60 / 64		324	305	297	926
55 / 59		357	276	330	963
50 / 54		404	219	329	952
45 / 49		366	132	258	756
40 / 44		283	67	142	493
35 / 39		164	25	52	241
30 / 34		46	3	9	58
25 / 29		5	0	1	6
20 / 24		1	0		1
15 / 19		0			0
		</			

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

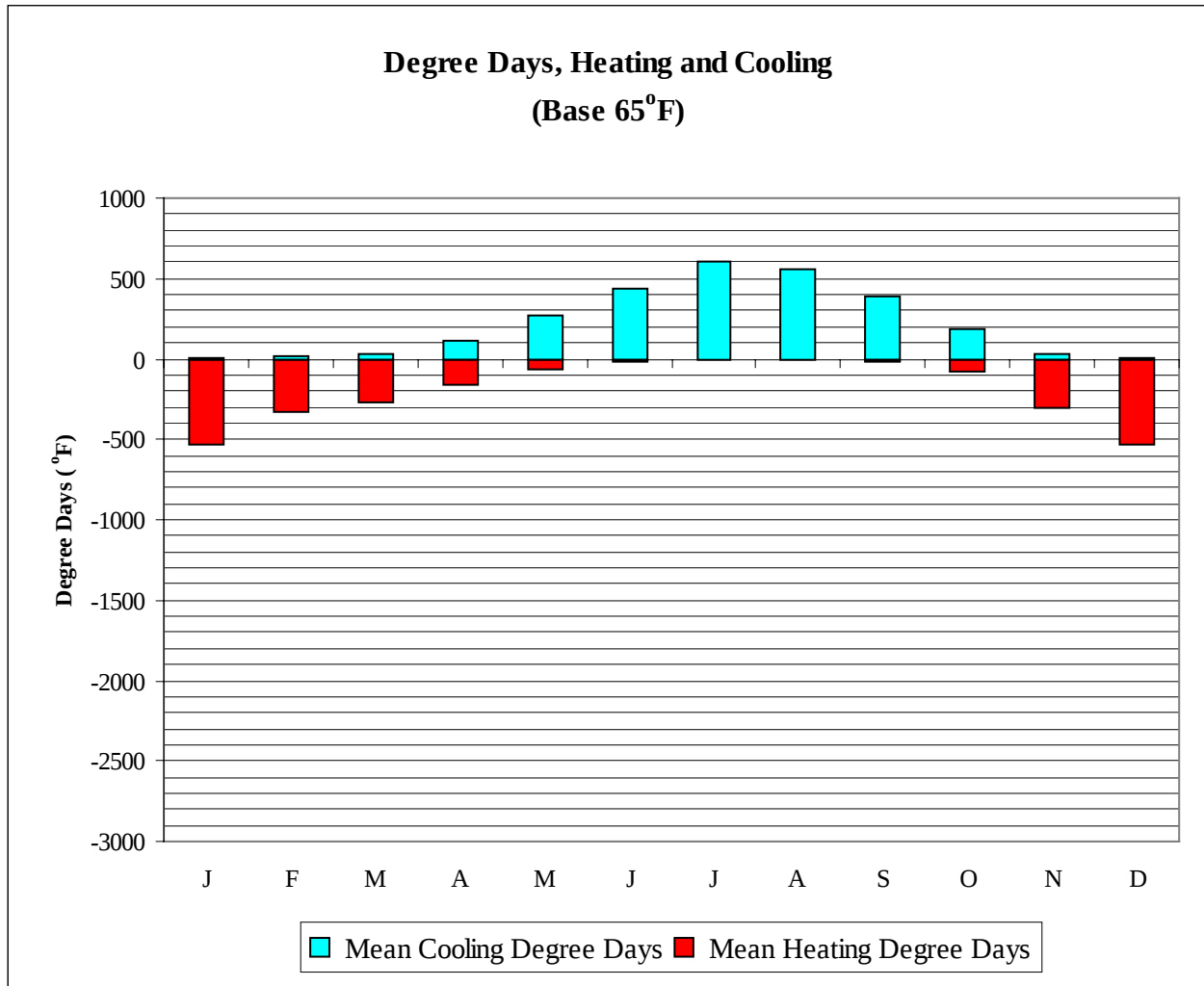


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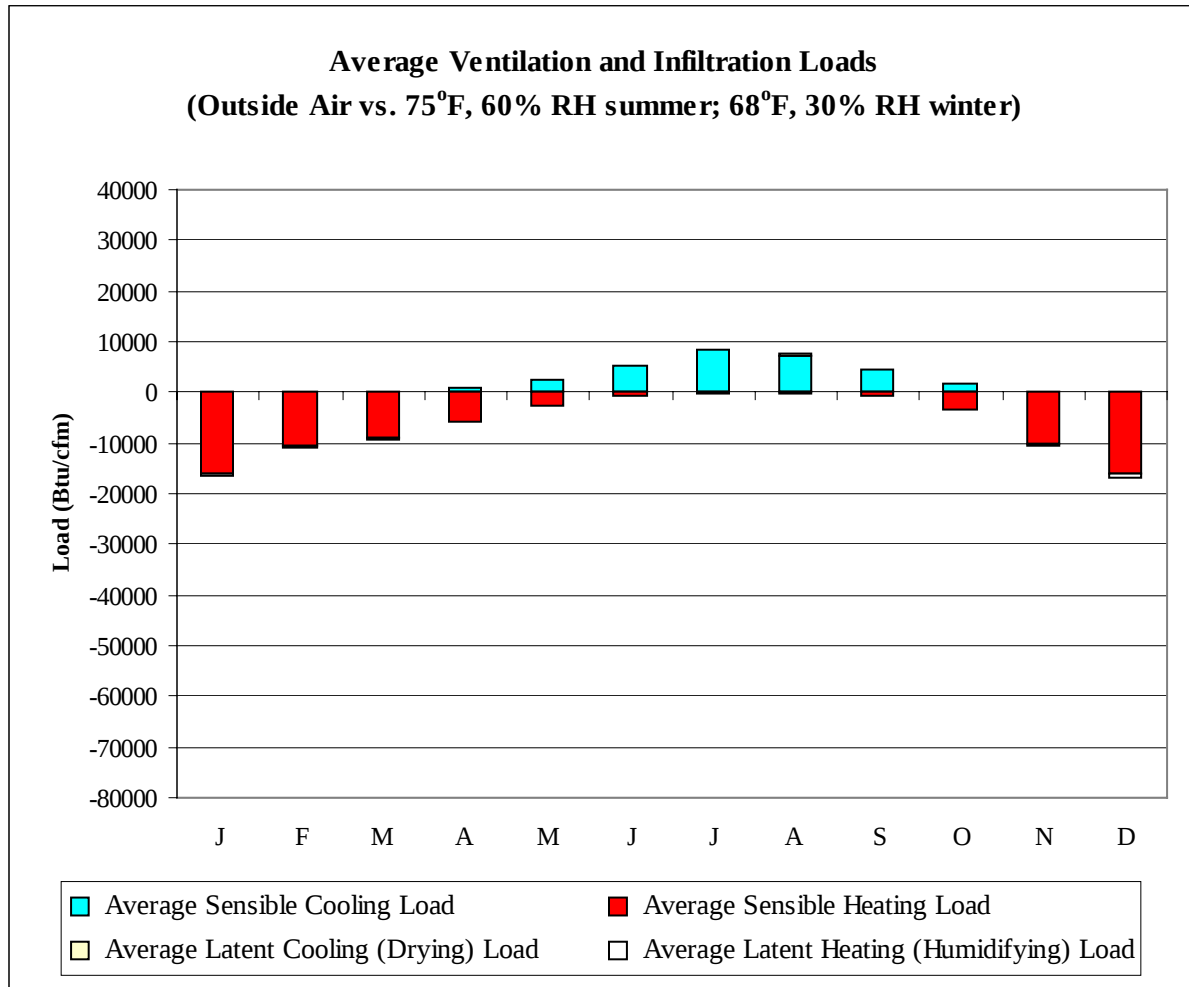
WMO No. 723840

