

PUEBLO CO

Latitude = 38.28 N

Longitude = 104.50 W

Period of Record = 1967 to 1996

WMO No. 724640

Elevation = 4721 feet

Average Pressure = 25.22 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	102	64	43	12.1	SE
0.4% Occurrence	98	63	46	11.5	SE
1.0% Occurrence	96	63	48	11.5	SE
2.0% Occurrence	93	63	52	11.4	SE
Mean Daily Range	30	-	-	-	-
97.5% Occurrence	12	11	10	5.2	W
99.0% Occurrence	5	4	7	4.4	W
99.6% Occurrence	-2	-3	5	4.4	W
Median of Extreme Lows	-11	-11	3	3.8	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	70	86	103	11.9	SE
0.4% Occurrence	68	85	93	10.2	SE
1.0% Occurrence	67	85	87	10.8	SE
2.0% Occurrence	66	85	83	10.3	SE
	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	73	0.65	8.5	ESE
0.4% Occurrence	103	73	0.58	8.6	E
1.0% Occurrence	99	70	0.56	8.2	E
2.0% Occurrence	92	73	0.53	9.0	SE
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		194	1018	0	99

Other Site Data

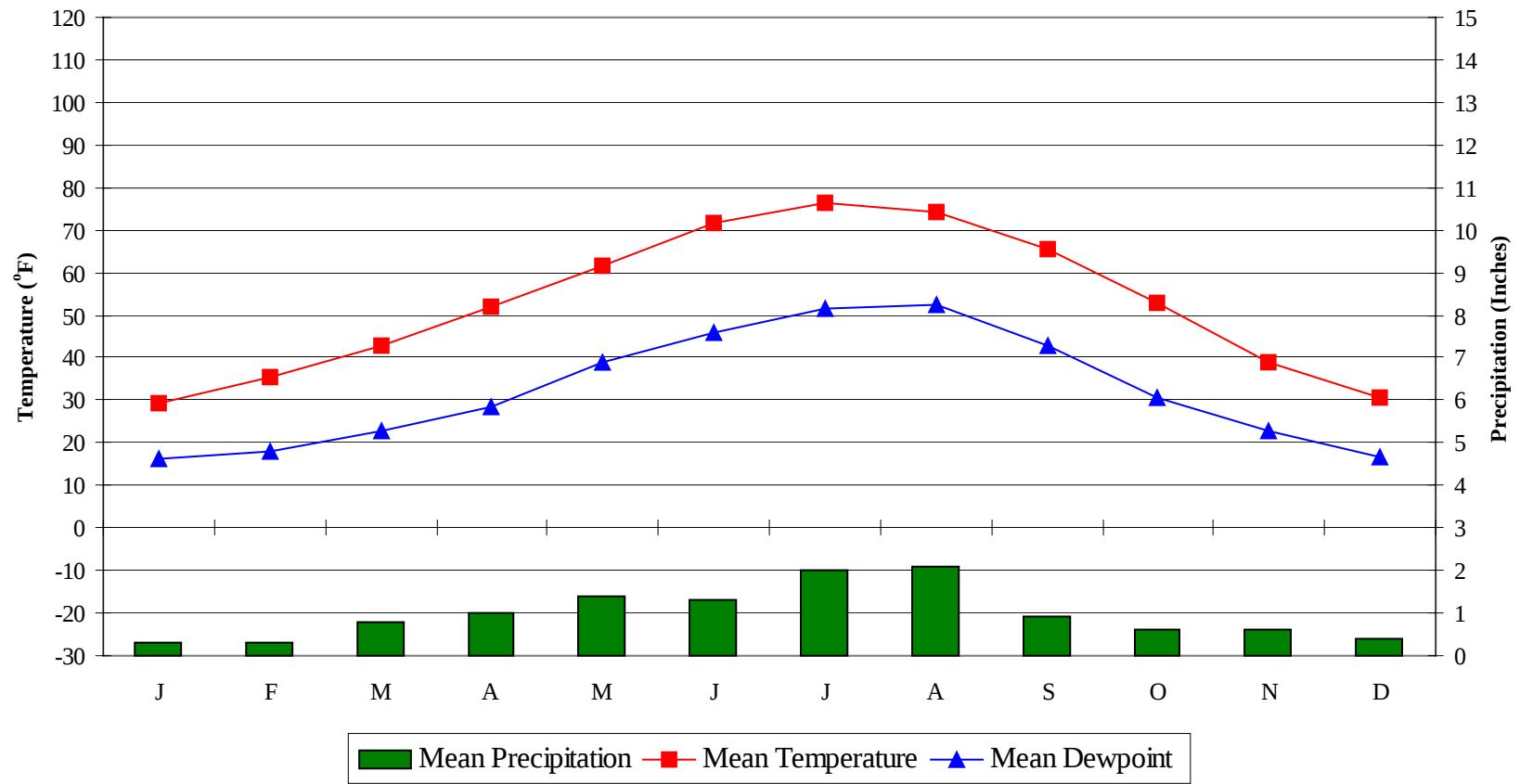
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
6	2.5	N/A	0.0 + 1.1
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
55.1	38	7	122

