

GENEVA, SWITZERLAND

Latitude = 46.25 N

Longitude = 6.13 E

Period of Record = 1973 to 1996

WMO No. 067000

Elevation = 1365 feet

Average Pressure = 28.58 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	67	67	7.8	SW
0.4% Occurrence	86	66	70	7.6	SW
1.0% Occurrence	82	65	70	7.0	E
2.0% Occurrence	79	64	68	6.8	E
Mean Daily Range	16	-	-	-	-
97.5% Occurrence	27	26	18	4.4	WSW
99.0% Occurrence	23	22	15	4.6	WSW
99.6% Occurrence	19	17	12	5.4	WSW
Median of Extreme Lows	16	15	10	5.2	WSW
	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	71	85	92	5.3	E
0.4% Occurrence	68	81	84	5.7	E
1.0% Occurrence	67	79	82	5.5	E
2.0% Occurrence	65	76	78	5.5	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	102	76	0.65	3.6	ENE
0.4% Occurrence	90	71	0.58	4.2	SW
1.0% Occurrence	89	71	0.57	3.5	E
2.0% Occurrence	83	70	0.54	4.0	E
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		2	171	0	97

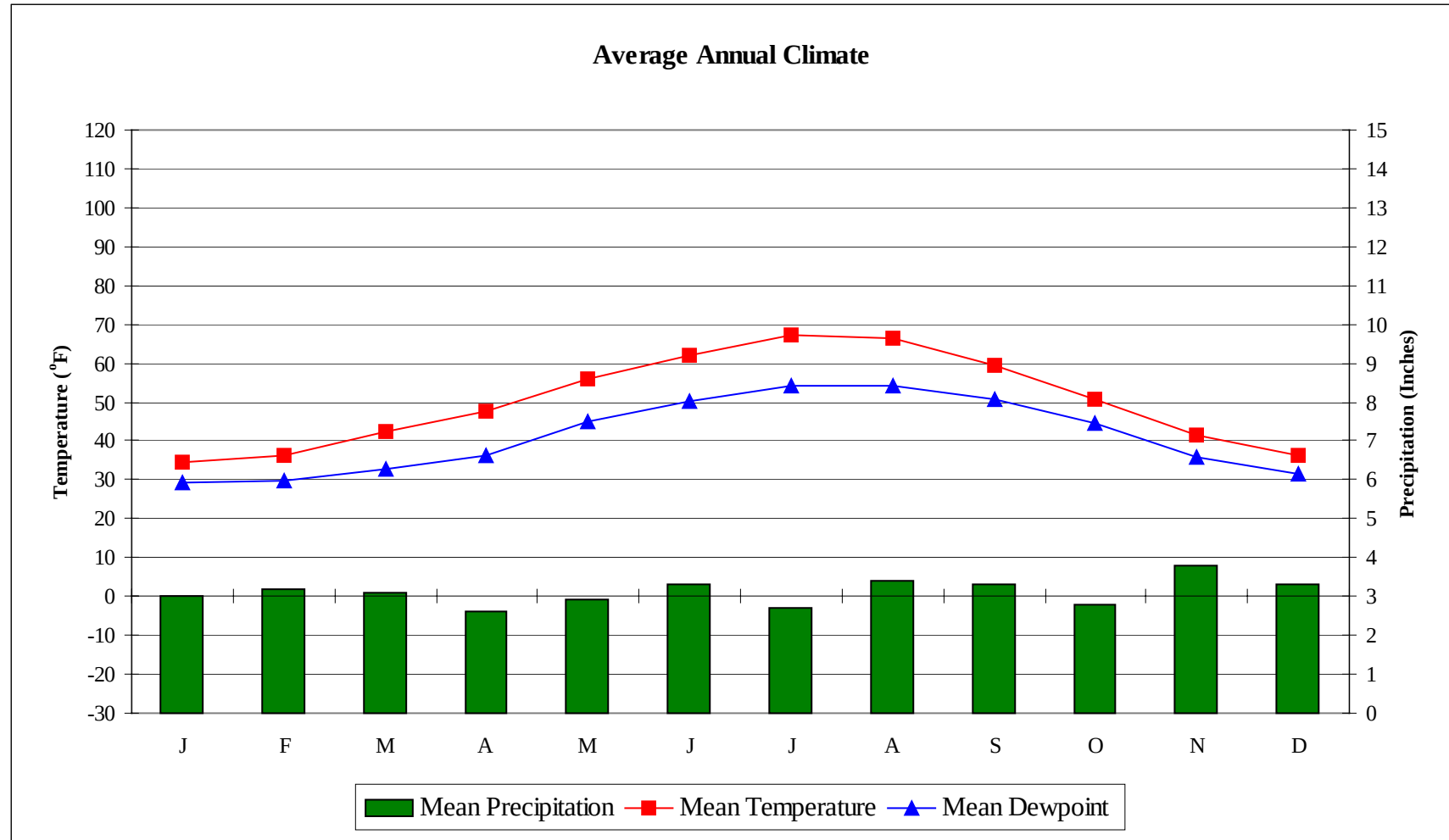
Other Site Data

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	N/A	N/A	0.1 + 0.2
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 (#)
52.5	N/A	N/A	51

