

GALLUP NM

Latitude = 35.52 N

Longitude = 108.70 W

Period of Record = 1973 to 1996

WMO No. 723627

Elevation = 6470 feet

Average Pressure = 23.71 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	95	58	33	11.0	W
0.4% Occurrence	91	57	36	10.8	W
1.0% Occurrence	88	57	39	11.0	W
2.0% Occurrence	86	57	41	10.9	W
Mean Daily Range	32	-	-	-	-
97.5% Occurrence	11	10	9	1.3	WSW
99.0% Occurrence	5	4	7	1.1	SSE
99.6% Occurrence	-1	-2	5	1.0	S
Median of Extreme Lows	-10	-10	3	0.7	SE
	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	66	82	91	9.1	WSW
0.4% Occurrence	62	78	76	8.3	W
1.0% Occurrence	61	77	73	8.2	WSW
2.0% Occurrence	60	76	70	8.2	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	105	70	0.56	8.0	NE
0.4% Occurrence	91	64	0.49	4.9	S
1.0% Occurrence	88	64	0.47	5.0	S
2.0% Occurrence	82	65	0.44	5.3	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		15	600	0	1

Other Site Data

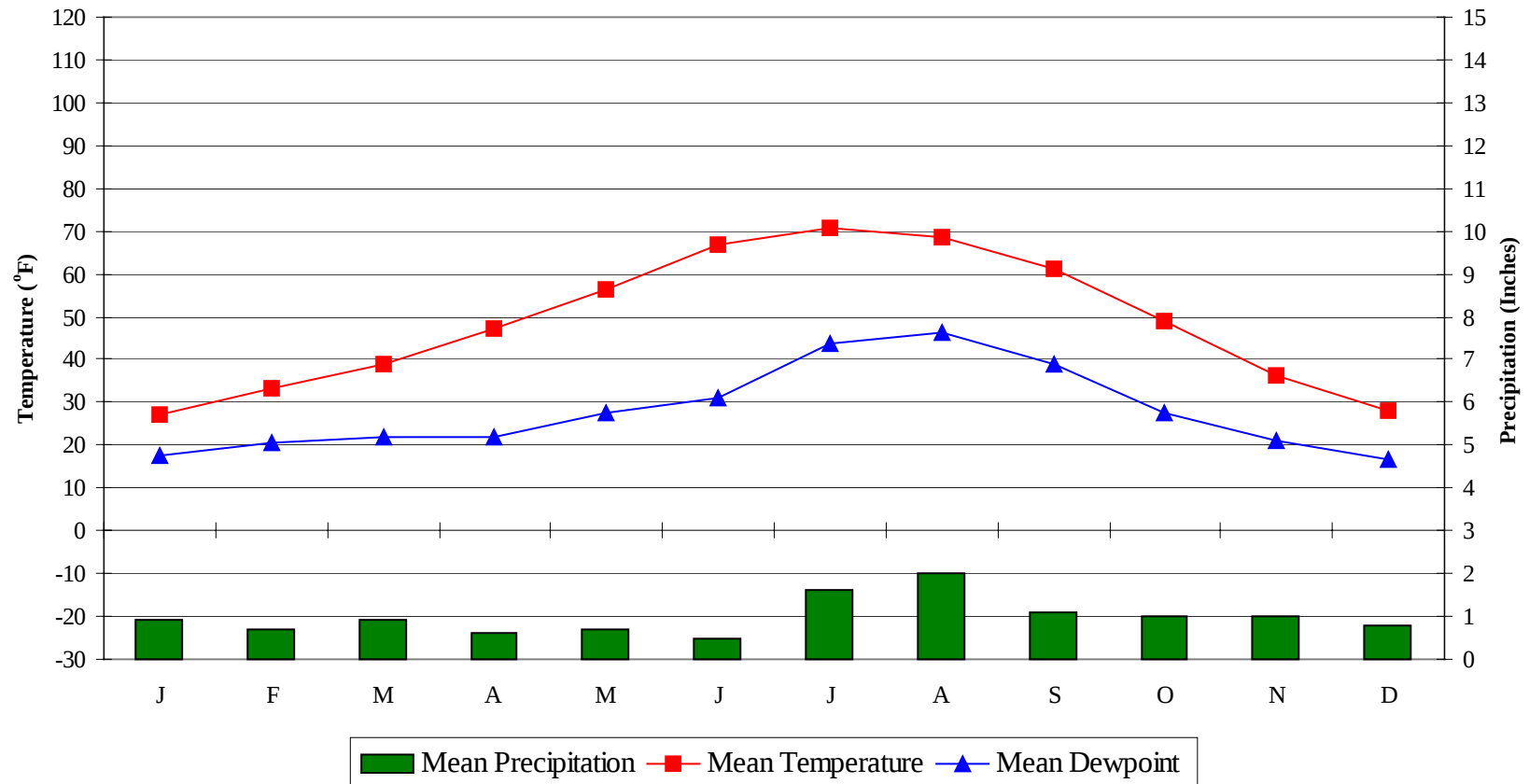
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
6	2.3	90	0.0 + 0.6
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
51.2	N/A	N/A	164

