

EUGENE/MAHLON SWEET OR

Latitude = 44.12 N

WMO No. 726930

Longitude = 123.20 W

Elevation = 374 feet

Period of Record = 1973 to 1996

Average Pressure = 29.63 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	98	69	62	11.0	N
0.4% Occurrence	92	67	61	11.5	N
1.0% Occurrence	88	66	62	11.4	N
2.0% Occurrence	84	65	61	10.8	N
Mean Daily Range	20	-	-	-	-
97.5% Occurrence	29	28	21	5.3	N
99.0% Occurrence	25	24	16	5.5	N
99.6% Occurrence	21	20	12	7.8	N
Median of Extreme Lows	18	17	10	8.2	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	73	91	90	9.8	N
0.4% Occurrence	69	87	76	9.9	N
1.0% Occurrence	67	84	71	10.2	N
2.0% Occurrence	66	82	69	10.3	N
	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	100	82	0.67	8.0	N
0.4% Occurrence	85	74	0.56	7.9	SW
1.0% Occurrence	79	73	0.52	8.3	N
2.0% Occurrence	76	71	0.50	8.1	N
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		29	329	2	118

Other Site Data

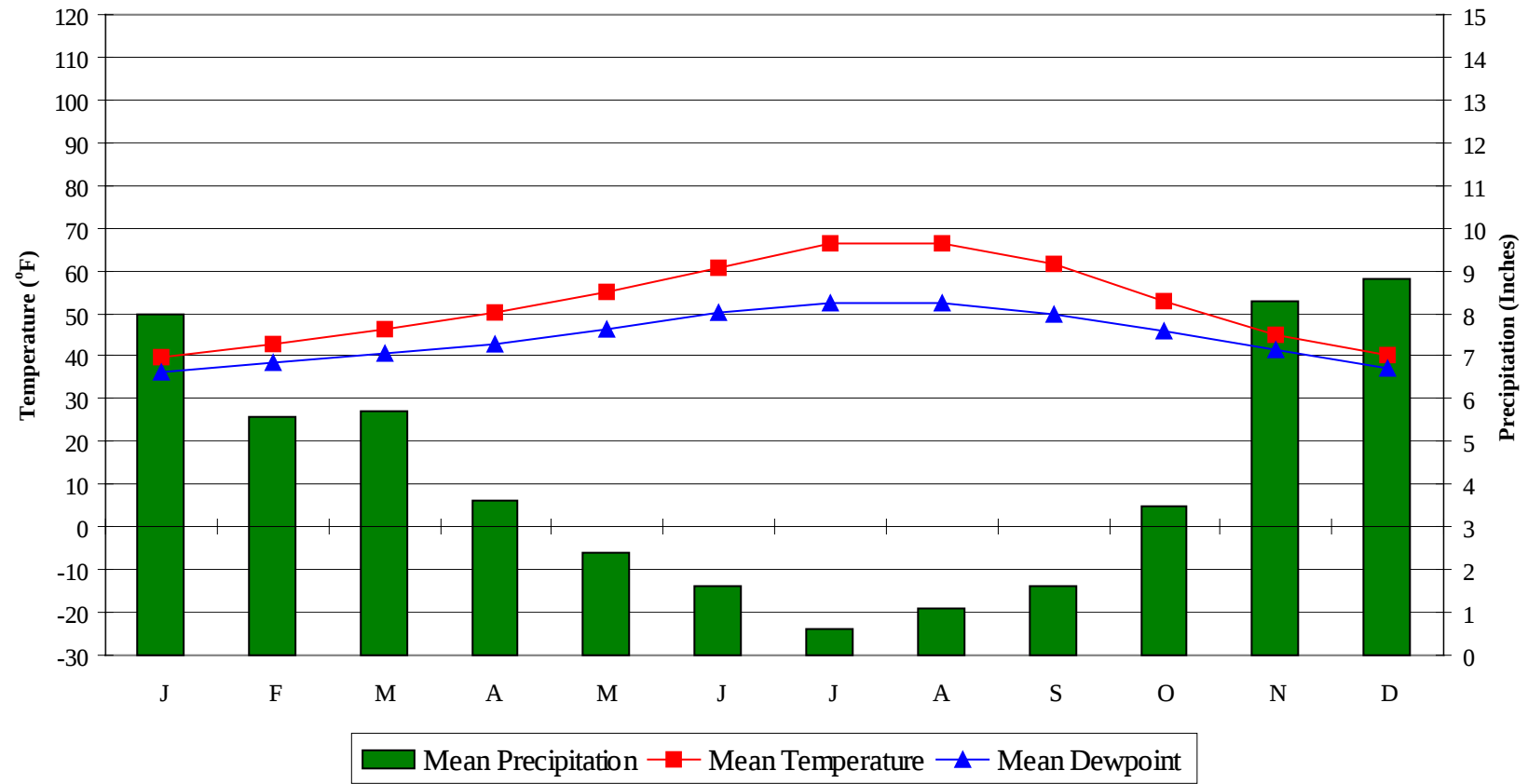
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
7	1.3	85	0.0 + 0.3
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
54.8	9	10	30

