YUMA AZ	
Latitude = 32.65 N	WMO No. 722800
Longitude =114.60 W	Elevation = 207 feet
Period of Record = 1973 to 1996	Average Pressure = 29.64 inches Hg

Design Criteria Data

		Mean Coincident (Average) Values			
Dry Bulb Temperature (T)	**Design Value (^oF)**	Wet Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	116	73	55	7.2	W
0.4% Occurrence	111	73	60	7.5	W
1.0% Occurrence	109	73	63	7.9	S
2.0% Occurrence	107	72	65	8.1	W
Mean Daily Range	24	-	-	-	-
97.5% Occurrence	47	39	24	5.0	N
99.0% Occurrence	43	36	20	4.8	N
99.6% Occurrence	40	33	17	4.6	N
Median of Extreme Lows	36	30	16	4.3	NE
		Mean Coincident (Average) Values			
Wet Bulb Temperature (T_{wb})	**Design Value (^oF)**	Dry Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	82	96	144	9.9	S
0.4% Occurrence	80	96	129	10.3	S
1.0% Occurrence	78	96	116	9.6	S
2.0% Occurrence	77	96	110	9.5	S
		Mean Coincident (Average) Values			
Humidity Ratio (HR)	**Design Value (gr/lb)**	Dry Bulb Temperature (^oF)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	153	88	1.00	11.2	SSE
0.4% Occurrence	134	88	0.88	9.8	SSE
1.0% Occurrence	126	89	0.83	12.8	SSE
2.0% Occurrence	118	92	0.78	12.3	S
Air Conditioning/		$T \geq 93^oF$	$T \geq 80^oF$	$T_{wb} \geq 73^oF$	$T_{wb} \geq 67^oF$
Humid Area Criteria	# of Hours	1472	3574	914	1983

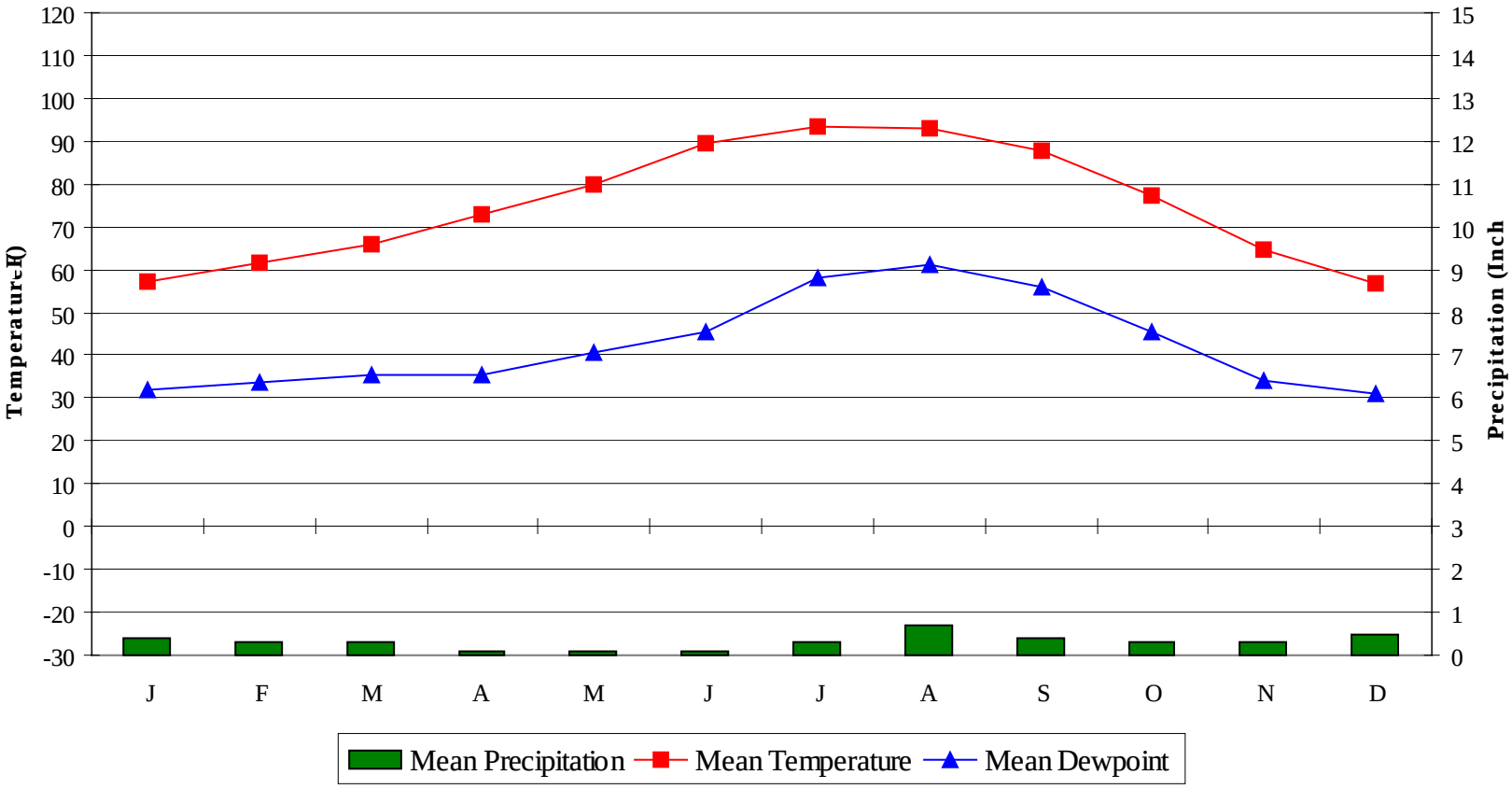
Other Site Data

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^oF-RH 60% Latent + Sensible
10	1.5	90	1.4 + 5.5
Ground Water Temperature (^oF) 50 Foot Depth *	**Frost Depth 50 Year Recurrence (in.)**	**Ground Snow Load 50 Year Recurrence (lb/ft^2)**	**Average Annual Freeze-Thaw Cycles (#)**
77.5	0	0	0

