

PUDAHUEL CH

Latitude = 33.30 S

Longitude = 70.78 W

Period of Record = 1973 to 1996

WMO No. 855740

Elevation = 1562 feet

Average Pressure = 28.31 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	93	66	55	12.7	SSW
0.4% Occurrence	90	65	59	12.2	S
1.0% Occurrence	88	65	60	12.6	SSW
2.0% Occurrence	86	64	61	12.9	S
Mean Daily Range	26	-	-	-	-
97.5% Occurrence	36	36	31	1.7	NNE
99.0% Occurrence	32	32	27	1.8	N
99.6% Occurrence	30	30	24	1.6	N
Median of Extreme Lows	25	25	19	1.2	NNE
	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	86	93	10.9	S
0.4% Occurrence	68	84	79	11.4	S
1.0% Occurrence	67	84	76	11.4	S
2.0% Occurrence	66	83	73	11.4	S
	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	79	0.61	8.3	SSE
0.4% Occurrence	85	76	0.54	8.3	S
1.0% Occurrence	81	77	0.51	9.9	S
2.0% Occurrence	79	74	0.50	8.2	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		4	629	1	102

Other Site Data

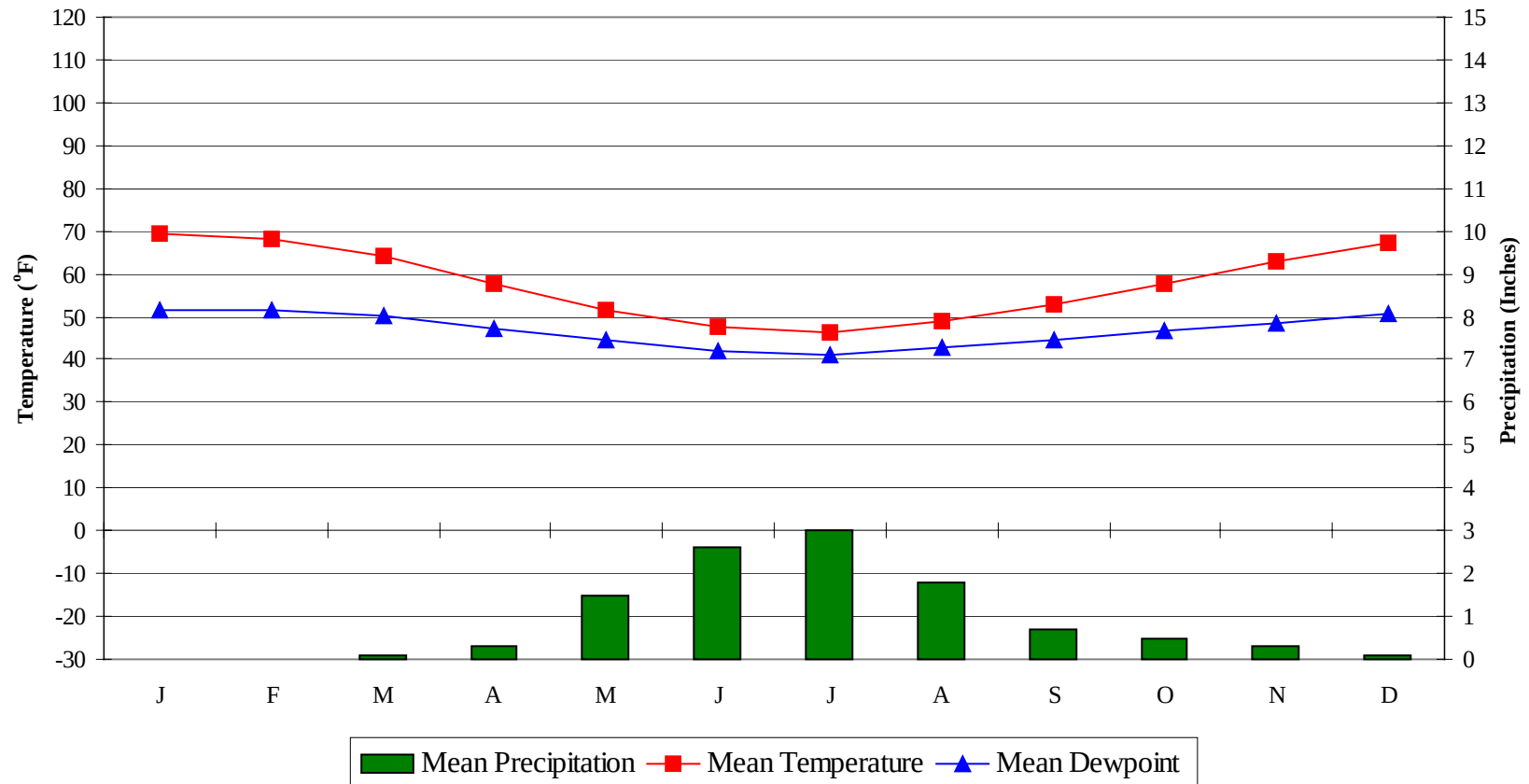
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
8	N/A	N/A	0.0 + 0.5
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
60.5	N/A	N/A	19