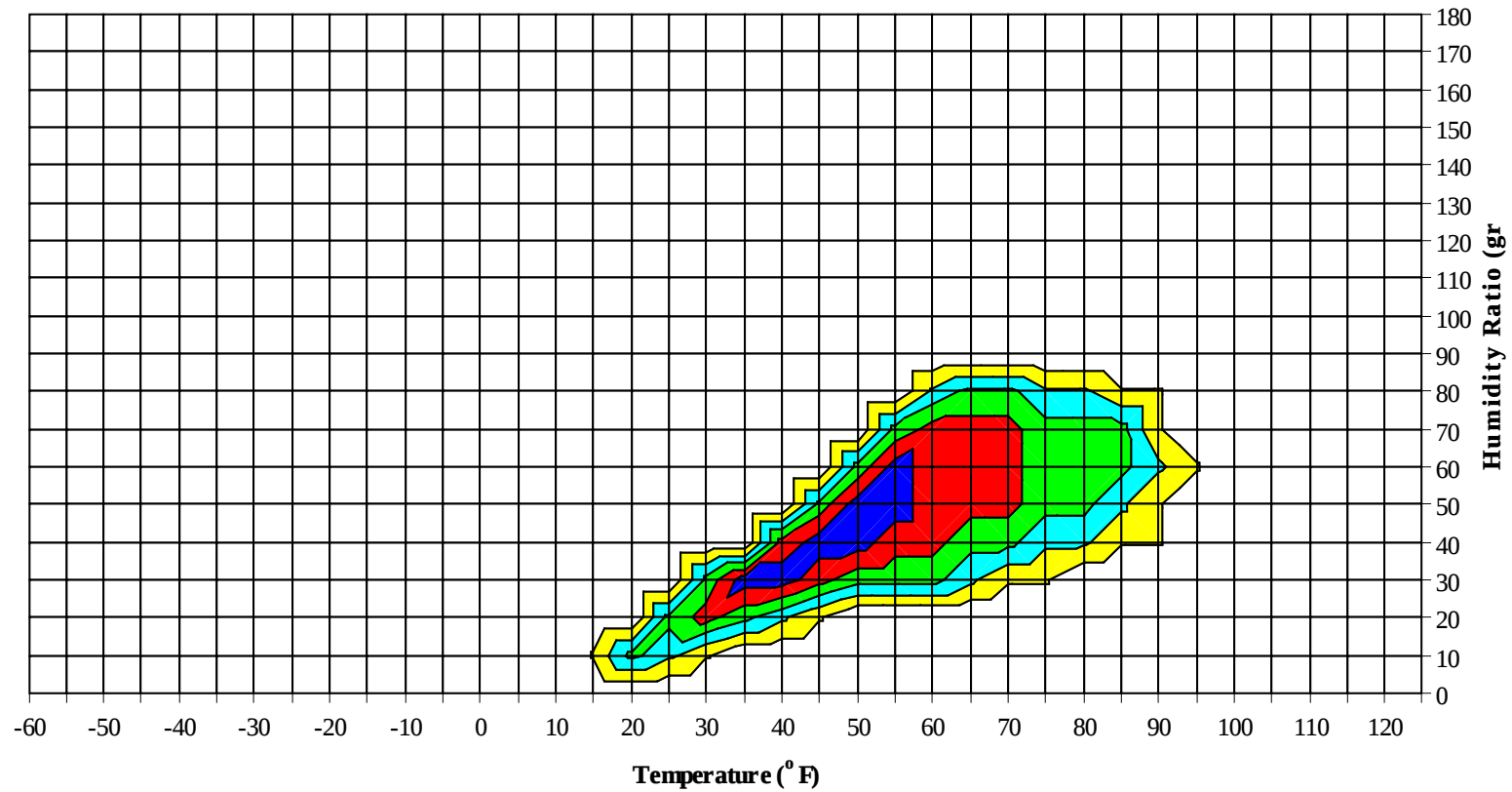
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

EUGENE/MAHLON SWEET OR

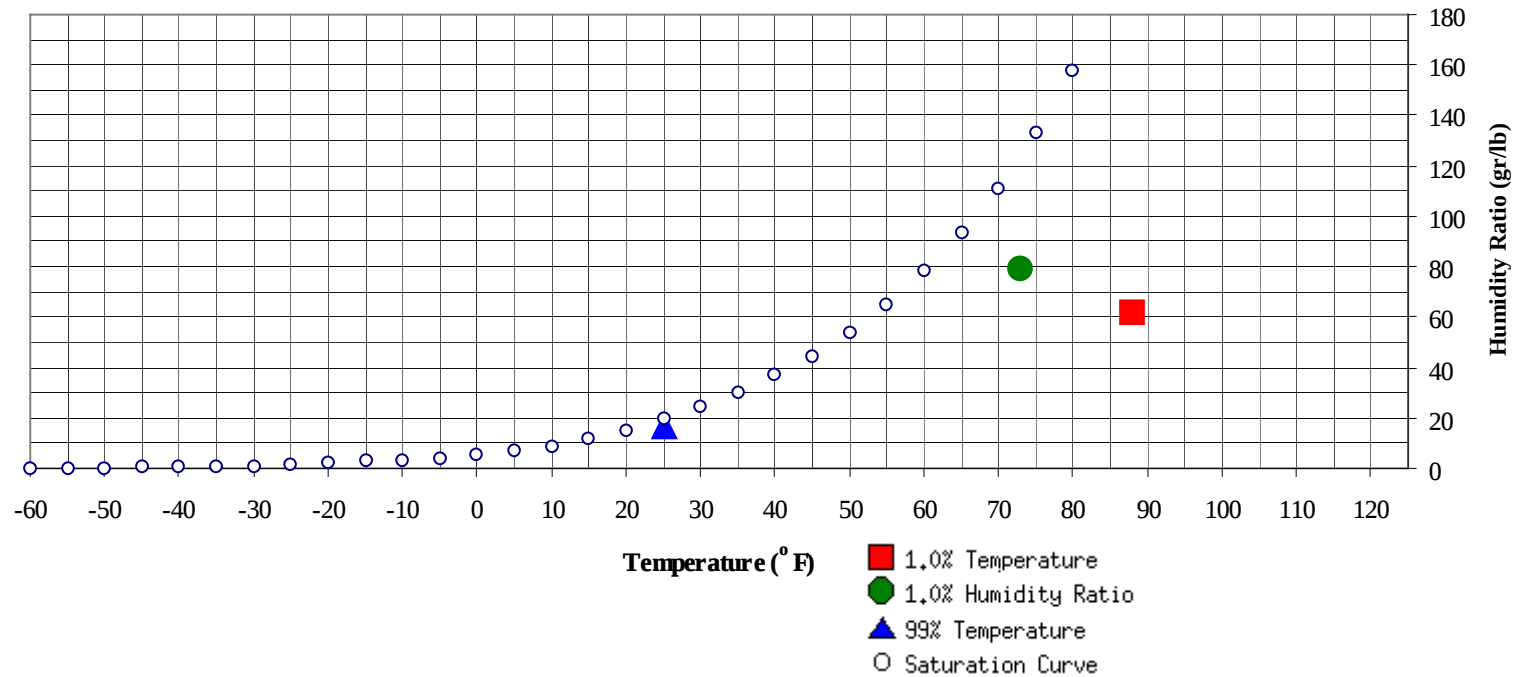
WMO No. 726930

Average Annual Climate



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

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)
	25	16.3	8.5		79.1	72.9	64.5	60.1	29.9