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

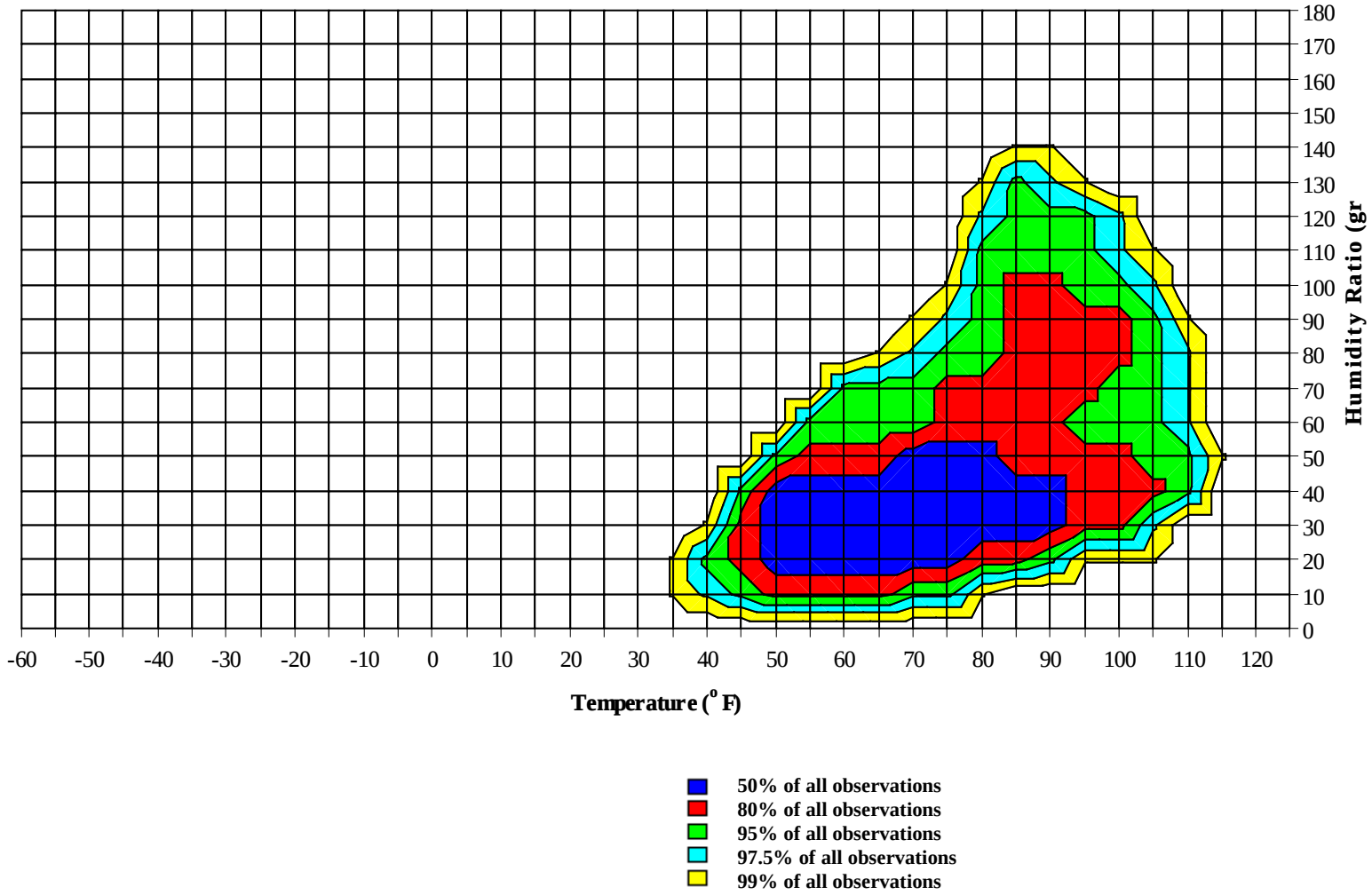
YUMA AZ WMO No. 722800

Average Annual Climate



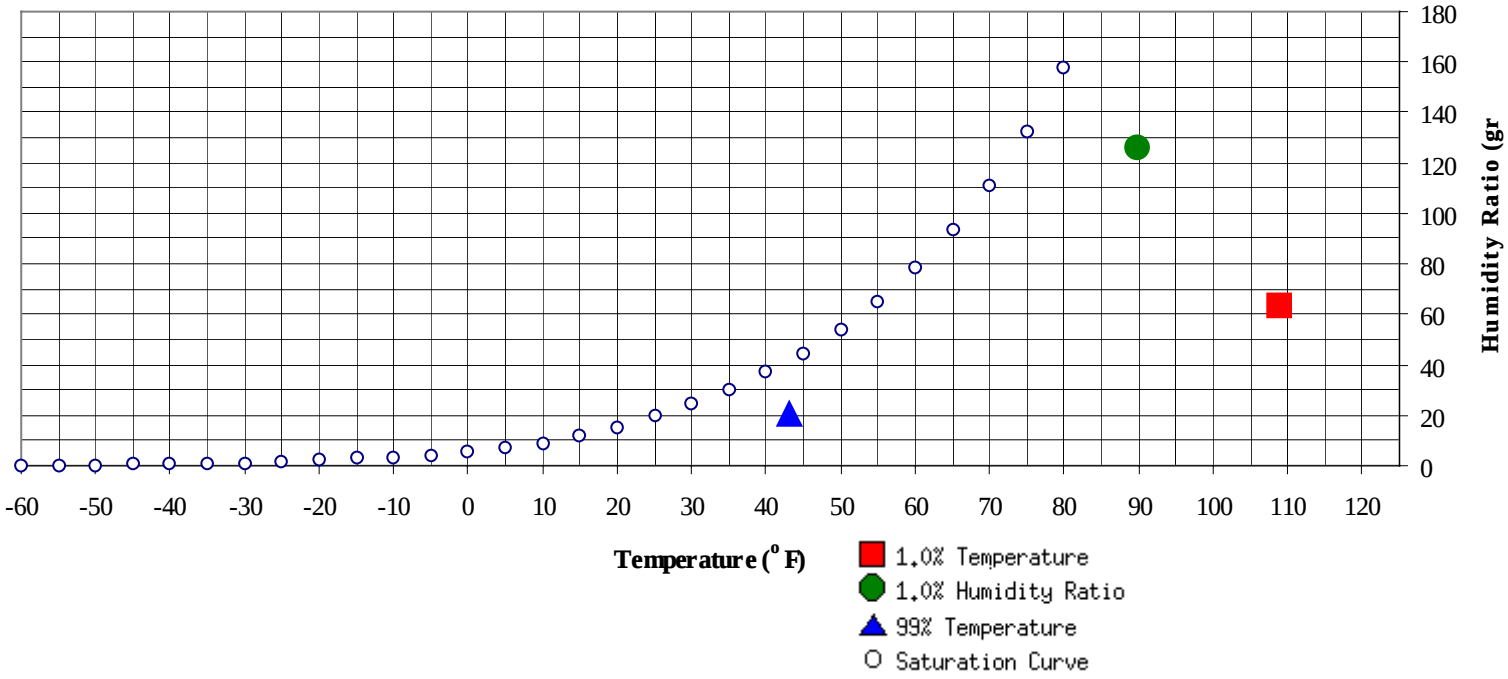
YUMA AZ WMO No. 722800

Long Term Psychrometric Summary



YUMA AZ WMO No. 722800

Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
99% Dry Bulb	43	20.4	13.5

	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
1.0% Humidity Ratio	126	89.7	77.7	73.2	41.3

