

CAIRO EG

Latitude = 30.13 N

Longitude = 31.40 E

Period of Record = 1973 to 1996

WMO No. 623660

Elevation = 243 feet

Average Pressure = 29.61 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	108	68	39	11.3	WSW
0.4% Occurrence	100	69	57	12.2	N
1.0% Occurrence	98	69	61	11.8	N
2.0% Occurrence	95	69	68	11.5	N
Mean Daily Range	20	-	-	-	-
97.5% Occurrence	50	46	40	5.8	S
99.0% Occurrence	46	43	36	4.9	S
99.6% Occurrence	45	43	35	4.9	S
Median of Extreme Lows	41	39	31	5.4	E
	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	92	123	10.3	N
0.4% Occurrence	76	88	113	9.3	N
1.0% Occurrence	75	87	110	8.7	N
2.0% Occurrence	74	85	107	8.2	N
	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	132	81	0.87	6.4	NNW
0.4% Occurrence	120	78	0.78	5.2	N
1.0% Occurrence	118	78	0.78	5.5	N
2.0% Occurrence	112	78	0.74	5.4	N
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		355	2004	355	2326

Other Site Data

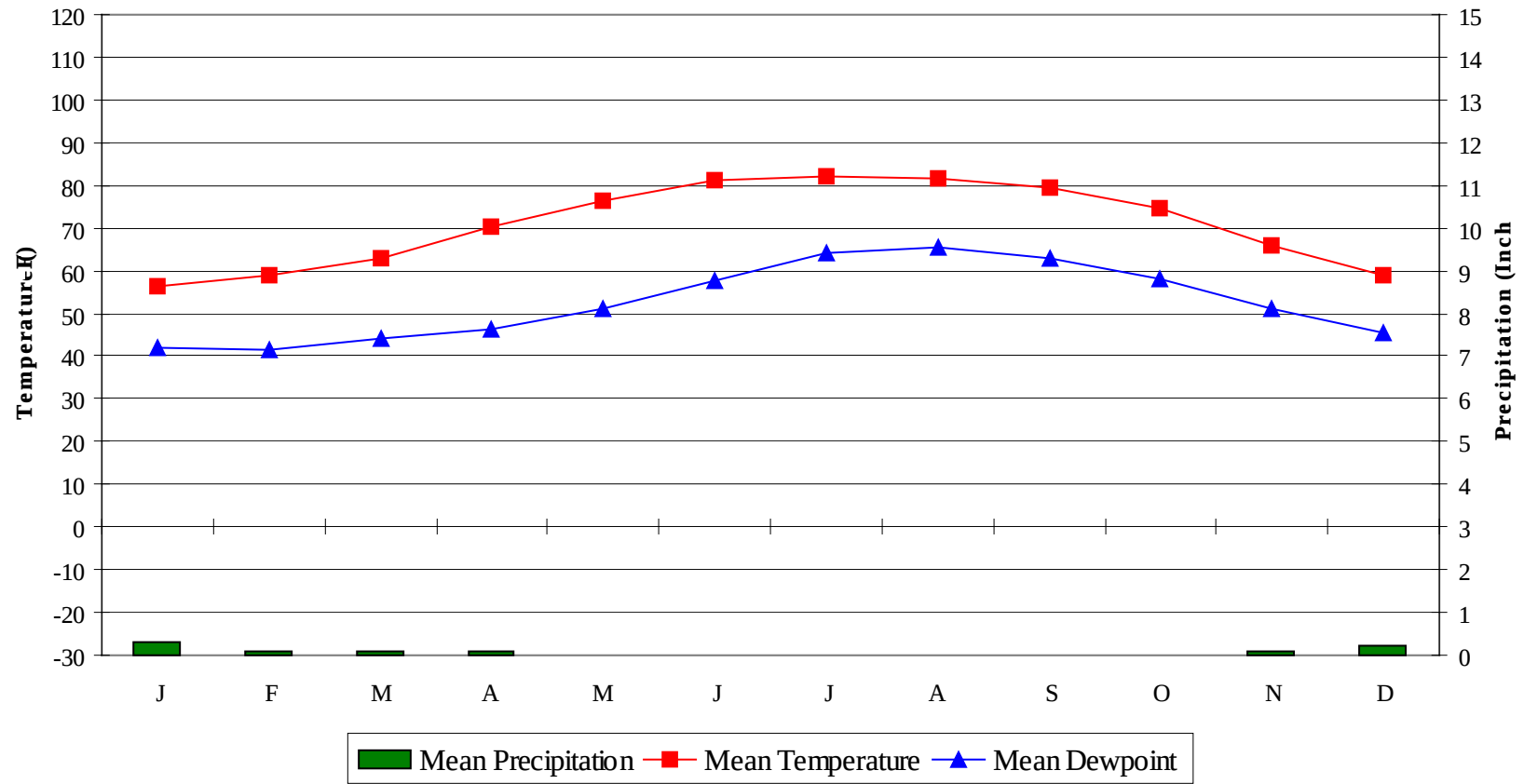
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
10	N/A	N/A	1.6 + 2.5
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
73.3	N/A	N/A	0