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	88	61.8	66.1	30.8

EUGENE/MAHLON SWEET OR

WMO No. 726930

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		
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79												0		0	56.7
70 / 74							0	0	0	61.0		1	0	1	56.9
65 / 69		0		0	57.0		1	0	1	56.7		7	2	9	55.0
60 / 64	0	3	0	3	55.6	0	7	2	9	54.3		19	7	26	53.0
55 / 59	3	12	5	20	52.6	2	22	9	33	52.2	1	42	20	63	50.4
50 / 54	15	40	22	78	49.0	15	48	32	95	48.7	17	76	55	149	47.8
45 / 49	33	52	49	135	45.0	39	61	58	158	44.8	59	62	78	198	44.6
40 / 44	51	51	57	159	40.9	50	41	57	147	40.5	72	29	58	159	40.6
35 / 39	51	42	51	144	36.1	55	25	40	120	36.0	66	7	26	100	36.3
30 / 34	49	29	40	118	31.3	43	11	19	72	31.5	30	1	4	34	31.9
25 / 29	30	12	19	61	26.0	15	3	5	24	26.2	4			4	27.7
20 / 24	12	3	5	20	20.8	4	1	1	7	20.6	0			0	
15 / 19	4	0	2	6	15.9	1	0	1	2	15.8					
10 / 14	2	0	0	2	11.5	1	0	0	2	11.4					
5 / 9	0			0	7.0	1		0	1	7.0					

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.

EUGENE/MAHLON SWEET OR

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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		
105 / 109															
100 / 104												0	0	0	70.8
95 / 99												0	0	1	69.1
90 / 94							0		0	70.7		2	1	4	68.2
85 / 89							2	1	2	69.4		8	3	12	66.1
80 / 84		0	0	0	62.6		6	3	9	66.1		17	9	26	64.7
75 / 79		3	1	4	62.3		13	6	19	63.2	0	24	13	37	62.5
70 / 74		9	3	12	59.8	0	26	11	37	60.3	1	37	20	57	60.0
65 / 69		19	8	27	56.5	1	35	18	55	57.3	5	54	32	91	57.9
60 / 64	0	35	16	52	53.5	7	55	31	94	54.4	19	58	47	125	55.6
55 / 59	5	55	33	94	50.9	24	64	52	141	51.8	67	33	61	161	53.4
50 / 54	36	71	66	173	48.1	70	38	66	174	48.9	89	6	45	139	50.0
45 / 49	73	35	65	173	44.8	81	8	44	133	45.4	41	0	10	51	46.1
40 / 44	69	9	37	115	40.8	45	1	16	61	41.3	13		1	14	41.8
35 / 39	45	1	12	57	36.6	17	0	2	19	36.8	2		0	2	36.9
30 / 34	11		0	12	32.4	2			2	32.7	0			0	34.0
25 / 29	0			0	28.3										
20 / 24															
15 / 19															
10 / 14															
5 / 9															

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EUGENE/MAHLON SWEET OR

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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		
105 / 109							0		0	71.2					
100 / 104		1	0	1	69.8		1	1	2	69.8		0		0	67.0
95 / 99		4	2	7	69.5		3	1	4	68.5		1	0	1	66.4
90 / 94		11	6	18	67.6		11	5	15	67.2		5	1	7	65.2
85 / 89		22	13	35	65.8		20	10	30	65.6		13	4	17	64.1
80 / 84		35	19	54	64.2		37	17	53	63.8		21	8	29	63.0
75 / 79	1	43	23	67	62.4	0	46	24	70	62.0		32	13	46	61.3
70 / 74	4	52	33	89	60.6	2	53	34	89	60.5	0	41	19	60	59.4
65 / 69	13	49	44	106	58.9	10	48	45	103	59.1	2	49	35	86	57.7
60 / 64	50	28	54	131	57.0	55	28	65	148	57.3	22	47	57	126	56.3
55 / 59	96	6	41	143	54.2	92	4	39	135	54.3	66	24	59	149	53.9
50 / 54	62	0	13	75	50.4	60	0	10	70	50.5	81	5	35	121	50.2
45 / 49	17		1	18	46.5	22		0	22	46.3	47	1	9	58	46.0
40 / 44	2		0	2	42.7	2			2	42.4	17		1	18	41.7
35 / 39											3			3	37.1
30 / 34											0			0	33.2
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															

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.

EUGENE/MAHLON SWEET OR

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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		
105 / 109															
100 / 104															
95 / 99															
90 / 94		0	0	0	64.8										
85 / 89		1	0	1	63.8										
80 / 84		3	1	4	61.1										
75 / 79		7	1	8	59.4		0		0	63.5					
70 / 74		17	4	21	58.2		0		0	61.0					
65 / 69		34	10	44	56.5		3	0	3	58.7		0		0	56.0
60 / 64	3	55	26	83	54.7	0	11	2	13	56.3	0	2	0	3	55.0
55 / 59	22	58	53	133	53.0	10	33	18	61	53.3	3	10	5	18	53.1
50 / 54	60	43	72	175	49.8	32	61	43	136	49.5	17	34	21	72	49.4
45 / 49	67	21	54	142	45.7	55	62	65	182	45.4	33	57	44	134	45.2
40 / 44	57	6	23	86	41.4	55	36	55	146	41.0	52	59	60	172	40.7
35 / 39	31	1	6	38	36.8	42	20	35	98	36.4	60	48	64	171	36.2
30 / 34	7	0	1	8	32.1	29	8	17	54	31.8	47	26	40	113	31.9
25 / 29	1			1	27.0	11	2	6	19	26.3	19	7	12	38	26.8
20 / 24						3	1	2	6	21.5	8	3	3	14	21.5
15 / 19						2	0	0	2	17.0	2	2	2	6	15.8
10 / 14											2	0	1	3	11.1
5 / 9											1	0	0	1	7.4