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	65.0	56.0	55.0	39.7	30.0	67.2	59.4	44.3	31.4
14-Jan	69.0	58.6	55.8	40.9	32.0	78.4	64.6	47.4	34.7
21-Jan	71.0	56.8	57.3	40.4	31.0	70.0	62.9	46.7	33.2
28-Jan	70.0	53.3	58.8	39.9	33.0	60.9	58.3	45.4	31.6
4-Feb	73.0	55.5	60.7	41.4	34.0	62.3	59.9	46.0	31.2
11-Feb	72.0	55.5	62.5	43.5	34.0	65.8	59.1	49.7	35.0
18-Feb	74.0	59.5	64.2	44.6	35.0	70.0	65.1	51.7	36.6
25-Feb	78.0	56.5	66.0	44.3	37.0	70.0	65.0	50.1	34.2
4-Mar	78.0	59.1	67.2	46.8	37.0	75.6	63.0	53.7	37.4
11-Mar	78.0	60.0	68.1	48.4	40.0	72.8	67.0	55.4	39.8
18-Mar	79.0	59.7	67.6	46.5	39.0	70.7	67.2	51.7	36.4
25-Mar	81.0	63.0	69.0	47.4	40.0	70.7	69.2	53.0	37.5
1-Apr	80.0	56.2	69.7	47.5	41.0	76.3	71.0	49.9	33.9
8-Apr	89.0	64.0	73.9	48.9	43.0	65.1	71.6	50.5	35.1
15-Apr	91.0	64.7	76.4	50.8	43.0	70.7	71.6	51.6	35.7
22-Apr	88.0	61.3	76.0	51.2	43.0	67.9	72.0	50.9	35.1
29-Apr	90.0	65.8	78.5	53.0	46.0	70.7	75.0	52.2	35.8
6-May	95.0	66.9	81.1	55.7	47.0	81.2	71.8	53.0	36.9
13-May	97.0	67.4	83.2	57.0	49.0	72.8	79.3	54.8	38.8
20-May	97.0	66.6	84.4	59.1	49.0	76.3	74.9	53.8	38.9
27-May	99.0	68.5	86.3	59.9	51.0	78.4	72.8	57.0	40.8
3-Jun	101.0	68.2	88.9	61.9	53.0	75.6	81.4	58.3	40.6
10-Jun	104.0	69.7	91.0	64.1	54.0	81.2	76.0	61.8	43.7
17-Jun	103.0	69.8	91.5	63.6	55.0	76.3	80.8	59.9	39.8
24-Jun	105.0	70.9	93.8	65.7	58.0	81.9	85.1	62.9	42.1
1-Jul	106.0	71.5	95.1	67.5	58.0	84.7	89.9	67.4	43.8
8-Jul	105.0	71.4	95.7	68.1	61.0	88.2	91.7	70.4	48.5
15-Jul	105.0	70.7	98.4	71.0	64.0	94.5	82.6	74.2	48.7
22-Jul	105.0	72.1	97.3	70.4	60.0	94.5	84.6	76.1	49.6
29-Jul	107.0	73.8	99.4	72.2	64.0	94.5	87.5	79.2	52.5
5-Aug	106.0	70.9	99.3	71.7	64.0	94.5	85.5	76.3	49.2
12-Aug	107.0	74.0	98.7	71.7	64.0	98.0	88.7	79.9	52.0
19-Aug	104.0	71.0	94.6	69.0	62.0	116.9	81.7	77.9	53.5
26-Aug	102.0	71.5	93.9	67.2	60.0	93.8	76.6	74.1	51.5
2-Sep	103.0	72.0	94.9	67.8	61.0	94.5	84.4	75.6	54.0
9-Sep	103.0	70.9	94.4	68.2	60.0	100.8	77.7	72.6	51.3
16-Sep	102.0	70.2	89.9	64.5	56.0	98.0	77.1	70.1	51.5
23-Sep	99.0	69.1	89.3	63.5	55.0	94.5	81.3	66.4	48.9
30-Sep	99.0	69.1	87.7	62.7	56.0	105.0	74.6	68.2	50.7
7-Oct	99.0	67.2	86.8	61.5	54.0	84.7	73.6	64.6	48.6
14-Oct	94.0	65.7	83.9	58.3	51.0	79.1	72.6	59.3	43.7
21-Oct	92.0	65.1	81.0	55.8	46.0	72.8	71.6	56.3	40.9
28-Oct	86.0	62.4	76.9	53.4	45.0	84.7	69.2	56.8	40.3
4-Nov	81.0	61.1	72.6	49.6	42.0	79.1	64.1	53.1	38.3
11-Nov	81.0	59.8	71.2	48.4	41.0	72.8	65.2	51.0	36.6
18-Nov	78.0	58.3	66.6	46.2	38.0	72.8	64.3	52.1	37.1
25-Nov	73.0	57.8	63.0	43.5	35.0	73.5	68.0	47.8	33.6
2-Dec	71.0	53.4	62.3	40.7	34.0	63.0	58.7	44.0	29.9
9-Dec	70.0	55.6	60.4	41.2	34.0	62.3	58.7	46.5	32.7
16-Dec	68.0	55.9	57.5	39.6	32.0	65.8	58.0	44.8	31.1
23-Dec	68.0	51.6	55.3	38.7	30.0	58.8	56.8	42.5	29.8
31-Dec	67.0	53.9	54.9	39.4	28.0	70.0	62.1	43.2	31.7



