

YAKIMA WA

Latitude = 46.57 N

Longitude = 120.50 W

Period of Record = 1973 to 1996

WMO No. 727810

Elevation = 1066 feet

Average Pressure = 28.86 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	100	67	53	6.8	E
0.4% Occurrence	96	66	53	6.6	E
1.0% Occurrence	92	65	52	6.8	E
2.0% Occurrence	89	64	51	7.1	E
Mean Daily Range	25	-	-	-	-
97.5% Occurrence	18	17	11	5.4	W
99.0% Occurrence	10	9	7	5.4	W
99.6% Occurrence	3	2	5	6.3	W
Median of Extreme Lows	-3	-4	3	6.3	W
	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	72	93	86	6.1	W
0.4% Occurrence	68	90	68	6.4	E
1.0% Occurrence	66	88	63	6.9	W
2.0% Occurrence	65	86	61	7.0	W
	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	97	82	0.62	7.0	W
0.4% Occurrence	81	76	0.52	6.2	W
1.0% Occurrence	74	75	0.48	6.9	W
2.0% Occurrence	68	74	0.44	7.0	W
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		83	606	2	82

Other Site Data

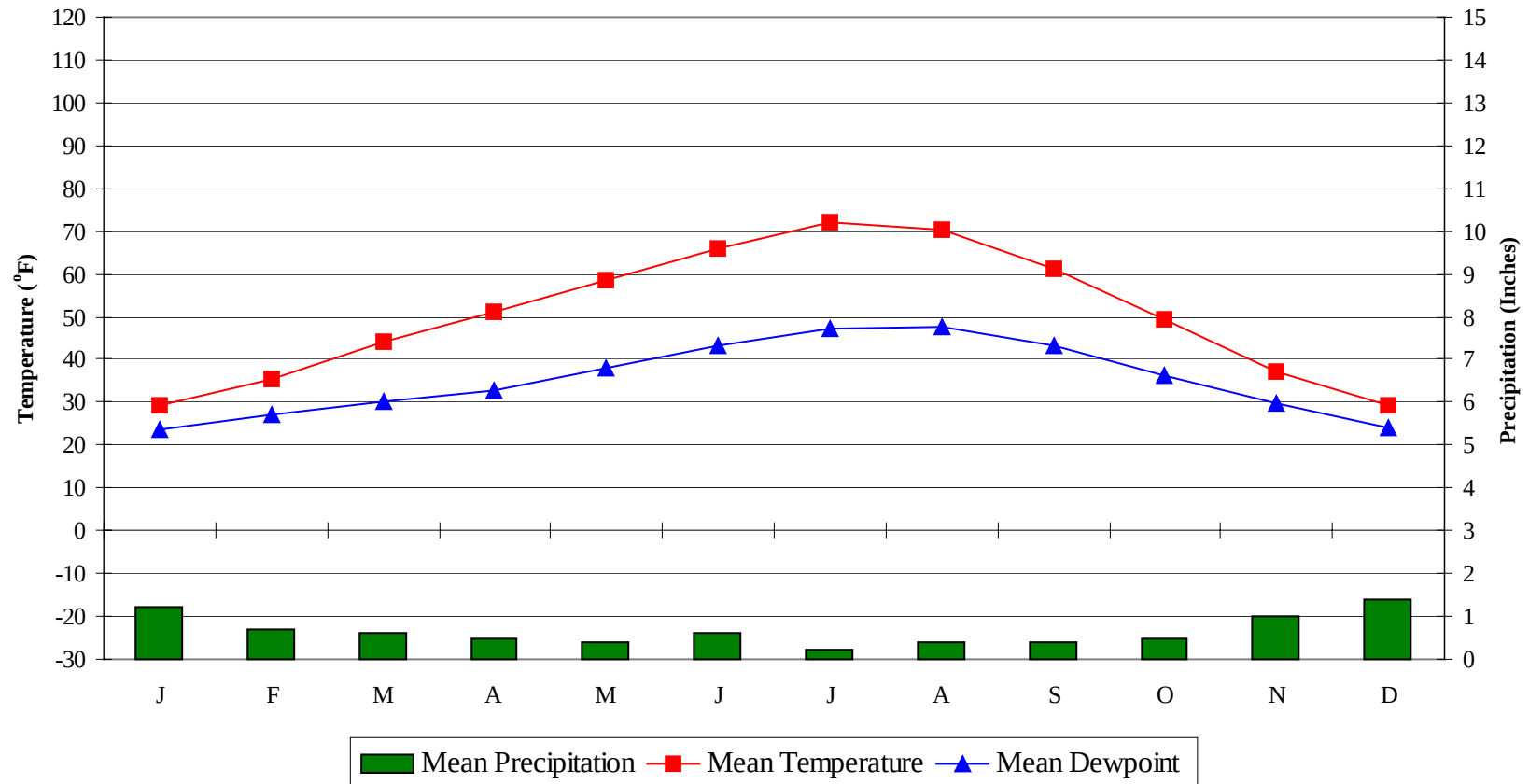
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
6	1.0	85	0.0 + 0.6
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
52.8	52	30	94