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

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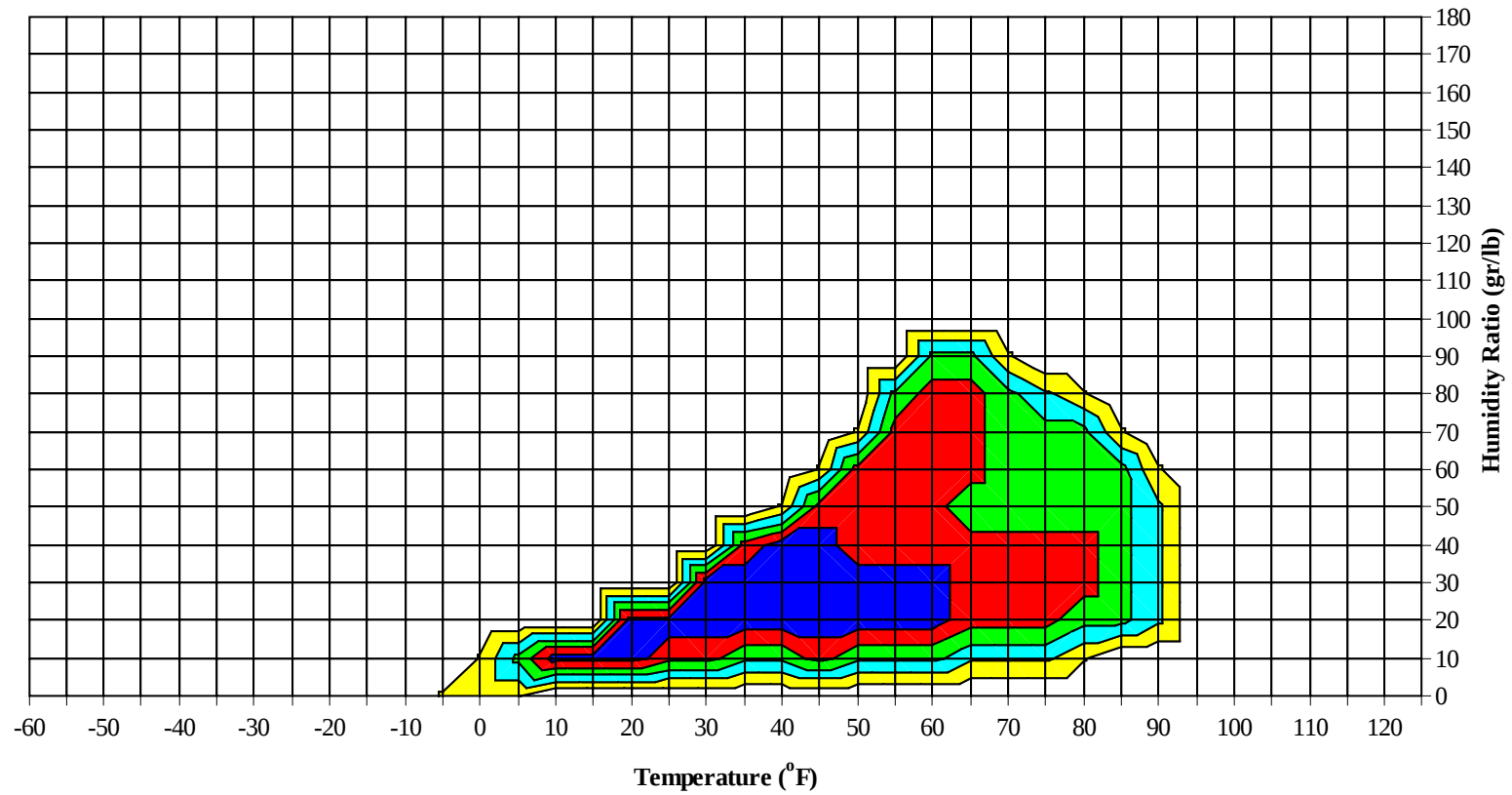
Average Annual Climate



GALLUP NM

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Long Term Psychrometric Summary

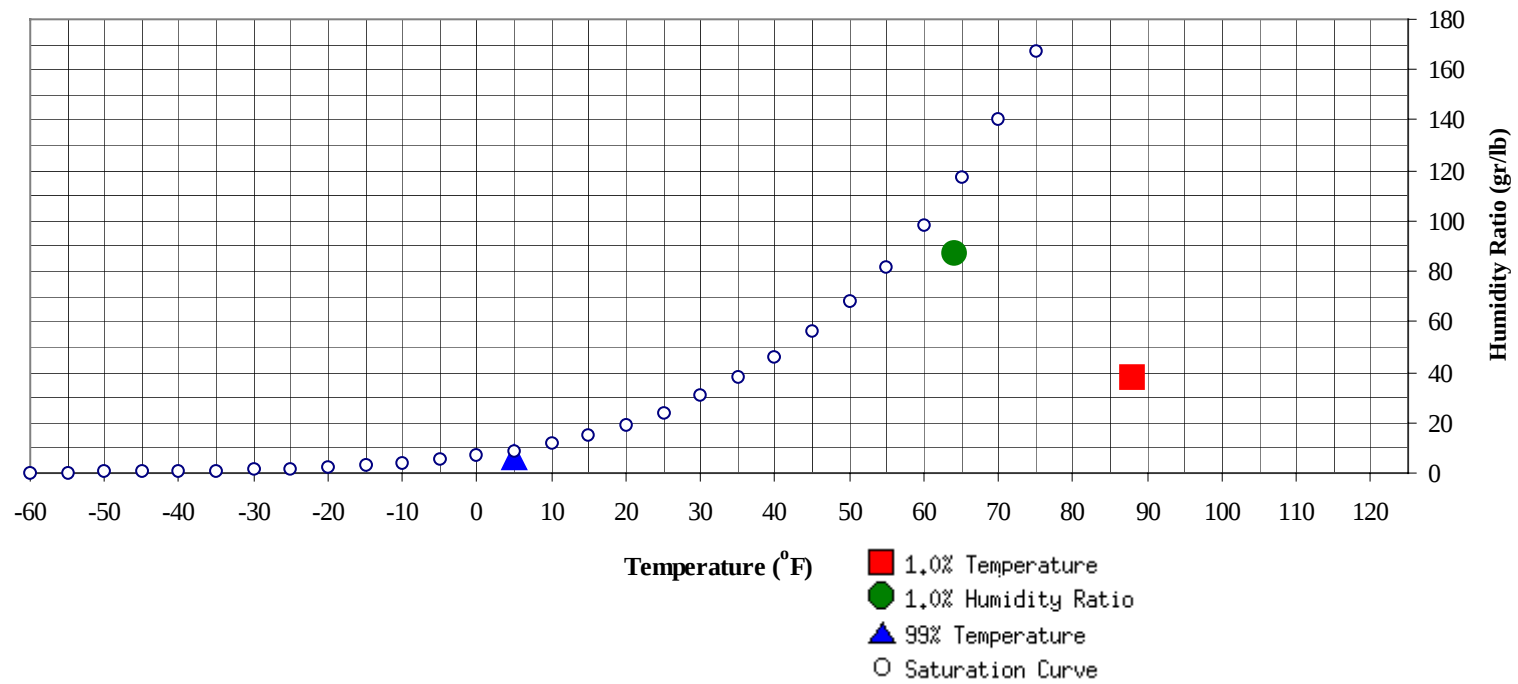


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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)
	5	6.7	2.2		87.5	64.1	59.3	57	29.0

