

ABIDJAN/PORT BOUET IV

Latitude = 5.25 N

WMO No. 655780

Longitude = 3.93 W

Elevation = 26 feet

Period of Record = 1973 to 1996

Average Pressure = 29.79 inches Hg

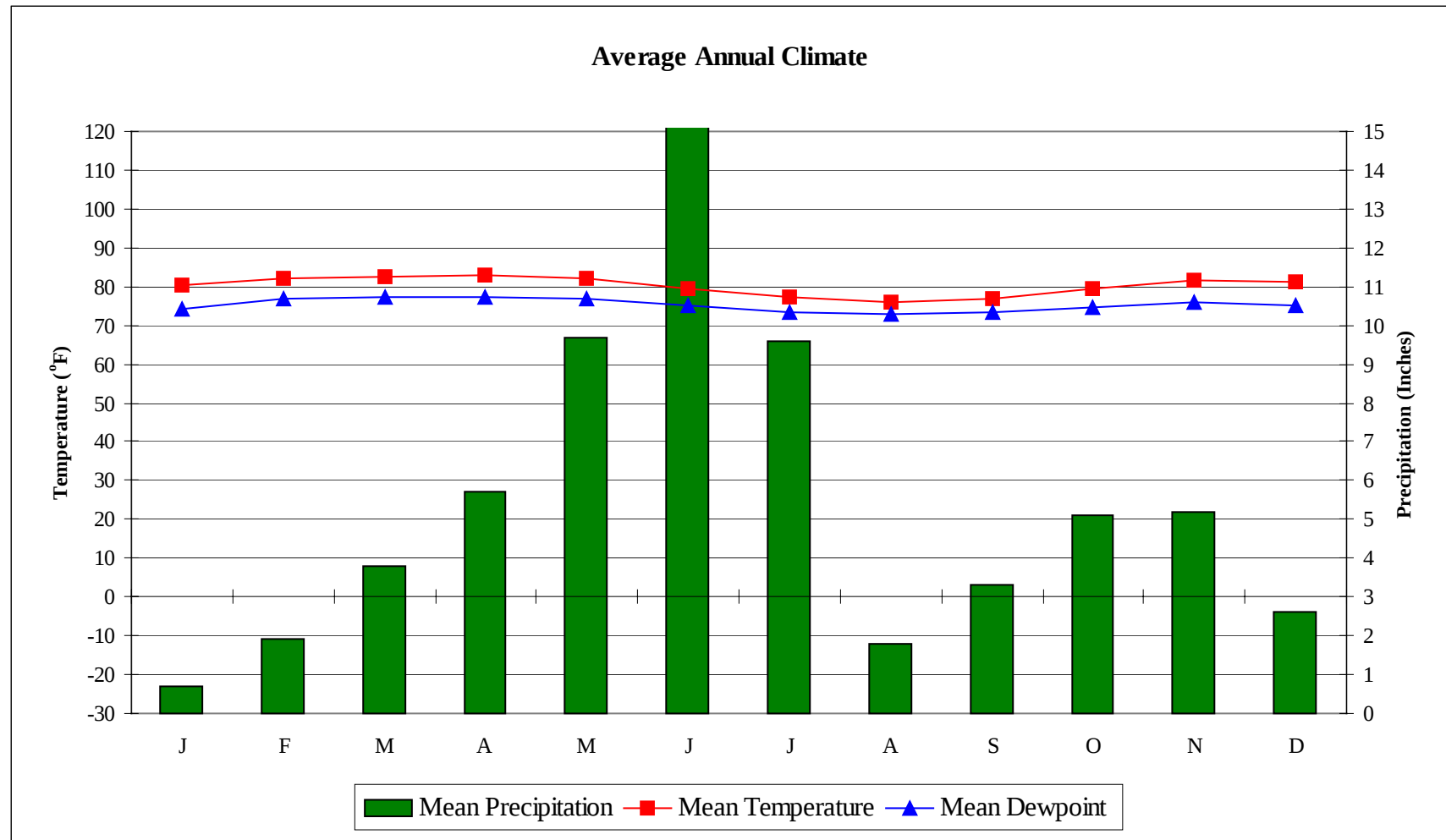
Design Criteria Data

	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	77	121	8.1	SSW
0.4% Occurrence	90	81	146	8.9	SW
1.0% Occurrence	90	81	146	8.9	SW
2.0% Occurrence	89	80	145	9.1	SW
Mean Daily Range	9	-	-	-	-
97.5% Occurrence	72	72	117	3.7	WSW
99.0% Occurrence	72	72	117	3.7	WSW
99.6% Occurrence	70	69	105	2.8	WSW
Median of Extreme Lows	66	64	86	2.5	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	85	88	171	10.3	SW
0.4% Occurrence	83	88	158	9.3	SW
1.0% Occurrence	82	87	154	8.3	SW
2.0% Occurrence	82	87	154	8.3	SW
	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	181	87	1.19	9.9	WSW
0.4% Occurrence	161	85	1.06	8.7	SW
1.0% Occurrence	160	85	1.06	8.1	SW
2.0% Occurrence	160	85	1.05	8.0	SW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		4	4572	7447	8032