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

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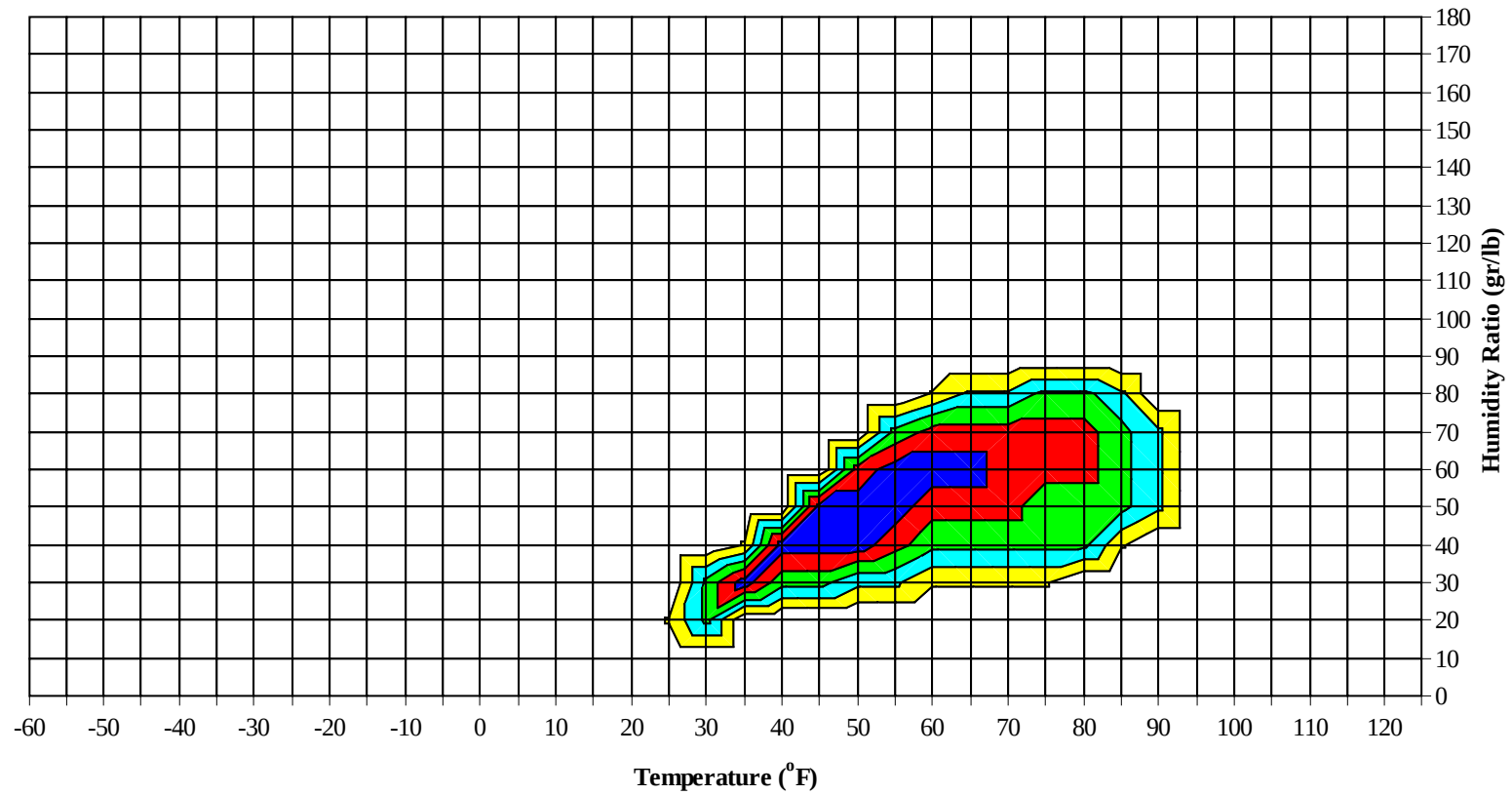
Average Annual Climate



PUDAHUEL CH

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Long Term Psychrometric Summary

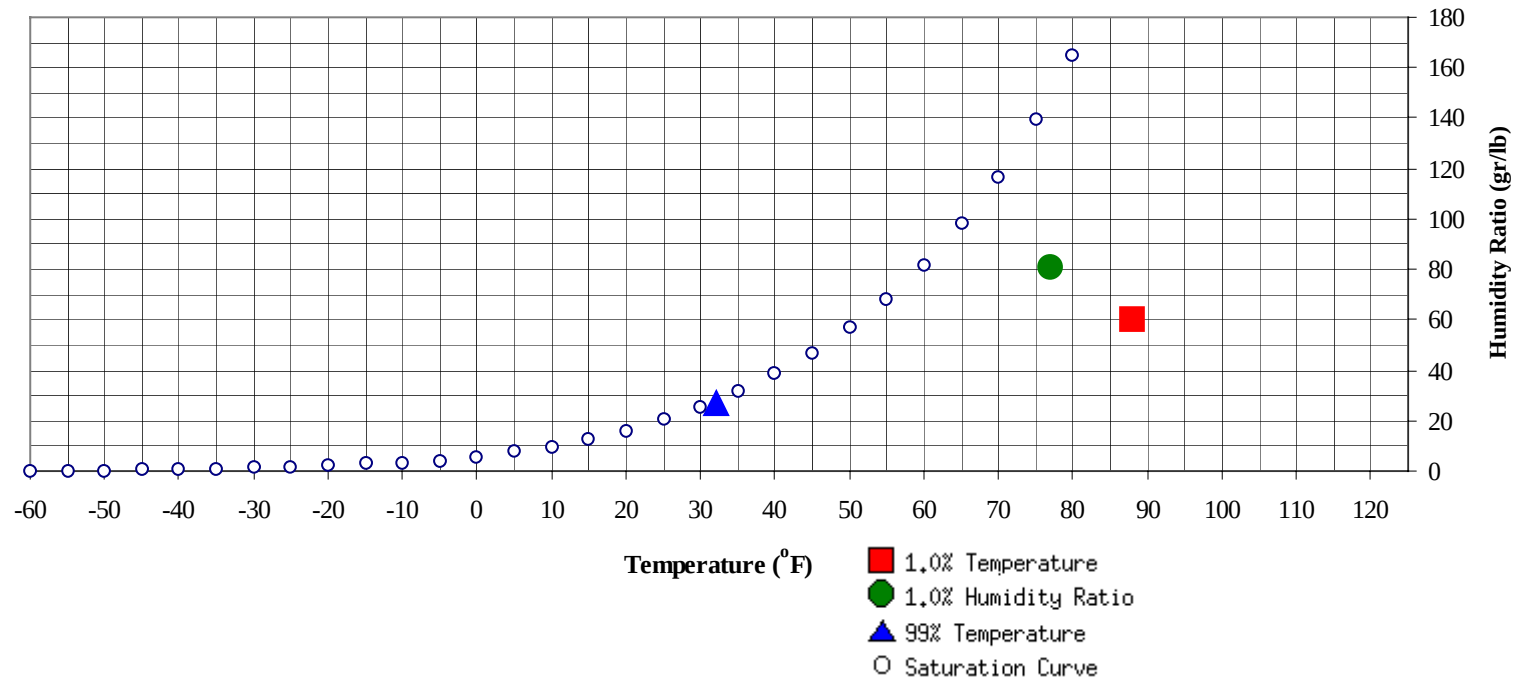


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values



	(°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	32	26.7	11.8		80.5	76.9	65.3	59.3	31.1

