

REDMOND OR

Latitude = 44.25 N

Longitude = 121.10 W

Period of Record = 1973 to 1996

WMO No. 726835

Elevation = 3078 feet

Average Pressure = 26.82 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	99	64	41	11.9	NNW
0.4% Occurrence	93	62	42	11.1	N
1.0% Occurrence	89	60	42	10.8	N
2.0% Occurrence	86	59	41	10.5	N
Mean Daily Range	26	-	-	-	-
97.5% Occurrence	17	16	12	4.7	S
99.0% Occurrence	9	8	7	5.3	NW
99.6% Occurrence	1	0	5	5.6	NW
Median of Extreme Lows	-7	-7	3	5.6	S
	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	89	66	10.7	NNW
0.4% Occurrence	63	87	55	10.7	NNW
1.0% Occurrence	62	86	53	10.4	NNW
2.0% Occurrence	60	82	49	9.9	NNW
	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	83	70	0.50	6.9	W
0.4% Occurrence	69	67	0.42	6.9	NW
1.0% Occurrence	64	66	0.39	7.0	NW
2.0% Occurrence	60	66	0.36	7.2	NW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		36	428	0	3

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	1.0	85	0.0 + 0.4
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 (#)
49.7	N/A	N/A	125

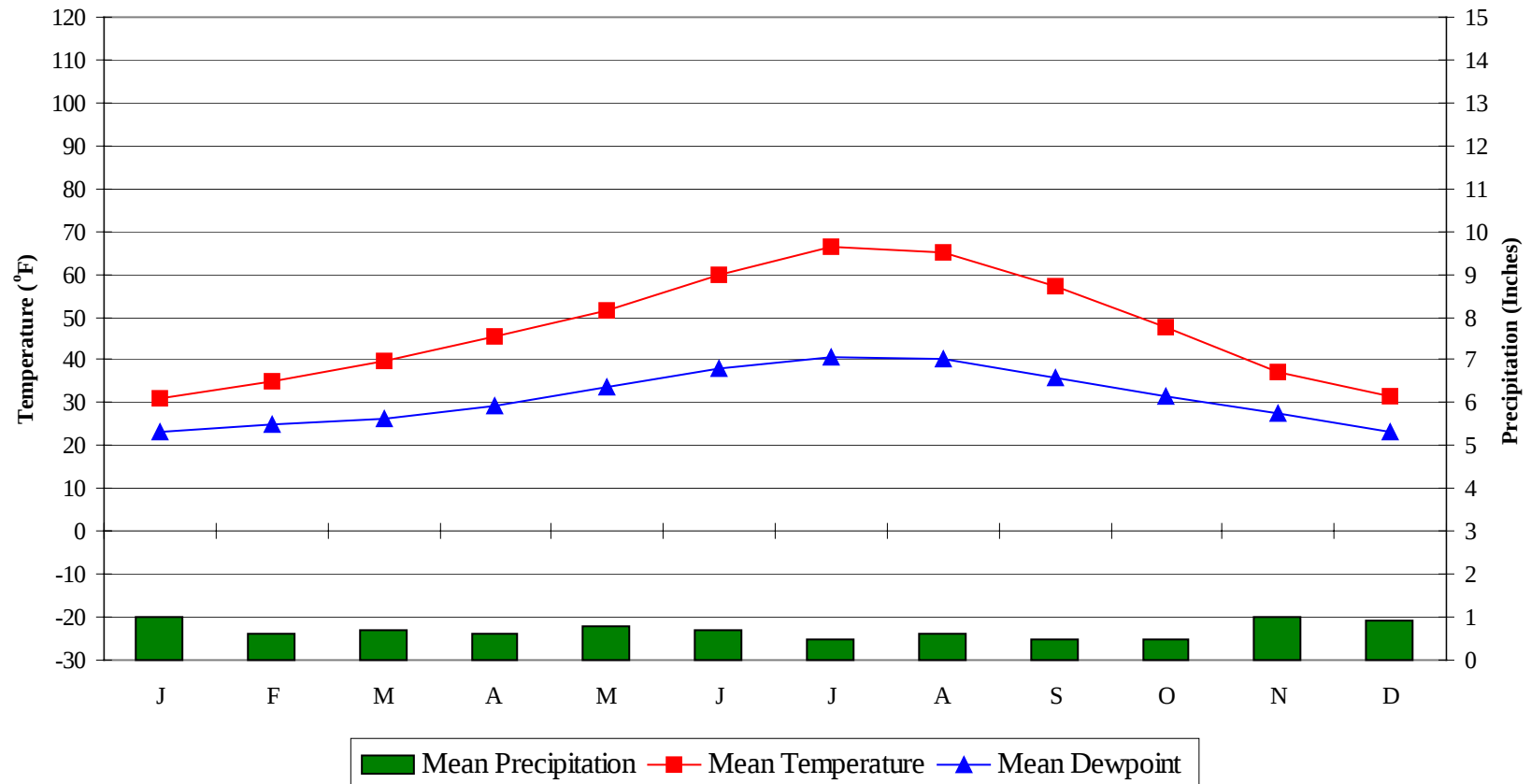
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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Average Annual Climate

