

CIMONE MOUNTAIN, ITALY

Latitude = 44.20 N

Longitude = 10.70 E

Period of Record = 1973 to 1996

WMO No. 161340

Elevation = 7130 feet

Average Pressure = 23.06 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	72	60	104	7.5	NNE
0.4% Occurrence	64	54	66	6.3	SW
1.0% Occurrence	61	52	62	5.5	SSW
2.0% Occurrence	59	51	59	6.0	SSW
Mean Daily Range	7	-	-	-	-
97.5% Occurrence	14	13	11	27.6	NNE
99.0% Occurrence	9	8	9	33.3	NE
99.6% Occurrence	5	4	7	37.6	NE
Median of Extreme Lows	3	2	6	39.1	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	63	67	103	2.4	MISSING
0.4% Occurrence	57	61	82	4.0	SSW
1.0% Occurrence	55	59	76	4.9	SSW
2.0% Occurrence	53	57	69	6.2	SSW
	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	114	68	0.59	10.1	MISSING
0.4% Occurrence	89	59	0.47	4.2	SSW
1.0% Occurrence	81	59	0.42	4.6	SSW
2.0% Occurrence	74	57	0.39	6.9	SSW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	0	0	0

Other Site Data

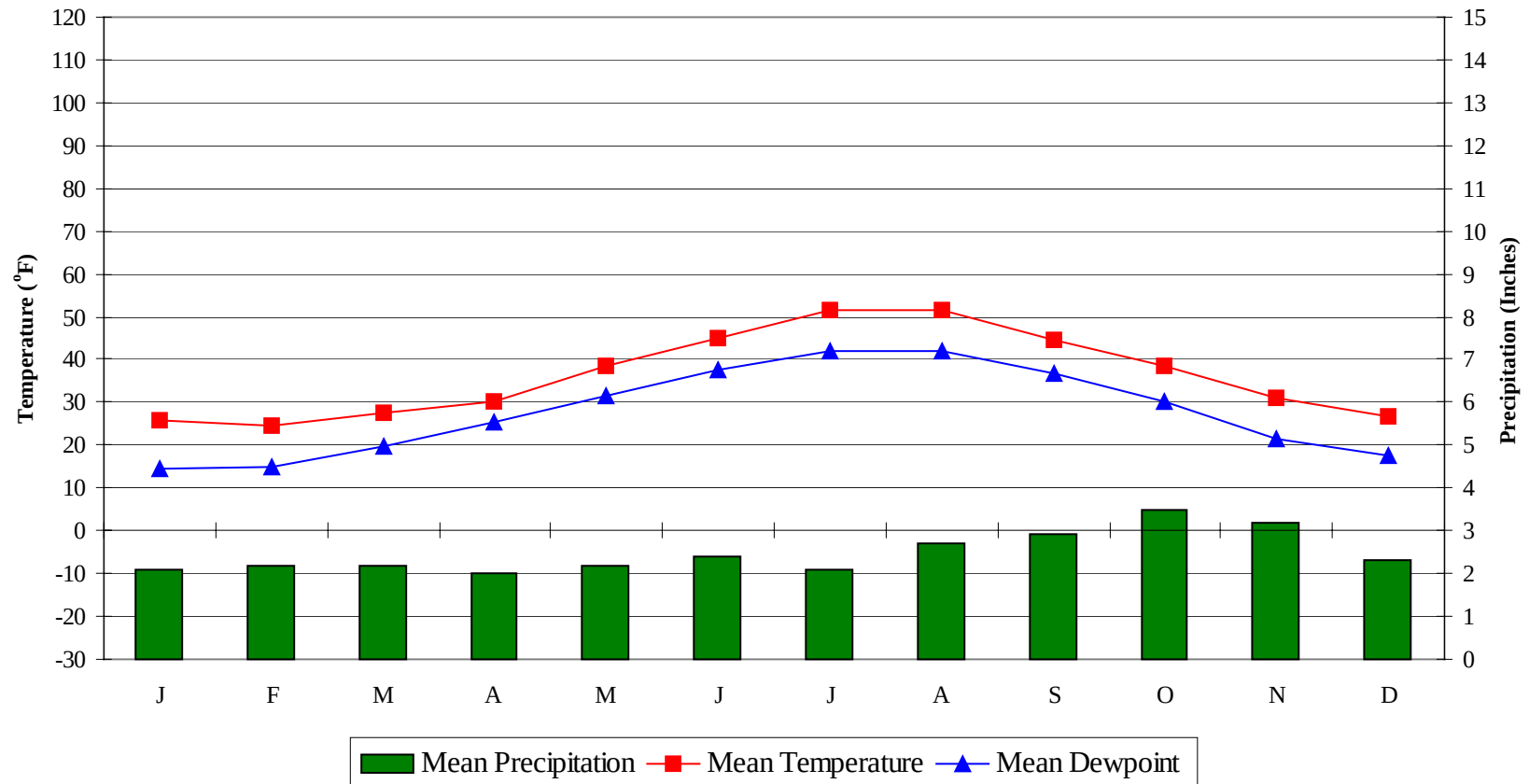
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
4	N/A	N/A	0.0 + 0.0
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
38.8	N/A	N/A	48