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	88	60.2	65	30.6

PUDAHUEL CH

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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		1	0	1	66.9		0		0	71.0		0		0	66.5
90 / 94		12	3	15	65.7		8	2	10	65.0		3	0	3	65.6
85 / 89	0	41	14	55	65.0		30	10	40	64.7		16	5	21	64.2
80 / 84	0	68	39	107	64.1	0	59	32	91	63.9		47	21	68	63.3
75 / 79	0	51	48	99	62.1	0	47	40	86	62.2		50	34	85	61.5
70 / 74	1	41	45	87	60.0	0	36	40	76	60.2	0	44	41	86	59.7
65 / 69	8	20	41	69	58.2	2	21	37	60	58.3	0	27	39	66	58.0
60 / 64	60	13	48	121	56.2	35	18	51	104	56.5	11	31	60	102	56.2
55 / 59	115	2	10	127	53.4	104	4	13	121	53.6	74	21	40	135	53.6
50 / 54	61	0	0	61	50.0	73	0	0	73	50.0	108	7	7	122	50.1
45 / 49	4			4	45.4	10	0		10	45.7	47	0	0	47	45.4
40 / 44						1	0		1	40.9	7	0	0	7	40.8
35 / 39											1		0	1	37.1
30 / 34											0		0	0	32.0
25 / 29															
20 / 24															

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. 855740

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	61.5										
85 / 89		2	0	2	61.5										
80 / 84		12	5	17	60.7		1	0	1	57.7					
75 / 79		30	13	43	59.7		8	2	10	57.9					
70 / 74		43	22	65	58.2		18	6	24	56.9		1	0	1	56.3
65 / 69		31	25	56	56.8	0	23	11	34	55.6	0	7	1	8	55.5
60 / 64	2	44	52	98	55.1	1	46	28	75	54.3	0	11	4	15	54.1
55 / 59	24	40	70	134	52.9	5	55	57	118	52.2	0	25	12	37	52.6
50 / 54	74	28	42	144	49.7	5	55	57	118	52.2	1	44	28	73	51.2
45 / 49	79	8	9	96	45.1	49	54	79	182	49.6	26	64	66	156	48.8
40 / 44	40	2	2	44	41.0	71	28	44	143	45.3	57	51	79	187	45.1
35 / 39	18	0	0	18	36.9	50	10	16	76	41.0	53	20	32	106	41.1
30 / 34	3	1	1	5	32.2	49	5	5	59	36.8	61	12	16	89	36.7
25 / 29						19	1	0	20	31.8	33	5	2	40	31.8
20 / 24						3	0		3	27.3	9	1		10	27.0
											0			0	22.3

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PUDAHUEL CH

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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		
95 / 99															
90 / 94												0		0	59.0
85 / 89											0	0		0	58.5
80 / 84		0		0	56.0			0	0	60.0	2	1	3	60.1	
75 / 79		1	0	1	56.7		3	1	4	58.0	9	3	12	59.4	
70 / 74		5	1	6	55.1		11	4	15	56.8	0	19	8	27	57.6
65 / 69		9	3	12	54.0		13	6	19	55.6	0	23	11	34	56.0
60 / 64		20	9	29	52.6	0	32	18	50	53.4	0	48	31	78	53.9
55 / 59	1	39	23	62	50.6	0	50	39	89	51.0	3	59	54	115	51.6
50 / 54	14	66	62	142	48.3	19	65	76	160	48.5	45	57	81	183	49.1
45 / 49	57	60	83	200	45.0	72	49	73	194	45.2	84	20	41	144	45.2
40 / 44	50	25	40	115	41.1	56	15	23	93	41.2	51	4	8	64	41.0
35 / 39	68	16	23	107	36.9	64	9	8	81	36.9	44	1	2	47	36.8
30 / 34	48	7	4	59	31.8	33	2	0	35	32.1	12	0	0	12	32.4
25 / 29	10	1	0	11	27.2	5	0		5	27.3	0			0	27.8
20 / 24	0			0	22.0	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.

PUDAHUEL CH

WMO No. 855740

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		0		0	63.8		2		2	64.7		9	1	10	65.3
85 / 89		2	0	2	62.9		11	3	14	63.4		27	8	35	64.4
80 / 84		12	3	15	61.5		36	12	48	62.1		62	28	90	63.4
75 / 79		32	11	43	60.2	0	53	27	80	60.7	0	58	43	101	61.6
70 / 74	0	44	24	68	58.3	0	47	34	81	58.6	0	46	48	94	59.6
65 / 69	0	34	24	58	56.7	1	31	31	63	57.1	8	23	37	68	57.7
60 / 64	1	51	49	101	54.6	13	36	55	104	55.0	38	17	53	108	55.7
55 / 59	17	44	67	128	52.1	53	19	53	125	52.4	103	5	27	136	53.1
50 / 54	93	22	55	170	49.4	113	6	22	141	49.6	82	1	3	86	49.9
45 / 49	87	4	13	104	45.3	50	0	2	52	45.4	15	0	0	15	45.6
40 / 44	33	1	2	36	41.1	8		0	8	41.2	2	0	0	2	41.1
35 / 39	16	0	1	17	37.2	2		0	2	37.5	0	0	0	0	38.0
30 / 34	2	0	0	2	32.4	0		0	0	32.2	0		0	0	32.0
25 / 29	0			0	28.0										
20 / 24															

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.