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

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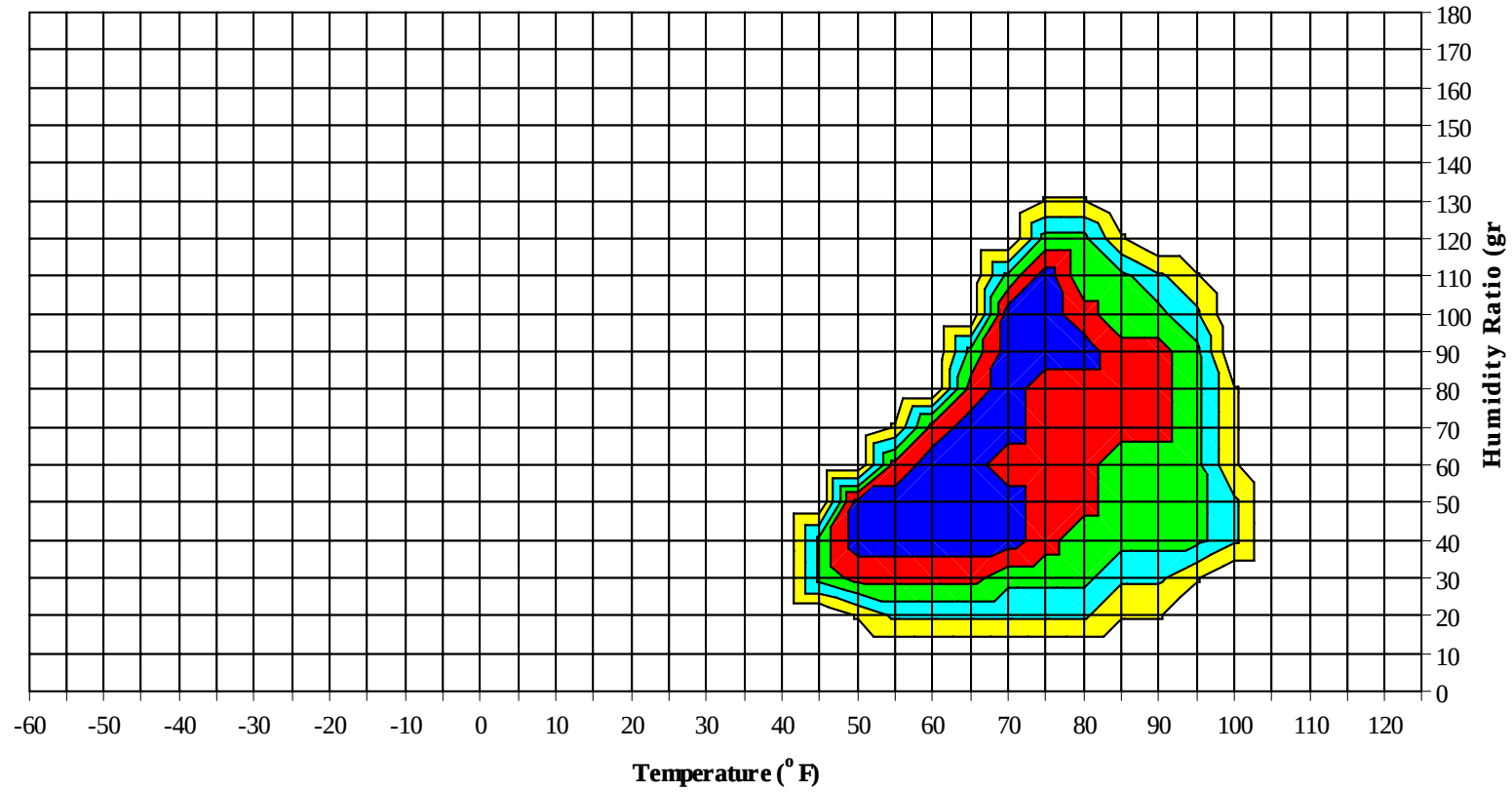
Average Annual Climate



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Long Term Psychrometric Summary

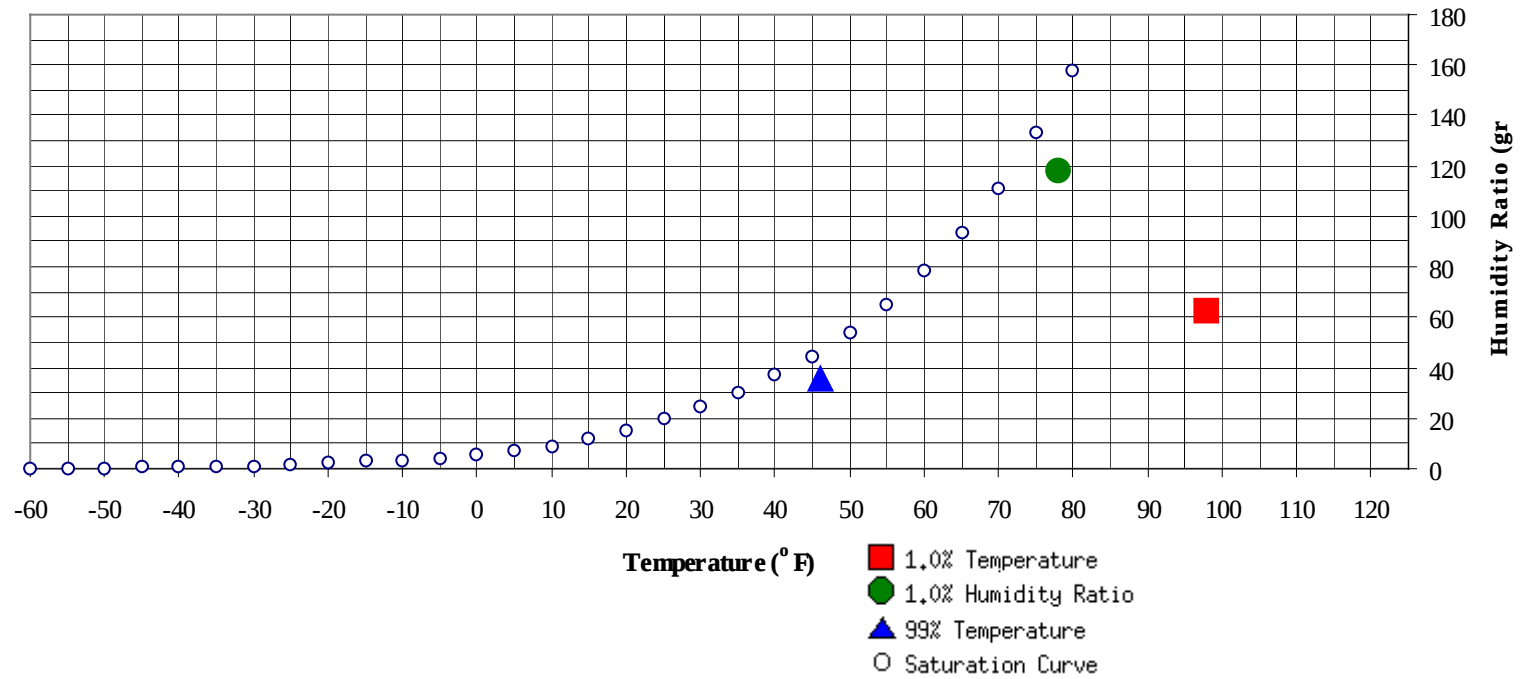


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values



	(°F)	MCHR	Enthalpy	1.0% Humidity	(gr/lb)	MCDB	MCWB	MC Dewpt	Enthalpy
		(gr/lb)	(btu/lb)			(°F)	(°F)	(°F)	(btu/lb)
99% Dry Bulb	46	36	16.6	Ratio	118.3	78	73.6	71.6	37.2