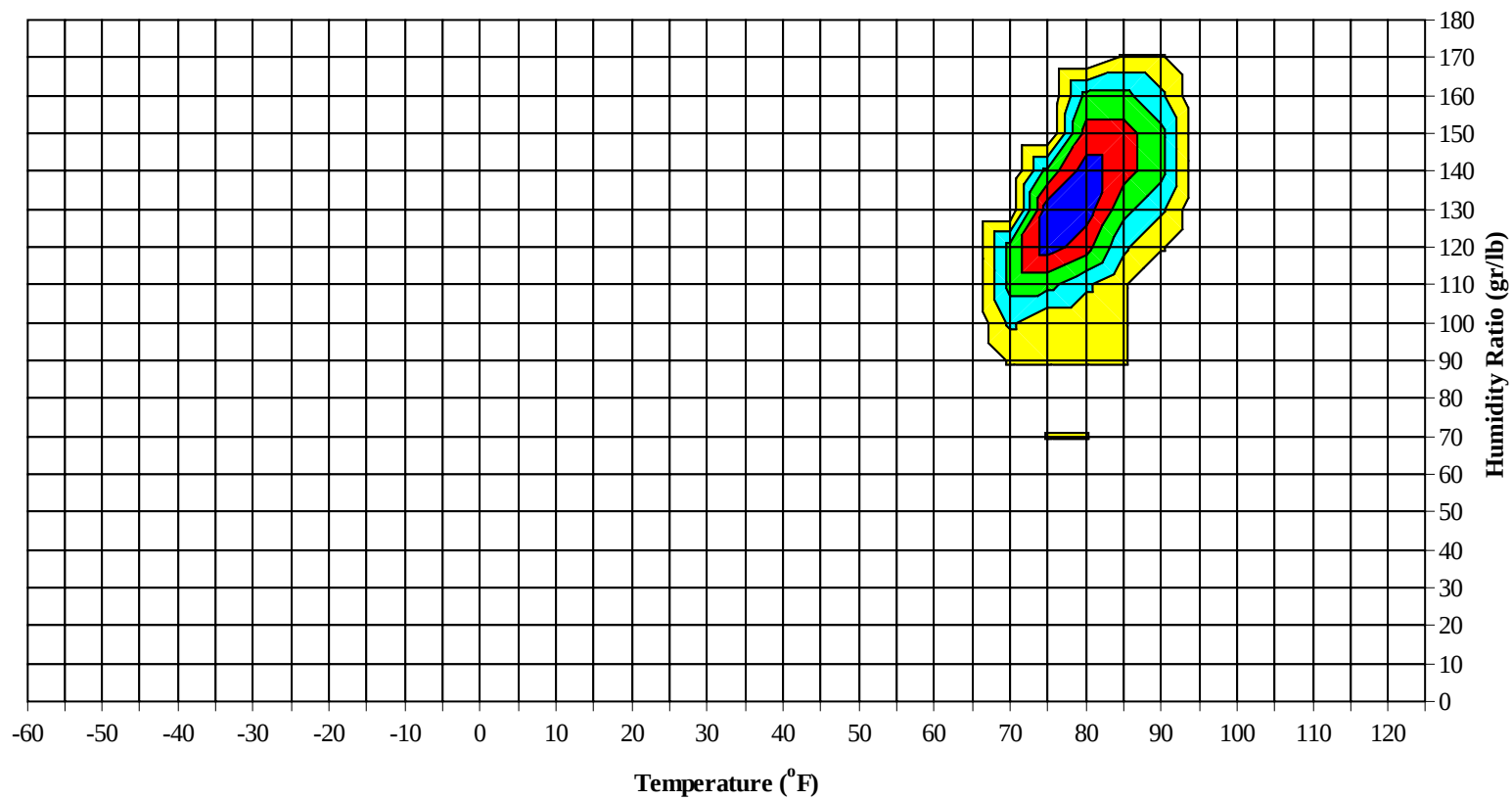
Other Site Data

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	13.5 + 4.1
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 (#)
82.6	N/A	N/A	0