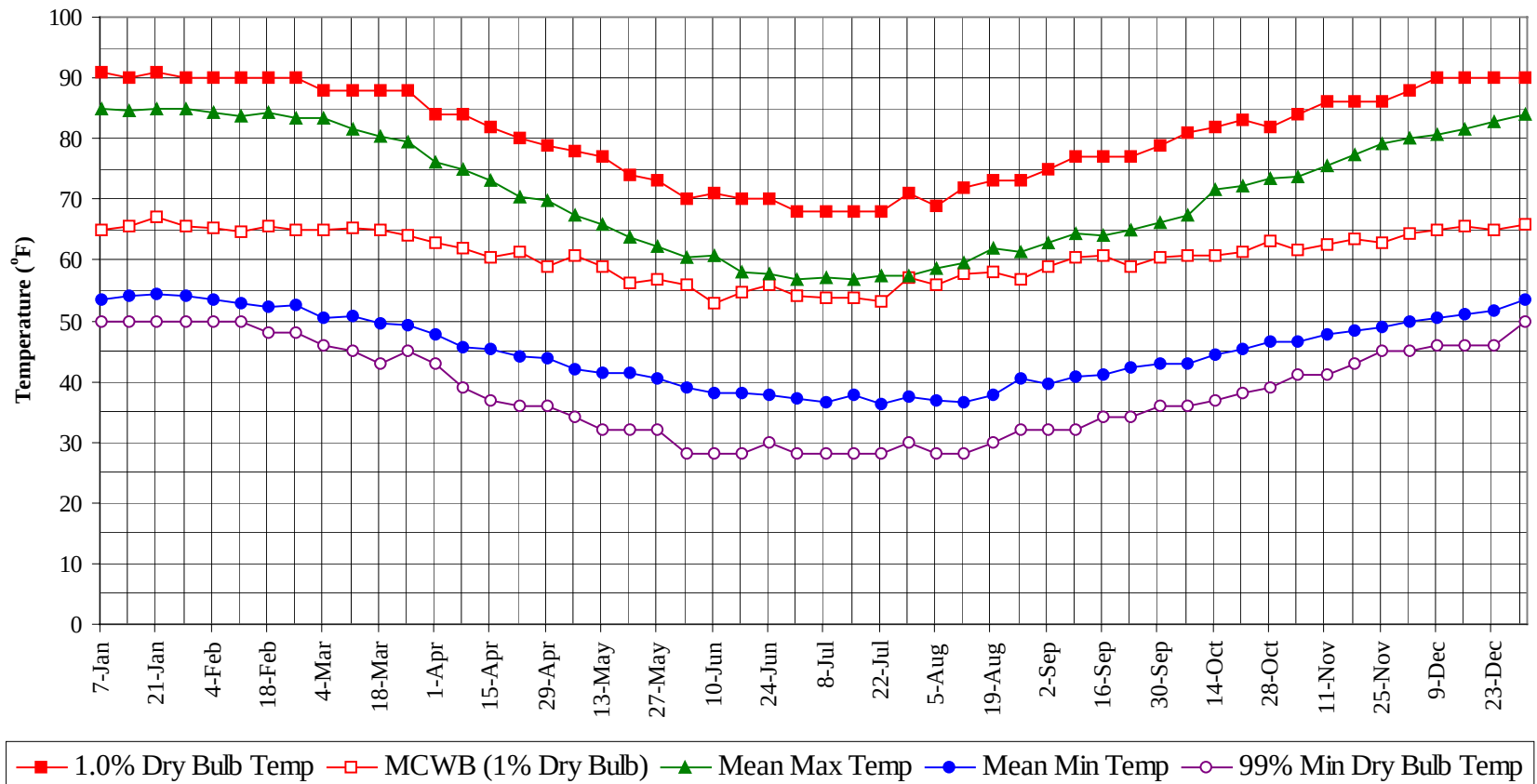
WMO No. 855740

Period of Record = 1973 to 1996

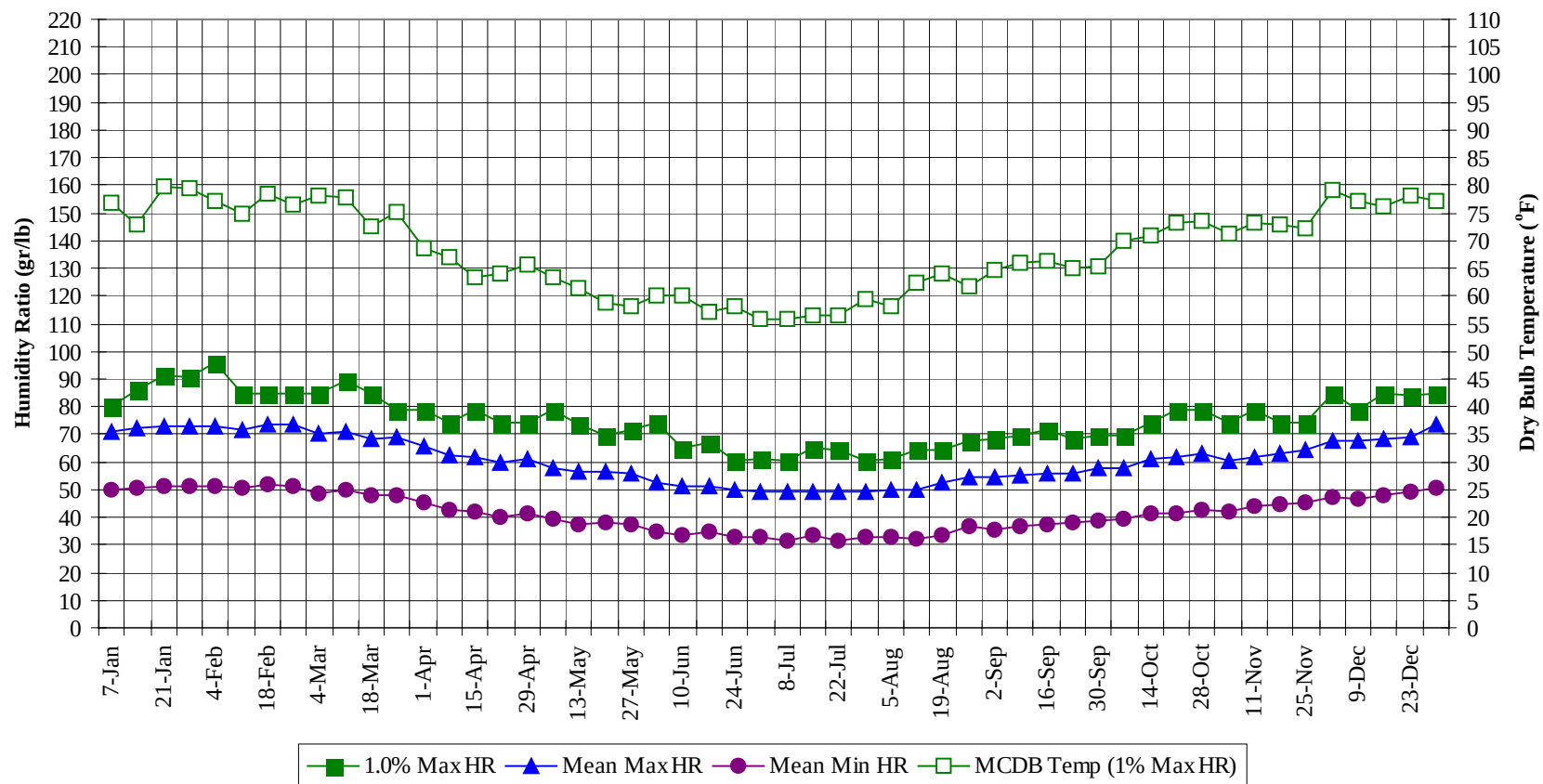
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Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate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