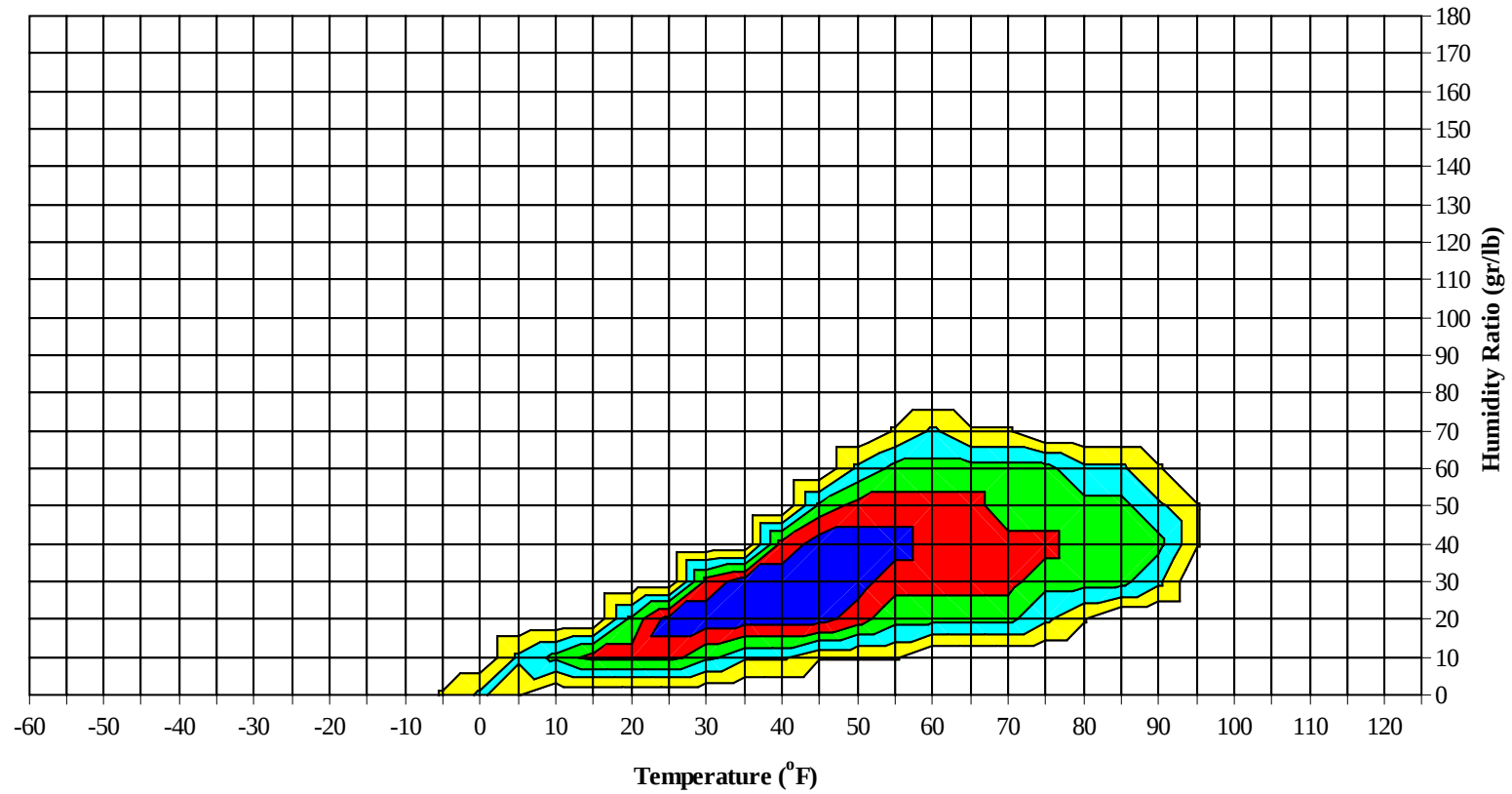


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Long Term Psychrometric Summary



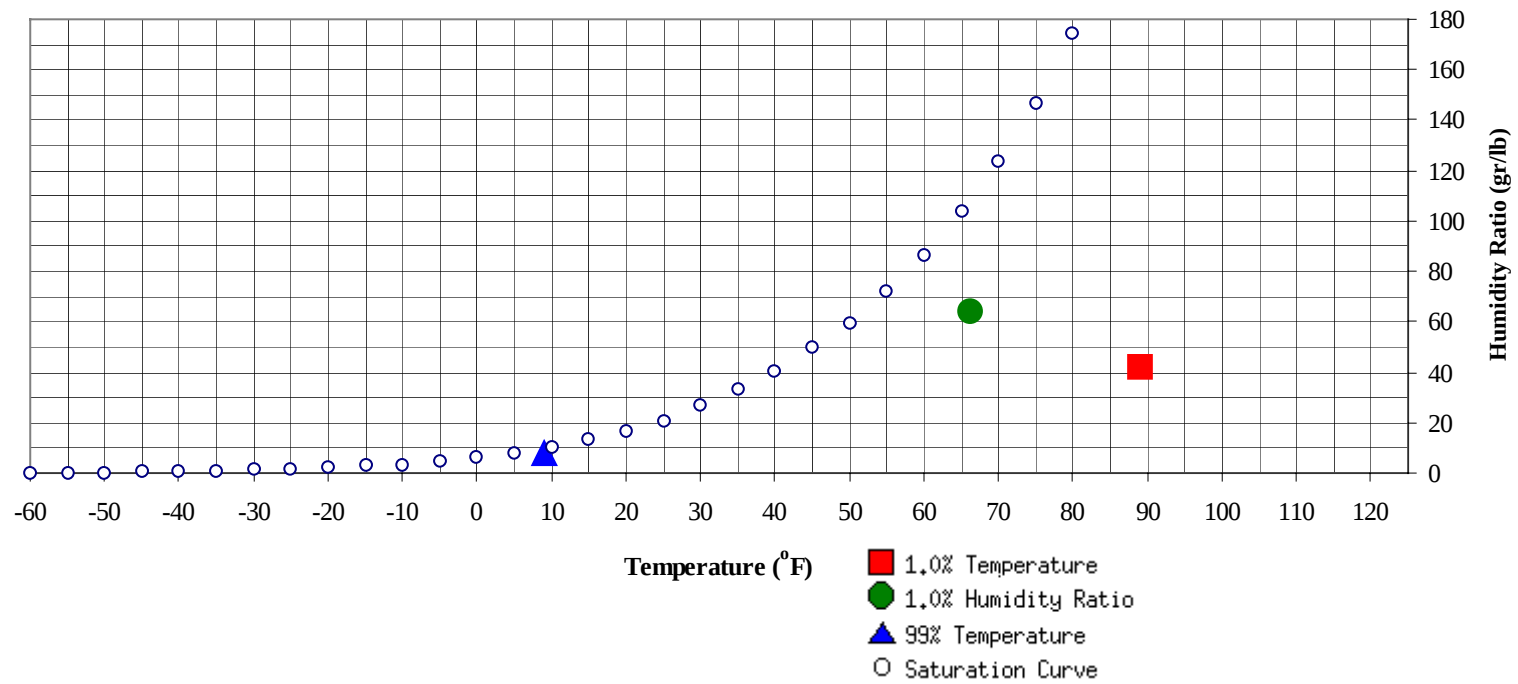
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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)
	9	7.6	3.3		64.4	66.3	57.4	52	25.9