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

CIMONE MOUNTAIN, ITALY

WMO No. 161340

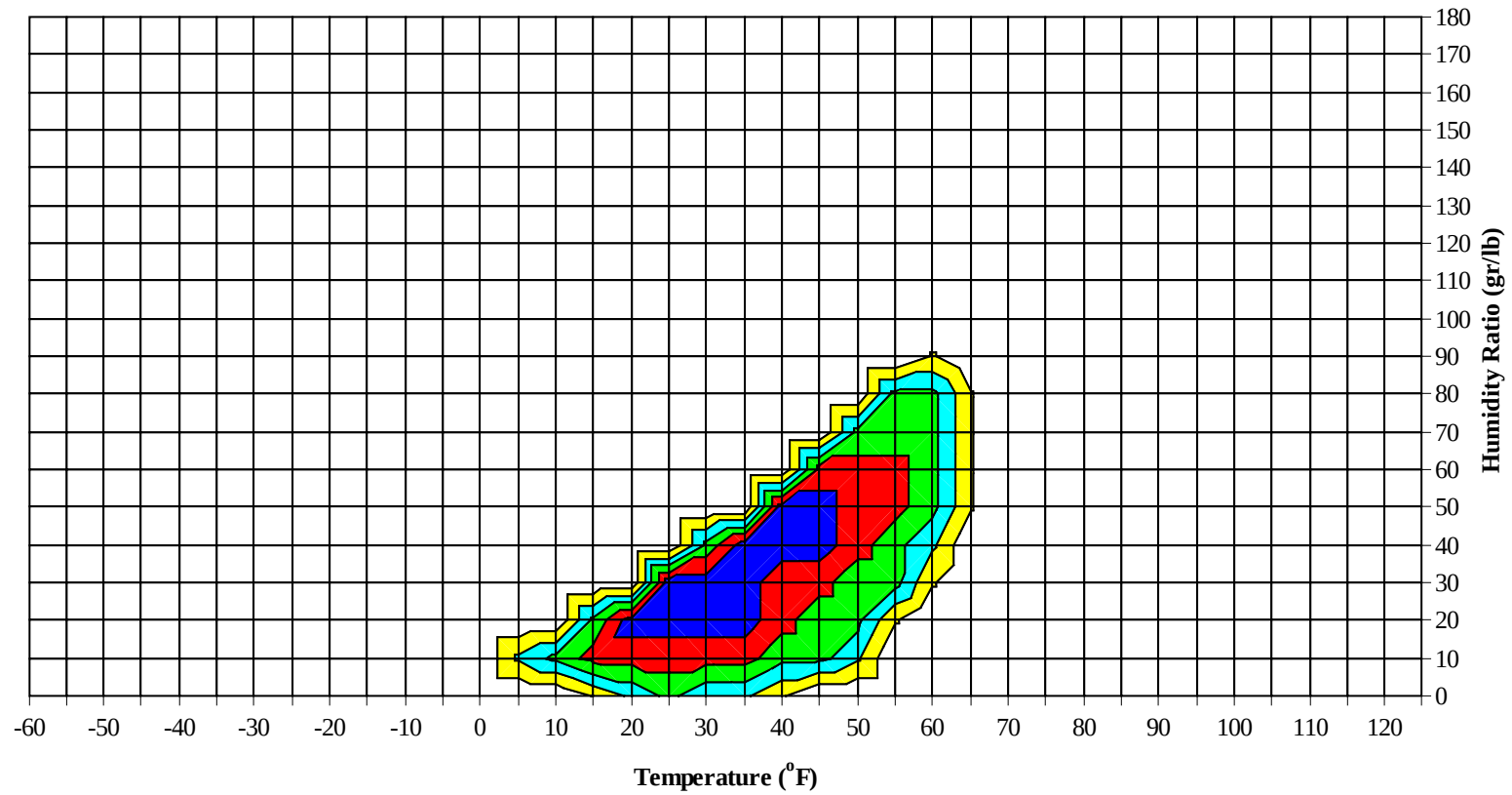
Average Annual Climate



CIMONE MOUNTAIN, ITALY

WMO No. 161340

Long Term Psychrometric Summary

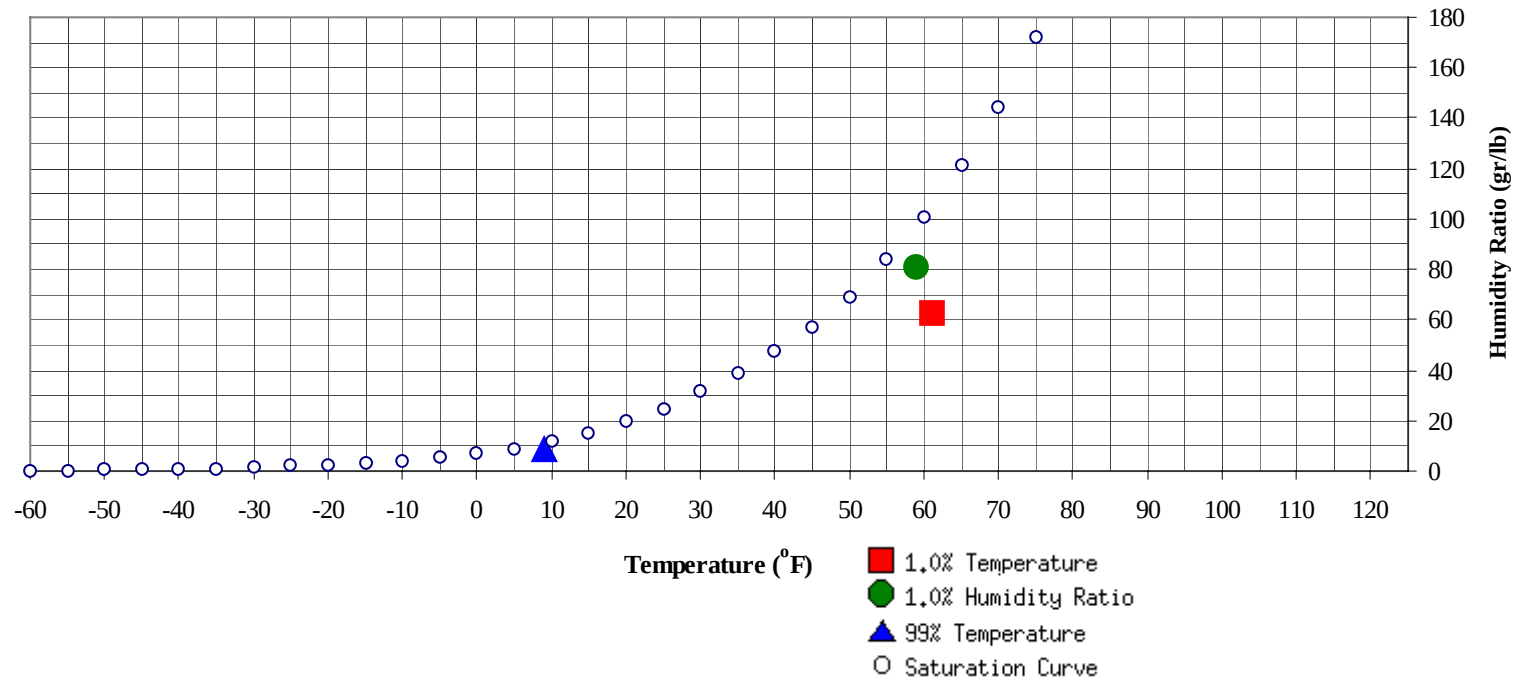


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

CIMONE MOUNTAIN, ITALY

WMO No. 161340

Psychrometric Summary of Peak Design Values



	(°F)	MCHR	Enthalpy	1.0% Humidity Ratio	(gr/lb)	MCDB	MCWB	MC Dewpt	Enthalpy
		(gr/lb)	(btu/lb)			(°F)	(°F)	(°F)	(btu/lb)
99% Dry Bulb	9	8.6	3.5	Ratio	80.5	58.9	55.8	54.1	26.6

1.0% Dry Bulb	(°F)	MCHR	MCWB	Enthalpy
		(gr/lb)	(°F)	(btu/lb)
	61	62.6	52.3	24.4

CIMONE MOUNTAIN, ITALY

WMO No. 161340

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		
85 / 89															
80 / 84															
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59															
50 / 54	0	0	0	0	36.3		0		0	38.0	0	2		2	38.2
45 / 49	0	2	1	3	31.3	0	0	0	0	36.7	1	7	3	11	36.2
40 / 44	5	8	6	18	30.0	1	4	2	7	30.9	7	13	11	31	33.2
35 / 39	19	25	21	65	28.1	11	21	16	47	28.2	29	32	31	91	30.8
30 / 34	55	58	60	173	27.6	43	49	47	138	27.2	53	62	61	176	28.8
25 / 29	74	72	71	218	24.4	69	64	64	196	24.7	74	67	69	210	25.2
20 / 24	40	35	38	114	20.2	36	32	39	108	20.3	35	35	34	104	20.8
15 / 19	29	23	28	80	15.7	33	29	28	90	15.7	31	19	25	75	16.7
10 / 14	12	11	10	34	10.7	20	18	19	56	11.1	12	9	11	32	11.2
5 / 9	9	10	10	29	6.0	9	7	8	24	6.5	6	3	2	11	7.0
0 / 4	3	3	1	7	1.5	3	0	2	5	1.2	0	0	0	0	2.6
-5 / -1	1	1	1	3	-2.8	0	1	0	1	-3.4	0	0		0	-2.0
-10 / -6	0	0	0	0	-6.8	0	0		0	-5.5					

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.

CIMONE MOUNTAIN, ITALY

WMO No. 161340

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		
85 / 89															
80 / 84															
75 / 79												0		0	70.0
70 / 74							0		0	61.0	0	0	0	0	62.2
65 / 69						0	0	0	0	60.0	1	0	0	1	60.4
60 / 64						0	1	0	1	52.4	0	5	2	7	52.3
55 / 59						0	4	1	5	48.9	5	30	17	52	49.7
50 / 54	0	1		1	42.1	5	19	10	34	44.8	34	53	45	132	46.0
45 / 49	1	5	2	8	38.3	22	45	40	107	41.1	69	65	73	207	42.7
40 / 44	5	13	8	25	35.2	49	47	49	145	37.7	58	43	50	151	39.1
35 / 39	26	40	35	101	32.5	76	65	75	216	34.7	52	31	38	121	35.7