Annual Summary of Temperatures

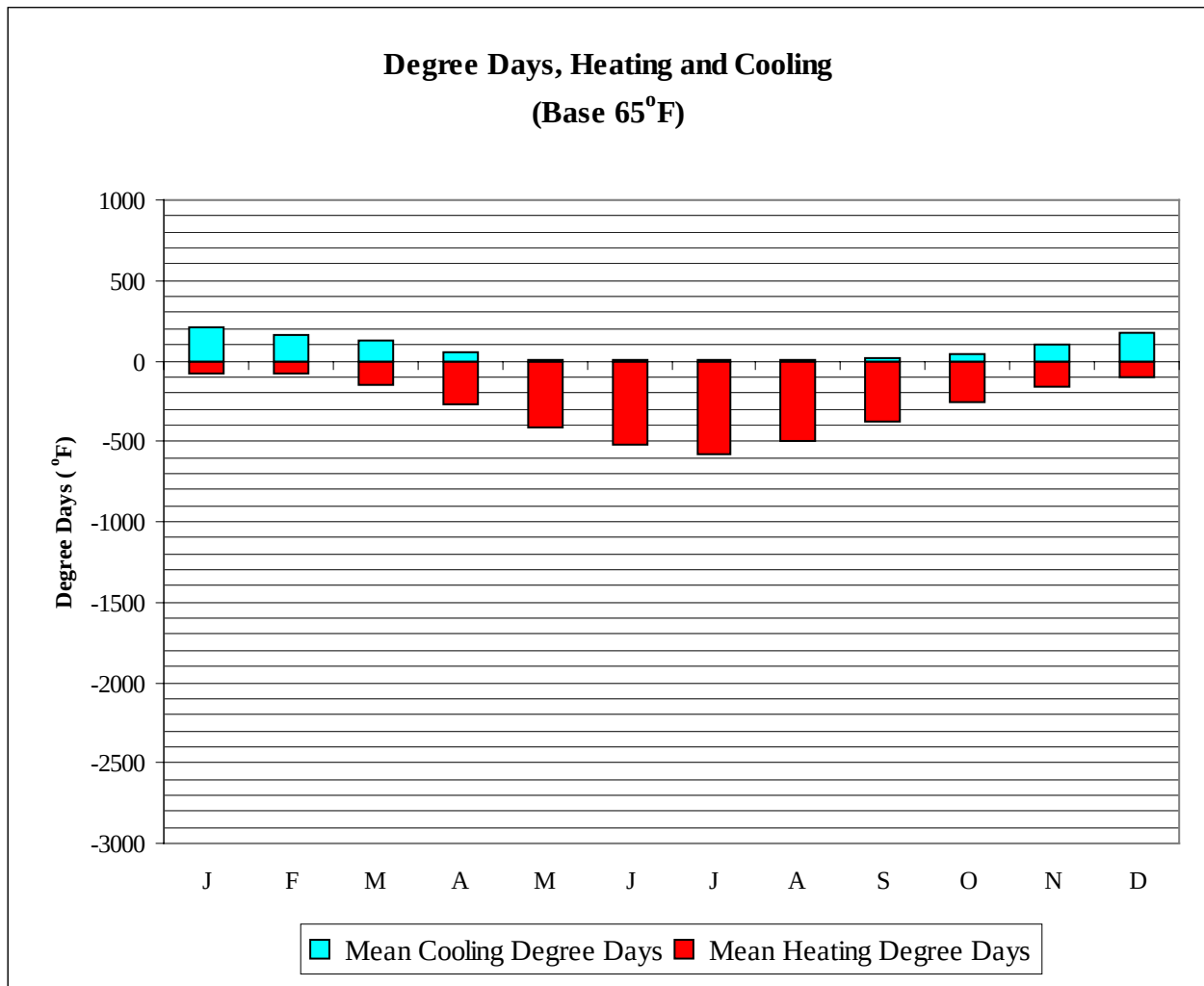


Long Term Humidity and Dry Bulb Temperature Summary



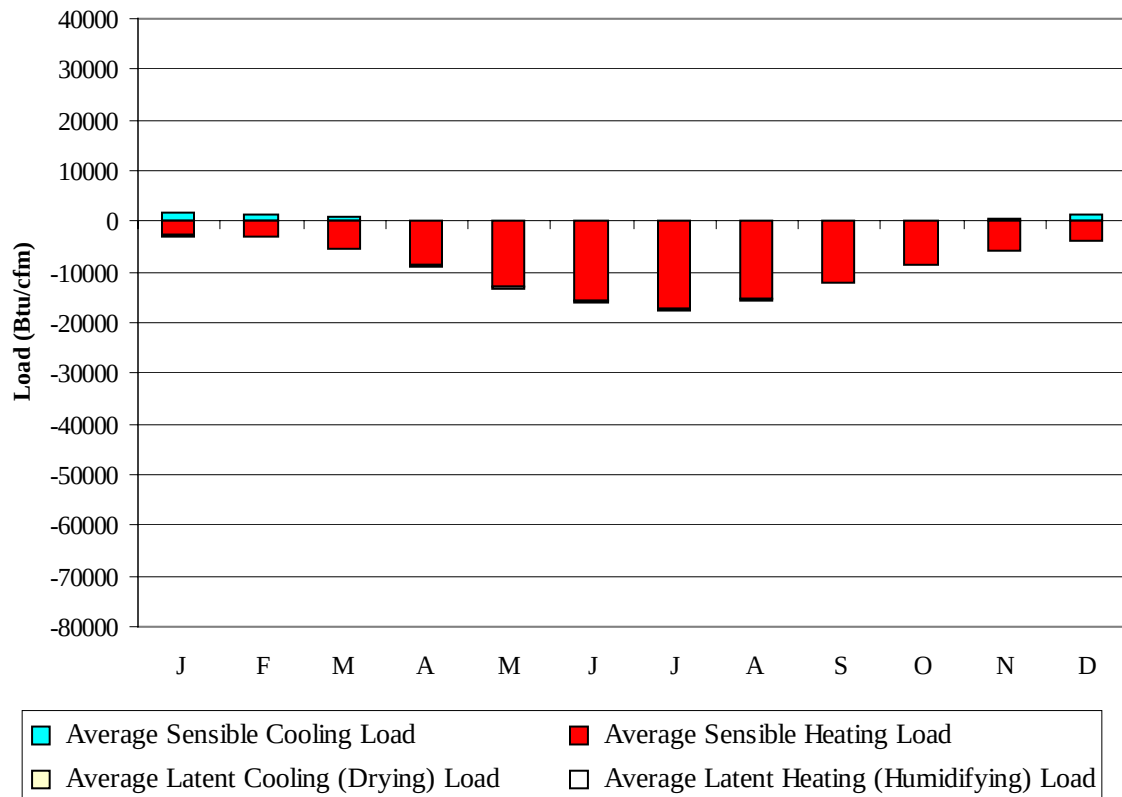
PUDAHUEL CH**WMO No. 855740****Long Term Dry Bulb Temperature and Humidity Summary**