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

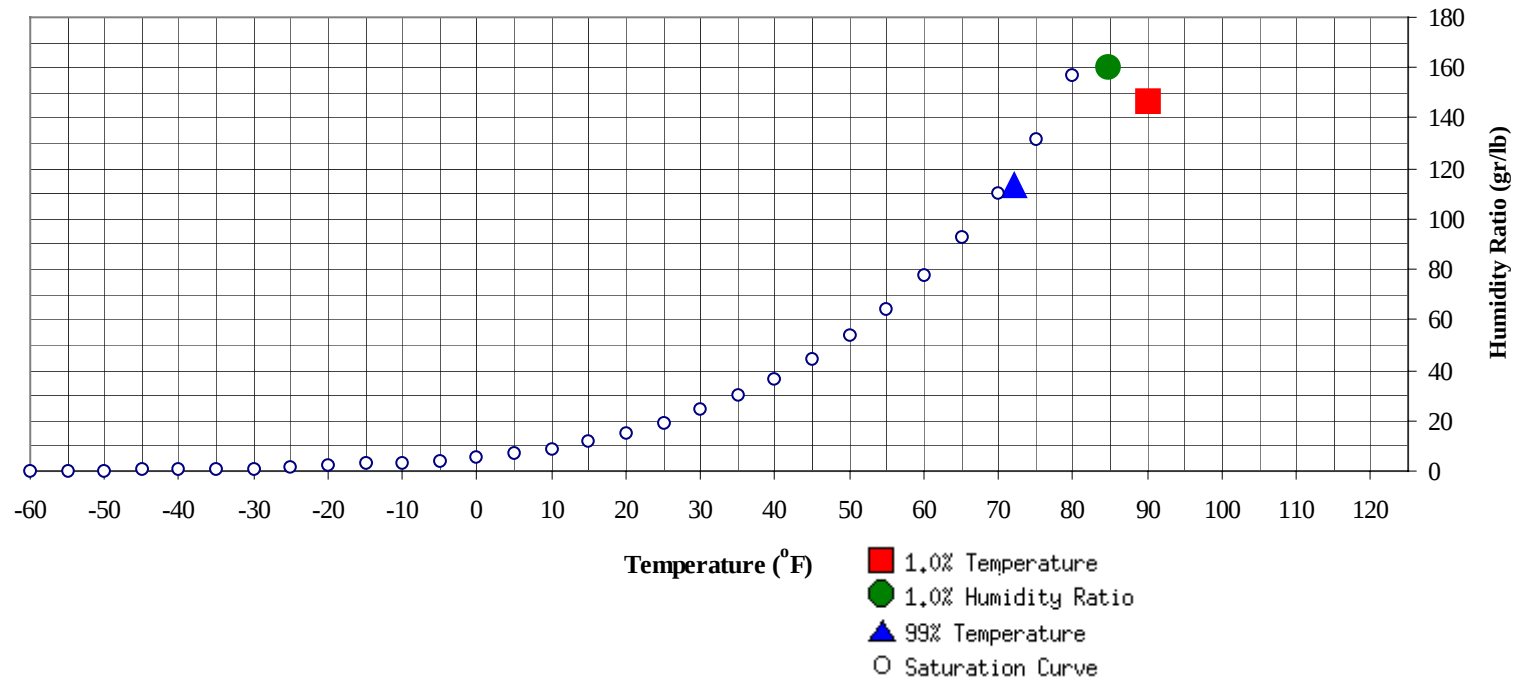


Long Term Psychrometric Summary



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

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	72	113.1	34.9		160.3	84.7	81.7	80.6	45.5

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	90	146.3	81	44.6

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	80.0		0		0						
95 / 99		0		0	79.7	0	0		0	82.3	0	0	0	0	65.4
90 / 94		7	0	7	73.8	0	20	1	21	80.8	0	25	0	25	81.6
85 / 89	0	108	7	115	78.2	0	118	17	135	79.9	0	136	26	162	80.2
80 / 84	38	106	142	286	77.5	88	74	148	311	78.6	127	72	182	381	78.8
75 / 79	155	23	85	262	75.8	123	10	56	189	76.6	110	12	38	160	76.1
70 / 74	43	4	13	60	69.2	11	1	2	14	71.3	11	3	2	16	72.2
65 / 69	12		2	13	65.4	1		0	1	66.6					
60 / 64	1		0	1	62.8										
55 / 59															

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.

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							0		0	85.0					
95 / 99	0	0		0	82.0	0	0		0	80.5					
90 / 94	0	39	1	40	81.7	0	15	0	15	81.8	0	1		1	81.0
85 / 89	3	134	36	173	80.3	2	124	20	146	80.1	0	36	1	37	79.1
80 / 84	131	56	170	357	78.8	121	87	180	388	78.4	41	142	110	292	77.2
75 / 79	93	9	30	133	76.0	114	20	43	177	76.0	177	58	122	357	75.4
70 / 74	12	2	3	17	72.4	11	2	5	18	72.4	22	4	8	33	72.2
65 / 69		0	0	0					0	63.0	0	0	0	0	
60 / 64									0		0		0	0	
55 / 59															

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.

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			0	0	0	77.5		0	0	0	78.0
85 / 89		4	0	4	78.4	0	0	0	0	79.0		3	0	3	78.4
80 / 84	2	120	23	145	76.4	0	79	6	85	76.0	1	117	11	130	76.5
75 / 79	157	113	172	441	74.5	85	150	147	383	74.2	115	112	168	394	74.6
70 / 74	89	11	53	154	72.0	161	19	95	275	72.0	124	8	61	193	72.3
65 / 69	0	0	0	0	63.3	1	0	0	1	67.9	0	0	0	0	67.7
60 / 64						0	0		0						
55 / 59						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.

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	82.8		0	0	0	69.0
90 / 94		0	0	0	81.6		6	0	6	81.0		0	5	5	78.6
85 / 89		47	1	48	78.9	0	127	6	133	79.3	0	119	5	124	78.6
80 / 84	22	160	77	260	77.2	91	97	182	370	77.7	61	102	172	336	77.7
75 / 79	198	40	159	397	75.3	138	9	50	198	75.9	147	20	62	230	75.3
70 / 74	28	1	11	40	72.5	10	1	2	13	72.3	35	2	9	45	69.8
65 / 69	0	0	0	0		0		0	0	64.0	5	0	0	5	65.5
60 / 64											0			0	64.0
55 / 59															

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.