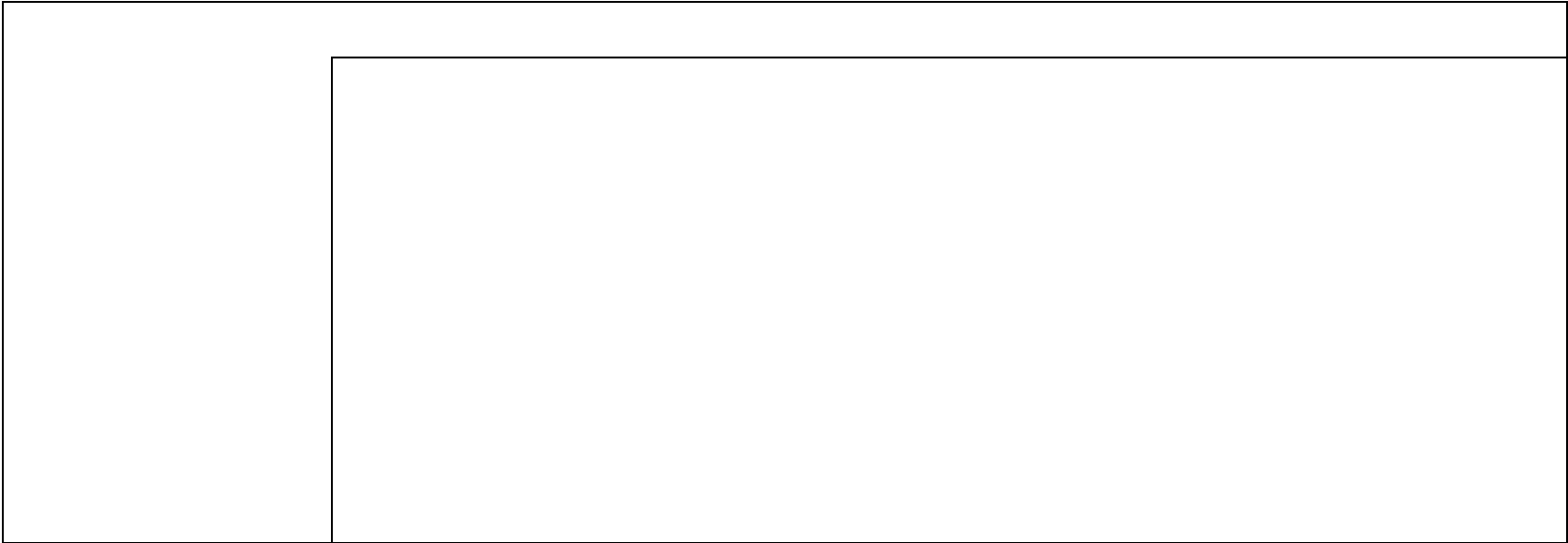
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	3	530
FEB	14	333
MAR	34	274
APR	108	160
MAY	265	62
JUN	436	15
JUL	599	2
AUG	551	3
SEP	387	13
OCT	187	83
NOV	27	311
DEC	3	534
ANN	2615	2320



