

PUSAN	KO	
Latitude = 35.10 N		WMO No. 471590
Longitude = 129.03 E		Elevation = 233 feet
Period of Record = 1973 to 1996		Average Pressure = 29.71 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	91	79	136	8.8	S
0.4% Occurrence	88	79	134	10.6	SSW
1.0% Occurrence	86	78	131	10.4	SSW
2.0% Occurrence	84	77	129	10.3	SSW
Mean Daily Range	11	-	-	-	-
97.5% Occurrence	28	23	9	10.1	NNW
99.0% Occurrence	24	20	7	10.5	NW
99.6% Occurrence	21	17	7	9.5	NW
Median of Extreme Lows	16	12	5	9.7	W
	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	81	87	148	10.2	SSW
0.4% Occurrence	80	86	144	10.6	SSW
1.0% Occurrence	79	84	141	10.7	SSW
2.0% Occurrence	78	83	137	10.4	SSW
	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	153	84	1.00	11.2	SSW
0.4% Occurrence	148	84	0.97	10.7	SSW
1.0% Occurrence	143	82	0.94	11.4	SSW
2.0% Occurrence	139	82	0.91	10.9	SSW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		2	540	934	1932

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	1.3 + 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	29

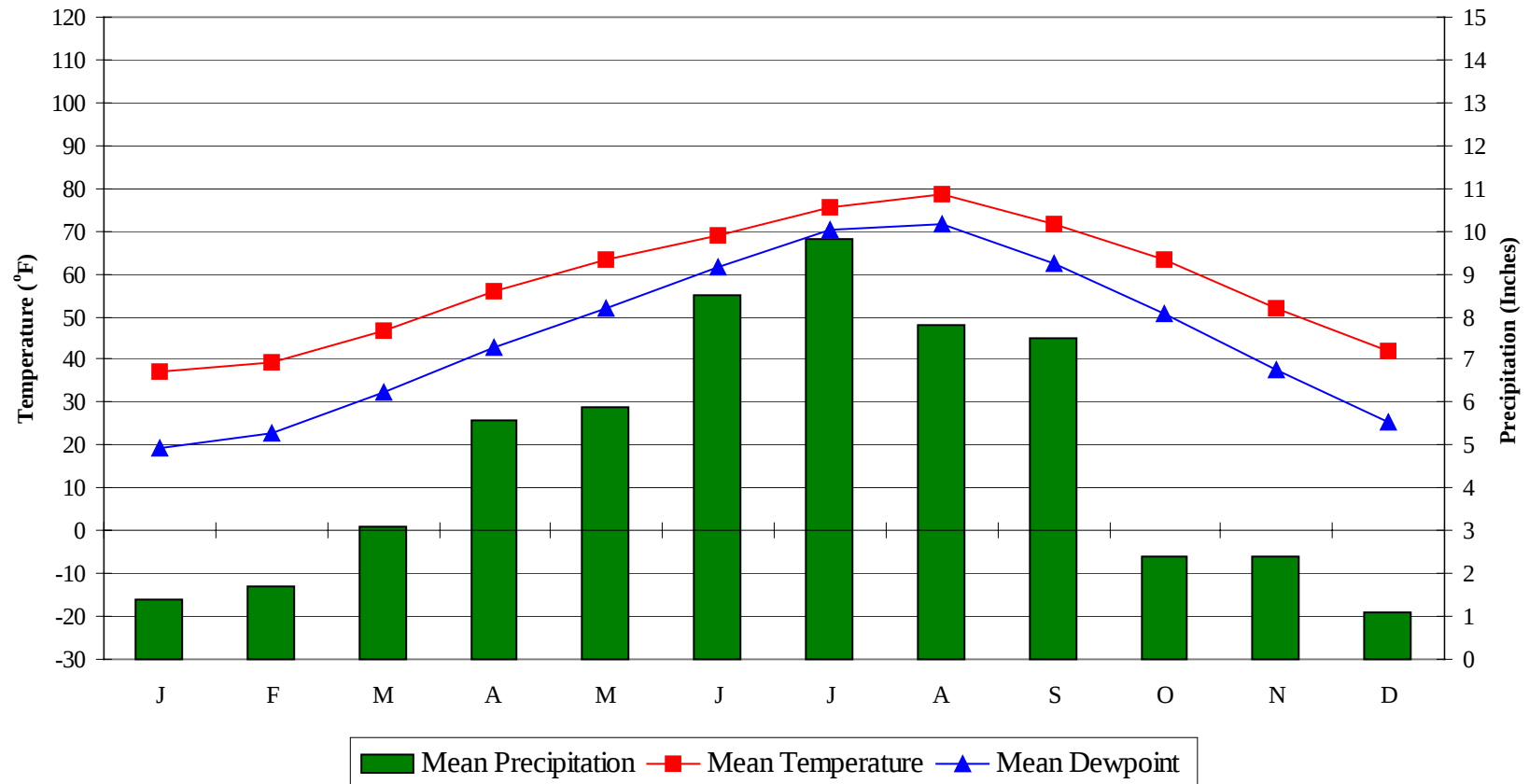
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