ABIDJAN/PORT BOUET IV

WMO No. 655780

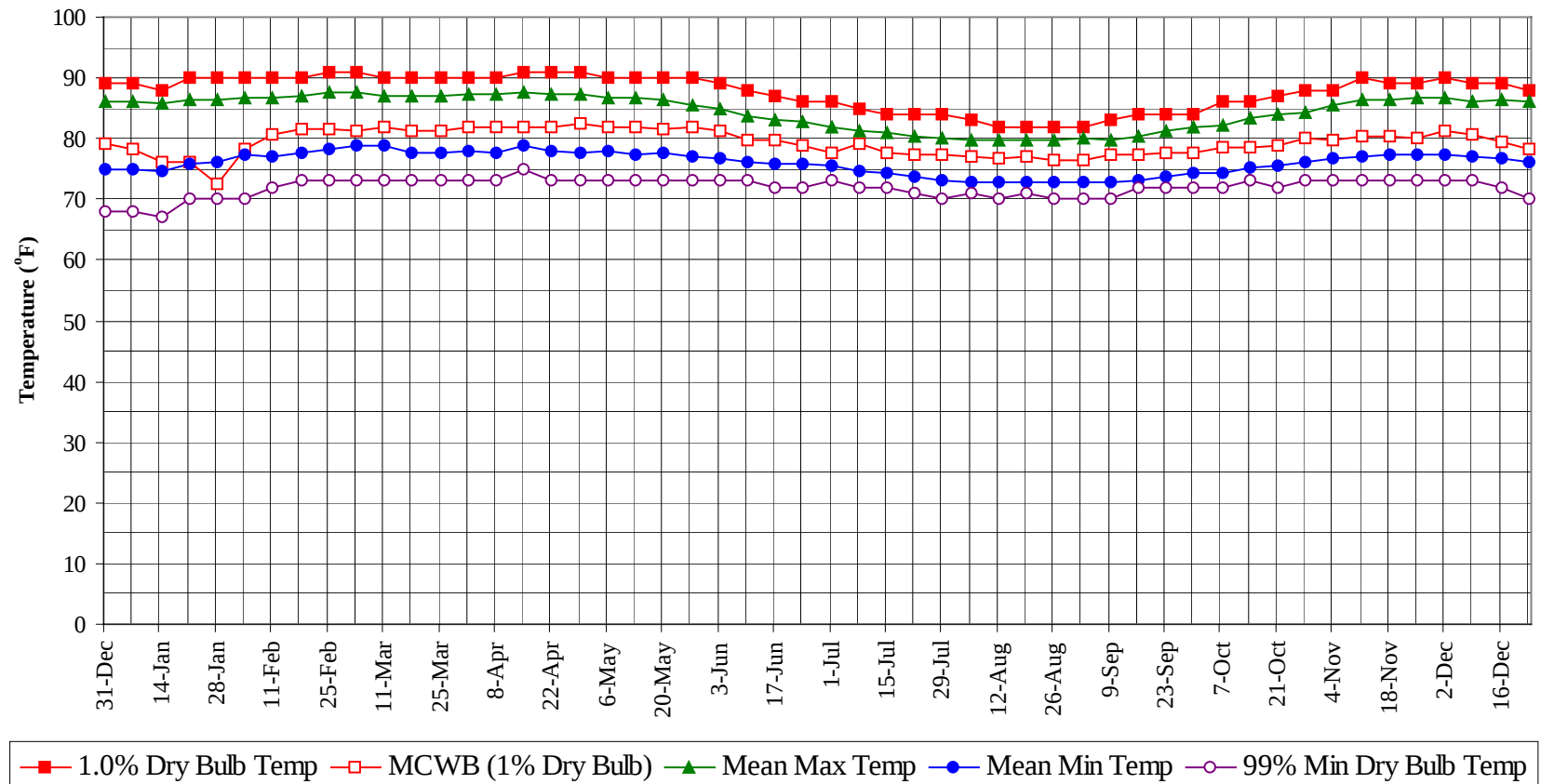
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