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 5 of 5)
Period of Record = 1973 to 1996

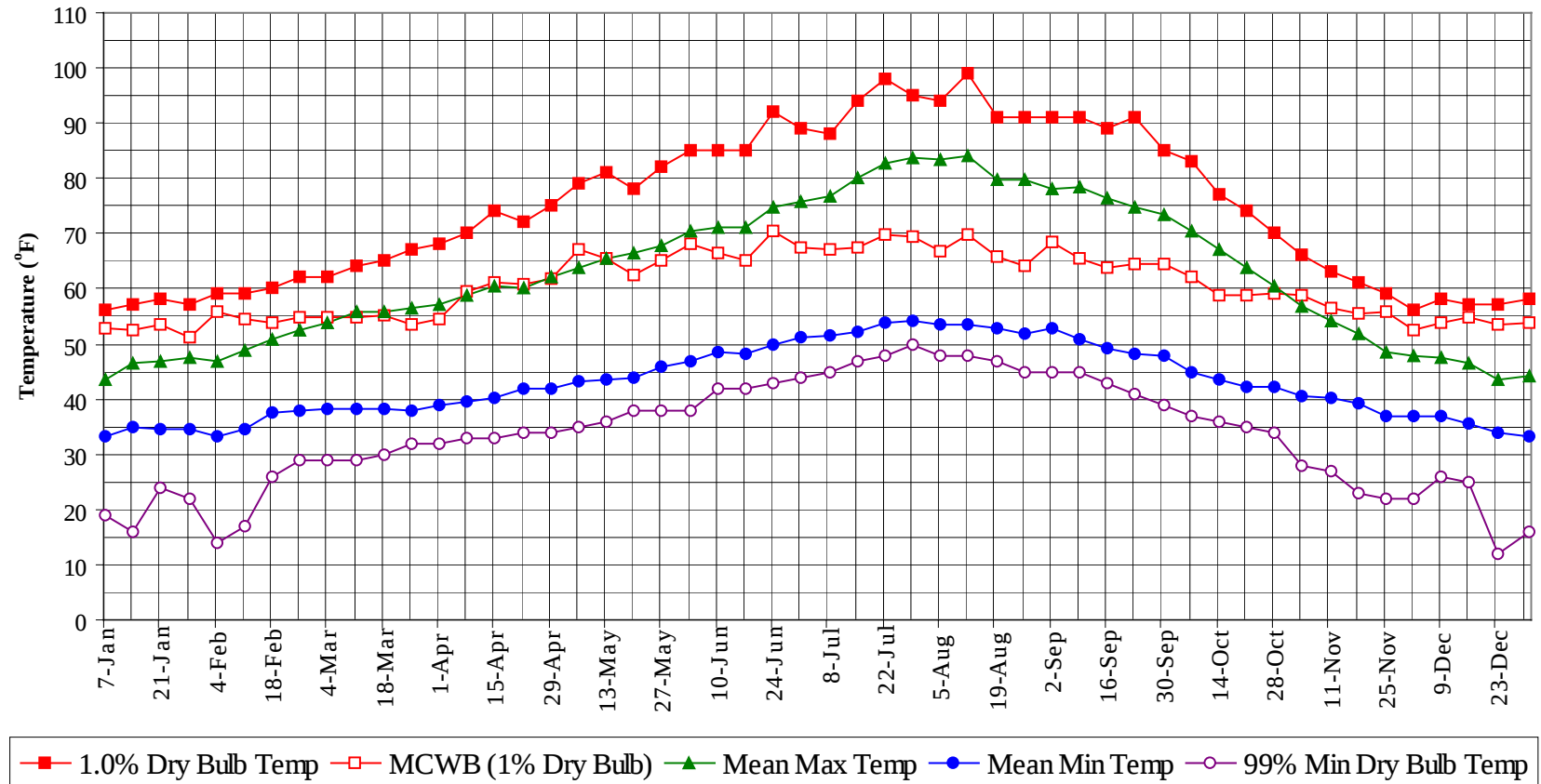
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
105 / 109		0		0	71.2
100 / 104		2	1	3	69.8
95 / 99		9	4	13	68.9
90 / 94		30	14	44	67.1
85 / 89		65	31	96	65.5
80 / 84		118	56	174	64.0
75 / 79	1	168	80	249	62.1
70 / 74	7	235	124	365	60.1
65 / 69	31	297	192	520	58.0
60 / 64	156	345	305	806	55.8
55 / 59	389	362	392	1143	53.0
50 / 54	550	424	479	1454	49.2
45 / 49	567	360	480	1407	45.2
40 / 44	486	234	368	1088	40.9
35 / 39	375	145	238	759	36.3
30 / 34	221	75	121	417	31.7
25 / 29	81	25	43	148	26.3
20 / 24	28	7	12	47	21.1
15 / 19	9	3	5	16	16.0
10 / 14	4	1	1	6	11.3
5 / 9	2	0	0	2	7.2

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.