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	109	63.5	72.7	36.2

YUMA AZ WMO No. 722800

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

Period of Record = 1973 to 1996

Temperature Range (°F)	January Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	February Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	March Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
120 / 124															
115 / 119															
110 / 114															
105 / 109															
100 / 104															
95 / 99												1	1	1	62.7
90 / 94							1	0	1	61.8		5	3	7	60.6
85 / 89							4	2	6	58.2		15	9	24	59.0
80 / 84		1	0	2	55.4		14	8	23	57.0		28	18	47	57.1
75 / 79		12	5	17	54.1		30	18	48	55.0	0	43	30	72	55.3
70 / 74		32	15	46	53.1	0	41	31	72	53.2	4	53	47	103	53.5
65 / 69	0	49	33	83	50.9	6	50	46	102	51.4	24	49	54	127	51.7
60 / 64	8	59	59	126	49.1	34	38	54	126	49.9	59	34	49	142	49.7
55 / 59	48	47	71	165	46.6	60	25	39	124	46.9	80	15	28	123	47.1
50 / 54	85	30	46	161	43.6	64	13	19	96	43.3	58	4	10	72	44.4
45 / 49	69	13	16	98	39.8	41	6	6	52	40.0	21	0	1	22	40.9
40 / 44	27	3	3	33	35.6	15	1	1	18	36.1	3		0	3	37.0
35 / 39	9	1	0	10	31.8	4	0	0	4	31.5	0			0	33.0
30 / 34	1	0		2	28.4	0			0	27.3					
25 / 29	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.

YUMA AZ WMO No. 722800

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)
Period of Record = 1973 to 1996

Temperature Range (°F)	April Hour Group (LST) 01 To 08	April 09 To 16	April 17 To 00	April Total Obs	April MCWB (°F)	May Hour Group (LST) 01 To 08	May 09 To 16	May 17 To 00	May Total Obs	May MCWB (°F)	June Hour Group (LST) 01 To 08	June 09 To 16	June 17 To 00	June Total Obs	June MCWB (°F)
120 / 124												0	0	0	75.5
115 / 119							0	0	0	72.3		1	1	2	72.8
110 / 114		0		0	69.0		0	0	1	70.5		11	8	18	70.2
105 / 109		0	0	1	67.4		4	2	6	67.7		32	24	56	69.2
100 / 104		3	2	4	65.1		14	9	23	65.6	0	48	31	79	67.3
95 / 99		11	6	18	63.1		36	24	60	64.1	1	53	40	93	66.0
90 / 94		24	15	40	60.9	1	49	32	82	62.4	6	46	45	97	64.7
85 / 89	0	41	26	68	58.9	2	47	39	88	60.9	34	30	43	107	63.3
80 / 84	1	45	35	81	57.3	14	43	48	105	59.3	67	13	30	110	61.2
75 / 79	10	43	45	98	55.5	49	29	45	123	57.7	73	5	12	90	59.2
70 / 74	33	37	46	116	53.6	72	16	27	115	55.6	42	2	4	48	57.1
65 / 69	60	21	34	116	51.8	59	7	14	80	53.5	14	0	1	15	54.3
60 / 64	67	10	20	97	49.6	36	2	6	43	50.8	3		0	3	51.8
55 / 59	44	3	8	56	47.2	14	0	2	16	47.9	0			0	51.0
50 / 54	19	1	2	22	44.7	2		0	3	45.3					
45 / 49	4		0	5	40.8										
40 / 44	0			0	40.2										
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.

YUMA AZ WMO No. 722800

Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)
Period of Record = 1973 to 1996

Temperature Range (°F)	July Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	August Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	September Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
120 / 124		0	0	0	73.5										
115 / 119		1	1	1	73.5		1	0	1	74.7		0		0	72.5
110 / 114		12	10	21	72.9		8	6	14	74.5		3	2	5	72.7
105 / 109	0	45	34	79	72.6		43	27	70	74.0		17	8	25	72.8
100 / 104	0	69	46	115	72.3		68	44	112	73.2		46	25	71	71.9
95 / 99	1	60	46	108	71.9	3	59	49	111	72.9	1	55	38	93	70.2
90 / 94	29	43	61	133	70.9	32	43	60	135	72.3	7	52	51	109	69.5
85 / 89	101	15	39	156	69.9	96	20	42	158	71.6	42	36	54	131	69.3
80 / 84	92	2	10	104	68.3	82	5	14	102	69.6	75	20	38	133	67.4
75 / 79	21	0	1	22	63.5	31	1	3	35	65.6	64	8	17	89	63.4
70 / 74	4	0		4	58.1	5	0	0	6	60.4	38	3	5	46	60.2
65 / 69	0			0	58.3	0	0		0	58.5	13	1	1	15	56.4
60 / 64						0			0		2	0	0	2	53.3
55 / 59											0			0	50.7
50 / 54															
45 / 49															
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.

YUMA AZ WMO No. 722800

Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)
Period of Record = 1973 to 1996

Temperature Range (°F)	October Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	November Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	December Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
120 / 124															
115 / 119															
110 / 114															
105 / 109		3	1	4	69.5										
100 / 104		9	4	13	68.4										
95 / 99	0	21	10	31	66.4		0		0	64.5					
90 / 94	0	41	22	63	64.9		2	0	2	62.2					
85 / 89	1	47	33	81	63.6		13	3	16	60.2					
80 / 84	11	46	46	102	62.2		29	12	41	58.3		1	0	1	56.3
75 / 79	37	41	55	132	60.6	0	41	23	64	56.2		14	4	18	54.6
70 / 74	68	24	44	136	58.0	3	48	41	91	54.3	0	35	14	49	52.6
65 / 69	67	11	23	101	54.5	18	46	55	119	51.8	1	51	31	82	50.6
60 / 64	42	4	9	55	51.2	59	33	55	147	49.2	6	53	58	118	48.5
55 / 59	16	1	2	19	47.1	76	19	34	129	46.0	43	47	73	163	46.8
50 / 54	6	0	0	6	44.1	55	7	15	77	42.7	87	30	48	164	43.2
45 / 49	1			1	40.3	23	1	3	27	38.8	73	12	16	102	39.3
40 / 44	0			0	37.0	5	0	0	6	35.8	28	3	4	35	35.0
35 / 39						1			1	32.3	8	0	1	9	31.3
30 / 34											2	0		2	27.7
25 / 29											0			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.