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	89	42.3	60.6	28.0

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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								0	0	59.0					
95 / 99								0	0	57.0	0			0	62.0
90 / 94								0	0		0			0	60.4
85 / 89								0	0		0			0	59.0
80 / 84								0	0		0			0	56.5
75 / 79								0	0		0	0		0	49.0
70 / 74							1	0	1	52.2	0	3	0	3	49.8
65 / 69		0		0	47.0		2	0	2	49.2	0	6	2	8	48.1
60 / 64		1		1	45.5		5	1	6	47.3	0	14	3	17	46.2
55 / 59	0	7	0	7	45.4	0	13	3	16	45.7	0	23	9	32	44.0
50 / 54	1	15	4	20	42.8	2	26	9	37	42.8	3	45	19	67	41.8
45 / 49	9	34	13	56	39.7	8	40	23	71	39.9	11	56	35	102	39.1
40 / 44	20	45	30	96	36.7	25	46	38	109	36.8	27	54	58	139	36.4
35 / 39	32	41	50	123	33.3	33	35	44	112	33.1	54	31	53	137	33.1
30 / 34	53	43	57	153	29.6	51	25	46	122	29.5	63	13	46	122	29.1
25 / 29	44	22	36	103	25.3	45	14	29	88	25.5	51	3	20	74	24.9
20 / 24	34	14	24	73	20.9	31	9	15	55	20.8	30	0	4	34	20.6
15 / 19	22	10	12	44	16.1	16	4	7	27	16.0	8		0	8	16.3
10 / 14	14	7	9	30	11.2	5	2	3	10	11.1	1		0	1	11.0
5 / 9	7	5	6	18	6.2	3	1	1	5	6.2					
0 / 4	5	2	4	11	1.3	2	1	1	4	1.2					
-5 / -1	2	1	1	4	-3.0	1	0	1	2	-3.1					
-10 / -6	2	0	1	3	-7.8	2	0	1	3	-6.7					
-15 / -11	1		0	1	-12.1	1		0	1	-12.0					
-20 / -16	0			0	-16.5	0			0	-16.7					
-25 / -21															

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															
105 / 109															
100 / 104															
95 / 99		0		0	60.7		0		0	65.3		0	0	0	61.7
90 / 94		0		0	61.0		1	0	1	64.3		0	5	1	6
85 / 89		0		0	57.0		4	1	5	60.4		0	17	5	22
80 / 84		2	0	2	56.5		9	3	12	57.7		0	26	11	37
75 / 79	0	6	2	8	54.2	0	14	5	19	56.0	0	32	15	47	55.9
70 / 74	0	13	3	16	51.8	1	24	10	35	53.3	3	39	21	63	54.0
65 / 69	0	17	7	24	49.7	2	31	15	48	50.8	9	36	30	75	52.0
60 / 64	1	25	11	37	47.5	5	42	24	71	48.5	17	36	35	88	50.1
55 / 59	3	35	20	58	44.9	12	46	33	91	46.2	32	27	40	99	47.9
50 / 54	9	51	30	90	42.4	30	45	45	120	43.8	50	17	37	104	45.3
45 / 49	24	53	47	124	39.8	43	25	46	114	41.0	55	4	29	88	42.1
40 / 44	48	29	50	127	36.9	58	8	39	105	37.6	40	0	12	52	38.4
35 / 39	55	9	39	103	33.2	45	1	19	65	33.8	24		3	27	34.4
30 / 34	50	1	24	75	29.5	35	0	6	41	29.7	9		0	9	30.1
25 / 29	32	0	7	39	25.1	14	0	1	15	25.7	1		0	1	25.7
20 / 24	14		1	15	21.0	3	0	0	3	21.5			0	0	
15 / 19	3			3	16.8	0	0	0	0	16.0			0	0	
10 / 14							0	0	0						
5 / 9							0	0	0	7.0					
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															

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 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						
105 / 109						0			0						
100 / 104		1		1	64.3	1	0	1	64.4						
95 / 99		7	2	9	62.8	5	1	6	63.2			0	0	0	61.3
90 / 94		23	8	31	61.5	20	6	26	61.2			4	0	4	59.9
85 / 89		35	14	49	59.8	30	11	41	60.0			16	3	19	58.3
80 / 84	0	43	22	65	58.3	43	19	62	58.0			24	7	31	57.1
75 / 79	2	41	25	68	56.7	1	44	25	70	56.2		30	11	41	55.2
70 / 74	9	38	34	80	55.1	5	39	32	76	54.8	0	34	18	52	53.4
65 / 69	17	27	37	80	53.4	11	31	38	80	53.2	2	35	24	61	51.4
60 / 64	31	20	41	91	51.5	29	23	43	95	51.2	8	40	34	82	49.3
55 / 59	51	10	34	94	49.0	47	10	38	95	49.1	19	31	42	92	47.0
50 / 54	63	3	21	87	46.2	65	2	27	94	46.2	42	19	44	105	44.9
45 / 49	46	1	8	55	42.7	50	0	8	58	42.2	59	6	35	100	41.6
40 / 44	21		2	23	39.1	29		2	31	38.4	52	1	16	69	38.1
35 / 39	8		0	8	34.6	9		0	9	34.5	33	0	7	40	33.8
30 / 34	1			1	31.0	1			1	29.2	19		1	20	29.9
25 / 29											5		0	5	25.2
20 / 24											0			0	20.9
15 / 19											0			0	
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															

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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															
95 / 99															
90 / 94		0		0	58.8										
85 / 89		1	0	1	57.3										
80 / 84		6	1	7	55.8										
75 / 79		11	1	12	54.1		0		0	55.4					
70 / 74		19	3	22	52.3		1	0	1	51.8					
65 / 69	0	28	7	35	50.0		4	0	4	50.2		0		0	51.0
60 / 64	1	41	15	57	48.0		9	1	10	48.3		2	0	2	48.5
55 / 59	6	41	27	74	45.9	1	15	4	20	46.3	0	7	1	8	45.1
50 / 54	20	40	42	102	43.6	8	30	13	51	43.9	3	17	6	26	42.7
45 / 49	33	36	48	117	40.8	17	46	26	89	40.6	11	29	14	54	40.0
40 / 44	53	15	48	116	37.6	30	52	39	121	37.2	18	47	26	91	36.8
35 / 39	54	6	32	92	33.6	42	38	54	134	33.6	30	46	41	117	33.1
30 / 34	45	2	18	65	29.6	49	25	50	124	29.8	47	41	56	144	29.4
25 / 29	26	1	5	32	25.0	43	10	29	82	25.6	50	30	47	127	25.4
20 / 24	8	0	1	9	20.8	25	5	13	43	20.8	40	15	32	87	21.2
15 / 19	2	0	0	2	16.3	12	2	6	20	15.9	22	6	14	42	16.3
10 / 14	1		0	1	11.5	6	2	2	10	10.8	13	3	6	22	11.4
5 / 9	0			0	9.0	3	1	2	6	6.7	6	2	3	11	6.5
0 / 4						1	0	1	2	1.3	3	2	1	6	1.6
-5 / -1						1	0	0	1	-3.0	2	1	2	5	-3.0
-10 / -6						1		0	1	-7.3	1	1	1	3	-7.2
-15 / -11						0			0	-11.0	1	0	0	1	-11.7
-20 / -16											0	0	0	0	-16.4
-25 / -21											0			0	-22.0