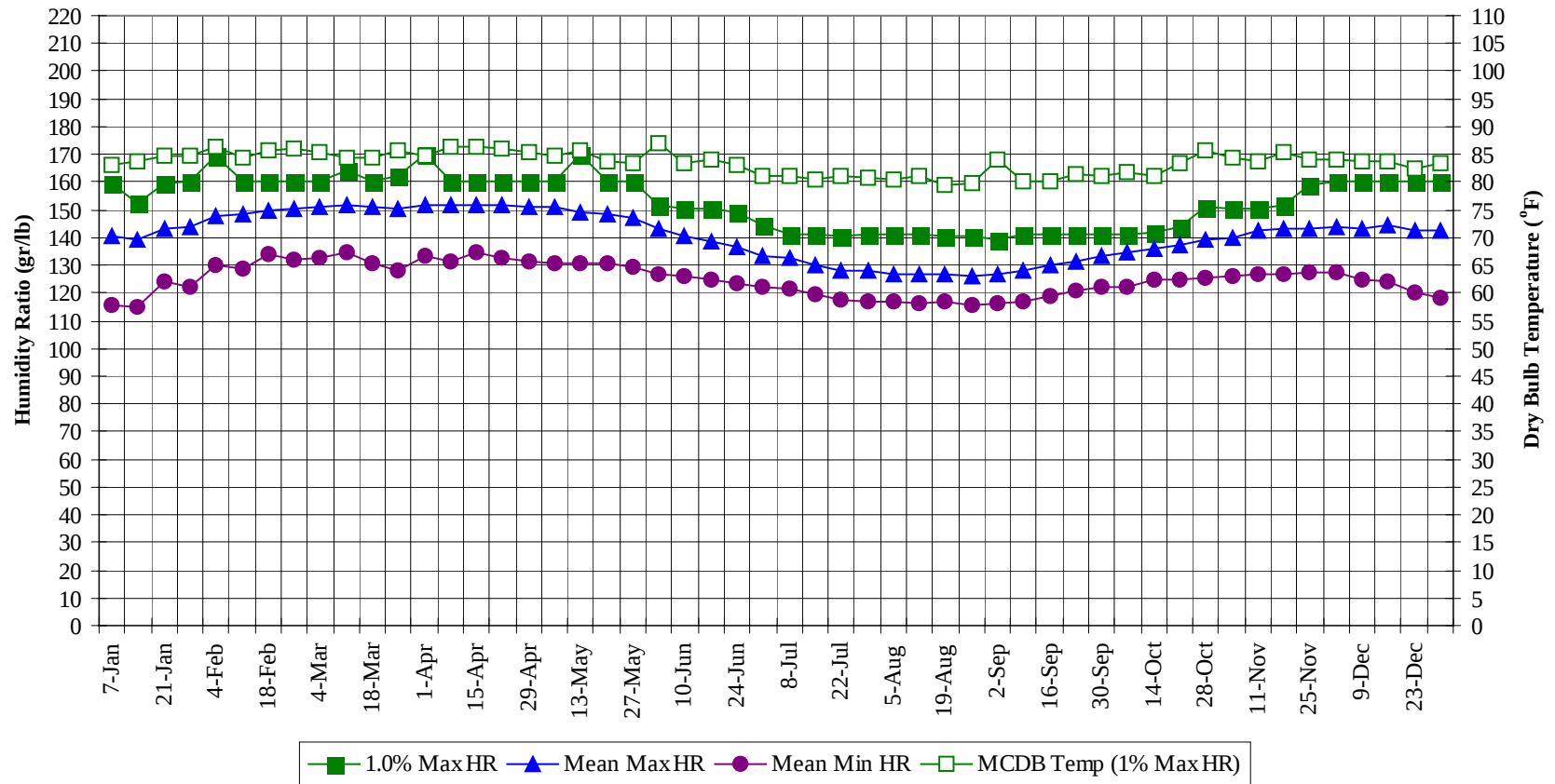
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
100 / 104		0		0	82.3
95 / 99	0	1	0	1	76.6
90 / 94	0	118	3	121	80.9
85 / 89	7	960	116	1083	79.5
80 / 84	731	1211	1405	3346	77.8
75 / 79	1610	574	1129	3314	75.2
70 / 74	551	56	263	870	71.8
65 / 69	20	1	3	23	65.7
60 / 64	1	0	0	1	63.0
55 / 59	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.

Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

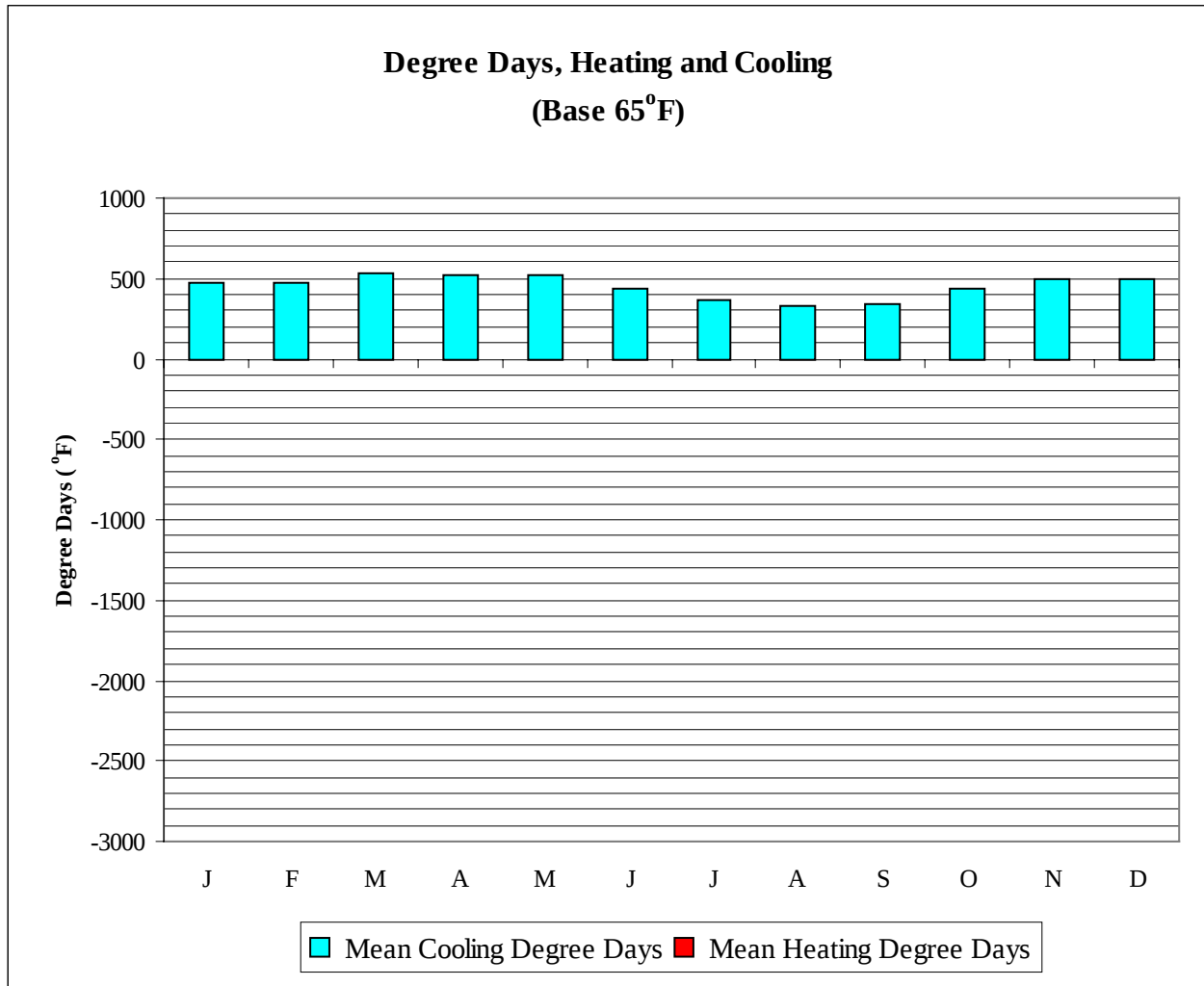


ABIDJAN/PORT BOUET IV

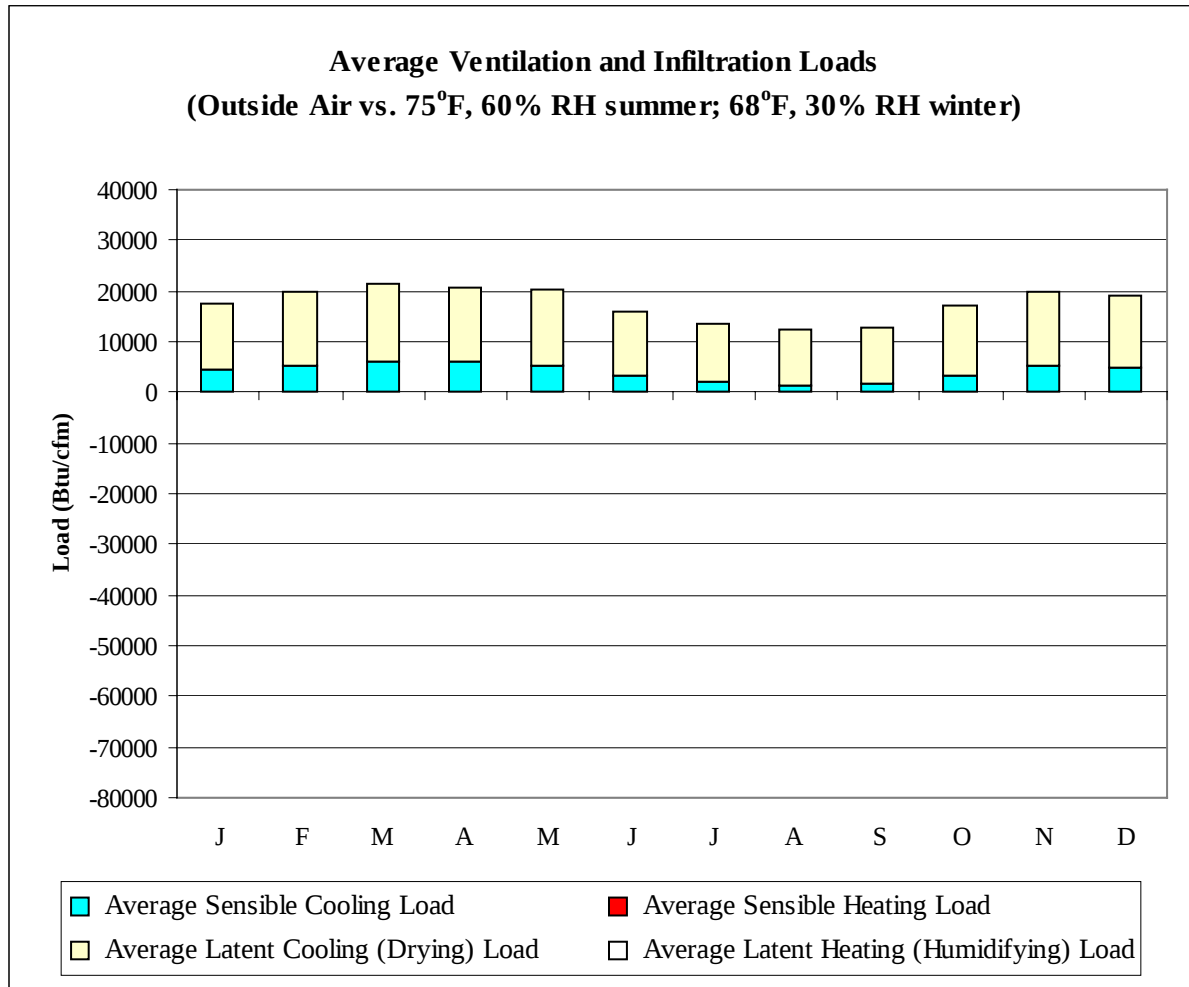
WMO No. 655780

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	89.0	78.3	86.0	75.0	68.0	159.6	83.1	140.3	115.6
14-Jan	88.0	76.2	85.8	74.7	67.0	152.6	83.7	139.4	115.1
21-Jan	90.0	76.2	86.3	76.0	70.0	159.6	84.7	143.1	124.0
28-Jan	90.0	72.4	86.4	76.0	70.0	160.3	84.7	143.6	122.2
4-Feb	90.0	78.3	86.8	77.2	70.0	169.4	86.3	148.0	130.0
11-Feb	90.0	80.6	86.7	77.2	72.0	160.3	84.2	148.7	128.4
18-Feb	90.0	81.6	86.9	77.6	73.0	160.3	85.6	149.8	133.9
25-Feb	91.0	81.7	87.6	78.2	73.0	160.3	85.9	150.1	131.7
4-Mar	91.0	81.3	87.7	78.7	73.0	160.3	85.3	150.7	133.0
11-Mar	90.0	81.8	87.0	78.7	73.0	164.5	84.3	151.9	134.8
18-Mar	90.0	81.4	87.1	77.5	73.0	160.3	84.5	151.1	130.9
25-Mar	90.0	81.1	87.0	77.6	73.0	162.4	85.7	150.5	127.9
1-Apr	90.0	81.9	87.3	78.0	73.0	170.1	84.8	151.7	133.5
8-Apr	90.0	81.8	87.3	77.6	73.0	160.3	86.4	151.4	131.2
15-Apr	91.0	81.8	87.7	79.0	75.0	160.3	86.2	151.6	134.7
22-Apr	91.0	81.8	87.4	78.0	73.0	160.3	85.9	151.5	132.3
29-Apr	91.0	82.5	87.4	77.8	73.0	160.3	85.3	150.9	131.2
6-May	90.0	81.9	86.9	77.8	73.0	160.3	84.6	150.8	130.9
13-May	90.0	81.8	86.9	77.3	73.0	170.1	85.8	149.0	130.5
20-May	90.0	81.5	86.3	77.6	73.0	160.3	83.6	148.2	131.0
27-May	90.0	81.8	85.6	77.1	73.0	160.3	83.5	146.8	129.5
3-Jun	89.0	81.4	84.8	76.7	73.0	151.9	86.9	143.3	126.7
10-Jun	88.0	79.7	83.6	76.1	73.0	150.5	83.5	140.8	125.8
17-Jun	87.0	79.6	83.2	75.9	72.0	150.5	84.1	138.7	125.1
24-Jun	86.0	78.7	82.7	75.8	72.0	149.1	83.0	136.5	123.7
1-Jul	86.0	77.5	81.9	75.5	73.0	144.2	81.1	133.5	122.4
8-Jul	85.0	79.1	81.3	74.8	72.0	141.4	81.0	132.4	121.3
15-Jul	84.0	77.5	80.9	74.4	72.0	141.4	80.5	130.0	119.3