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

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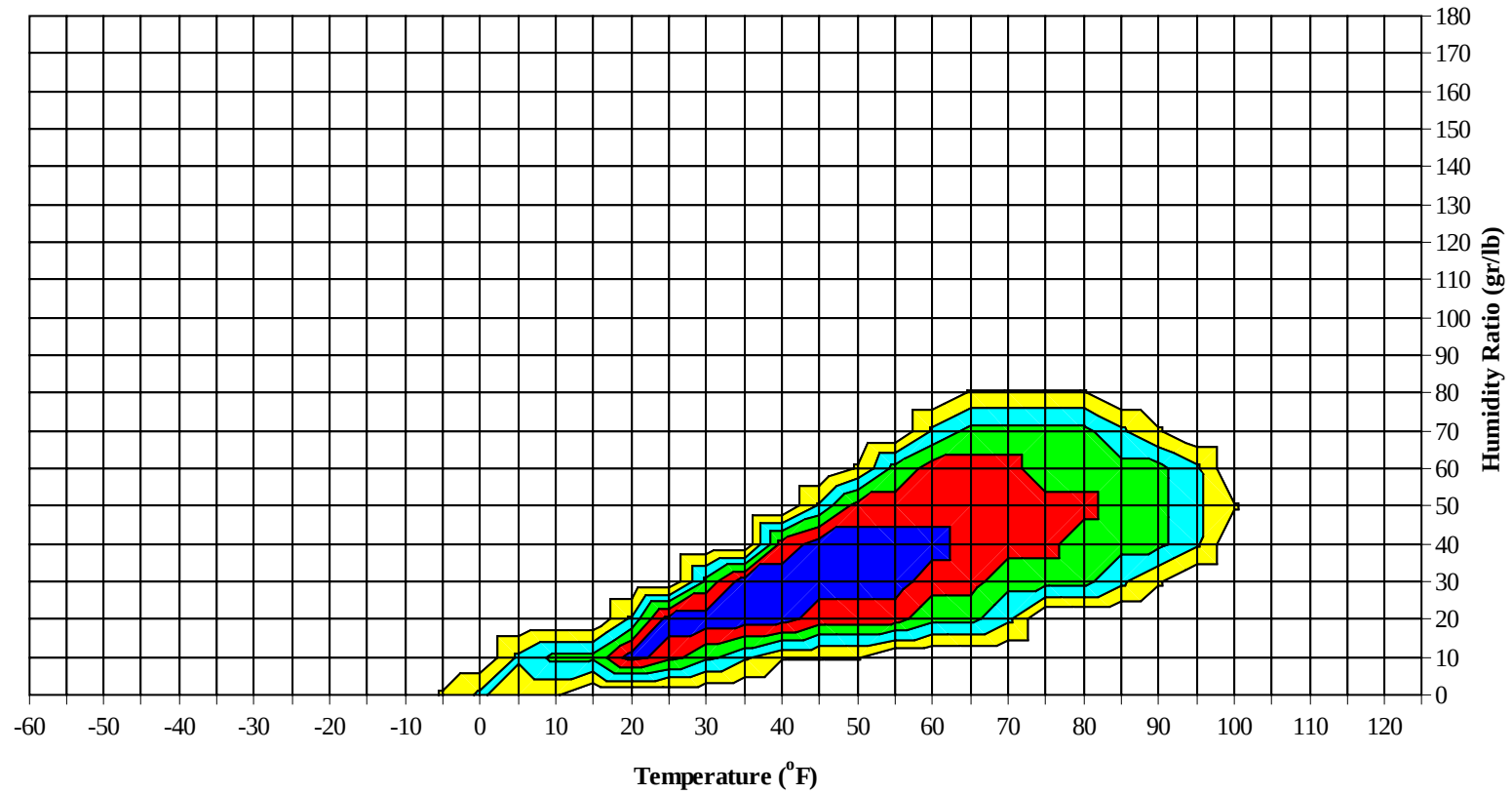
Average Annual Climate



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Long Term Psychrometric Summary

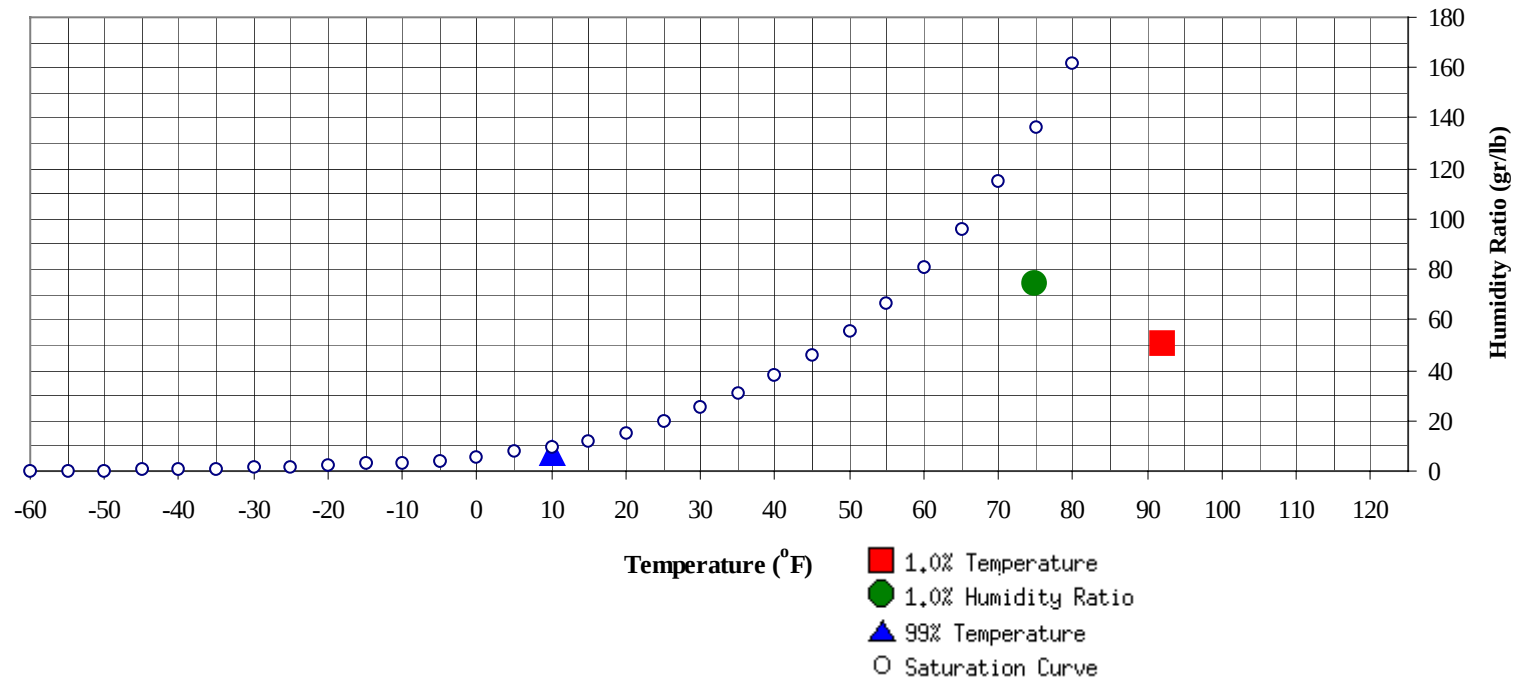


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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)
	10	7	3.5		74.2	74.8	63.9	57.9	29.6