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

GENEVA, SWITZERLAND

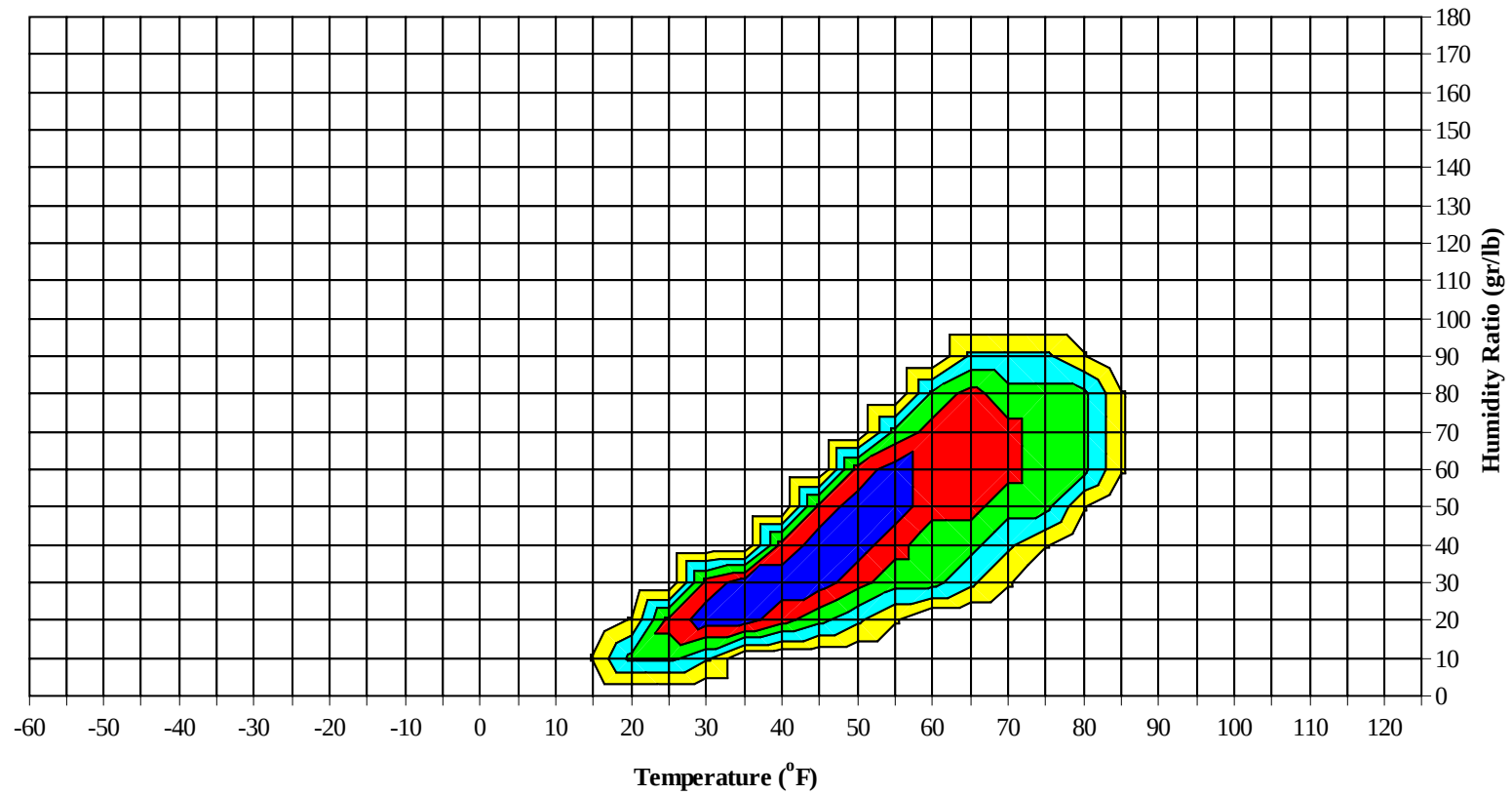
WMO No. 067000



GENEVA, SWITZERLAND

WMO No. 067000

Long Term Psychrometric Summary

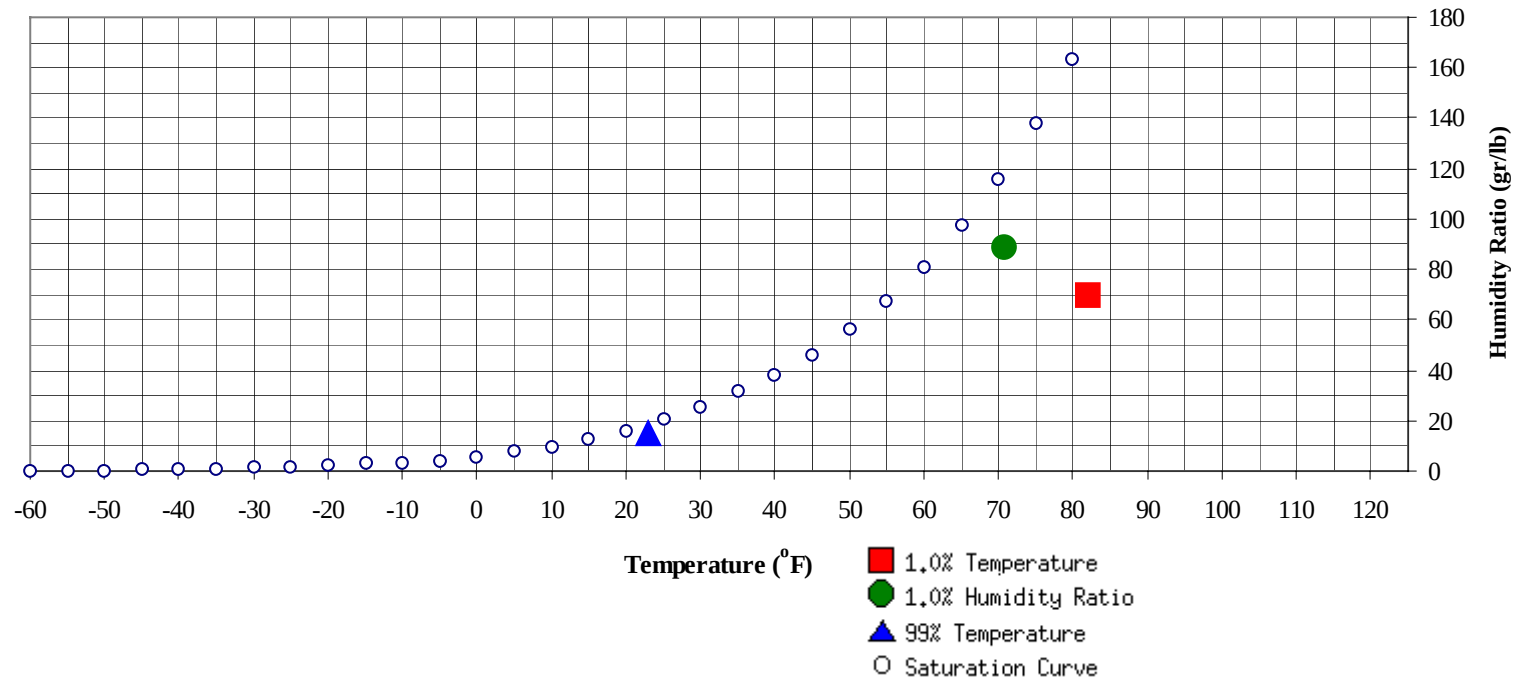


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

GENEVA, SWITZERLAND

WMO No. 067000

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	23	14.7	7.8		88.9	70.7	65.2	62.6	30.8