	(°F)	MCHR	MCWB	Enthalpy
		(gr/lb)	(°F)	(btu/lb)
1.0% Dry Bulb	98	62.6	69.3	33.4

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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		
110 / 114															
105 / 109															
100 / 104															
95 / 99												1	0	1	62.3
90 / 94							0	0	0	59.1		4	1	5	60.5
85 / 89		0		0	57.5		1	0	1	57.1	0	4	2	6	59.8
80 / 84		1	0	1	58.1		5	1	6	57.0	1	14	6	21	58.4
75 / 79	0	3	1	4	54.6	1	13	4	17	55.3	3	33	15	51	57.5
70 / 74	1	11	3	15	54.0	3	29	13	45	54.2	7	59	32	97	55.9
65 / 69	2	36	10	48	53.9	4	44	22	69	53.2	10	53	37	99	54.5
60 / 64	4	99	53	156	52.1	12	72	57	141	51.8	31	56	71	158	53.2
55 / 59	33	65	105	203	49.9	50	44	78	172	50.0	94	20	65	179	51.4
50 / 54	127	28	68	223	47.3	102	15	40	157	47.5	85	4	18	107	48.3
45 / 49	73	4	9	86	43.6	48	2	8	58	43.8	16	0	2	18	43.7
40 / 44	8	0	0	8	40.0	4	0	1	5	39.9	1	0	0	1	39.4
35 / 39	0	0	0	0	35.0	0			0	36.3	0		0	0	36.7
30 / 34	0	0	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.

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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		
110 / 114						0			0	67.0		0	0	0	70.9
105 / 109		1	0	1	65.5	4	1		5	67.3		2	0	2	69.7
100 / 104		3	1	4	64.4	8	2		10	66.5		11	3	14	68.9
95 / 99	0	9	3	12	63.5	1	19	7	26	65.4	0	36	16	52	68.4
90 / 94	1	20	6	26	62.3	1	36	17	54	64.3	2	66	38	105	67.7
85 / 89	3	20	10	32	61.0	3	37	23	63	63.3	3	49	38	90	66.8
80 / 84	5	36	20	62	60.1	9	61	43	113	62.4	12	46	58	116	66.3
75 / 79	11	56	37	104	58.8	18	50	60	127	61.4	47	27	59	132	66.0
70 / 74	17	53	52	122	57.3	47	26	55	128	61.1	122	3	27	152	65.5
65 / 69	27	27	42	96	56.5	71	6	28	105	60.3	47	0	3	50	63.1
60 / 64	78	14	51	144	55.6	84	1	13	98	58.2	7			7	60.0
55 / 59	85	1	17	102	53.2	14	0	0	14	54.6	0			0	58.5
50 / 54	14	0	1	15	49.5										
45 / 49	0			0	47.0										
40 / 44															
35 / 39															
30 / 34															

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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		
110 / 114		0		0	71.0										
105 / 109		0	0	0	70.1		0		0	68.0		1	0	1	69.5
100 / 104	0	5	1	6	71.5		1	0	1	72.2	0	2	0	2	70.2
95 / 99	0	35	13	47	71.2		25	5	30	72.3	0	14	2	16	70.2
90 / 94	0	87	46	134	70.9	0	92	38	131	71.5	0	56	15	71	70.1
85 / 89	1	53	47	101	70.6	1	59	50	110	71.1	1	67	35	103	69.2
80 / 84	11	49	71	131	70.5	6	50	74	130	71.2	4	63	62	130	68.8
75 / 79	106	18	61	185	70.0	114	19	71	205	70.8	44	34	84	162	68.9
70 / 74	125	1	9	135	68.3	122	1	10	133	69.1	144	3	41	188	67.3
65 / 69	5	0	0	5	64.5	5		0	5	65.6	44	0	1	45	64.3
60 / 64	0			0							3			3	60.4
55 / 59															
50 / 54															
45 / 49															
40 / 44															
35 / 39															
30 / 34															

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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		
110 / 114															
105 / 109															
100 / 104		0	0	0	69.6										
95 / 99		6	1	7	67.2		0		0	65.0					
90 / 94		23	4	26	67.5		1	0	1	65.4					
85 / 89	0	36	12	48	67.4		3	1	4	63.3					
80 / 84	2	80	38	120	66.3	0	17	3	19	63.4		1		1	59.5
75 / 79	11	71	68	150	65.2	1	61	15	77	61.8	0	5	0	5	58.4
70 / 74	72	28	86	186	64.7	6	87	51	144	60.2	1	35	4	40	57.4
65 / 69	96	4	31	132	62.4	24	39	65	128	58.8	1	66	20	87	55.8
60 / 64	59	1	9	69	58.9	98	27	75	199	56.6	13	85	82	180	53.6
55 / 59	7		0	7	54.6	81	5	27	113	52.9	77	44	105	226	51.1
50 / 54						28	0	3	31	48.8	124	10	37	171	48.1
45 / 49						3		0	3	44.1	31	1	1	33	44.4
40 / 44											1	0		1	40.8
35 / 39															
30 / 34															