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	92	51	64.7	30.1

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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		
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74															
65 / 69		0		0	54.0		1		1	52.1		8	2	10	50.8
60 / 64		0		0	48.6		4	0	4	49.4		23	7	30	48.1
55 / 59	0	2	0	2	46.4	1	13	3	17	46.4	1	52	18	70	45.4
50 / 54	1	9	4	14	44.3	1	25	10	36	43.7	4	70	36	111	42.9
45 / 49	4	19	8	31	41.1	4	39	22	65	40.8	23	49	58	130	40.6
40 / 44	13	30	19	62	37.9	16	42	38	97	37.9	47	27	57	132	37.6
35 / 39	26	50	40	115	34.4	41	41	54	135	34.3	60	11	39	110	34.0
30 / 34	58	52	68	178	30.7	67	32	50	149	30.3	63	4	21	88	30.0
25 / 29	54	41	48	144	25.7	52	15	27	94	25.5	37	2	8	47	25.7
20 / 24	36	22	27	86	21.1	22	7	10	39	20.8	9	1	1	11	21.2
15 / 19	23	13	16	51	16.1	9	2	5	15	16.2	2	0	0	2	16.9
10 / 14	15	7	8	29	11.2	4	2	2	8	11.1	0		0	0	11.7
5 / 9	8	3	5	16	6.4	3	1	2	6	6.5					
0 / 4	4	1	3	8	1.3	2	1	1	4	1.5					
-5 / -1	2	0	2	4	-3.3	0	0	0	0	-3.3					
-10 / -6	2	0	1	3	-7.6	1	0	0	1	-7.0					
-15 / -11	1	0	0	1	-11.3	0	0	0	0	-11.5					
-20 / -16	0			0	-15.0	0			0	-15.5					

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.

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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												0		0	68.0
100 / 104							0	0	0	68.2		0	0	0	66.8
95 / 99							1	0	1	67.2		3	1	4	66.1
90 / 94		0	0	0	58.7		2	1	3	63.6		11	4	15	63.6
85 / 89		1	0	1	61.6		8	3	11	61.8	0	21	11	32	62.0
80 / 84		2	1	3	59.3	0	15	6	21	59.7	0	32	15	47	60.1
75 / 79		9	2	11	56.5	0	24	10	34	57.3	2	45	23	70	58.4
70 / 74		18	7	25	54.0	2	40	18	60	54.9	10	50	33	93	56.4
65 / 69	0	32	13	45	51.3	7	51	28	86	52.6	24	45	41	110	54.2
60 / 64	4	47	22	73	48.7	17	58	41	116	50.1	43	24	47	115	52.2
55 / 59	12	64	39	115	45.9	40	36	55	131	48.0	58	8	39	105	49.8
50 / 54	29	47	52	129	43.7	58	12	47	117	45.5	49	2	19	70	46.9
45 / 49	46	17	51	113	41.1	50	1	26	77	41.9	31	0	5	36	43.2
40 / 44	54	4	35	93	37.6	37	0	10	47	38.4	16		1	17	39.4
35 / 39	48	0	15	63	33.9	25		3	28	34.6	5		0	5	35.4
30 / 34	35	0	3	38	29.9	11		0	11	30.6	1			1	30.4
25 / 29	11		0	11	25.7	1			1	26.5					
20 / 24	1			1	21.3										
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															

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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	73.0										
100 / 104		4	1	5	68.2		2	1	3	67.6					
95 / 99		15	6	21	66.7		12	3	15	66.6		1	0	1	66.6
90 / 94		30	13	43	65.0		26	9	35	65.2		4	0	4	64.6
85 / 89	0	41	20	61	63.4	0	36	14	50	63.4		18	3	21	62.7
80 / 84	2	47	28	77	61.8	1	51	25	77	61.8		32	8	41	60.9
75 / 79	10	48	38	96	60.0	6	51	33	90	60.1	0	43	13	56	58.7
70 / 74	25	36	44	105	58.1	20	42	43	105	58.4	1	47	19	67	56.7
65 / 69	43	19	43	105	56.0	35	20	47	102	56.5	8	44	31	83	54.6
60 / 64	58	7	32	97	53.9	52	7	42	101	54.3	21	31	47	99	52.9
55 / 59	54	1	16	71	51.2	59	1	22	82	51.5	34	14	51	100	50.6
50 / 54	34		5	39	47.9	44		7	51	48.1	57	5	38	100	47.6
45 / 49	17		1	18	44.1	24		2	26	44.2	58	1	20	80	43.9
40 / 44	5		0	5	40.2	6		0	6	40.4	37		7	44	39.8
35 / 39	0			0	36.4	1			1	36.2	18		3	21	35.3
30 / 34											4		0	4	31.0
25 / 29											1			1	25.5
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															

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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															
85 / 89		0		0	61.8										
80 / 84		4	0	4	60.3										
75 / 79		9	1	10	58.2										
70 / 74	0	18	3	21	55.7		0		0	57.5					
65 / 69	1	36	7	44	52.6		1	0	1	55.1		0	0	0	54.7
60 / 64	2	56	17	75	50.0	1	6	2	9	51.6	0	0	0	0	51.6
55 / 59	6	48	31	86	48.0	3	18	5	26	48.2	1	2	1	4	48.4
50 / 54	20	41	48	109	45.7	6	35	11	52	44.9	2	7	3	12	44.6
45 / 49	38	23	50	110	42.9	11	49	28	88	41.8	5	16	6	27	41.2
40 / 44	58	9	48	115	39.2	32	45	48	125	38.9	9	31	16	56	38.1
35 / 39	53	4	27	84	34.8	39	38	50	128	34.5	25	45	38	108	34.5
30 / 34	47	1	13	61	30.4	59	27	51	138	30.4	58	66	65	189	30.4
25 / 29	19	0	3	22	25.8	46	13	27	85	25.7	52	40	55	147	26.1
20 / 24	3		0	3	21.2	24	4	9	37	21.2	44	23	34	100	21.1
15 / 19	1			1	16.3	8	2	4	14	16.0	26	10	14	50	16.6
10 / 14						5	2	3	10	10.9	11	6	9	26	11.3
5 / 9						2	1	1	4	7.1	7	2	5	14	6.4
0 / 4						1	0	1	2	1.4	3	1	2	6	1.3
-5 / -1						1	0	0	1	-2.6	2	0	1	3	-3.2
-10 / -6						0		0	0	-7.2	2	0	0	2	-6.9
-15 / -11						0		0	0	-10.0	0	0	0	0	-11.8
-20 / -16															

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YAKIMA WA**WMO No. 727810****Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)****Period of Record = 1973 to 1996**