30 / 34	85	93	95	274	30.1	74	54	59	187	30.8	21	13	15	48	31.7
25 / 29	81	61	67	209	25.9	21	12	13	46	26.5	1	0	0	1	28.0
20 / 24	27	20	22	70	21.4	2	1	1	4	22.0					
15 / 19	13	7	10	30	17.5	0			0	17.7					
10 / 14	2	0	0	2	13.1										
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															

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CIMONE MOUNTAIN, ITALY

WMO No. 161340

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		
85 / 89			0	0											
80 / 84		0	0	0	64.0			0	0	73.0					
75 / 79	0	0	0	0	58.0		0	0	0	61.0					
70 / 74	0	1	0	1	56.4	0	0	0	0	61.7		0	0	0	58.7
65 / 69	2	7	2	11	54.4	0	7	1	8	56.4	0	1	0	1	53.1
60 / 64	6	33	16	54	53.4	6	35	16	56	52.8	1	4	1	6	50.4
55 / 59	40	72	62	175	50.0	40	74	69	184	49.9	3	24	6	32	48.6
50 / 54	83	69	79	232	46.8	90	64	79	233	46.6	28	52	40	119	45.2
45 / 49	73	45	61	179	43.1	67	46	54	168	43.7	78	71	78	227	42.8
40 / 44	31	14	20	66	39.7	30	15	20	66	39.8	58	43	54	155	39.5
35 / 39	13	5	7	25	36.4	13	6	6	25	36.0	48	33	44	125	35.3
30 / 34	1	1	0	2	32.4	2	1	2	5	31.2	22	11	16	49	30.9
25 / 29						0			0	28.0	3	1	1	5	26.7
20 / 24											0			0	21.0
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -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.

CIMONE MOUNTAIN, ITALY

WMO No. 161340

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		
85 / 89															
80 / 84															
75 / 79															
70 / 74															
65 / 69			0	0	61.0										
60 / 64	0	0	0	0	53.3		0		0	51.0					
55 / 59	0	4	0	4	47.4		0	0	0	37.7					
50 / 54	5	22	9	36	42.4	1	5	1	7	37.6		0	0	0	33.6
45 / 49	36	41	40	117	39.3	7	10	8	24	34.8	2	3	2	7	33.0
40 / 44	54	55	57	166	38.0	14	20	13	48	33.2	6	9	6	20	31.7
35 / 39	79	66	78	223	35.0	53	56	55	163	32.5	24	28	23	75	29.7
30 / 34	49	40	42	131	30.7	74	67	73	214	29.5	71	73	71	215	28.7
25 / 29	19	15	17	51	25.8	52	48	50	149	25.3	61	62	65	188	24.9
20 / 24	5	4	5	13	21.1	16	17	20	52	20.5	33	30	30	93	19.9
15 / 19	2	1	1	4	17.9	15	13	14	42	16.4	29	22	30	81	16.0
10 / 14	0	0		0	12.8	7	3	4	14	11.6	16	14	16	46	11.6
5 / 9						2	2	2	6	6.4	5	4	2	11	6.4
0 / 4						0	0	0	0	3.0	1	2	2	5	0.9
-5 / -1											1	1	1	3	-2.9
-10 / -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.

