

CARRASCO UY

Latitude = 34.80 S

Longitude = 56.00 W

Period of Record = 1973 to 1996

WMO No. 865800

Elevation = 105 feet

Average Pressure = 29.82 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	95	73	90	17.4	N
0.4% Occurrence	90	72	92	14.6	N
1.0% Occurrence	86	71	91	14.2	N
2.0% Occurrence	83	70	91	13.6	N
Mean Daily Range	15	-	-	-	-
97.5% Occurrence	41	40	33	8.2	N
99.0% Occurrence	37	36	29	7.1	N
99.6% Occurrence	34	33	27	6.2	N
Median of Extreme Lows	32	31	25	5.5	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	79	88	132	13.0	ESE
0.4% Occurrence	76	84	120	12.6	N
1.0% Occurrence	74	81	115	12.3	ESE
2.0% Occurrence	73	79	111	12.1	ESE
	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	141	84	0.94	11.1	N
0.4% Occurrence	125	80	0.83	11.1	E
1.0% Occurrence	118	77	0.78	11.1	ESE
2.0% Occurrence	113	76	0.75	12.1	ESE
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		13	360	194	1361

Other Site Data

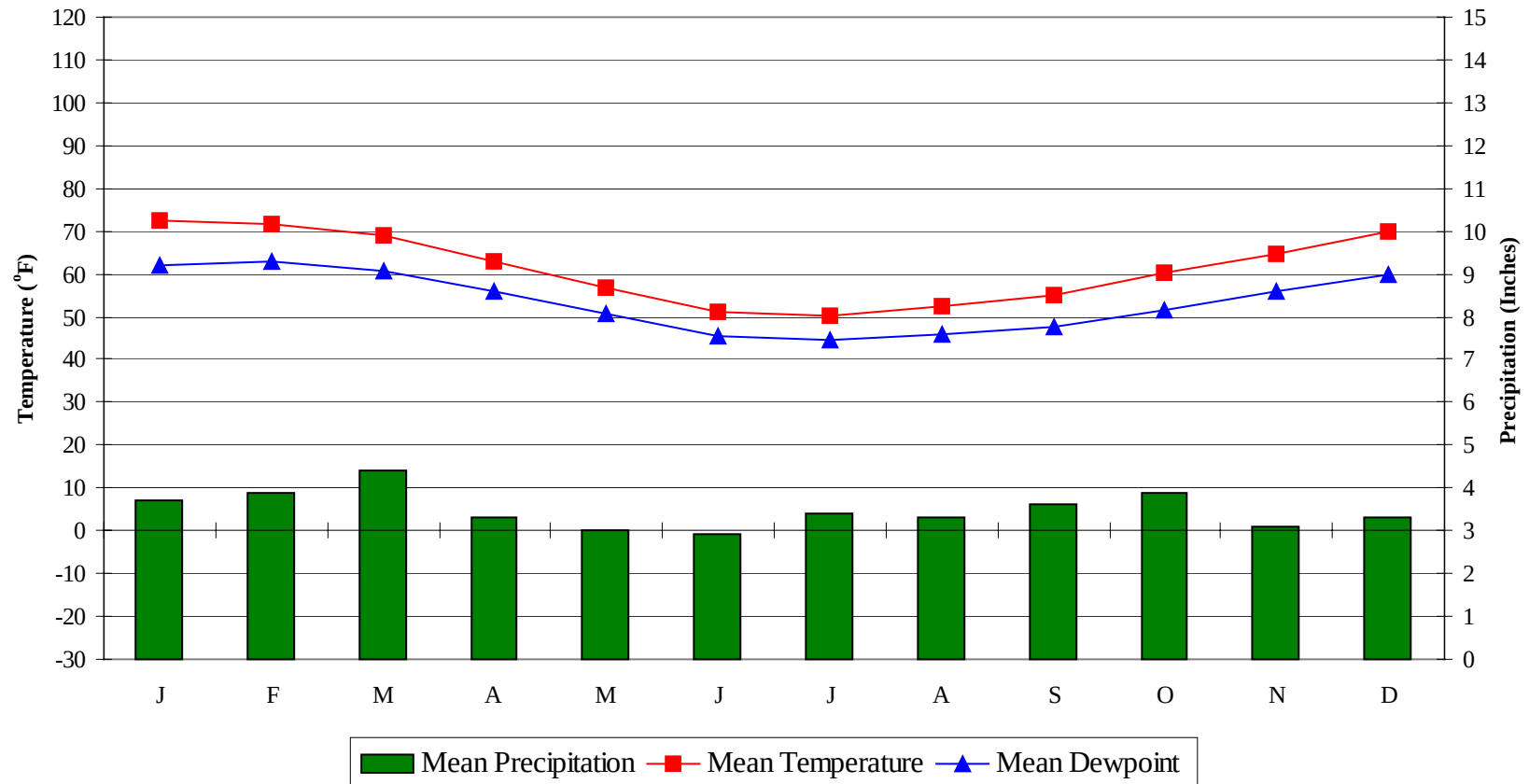
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
8	N/A	N/A	1.5 + 0.3
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
63.9	N/A	N/A	2