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	88	38.3	57.1	27.1

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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		
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79												0	0	0	48.4
70 / 74							0		0	47.7		2	0	2	46.0
65 / 69		0	0	0	42.8		2	0	2	44.2		12	3	15	44.7
60 / 64		1	0	1	41.7		8	2	10	42.2		22	8	30	42.6
55 / 59		6	1	7	40.1		16	5	21	40.7		36	14	50	40.4
50 / 54		14	3	17	38.1		27	9	36	38.7	0	39	22	61	38.6
45 / 49		28	6	34	36.2	1	34	16	51	36.7	4	40	32	76	36.7
40 / 44	2	37	16	55	34.1	4	39	27	70	34.8	20	40	42	102	34.8
35 / 39	11	52	34	97	32.2	18	40	40	98	32.4	36	33	47	116	32.2
30 / 34	33	48	51	133	29.2	36	32	52	120	29.1	59	19	44	122	29.0
25 / 29	34	28	49	112	24.7	51	17	40	107	24.8	53	5	25	83	24.7
20 / 24	40	18	39	97	20.2	52	6	20	78	20.4	41	1	9	51	20.1
15 / 19	46	9	22	76	15.6	33	3	8	44	15.6	23	0	3	26	15.3
10 / 14	33	4	13	50	10.7	16	1	4	21	10.9	9	0	0	9	10.8
5 / 9	20	2	9	31	6.0	6	0	2	8	6.1	2		0	2	6.3
0 / 4	15	1	4	20	1.5	4	1	0	5	1.4	0			0	3.0
-5 / -1	6	0	1	7	-2.9	1	0	0	1	-2.8					
-10 / -6	4	0	1	5	-7.4	1		0	1	-7.1					
-15 / -11	2		0	2	-11.7	0		0	0	-13.7					
-20 / -16	0			0	-16.2	0		0	0	-16.3					
-25 / -21															
-30 / -26															
-35 / -31															

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		
100 / 104															
95 / 99												2	0	2	58.5
90 / 94											14	4	18	56.9	
85 / 89							0		0	54.3	42	17	59	54.9	
80 / 84		1	0	1	52.4		3	1	4	53.2	0	58	28	86	53.6
75 / 79		9	2	11	49.1		15	5	20	51.7	2	53	27	82	52.2
70 / 74		25	8	33	47.0		38	14	52	50.0	8	36	31	75	50.9
65 / 69		40	17	57	45.0	0	51	23	75	48.6	18	20	36	74	49.6
60 / 64	0	46	23	69	43.2	2	50	28	81	47.1	33	10	37	80	48.0
55 / 59	3	35	30	68	41.2	8	41	36	86	45.3	47	4	29	80	45.6
50 / 54	10	30	33	73	39.2	19	25	40	84	43.8	49	1	18	68	41.8
45 / 49	24	20	36	80	36.9	38	14	40	93	41.9	42	0	9	51	38.1
40 / 44	37	18	31	86	34.4	58	6	31	95	39.0	27		3	30	34.9
35 / 39	47	12	29	88	31.5	56	3	16	75	36.0	10		0	10	30.9
30 / 34	54	5	20	79	28.5	37	2	8	48	32.2	3		0	3	27.7
25 / 29	37	1	8	46	24.1	18	0	3	21	28.2	0			0	24.4
20 / 24	19	0	2	21	19.8	9		0	9	24.1	0				
15 / 19	7		0	7	15.3	2			2	21.1	0				
10 / 14	2			2	10.8	0			0	15.8					
5 / 9	0			0	7.7	0			0	11.0					
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															

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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		
100 / 104		0		0	59.0										
95 / 99		2	0	2	57.8		0		0	60.0					
90 / 94		21	6	27	57.5		8	2	10	58.7		1	0	1	59.1
85 / 89		54	21	75	57.5		36	10	46	58.6		9	2	11	57.4
80 / 84	0	66	29	94	57.6		71	24	94	58.0		35	9	44	55.4
75 / 79	2	55	31	88	57.5	1	60	31	92	57.7		58	18	76	54.1
70 / 74	14	33	42	89	56.7	5	43	40	88	57.1	0	54	25	79	53.2
65 / 69	38	13	54	105	55.6	29	21	57	107	56.3	3	37	35	75	52.2
60 / 64	79	3	49	131	54.5	75	7	57	139	55.1	20	26	46	92	51.4
55 / 59	71	0	14	85	51.0	80	1	23	104	52.1	49	14	47	110	49.5
50 / 54	30		3	33	44.5	41	0	4	45	47.2	60	5	33	98	46.1
45 / 49	11		0	11	39.1	15		1	16	42.1	49	2	16	67	41.8
40 / 44	3			3	33.9	3		0	3	38.5	31	0	7	38	37.4
35 / 39	1			1	30.6	0			0	33.3	17		2	19	33.2
30 / 34						0			0		8		0	8	29.0
25 / 29											2			2	24.0
20 / 24											0			0	21.0
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															