CIMONE MOUNTAIN, ITALY

WMO No. 161340

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

Period of Record = 1973 to 1996

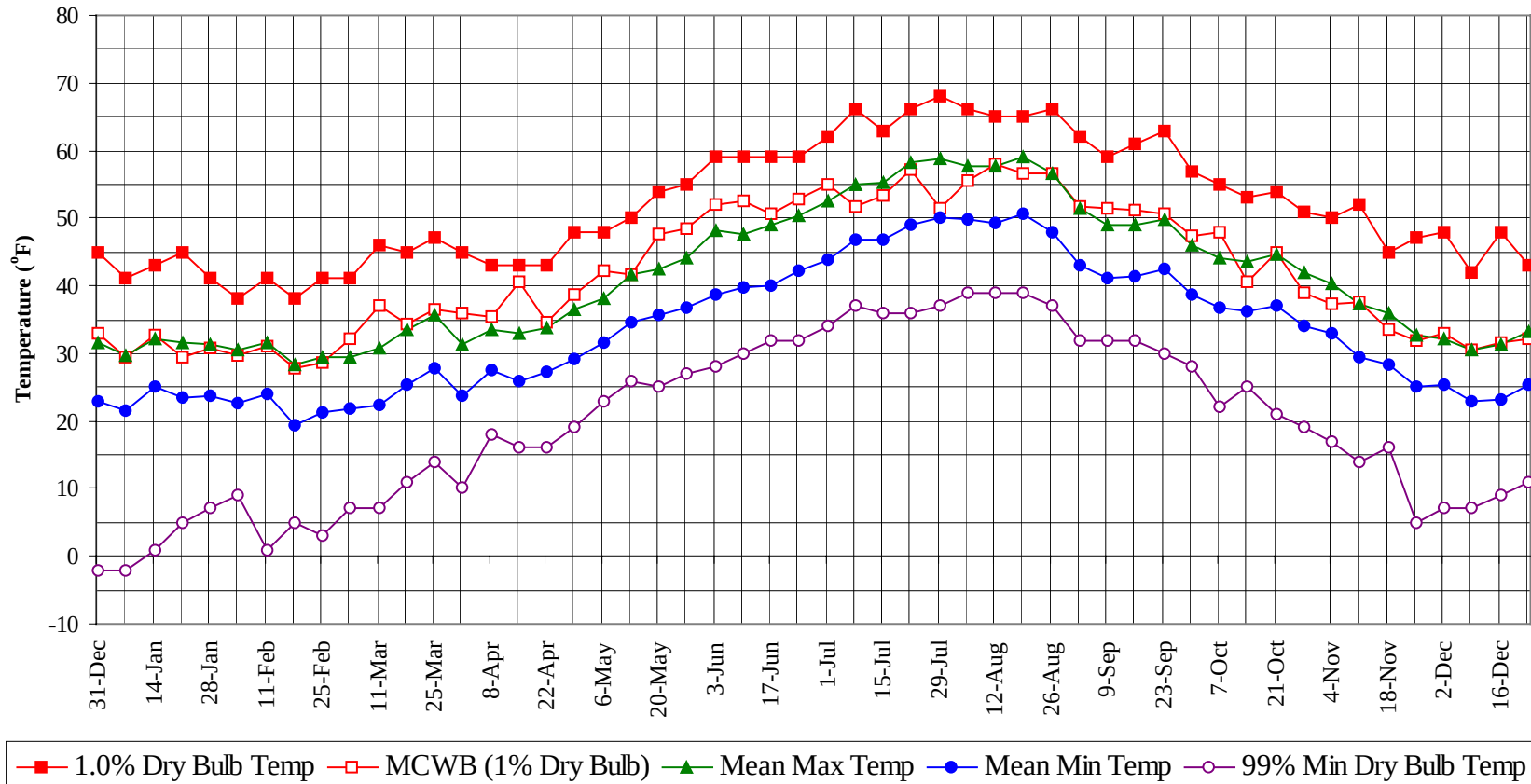
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
85 / 89			0	0	
80 / 84		0	0	0	68.5
75 / 79	0	0	0	0	60.5
70 / 74	1	2	1	4	58.7
65 / 69	3	15	3	21	55.4
60 / 64	13	78	36	127	52.9
55 / 59	89	208	154	451	49.8
50 / 54	244	289	262	795	46.0
45 / 49	356	339	361	1056	42.0
40 / 44	315	282	295	893	37.8
35 / 39	440	407	429	1276	33.4
30 / 34	548	522	542	1612	29.4
25 / 29	454	401	419	1275	25.2
20 / 24	195	174	188	557	20.5
15 / 19	153	114	136	404	16.2
10 / 14	68	56	59	183	11.3
5 / 9	31	24	25	80	6.4
0 / 4	7	5	6	18	1.4
-5 / -1	3	2	2	7	-2.9
-10 / -6	0	1	0	1	-6.6
				</	

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.