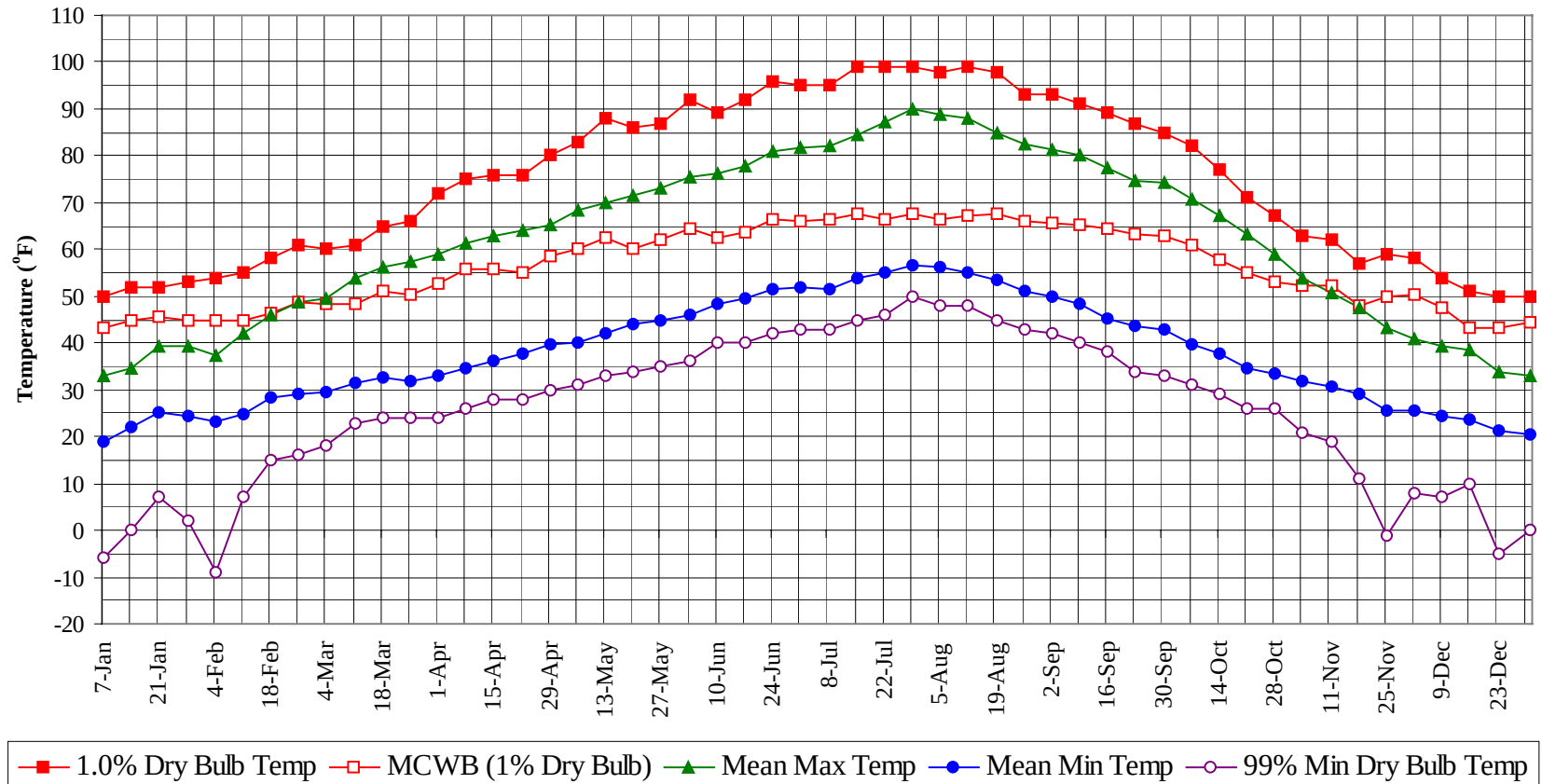
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
105 / 109		0		0	70.5
100 / 104		6	2	8	67.9
95 / 99		32	10	42	66.6
90 / 94		74	27	100	64.8
85 / 89	0	127	50	177	63.0
80 / 84	3	183	82	268	61.2
75 / 79	20	228	120	368	59.1
70 / 74	58	253	166	477	56.9
65 / 69	117	256	208	581	54.3
60 / 64	200	264	254	719	51.7
55 / 59	269	257	276	802	48.6
50 / 54	305	252	277	834	45.3
45 / 49	309	212	277	799	41.9
40 / 44	330	188	281	799	38.4
35 / 39	342	188	271	801	34.4
30 / 34	403	182	276	861	30.4
25 / 29	273	110	170	554	25.8
20 / 24	141	56	83	280	21.1
15 / 19	69	25	39	133	16.3
10 / 14	36	16	23	76	11.2
5 / 9	21	7	13	41	6.5
0 / 4	10	3	7	20	1.4
-5 / -1	5	1	3	9	-3.2
-10 / -6	5	1	3	9	-7.3
-15 / -11	2	0	1	3	-11.4
-20 / -16	0			0	-15.4