PUSAN

KO

WMO No. 471590

Average Annual Climate

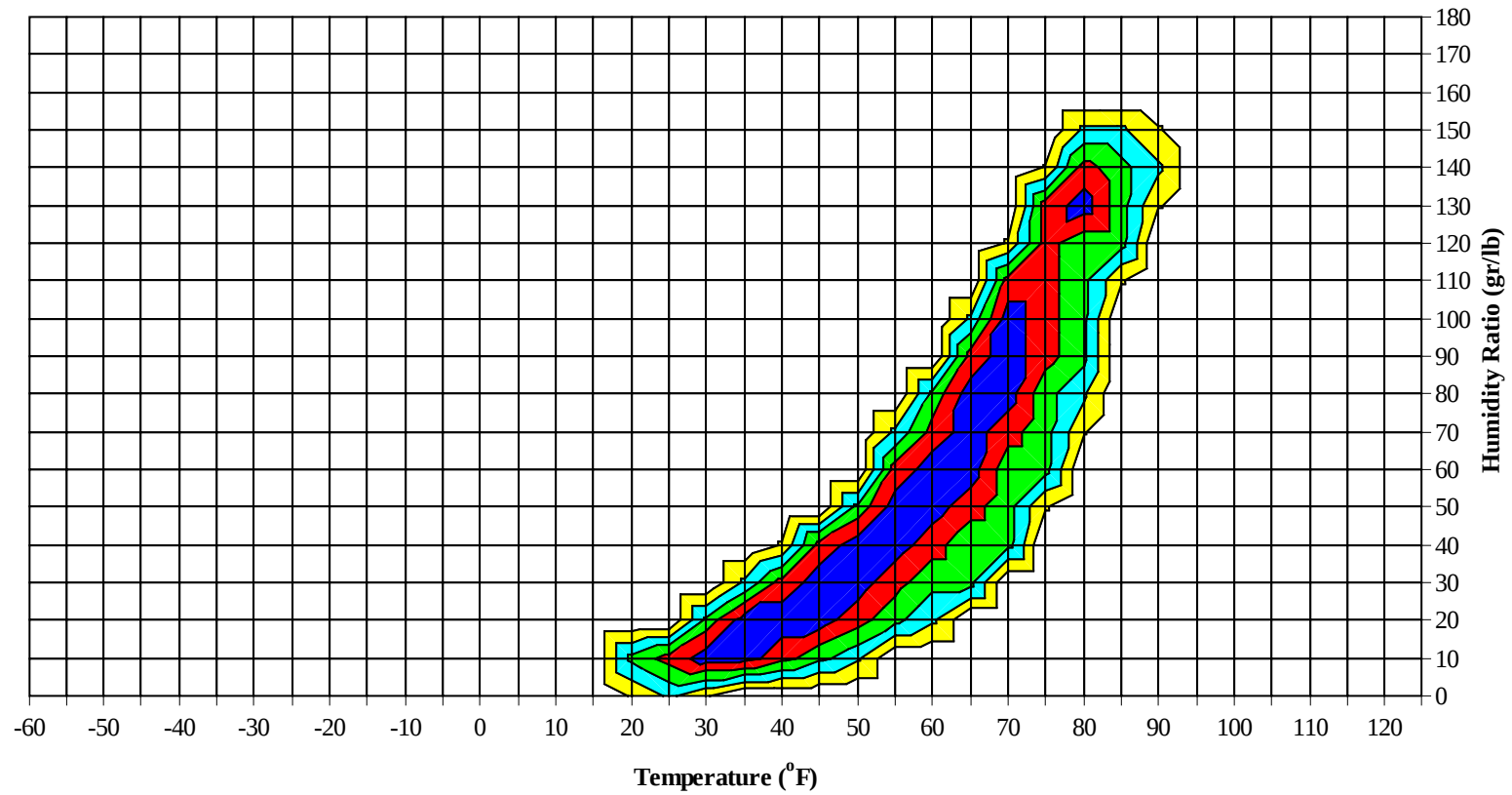


PUSAN

KO

WMO No. 471590

Long Term Psychrometric Summary



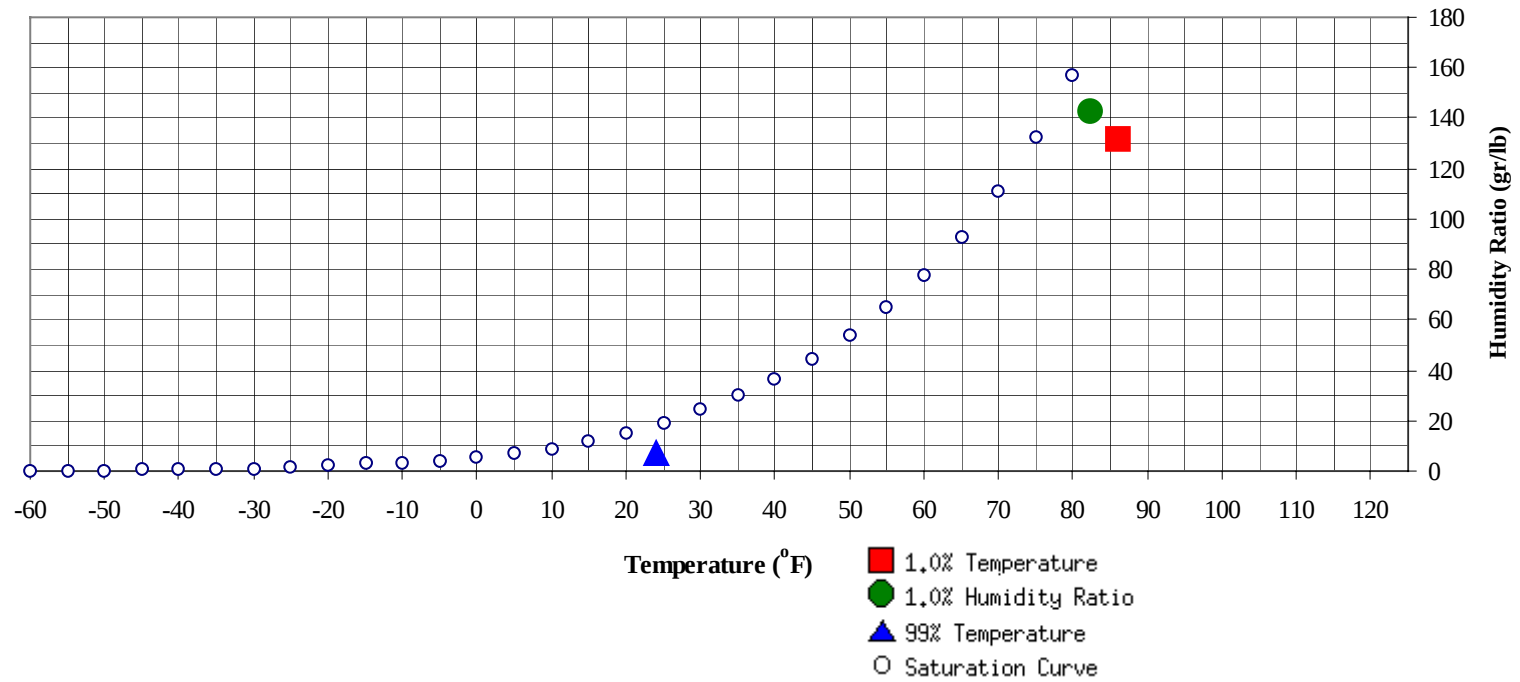
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

PUSAN

KO

WMO No. 471590

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)
	24	7	6.8		142.8	82.3	78.5	77	42.1