22-Jul	84.0	77.3	80.4	73.6	71.0	140.7	81.0	128.3	117.6
29-Jul	84.0	77.5	80.1	73.2	70.0	141.4	80.6	127.8	116.8
5-Aug	83.0	77.1	79.6	73.0	71.0	141.4	80.4	126.8	116.6
12-Aug	82.0	76.6	79.7	72.8	70.0	141.4	81.0	126.7	116.0
19-Aug	82.0	76.9	79.6	72.8	71.0	140.7	79.6	126.5	116.9
26-Aug	82.0	76.5	79.6	72.7	70.0	140.7	79.9	126.3	115.9
2-Sep	82.0	76.3	79.9	72.7	70.0	139.3	84.0	126.6	116.0
9-Sep	83.0	77.3	79.9	72.7	70.0	141.4	80.1	128.2	117.2
16-Sep	84.0	77.3	80.5	73.1	72.0	141.4	80.1	129.9	118.8
23-Sep	84.0	77.7	81.3	73.7	72.0	141.4	81.4	131.0	120.6
30-Sep	84.0	77.7	81.9	74.2	72.0	141.4	81.1	133.4	122.4
7-Oct	86.0	78.6	82.1	74.4	72.0	141.4	81.7	134.5	121.8
14-Oct	86.0	78.5	83.3	75.3	73.0	142.1	81.3	136.1	124.9
21-Oct	87.0	79.0	83.9	75.7	72.0	143.5	83.3	137.3	124.9
28-Oct	88.0	80.2	84.2	76.2	73.0	151.2	85.7	139.0	125.4
4-Nov	88.0	79.7	85.4	76.6	73.0	150.5	84.5	140.0	126.3
11-Nov	90.0	80.2	86.3	77.2	73.0	150.5	83.9	142.3	126.5
18-Nov	89.0	80.4	86.3	77.3	73.0	151.9	85.4	142.9	126.9
25-Nov	89.0	80.2	86.6	77.3	73.0	158.9	84.1	143.5	127.3
2-Dec	90.0	81.4	86.6	77.5	73.0	160.3	83.9	144.0	127.3
9-Dec	89.0	80.8	86.2	76.9	73.0	160.3	83.8	143.0	124.7
16-Dec	89.0	79.4	86.3	76.8	72.0	160.3	83.8	144.3	124.1
23-Dec	88.0	78.2	86.2	76.2	70.0	160.3	82.6	142.7	120.2
31-Dec	89.0	79.1	86.1	75.1	68.0	160.3	83.3	142.4	118.0



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	477	0
FEB	479	0
MAR	536	0
APR	524	0
MAY	519	0
JUN	432	0
JUL	370	0
AUG	328	0
SEP	336	0
OCT	432	0
NOV	498	0
DEC	495	0
ANN	5425	0



	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	4573	-5	12842	0
FEB	5217	0	14678	0
MAR	5944	0	15380	0
APR	5937	0	14687	0
MAY	5439	0	14764	0
JUN	3472	0	12393	0
JUL	1918	0	11816	0
AUG	1176	-2	11300	0
SEP	1610	0	11124	0
OCT	3419	0	13595	0
NOV	5169	0	14672	0
DEC	4918	-1	14253	0
ANN	48792	-8	161504	0