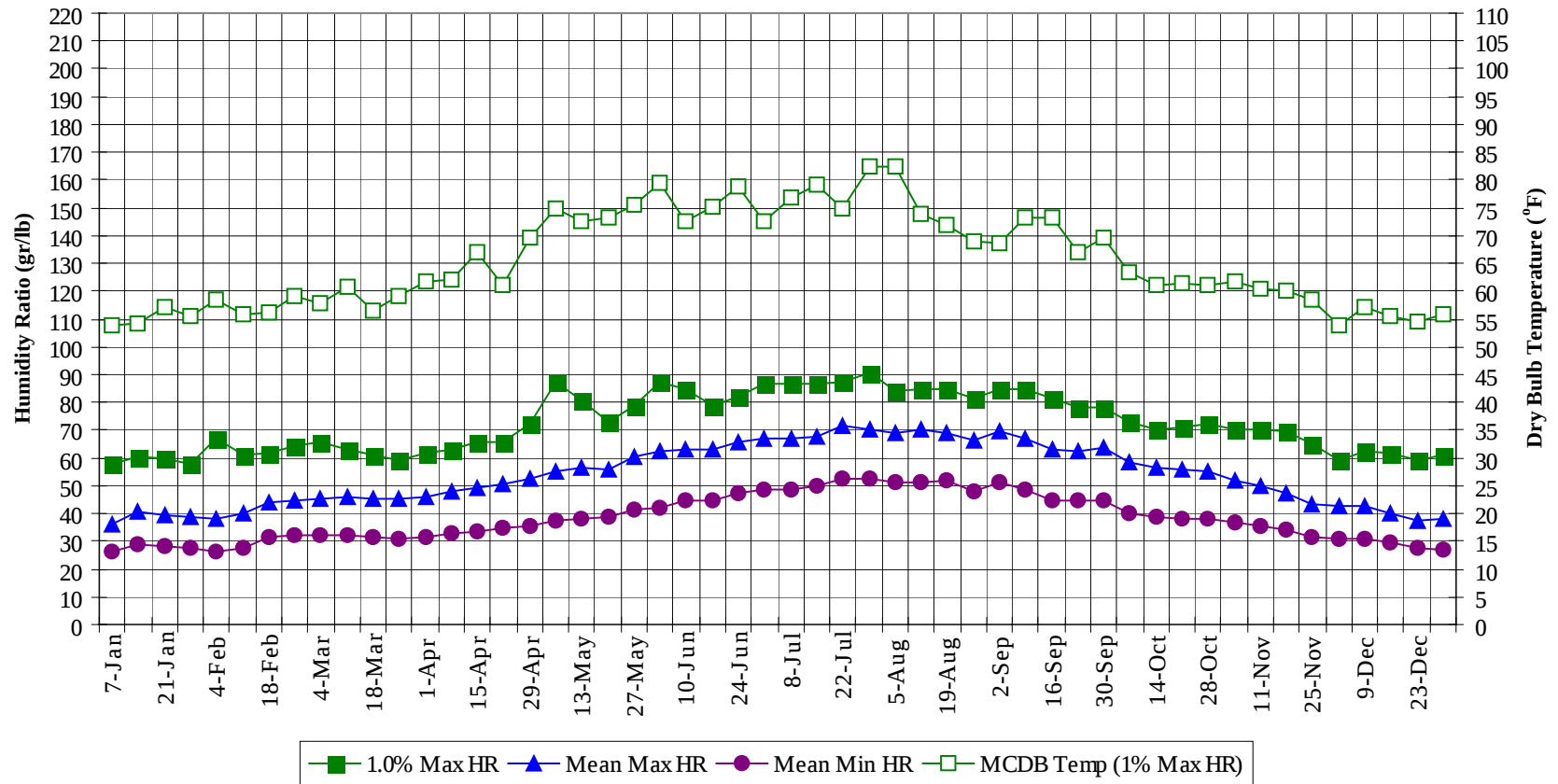
EUGENE/MAHLON SWEET OR

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



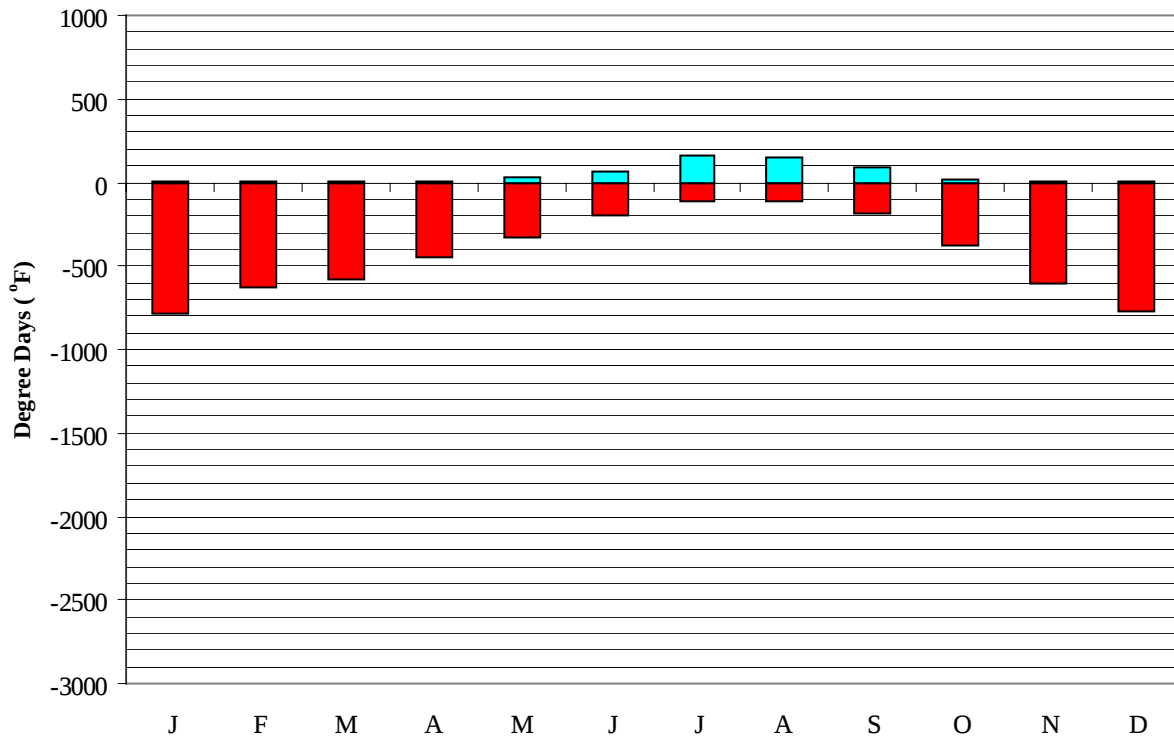
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Long Term Dry Bulb Temperature and Humidity Summary