1.0% Dry Bulb	(°F)	MCHR	MCWB	Enthalpy
		(gr/lb)	(°F)	(btu/lb)
	82	70	65.3	30.7

GENEVA, SWITZERLAND

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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		
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79												0	0	0	53.0
70 / 74												1	0	1	54.7
65 / 69												2	1	3	53.6
60 / 64						0	0	0	0	49.6	0	9	5	14	50.7
55 / 59		1	0	1	48.7	0	4	2	6	48.1	1	24	16	41	47.9
50 / 54	1	7	5	13	45.8	2	15	9	26	45.0	9	46	38	93	45.2
45 / 49	13	28	20	61	42.5	11	33	29	73	42.3	38	61	60	159	42.0
40 / 44	21	36	29	86	39.0	21	37	35	93	38.8	43	46	44	132	38.2
35 / 39	57	72	73	202	35.1	57	62	65	185	34.8	70	43	56	169	34.6
30 / 34	77	66	74	217	30.6	73	51	56	180	30.2	57	16	25	98	30.0
25 / 29	51	27	33	111	25.6	43	18	22	82	25.2	27	1	3	31	25.7
20 / 24	16	7	6	29	20.9	11	3	4	18	20.9	3	0		3	21.3
15 / 19	8	3	5	16	16.5	5	2	1	8	16.4	0			0	18.5
10 / 14	2	1	2	5	11.4	1	0	1	2	11.2					
5 / 9	1	0	1	2	6.1	0	0	0	0	6.5					
0 / 4	0	0		0	0.7	0	0		0	2.0					
-5 / -1	0			0	-3.0										

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.

GENEVA, SWITZERLAND

WMO No. 067000

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		
95 / 99															
90 / 94													0	0	65.0
85 / 89												2	1	3	65.3
80 / 84							1	1	2	61.2		12	8	20	64.2
75 / 79		0	0	0	56.6		9	5	14	60.3					
70 / 74		4	3	7	54.7	0	28	18	46	57.8	0	33	21	54	62.4
65 / 69	0	10	6	16	52.9	1	35	22	58	55.9	2	52	34	88	60.0
60 / 64	1	28	19	48	50.5	8	60	45	113	53.7	8	42	32	82	58.1
55 / 59	5	44	34	83	48.2	44	56	62	162	51.8	45	51	57	153	56.3
50 / 54	25	58	54	137	45.7	82	40	56	178	48.6	80	38	53	170	53.3
45 / 49	59	57	61	178	42.2	68	17	30	115	44.4	70	11	27	107	49.6
40 / 44	58	26	34	119	38.7	26	2	8	36	40.2	28	1	6	35	45.4
35 / 39	63	13	24	100	35.2	15	0	2	17	36.7	6		1	7	41.3
30 / 34	25	1	4	30	31.0	3		0	3	31.5	1		0	1	37.4
25 / 29	3		0	3	25.8										
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															

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GENEVA, SWITZERLAND

WMO No. 067000

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		
95 / 99		0		0	69.7										
90 / 94		3	3	6	67.6		1	1	2	67.2					
85 / 89		11	7	18	66.9		9	5	14	66.5		0	0	0	65.7
80 / 84	0	33	24	57	65.5	0	28	17	45	65.5		4	2	6	64.0
75 / 79	1	54	41	95	63.4	1	50	33	83	63.3		19	9	28	62.7
70 / 74	12	63	49	123	61.4	7	65	49	121	61.6	1	39	22	62	60.9
65 / 69	34	38	42	114	60.0	23	41	45	108	60.1	3	42	27	72	58.8
60 / 64	81	34	51	165	57.9	79	41	59	178	58.2	26	64	61	151	56.9
55 / 59	76	12	27	114	54.4	85	13	31	128	54.5	73	50	65	187	53.8
50 / 54	36	1	6	43	50.4	41	1	9	51	50.5	78	20	41	138	49.9
45 / 49	7		0	7	45.7	11		1	12	45.7	43	3	13	59	45.4
40 / 44	1			1	41.5	1			1	41.9	12	0	1	13	41.3
35 / 39											4		0	4	37.5
30 / 34											0			0	33.0
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															

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GENEVA, SWITZERLAND

WMO No. 067000

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		
95 / 99															
90 / 94															
85 / 89															
80 / 84		0		0	60.2										
75 / 79		0	0	0	59.2										
70 / 74		4	2	6	59.2										
65 / 69	0	13	4	17	57.7		0		0	55.4	0		0	0	52.5
60 / 64	3	32	17	52	55.5	1	2	1	4	53.1	0	0	0	0	51.3
55 / 59	20	64	49	133	52.5	3	13	5	21	50.6	1	3	1	5	49.5
50 / 54	68	72	76	216	49.2	12	36	24	72	47.7	7	12	8	27	47.0
45 / 49	77	45	61	183	44.7	38	63	56	157	43.7	14	32	25	71	43.1
40 / 44	41	14	26	81	40.5	56	56	57	169	39.7	30	45	35	110	39.3
35 / 39	27	4	12	43	36.8	64	46	59	169	35.5	61	69	73	203	35.2
30 / 34	11	0	2	13	31.6	47	21	32	100	30.4	84	66	79	229	30.5
25 / 29	0			0	27.6	16	3	6	25	26.1	39	18	22	79	25.9
20 / 24						2	0	0	2	21.6	8	3	4	15	20.9
15 / 19						1	0		1	18.1	2	1	1	4	17.0
10 / 14											1	0	0	1	13.0
5 / 9															
0 / 4															
-5 / -1															

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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WMO No. 067000