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

No Solar Radiation
Data Available

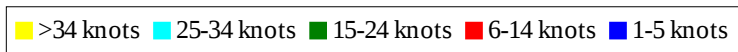
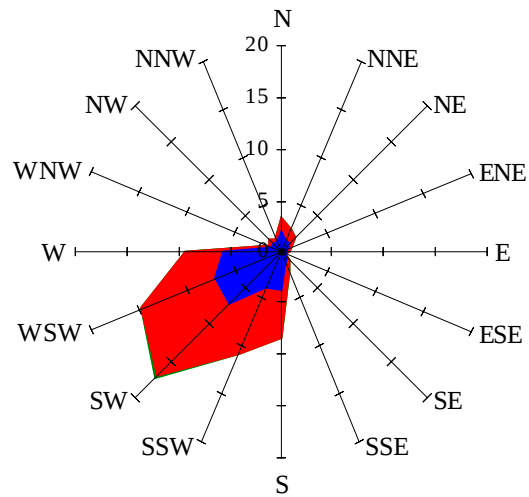


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

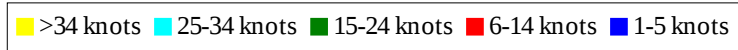
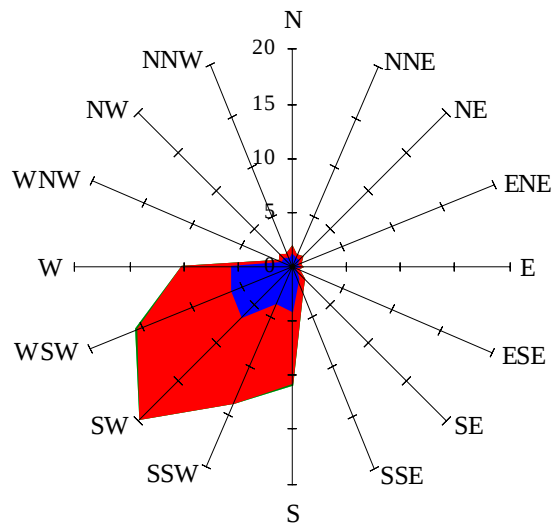
Labels of Percent Frequency on North Axis



Percent Calm = 22.17

Wind Summary - March, April, and May

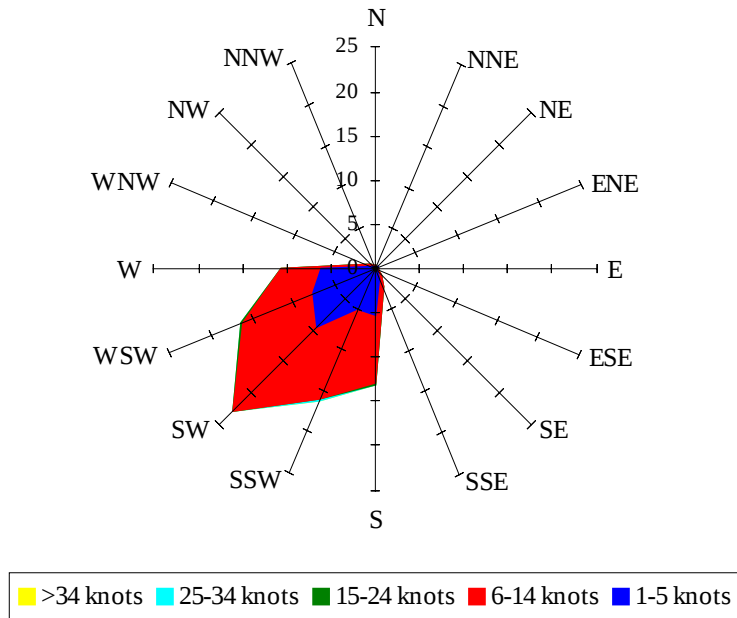
Labels of Percent Frequency on North Axis



Percent Calm = 15.62

Wind Summary - June, July, and August

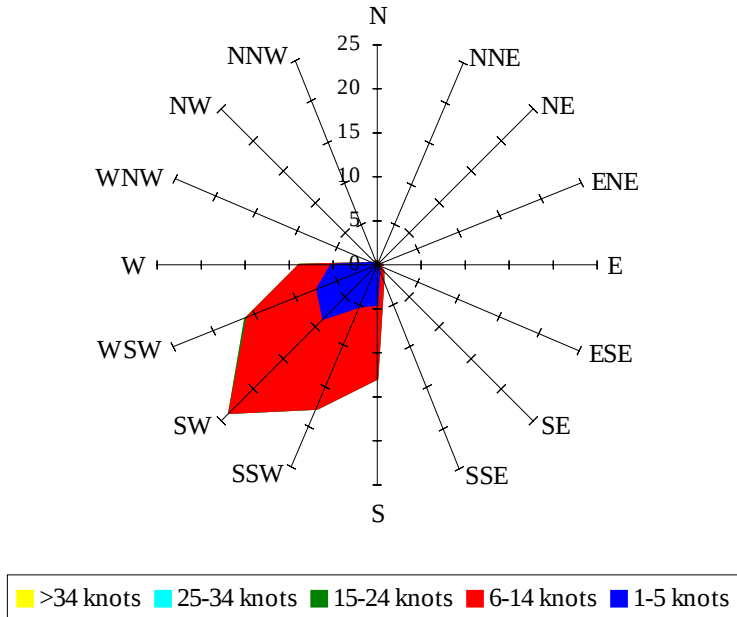
Labels of Percent Frequency on North Axis



Percent Calm = 14.37

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 13.50