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

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WMO No. 865800

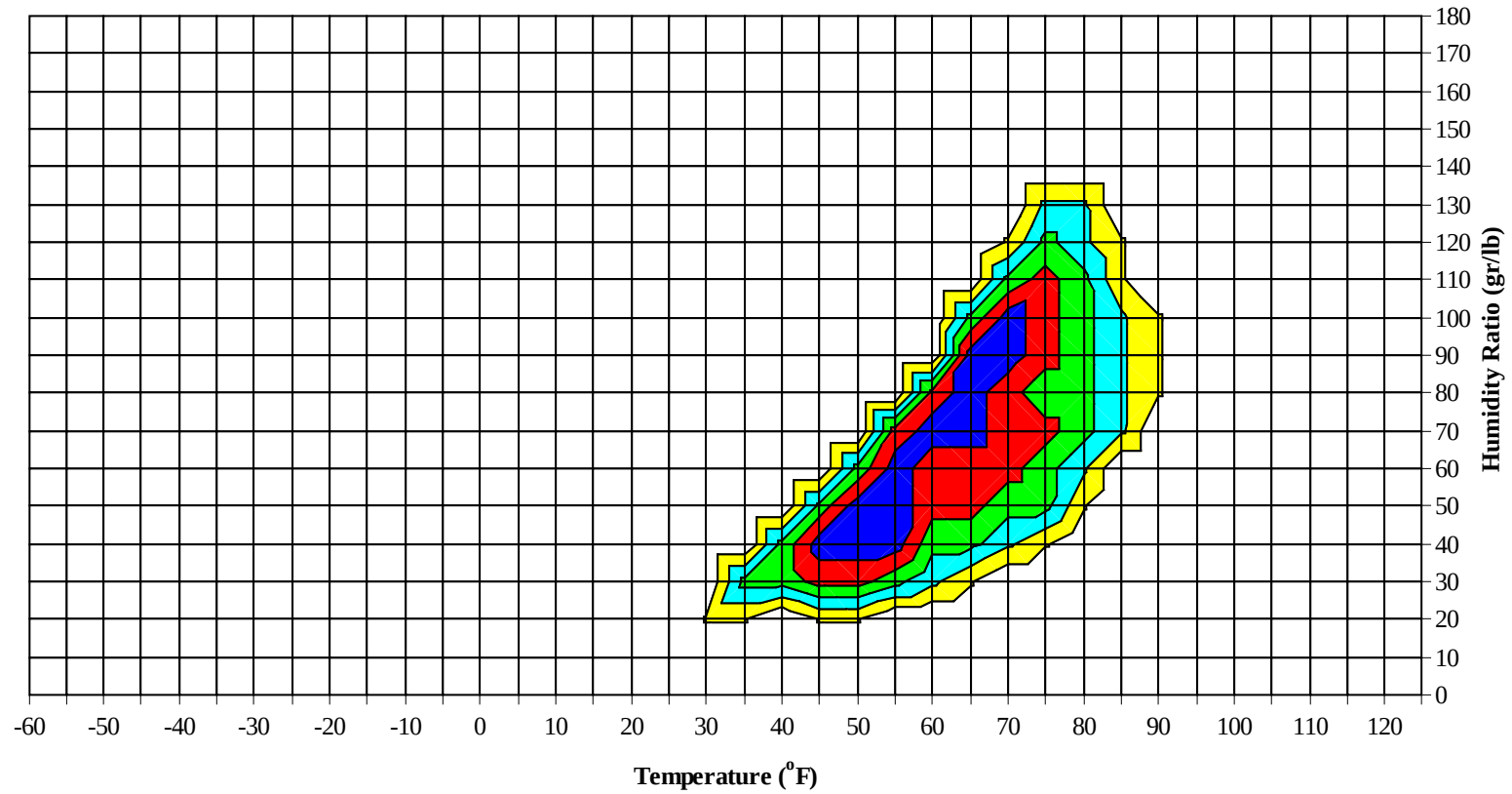
Average Annual Climate



CARRASCO UY

WMO No. 865800

Long Term Psychrometric Summary

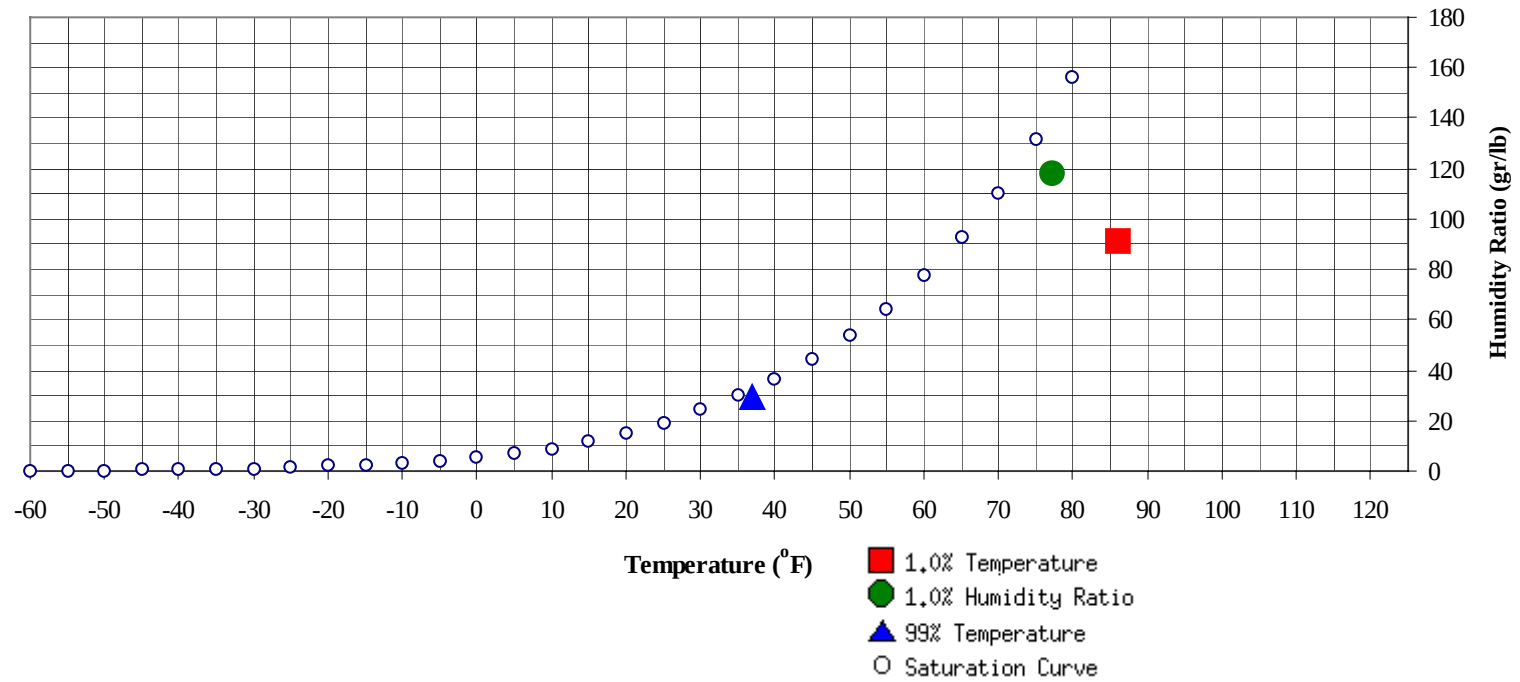


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

CARRASCO UY

WMO No. 865800

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)
	37	29.5	13.4		118.3	77.2	73.3	71.6	37.0