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

Period of Record = 1973 to 1996

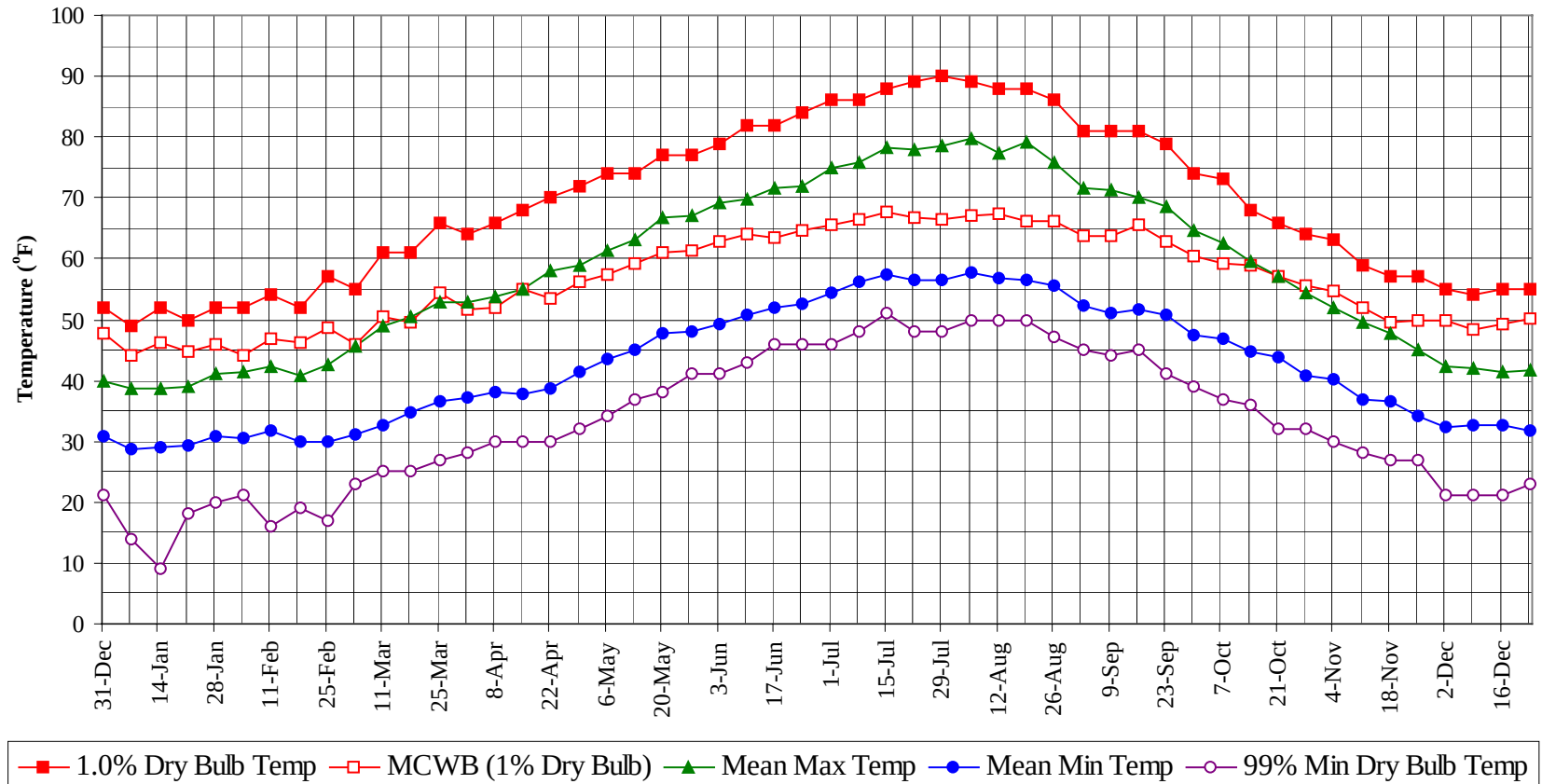
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
95 / 99	0			0	69.7
90 / 94	5			4	9
85 / 89	21			13	34
80 / 84	0	78	51	128	65.1
75 / 79	2	163	109	274	62.9
70 / 74	22	254	176	451	60.6
65 / 69	70	223	177	469	58.6
60 / 64	242	320	313	875	56.3
55 / 59	385	319	343	1047	52.6
50 / 54	432	318	351	1102	48.3
45 / 49	409	340	363	1112	43.4
40 / 44	317	261	270	848	39.2
35 / 39	421	309	366	1097	35.1
30 / 34	379	221	272	872	30.4
25 / 29	180	67	87	334	25.6
20 / 24	39	13	15	67	21.0
15 / 19	16	5	7	28	16.6
10 / 14	4	2	3	9	11.5
5 / 9	1	1	1	3	6.2
0 / 4	0	0		0	0.9
-5 / -1	0			0	-3.0