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	91.0	65.1	84.9	53.4	50.0	79.8	77.0	71.2	49.8
14-Jan	90.0	65.4	84.6	54.1	50.0	86.1	73.0	72.2	50.7
21-Jan	91.0	67.0	84.9	54.2	50.0	91.0	79.9	73.1	51.5
28-Jan	90.0	65.7	85.0	54.0	50.0	90.3	79.5	72.6	51.0
4-Feb	90.0	65.3	84.4	53.6	50.0	95.9	77.1	73.2	50.9
11-Feb	90.0	64.6	83.8	53.0	50.0	84.7	74.9	71.4	50.6
18-Feb	90.0	65.7	84.2	52.3	48.0	84.7	78.5	73.7	51.8
25-Feb	90.0	65.0	83.5	52.5	48.0	84.7	76.6	73.4	51.4
4-Mar	88.0	64.9	83.3	50.5	46.0	84.7	78.1	70.5	48.7
11-Mar	88.0	65.2	81.4	50.7	45.0	89.6	77.9	71.2	49.8
18-Mar	88.0	65.1	80.5	49.5	43.0	84.7	72.6	68.6	48.0
25-Mar	88.0	64.0	79.4	49.1	45.0	79.1	75.2	68.8	47.9
1-Apr	84.0	62.9	76.3	47.8	43.0	79.1	68.8	65.4	45.3
8-Apr	84.0	61.9	74.8	45.7	39.0	74.2	66.9	62.5	42.4
15-Apr	82.0	60.4	73.3	45.3	37.0	79.1	63.4	61.9	42.1
22-Apr	80.0	61.3	70.4	44.0	36.0	74.2	64.0	59.6	40.0
29-Apr	79.0	59.0	69.7	43.9	36.0	74.2	65.8	61.2	41.3
6-May	78.0	60.7	67.3	42.1	34.0	79.1	63.5	57.7	39.3
13-May	77.0	58.8	65.9	41.3	32.0	73.5	61.5	56.7	37.4
20-May	74.0	56.3	63.9	41.5	32.0	69.3	58.8	56.5	38.3
27-May	73.0	56.9	62.2	40.5	32.0	71.4	58.2	55.7	37.1
3-Jun	70.0	56.0	60.4	39.0	28.0	74.2	60.2	52.5	35.0
10-Jun	71.0	53.0	60.8	38.1	28.0	65.1	60.2	51.2	33.4
17-Jun	70.0	54.6	58.0	38.1	28.0	67.2	57.0	51.2	34.6
24-Jun	70.0	55.9	57.6	37.7	30.0	60.2	58.2	50.2	33.1
1-Jul	68.0	54.2	56.9	37.0	28.0	60.9	55.8	49.5	32.9
8-Jul	68.0	53.7	57.0	36.5	28.0	60.2	55.9	49.2	31.8
15-Jul	68.0	53.9	56.7	37.6	28.0	65.1	56.6	49.5	33.7
22-Jul	68.0	53.1	57.5	36.4	28.0	64.4	56.5	49.5	31.7
29-Jul	71.0	57.0	57.5	37.4	30.0	60.2	59.5	49.1	32.8
5-Aug	69.0	56.0	58.6	36.8	28.0	60.9	58.0	50.1	32.6
12-Aug	72.0	57.8	59.4	36.5	28.0	64.4	62.3	50.0	31.9