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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	0			0	
105 / 109	0			0	
100 / 104	1			0	64.1
95 / 99	0	14	3	17	62.8
90 / 94	0	52	15	67	61.3
85 / 89	0	101	34	135	59.6
80 / 84	0	151	63	214	57.8
75 / 79	4	175	82	261	56.0
70 / 74	17	208	119	344	54.0
65 / 69	40	213	157	410	51.9
60 / 64	91	255	205	551	49.6
55 / 59	169	263	247	679	47.1
50 / 54	293	311	294	898	44.2
45 / 49	364	332	331	1027	40.7
40 / 44	421	302	362	1085	37.2
35 / 39	419	210	344	973	33.4
30 / 34	424	153	307	884	29.5
25 / 29	313	82	179	574	25.3
20 / 24	189	44	92	325	20.9
15 / 19	86	23	40	149	16.1
10 / 14	40	15	21	76	11.2
5 / 9	20	9	13	42	6.4
0 / 4	11	5	8	24	1.4
-5 / -1	6	2	4	12	-3.0
-10 / -6	7	1	3	11	-7.3
-15 / -11	3	0	1	4	-11.9
-20 / -16	1	0	0	1	-16.5
-25 / -21	0			0	-22.0

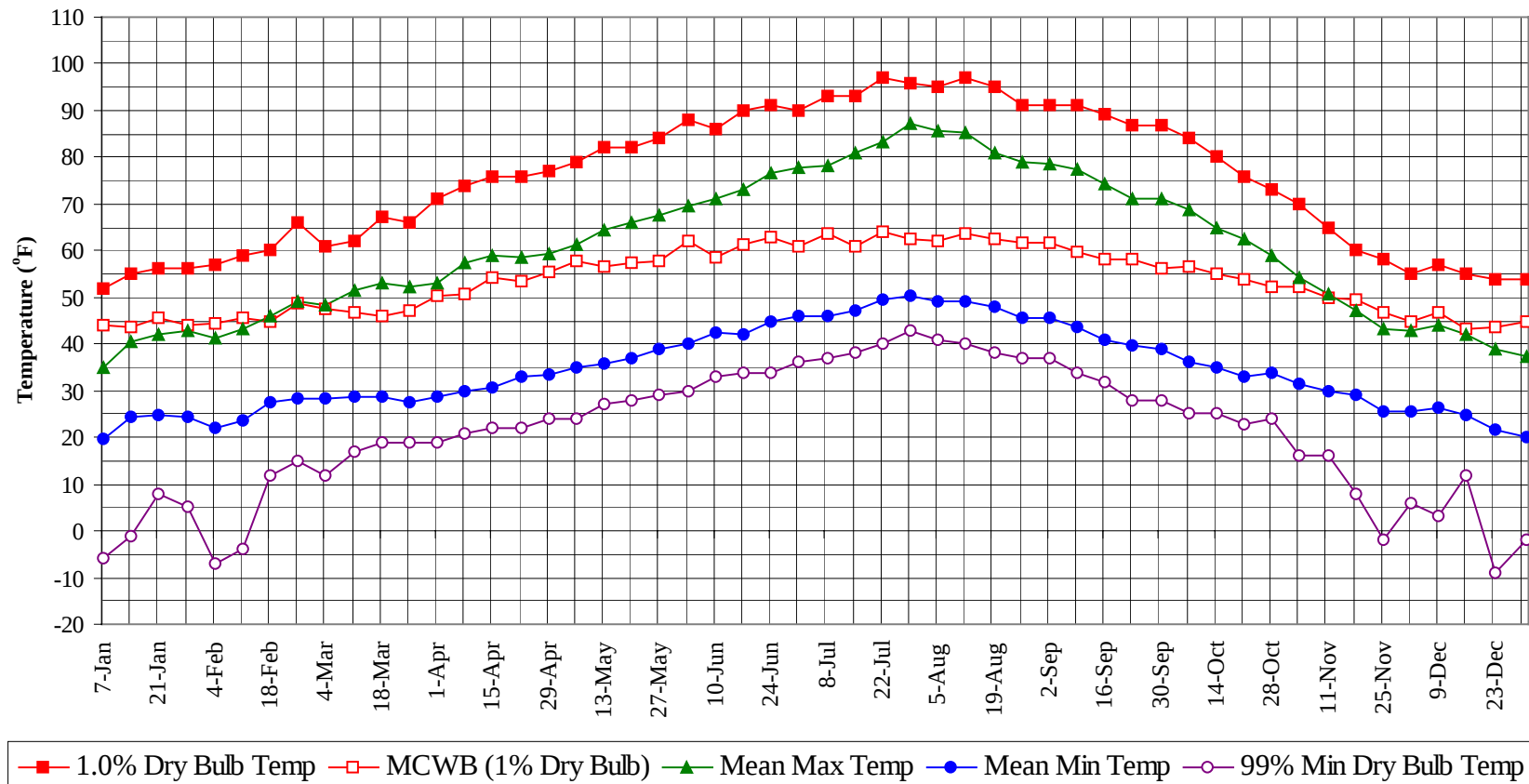
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

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Annual Summary of Temperatures