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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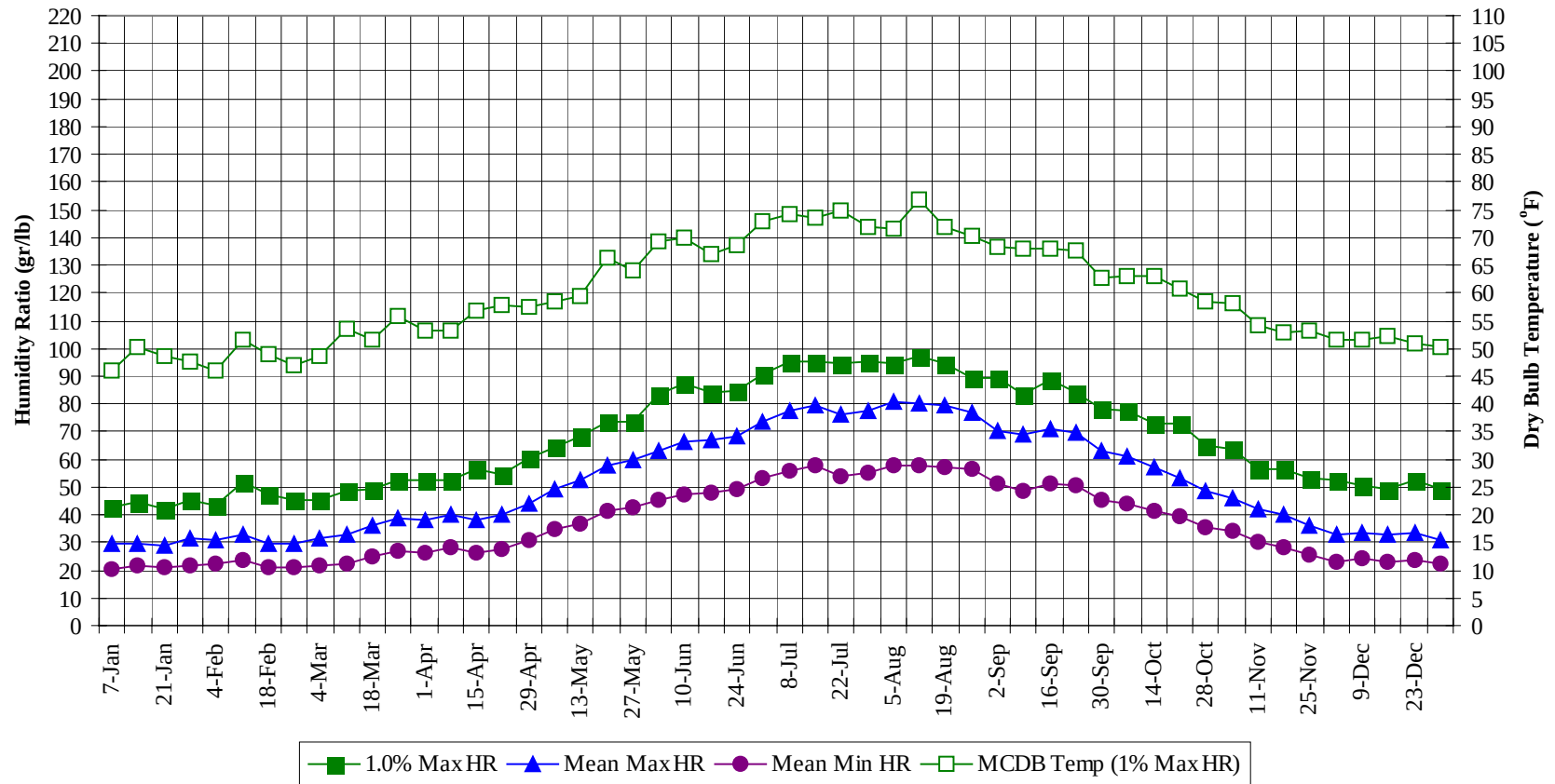
Annual Summary of Temperatures



GENEVA, SWITZERLAND

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Long Term Humidity and Dry Bulb Temperature Summary



GENEVA, SWITZERLAND

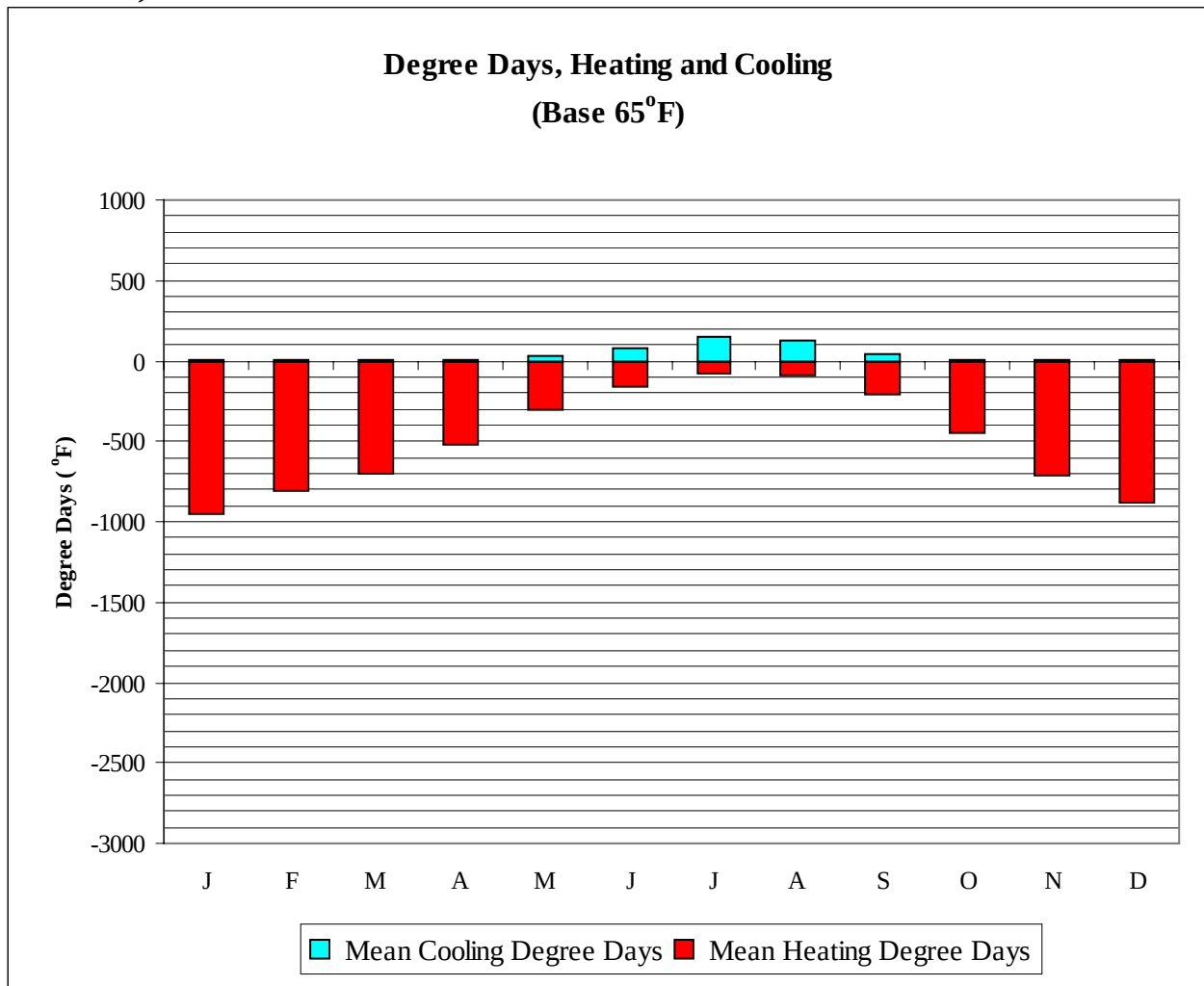
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Long Term Dry Bulb Temperature and Humidity Summary