19-Aug	73.0	58.0	61.9	37.9	30.0	64.4	63.9	52.8	33.4
26-Aug	73.0	56.7	61.4	40.4	32.0	67.9	61.8	54.6	36.6
2-Sep	75.0	59.1	62.9	39.6	32.0	68.6	64.8	54.6	35.3
9-Sep	77.0	60.5	64.3	40.9	32.0	69.3	65.9	55.4	36.6
16-Sep	77.0	60.8	63.9	41.2	34.0	71.4	66.3	55.7	37.4
23-Sep	77.0	59.0	65.0	42.3	34.0	68.6	65.1	55.7	38.0
30-Sep	79.0	60.3	66.3	42.8	36.0	69.3	65.4	57.9	39.1
7-Oct	81.0	60.6	67.4	43.1	36.0	69.3	69.8	57.8	39.6
14-Oct	82.0	60.7	71.7	44.5	37.0	74.2	70.9	60.9	41.5
21-Oct	83.0	61.3	72.1	45.3	38.0	79.1	73.2	61.7	41.5
28-Oct	82.0	63.1	73.5	46.5	39.0	79.1	73.5	62.8	42.8
4-Nov	84.0	61.7	73.8	46.6	41.0	74.2	71.1	60.5	41.8
11-Nov	86.0	62.6	75.7	47.6	41.0	79.1	73.2	61.9	43.9
18-Nov	86.0	63.4	77.3	48.3	43.0	74.2	72.9	63.0	44.8
25-Nov	86.0	62.8	79.3	49.1	45.0	74.2	72.2	64.5	45.1
2-Dec	88.0	64.5	80.1	49.7	45.0	84.7	79.0	67.7	47.4
9-Dec	90.0	65.0	80.7	50.4	46.0	79.1	77.2	67.3	46.6
16-Dec	90.0	65.4	81.4	51.2	46.0	84.7	76.3	68.1	47.8
23-Dec	90.0	64.9	82.8	51.6	46.0	84.0	78.2	69.2	49.0
31-Dec	90.0	65.8	83.9	53.6	50.0	84.7	77.0	73.3	50.5



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	209	73
FEB	165	81
MAR	124	147
APR	48	264
MAY	11	413
JUN	3	523
JUL	2	575
AUG	6	501
SEP	15	381
OCT	45	259
NOV	100	166
DEC	171	103
ANN	899	3486

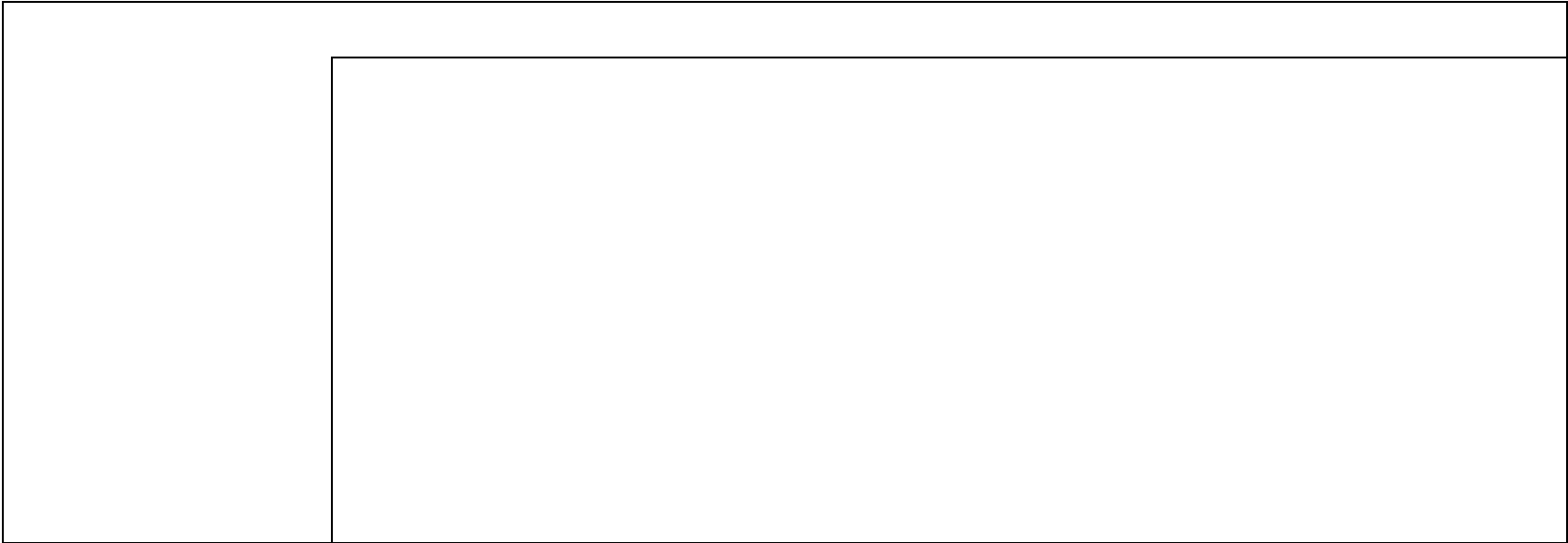
Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	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	1644	-2826	66	-6
FEB	1258	-3077	32	-5
MAR	821	-5257	24	-12
APR	181	-8739	2	-38
MAY	17	-12952	3	-143
JUN	1	-15847	0	-270
JUL	2	-17316	0	-307
AUG	9	-15330	0	-192
SEP	37	-12051	0	-104
OCT	163	-8574	1	-27
NOV	600	-5841	3	-11
DEC	1251	-3859	18	-6
ANN	5984	-111669	149	-1121