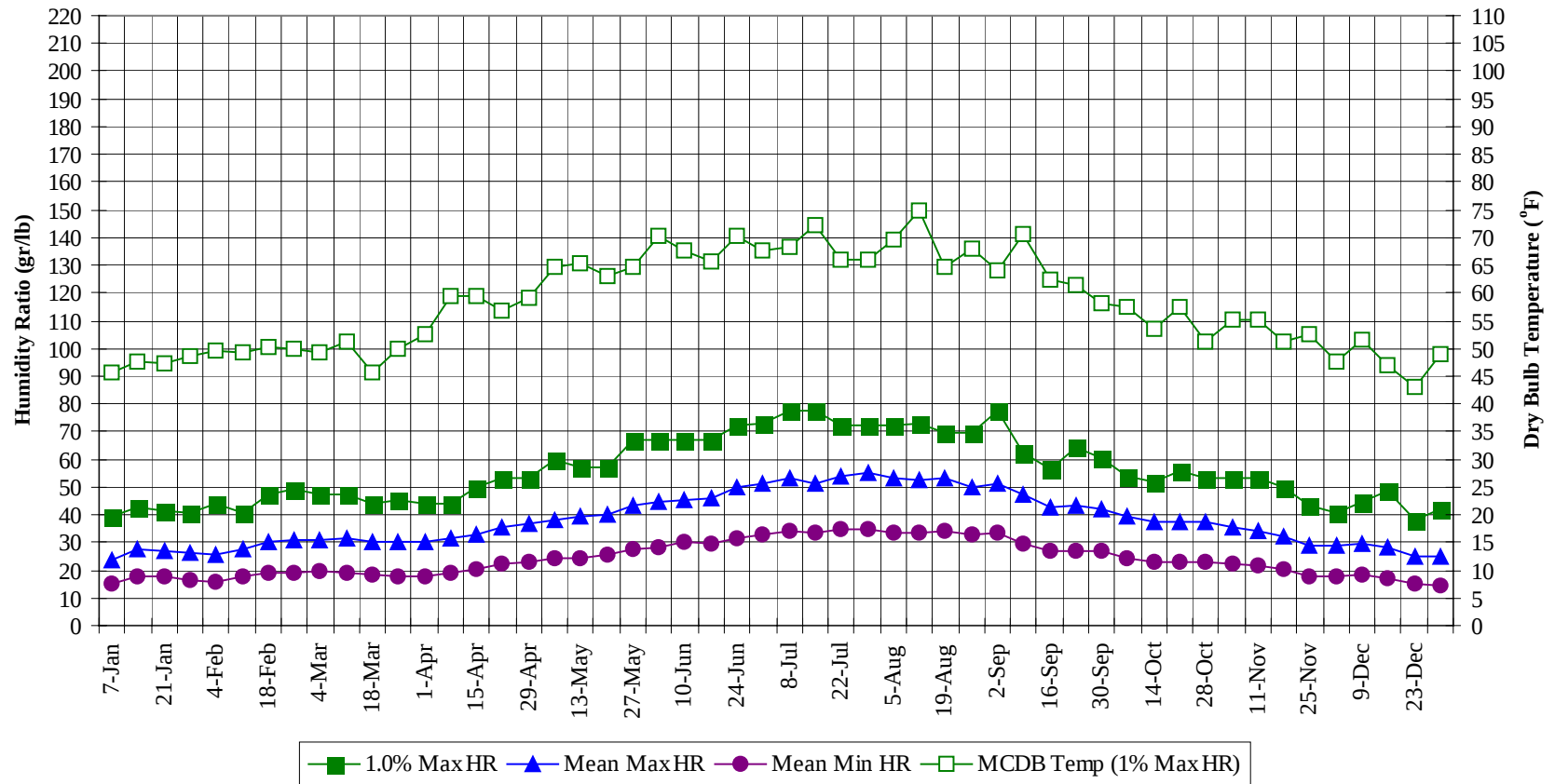


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Long Term Humidity and Dry Bulb Temperature Summary



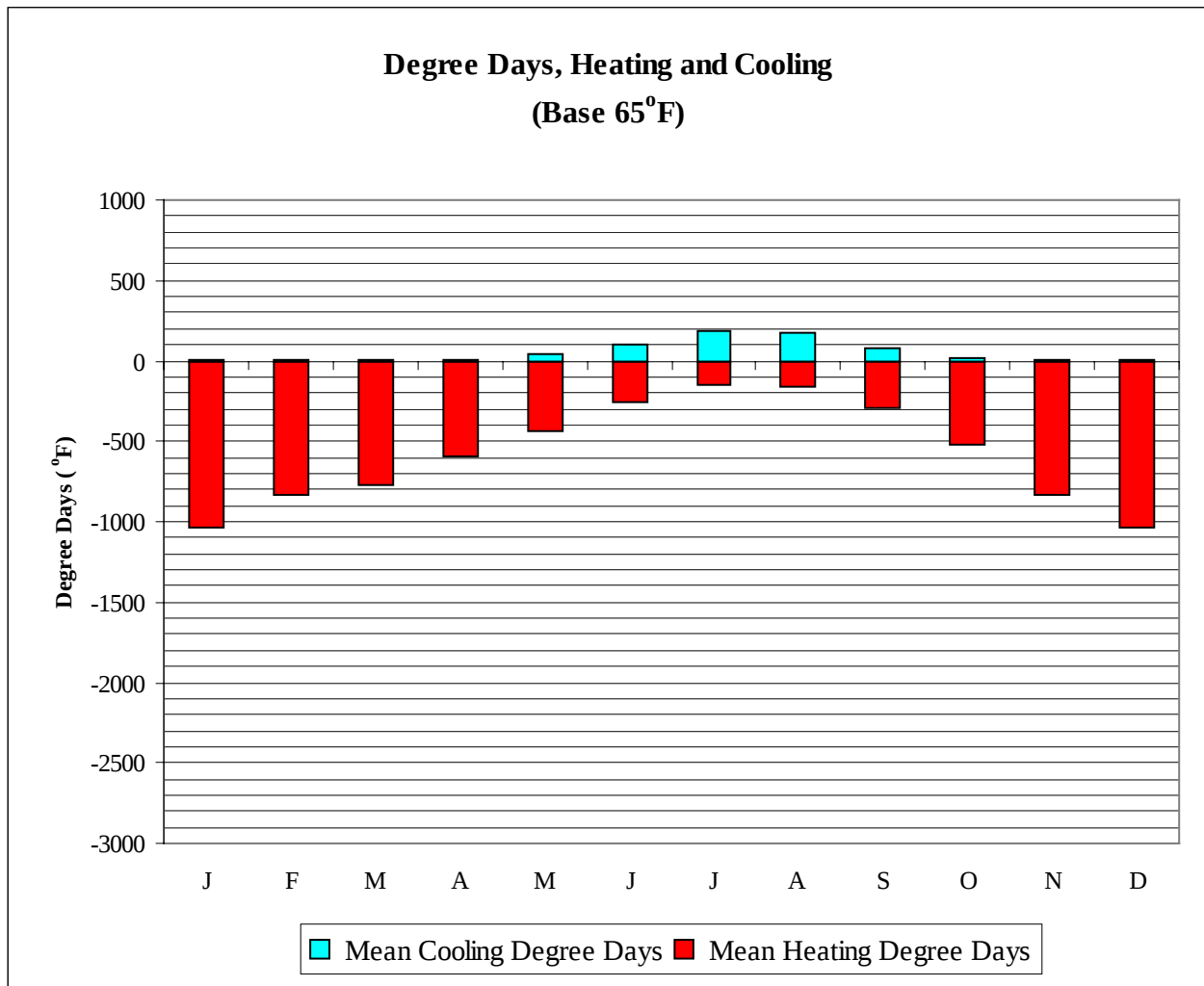
REDMOND**OR****WMO No. 726835****Long Term Dry Bulb Temperature and Humidity Summary**