YUMA AZ WMO No. 722800

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

Period of Record = 1973 to 1996

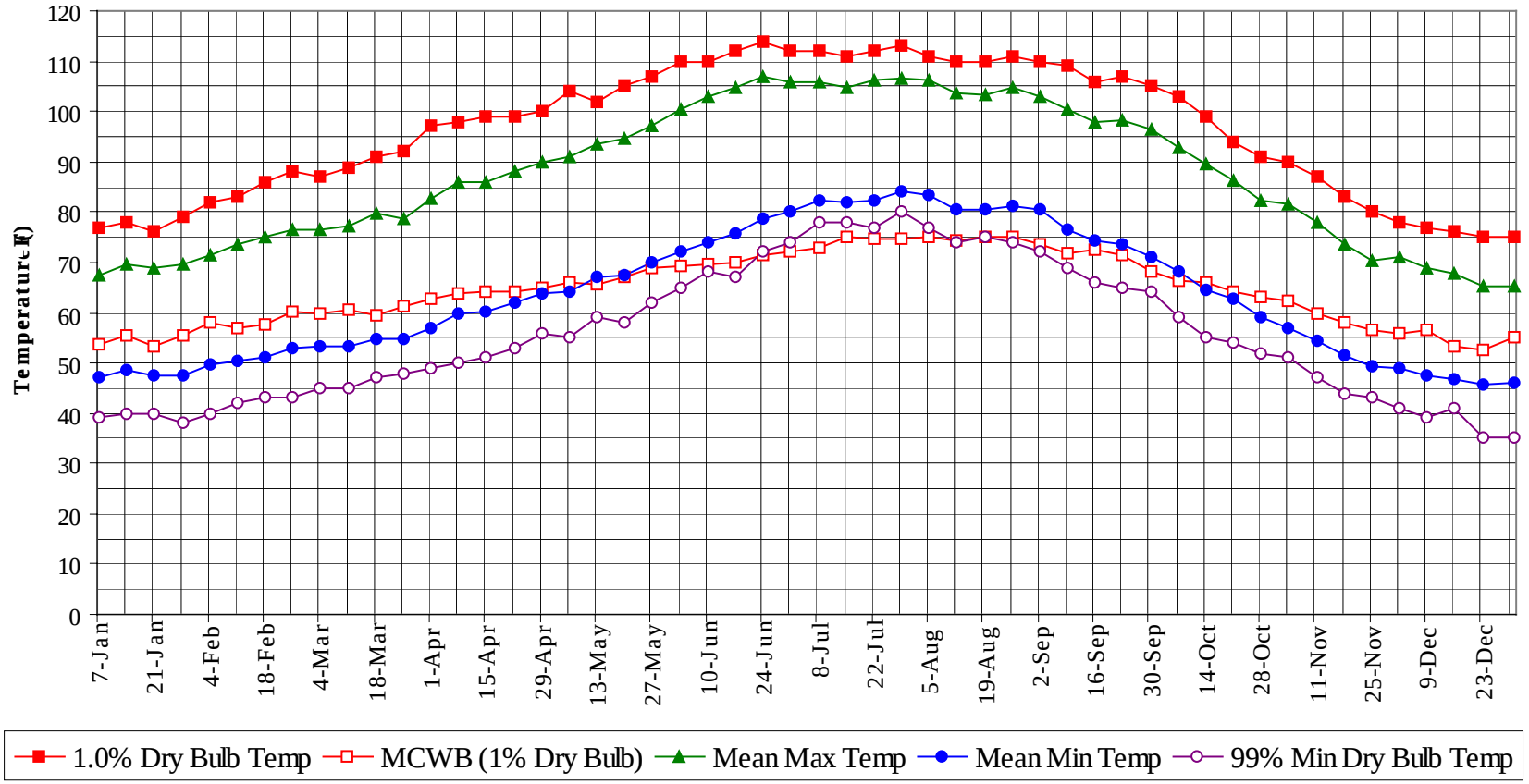
Annual Totals

Temperature Range (°F)	Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
120 / 124		0	0	0	74.5
115 / 119		2	2	4	73.4
110 / 114		34	26	60	72.4
105 / 109	0	143	97	240	72.1
100 / 104	0	256	161	417	71.0
95 / 99	6	295	213	514	69.2
90 / 94	74	304	290	668	67.7
85 / 89	275	266	290	831	66.3
80 / 84	341	249	260	850	63.1
75 / 79	284	268	257	809	58.6
70 / 74	268	292	274	833	55.2
65 / 69	263	286	293	842	52.1
60 / 64	318	233	311	862	49.5
55 / 59	383	158	257	797	46.7
50 / 54	378	84	140	603	43.5
45 / 49	233	33	41	307	39.7
40 / 44	79	7	9	95	35.6
35 / 39	21	1	2	24	31.6
30 / 34	3	0		3	28.0
25 / 29	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.