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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		
100 / 104															
95 / 99															
90 / 94															
85 / 89		0		0	52.0										
80 / 84		5	0	5	51.5										
75 / 79		21	3	24	50.0		0		0	48.2					
70 / 74		33	7	40	48.9		2	0	2	46.7					
65 / 69		45	13	58	47.5		12	1	13	45.6		0		0	44.3
60 / 64	0	42	19	61	45.9		23	3	26	43.7		3		3	42.4
55 / 59	3	35	30	68	44.3		29	7	36	41.6		13	1	14	40.2
50 / 54	16	28	43	87	42.6	1	34	15	50	39.4		23	3	26	37.9
45 / 49	36	18	45	99	39.8	7	37	25	69	37.8	0	32	8	40	35.7
40 / 44	44	11	37	92	36.0	16	35	33	84	35.3	3	40	19	62	33.9
35 / 39	49	6	26	81	32.2	23	29	41	93	32.1	18	46	34	98	32.3
30 / 34	49	2	16	67	28.5	40	23	46	109	28.7	27	37	44	108	28.8
25 / 29	31	0	6	37	24.0	50	11	34	95	24.4	30	26	46	102	24.4
20 / 24	12		2	14	19.4	43	3	21	67	19.9	43	15	38	96	20.0
15 / 19	5		0	5	15.0	31	1	8	40	15.5	44	8	25	77	15.4
10 / 14	2		0	2	11.0	17	0	5	22	10.6	40	3	15	58	10.7
5 / 9	0			0	6.7	9	0	1	10	6.3	23	1	7	31	6.1
0 / 4						2	0	0	2	1.4	11	1	4	16	1.3
-5 / -1						0	0	0	0	-3.1	4	0	2	6	-3.0
-10 / -6						0	0	0	0	-7.0	4	0	1	5	-7.3
-15 / -11						0	0	0	0	-11.7	1	0	0	1	-12.1
-20 / -16						0			0	-16.0	1	0	1	2	-17.3
-25 / -21						0			0	-23.0	0		0	0	-21.9
-30 / -26						0			0	-26.0	0			0	-27.3
-35 / -31											0			0	

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WMO No. 723627

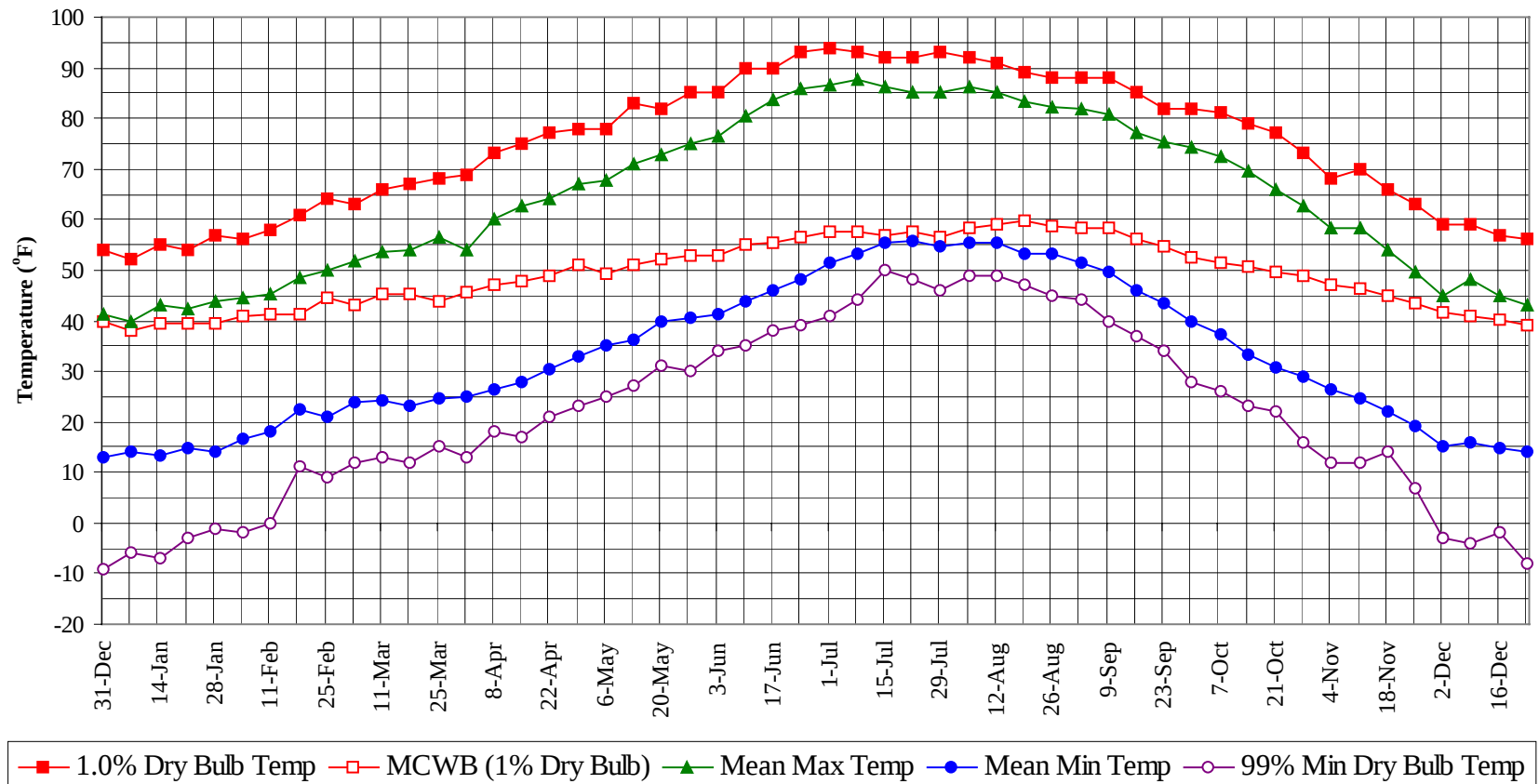
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