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	86	131.8	77.7	41.3

PUSAN

KO

WMO No. 471590

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															
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74															
65 / 69							0		0	54.0		2		2	54.0
60 / 64		1		1	52.7	0	4	1	4	54.8	1	15	1	17	51.7
55 / 59	0	6	1	7	48.4	1	12	4	16	48.4	4	48	21	73	48.7
50 / 54	4	24	10	38	44.7	5	30	15	51	44.3	24	73	62	159	45.2
45 / 49	15	42	32	89	40.5	20	52	48	119	40.4	72	59	88	219	41.3
40 / 44	32	44	53	129	35.7	44	43	56	143	36.4	76	33	49	158	36.9
35 / 39	57	56	65	178	31.1	56	36	49	141	31.4	42	12	21	75	31.8
30 / 34	58	41	52	151	26.3	43	28	30	101	26.3	20	5	5	31	26.9
25 / 29	47	23	26	96	21.9	31	14	17	62	21.8	7	1	1	8	22.8
20 / 24	24	8	7	39	17.9	16	4	4	24	18.1	1	0	0	1	17.5
15 / 19	9	3	3	15	14.4	5	2	2	9	14.2		0	0	0	15.0
10 / 14	1			1	10.2	1	0	0	1	9.7					

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.

PUSAN

KO

WMO No. 471590

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															
85 / 89							0		0	68.5		0		0	69.0
80 / 84							1	0	1	65.1		8	1	9	70.0
75 / 79		1	0	1	60.0		16	2	18	63.7	1	57	14	73	68.1
70 / 74		12	2	13	58.3	1	63	23	87	61.6	32	104	78	215	66.5
65 / 69	0	35	9	44	56.2	21	76	55	152	59.6	103	57	98	258	63.6
60 / 64	19	72	44	134	54.5	93	64	97	254	56.9	92	12	46	151	59.8
55 / 59	58	69	85	213	51.3	89	25	60	174	52.8	11	1	3	14	54.9
50 / 54	80	36	68	184	46.6	40	3	11	54	48.4	1		0	1	50.9
45 / 49	57	12	26	95	41.5	3		0	3	43.5					
40 / 44	21	3	5	29	36.5										
35 / 39	5	0	1	6	31.6										
30 / 34	0			0	29.0										
25 / 29															
20 / 24															
15 / 19															
10 / 14															

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.

PUSAN

KO

WMO No. 471590

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		0		0	79.7		0		0	82.5					
90 / 94		4	1	5	79.7		10	1	11	79.6		0		0	76.5
85 / 89		30	10	40	78.2	0	61	13	74	77.9		6	1	7	77.1
80 / 84	7	63	39	109	76.2	23	86	75	185	76.0	3	38	8	49	72.9
75 / 79	91	77	84	252	73.6	125	64	101	290	73.5	19	83	48	150	69.8
70 / 74	90	58	81	229	69.5	79	23	50	152	68.9	64	77	97	239	66.4
65 / 69	44	13	27	85	65.2	20	4	7	32	65.6	99	29	67	196	62.6
60 / 64	16	2	6	24	60.8	1	0		1	62.1	47	6	18	71	57.9
55 / 59											8	0	1	9	52.1
50 / 54											0			0	48.0
45 / 49															
40 / 44															
35 / 39															
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															

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.

PUSAN

KO

WMO No. 471590

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															
85 / 89															
80 / 84		1	0	1	67.8										
75 / 79		26	1	27	64.7		0		0	62.0					
70 / 74	4	67	20	91	62.5		7	0	7	59.9					
65 / 69	23	67	61	151	59.9	1	23	4	28	57.7	0	2		2	54.2
60 / 64	93	54	98	245	56.4	9	49	28	86	54.6	0	11	1	12	52.8
55 / 59	82	22	46	151	51.5	46	60	64	171	50.9	1	25	11	37	49.2
50 / 54	27	9	15	51	45.5	60	42	61	163	45.4	20	39	32	91	45.4
45 / 49	16	3	5	24	40.1	55	29	45	129	40.2	38	51	55	144	40.5
40 / 44	3	0	1	4	36.0	32	19	20	71	35.3	46	43	52	141	35.6
35 / 39	0			0	32.0	21	8	15	45	30.9	58	40	49	147	31.0
30 / 34						13	3	4	20	27.2	43	21	30	94	26.6
25 / 29						1	0	0	1	22.2	28	11	14	54	22.3
20 / 24						0			0	21.0	9	4	3	16	18.3
15 / 19											3	1	1	4	15.1
10 / 14											1	0	0	1	10.4

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.