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	86	90.8	70.9	34.9

CARRASCO UY

WMO No. 865800

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		
100 / 104		0	0	0	76.5										
95 / 99		3	1	4	73.4		0	0	0	75.0			0	0	77.0
90 / 94	0	11	2	13	72.1		6	1	7	74.1		2	1	3	74.1
85 / 89	0	17	6	23	71.7		12	3	15	71.9		7	2	9	72.2
80 / 84	1	47	21	69	70.4	0	37	13	50	71.0	0	29	8	37	70.6
75 / 79	16	82	61	158	69.0	9	70	54	133	69.8	3	64	33	100	68.8
70 / 74	75	65	96	236	66.3	67	72	94	233	66.8	41	82	91	214	66.6
65 / 69	74	19	43	136	62.7	72	21	38	131	63.1	71	43	62	176	63.2
60 / 64	60	4	17	81	58.9	51	6	18	75	58.9	79	18	41	137	59.1
55 / 59	18	0	2	20	54.8	20	0	3	23	55.0	38	3	10	51	54.6
50 / 54	4		0	4	50.9	4		0	4	51.2	14	0	1	15	50.7
45 / 49			0	0	40.0	0			0	47.3	1		0	1	45.5
40 / 44															
35 / 39															
30 / 34															
25 / 29															

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.

CARRASCO UY

WMO No. 865800

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		
100 / 104															
95 / 99															
90 / 94															
85 / 89		1	0	1	72.9		0		0	76.0					
80 / 84	0	6	2	8	69.2		2	0	2	71.3				0	71.0
75 / 79	1	22	7	30	67.1	0	7	2	9	68.0		0		2	65.1
70 / 74	5	52	29	86	65.1	3	20	9	32	64.5	0	6	2	8	63.0
65 / 69	26	60	53	139	63.2	5	29	16	50	61.8	2	10	6	18	60.7
60 / 64	71	66	83	220	59.2	36	76	55	167	58.8	13	33	19	64	57.9
55 / 59	71	27	49	147	54.0	55	66	73	194	53.8	30	67	43	140	53.6
50 / 54	48	5	15	68	50.2	62	35	59	157	49.1	54	75	81	210	48.9
45 / 49	16	1	2	19	45.7	54	11	27	91	44.8	66	33	59	159	44.2
40 / 44	2		0	2	41.4	25	3	6	34	41.0	34	10	20	63	40.5
35 / 39	0			0	38.0	7	0	1	8	37.2	32	5	9	46	36.5
30 / 34						1			1	33.4	7	1	1	9	32.1
25 / 29											1			1	27.9

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.

CARRASCO UY

WMO No. 865800

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		
100 / 104															
95 / 99															
90 / 94							0		0	71.0					
85 / 89		0		0	72.0	0	0	0	0	69.3		1	0	1	68.7
80 / 84		1	0	1	69.5	1	0	1	1	67.1		3	1	4	67.6
75 / 79	0	2	1	3	65.4		5	1	6	64.6	0	6	3	9	65.0
70 / 74	1	6	3	10	62.2	1	11	5	17	61.8	1	18	8	27	61.4
65 / 69	2	10	4	16	59.6	2	15	7	24	58.4	3	22	12	37	58.9
60 / 64	7	25	16	48	57.0	10	36	21	67	56.5	12	43	31	85	57.2
55 / 59	18	50	34	102	53.2	28	63	51	142	53.0	42	76	66	184	53.4
50 / 54	59	81	78	218	49.3	67	79	92	238	49.2	84	58	78	220	49.1
45 / 49	71	56	73	201	44.2	77	31	54	162	44.4	59	13	34	107	43.8
40 / 44	42	11	27	80	40.3	33	5	13	51	40.5	23	1	6	30	40.2
35 / 39	33	6	11	50	36.6	24	2	5	31	36.4	13	0	1	14	36.6
30 / 34	15	1	1	17	32.1	6	0	0	6	32.1	2		0	2	32.0
25 / 29	0			0	28.0	0			0	28.0	0			0	28.0

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.

CARRASCO UY

WMO No. 865800

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		
100 / 104															
95 / 99							0	0	0	77.8		1	0	1	73.5
90 / 94		0	0	0	74.0		2	0	2	72.4		6	2	8	71.4
85 / 89		2	0	2	70.5		5	2	7	69.0		12	4	17	70.2
80 / 84		7	2	9	68.0		16	6	22	67.2	0	36	14	50	69.1
75 / 79	0	16	6	22	63.8	1	31	14	47	65.8	7	60	39	106	67.8
70 / 74	2	36	16	54	62.1	9	51	34	95	64.1	43	78	75	197	65.7
65 / 69	12	40	29	81	60.7	26	58	49	134	62.0	68	38	62	169	62.7
60 / 64	40	77	66	183	58.1	84	55	83	222	58.7	79	16	41	136	58.6
55 / 59	83	55	80	218	53.8	82	20	41	143	54.1	38	1	9	48	54.0
50 / 54	71	15	40	126	49.1	28	1	9	38	49.4	11	0	1	12	50.5
45 / 49	31	0	8	39	44.6	8	0	1	9	45.3	1		0	1	46.1
40 / 44	8		1	9	40.9	1		0	1	41.7					
35 / 39	1		0	1	37.7										
30 / 34															
25 / 29															