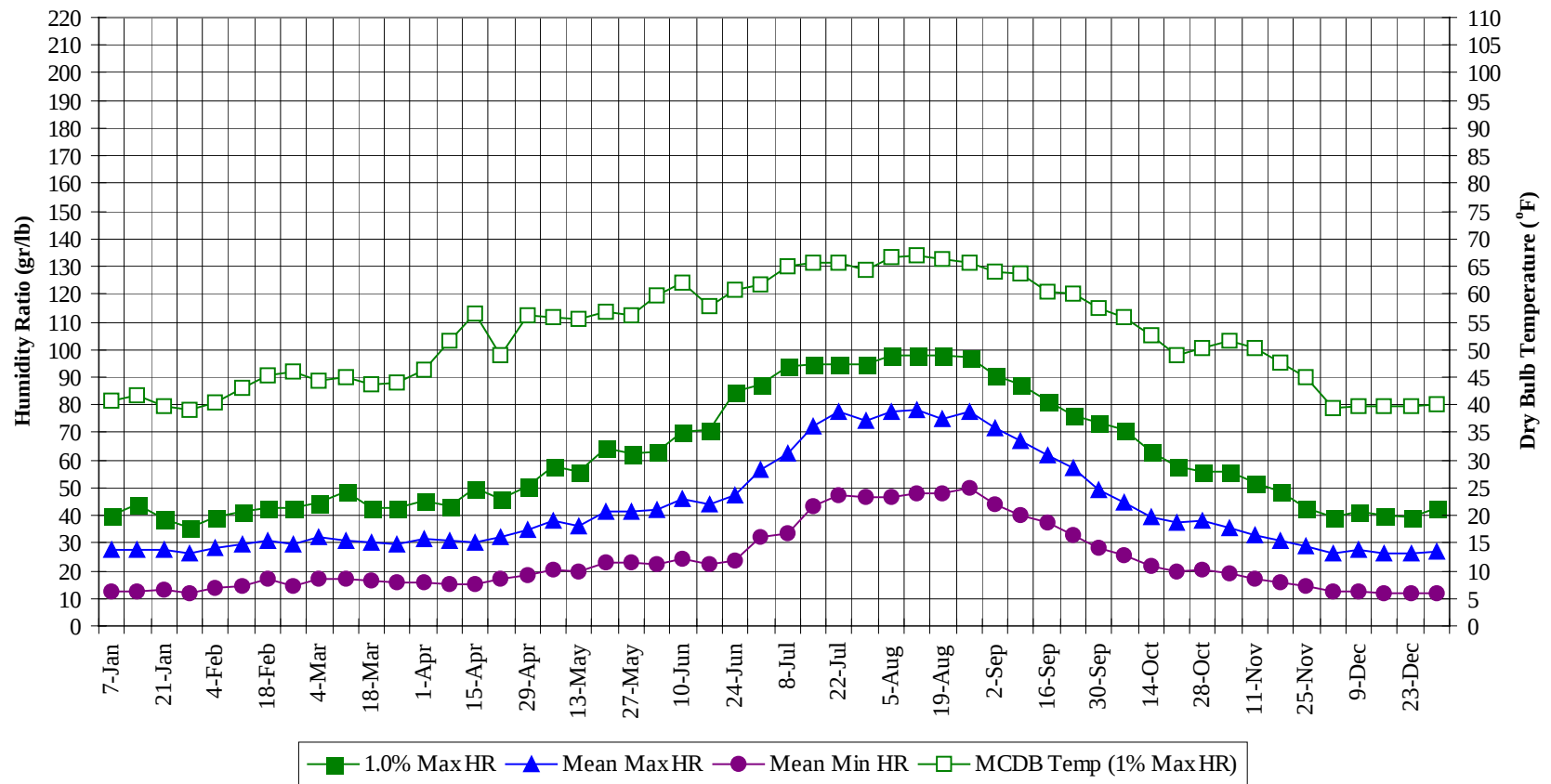
Annual Totals						
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	
	01 To 08	09 To 16	17 To 00			
100 / 104	0			0	59.0	
95 / 99	4			1	5	58.2
90 / 94	44			12	56	57.5
85 / 89	145			51	196	56.9
80 / 84	0	250	96	345	56.0	
75 / 79	4	294	127	424	54.3	
70 / 74	26	281	174	481	52.6	
65 / 69	92	254	243	588	51.0	
60 / 64	216	236	279	731	49.5	
55 / 59	275	213	239	727	46.2	
50 / 54	248	214	227	689	41.9	
45 / 49	251	217	224	692	38.3	
40 / 44	246	222	229	697	35.1	
35 / 39	266	219	263	748	32.2	
30 / 34	327	166	277	770	28.9	
25 / 29	296	87	208	591	24.5	
20 / 24	251	42	130	422	20.1	
15 / 19	187	20	68	275	15.5	
10 / 14	119	9	37	165	10.7	
5 / 9	60	4	19	83	6.1	
0 / 4	32	2	8	42	1.4	
-5 / -1	12	1	3	16	-2.9	
-10 / -6	9	0	2	11	-7.3	
-15 / -11	3	0	1	4	-12.0	
-20 / -16	1	0	1	2	-17.0	
-25 / -21	1		0	1	-22.1	
-30 / -26	0			0	-27.1	
-35 / -31	0			0		

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Annual Summary of Temperatures