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

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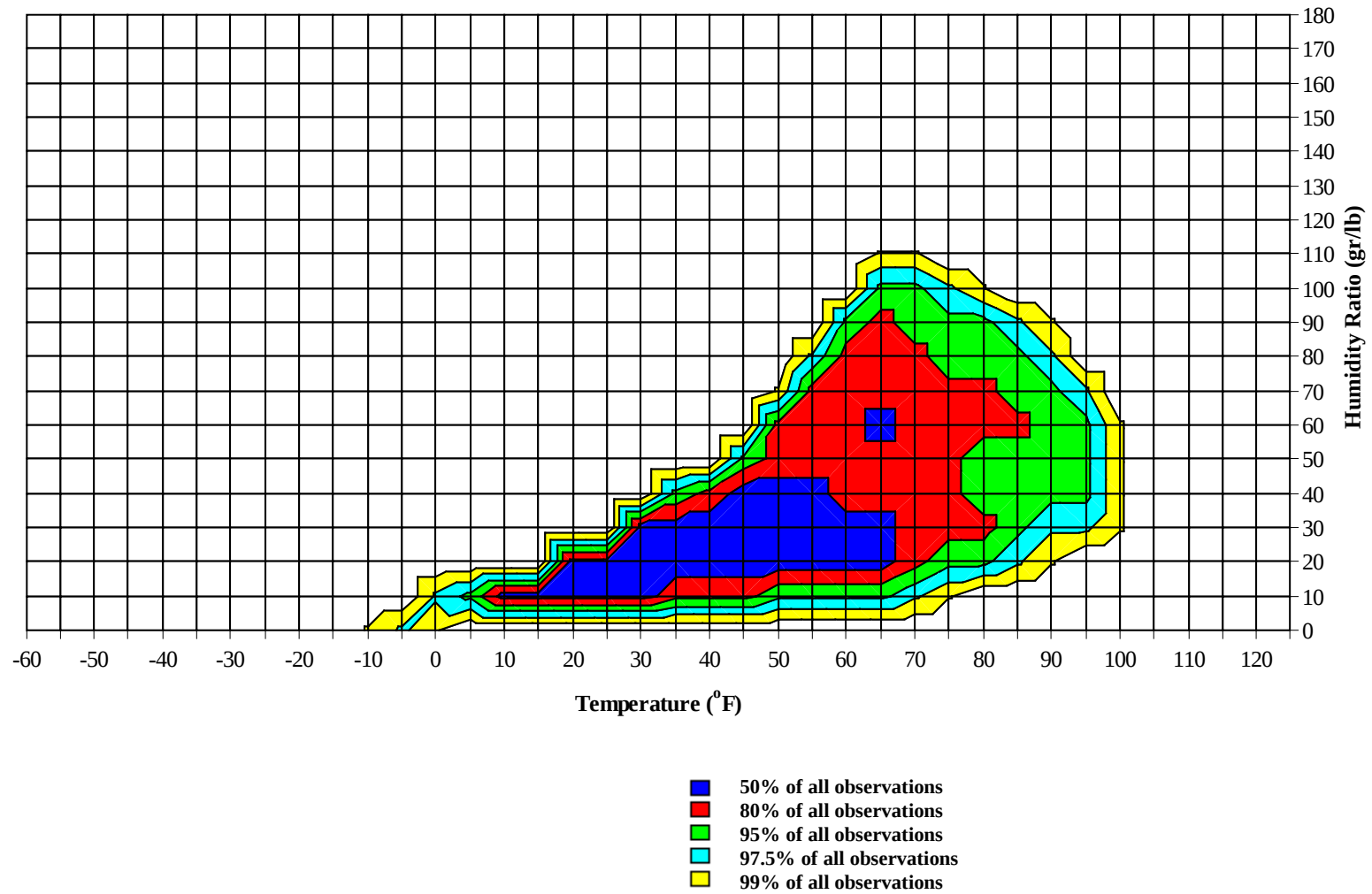
Average Annual Climate



PUEBLO CO

WMO No. 724640

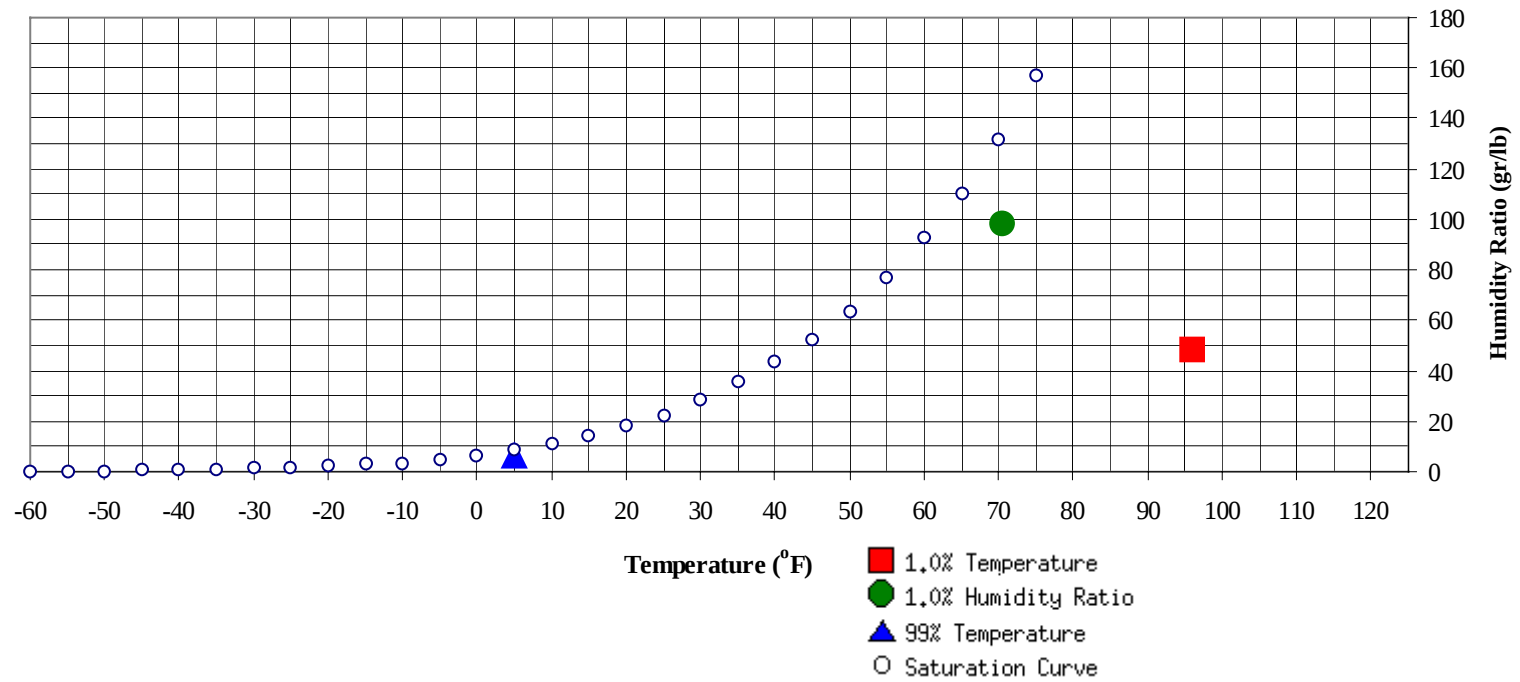
Long Term Psychrometric Summary



PUEBLO CO

WMO No. 724640

Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
99% Dry Bulb	5	6.6	2.2		98.7	70.6	64.7	62.1	32.3

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	96	48.2	62.9	30.6

PUEBLO CO

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Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)