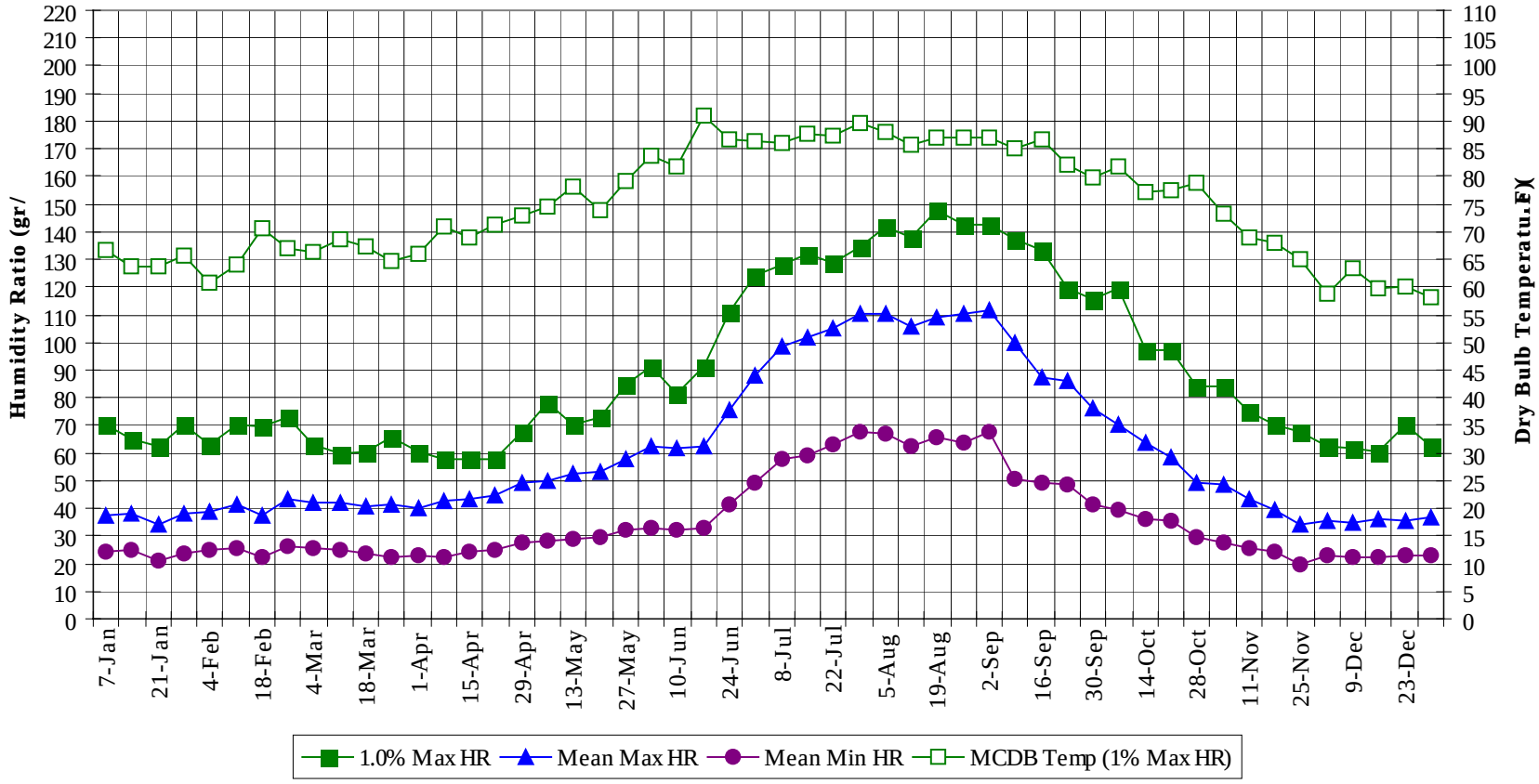
YUMA AZ WMO No. 722800

Annual Summary of Temperatures



YUMA AZ WMO No. 722800

Long Term Humidity and Dry Bulb Temperature Summary



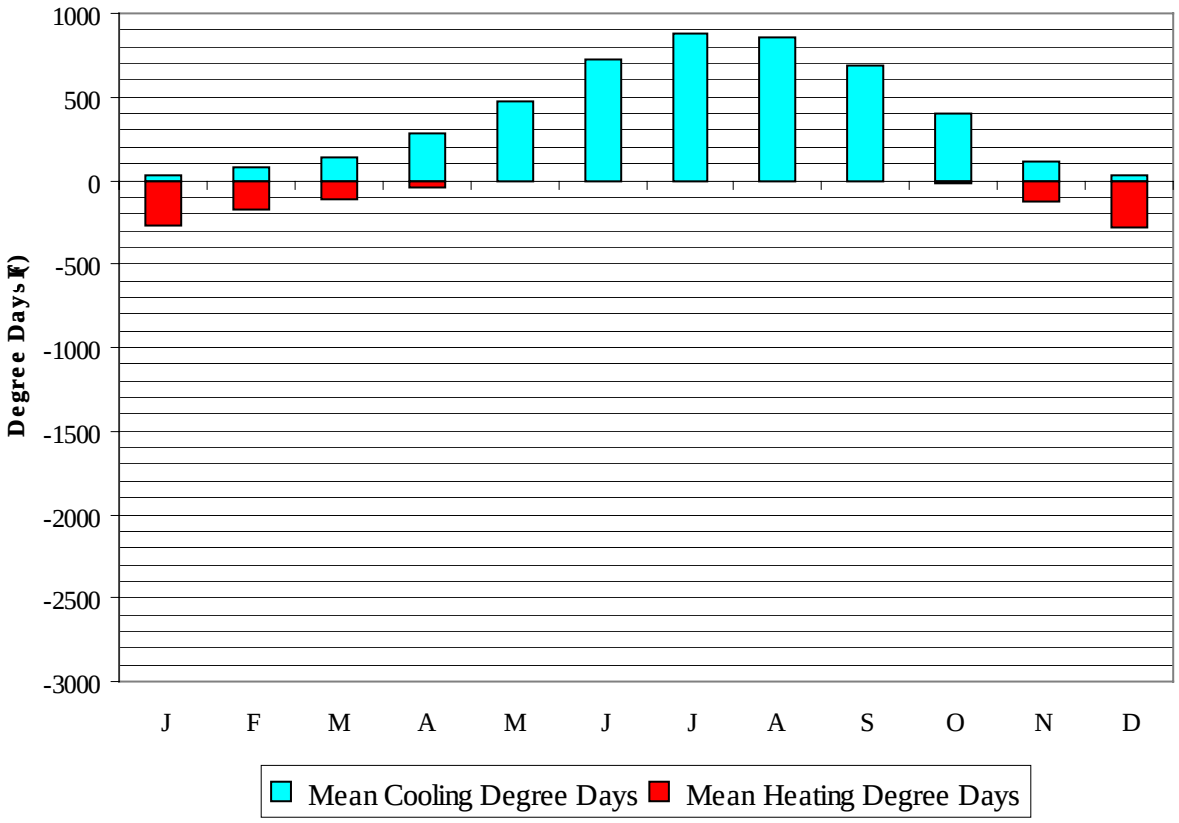
YUMA AZ WMO No. 722800

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	77.0	53.7	67.3	47.2	39.0	70.0	66.5	37.3	24.5
14-Jan	78.0	55.3	69.5	48.4	40.0	65.1	63.8	38.4	25.2
21-Jan	76.0	53.2	69.0	47.3	40.0	62.3	63.9	34.4	21.1
28-Jan	79.0	55.4	69.6	47.5	38.0	70.0	65.8	38.1	23.6
4-Feb	82.0	58.2	71.6	49.6	40.0	63.0	60.8	39.0	24.8
11-Feb	83.0	57.1	73.6	50.6	42.0	70.0	64.2	41.6	25.8
18-Feb	86.0	57.6	75.1	51.2	43.0	69.3	70.5	37.4	22.6
25-Feb	88.0	60.3	76.6	52.9	43.0	72.8	66.9	43.0	26.2
4-Mar	87.0	59.7	76.5	53.4	45.0	63.0	66.5	42.0	25.6
11-Mar	89.0	60.4	77.1	53.2	45.0	59.5	68.6	42.0	25.3
18-Mar	91.0	59.6	79.9	54.9	47.0	60.2	67.4	40.5	23.8
25-Mar	92.0	61.1	78.5	54.8	48.0	65.8	64.7	41.5	22.5
1-Apr	97.0	62.7	82.8	56.9	49.0	60.2	66.0	40.0	22.7
8-Apr	98.0	63.7	86.0	59.7	50.0	58.1	71.1	42.6	22.5
15-Apr	99.0	64.2	85.8	60.0	51.0	58.1	68.9	43.2	24.3
22-Apr	99.0	64.1	88.0	61.9	53.0	58.1	71.2	44.6	24.9
29-Apr	100.0	65.1	90.0	63.9	56.0	67.9	72.8	49.5	27.6
6-May	104.0	65.9	90.9	64.4	55.0	78.4	74.7	49.7	28.2
13-May	102.0	65.6	93.4	67.0	59.0	70.0	78.3	52.7	29.0
20-May	105.0	67.0	94.5	67.4	58.0	72.8	73.8	53.4	29.4
27-May	107.0	68.9	97.0	69.8	62.0	84.7	79.3	58.0	32.2
3-Jun	110.0	69.1	100.3	72.3	65.0	91.0	83.8	62.2	33.2
10-Jun	110.0	69.6	102.8	74.1	68.0	81.2	81.9	61.7	32.5
17-Jun	112.0	70.1	104.8	75.8	67.0	91.0	91.0	62.3	32.9