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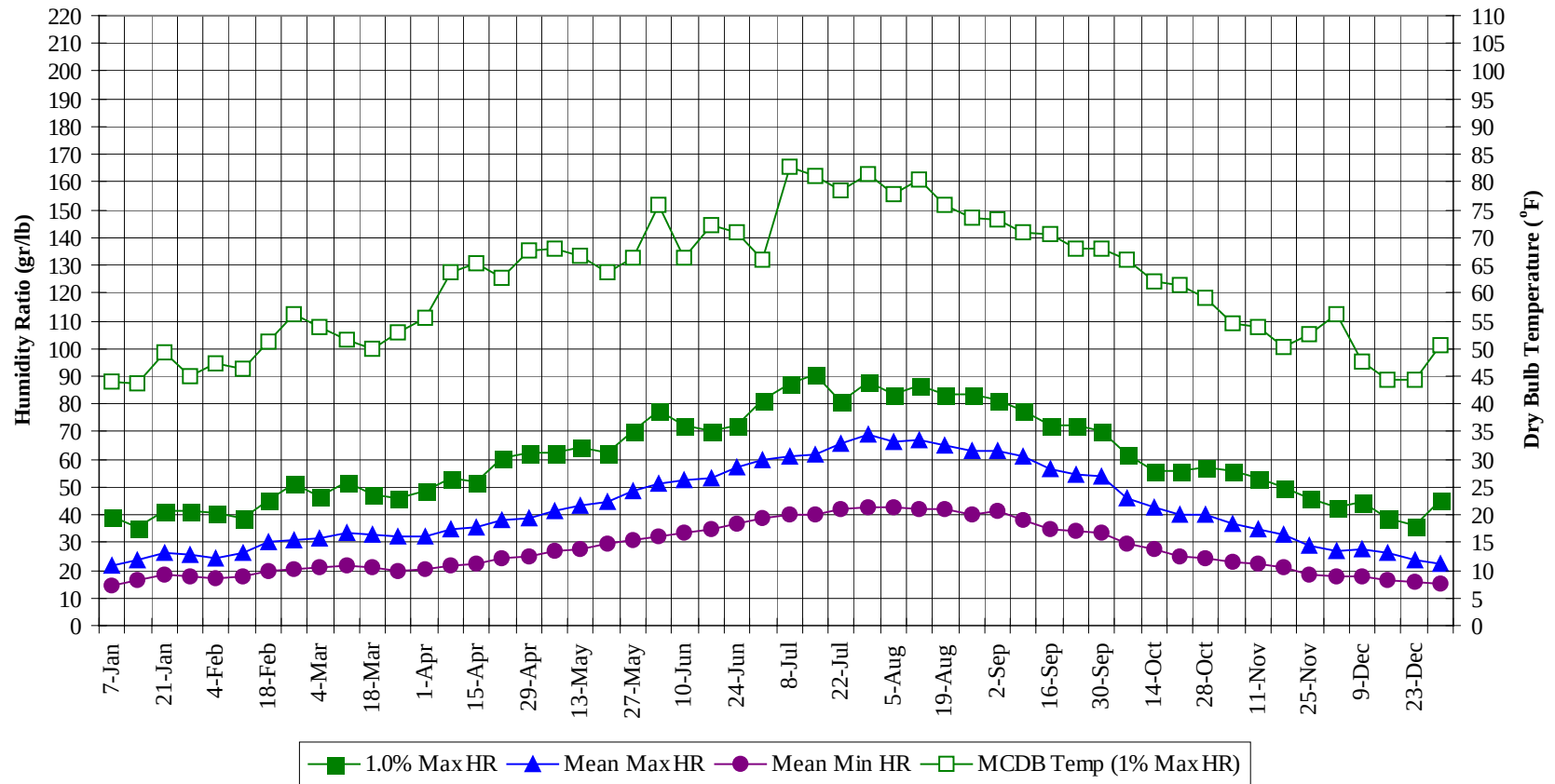
YAKIMA WA

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

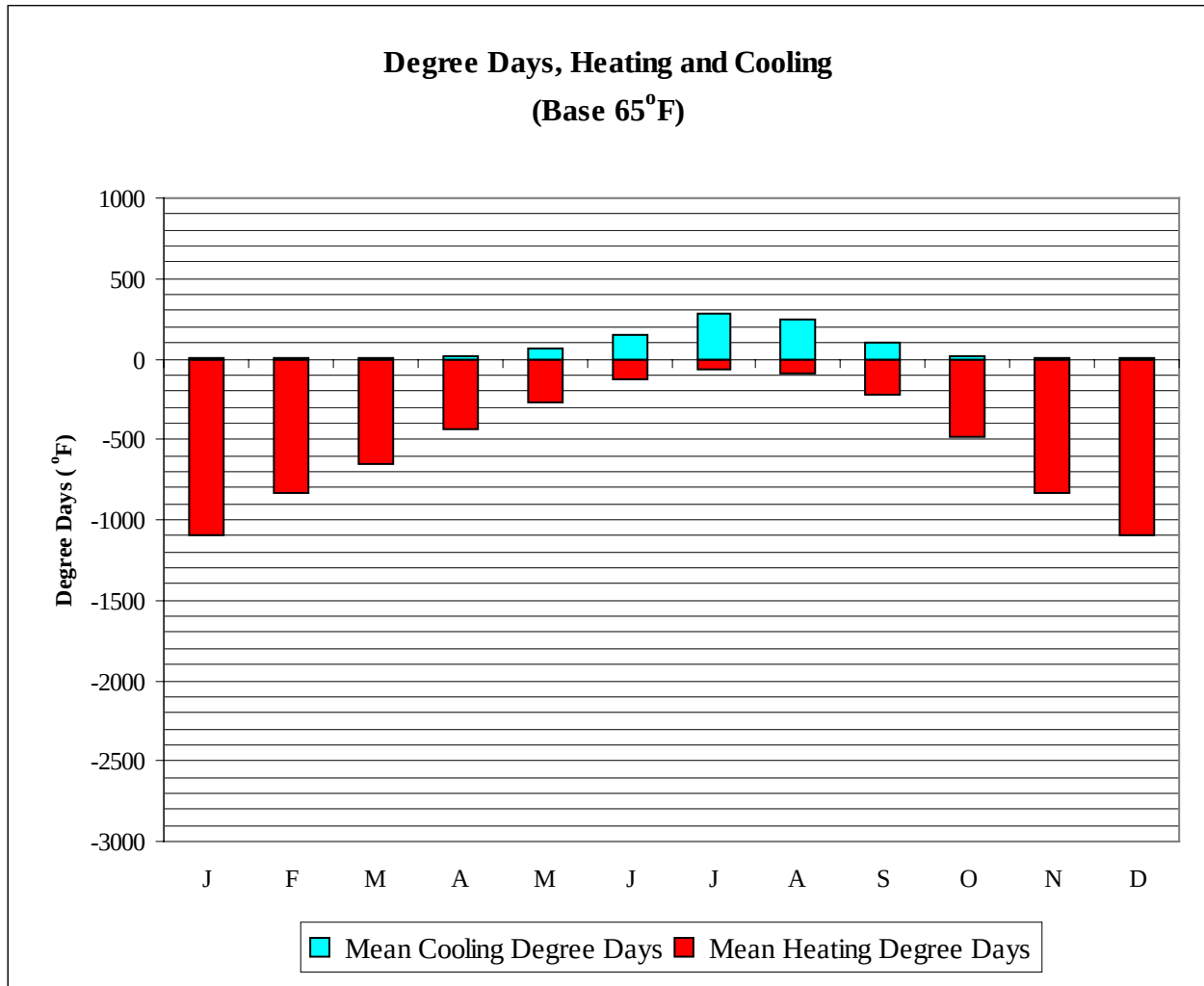


YAKIMA WA**WMO No. 727810****Long Term Dry Bulb Temperature and Humidity Summary**