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	56.0	52.8	43.7	33.2	19.0	58.1	53.9	36.2	26.2
14-Jan	57.0	52.4	46.6	34.9	16.0	60.2	54.3	41.0	29.0
21-Jan	58.0	53.6	46.8	34.6	24.0	59.5	57.1	39.6	28.4
28-Jan	57.0	51.2	47.5	34.4	22.0	58.1	55.4	39.1	27.8
4-Feb	59.0	55.8	47.0	33.1	14.0	67.2	58.5	38.1	26.2
11-Feb	59.0	54.4	49.0	34.7	17.0	60.9	55.8	40.3	27.9
18-Feb	60.0	54.0	51.0	37.7	26.0	61.6	56.3	44.0	31.3
25-Feb	62.0	54.8	52.5	37.9	29.0	64.4	59.3	44.9	32.1
4-Mar	62.0	55.0	53.8	38.3	29.0	65.8	57.9	45.4	32.2
11-Mar	64.0	54.8	55.8	38.3	29.0	63.0	60.7	46.3	32.5
18-Mar	65.0	55.1	55.7	38.2	30.0	60.9	56.4	45.3	31.7
25-Mar	67.0	53.6	56.4	37.9	32.0	58.8	59.0	45.3	30.9
1-Apr	68.0	54.6	57.0	38.9	32.0	61.6	61.7	45.8	31.4
8-Apr	70.0	59.4	58.7	39.7	33.0	63.0	62.2	48.1	32.7
15-Apr	74.0	61.2	60.6	40.3	33.0	65.8	66.9	49.6	33.7
22-Apr	72.0	60.7	60.0	41.7	34.0	65.8	61.2	50.3	35.1
29-Apr	75.0	61.9	62.1	41.9	34.0	72.1	69.6	52.3	35.2
6-May	79.0	67.1	63.7	43.1	35.0	87.5	74.9	55.0	37.7
13-May	81.0	65.4	65.6	43.7	36.0	80.5	72.6	56.5	38.0
20-May	78.0	62.5	66.5	44.0	38.0	72.8	73.3	56.1	38.7
27-May	82.0	65.0	67.8	45.8	38.0	79.1	75.6	60.3	41.2
3-Jun	85.0	68.1	70.4	46.8	38.0	87.5	79.6	62.3	42.2
10-Jun	85.0	66.3	71.1	48.4	42.0	84.7	72.6	62.8	44.7
17-Jun	85.0	65.3	71.3	48.3	42.0	79.1	75.2	63.0	44.6
24-Jun	92.0	70.5	74.9	50.0	43.0	81.9	78.9	65.9	47.1
1-Jul	89.0	67.6	75.7	51.1	44.0	86.8	72.5	66.8	48.8
8-Jul	88.0	67.2	76.7	51.4	45.0	86.8	76.8	66.9	48.5
15-Jul	94.0	67.3	80.1	52.1	47.0	86.8	79.3	67.4	49.6
22-Jul	98.0	69.8	82.8	53.8	48.0	87.5	74.9	71.7	52.3
29-Jul	95.0	69.5	83.7	54.3	50.0	90.3	82.4	70.5	52.4
5-Aug	94.0	66.8	83.4	53.6	48.0	84.0	82.6	69.0	51.4
12-Aug	99.0	69.8	84.2	53.5	48.0	84.7	73.9	70.2	51.4
19-Aug	91.0	65.9	79.8	52.8	47.0	84.7	71.9	69.2	51.6
26-Aug	91.0	64.2	79.9	51.7	45.0	81.2	68.8	66.6	47.9
2-Sep	91.0	68.4	78.2	52.7	45.0	84.7	68.6	69.6	51.2
9-Sep	91.0	65.4	78.5	50.8	45.0	84.7	73.3	67.2	48.3
16-Sep	89.0	63.7	76.5	49.0	43.0	81.2	73.1	62.8	44.6
23-Sep	91.0	64.4	74.9	48.4	41.0	78.4	67.1	62.1	44.8
30-Sep	85.0	64.5	73.5	47.9	39.0	78.4	69.5	63.5	44.9
7-Oct	83.0	62.3	70.5	44.9	37.0	72.8	63.5	58.3	40.2
14-Oct	77.0	58.8	67.2	43.7	36.0	70.0	61.1	56.4	38.7
21-Oct	74.0	58.9	63.9	42.3	35.0	70.7	61.6	55.7	38.2
28-Oct	70.0	59.0	60.5	42.2	34.0	72.1	61.1	54.9	38.3
4-Nov	66.0	58.8	56.9	40.7	28.0	70.0	61.6	52.1	36.6
11-Nov	63.0	56.5	54.1	40.1	27.0	70.0	60.3	49.6	35.8
18-Nov	61.0	55.6	51.9	39.1	23.0	69.3	60.2	47.0	34.1
25-Nov	59.0	55.7	48.6	37.1	22.0	65.1	58.6	43.5	31.3
2-Dec	56.0	52.6	48.0	37.0	22.0	58.8	53.8	42.6	31.1
9-Dec	58.0	53.8	47.6	36.9	26.0	62.3	57.0	42.8	31.0
16-Dec	57.0	54.9	46.6	35.6	25.0	61.6	55.6	40.3	29.5
23-Dec	57.0	53.7	43.6	33.8	12.0	58.8	54.4	37.2	27.6
31-Dec	58.0	53.9	44.3	33.2	16.0	60.9	55.9	37.9	26.9