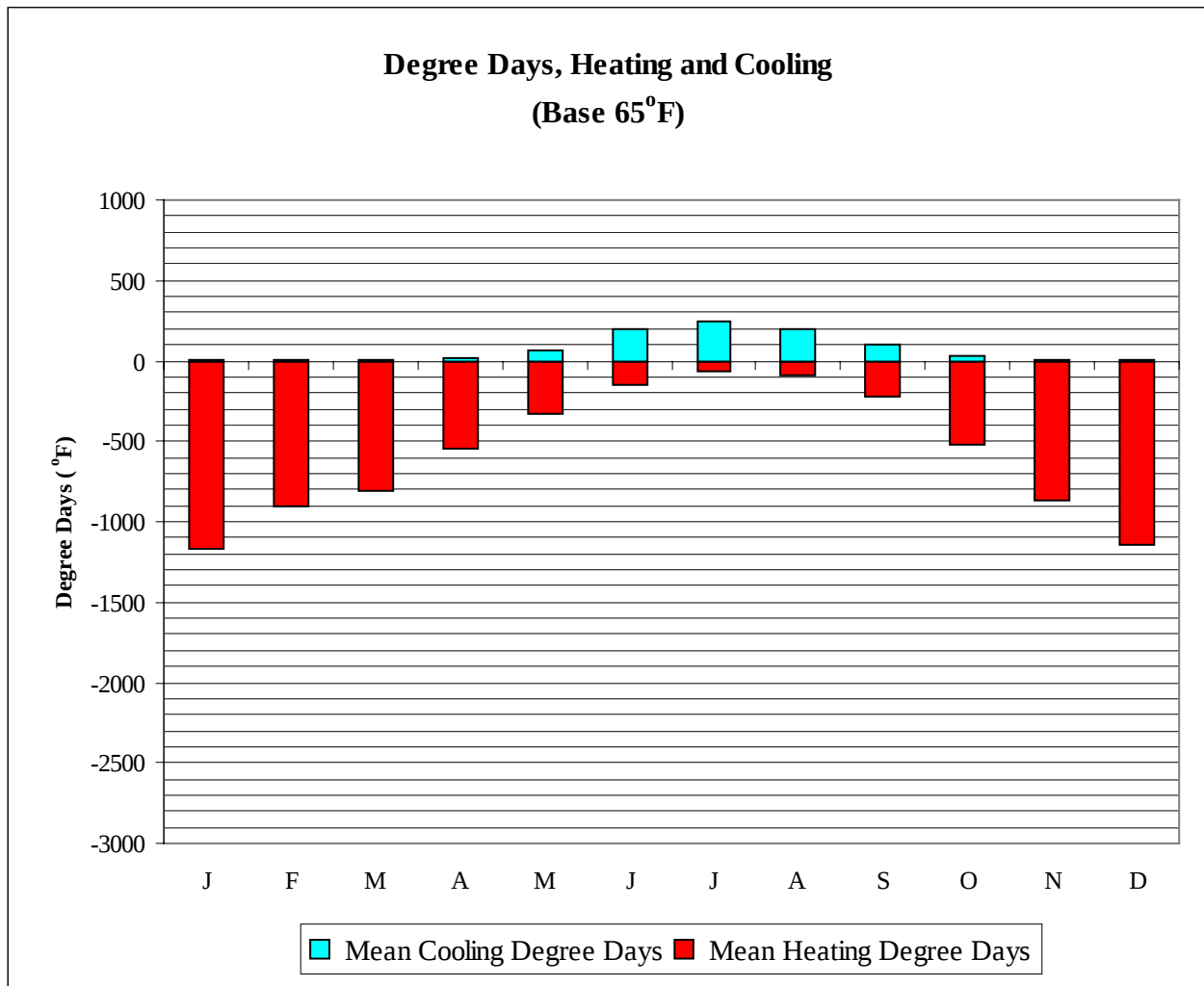


Long Term Humidity and Dry Bulb Temperature Summary



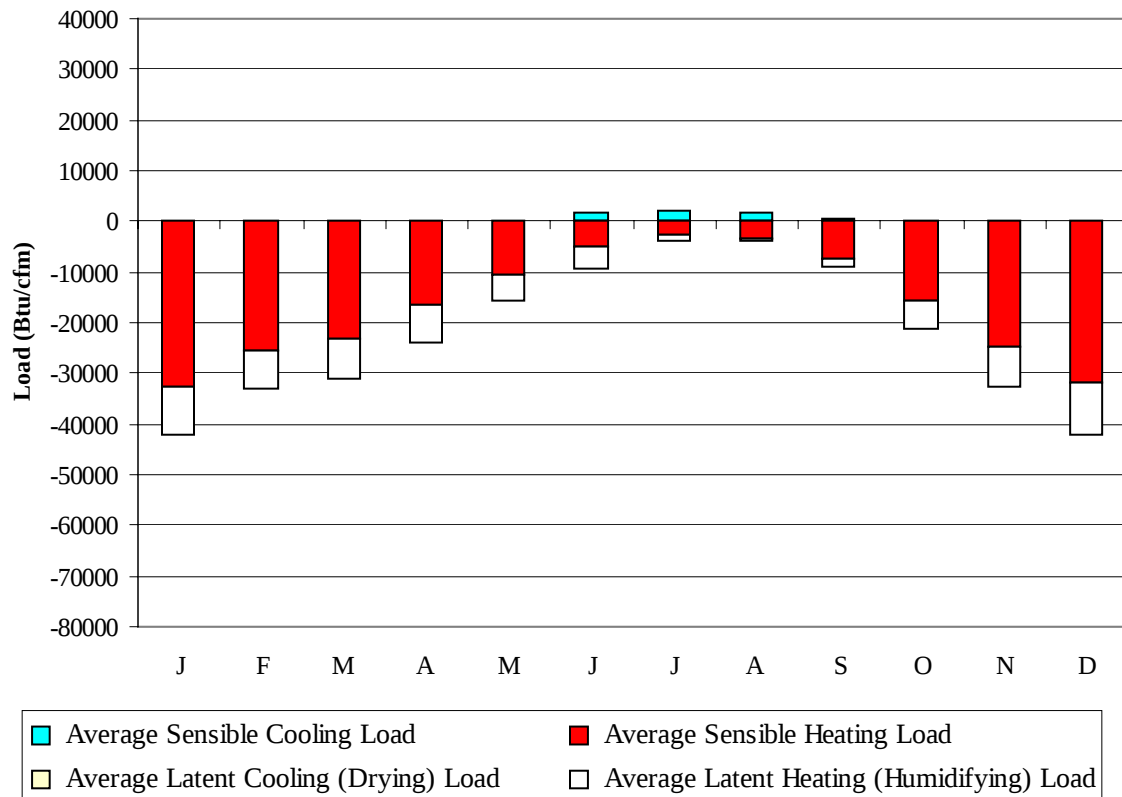
GALLUP NM**WMO No. 723627****Long Term Dry Bulb Temperature and Humidity Summary**