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WMO No. 623660

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

Period of Record = 1973 to 1996

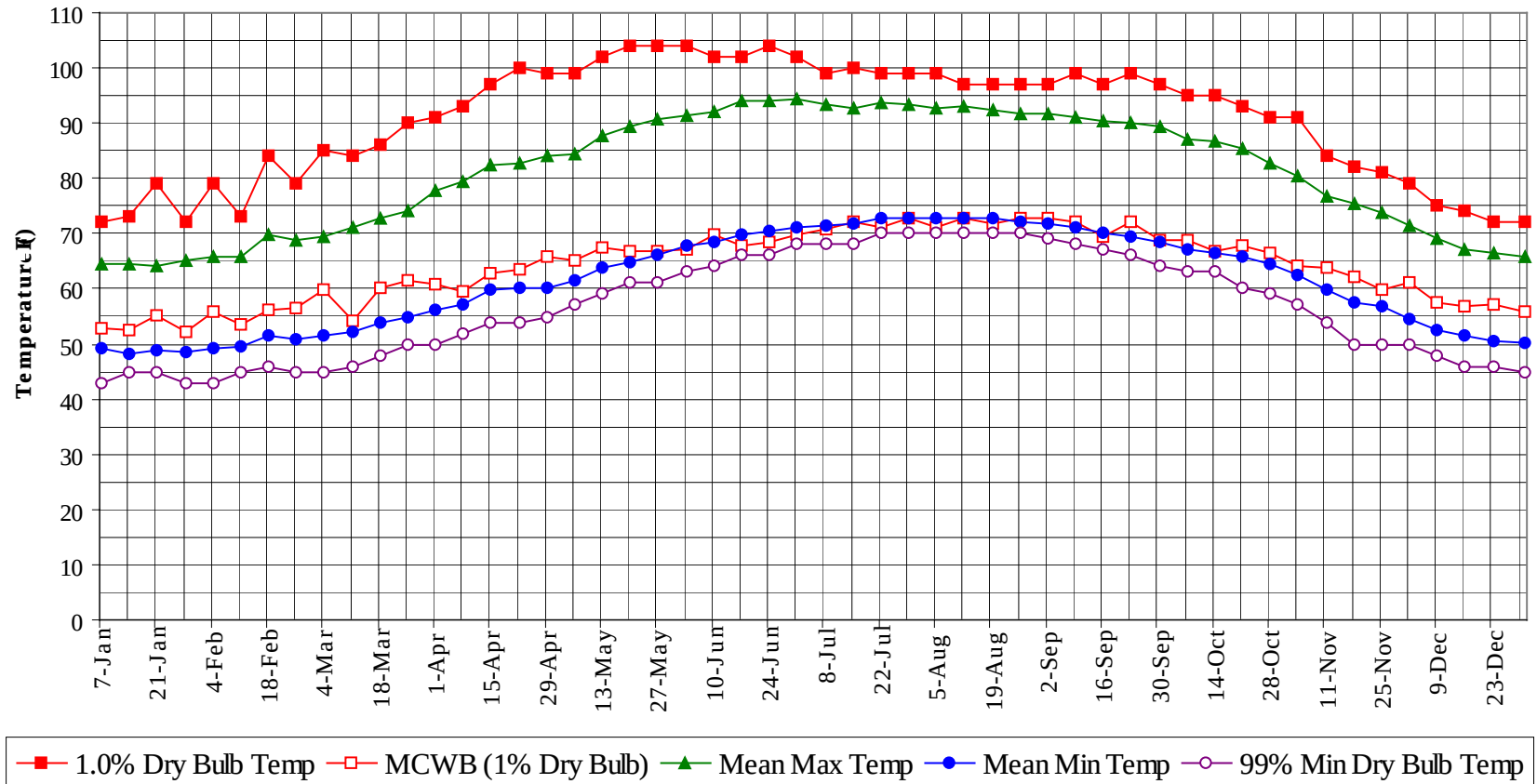
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
110 / 114		0	0	0	70.4
105 / 109		8	1	9	68.2
100 / 104	0	32	9	41	68.4
95 / 99	1	146	46	193	69.1
90 / 94	5	391	167	563	69.0
85 / 89	13	332	218	564	68.0
80 / 84	50	424	378	851	66.8
75 / 79	355	387	474	1216	65.8
70 / 74	667	332	382	1381	63.2
65 / 69	333	273	258	864	58.4
60 / 64	386	352	410	1148	54.7
55 / 59	443	179	393	1014	51.2
50 / 54	482	56	163	702	47.8
45 / 49	172	7	20	198	43.8
40 / 44	13	1	1	15	39.9
35 / 39	1	0	0	1	35.7
30 / 34	0	0	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.