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. 865800

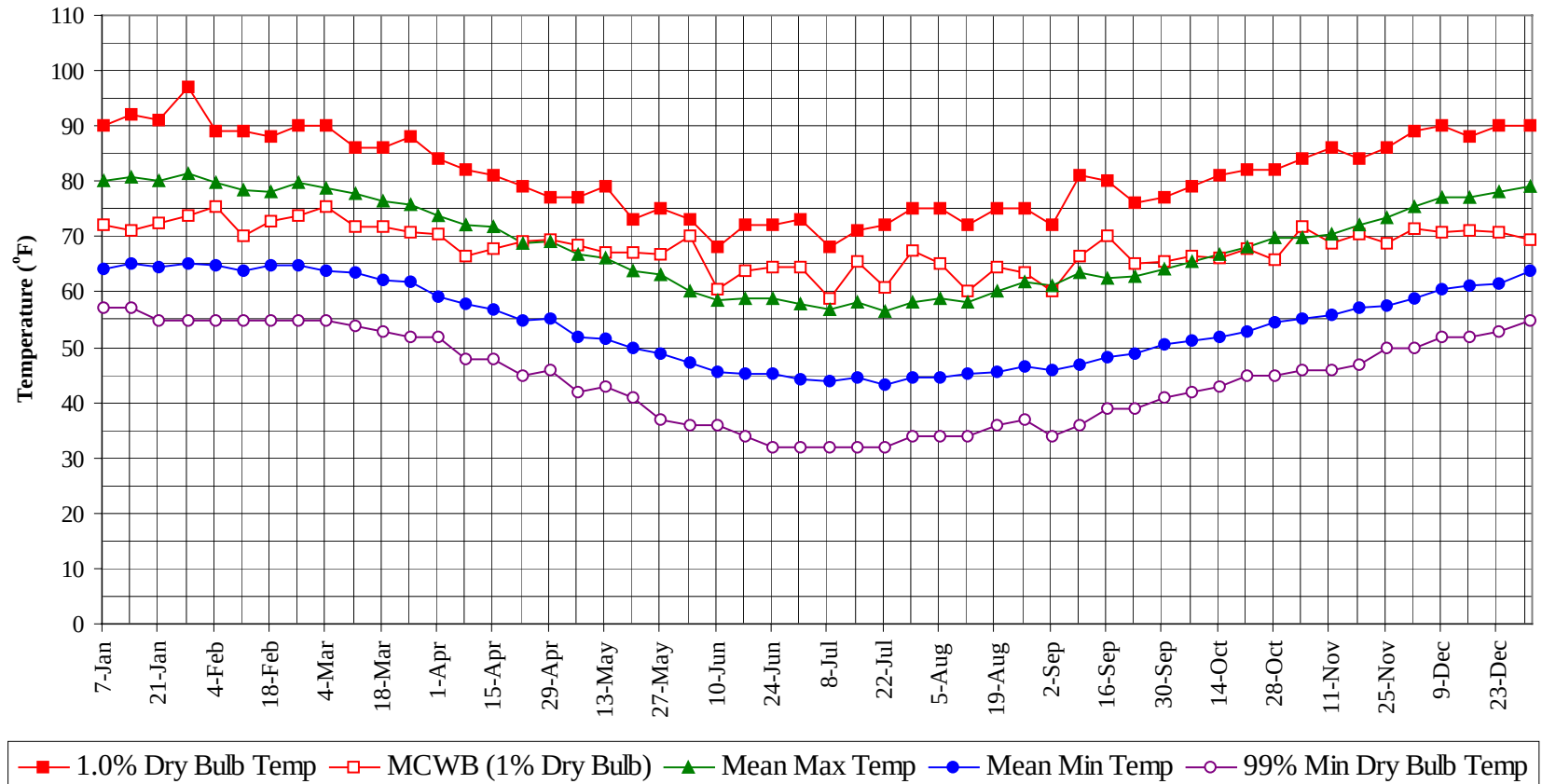
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