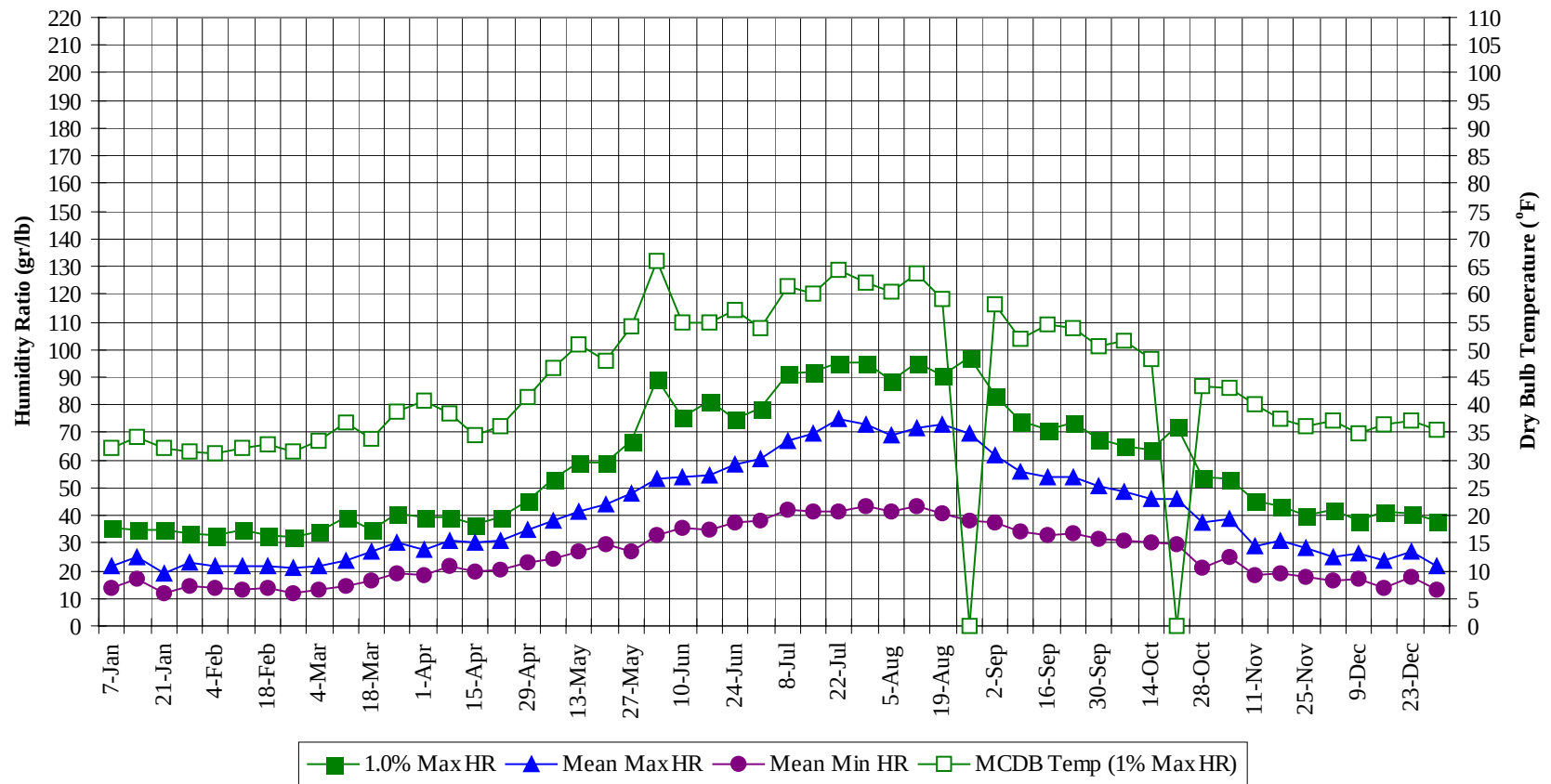
CIMONE MOUNTAIN, ITALY

WMO No. 161340

Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

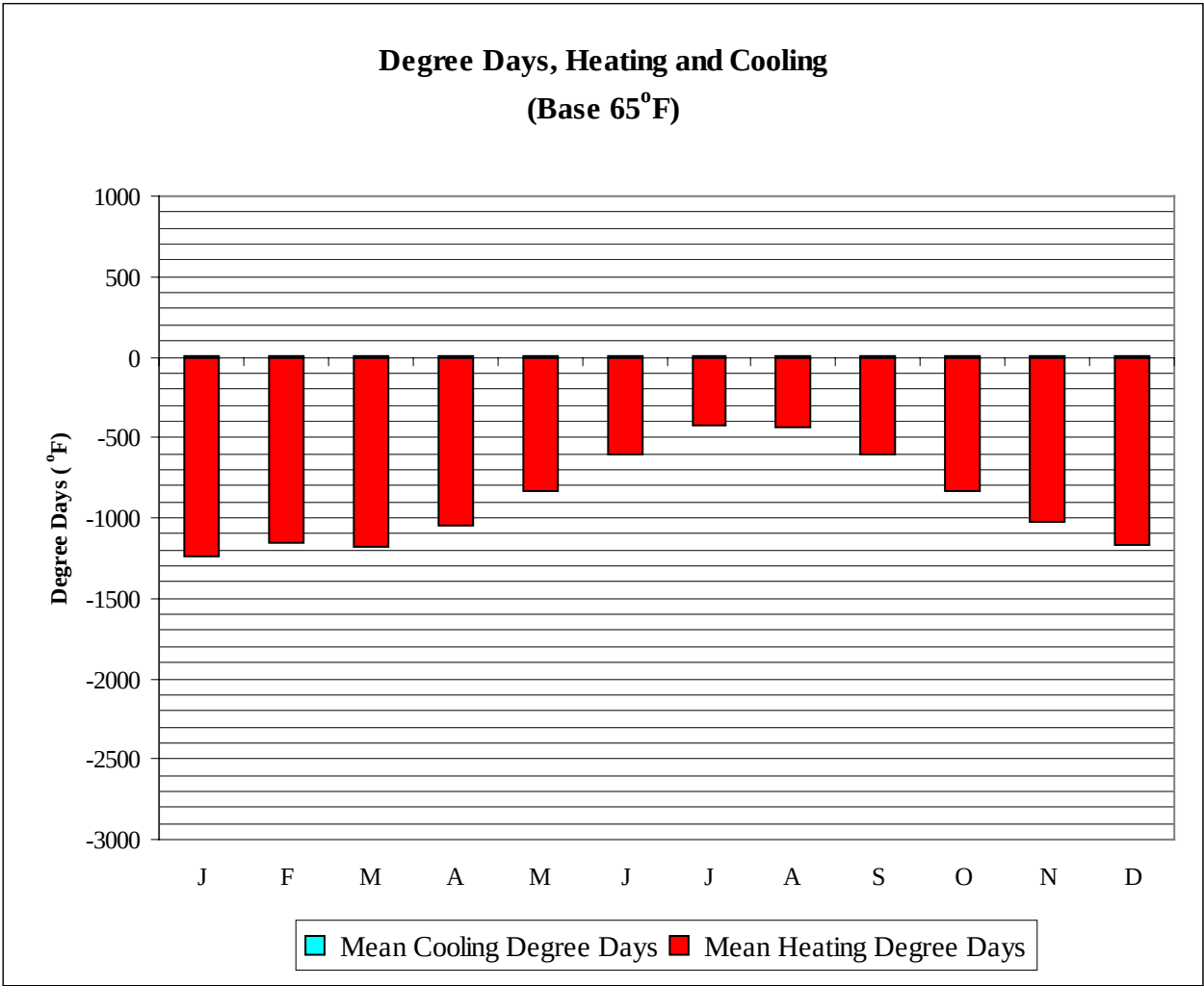


CIMONE MOUNTAIN, ITALY

WMO No. 161340

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	41.0	29.5	29.8	21.6	-2.0	35.7	32.3	22.0	13.6
14-Jan	43.0	32.6	32.2	25.2	1.0	35.0	34.1	24.9	17.0
21-Jan	45.0	29.4	31.7	23.5	5.0	35.0	32.3	19.0	11.8
28-Jan	41.0	30.9	31.2	23.6	7.0	33.6	31.5	22.7	14.3
4-Feb	38.0	29.8	30.5	22.6	9.0	32.9	31.1	21.9	13.6
11-Feb	41.0	31.1	31.6	23.9	1.0	35.0	32.2	21.5	13.4
18-Feb	38.0	27.8	28.2	19.5	5.0	32.9	33.0	21.7	13.5
25-Feb	41.0	28.7	29.3	21.3	3.0	32.2	31.7	20.9	12.0
4-Mar	41.0	32.2	29.3	21.8	7.0	34.3	33.3	21.7	13.2
11-Mar	46.0	37.1	30.9	22.5	7.0	39.2	36.8	23.6	14.1
18-Mar	45.0	34.5	33.4	25.5	11.0	35.0	33.8	27.1	16.6
25-Mar	47.0	36.5	35.7	27.7	14.0	40.6	38.8	30.2	19.4
1-Apr	45.0	36.1	31.4	23.7	10.0	39.2	40.8	27.4	18.1
8-Apr	43.0	35.4	33.6	27.7	18.0	39.2	38.3	31.1	21.6
15-Apr	43.0	40.6	32.9	26.0	16.0	37.1	34.4	30.4	19.9
22-Apr	43.0	34.6	33.8	27.2	16.0	39.2	36.1	30.9	20.6
29-Apr	48.0	38.8	36.6	29.1	19.0	45.5	41.3	34.8	23.0
6-May	48.0	42.2	38.2	31.6	23.0	53.2	46.5	38.4	24.1
13-May	50.0	41.7	41.5	34.6	26.0	58.8	51.0	41.2	27.2
20-May	54.0	47.6	42.4	35.6	25.0	58.8	48.0	44.0	29.3
27-May	55.0	48.5	44.2	36.8	27.0	67.2	54.3	47.7	27.0
3-Jun	59.0	52.0	48.2	38.7	28.0	89.6	66.0	53.1	32.7
10-Jun	59.0	52.6	47.6	39.6	30.0	75.6	55.0	53.8	35.1