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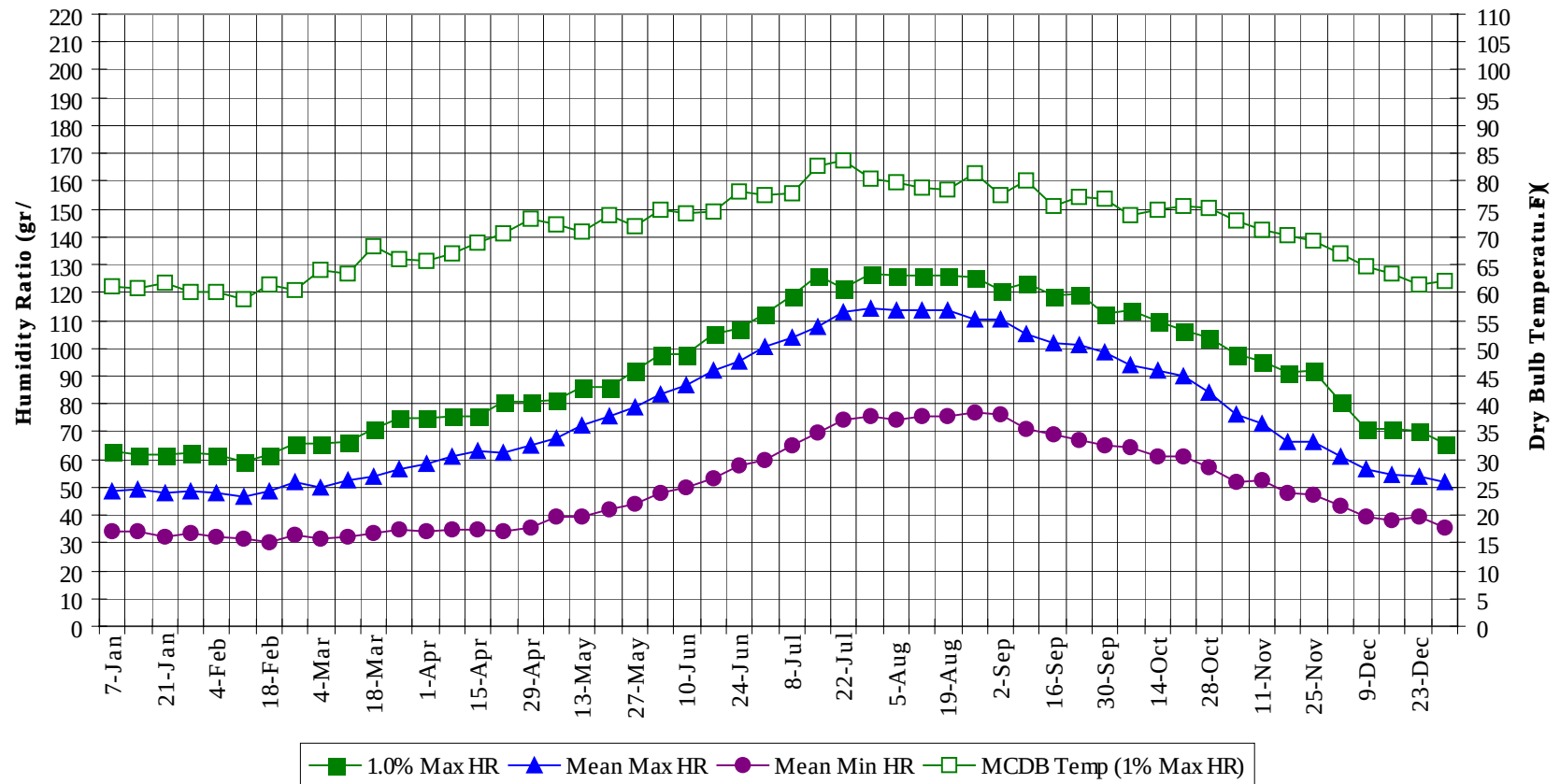
Annual Summary of Temperatures



CAIRO EG

WMO No. 623660

Long Term Humidity and Dry Bulb Temperature Summary



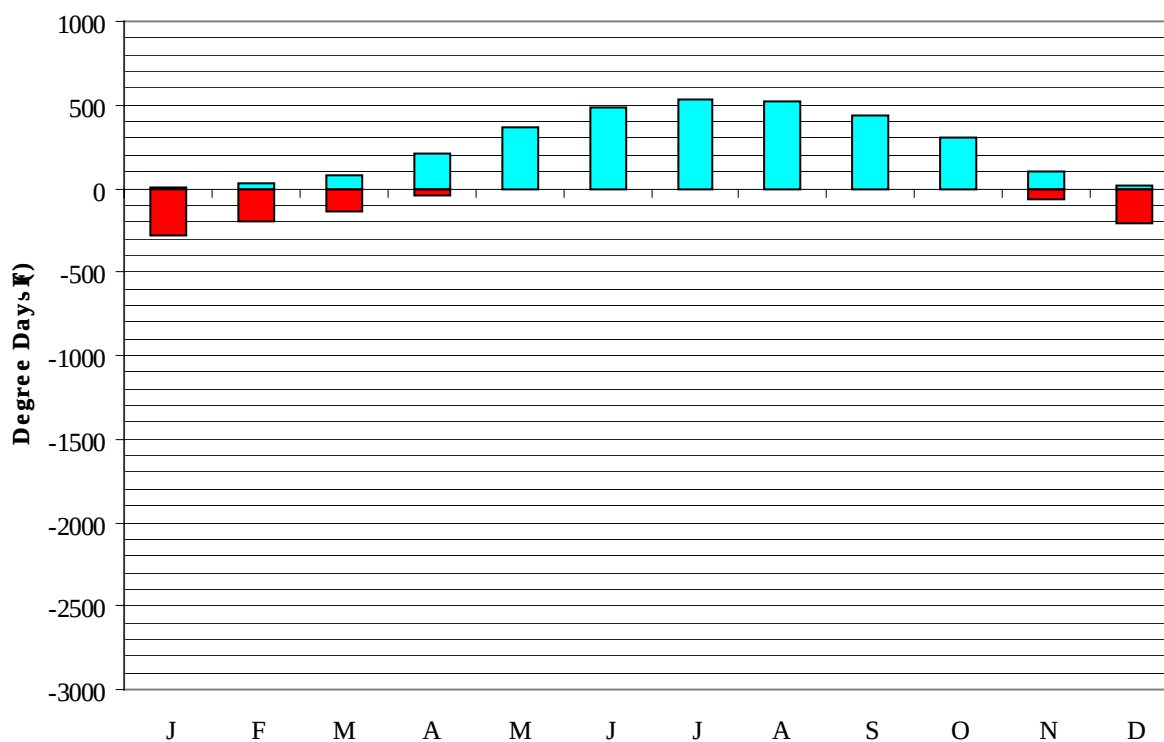
CAIRO EG**WMO No. 623660****Long Term Dry Bulb Temperature and Humidity Summary**