24-Jun	114.0	71.5	106.8	78.7	72.0	111.3	86.8	75.7	41.2
1-Jul	112.0	72.2	105.8	80.0	74.0	123.9	86.4	88.0	49.6
8-Jul	112.0	72.8	105.7	82.2	78.0	128.1	86.0	98.3	57.7
15-Jul	111.0	74.9	104.8	82.0	78.0	132.3	87.7	101.7	59.1
22-Jul	112.0	74.7	106.1	82.2	77.0	128.8	87.3	105.0	62.8
29-Jul	113.0	74.6	106.4	84.2	80.0	134.4	89.6	110.1	67.4
5-Aug	111.0	74.9	106.1	83.3	77.0	142.1	88.1	110.4	67.1
12-Aug	110.0	74.3	103.7	80.6	74.0	137.9	85.6	105.8	62.2
19-Aug	110.0	75.1	103.3	80.6	75.0	147.7	87.0	109.1	65.6
26-Aug	111.0	75.1	104.9	81.1	74.0	142.8	87.1	110.2	63.5
2-Sep	110.0	73.6	103.0	80.4	72.0	142.8	87.1	111.4	67.4
9-Sep	109.0	71.9	100.4	76.7	69.0	137.2	85.2	99.9	50.5
16-Sep	106.0	72.4	97.8	74.5	66.0	133.0	86.7	87.5	49.6
23-Sep	107.0	71.5	98.3	73.7	65.0	119.7	82.1	85.7	48.7
30-Sep	105.0	68.3	96.3	71.0	64.0	115.5	79.9	76.2	41.6
7-Oct	103.0	66.2	93.0	68.0	59.0	119.7	81.7	70.1	39.3
14-Oct	99.0	65.9	89.7	64.6	55.0	97.3	77.1	63.9	36.4
21-Oct	94.0	64.3	86.3	62.7	54.0	97.3	77.7	58.2	35.6
28-Oct	91.0	63.1	82.3	59.0	52.0	84.0	78.8	49.4	29.3
4-Nov	90.0	62.5	81.7	57.1	51.0	84.0	73.1	48.8	27.9
11-Nov	87.0	60.0	77.8	54.3	47.0	74.9	69.1	43.5	25.6
18-Nov	83.0	57.8	73.5	51.5	44.0	70.0	67.8	39.7	24.4
25-Nov	80.0	56.4	70.5	49.4	43.0	67.9	65.0	33.9	19.4
2-Dec	78.0	55.7	71.1	49.0	41.0	62.3	58.8	35.3	22.9
9-Dec	77.0	56.5	69.0	47.5	39.0	61.6	63.2	34.9	22.1
16-Dec	76.0	53.3	67.9	46.7	41.0	60.2	59.7	36.3	22.4
23-Dec	75.0	52.7	65.2	45.7	35.0	70.0	60.1	35.5	23.2
31-Dec	75.0	54.9	65.4	46.1	35.0	62.3	58.1	36.8	23.0