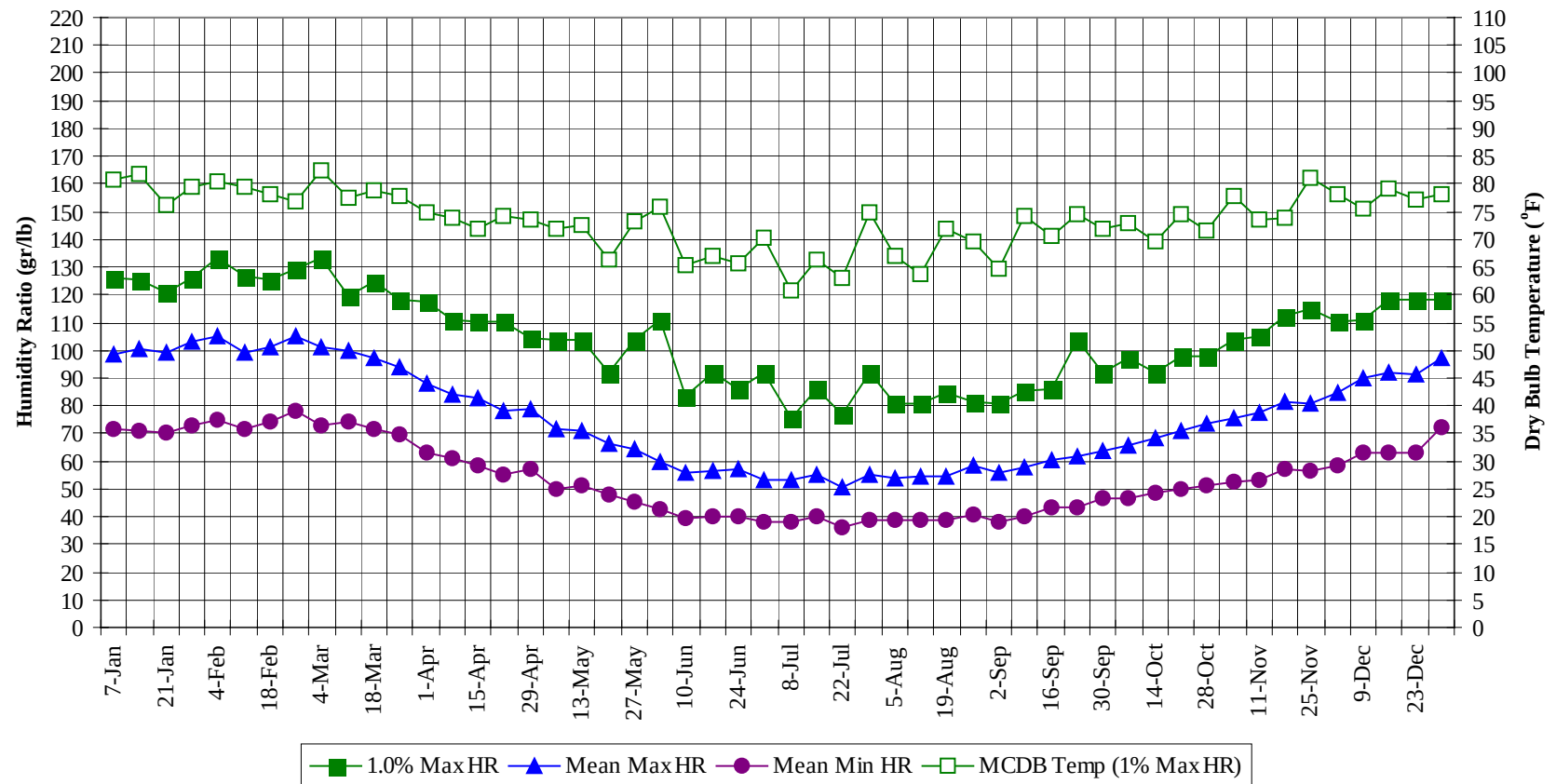
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
100 / 104		0	0	0	76.5
95 / 99		5	1	6	73.8
90 / 94	0	27	5	32	72.5
85 / 89	0	58	17	75	71.2
80 / 84	2	186	68	256	69.8
75 / 79	39	368	221	628	68.3
70 / 74	255	501	465	1222	65.7
65 / 69	369	366	384	1118	62.3
60 / 64	546	449	491	1487	58.5
55 / 59	523	426	460	1410	53.7
50 / 54	501	346	450	1297	49.2
45 / 49	379	143	257	779	44.3
40 / 44	166	30	71	266	40.5
35 / 39	108	12	27	148	36.6
30 / 34	31	2	2	35	32.1
25 / 29	1			1	27.9

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.