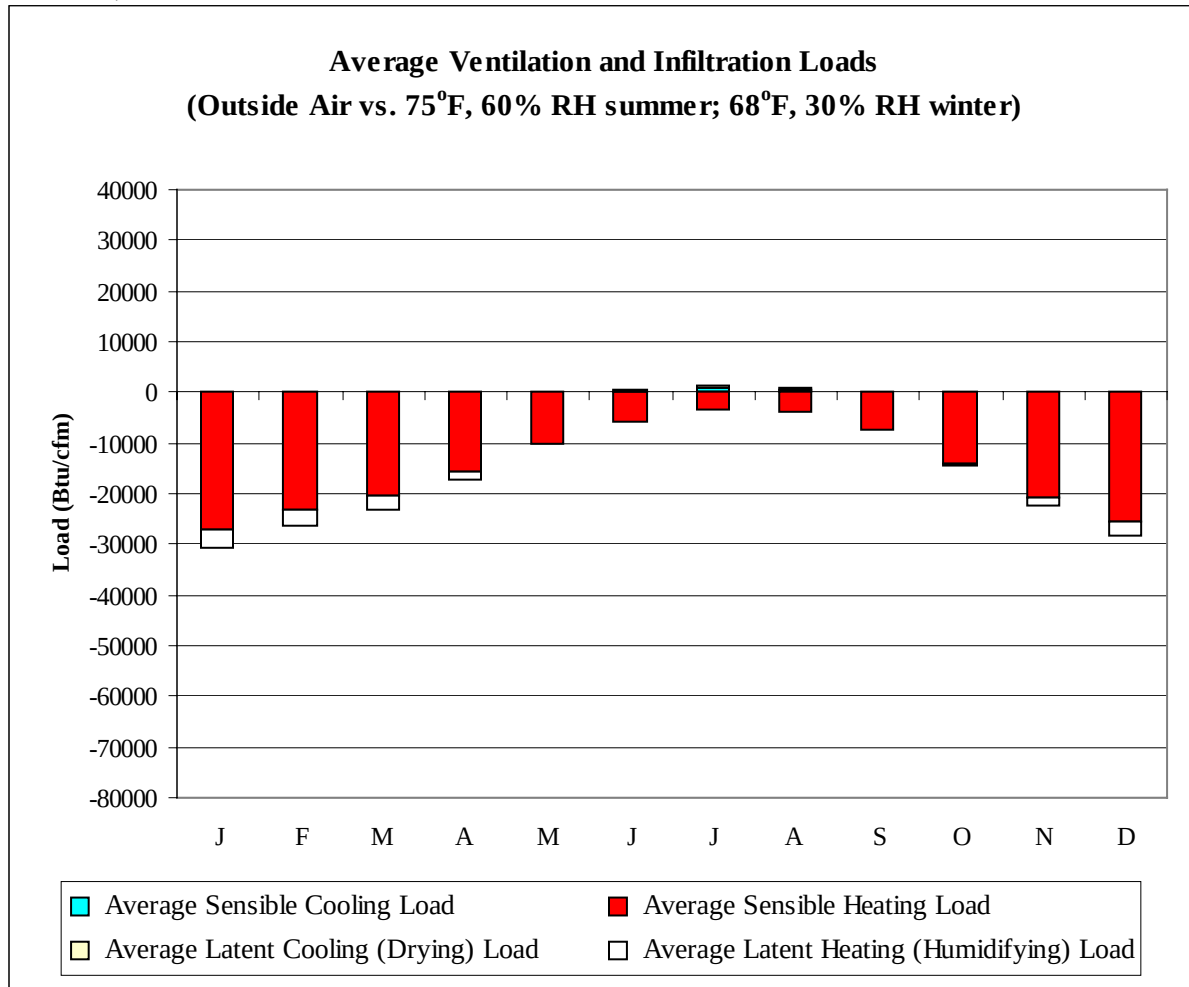
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	49.0	44.0	38.8	28.8	14.0	42.7	46.1	29.9	20.5
14-Jan	52.0	46.2	38.6	29.0	9.0	44.8	50.2	29.9	21.5
21-Jan	50.0	44.8	39.0	29.2	18.0	42.0	48.8	29.1	21.1
28-Jan	52.0	46.0	41.0	30.7	20.0	45.5	47.7	31.4	21.6
4-Feb	52.0	44.3	41.3	30.7	21.0	43.4	46.0	31.2	22.2
11-Feb	54.0	46.8	42.3	31.8	16.0	51.8	51.6	32.8	23.4
18-Feb	52.0	46.2	40.9	29.8	19.0	47.6	48.9	29.8	20.8
25-Feb	57.0	48.8	42.7	30.0	17.0	45.5	47.0	29.5	21.0
4-Mar	55.0	45.9	45.6	31.2	23.0	45.5	48.6	31.6	21.7
11-Mar	61.0	50.4	49.0	32.7	25.0	48.3	53.4	32.6	22.6
18-Mar	61.0	49.4	50.5	34.8	25.0	49.0	51.5	35.9	25.0
25-Mar	66.0	54.3	53.0	36.5	27.0	52.5	55.9	38.8	26.7
1-Apr	64.0	51.8	53.0	37.1	28.0	52.5	53.0	38.0	26.0
8-Apr	66.0	51.9	53.9	38.2	30.0	52.5	53.1	40.0	28.2
15-Apr	68.0	54.9	55.0	37.8	30.0	56.7	56.7	38.1	26.3
22-Apr	70.0	53.4	57.9	38.7	30.0	54.6	57.8	40.2	27.7
29-Apr	72.0	56.2	59.0	41.5	32.0	60.2	57.3	44.2	30.9
6-May	74.0	57.3	61.4	43.4	34.0	64.4	58.6	49.2	34.9
13-May	74.0	59.3	63.0	45.1	37.0	68.6	59.5	52.3	37.1
20-May	77.0	61.0	66.7	47.6	38.0	73.5	66.2	57.5	41.3
27-May	77.0	61.4	67.0	48.2	41.0	73.5	64.0	59.5	42.7
3-Jun	79.0	62.9	69.1	49.3	41.0	83.3	69.2	63.4	45.2
10-Jun	82.0	64.2	69.9	50.7	43.0	87.5	69.9	66.3	47.5
17-Jun	82.0	63.5	71.7	52.1	46.0	84.0	67.1	66.9	48.1
24-Jun	84.0	64.6	71.9	52.7	46.0	84.7	68.6	68.2	49.1
1-Jul	86.0	65.4	75.0	54.3	46.0	90.7	73.0	73.5	53.3
8-Jul	86.0	66.5	76.0	56.2	48.0	95.2	74.1	77.5	55.7
15-Jul	88.0	67.8	78.2	57.5	51.0	95.2	73.5	79.5	57.7
22-Jul	89.0	66.8	78.0	56.6	48.0	94.5	74.7	75.9	54.1
29-Jul	90.0	66.5	78.6	56.4	48.0	95.2	71.8	77.6	55.1
5-Aug	89.0	67.0	79.7	57.7	50.0	94.5	71.5	80.9	58.1
12-Aug	88.0	67.3	77.2	56.7	50.0	97.3	76.8	79.9	57.9
19-Aug	88.0	66.2	79.1	56.5	50.0	94.5	72.0	79.2	57.4
26-Aug	86.0	66.0	75.8	55.5	47.0	89.6	70.1	76.7	56.2
2-Sep	81.0	63.8	71.5	52.3	45.0	89.6	68.1	70.2	51.0
9-Sep	81.0	63.6	71.3	51.1	44.0	83.3	67.9	69.0	48.6
16-Sep	81.0	65.6	70.0	51.7	45.0	88.9	68.0	70.9	51.1
23-Sep	79.0	62.9	68.4	50.8	41.0	84.0	67.5	69.5	50.6
30-Sep	74.0	60.4	64.7	47.3	39.0	78.4	62.9	63.1	45.0
7-Oct	73.0	59.3	62.4	46.8	37.0	77.7	63.2	60.8	43.8
14-Oct	68.0	59.0	59.5	44.8	36.0	72.8	63.1	57.1	41.3
21-Oct	66.0	57.1	57.2	43.9	32.0	72.8	60.6	53.5	39.2
28-Oct	64.0	55.5	54.3	40.9	32.0	65.1	58.4	48.6	35.7
4-Nov	63.0	54.7	51.9	40.2	30.0	63.7	58.0	46.0	33.9
11-Nov	59.0	52.0	49.4	36.9	28.0	56.7	54.3	41.9	30.1
18-Nov	57.0	49.6	47.6	36.5	27.0	56.7	52.7	39.9	28.3
25-Nov	57.0	49.8	45.0	34.1	27.0	53.2	53.0	35.8	25.6
2-Dec	55.0	49.8	42.2	32.4	21.0	52.5	51.6	32.9	23.3
9-Dec	54.0	48.2	41.9	32.8	21.0	50.4	51.4	33.5	24.1
16-Dec	55.0	49.3	41.4	32.5	21.0	49.0	52.1	32.6	23.3
23-Dec	55.0	50.2	41.6	31.7	23.0	52.5	50.8	33.6	23.7
31-Dec	52.0	47.9	39.8	30.8	21.0	49.0	50.4	30.9	22.2