Period of Record = 1967 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							0		0	49.3		0		0	53.0
75 / 79		0		0	47.3		2	0	2	49.2		1	0	1	52.0
70 / 74		2	0	2	46.1		5	1	6	47.4		6	2	8	49.3
65 / 69		5	1	6	45.1		12	2	14	44.8		17	4	21	47.3
60 / 64		12	2	14	42.8	0	20	6	26	42.7	0	25	8	33	45.5
55 / 59	0	17	4	21	40.8	1	24	10	35	40.7	1	27	15	43	43.5
50 / 54	1	24	8	33	38.6	3	26	17	45	38.3	4	30	21	55	41.4
45 / 49	5	27	16	47	36.1	6	27	23	55	36.0	8	33	28	69	39.5
40 / 44	10	29	21	60	33.6	10	26	27	63	33.6	14	30	35	79	37.4
35 / 39	15	30	30	74	30.9	21	24	32	77	30.9	27	25	38	91	35.3
30 / 34	26	28	40	93	28.0	34	21	37	92	28.2	47	22	41	111	32.5
25 / 29	37	24	39	100	24.5	47	15	30	92	24.5	57	16	31	103	28.9
20 / 24	46	19	32	97	20.2	44	8	14	66	25.0	26	4	7	37	20.7
15 / 19	39	15	20	75	15.8	26	10	18	73	20.5	11	2	3	15	15.9
10 / 14	30	10	16	56	11.1	26	6	10	42	16.0	5	1	2	8	11.2
5 / 9	17	6	9	31	6.5	14	3	5	21	11.2	3	0	0	3	7.1
0 / 4	10	2	6	18	1.4	6	3	3	12	6.3	3	0	0	3	7.1
-5 / -1	5	1	3	9	-2.8	4	1	2	7	1.4	0	0	0	0	1.1
-10 / -6	4	0	1	5	-7.3	1	1	1	3	-2.9	0			0	-2.7
-15 / -11	2	0	1	3	-11.7	3	1	1	5	-7.1	0			0	-7.0
-20 / -16	0		0	0	-16.5	1	0	0	1	-11.3					
-25 / -21						0		0	0	-16.5					
-30 / -26						0			0	-21.7					

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.

PUEBLO CO

WMO No. 724640

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1967 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	65.1
100 / 104												5	0	5	63.2
95 / 99							1	0	1	58.9		18	5	23	61.6
90 / 94		0	0	0	55.9		5	1	6	57.4	0	35	13	48	61.0
85 / 89		4	1	5	53.6	0	16	5	21	56.8	1	40	20	61	60.5
80 / 84		13	3	16	52.6	0	32	11	43	55.7	2	42	27	71	59.7
75 / 79	0	23	9	31	50.6	1	40	21	62	54.6	7	40	36	83	58.6
70 / 74	0	29	13	42	49.2	4	39	26	69	53.4	21	28	38	87	57.4
65 / 69	2	32	19	53	47.8	11	38	33	82	52.1	38	16	41	94	56.2
60 / 64	6	35	28	69	45.9	26	31	44	101	50.8	62	9	33	103	54.5
55 / 59	11	32	32	75	43.9	43	20	44	108	49.0	58	6	19	83	52.0
50 / 54	24	26	39	89	42.2	66	14	35	115	46.7	37	2	7	45	48.6
45 / 49	46	19	37	101	39.8	53	7	18	77	42.9	13	0	1	14	44.5
40 / 44	50	13	27	89	36.7	26	4	7	37	39.1	2	0	0	2	40.6
35 / 39	47	8	20	75	33.3	13	2	2	17	35.6	0			0	35.0
30 / 34	31	5	10	46	29.6	4	0	1	5	32.2					
25 / 29	16	1	4	21	25.4	0			0	27.0					
20 / 24	5	0	1	6	21.3										
15 / 19	1	0	0	1	16.6										
10 / 14	0			0	12.4										
5 / 9	0			0											
0 / 4	0			0	3.0										
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															

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PUEBLO CO

WMO No. 724640

Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)

Period of Record = 1967 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															
100 / 104		10	2	12	63.8		2	0	2	63.9		0		0	63.0
95 / 99		38	10	48	63.4		19	4	23	63.6		3	0	3	62.5
90 / 94		53	20	73	63.6	0	50	14	64	63.5		19	4	23	61.0
85 / 89	1	49	26	76	63.6	0	52	22	74	63.5		36	9	45	59.4
80 / 84	5	43	35	83	62.9	2	49	30	81	62.9	0	42	17	59	58.3
75 / 79	19	30	43	92	61.8	11	37	42	91	61.9	1	39	25	65	57.3
70 / 74	40	16	46	103	60.6	30	21	52	104	60.8	6	32	34	72	56.0
65 / 69	65	7	42	115	59.6	60	12	49	121	59.7	20	26	41	87	54.5
60 / 64	76	2	20	97	57.5	84	4	28	116	57.7	40	19	44	103	52.9
55 / 59	34	0	3	37	53.8	47	2	6	55	54.2	55	11	32	97	50.6
50 / 54	6	0	1	7	50.5	11	0	1	12	50.1	56	8	20	84	47.2
45 / 49	1		0	1	44.0	1		0	1	46.1	33	3	9	45	43.1
40 / 44											17	2	4	22	38.9
35 / 39											8	1	2	11	35.1
30 / 34											3	0	1	4	30.9
25 / 29											1	0		1	26.3
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															

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PUEBLO CO

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Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1967 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		1		1	55.8										
85 / 89		7	0	7	54.5										
80 / 84		20	3	23	53.4		1		1	50.7		0		0	51.0
75 / 79	0	31	6	37	52.5		5	0	5	50.0		0		0	48.7
70 / 74	0	33	11	44	50.8		15	1	16	48.4		4	0	4	47.1
65 / 69	2	32	18	52	49.0	0	19	3	22	46.4		8	0	8	45.5
60 / 64	5	35	28	68	47.0	1	24	7	31	44.4	0	14	2	16	43.3
55 / 59	12	28	36	77	45.1	3	23	13	38	42.3	1	17	4	22	40.8
50 / 54	25	25	44	93	43.1	5	28	20	53	40.0	2	23	9	34	38.5
45 / 49	49	16	43	107	40.5	10	29	27	66	37.6	7	29	16	52	35.7
40 / 44	53	10	29	91	37.1	18	27	31	75	35.1	11	32	20	63	33.4
35 / 39	48	6	20	73	33.4	31	27	39	97	32.3	18	33	31	82	30.8
30 / 34	35	3	8	46	29.5	53	22	43	118	29.0	29	30	43	102	28.2
25 / 29	12	1	3	16	25.1	47	13	30	90	25.0	42	23	42	107	24.5
20 / 24	4	0	1	5	20.4	34	7	16	57	20.7	45	16	34	95	20.3
15 / 19	2	0	0	2	16.5	20	2	6	28	16.4	39	9	18	66	16.0
10 / 14	1		0	1	12.2	11	1	3	15	11.7	22	5	12	39	11.3
5 / 9	0			0	6.0	4	1	2	7	6.9	16	4	8	27	6.5
0 / 4						1	0	0	1	2.1	7	2	5	14	1.6
-5 / -1						0	0	0	0	-2.8	3	1	2	6	-3.0
-10 / -6						0		0	0	-7.6	3	1	2	6	-7.5
-15 / -11						0		0	0	-11.8	1	0	1	2	-11.8
-20 / -16											1		0	1	-16.3
-25 / -21											0		0	0	-21.2
-30 / -26											0			0	-25.0