Annual Summary of Temperatures

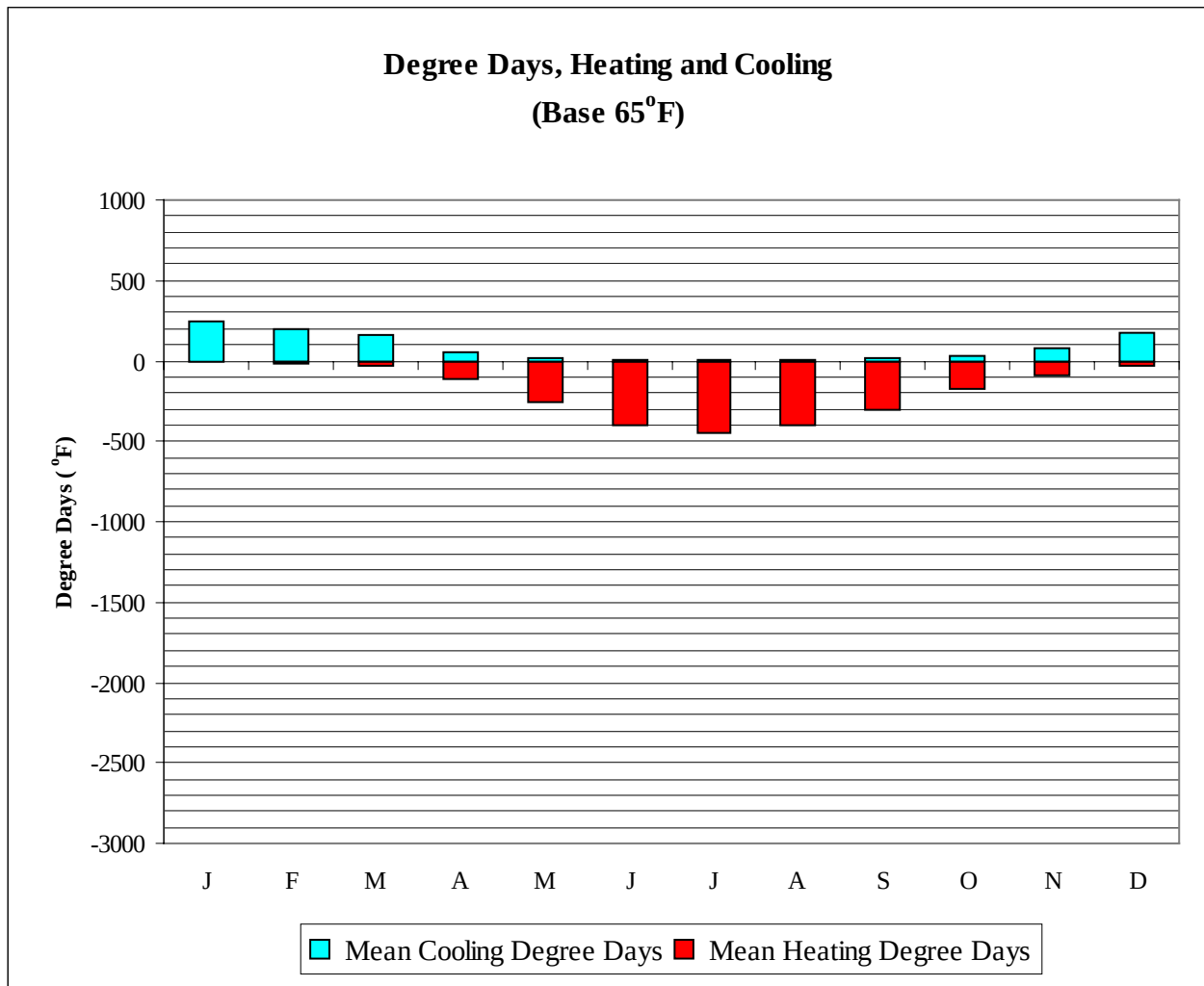


Long Term Humidity and Dry Bulb Temperature Summary



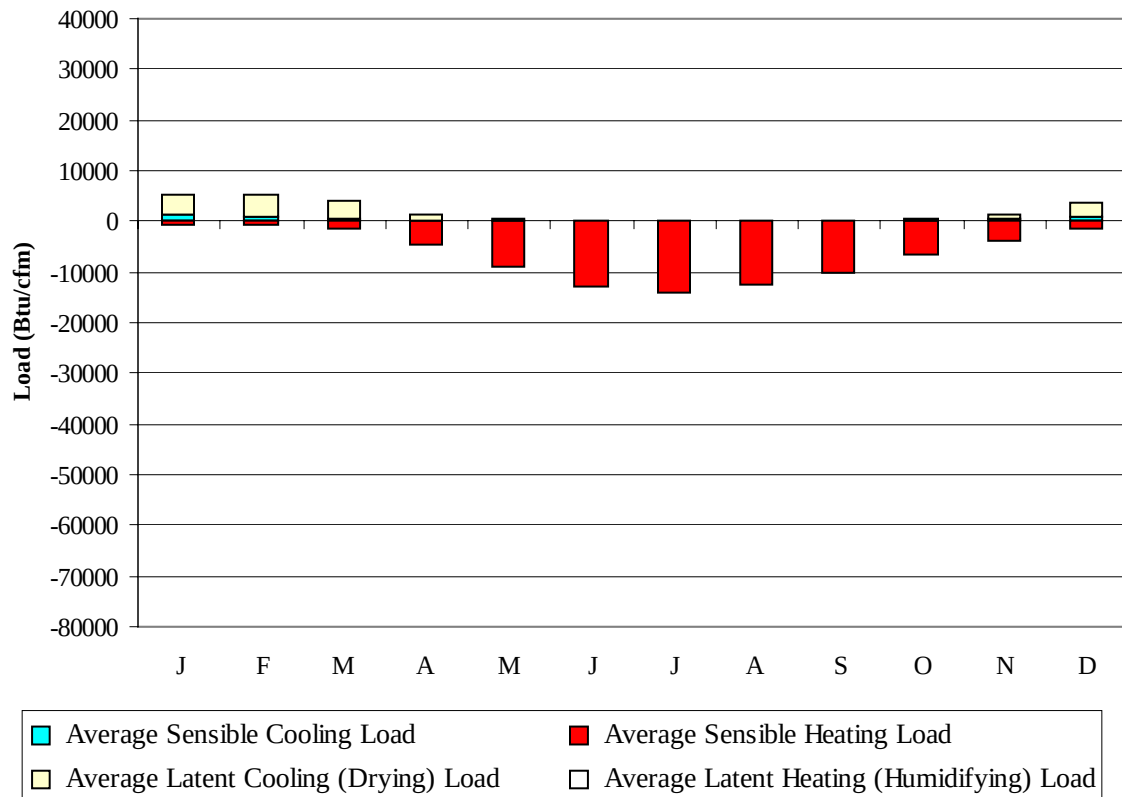
CARRASCO UY**WMO No. 865800****Long Term Dry Bulb Temperature and Humidity Summary**