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	44.2	34.9	19.8	-6.0	39.2	45.8	23.5	15.1
14-Jan	55.0	43.6	40.5	24.2	-1.0	42.7	47.6	27.5	17.6
21-Jan	56.0	45.5	41.9	24.8	8.0	41.3	47.3	27.2	18.0
28-Jan	56.0	44.0	42.8	24.2	5.0	40.6	48.6	26.3	16.6
4-Feb	57.0	44.4	41.1	21.9	-7.0	44.1	49.5	25.3	15.5
11-Feb	59.0	45.6	43.2	23.5	-4.0	40.6	49.3	27.7	17.6
18-Feb	60.0	45.0	46.1	27.4	12.0	47.6	50.1	30.3	18.9
25-Feb	66.0	48.6	49.2	28.3	15.0	49.0	49.9	30.8	19.3
4-Mar	61.0	47.4	48.4	28.4	12.0	47.6	49.4	31.1	19.7
11-Mar	62.0	46.9	51.5	28.7	17.0	47.6	51.1	31.3	19.1
18-Mar	67.0	46.1	53.1	28.7	19.0	44.1	45.8	30.4	18.6
25-Mar	66.0	47.2	52.4	27.7	19.0	45.5	49.9	29.9	18.0
1-Apr	71.0	50.1	52.9	28.6	19.0	44.1	52.5	30.4	18.0
8-Apr	74.0	50.9	57.4	29.8	21.0	44.1	59.4	31.8	19.0
15-Apr	76.0	54.2	59.1	30.7	22.0	49.7	59.5	33.2	20.1
22-Apr	76.0	53.3	58.7	32.8	22.0	53.2	57.0	35.5	22.4
29-Apr	77.0	55.3	59.5	33.5	24.0	53.2	59.3	37.0	22.8
6-May	79.0	57.8	61.1	35.0	24.0	59.5	64.7	37.9	24.1
13-May	82.0	56.7	64.4	35.9	27.0	57.4	65.5	39.2	24.1
20-May	82.0	57.3	65.9	36.9	28.0	57.4	63.1	40.1	25.4
27-May	84.0	57.7	67.5	39.1	29.0	67.2	64.5	43.6	27.8
3-Jun	88.0	62.3	69.6	40.0	30.0	67.2	70.3	44.6	28.3
10-Jun	86.0	58.7	71.0	42.3	33.0	67.2	67.5	45.3	30.0
17-Jun	90.0	61.2	73.0	42.1	34.0	67.2	65.6	45.7	29.4
24-Jun	91.0	63.0	76.5	44.6	34.0	72.1	70.2	49.8	31.8
1-Jul	90.0	60.9	77.9	46.0	36.0	72.8	67.6	51.3	32.6
8-Jul	93.0	63.5	78.1	45.9	37.0	77.7	68.3	53.5	34.3
15-Jul	93.0	61.1	81.0	47.3	38.0	77.7	72.4	51.0	33.2
22-Jul	97.0	64.1	83.2	49.5	40.0	72.1	65.9	54.0	34.8
29-Jul	96.0	62.6	87.1	50.2	43.0	72.1	65.9	55.1	35.1
5-Aug	95.0	62.0	85.7	49.1	41.0	72.1	69.5	52.9	33.4
12-Aug	97.0	63.5	85.4	49.3	40.0	72.8	74.8	52.7	33.5
19-Aug	95.0	62.4	80.9	47.8	38.0	69.3	64.8	53.3	34.5
26-Aug	91.0	61.5	78.9	45.8	37.0	69.3	68.1	49.8	32.5
2-Sep	91.0	61.7	78.6	45.8	37.0	77.7	63.9	51.1	33.5
9-Sep	91.0	59.6	77.4	43.6	34.0	62.3	70.4	47.3	29.8
16-Sep	89.0	58.3	74.3	40.8	32.0	56.7	62.3	42.8	27.0
23-Sep	87.0	58.3	71.0	39.6	28.0	64.4	61.5	43.3	27.1
30-Sep	87.0	56.4	71.1	38.9	28.0	60.2	58.0	41.8	26.8
7-Oct	84.0	56.5	68.6	36.1	25.0	53.9	57.4	39.3	24.3
14-Oct	80.0	55.1	64.8	35.0	25.0	51.8	53.6	37.6	22.9
21-Oct	76.0	54.0	62.5	33.1	23.0	56.0	57.3	37.3	22.9
28-Oct	73.0	52.3	59.1	33.8	24.0	53.2	51.4	37.3	23.1
4-Nov	70.0	52.5	54.1	31.5	16.0	53.2	55.1	35.5	22.0
11-Nov	65.0	50.0	50.5	29.7	16.0	53.2	55.3	33.9	21.7
18-Nov	60.0	49.7	47.1	28.9	8.0	49.7	51.3	32.4	20.6
25-Nov	58.0	46.9	43.1	25.4	-2.0	43.4	52.6	29.2	18.0
2-Dec	55.0	44.9	42.8	25.8	6.0	40.6	47.6	28.8	18.0
9-Dec	57.0	46.8	43.9	26.4	3.0	44.8	51.6	29.6	18.5
16-Dec	55.0	43.3	42.2	24.6	12.0	48.3	46.9	27.9	17.2
23-Dec	54.0	43.4	39.0	21.7	-9.0	37.8	43.1	24.8	15.4
31-Dec	54.0	44.9	37.5	20.1	-2.0	42.0	49.0	25.1	14.7