	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	3	-16103	4	-467
FEB	22	-10659	2	-389
MAR	90	-9135	1	-332
APR	765	-5646	2	-288
MAY	2622	-2485	11	-120
JUN	5353	-733	42	-46
JUL	8288	-157	288	-5
AUG	7240	-191	427	-10
SEP	4337	-698	251	-17
OCT	1516	-3263	21	-180
NOV	71	-10097	6	-484
DEC	2	-16213	0	-699
ANN	30309	-75380	1055	-3037

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

No Solar Radiation
Data Available

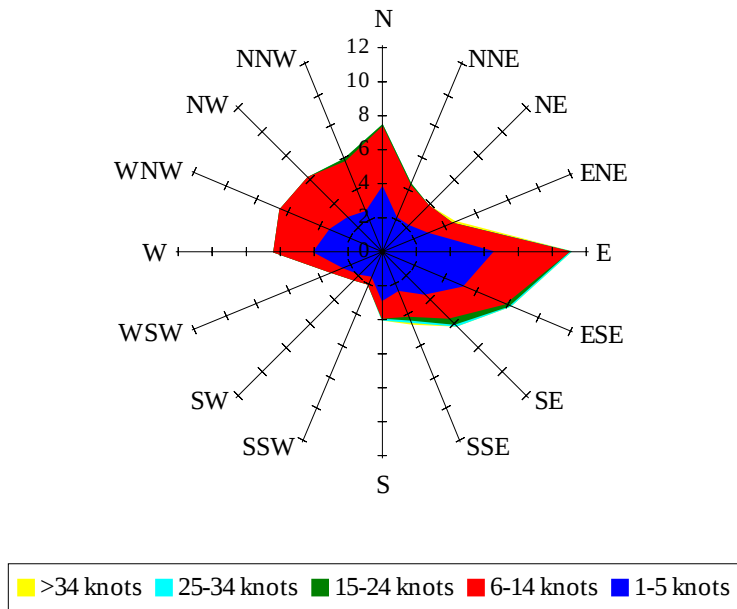


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

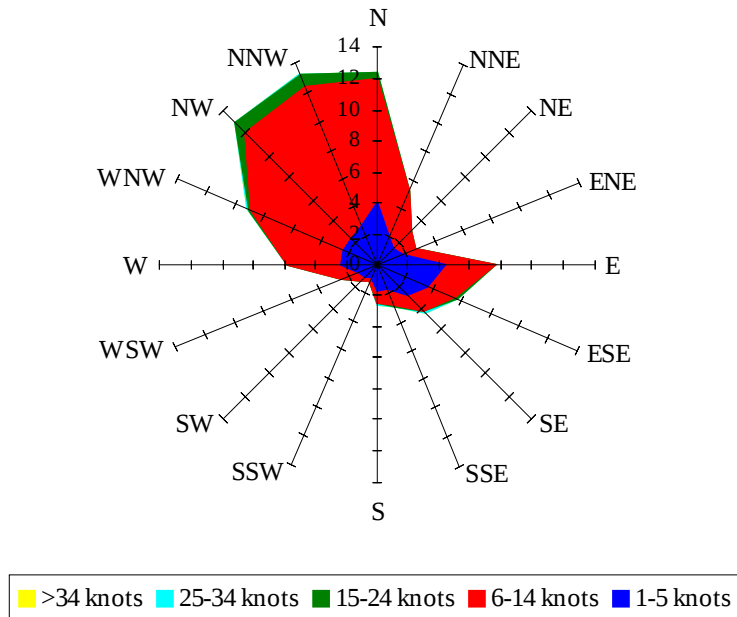
Labels of Percent Frequency on North Axis