GENEVA, SWITZERLAND

WMO No. 067000



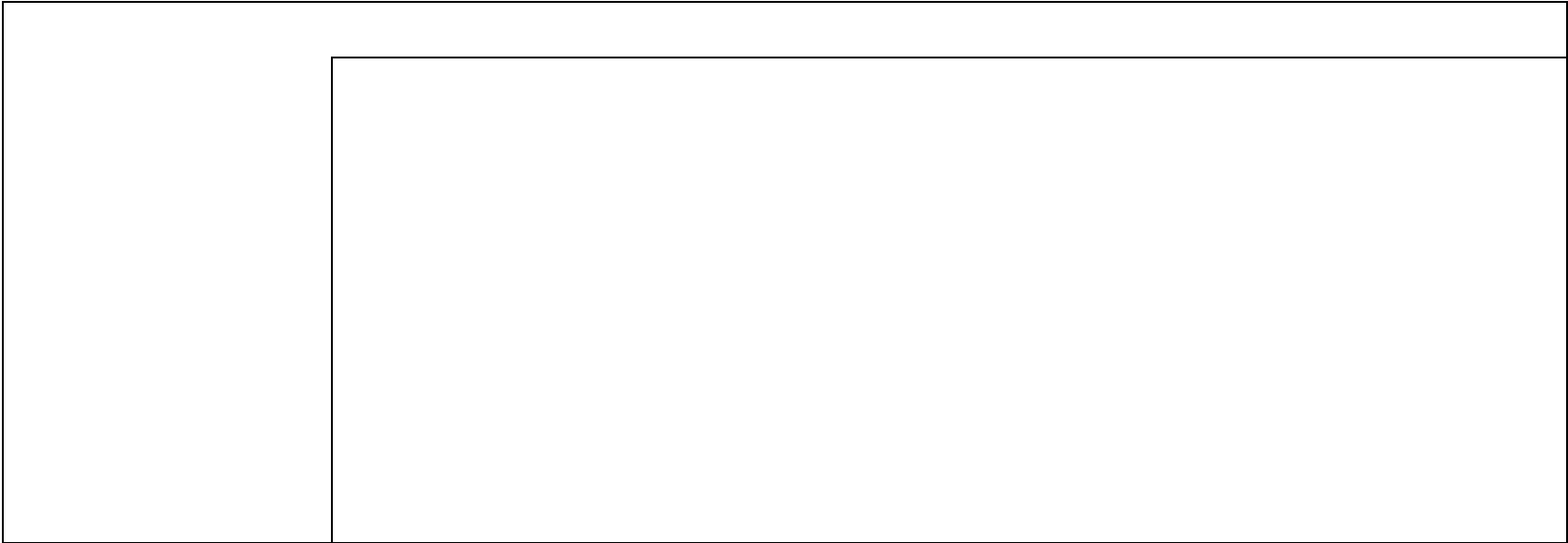
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	948
FEB	0	813
MAR	1	699
APR	3	519
MAY	24	310
JUN	73	161
JUL	151	81
AUG	130	94
SEP	38	214
OCT	3	454
NOV	0	709
DEC	0	885
ANN	424	5887