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WMO No. 724640

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

Period of Record = 1967 to 1996

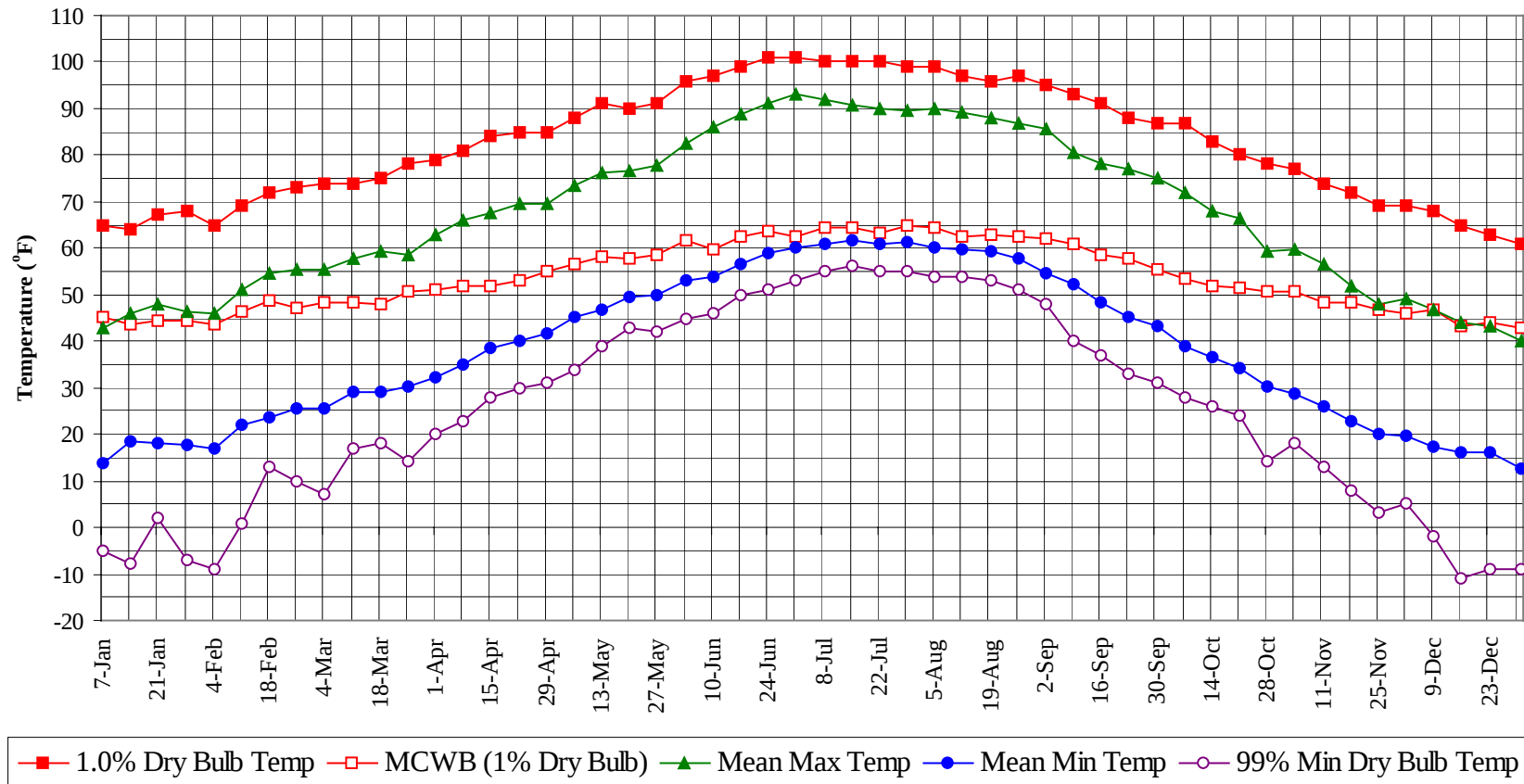
Temperature Range (°F)	Annual Totals				
	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
105 / 109		0		0	65.1
100 / 104		17	2	19	63.6
95 / 99		79	19	98	63.0
90 / 94	0	162	50	212	62.5
85 / 89	2	205	82	289	61.4
80 / 84	10	244	124	379	59.7
75 / 79	40	252	180	472	57.9
70 / 74	101	240	223	564	56.0
65 / 69	198	231	253	683	54.1
60 / 64	299	230	250	780	51.3
55 / 59	269	209	220	698	47.3
50 / 54	246	208	225	679	43.2
45 / 49	236	187	225	648	39.1
40 / 44	223	167	206	596	35.6
35 / 39	249	151	220	620	32.2
30 / 34	274	123	218	615	28.7
25 / 29	247	84	166	496	24.7
20 / 24	207	56	110	373	20.4
15 / 19	138	33	59	230	16.0
10 / 14	83	20	38	141	11.2
5 / 9	46	13	22	80	6.5
0 / 4	24	4	13	41	1.5
-5 / -1	9	3	7	19	-2.9
-10 / -6	10	2	5	17	-7.3
-15 / -11	5	0	2	7	-11.6
-20 / -16	2		1	3	-16.4
-25 / -21	1		0	1	-21.4
-30 / -26	0			0	-25.0