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	72.0	52.7	64.4	49.1	43.0	63.0	61.0	48.4	33.9
14-Jan	73.0	52.4	64.6	48.3	45.0	61.6	60.6	49.0	33.9
21-Jan	79.0	55.3	64.3	48.8	45.0	61.6	61.9	48.1	32.4
28-Jan	72.0	52.2	65.0	48.5	43.0	62.3	60.0	48.8	33.6
4-Feb	79.0	55.7	65.8	49.3	43.0	61.6	60.0	48.2	32.2
11-Feb	73.0	53.5	65.6	49.6	45.0	58.8	58.7	46.9	31.5
18-Feb	84.0	56.3	69.7	51.5	46.0	61.6	61.4	48.9	30.4
25-Feb	79.0	56.4	68.7	50.9	45.0	65.8	60.6	51.7	32.8
4-Mar	85.0	59.7	69.5	51.4	45.0	65.8	64.1	49.7	31.7
11-Mar	84.0	54.3	71.2	52.1	46.0	66.5	63.3	52.8	32.2
18-Mar	86.0	60.1	72.7	53.8	48.0	70.7	68.3	54.1	33.5
25-Mar	90.0	61.5	74.3	54.8	50.0	74.9	66.1	56.7	34.5
1-Apr	91.0	60.7	77.7	56.3	50.0	74.9	65.7	58.5	34.3
8-Apr	93.0	59.6	79.5	57.3	52.0	75.6	67.0	61.0	34.7
15-Apr	97.0	62.9	82.3	59.8	54.0	75.6	69.0	63.0	34.8
22-Apr	100.0	63.4	82.6	60.2	54.0	80.5	70.7	62.4	34.0
29-Apr	99.0	65.6	84.2	60.3	55.0	80.5	73.3	64.9	35.6
6-May	99.0	65.1	84.5	61.4	57.0	81.2	72.4	68.0	39.7
13-May	102.0	67.5	87.9	63.7	59.0	86.1	70.9	72.2	39.2
20-May	104.0	66.7	89.3	64.7	61.0	86.1	73.9	75.5	42.2
27-May	104.0	66.8	90.7	66.1	61.0	91.7	71.8	78.9	44.3
3-Jun	104.0	67.1	91.5	67.6	63.0	98.0	74.9	83.1	47.9
10-Jun	102.0	69.8	92.0	68.5	64.0	98.0	74.1	86.5	50.2
17-Jun	102.0	67.8	94.1	69.7	66.0	105.0	74.6	92.1	53.1
24-Jun	104.0	68.5	94.1	70.4	66.0	107.1	78.0	95.2	58.0
1-Jul	102.0	69.8	94.5	71.2	68.0	112.0	77.4	100.5	60.0
8-Jul	99.0	70.8	93.3	71.4	68.0	119.0	77.9	103.6	64.9
15-Jul	100.0	72.0	92.8	71.9	68.0	126.0	82.7	107.6	69.8
22-Jul	99.0	71.3	93.7	72.7	70.0	121.8	83.7	113.0	74.0
29-Jul	99.0	72.9	93.3	72.7	70.0	126.7	80.5	114.3	75.3
5-Aug	99.0	71.1	92.9	72.7	70.0	126.0	79.8	113.6	74.2
12-Aug	97.0	72.7	92.9	72.8	70.0	126.0	78.8	113.7	75.8
19-Aug	97.0	71.6	92.4	72.6	70.0	126.0	78.6	113.4	75.5
26-Aug	97.0	72.8	91.8	72.0	70.0	125.3	81.4	110.6	76.6
2-Sep	97.0	72.7	91.7	71.7	69.0	120.8	77.4	110.0	76.3
9-Sep	99.0	72.0	90.9	71.1	68.0	123.2	80.0	105.2	71.2
16-Sep	97.0	69.3	90.4	70.0	67.0	119.0	75.7	102.1	69.0
23-Sep	99.0	72.1	90.1	69.4	66.0	119.7	77.3	101.2	67.1
30-Sep	97.0	68.7	89.3	68.5	64.0	112.0	76.9	98.8	65.3
7-Oct	95.0	68.7	87.1	67.3	63.0	113.4	74.0	93.7	64.6
14-Oct	95.0	66.8	86.6	66.5	63.0	109.9	74.9	91.7	60.9
21-Oct	93.0	67.9	85.3	65.9	60.0	106.4	75.5	90.2	60.8
28-Oct	91.0	66.4	82.8	64.6	59.0	103.6	75.0	83.9	56.9
4-Nov	91.0	64.2	80.3	62.4	57.0	98.0	72.8	75.9	51.8
11-Nov	84.0	63.7	76.6	59.8	54.0	95.2	71.2	73.2	52.7
18-Nov	82.0	62.0	75.3	57.6	50.0	91.0	70.2	66.6	47.6
25-Nov	81.0	59.9	73.7	56.7	50.0	91.7	69.4	66.4	47.1
2-Dec	79.0	61.0	71.3	54.4	50.0	80.5	66.9	60.9	43.5
9-Dec	75.0	57.5	69.0	52.6	48.0	70.7	64.8	56.2	39.5
16-Dec	74.0	56.8	67.2	51.6	46.0	70.7	63.5	54.4	37.9
23-Dec	72.0	57.3	66.6	50.6	46.0	70.0	61.3	54.1	39.1
31-Dec	72.0	55.9	65.9	50.2	45.0	65.8	62.1	51.9	35.4