17-Jun	59.0	50.8	48.9	40.1	32.0	81.2	55.0	54.5	35.1
24-Jun	59.0	52.9	50.4	42.1	32.0	74.9	57.0	58.3	37.5
1-Jul	62.0	55.0	52.6	43.9	34.0	79.1	54.0	60.5	37.9
8-Jul	66.0	51.7	54.9	46.8	37.0	91.0	61.5	67.2	42.2
15-Jul	63.0	53.5	55.4	46.8	36.0	91.7	60.0	69.5	41.3
22-Jul	66.0	57.0	58.2	49.1	36.0	95.2	64.5	75.2	41.3
29-Jul	68.0	51.5	58.8	50.0	37.0	95.2	62.0	72.8	43.4
5-Aug	66.0	55.5	57.8	49.7	39.0	88.9	60.5	68.9	41.4
12-Aug	65.0	58.0	57.7	49.3	39.0	95.2	63.7	71.3	43.3
19-Aug	65.0	56.5	58.9	50.7	39.0	90.3	59.0	72.7	40.5
26-Aug	66.0	56.5	56.8	47.9	37.0	97.3	.	69.7	38.1
2-Sep	62.0	51.7	51.5	43.1	32.0	83.3	58.0	61.9	37.5
9-Sep	59.0	51.5	49.1	41.2	32.0	74.2	52.0	55.6	34.3
16-Sep	61.0	51.3	48.9	41.4	32.0	70.7	54.4	54.0	32.7
23-Sep	63.0	50.6	49.9	42.5	30.0	73.5	54.0	53.9	33.2
30-Sep	57.0	47.3	46.0	38.7	28.0	67.9	50.7	50.5	31.8
7-Oct	55.0	47.9	44.0	36.9	22.0	65.1	51.5	48.6	30.9
14-Oct	53.0	40.5	43.7	36.2	25.0	63.7	48.3	46.0	30.3
21-Oct	54.0	45.0	44.7	37.0	21.0	72.1	.	46.0	29.4
28-Oct	51.0	39.0	42.0	34.1	19.0	53.9	43.3	37.5	20.8
4-Nov	50.0	37.3	40.3	32.8	17.0	53.2	42.9	38.4	24.8
11-Nov	52.0	37.7	37.3	29.5	14.0	45.5	39.9	29.1	18.5
18-Nov	45.0	33.6	35.9	28.2	16.0	43.4	37.4	30.8	18.9
25-Nov	47.0	32.0	32.8	25.1	5.0	39.9	36.2	28.2	17.6
2-Dec	48.0	33.0	32.2	25.3	7.0	42.0	37.0	24.8	16.7
9-Dec	42.0	30.5	30.6	22.9	7.0	37.8	34.9	26.2	17.4
16-Dec	48.0	31.6	31.4	23.2	9.0	41.3	36.6	23.8	13.8
23-Dec	43.0	32.2	33.3	25.3	11.0	40.6	37.0	26.7	17.9
31-Dec	45.0	33.1	31.5	22.8	-2.0	37.8	35.5	21.4	13.1