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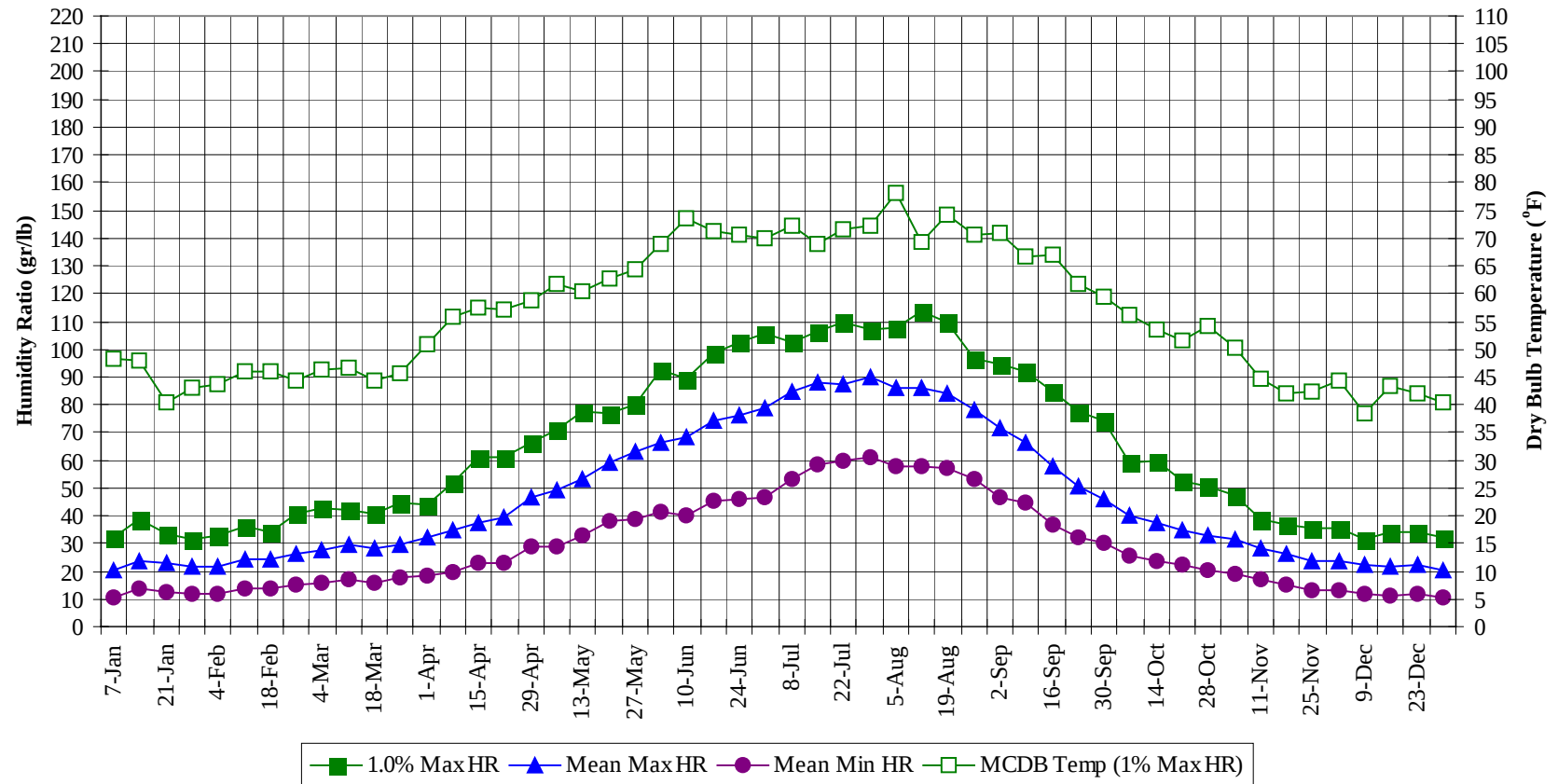
Annual Summary of Temperatures



PUEBLO CO

WMO No. 724640

Long Term Humidity and Dry Bulb Temperature Summary



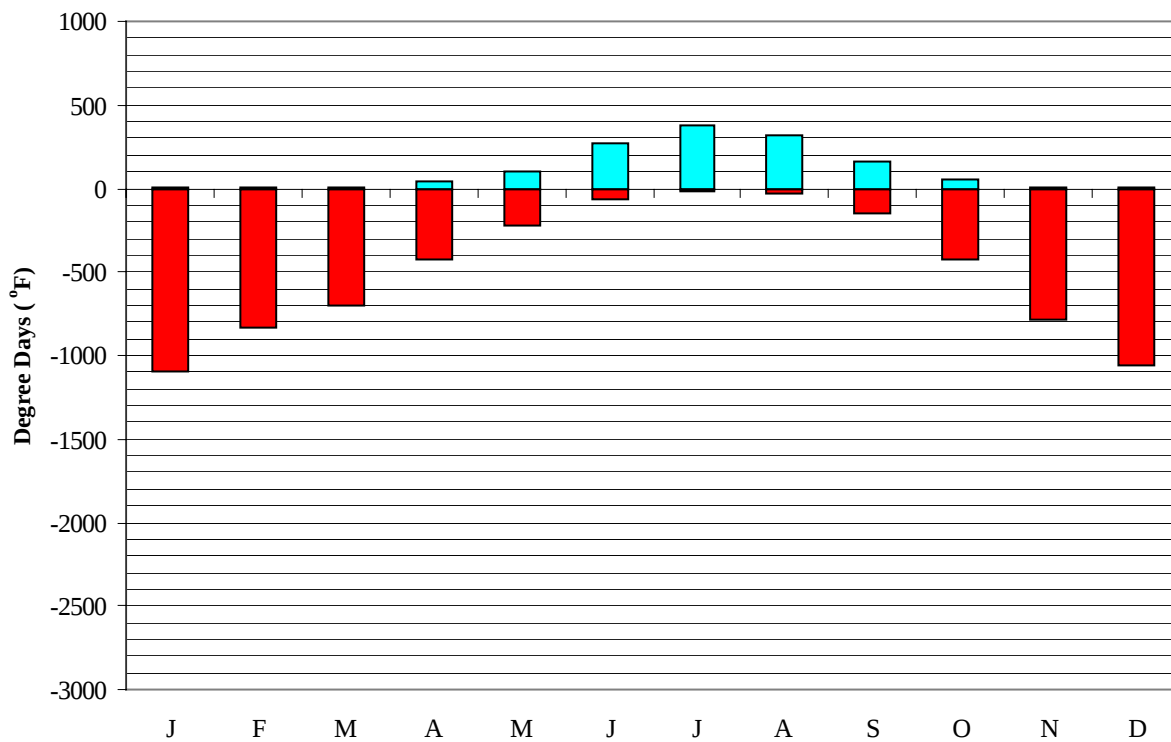
PUEBLO CO**WMO No. 724640****Long Term Dry Bulb Temperature and Humidity Summary**