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	90.0	72.3	80.1	64.3	57.0	126.0	80.8	98.4	71.7
14-Jan	92.0	71.0	80.8	65.3	57.0	125.3	81.7	100.6	70.7
21-Jan	91.0	72.3	80.2	64.4	55.0	121.1	76.3	99.4	70.2
28-Jan	97.0	73.8	81.6	65.2	55.0	126.0	79.3	103.0	73.1
4-Feb	89.0	75.4	79.7	65.0	55.0	133.0	80.5	105.4	75.1
11-Feb	89.0	70.0	78.5	63.8	55.0	126.7	79.5	99.4	71.8
18-Feb	88.0	72.6	78.2	64.7	55.0	125.3	78.3	101.1	74.5
25-Feb	90.0	73.7	79.8	64.9	55.0	129.5	76.8	105.2	78.2
4-Mar	90.0	75.3	78.8	63.7	55.0	133.0	82.4	101.3	73.1
11-Mar	86.0	71.7	77.6	63.6	54.0	119.7	77.5	99.9	73.9
18-Mar	86.0	71.7	76.6	62.2	53.0	124.6	78.8	97.0	71.5
25-Mar	88.0	70.8	75.7	61.7	52.0	118.3	78.0	94.0	69.4
1-Apr	84.0	70.3	73.9	59.2	52.0	117.6	74.9	88.3	63.3
8-Apr	82.0	66.5	72.0	57.9	48.0	111.3	73.7	84.3	61.2
15-Apr	81.0	68.0	71.8	56.8	48.0	110.6	72.1	82.5	58.2
22-Apr	79.0	69.1	68.9	55.0	45.0	110.6	74.3	78.2	55.3
29-Apr	77.0	69.6	69.0	55.0	46.0	104.3	73.7	78.5	57.1
6-May	77.0	68.3	66.9	51.7	42.0	103.6	71.9	71.6	49.8
13-May	79.0	67.2	66.1	51.6	43.0	103.6	72.6	71.2	51.0
20-May	73.0	67.0	63.7	49.8	41.0	91.7	66.3	66.5	47.7
27-May	75.0	66.9	63.0	48.7	37.0	103.6	73.3	64.6	45.4
3-Jun	73.0	70.1	60.1	47.3	36.0	111.3	75.8	59.6	42.8
10-Jun	68.0	60.5	58.6	45.4	36.0	83.3	65.3	55.7	39.5
17-Jun	72.0	63.9	58.8	45.2	34.0	91.7	67.0	56.7	40.2
24-Jun	72.0	64.6	58.7	45.2	32.0	86.1	65.8	57.2	40.2
1-Jul	73.0	64.6	57.7	44.2	32.0	91.7	70.1	53.0	37.8
8-Jul	68.0	58.9	57.0	44.0	32.0	75.6	60.8	53.4	38.0
15-Jul	71.0	65.5	58.1	44.6	32.0	86.1	66.3	55.3	40.2
22-Jul	72.0	60.9	56.4	43.1	32.0	77.0	62.9	50.8	36.3
29-Jul	75.0	67.4	58.2	44.5	34.0	91.7	74.9	55.2	38.9
5-Aug	75.0	65.0	58.7	44.6	34.0	80.5	67.1	54.0	39.0
12-Aug	72.0	60.1	58.2	45.1	34.0	80.5	63.8	54.4	38.8
19-Aug	75.0	64.3	60.2	45.5	36.0	84.7	72.0	54.5	38.7
26-Aug	75.0	63.4	61.7	46.5	37.0	81.2	69.8	58.4	40.5
2-Sep	72.0	60.1	61.1	46.0	34.0	80.5	64.8	55.7	38.4
9-Sep	81.0	66.6	63.4	46.7	36.0	85.4	74.1	57.9	40.0
16-Sep	80.0	70.0	62.3	48.2	39.0	86.1	70.5	60.1	43.1
23-Sep	76.0	65.0	62.9	48.9	39.0	103.6	74.4	61.7	43.7
30-Sep	77.0	65.4	64.1	50.4	41.0	91.7	71.8	63.4	46.4
7-Oct	79.0	66.5	65.3	51.2	42.0	97.3	73.0	65.9	46.8
14-Oct	81.0	66.0	66.7	51.8	43.0	91.7	69.5	68.5	48.5
21-Oct	82.0	67.6	68.2	52.9	45.0	98.0	74.6	70.7	50.2
28-Oct	82.0	66.0	69.8	54.3	45.0	98.0	71.7	73.6	51.3
4-Nov	84.0	71.7	69.7	55.2	46.0	103.6	77.9	75.6	52.7
11-Nov	86.0	68.8	70.4	55.9	46.0	105.0	73.5	77.6	53.5
18-Nov	84.0	70.5	72.2	57.3	47.0	112.0	73.8	81.3	57.2
25-Nov	86.0	68.7	73.3	57.6	50.0	114.8	81.0	81.1	56.4
2-Dec	89.0	71.5	75.3	59.0	50.0	110.6	78.2	84.9	58.3
9-Dec	90.0	71.0	77.0	60.4	52.0	111.3	75.5	90.1	63.0
16-Dec	88.0	71.2	77.2	61.3	52.0	118.3	79.2	91.7	63.1
23-Dec	90.0	70.8	78.2	61.4	53.0	118.3	77.1	91.1	63.2
31-Dec	90.0	69.3	79.2	64.0	55.0	118.3	78.0	97.5	72.0



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	249	11
FEB	201	12
MAR	157	31
APR	52	110
MAY	16	263
JUN	3	406
JUL	5	451
AUG	8	396
SEP	16	303
OCT	34	175
NOV	80	88
DEC	179	30
ANN	1000	2276

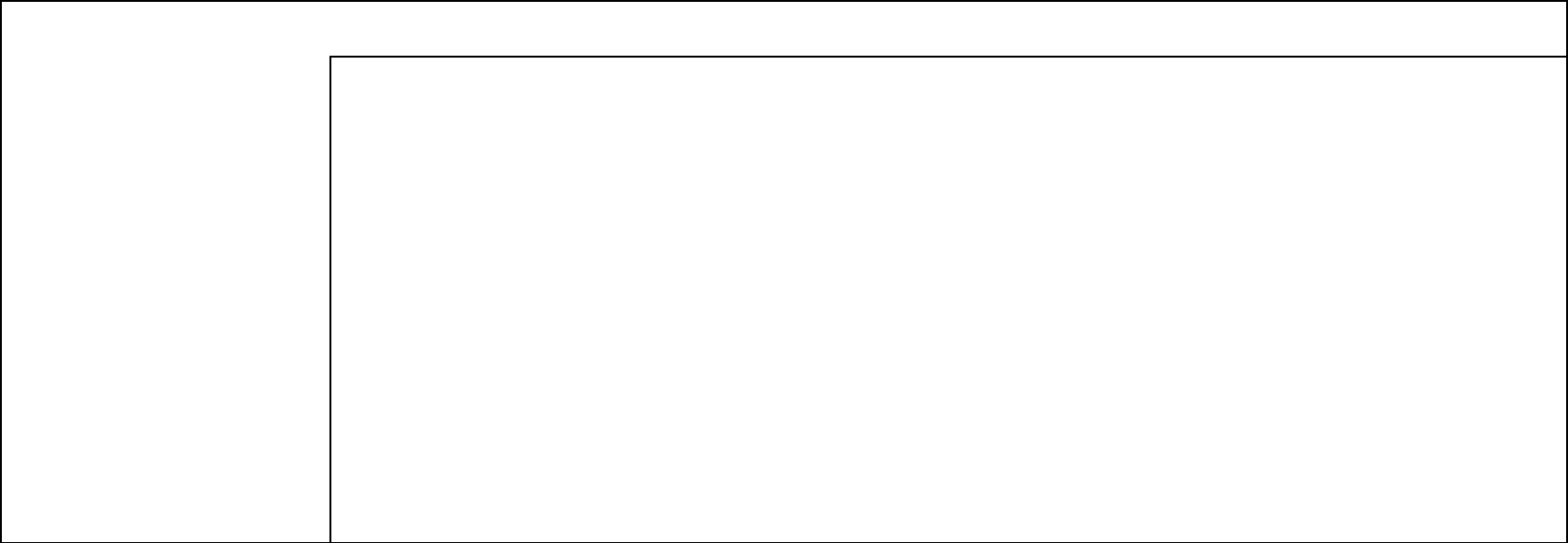
Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	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	1300	-699	4145	0
FEB	818	-721	4499	0
MAR	517	-1617	3512	-1
APR	102	-4519	1306	-1
MAY	25	-8993	456	-23
JUN	2	-12775	74	-109
JUL	11	-14008	37	-151
AUG	13	-12513	30	-128
SEP	41	-9980	105	-71
OCT	100	-6453	338	-9
NOV	329	-3801	1011	-1
DEC	830	-1565	2857	0
ANN	4088	-77644	18370	-494