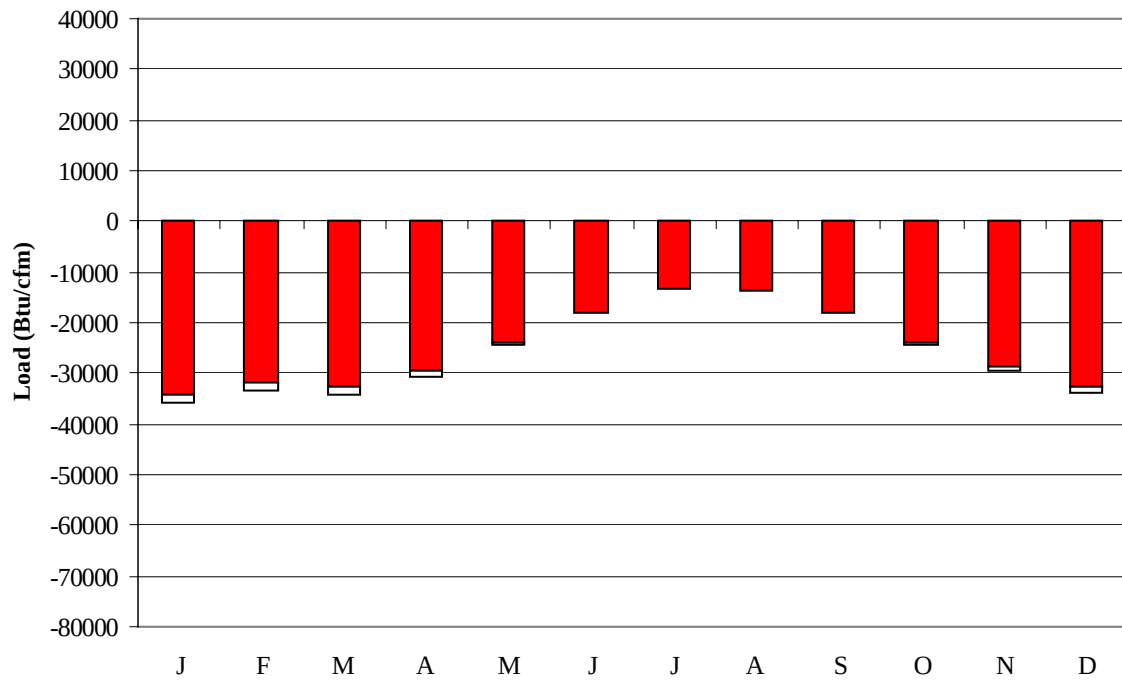


	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1236
FEB	0	1153
MAR	0	1176
APR	0	1052
MAY	0	837
JUN	0	606
JUL	1	427
AUG	0	442
SEP	0	603
OCT	0	828
NOV	0	1018
DEC	0	1171
ANN	2	10549

CIMONE MOUNTAIN, ITALY

WMO No. 161340

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

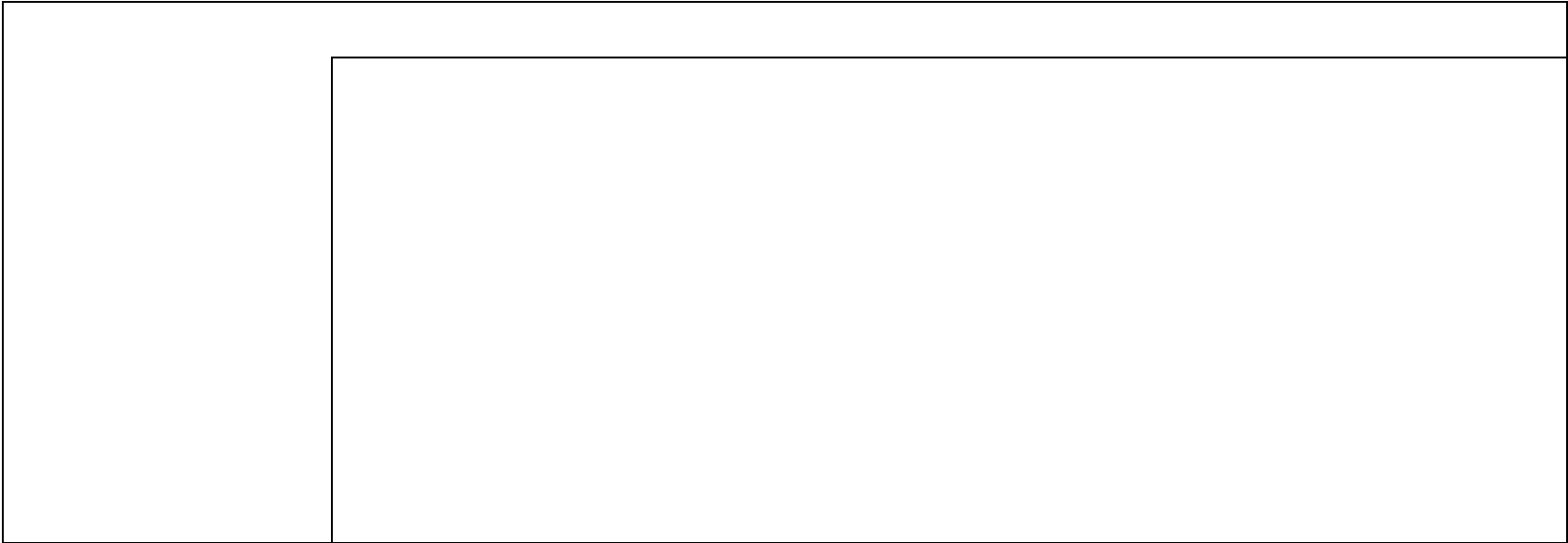


■ Average Sensible Cooling Load
 ■ Average Sensible Heating Load
 ■ Average Latent Cooling (Drying) Load
 ■ Average Latent Heating (Humidifying) Load