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	65.0	45.3	42.8	13.6	-5.0	32.2	48.4	20.4	10.4
14-Jan	64.0	43.8	46.0	18.5	-8.0	38.5	47.9	23.9	13.6
21-Jan	67.0	44.6	48.1	18.1	2.0	33.6	40.3	22.8	12.2
28-Jan	68.0	44.3	46.3	17.5	-7.0	31.5	43.0	21.7	11.9
4-Feb	65.0	43.7	46.1	17.0	-9.0	32.9	43.7	21.6	11.6
11-Feb	69.0	46.3	51.2	22.0	1.0	36.4	45.9	24.2	13.6
18-Feb	72.0	48.6	54.7	23.8	13.0	34.3	46.1	24.4	13.8
25-Feb	73.0	47.0	55.2	25.5	10.0	40.6	44.3	26.0	15.2
4-Mar	74.0	48.3	55.5	25.4	7.0	42.7	46.3	27.5	15.7
11-Mar	74.0	48.4	57.9	28.9	17.0	42.0	46.5	29.2	17.0
18-Mar	75.0	47.9	59.2	29.0	18.0	40.6	44.4	28.0	15.6
25-Mar	78.0	50.6	58.5	30.2	14.0	44.8	45.8	29.8	17.4
1-Apr	79.0	50.9	63.0	32.3	20.0	44.1	50.9	32.2	18.2
8-Apr	81.0	51.9	65.8	35.2	23.0	51.8	55.8	34.8	19.6
15-Apr	84.0	51.7	67.7	38.4	28.0	60.9	57.3	37.6	22.7
22-Apr	85.0	53.0	69.4	40.2	30.0	60.9	57.2	39.4	22.8
29-Apr	85.0	55.2	69.6	41.6	31.0	66.5	58.9	46.4	28.7
6-May	88.0	56.4	73.5	45.3	34.0	70.7	61.8	49.4	29.0
13-May	91.0	58.2	76.3	46.7	39.0	77.7	60.5	53.1	33.2
20-May	90.0	57.7	76.7	49.6	43.0	77.0	62.8	59.3	38.3
27-May	91.0	58.6	77.7	49.8	42.0	79.8	64.4	63.3	39.0
3-Jun	96.0	61.9	82.6	52.9	45.0	92.4	69.1	66.3	41.6
10-Jun	97.0	59.8	85.9	53.8	46.0	89.6	73.6	68.3	40.2
17-Jun	99.0	62.4	88.7	56.7	50.0	98.7	71.1	74.2	45.1
24-Jun	101.0	63.8	91.0	58.8	51.0	102.2	70.7	75.9	46.3
1-Jul	101.0	62.5	93.0	60.2	53.0	105.7	69.9	78.9	46.8
8-Jul	100.0	64.3	91.8	61.0	55.0	102.2	72.3	84.9	53.4
15-Jul	100.0	64.6	90.8	61.6	56.0	106.4	68.9	88.0	58.8
22-Jul	100.0	63.3	90.1	60.8	55.0	109.9	71.5	87.3	59.5
29-Jul	99.0	64.9	89.6	61.1	55.0	107.1	72.1	89.9	60.9
5-Aug	99.0	64.3	89.9	60.2	54.0	107.8	78.3	86.4	57.6
12-Aug	97.0	62.6	89.1	59.8	54.0	113.4	69.4	86.3	57.9
19-Aug	96.0	63.0	88.2	59.3	53.0	109.9	74.3	84.2	57.3
26-Aug	97.0	62.3	86.8	57.7	51.0	96.6	70.6	78.2	53.2
2-Sep	95.0	62.3	85.8	54.8	48.0	94.5	70.9	71.8	46.7
9-Sep	93.0	61.1	80.5	52.2	40.0	91.7	66.7	66.4	45.0
16-Sep	91.0	58.7	78.1	48.4	37.0	84.7	66.9	57.7	37.0
23-Sep	88.0	57.7	76.9	45.1	33.0	77.7	61.7	50.7	32.3
30-Sep	87.0	55.4	75.2	43.2	31.0	74.2	59.5	46.0	30.0
7-Oct	87.0	53.5	71.9	38.9	28.0	58.8	56.2	39.8	25.5
14-Oct	83.0	51.7	67.9	36.4	26.0	59.5	53.6	37.7	23.9
21-Oct	80.0	51.6	66.4	34.3	24.0	52.5	51.5	34.9	22.1
28-Oct	78.0	50.8	59.2	30.4	14.0	50.4	54.3	33.0	20.5
4-Nov	77.0	50.5	59.8	28.5	18.0	47.6	50.1	31.6	19.2
11-Nov	74.0	48.4	56.6	26.0	13.0	38.5	44.6	28.4	17.0
18-Nov	72.0	48.4	51.9	22.7	8.0	37.1	42.0	26.2	14.9
25-Nov	69.0	46.8	48.1	19.9	3.0	35.7	42.4	24.0	13.4
2-Dec	69.0	46.1	49.1	19.8	5.0	35.7	44.4	23.7	13.3
9-Dec	68.0	46.7	46.9	17.5	-2.0	31.5	38.3	22.4	11.8
16-Dec	65.0	43.4	44.1	16.0	-11.0	34.3	43.5	21.7	11.0
23-Dec	63.0	44.1	43.4	16.3	-9.0	34.3	42.1	22.1	12.1
31-Dec	61.0	42.9	40.3	12.6	-9.0	32.2	40.5	20.5	10.3