YUMA AZ WMO No. 722800

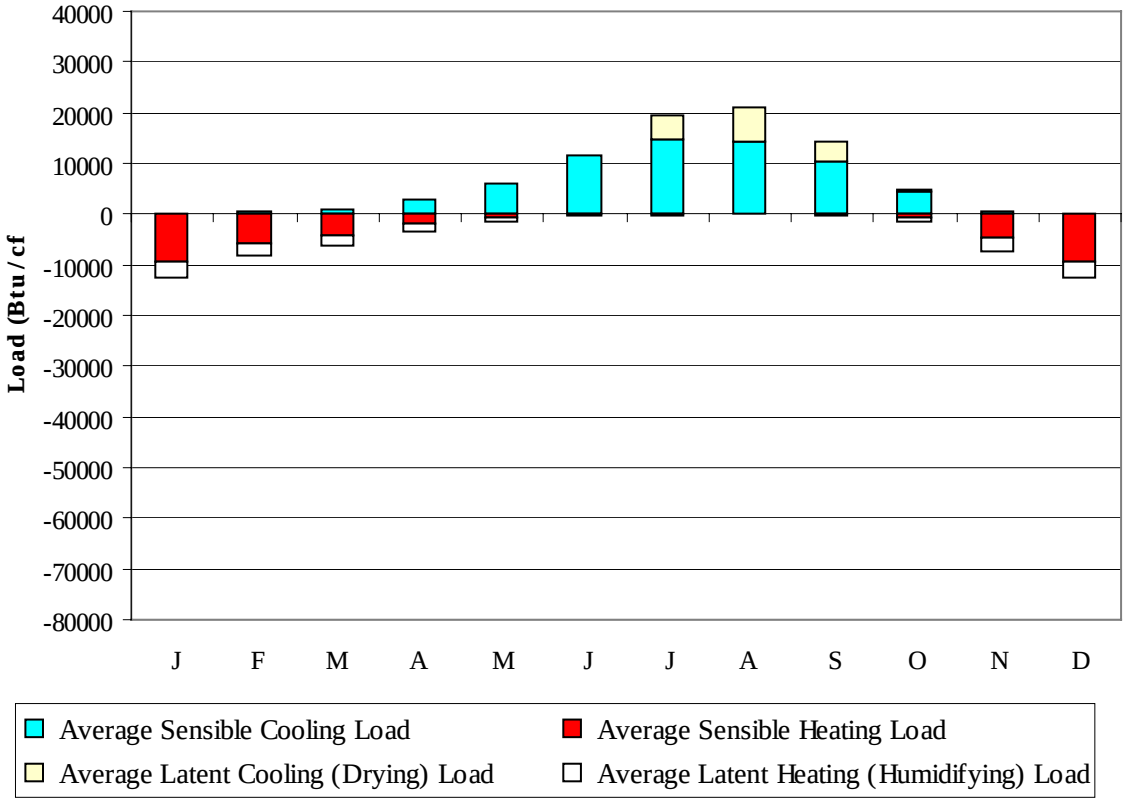
Degree Days, Heating and Cooling
(Base 65°F)



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	28	275
FEB	73	168
MAR	137	114
APR	285	44
MAY	476	11
JUN	730	0
JUL	884	0
AUG	861	0
SEP	684	0
OCT	398	16
NOV	112	126
DEC	29	278
ANN	4696	1032

YUMA AZ WMO No. 722800

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	37	-9198	5	-3146
FEB	339	-5889	3	-2352
MAR	908	-4303	0	-1927
APR	2905	-1849	1	-1624
MAY	5984	-570	18	-702
JUN	11426	-31	300	-325
JUL	14881	0	4637	-67
AUG	14298	0	6862	-49
SEP	10224	-28	4057	-104
OCT	4434	-782	599	-733
NOV	650	-4677	27	-2532
DEC	34	-9251	0	-3404
ANN	66120	-36578	16509	-16965

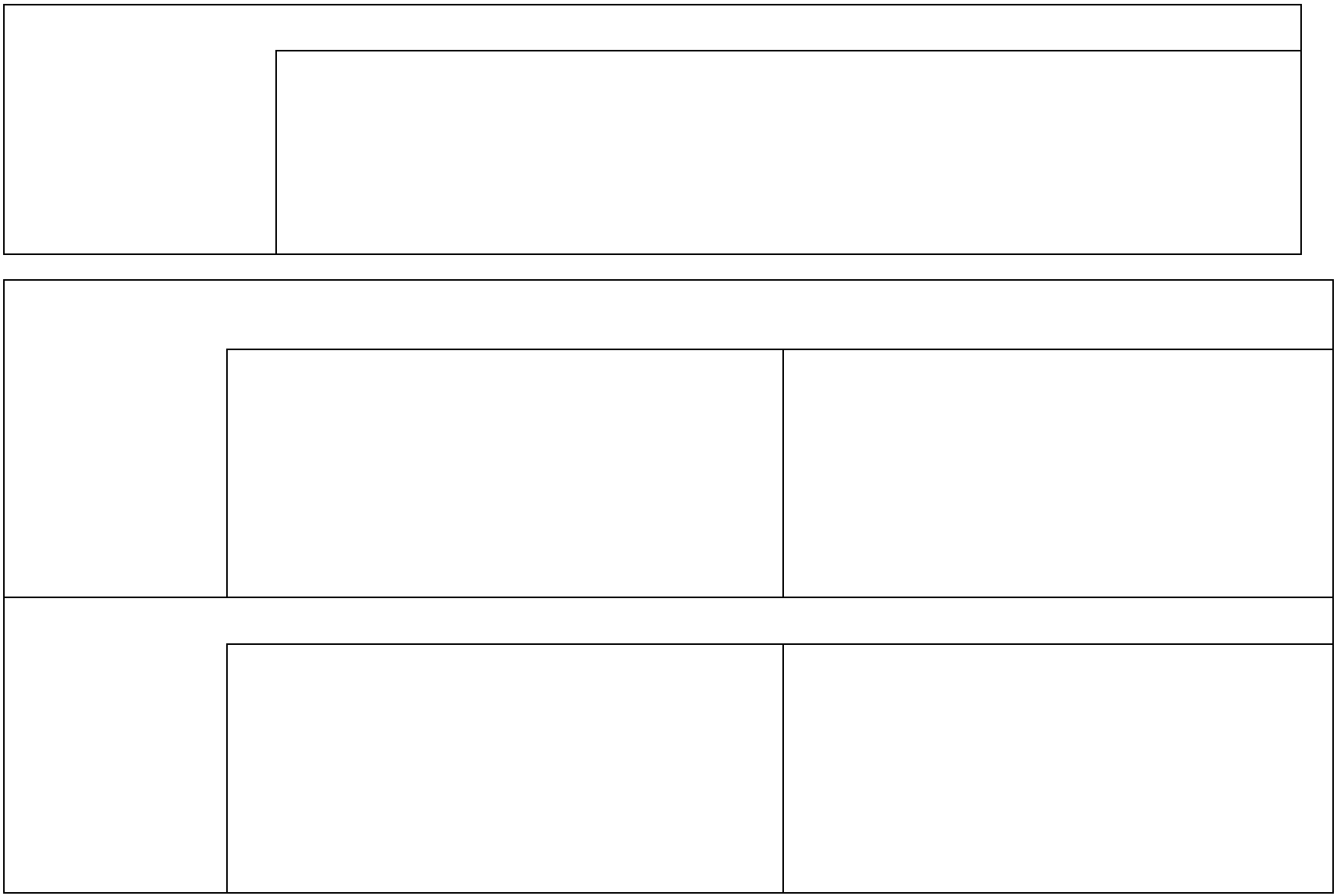
Average Annual Solar Radiation – Nearest Available Site