	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	-34386	0	-1287
FEB	0	-32029	0	-1237
MAR	0	-32783	0	-1268
APR	0	-29580	0	-907
MAY	0	-24025	1	-499
JUN	0	-17910	2	-190
JUL	1	-13348	9	-113
AUG	0	-13727	6	-108
SEP	0	-17848	0	-261
OCT	0	-23757	0	-540
NOV	0	-28642	0	-993
DEC	0	-32713	0	-1292
ANN	1	-300748	18	-8695

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

No Solar Radiation
Data Available

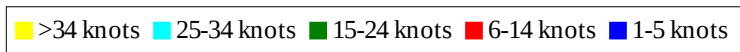
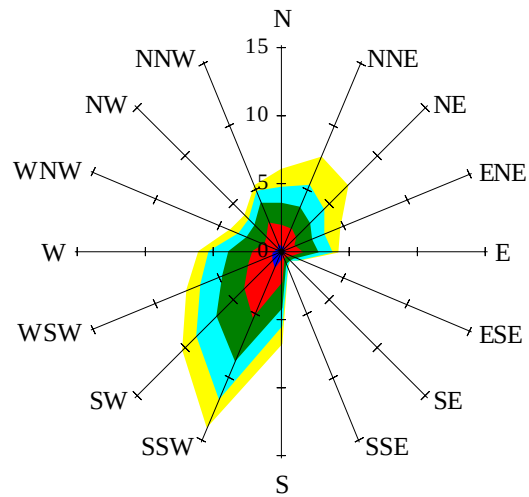


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

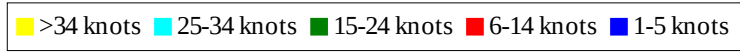
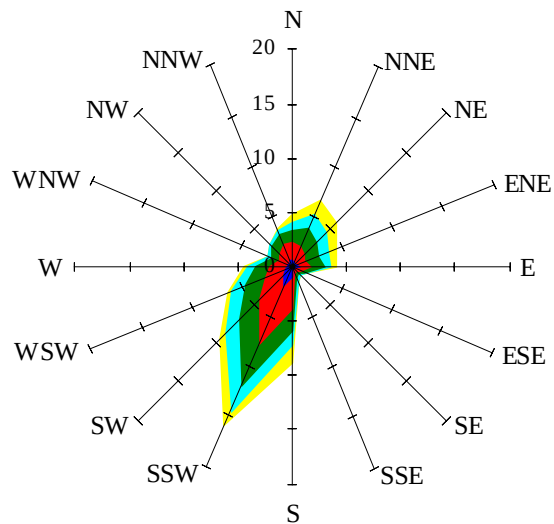
Labels of Percent Frequency on North Axis



Percent Calm = 10.92

Wind Summary - March, April, and May

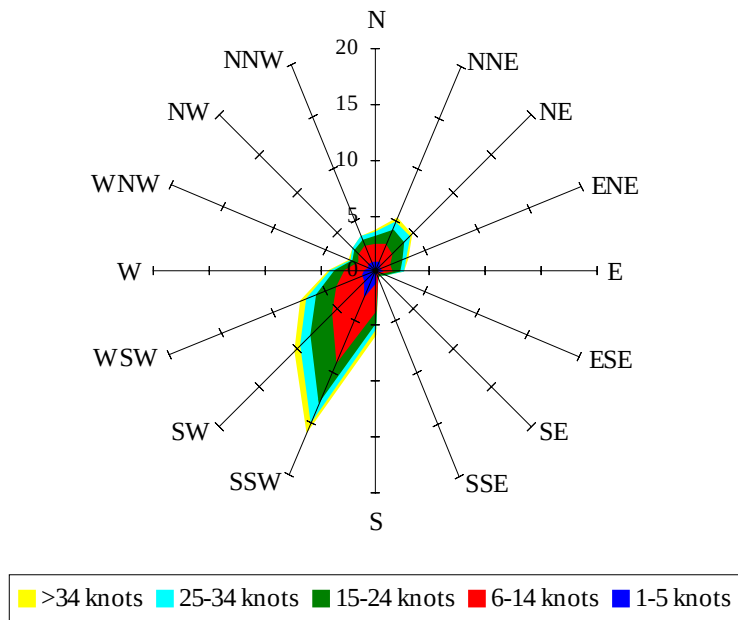
Labels of Percent Frequency on North Axis



Percent Calm = 16.49

Wind Summary - June, July, and August

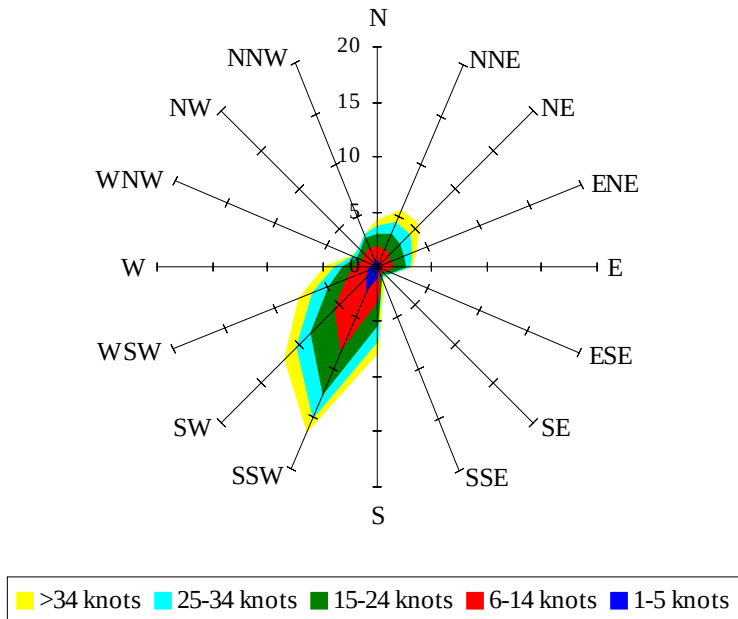
Labels of Percent Frequency on North Axis



Percent Calm = 27.33

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 18.43