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	50.0	43.4	33.1	18.9	-6.0	39.2	44.1	21.5	14.2
14-Jan	52.0	45.0	34.5	22.1	0.0	35.7	43.6	23.8	16.2
21-Jan	52.0	45.4	39.1	25.3	7.0	41.3	49.2	26.2	18.1
28-Jan	53.0	45.0	39.1	24.5	2.0	41.3	45.1	25.9	17.4
4-Feb	54.0	44.9	37.5	23.3	-9.0	40.6	47.4	24.5	17.1
11-Feb	55.0	45.0	42.0	24.9	7.0	38.5	46.3	26.5	17.6
18-Feb	58.0	46.6	45.9	28.4	15.0	45.5	51.1	30.0	19.6
25-Feb	61.0	48.7	48.9	29.0	16.0	51.1	56.2	31.0	20.3
4-Mar	60.0	48.3	49.6	29.6	18.0	46.9	53.8	31.4	20.8
11-Mar	61.0	48.5	54.0	31.5	23.0	51.8	51.7	33.3	21.8
18-Mar	65.0	51.1	56.2	32.5	24.0	47.6	50.0	32.6	21.2
25-Mar	66.0	50.3	57.2	32.0	24.0	46.2	52.8	32.3	20.0
1-Apr	72.0	52.7	58.9	32.9	24.0	48.3	55.5	31.9	20.2
8-Apr	75.0	55.7	61.3	34.4	26.0	53.2	63.6	34.7	21.5
15-Apr	76.0	55.9	62.9	36.2	28.0	51.8	65.4	35.3	22.7
22-Apr	76.0	55.0	64.1	37.8	28.0	60.2	62.7	37.9	24.2
29-Apr	80.0	58.5	65.3	39.8	30.0	62.3	67.7	38.7	24.9
6-May	83.0	60.3	68.4	40.2	31.0	62.3	68.0	41.5	26.8
13-May	88.0	62.6	69.9	42.1	33.0	64.4	66.7	43.3	27.4
20-May	86.0	60.1	71.7	43.9	34.0	62.3	63.8	44.8	29.6
27-May	87.0	62.2	73.1	44.9	35.0	70.0	66.4	48.7	30.9
3-Jun	92.0	64.3	75.4	46.1	36.0	77.7	76.0	51.4	31.9
10-Jun	89.0	62.6	76.1	48.3	40.0	72.1	66.4	52.2	33.7
17-Jun	92.0	63.6	77.7	49.4	40.0	70.0	72.1	53.3	34.7
24-Jun	96.0	66.4	81.0	51.4	42.0	72.1	71.1	57.0	36.7
1-Jul	95.0	65.9	81.8	51.8	43.0	81.2	66.1	59.5	38.5
8-Jul	95.0	66.6	82.1	51.6	43.0	87.5	82.9	61.2	39.9
15-Jul	99.0	67.7	84.7	54.0	45.0	90.3	81.0	61.6	40.3
22-Jul	99.0	66.4	87.2	55.2	46.0	80.5	78.5	65.6	42.4
29-Jul	99.0	67.8	89.9	56.4	50.0	88.2	81.5	69.0	42.9
5-Aug	98.0	66.4	88.7	56.1	48.0	83.3	77.9	66.3	42.6
12-Aug	99.0	67.3	87.9	55.0	48.0	86.8	80.4	67.2	41.9
19-Aug	98.0	67.6	84.8	53.4	45.0	83.3	75.8	65.1	41.9
26-Aug	93.0	66.1	82.7	51.0	43.0	83.3	73.5	63.0	40.1
2-Sep	93.0	65.8	81.3	49.9	42.0	81.2	73.1	63.1	41.6
9-Sep	91.0	65.4	80.3	48.2	40.0	77.7	71.0	60.8	38.3
16-Sep	89.0	64.5	77.4	45.1	38.0	72.1	70.7	56.5	35.0
23-Sep	87.0	63.3	74.6	43.7	34.0	72.1	68.0	54.5	34.3
30-Sep	85.0	62.8	74.4	42.8	33.0	70.0	67.9	53.7	33.8
7-Oct	82.0	60.9	70.6	39.7	31.0	61.6	65.9	45.9	29.3
14-Oct	77.0	57.7	67.2	37.7	29.0	56.0	62.2	42.7	27.4
21-Oct	71.0	54.9	63.3	34.7	26.0	56.0	61.3	39.8	24.8
28-Oct	67.0	52.9	59.0	33.4	26.0	57.4	59.2	39.9	24.6
4-Nov	63.0	52.4	54.0	31.9	21.0	56.0	54.6	36.9	23.1
11-Nov	62.0	52.2	50.5	30.5	19.0	53.2	53.7	34.9	22.3
18-Nov	57.0	48.1	47.4	29.3	11.0	49.7	50.4	32.9	21.3
25-Nov	59.0	49.9	43.1	25.6	-1.0	46.2	52.6	28.8	18.3
2-Dec	58.0	50.1	40.9	25.6	8.0	42.7	56.2	27.2	17.9
9-Dec	54.0	47.4	39.4	24.5	7.0	44.8	47.7	27.3	17.5
16-Dec	51.0	43.2	38.4	23.5	10.0	38.5	44.4	26.2	16.7
23-Dec	50.0	43.1	34.0	21.3	-5.0	36.4	44.3	23.3	15.7
31-Dec	50.0	44.6	33.0	20.6	0.0	45.5	50.5	22.6	15.1