PUEBLO CO

WMO No. 724640

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



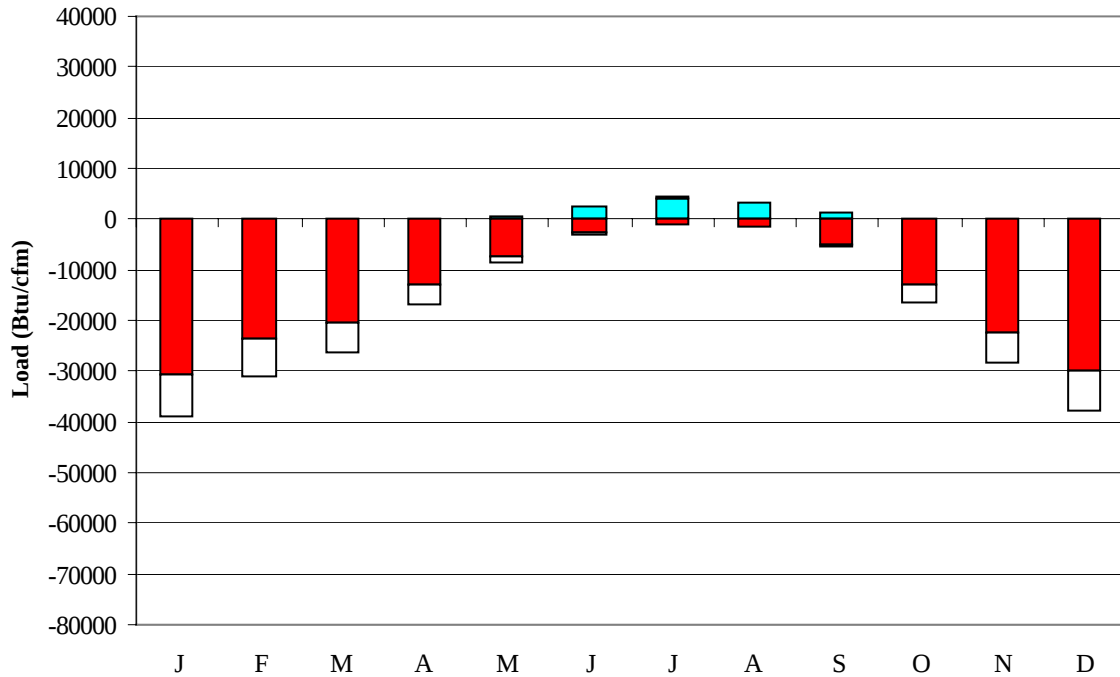
■ Mean Cooling Degree Days ■ Mean Heating Degree Days

	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	1	1095
FEB	3	833
MAR	11	697
APR	40	423
MAY	104	216
JUN	264	65
JUL	376	22
AUG	317	31
SEP	163	144
OCT	51	428
NOV	8	788
DEC	1	1062
ANN	1338	5804

PUEBLO CO

WMO No. 724640

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



	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	-30693	0	-8421
FEB	3	-23723	0	-7144
MAR	22	-20345	0	-6102
APR	201	-12972	0	-3931
MAY	715	-7233	0	-1259
JUN	2649	-2536	34	-374
JUL	4219	-1062	230	-81
AUG	3180	-1430	279	-42
SEP	1370	-4962	7	-590
OCT	288	-13021	0	-3299
NOV	15	-22536	0	-5923
DEC	1	-29804	0	-8146
ANN	12663	-170317	550	-45312

Average Annual Solar Radiation – Nearest Available Site

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

City: PUEBLO
 State: CO
 WBAN No: 93058
 Lat(N): 38.28
 Long(W): 104.52
 Elev(ft): 4721

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS

Window: 1
 Overhang: 0.485
 Vert Gap: 0.311

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	840	1120	1490	1900	2110	2340	2280	2060	1710	1330	920	760	1570
	Std Dev	52	62	97	83	103	110	95	82	87	93	50	43	31
	Minimum	720	1010	1240	1660	1930	2130	2110	1890	1540	1090	840	690	1510
	Maximum	920	1230	1640	2050	2330	2560	2460	2210	1870	1460	1030	830	1630
	Diffuse	270	360	500	590	690	640	620	580	460	350	290	250	470
Clear Day	Global	1030	1390	1880	2380	2680	2790	2700	2430	2010	1520	1100	920	1900
NORTH	Global	210	270	350	450	570	660	600	480	370	290	220	190	390
	Diffuse	210	270	350	430	490	510	490	440	360	290	220	190	360
Clear Day	Global	190	240	310	420	610	730	670	470	340	260	200	170	380
EAST	Global	600	750	950	1180	1250	1370	1370	1260	1070	880	640	550	990
	Diffuse	260	340	440	530	580	590	580	540	450	360	280	240	430
Clear Day	Global	790	990	1250	1470	1570	1590	1560	1470	1290	1050	820	720	1220
SOUTH	Global	1500	1500	1360	1140	900	810	860	1060	1320	1570	1500	1480	1250
	Diffuse	370	430	500	530	540	530	520	520	480	430	380	350	470
Clear Day	Global	2100	2110	1870	1410	1030	860	920	1210	1650	2000	2080	2060	1610
WEST	Global	600	750	930	1080	1130	1200	1110	1080	1030	880	650	560	920
	Diffuse	260	340	450	540	600	610	590	550	460	360	280	240	440
Clear Day	Global	790	990	1250	1470	1570	1590	1560	1470	1290	1050	820	720	1220

Average Annual Solar Heat and Illumination – Nearest Available Site

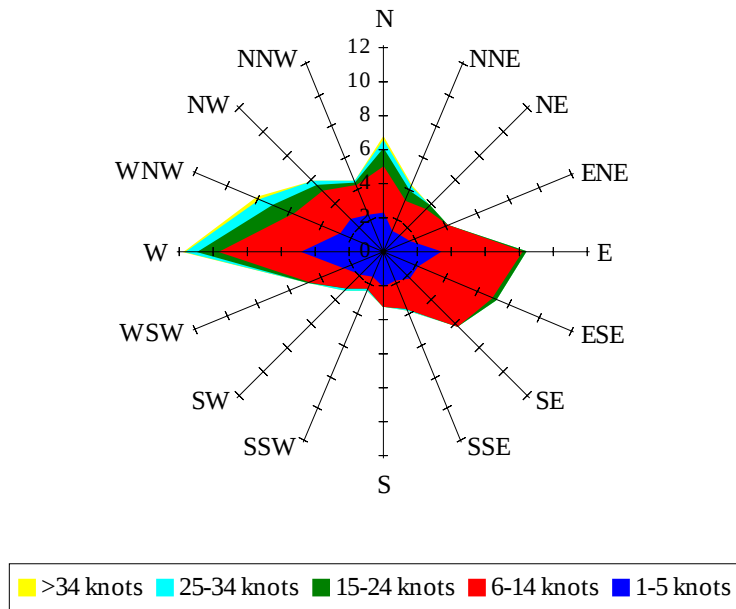
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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	540	760	1060	1380	1540	1720	1680	1500	1230	920	610	480	1120
NORTH	Unshaded	150	190	250	300	370	420	380	320	250	200	160	130	260
	Shaded	130	170	230	280	340	380	350	290	240	190	140	120	240
EAST	Unshaded	420	530	680	840	900	980	980	900	760	620	440	380	700
	Shaded	380	480	610	740	780	850	850	790	680	570	400	350	620
SOUTH	Unshaded	1130	1100	930	730	530	460	490	650	880	1120	1120	1120	850
	Shaded	1110	1030	750	470	350	340	330	390	630	1000	1100	1100	710
WEST	Unshaded	420	530	660	770	800	850	780	770	730	620	460	380	650
	Shaded	380	480	590	680	700	730	670	660	650	560	420	350	570