REDMOND

OR

WMO No. 726835



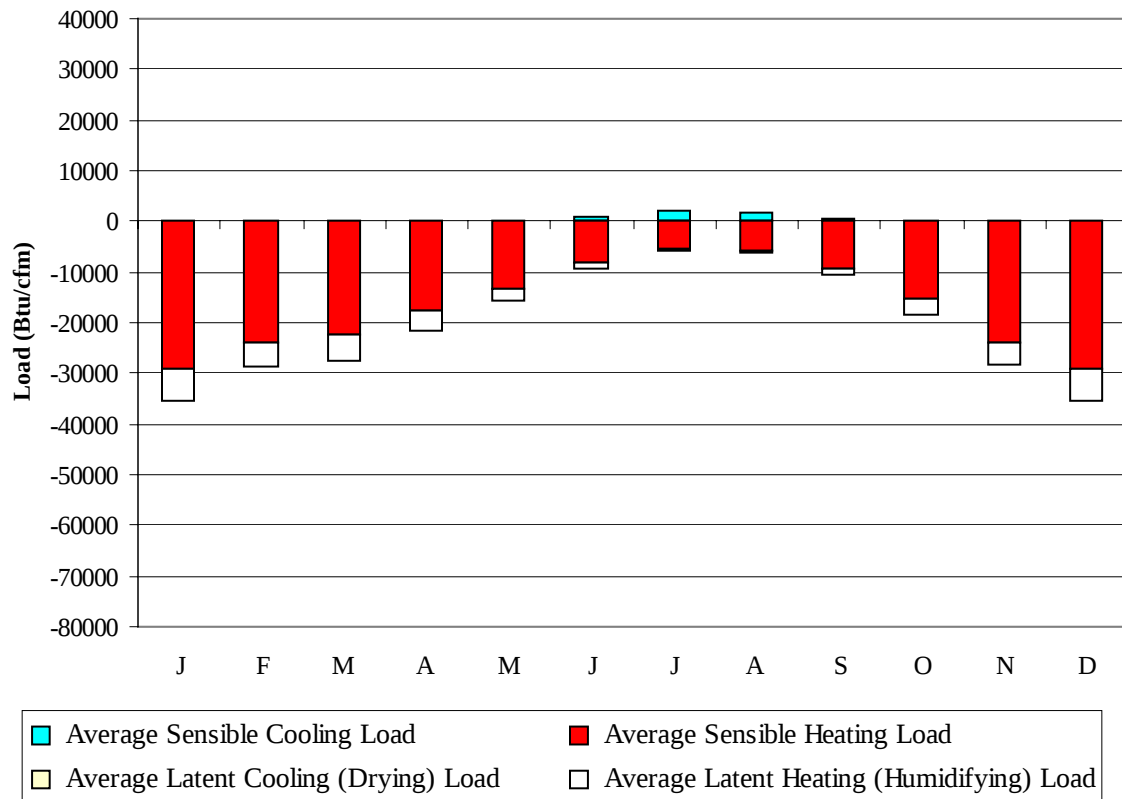
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1035
FEB	0	836
MAR	2	769
APR	11	598
MAY	36	436
JUN	97	255
JUL	191	154
AUG	173	167
SEP	77	292
OCT	18	516
NOV	1	830
DEC	0	1030
ANN	606	6918

REDMOND

OR

WMO No. 726835

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	-29218	0	-6142
FEB	2	-23831	0	-5011
MAR	8	-22299	0	-5082
APR	32	-17710	0	-3879
MAY	207	-13361	0	-2360
JUN	737	-8207	1	-1078
JUL	1910	-5211	4	-537
AUG	1659	-5635	4	-637
SEP	568	-9195	0	-1495
OCT	75	-15430	0	-2859
NOV	0	-23823	0	-4419
DEC	0	-29098	0	-6157
ANN	5198	-203018	9	-39656

Average Annual Solar Radiation – Nearest Available Site

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

City: REDMOND
 State: OR
 WBAN No: 24230
 Lat(N): 44.27
 Long(W): 121.15
 Elev(ft): 3084

Stn Type: Primary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.657
 Vert Gap: 0.331

AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day), Percentage Uncertainty = 9		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Global	520	780	1200	1660	2050	2280	2410	2080	1600	1050	590	440	1390
	Std Dev	42	73	80	112	119	128	112	133	108	79	49	43	37
	Minimum	450	610	1020	1360	1770	2000	2160	1790	1390	880	490	370	1300
	Maximum	600	930	1390	1880	2240	2490	2650	2290	1800	1220	680	530	1470
	Diffuse	290	410	570	720	790	770	610	560	470	380	320	250	510
Clear Day	Global	740	1100	1640	2200	2600	2760	2670	2330	1820	1250	810	640	1720
NORTH	Global	170	250	350	460	590	700	650	500	360	270	190	150	390
	Diffuse	170	250	350	450	520	550	510	450	360	270	190	150	350
Clear Day	Global	150	210	290	410	600	740	670	470	320	230	160	130	360
EAST	Global	370	540	800	1060	1260	1370	1450	1310	1060	740	410	320	890
	Diffuse	220	310	440	560	630	650	610	550	460	340	240	190	430
Clear Day	Global	630	850	1160	1430	1590	1640	1600	1470	1240	940	670	560	1150
SOUTH	Global	910	1050	1190	1160	1040	980	1080	1250	1440	1380	940	850	1110
	Diffuse	340	420	530	590	610	600	560	540	510	440	360	300	480
Clear Day	Global	1890	2010	1940	1590	1250	1090	1150	1420	1780	1970	1900	1800	1650
WEST	Global	370	510	760	990	1170	1290	1390	1250	1040	720	410	320	850
	Diffuse	220	310	440	560	640	660	620	560	460	340	240	190	440
Clear Day	Global	630	850	1160	1430	1590	1640	1600	1470	1240	940	670	560	1150

Average Annual Solar Heat and Illumination – Nearest Available Site

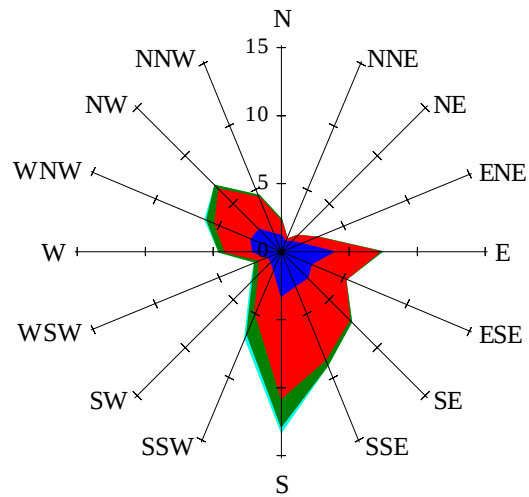
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Unshaded	330	520	840	1180	1480	1660	1760	1500	1140	710	380	270	980
NORTH	Unshaded	120	170	240	310	390	450	420	330	250	190	130	100	260
	Shaded	100	140	210	270	340	390	370	290	220	160	110	87	230
EAST	Unshaded	250	370	560	760	900	980	1050	940	760	520	280	220	630
	Shaded	220	320	480	630	740	800	850	780	640	450	240	190	530
SOUTH	Unshaded	690	780	840	770	660	590	650	800	990	1000	710	640	760
	Shaded	660	710	630	460	370	360	350	390	650	860	670	620	560
WEST	Unshaded	250	360	540	710	840	920	990	890	740	500	280	220	600
	Shaded	220	310	450	580	680	750	810	740	620	430	240	190	500

AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	36	67	76	60	25	50	84	101	96	71
	M.Cloudy	25	47	53	41	17	37	63	78	74	51
NORTH	M.Clear	9	13	14	12	7	15	15	16	16	14
	M.Cloudy	9	15	16	14	7	14	17	19	19	15
EAST	M.Clear	74	56	14	12	7	85	74	31	16	14
	M.Cloudy	34	36	16	14	7	50	52	29	19	15
SOUTH	M.Clear	42	77	87	69	28	11	37	54	49	25
	M.Cloudy	22	46	52	39	14	12	31	44	40	22
WEST	M.Clear	9	13	21	65	65	11	15	16	51	82
	M.Cloudy	9	15	20	37	28	12	17	19	41	52
M.Clear	(% hrs)	26	24	23	22	23	52	48	43	40	40
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	28	64	82	76	48	9	33	38	22	0
	M.Cloudy	19	46	62	56	32	7	21	25	15	0
NORTH	M.Clear	8	13	14	14	11	4	8	9	7	0
	M.Cloudy	8	14	17	16	11	3	9	10	6	0
EAST	M.Clear	72	71	28	14	11	32	36	9	7	0
	M.Cloudy	32	44	25	16	11	11	18	10	6	0
SOUTH	M.Clear	23	62	82	75	44	29	77	86	58	0
	M.Cloudy	14	40	58	52	26	10	31	35	22	0
WEST	M.Clear	8	13	14	53	79	4	8	19	43	0
	M.Cloudy	8	14	17	38	42	3	9	13	18	0
M.Clear	(% hrs)	61	60	56	55	55	21	22	21	19	24

Wind Summary - December, January, and February

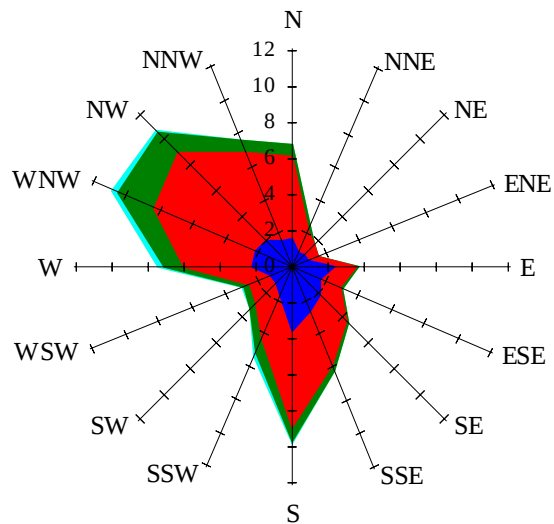
Labels of Percent Frequency on North Axis



Percent Calm = 16.89

Wind Summary - March, April, and May

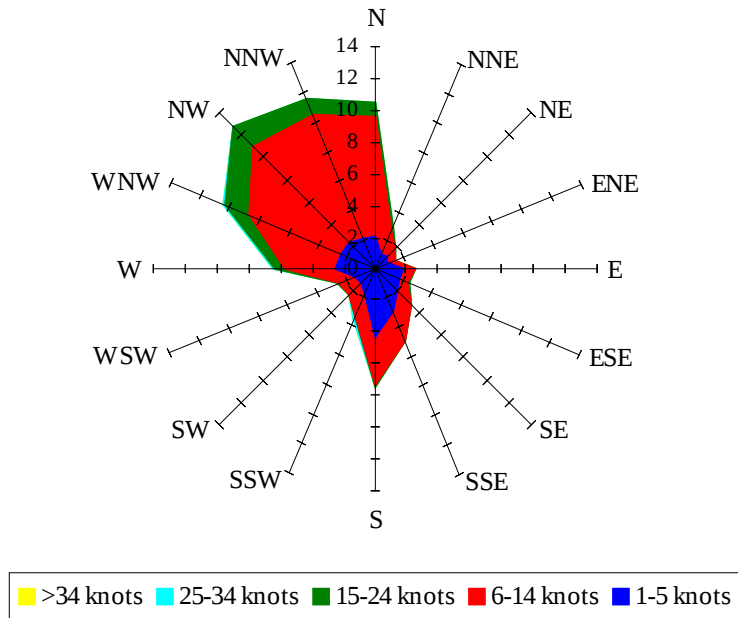
Labels of Percent Frequency on North Axis



Percent Calm = 13.07

Wind Summary - June, July, and August

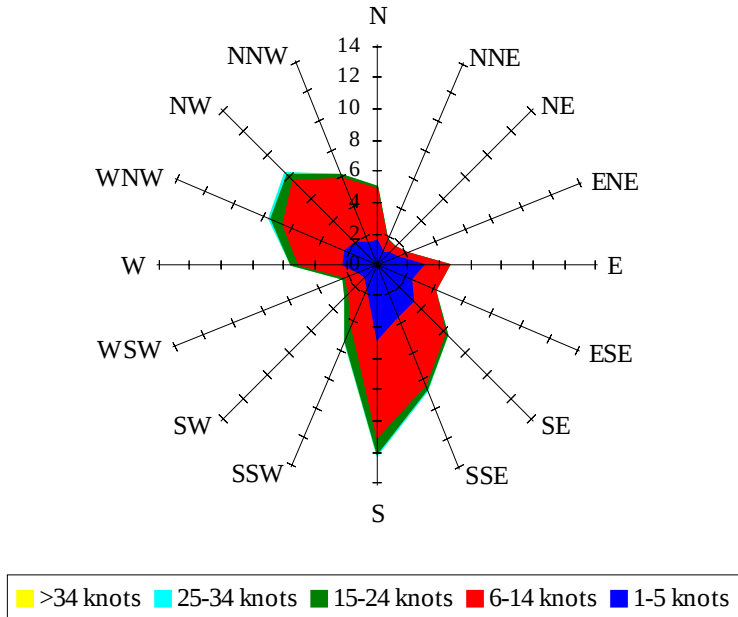
Labels of Percent Frequency on North Axis



Percent Calm = 13.82

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 15.63