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	52.0	37.9	39.8	14.1	-6.0	39.9	40.6	27.3	12.4
14-Jan	55.0	39.5	42.9	13.4	-7.0	44.1	41.7	27.5	12.2
21-Jan	54.0	39.4	42.5	14.8	-3.0	38.5	39.8	27.9	13.1
28-Jan	57.0	39.6	43.7	14.1	-1.0	35.7	39.1	26.4	11.8
4-Feb	56.0	41.0	44.6	16.7	-2.0	39.2	40.2	28.6	13.6
11-Feb	58.0	41.2	45.4	17.9	0.0	41.3	43.0	29.4	14.7
18-Feb	61.0	41.4	48.5	22.3	11.0	42.7	45.2	30.8	16.8
25-Feb	64.0	44.4	50.0	20.8	9.0	42.7	45.9	29.4	14.5
4-Mar	63.0	43.0	51.6	23.9	12.0	44.8	44.3	32.2	17.3
11-Mar	66.0	45.3	53.6	24.1	13.0	48.3	44.9	31.0	16.8
18-Mar	67.0	45.1	53.8	23.0	12.0	42.7	43.8	30.4	16.2
25-Mar	68.0	43.7	56.6	24.7	15.0	42.7	44.2	29.7	15.5
1-Apr	69.0	45.8	54.0	24.9	13.0	45.5	46.3	31.7	16.1
8-Apr	73.0	47.0	60.0	26.4	18.0	43.4	51.6	31.0	15.1
15-Apr	75.0	48.0	62.7	27.8	17.0	49.7	56.6	30.5	14.9
22-Apr	77.0	48.8	64.2	30.5	21.0	46.2	48.9	32.4	16.8
29-Apr	78.0	51.1	66.9	32.8	23.0	50.4	56.2	34.7	18.1
6-May	78.0	49.4	67.9	35.2	25.0	58.1	55.7	38.4	20.3
13-May	83.0	50.9	70.8	36.2	27.0	56.0	55.5	36.1	19.5
20-May	82.0	52.1	72.8	39.7	31.0	64.4	56.8	41.6	23.3
27-May	85.0	52.9	74.8	40.4	30.0	62.3	56.0	41.4	22.7
3-Jun	85.0	52.8	76.4	41.1	34.0	63.0	59.7	42.0	22.7
10-Jun	90.0	55.1	80.4	43.9	35.0	70.0	62.2	45.9	24.2
17-Jun	90.0	55.6	83.7	46.1	38.0	70.7	57.7	44.0	22.0
24-Jun	93.0	56.5	86.0	48.1	39.0	84.7	60.6	47.5	23.8
1-Jul	94.0	57.5	86.5	51.4	41.0	87.5	61.8	56.4	32.2
8-Jul	93.0	57.6	87.7	53.1	44.0	93.8	65.0	62.5	33.8
15-Jul	92.0	57.0	86.3	55.4	50.0	94.5	65.7	72.1	43.6
22-Jul	92.0	57.5	85.2	55.7	48.0	94.5	65.5	77.8	47.2
29-Jul	93.0	56.3	85.0	54.8	46.0	94.5	64.3	74.0	47.0
5-Aug	92.0	58.5	86.1	55.6	49.0	98.0	66.5	77.6	46.5
12-Aug	91.0	59.0	85.2	55.4	49.0	98.0	66.9	78.3	48.3
19-Aug	89.0	59.7	83.2	53.3	47.0	98.0	66.5	75.0	47.8
26-Aug	88.0	58.6	82.1	53.4	45.0	97.3	65.7	77.2	49.7
2-Sep	88.0	58.4	82.0	51.4	44.0	90.3	64.0	71.4	44.2
9-Sep	88.0	58.2	80.9	49.5	40.0	87.5	63.5	67.2	40.3
16-Sep	85.0	56.3	77.2	46.1	37.0	81.2	60.5	61.9	37.3
23-Sep	82.0	54.7	75.5	43.5	34.0	76.3	59.9	57.4	33.0
30-Sep	82.0	52.4	74.4	39.9	28.0	73.5	57.5	49.2	28.5
7-Oct	81.0	51.4	72.5	37.1	26.0	70.7	56.0	44.7	25.4
14-Oct	79.0	50.6	69.6	33.3	23.0	63.0	52.6	39.1	22.0
21-Oct	77.0	49.4	65.9	30.9	22.0	58.1	49.0	37.5	19.9
28-Oct	73.0	49.0	62.8	28.9	16.0	56.0	50.2	37.8	20.6
4-Nov	68.0	47.1	58.3	26.4	12.0	56.0	51.4	35.4	19.2
11-Nov	70.0	46.4	58.4	24.4	12.0	51.8	50.4	33.1	17.2
18-Nov	66.0	44.7	54.0	22.2	14.0	48.3	47.6	30.9	15.9
25-Nov	63.0	43.5	49.7	19.3	7.0	42.7	45.1	28.7	14.4
2-Dec	59.0	41.8	44.9	15.1	-3.0	39.2	39.3	26.2	12.2
9-Dec	59.0	41.0	48.3	16.0	-4.0	41.3	39.9	27.3	12.5
16-Dec	57.0	40.3	45.0	14.9	-2.0	39.9	39.6	26.5	11.9
23-Dec	56.0	39.3	43.2	14.2	-8.0	39.2	39.8	26.2	11.9
31-Dec	54.0	39.8	41.4	13.1	-9.0	42.7	40.2	26.6	11.9



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1170
FEB	0	900
MAR	2	807
APR	19	549
MAY	68	332
JUN	201	153
JUL	242	71
AUG	194	86
SEP	104	220
OCT	31	526
NOV	1	868
DEC	0	1143
ANN	862	6825

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	-32725	0	-9543
FEB	0	-25514	0	-7679
MAR	0	-23290	0	-7817
APR	25	-16326	0	-7489
MAY	274	-10411	0	-5412
JUN	1873	-5114	0	-4086
JUL	2297	-2806	3	-1130
AUG	1567	-3339	9	-444
SEP	586	-7240	1	-1587
OCT	80	-15726	0	-5501
NOV	0	-24800	0	-7828
DEC	0	-32034	0	-9924
ANN	6702	-199325	13	-68440