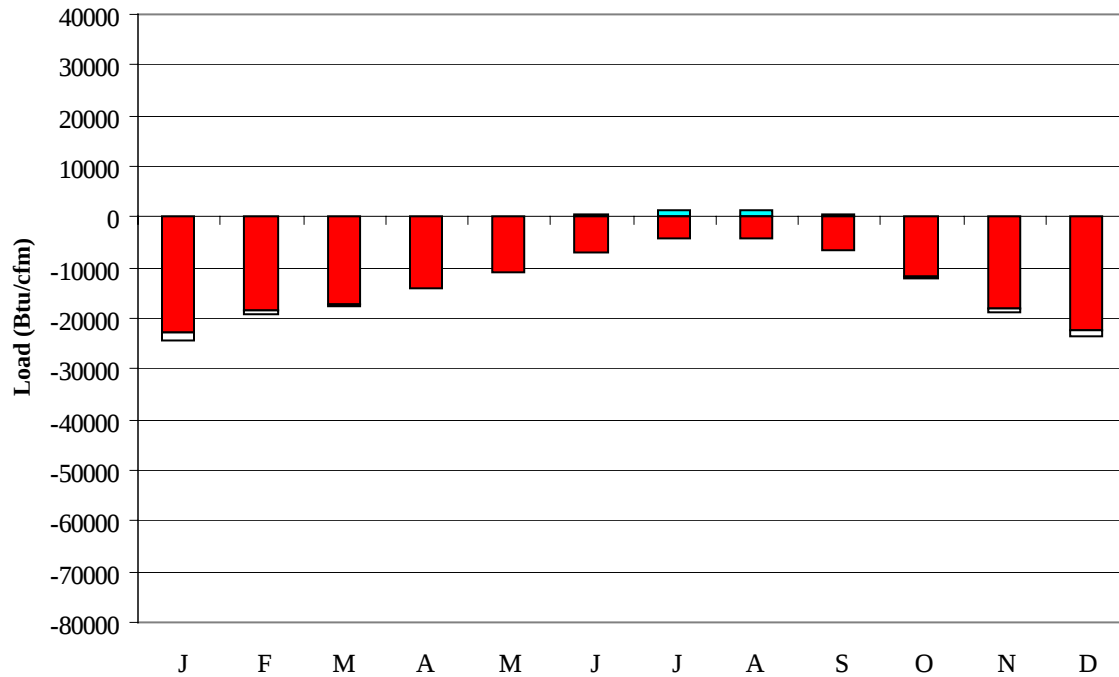
Degree Days, Heating and Cooling
(Base 65°F)



■ Mean Cooling Degree Days
 ■ Mean Heating Degree Days

	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	780
FEB	0	628
MAR	1	575
APR	7	454
MAY	31	334
JUN	71	195
JUL	162	115
AUG	153	113
SEP	87	188
OCT	16	375
NOV	0	607
DEC	0	770
ANN	528	5134

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

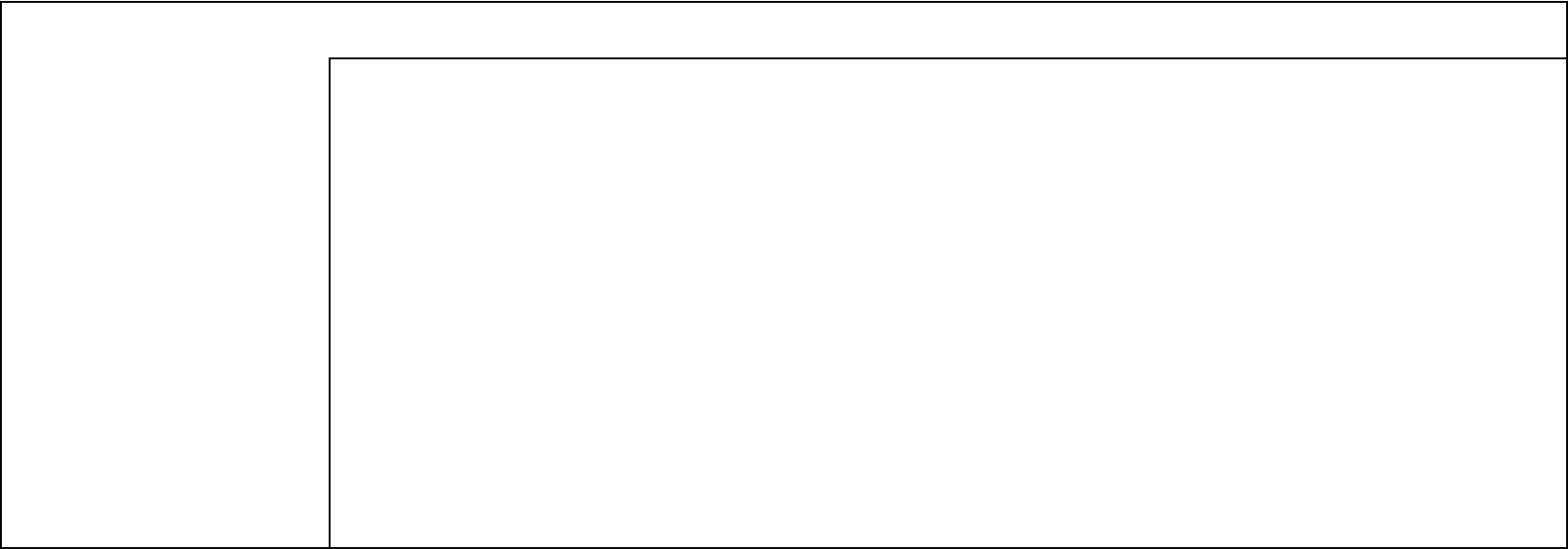


■ Average Sensible Cooling Load	■ Average Sensible Heating Load
■ Average Latent Cooling (Drying) Load	■ Average Latent Heating (Humidifying) Load