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

No Solar Radiation
Data Available

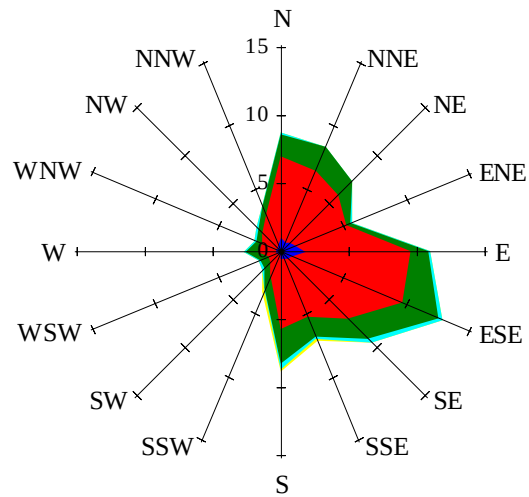


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

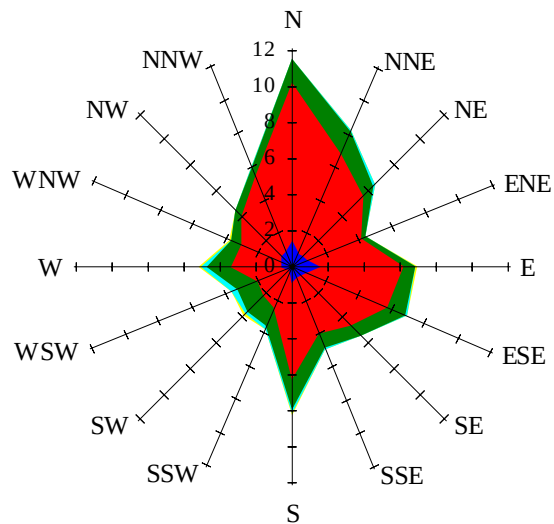
Labels of Percent Frequency on North Axis



Percent Calm = 4.81

Wind Summary - March, April, and May

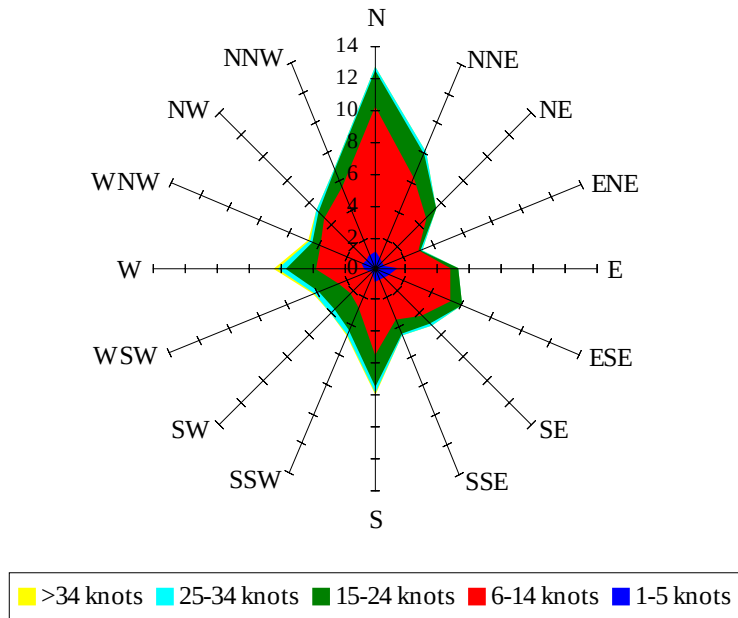
Labels of Percent Frequency on North Axis



Percent Calm = 7.85

Wind Summary - June, July, and August

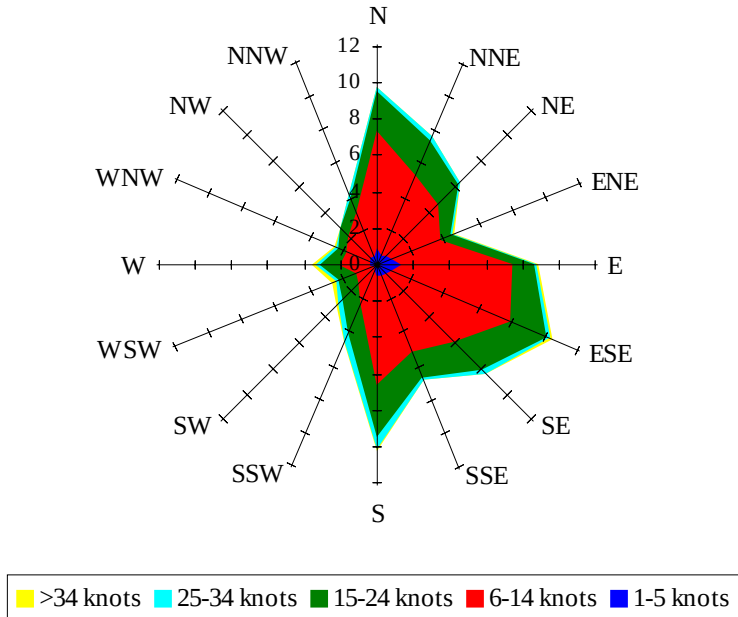
Labels of Percent Frequency on North Axis



Percent Calm = 7.10

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 4.96