CAIRO EG

WMO No. 623660

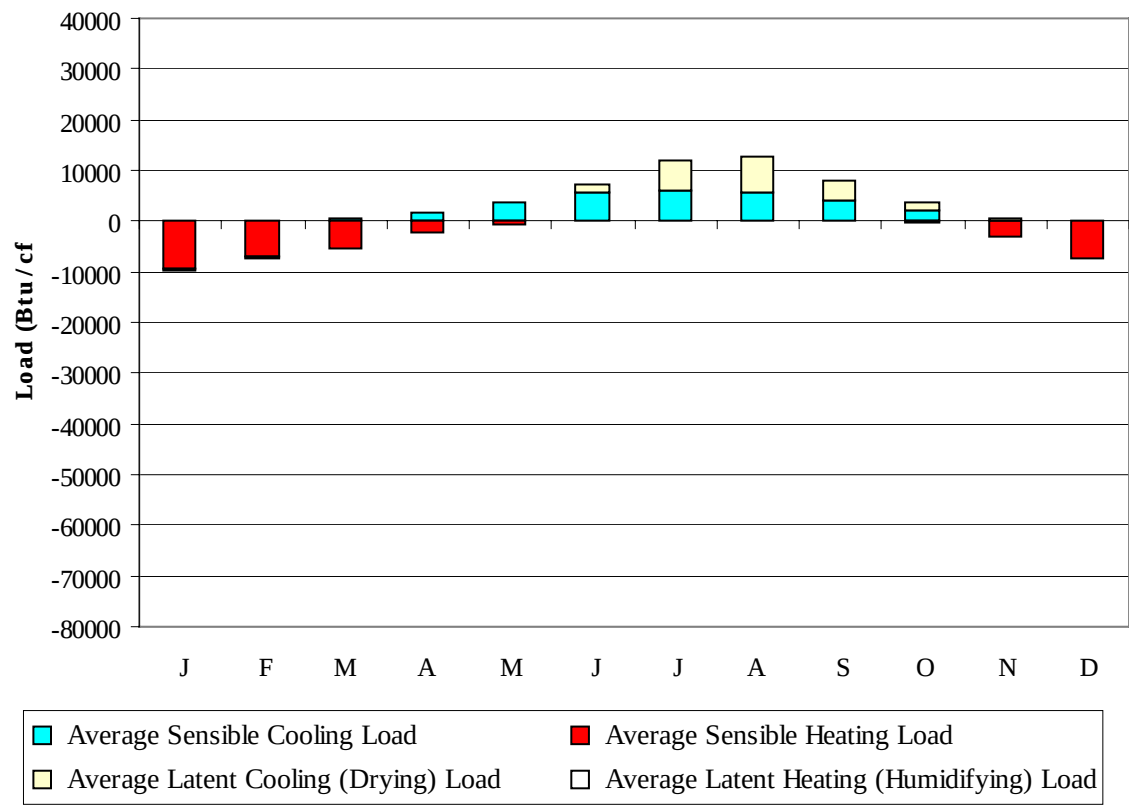
Degree Days, Heating and Cooling
(Base 65°F)



■ Mean Cooling Degree Days ■ Mean Heating Degree Days

	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	9	276
FEB	27	202
MAR	78	137
APR	212	45
MAY	361	10
JUN	488	0
JUL	537	0
AUG	522	0
SEP	433	0
OCT	302	5
NOV	100	65
DEC	16	205
ANN	3085	945

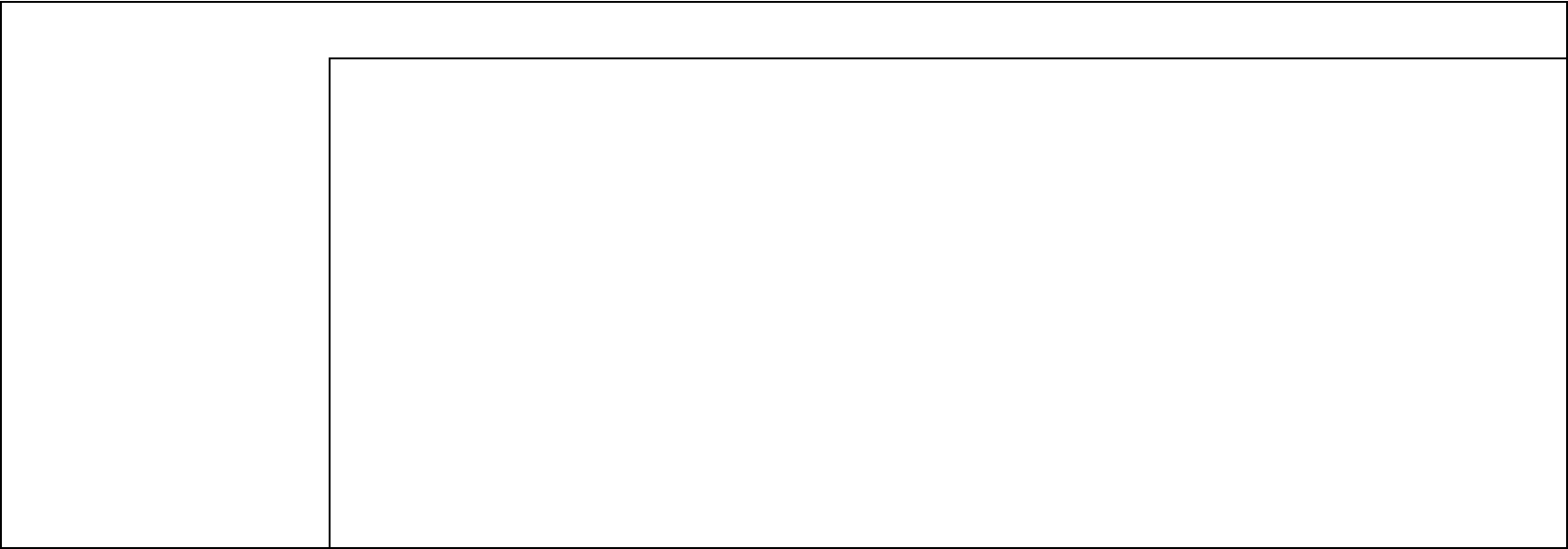
Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	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	16	-9416	0	-338
FEB	83	-7102	0	-345
MAR	368	-5198	2	-269
APR	1775	-2070	11	-239
MAY	3629	-655	139	-72
JUN	5708	-54	1506	-5
JUL	6248	-1	5611	0
AUG	5833	-1	6750	0
SEP	4255	-30	3744	0
OCT	2206	-430	1451	-5
NOV	276	-2918	183	-23
DEC	10	-7436	1	-110
ANN	30407	-35311	19398	-1406