	Average Sensible Cooling Load (Btu/cfm)	Average Sensible Heating Load (Btu/cfm)	Average Latent Cooling Load (Btu/cfm)	Average Latent Heating Load (Btu/cfm)
JAN	0	-22633	0	-1598
FEB	0	-18455	0	-936
MAR	0	-17289	0	-382
APR	7	-13990	4	-122
MAY	119	-10753	48	-28
JUN	448	-6809	54	-2
JUL	1396	-4305	101	-4
AUG	1268	-4281	46	-9
SEP	623	-6527	26	-32
OCT	56	-11849	3	-121
NOV	0	-18054	0	-573
DEC	0	-22378	0	-1187
ANN	3917	-157323	282	-4994

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

No Solar Radiation
Data Available

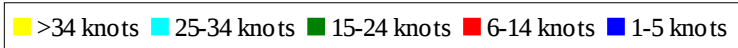
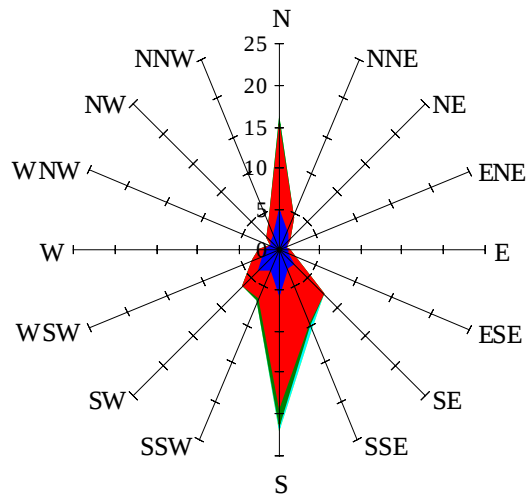


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

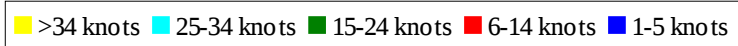
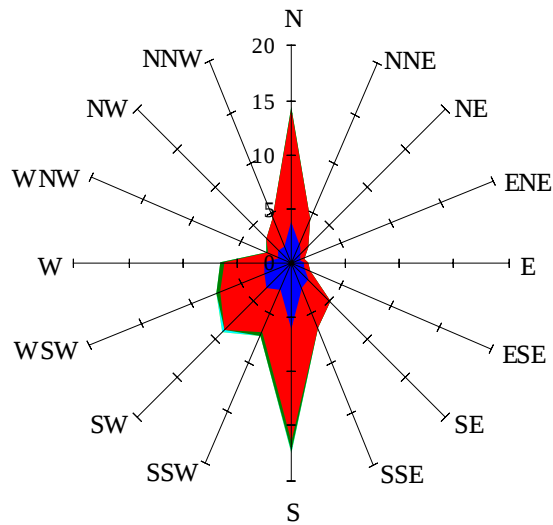
Labels of Percent Frequency on North Axis



Percent Calm = 9.77

Wind Summary - March, April, and May

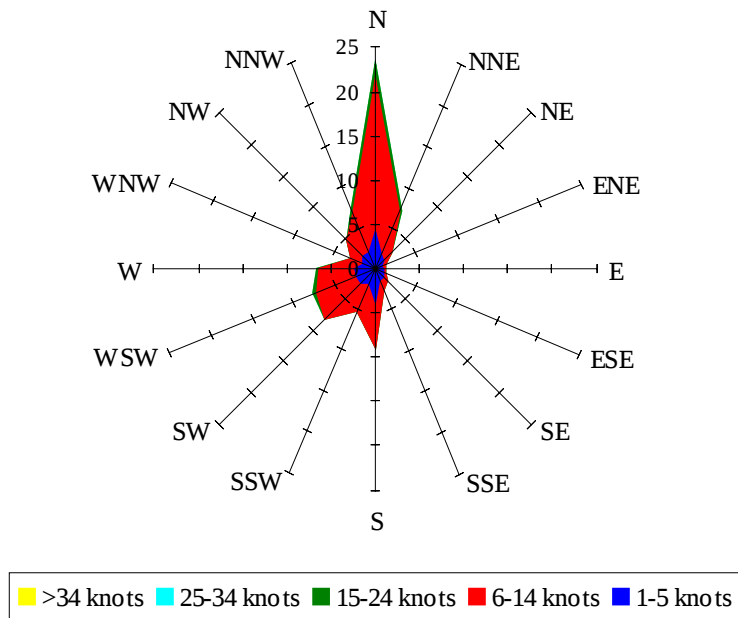
Labels of Percent Frequency on North Axis



Percent Calm = 7.16

Wind Summary - June, July, and August

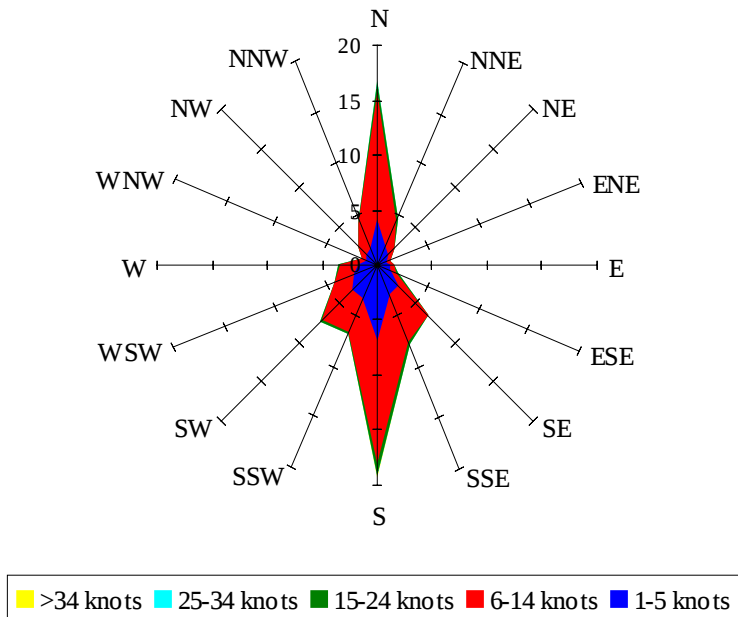
Labels of Percent Frequency on North Axis



Percent Calm = 8.55

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 10.19