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

No Solar Radiation
Data Available

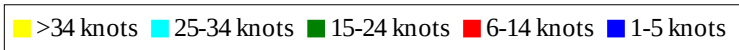
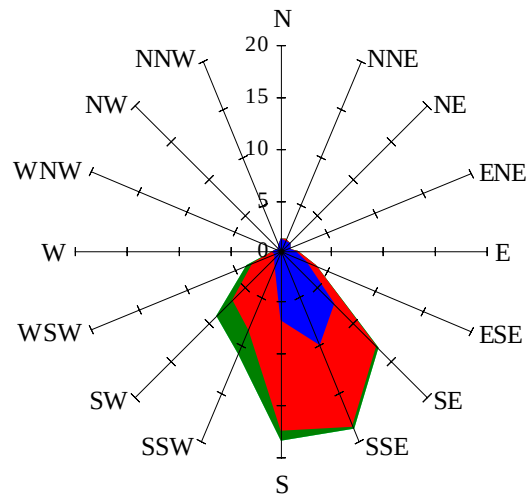


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

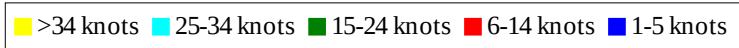
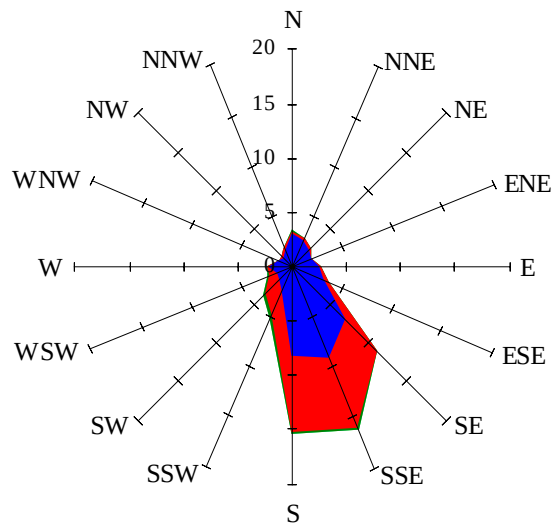
Labels of Percent Frequency on North Axis



Percent Calm = 15.55

Wind Summary - March, April, and May

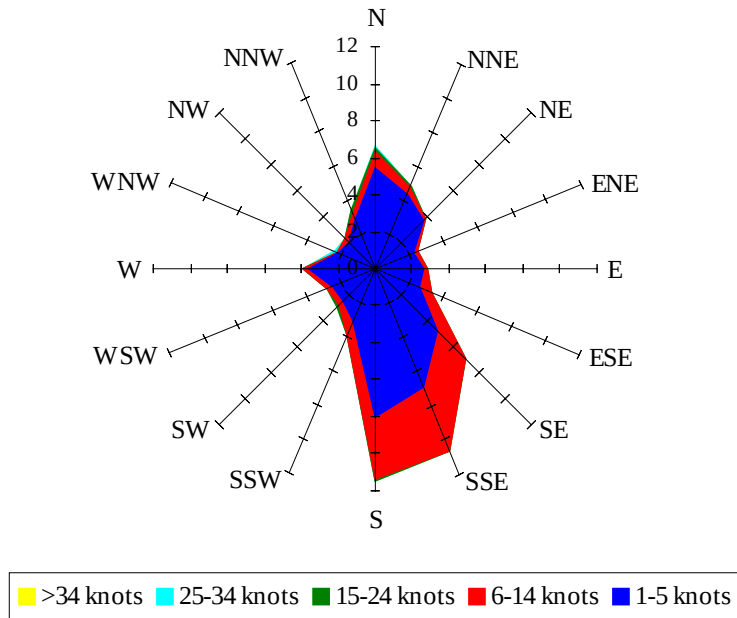
Labels of Percent Frequency on North Axis



Percent Calm = 23.88

Wind Summary - June, July, and August

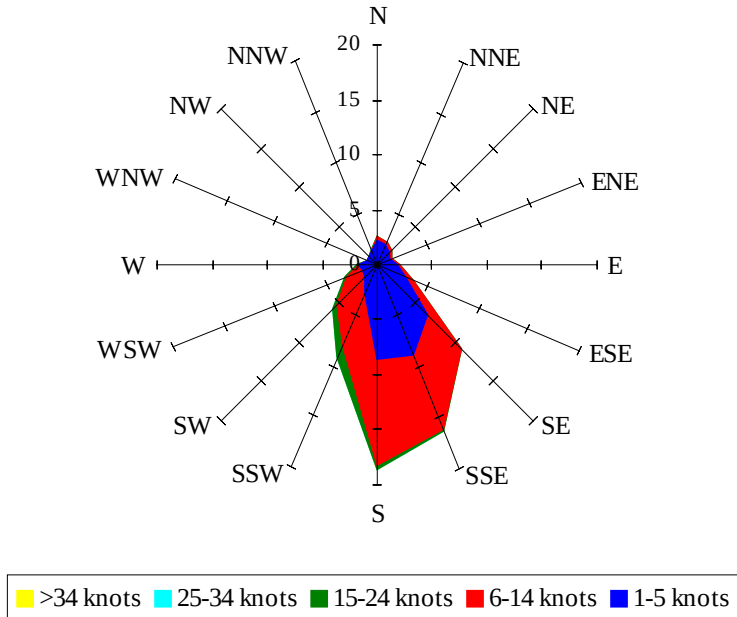
Labels of Percent Frequency on North Axis



Percent Calm = 25.84

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 18.05