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	46	78	85	67	28	53	89	105	97	69
	M.Cloudy	29	54	62	48	19	37	69	85	76	50
NORTH	M.Clear	10	14	14	13	8	19	15	16	16	13
	M.Cloudy	10	16	17	14	7	16	17	18	18	15
EAST	M.Clear	84	57	14	13	8	88	73	28	16	13
	M.Cloudy	40	38	17	14	7	49	56	27	18	15
SOUTH	M.Clear	45	76	84	66	28	11	30	44	39	17
	M.Cloudy	25	48	56	42	15	12	27	39	34	17
WEST	M.Clear	10	14	25	71	75	11	15	16	53	83
	M.Cloudy	10	16	23	45	33	12	17	18	44	53
M.Clear	(% hrs)	41	41	39	38	34	60	60	61	48	38
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	33	72	89	81	49	19	47	51	32	2
	M.Cloudy	21	50	65	58	34	13	33	37	23	2
NORTH	M.Clear	8	13	15	14	11	6	10	11	8	1
	M.Cloudy	8	15	18	16	12	5	11	12	8	1
EAST	M.Clear	79	72	26	14	11	53	41	11	8	1
	M.Cloudy	31	44	24	16	12	21	25	12	8	1
SOUTH	M.Clear	25	59	76	68	39	50	90	95	69	8
	M.Cloudy	13	38	52	46	24	20	48	55	36	3
WEST	M.Clear	8	13	15	56	82	6	10	25	55	12
	M.Cloudy	8	15	18	40	44	5	11	19	29	5
M.Clear	(% hrs)	57	62	61	57	51	48	47	47	47	49

Wind Summary - December, January, and February

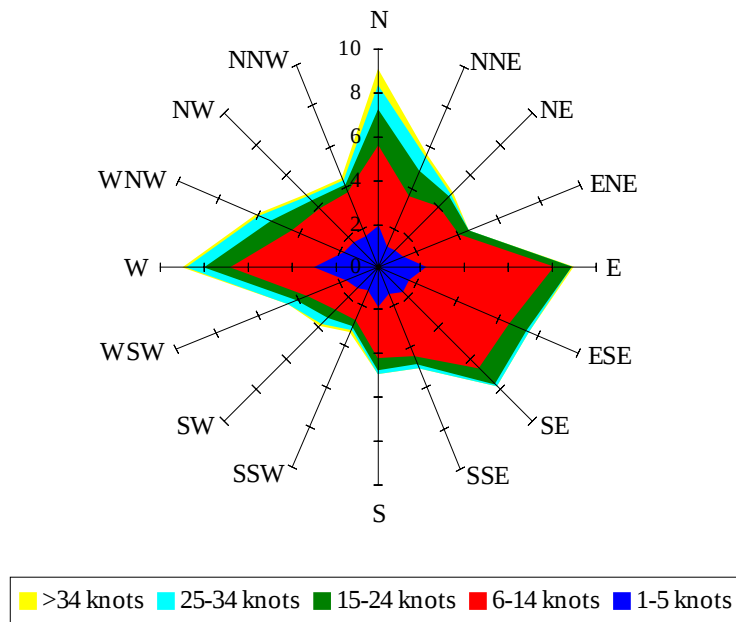
Labels of Percent Frequency on North Axis



Percent Calm = 12.87

Wind Summary - March, April, and May

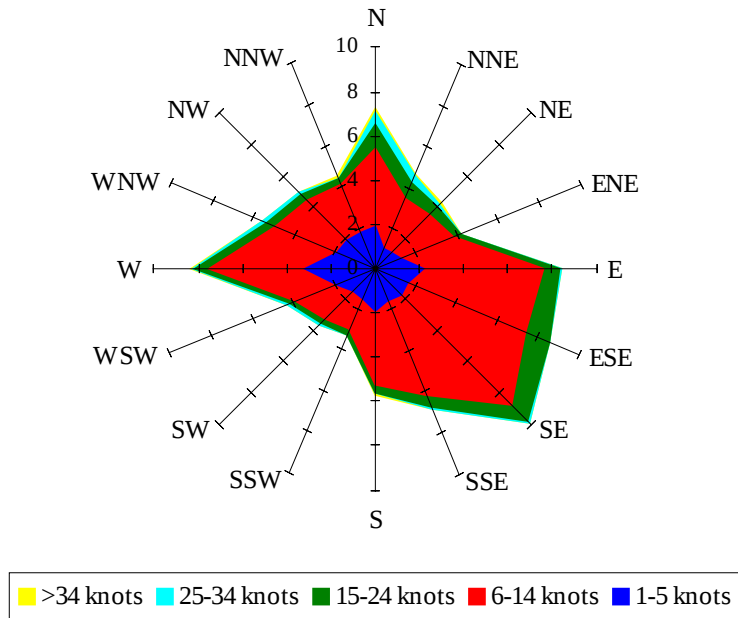
Labels of Percent Frequency on North Axis



Percent Calm = 7.04

Wind Summary - June, July, and August

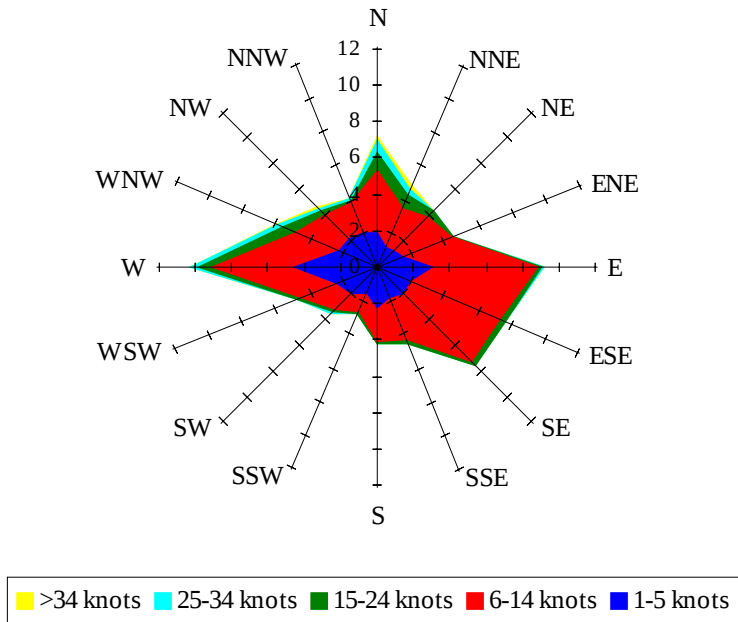
Labels of Percent Frequency on North Axis



Percent Calm = 6.59

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 10.85