	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	-26977	0	-3697
FEB	0	-23267	0	-3244
MAR	0	-20528	0	-2501
APR	1	-15738	0	-1342
MAY	32	-10129	1	-168
JUN	281	-5814	58	-10
JUL	909	-3288	331	0
AUG	709	-3758	279	0
SEP	85	-7435	41	-5
OCT	4	-14128	0	-173
NOV	0	-20711	0	-1553
DEC	0	-25349	0	-3000
ANN	2021	-177122	710	-15693

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

No Solar Radiation
Data Available

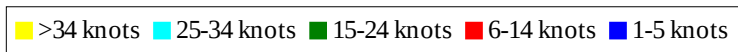
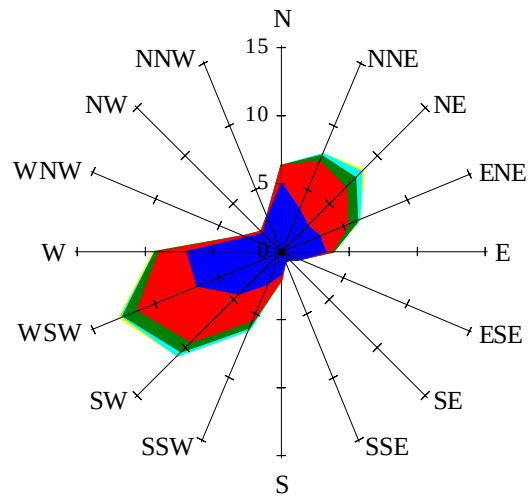


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

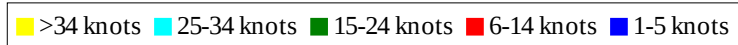
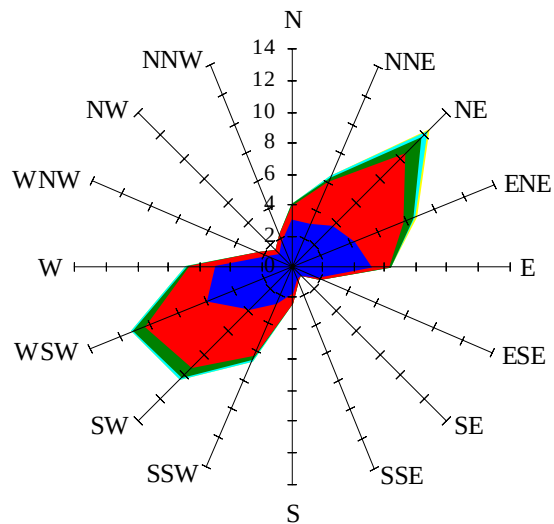
Labels of Percent Frequency on North Axis



Percent Calm = 16.06

Wind Summary - March, April, and May

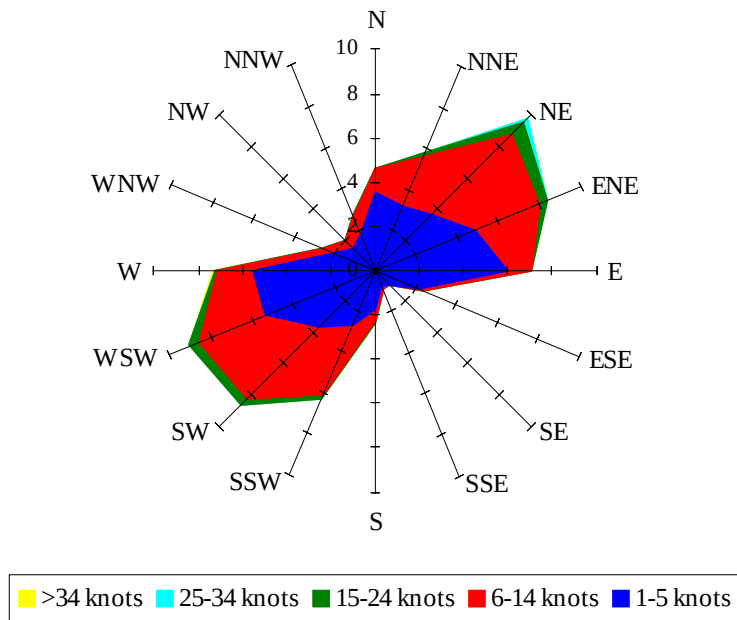
Labels of Percent Frequency on North Axis



Percent Calm = 15.78

Wind Summary - June, July, and August

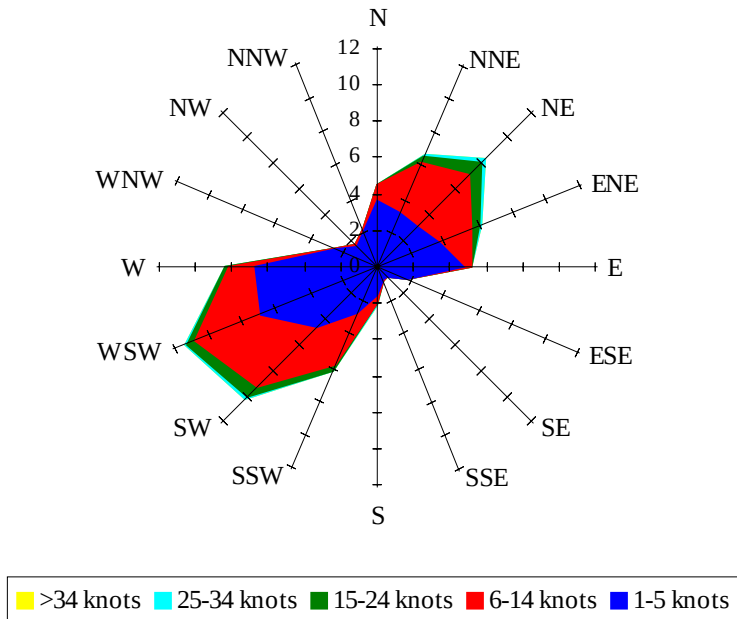
Labels of Percent Frequency on North Axis



Percent Calm = 19.67

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 21.42