Percent Calm = 14.13

Wind Summary - March, April, and May

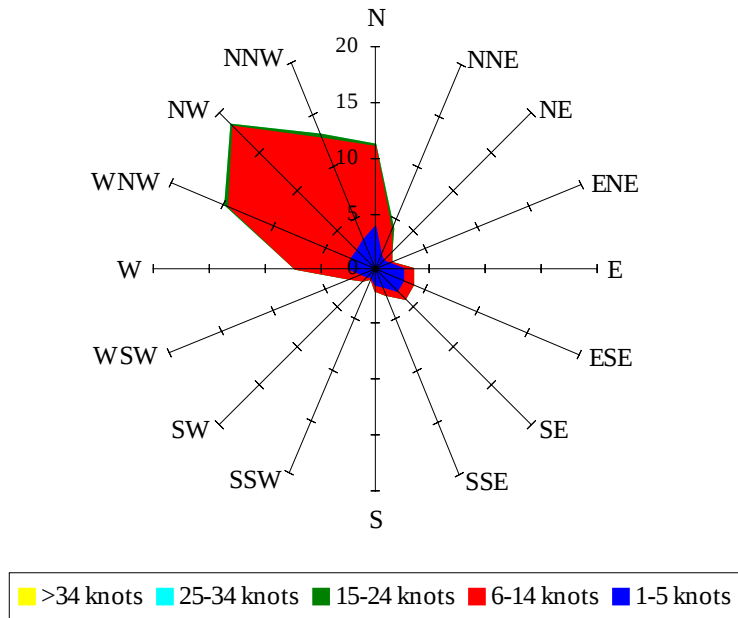
Labels of Percent Frequency on North Axis



Percent Calm = 7.53

Wind Summary - June, July, and August

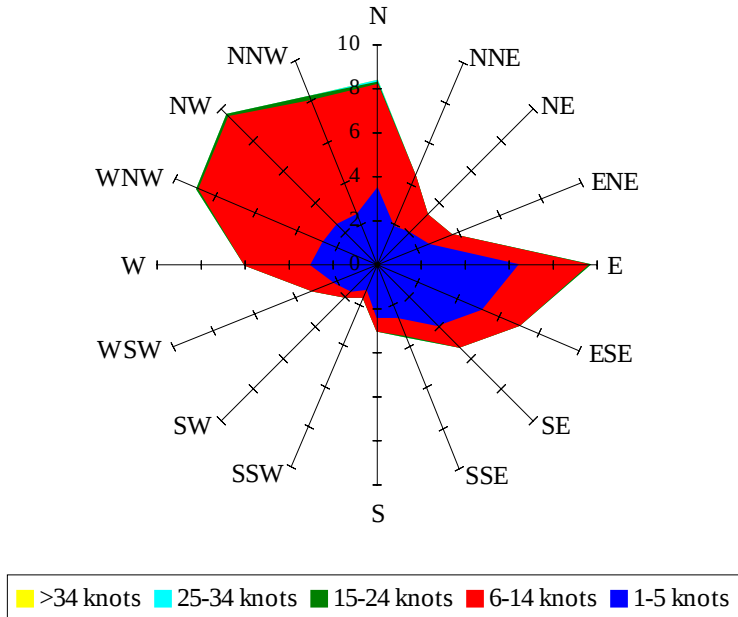
Labels of Percent Frequency on North Axis



Percent Calm = 7.85

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 12.31