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

No Solar Radiation
Data Available

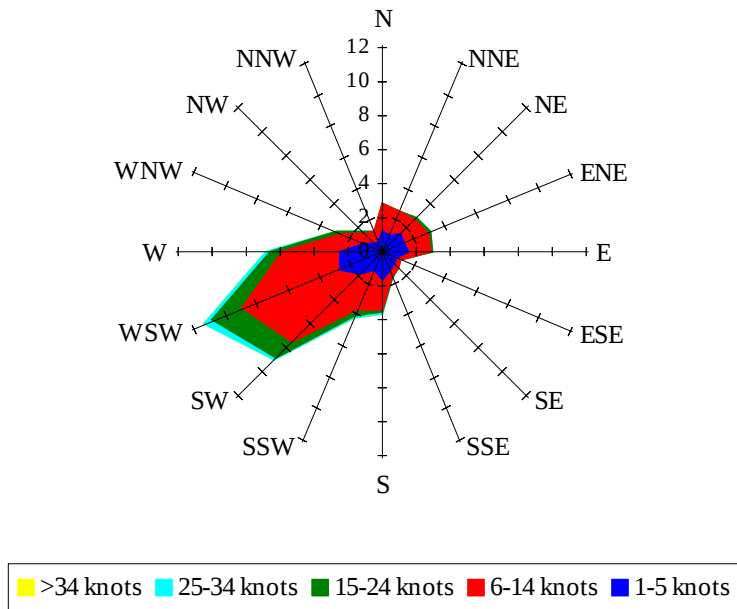


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

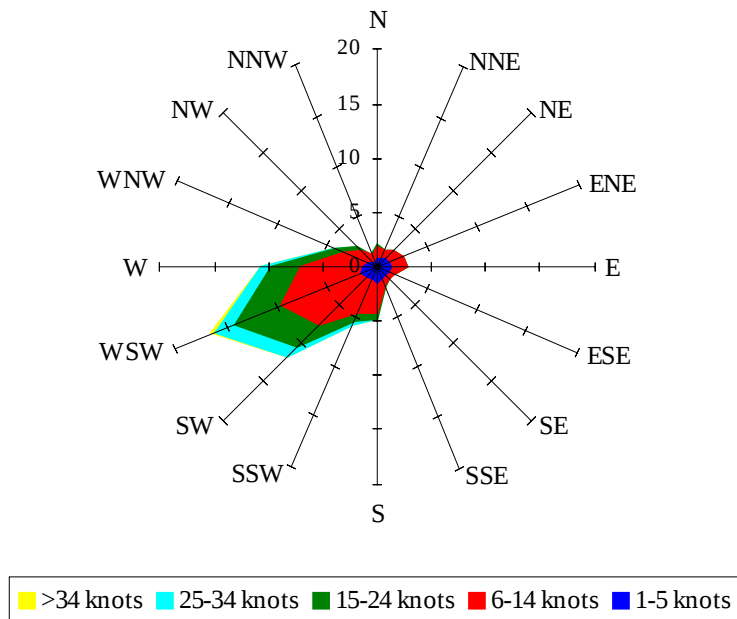
Labels of Percent Frequency on North Axis



Percent Calm = 41.10

Wind Summary - March, April, and May

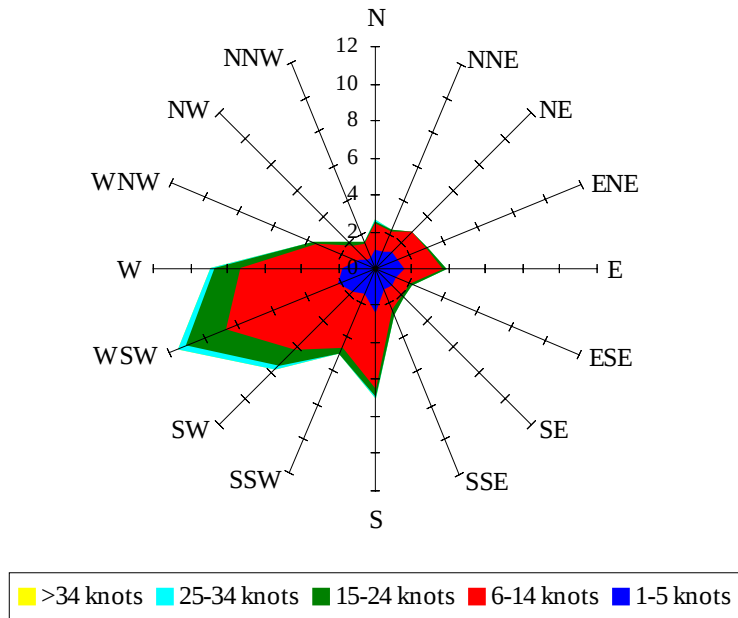
Labels of Percent Frequency on North Axis



Percent Calm = 25.98

Wind Summary - June, July, and August

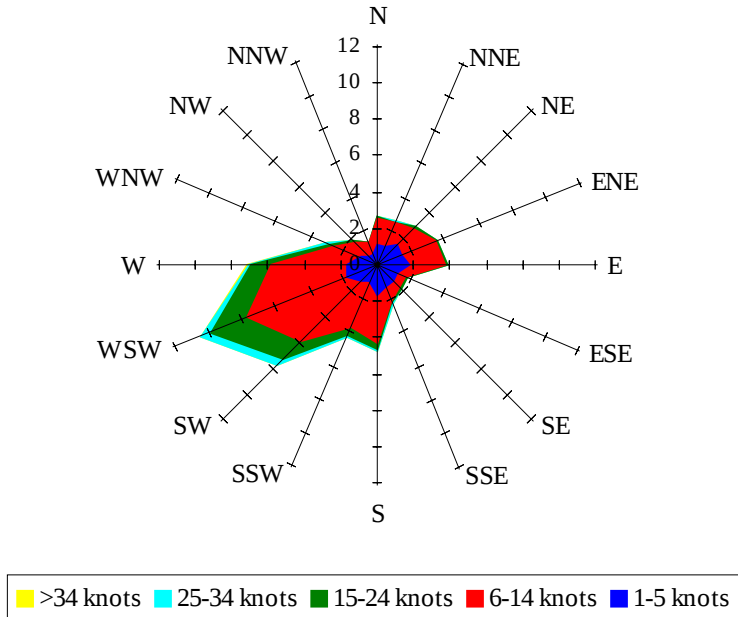
Labels of Percent Frequency on North Axis



Percent Calm = 31.47

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 38.55