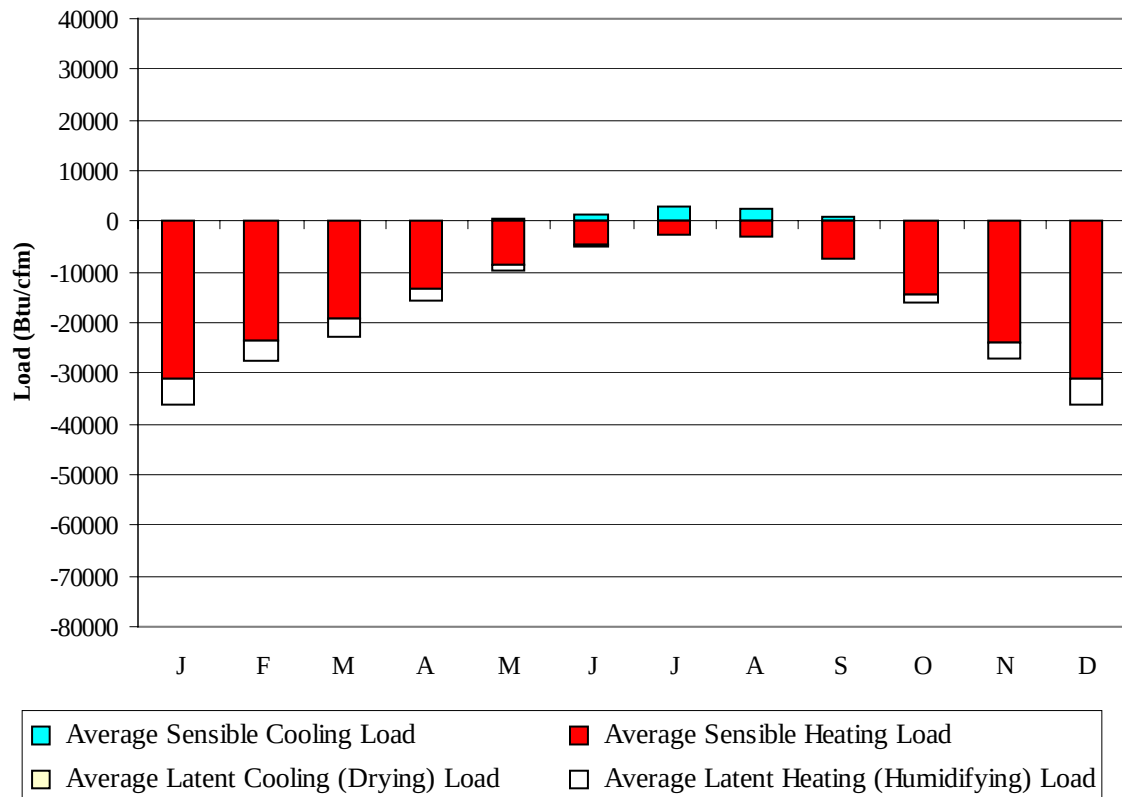
YAKIMA WA

WMO No. 727810



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1099
FEB	0	830
MAR	1	655
APR	17	435
MAY	68	266
JUN	153	130
JUL	278	68
AUG	244	84
SEP	105	218
OCT	16	482
NOV	0	831
DEC	0	1101
ANN	883	6199

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	-30892	0	-5398
FEB	0	-23707	0	-3792
MAR	0	-19357	0	-3343
APR	42	-13412	0	-2397
MAY	408	-8736	6	-1055
JUN	1234	-4644	3	-241
JUL	2853	-2618	72	-38
AUG	2382	-3170	30	-42
SEP	762	-7210	2	-242
OCT	48	-14626	0	-1434
NOV	0	-23879	0	-3414
DEC	0	-30947	0	-5354
ANN	7729	-183198	113	-26750

Average Annual Solar Radiation – Nearest Available Site

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

City: YAKIMA
 State: WA
 WBAN No: 24243
 Lat(N): 46.57
 Long(W): 120.53
 Elev(ft): 1066

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.723
 Vert Gap: 0.329

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	430	700	1130	1570	1970	2190	2280	1960	1490	940	490	360	1300
	Std Dev	29	69	75	107	125	125	114	135	108	62	40	23	27
	Minimum	380	530	960	1300	1670	1900	2060	1730	1260	770	410	330	1250
	Maximum	490	800	1290	1760	2150	2430	2480	2200	1690	1050	550	420	1350
	Diffuse	280	380	500	650	720	730	610	530	430	350	280	240	470
Clear Day	Global	640	1000	1540	2130	2540	2700	2600	2240	1710	1140	700	540	1630
NORTH	Global	160	220	320	430	570	660	630	480	340	250	170	130	360
	Diffuse	160	220	320	420	490	530	500	430	340	250	170	130	330
Clear Day	Global	140	200	280	400	590	720	650	470	310	220	150	120	350
EAST	Global	300	480	760	1020	1220	1300	1380	1240	1010	670	340	250	830
	Diffuse	190	280	400	520	600	630	600	530	430	310	210	160	410
Clear Day	Global	570	800	1120	1410	1570	1620	1580	1440	1190	880	600	490	1110
SOUTH	Global	740	990	1210	1160	1070	1000	1110	1260	1430	1300	810	660	1060
	Diffuse	310	390	490	560	590	590	560	530	480	410	300	270	450
Clear Day	Global	1790	1960	1940	1640	1320	1160	1210	1470	1790	1930	1790	1680	1640
WEST	Global	310	480	740	960	1150	1260	1350	1210	980	650	350	260	810
	Diffuse	200	280	400	530	610	640	600	530	430	310	210	170	410
Clear Day	Global	570	800	1120	1410	1570	1620	1580	1440	1190	880	600	490	1110

Average Annual Solar Heat and Illumination – Nearest Available Site

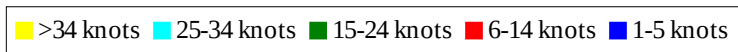
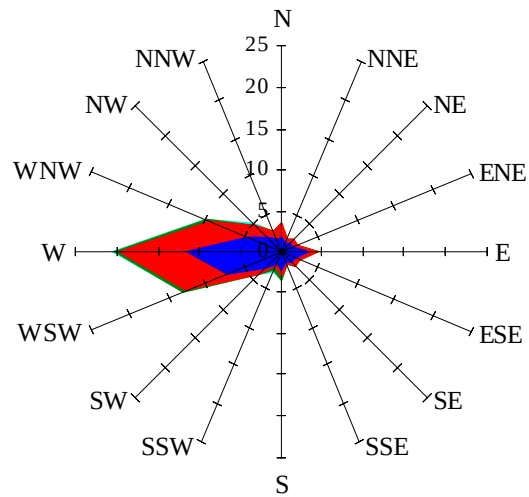
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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	270	460	780	1120	1430	1590	1660	1410	1050	630	310	220	910
NORTH	Unshaded	110	160	220	290	370	430	400	310	230	170	120	92	240
	Shaded	87	130	190	250	320	370	350	280	210	150	94	73	210
EAST	Unshaded	200	330	540	730	880	930	990	890	720	470	240	170	590
	Shaded	170	280	450	590	700	730	790	720	590	390	200	140	480
SOUTH	Unshaded	560	740	860	780	680	620	680	820	1000	950	610	500	730
	Shaded	530	660	630	430	340	350	340	370	630	800	570	480	510
WEST	Unshaded	210	330	520	680	820	900	970	870	700	460	240	180	570
	Shaded	180	280	430	550	650	710	770	700	580	380	200	150	470