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

No Solar Radiation
Data Available

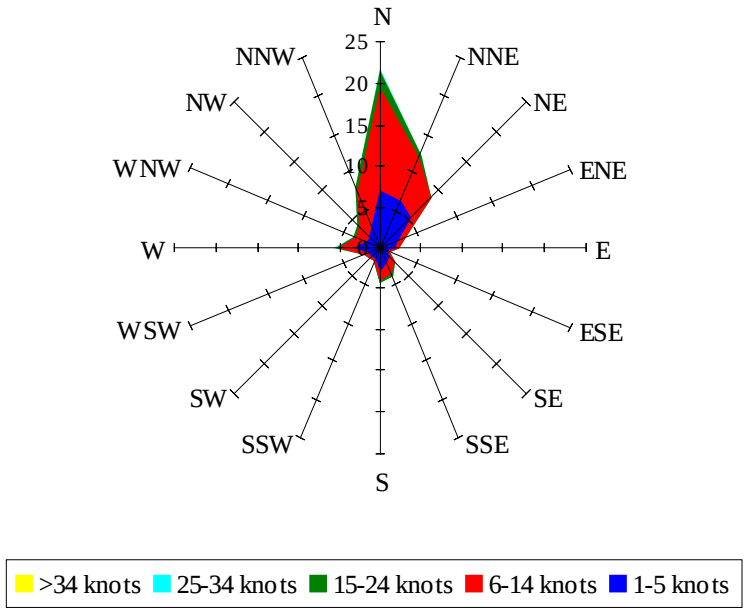
Average Annual Solar Heat and Illumination – Nearest Available Site

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



Wind Summary - December, January, and February

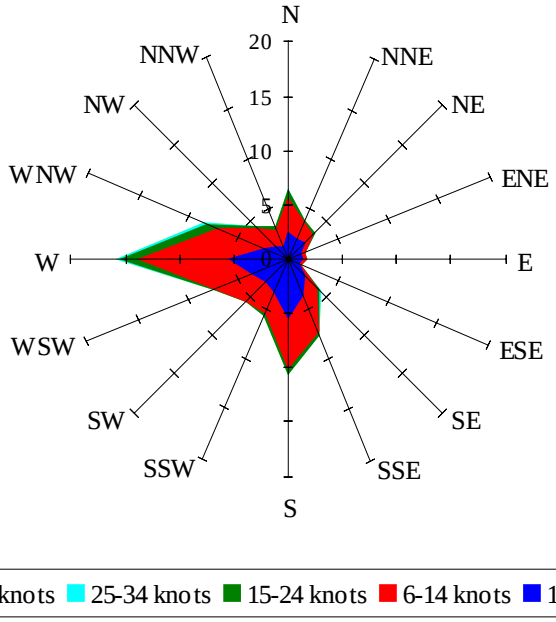
Labels of Percent Frequency on North Axis



Percent Calm = 15.45

Wind Summary - March, April, and May

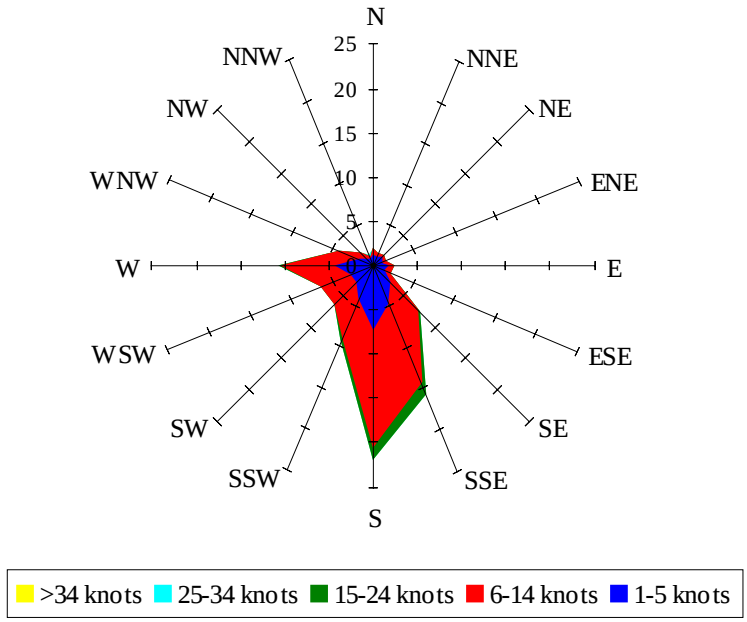
Labels of Percent Frequency on North Axis



Percent Calm = 10.40

Wind Summary - June, July, and August

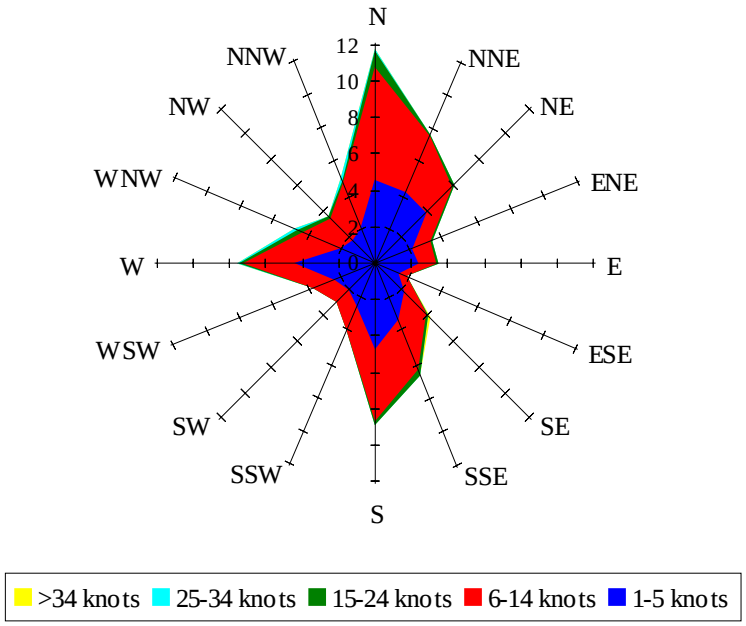
Labels of Percent Frequency on North Axis



Percent Calm = 5.74

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 15.86