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

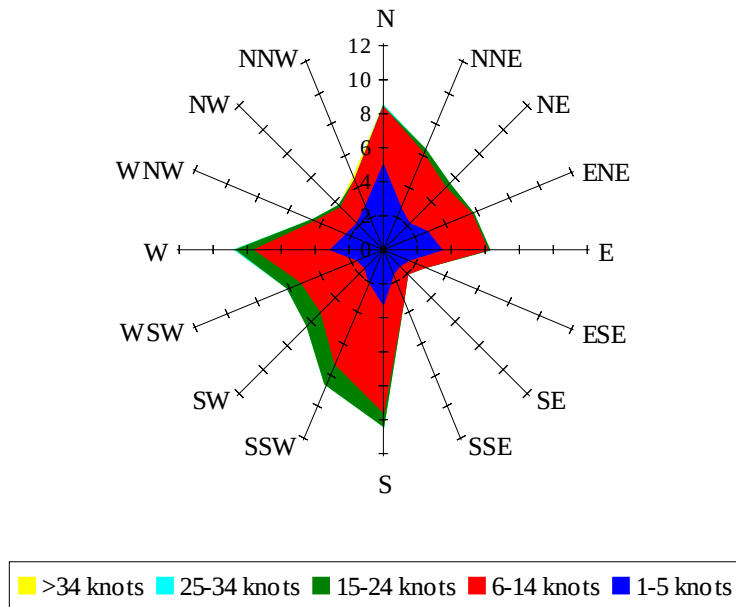
No Solar Radiation
Data Available



Average Annual Solar Heat and Illumination – Nearest Available Site

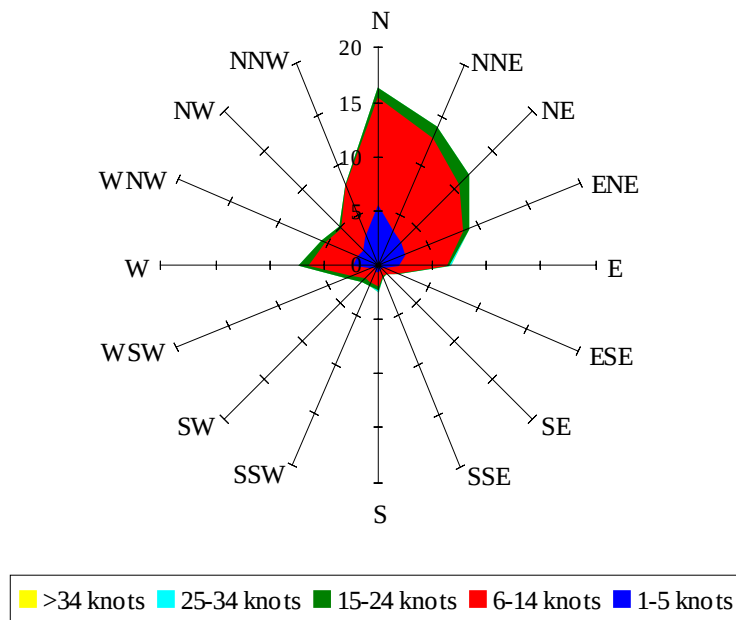
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

Wind Summary - December, January, and February **Labels of Percent Frequency on North Axis**



Percent Calm = 8.06

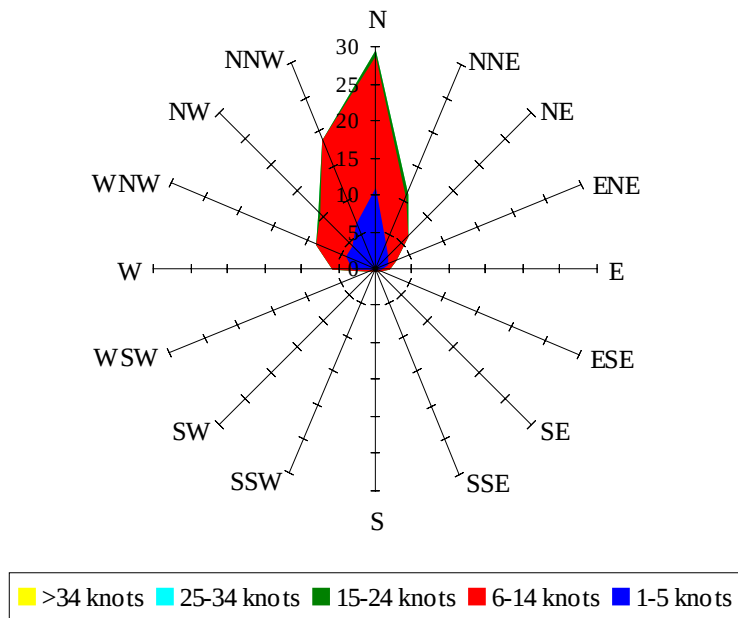
Wind Summary - March, April, and May **Labels of Percent Frequency on North Axis**



Percent Calm = 3.71

Wind Summary - June, July, and August

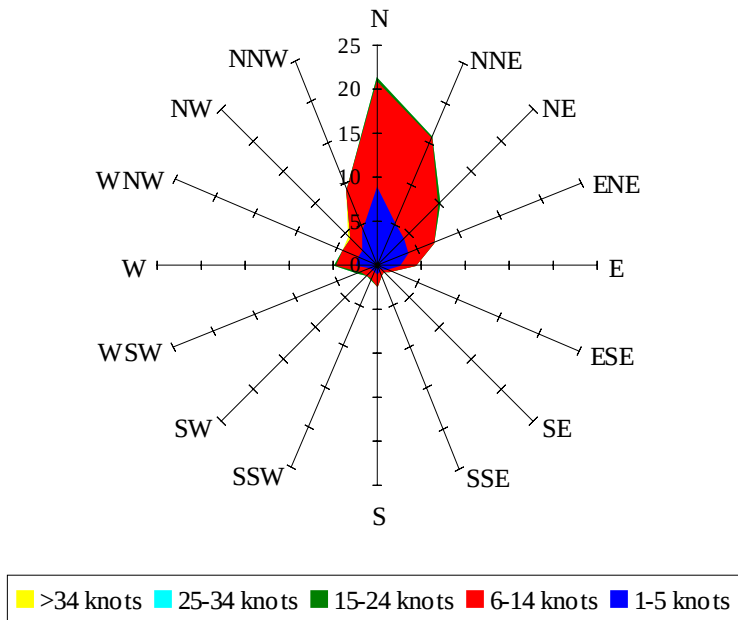
Labels of Percent Frequency on North Axis



Percent Calm = 3.67

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 7.92