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	35	63	71	55	22	51	83	97	92	69
	M.Cloudy	22	43	49	38	15	35	60	73	69	47
NORTH	M.Clear	9	13	14	12	7	13	15	16	16	14
	M.Cloudy	9	14	15	13	6	13	16	18	18	15
EAST	M.Clear	72	54	14	12	7	84	72	30	16	14
	M.Cloudy	31	32	15	13	6	46	49	26	18	15
SOUTH	M.Clear	42	78	88	68	26	11	41	57	52	27
	M.Cloudy	20	43	50	38	13	12	31	44	40	21
WEST	M.Clear	9	13	22	63	60	11	15	16	51	81
	M.Cloudy	9	14	19	36	25	12	16	18	40	48
M.Clear	(% hrs)	32	31	27	26	29	50	46	43	41	44
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	27	62	78	71	44	7	28	33	18	0
	M.Cloudy	18	42	56	50	29	5	17	20	12	0
NORTH	M.Clear	8	12	14	14	10	3	8	9	6	0
	M.Cloudy	7	13	16	15	10	2	8	9	5	0
EAST	M.Clear	69	69	26	14	10	26	32	9	6	0
	M.Cloudy	30	41	23	15	10	7	13	9	5	0
SOUTH	M.Clear	24	63	83	75	43	25	71	82	52	0
	M.Cloudy	13	39	55	48	24	6	21	26	16	0
WEST	M.Clear	8	12	14	52	76	3	8	19	39	0
	M.Cloudy	7	13	16	36	39	2	8	11	13	0
M.Clear	(% hrs)	61	61	59	57	56	17	19	21	20	21

Wind Summary - December, January, and February

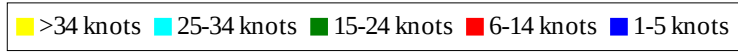
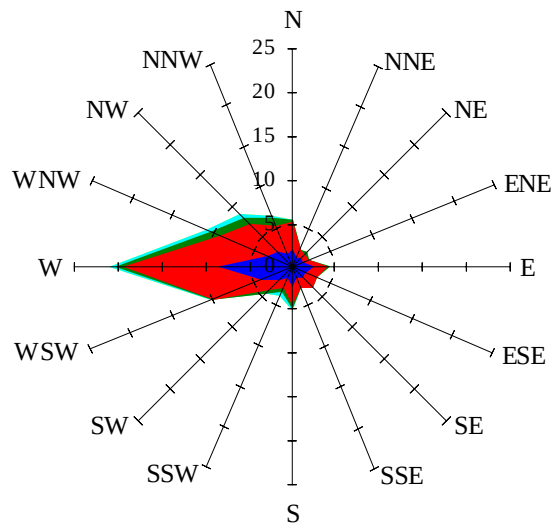
Labels of Percent Frequency on North Axis



Percent Calm = 18.43

Wind Summary - March, April, and May

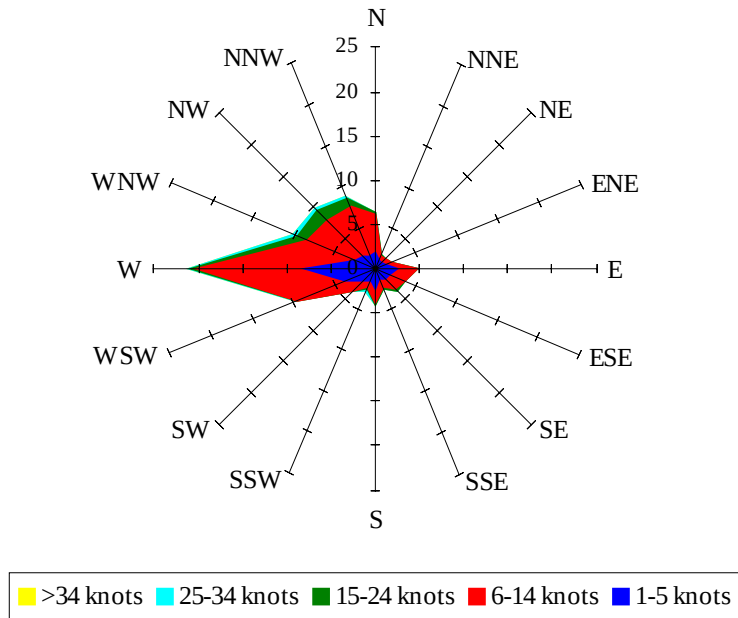
Labels of Percent Frequency on North Axis



Percent Calm = 6.39

Wind Summary - June, July, and August

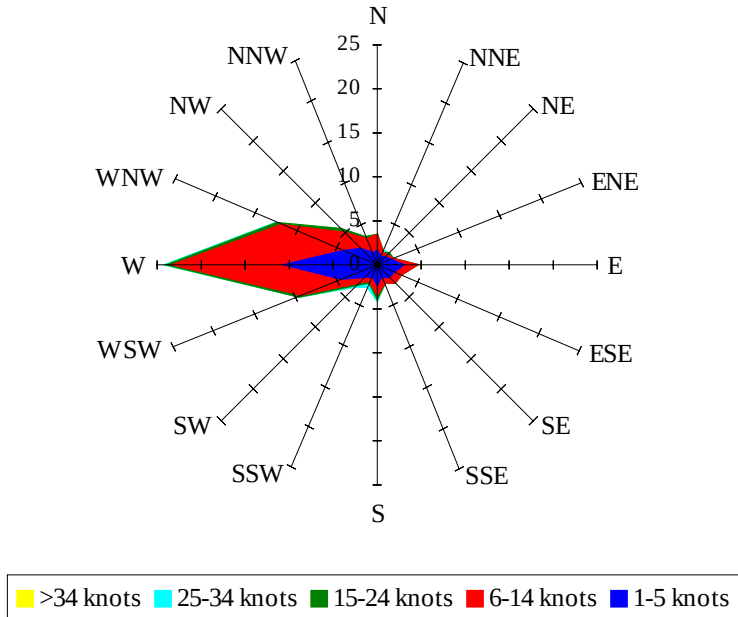
Labels of Percent Frequency on North Axis



Percent Calm = 5.04

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 12.49