PUSAN

KO

WMO No. 471590

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		
95 / 99		1		1	80.8
90 / 94		14	2	16	79.6
85 / 89	0	98	24	122	77.9
80 / 84	32	198	123	353	75.4
75 / 79	238	324	250	811	71.7
70 / 74	271	408	354	1033	66.4
65 / 69	313	307	328	948	61.7
60 / 64	372	290	340	1002	56.6
55 / 59	301	267	296	864	51.1
50 / 54	263	256	274	793	45.7
45 / 49	275	247	298	821	40.8
40 / 44	255	184	235	674	36.1
35 / 39	238	155	199	592	31.2
30 / 34	176	98	121	395	26.5
25 / 29	114	50	59	222	22.0
20 / 24	51	16	14	81	18.0
15 / 19	17	6	4	28	14.4
10 / 14	3	1	0	4	10.0

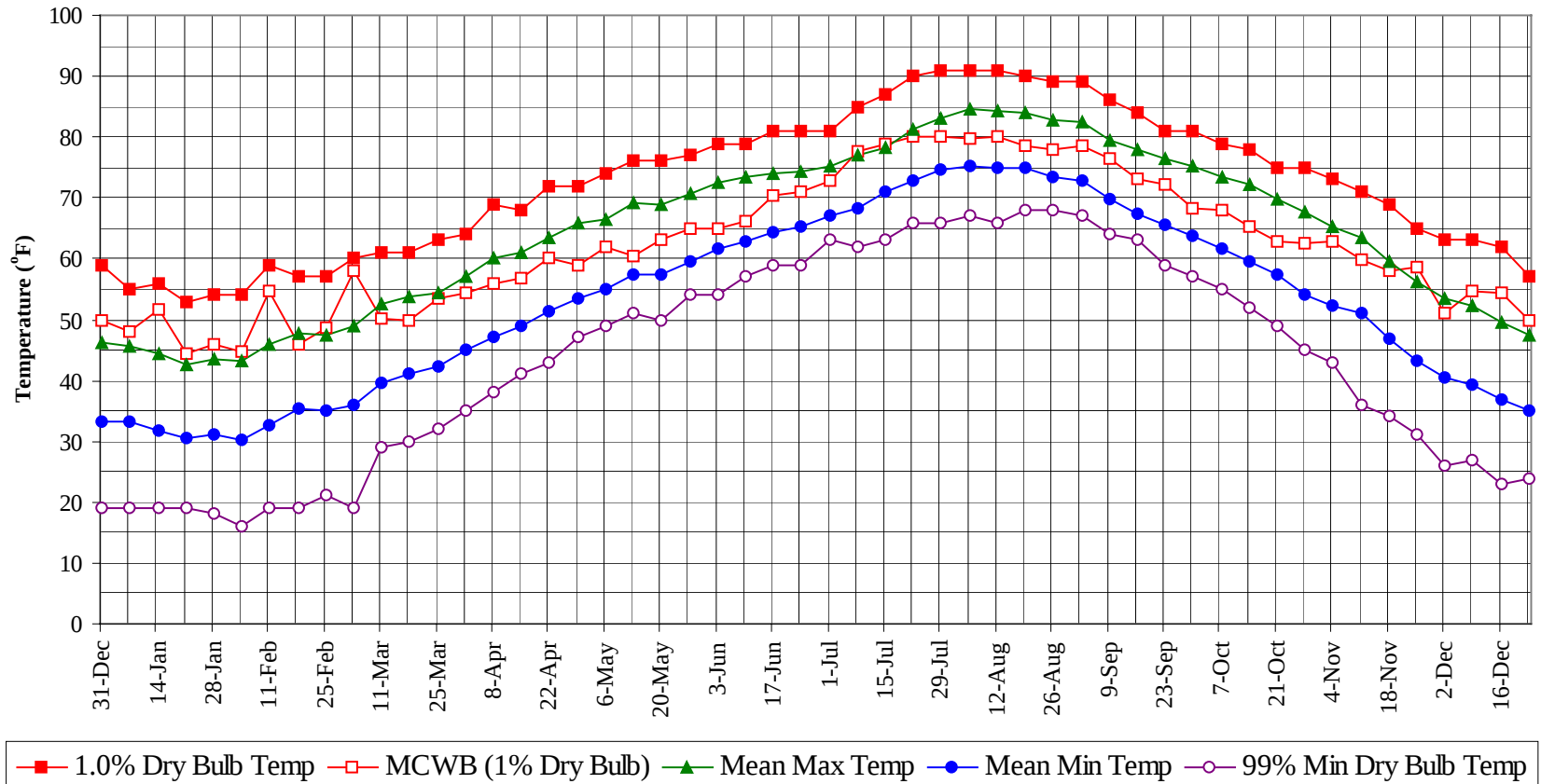
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

PUSAN

KO

WMO No. 471590

Annual Summary of Temperatures

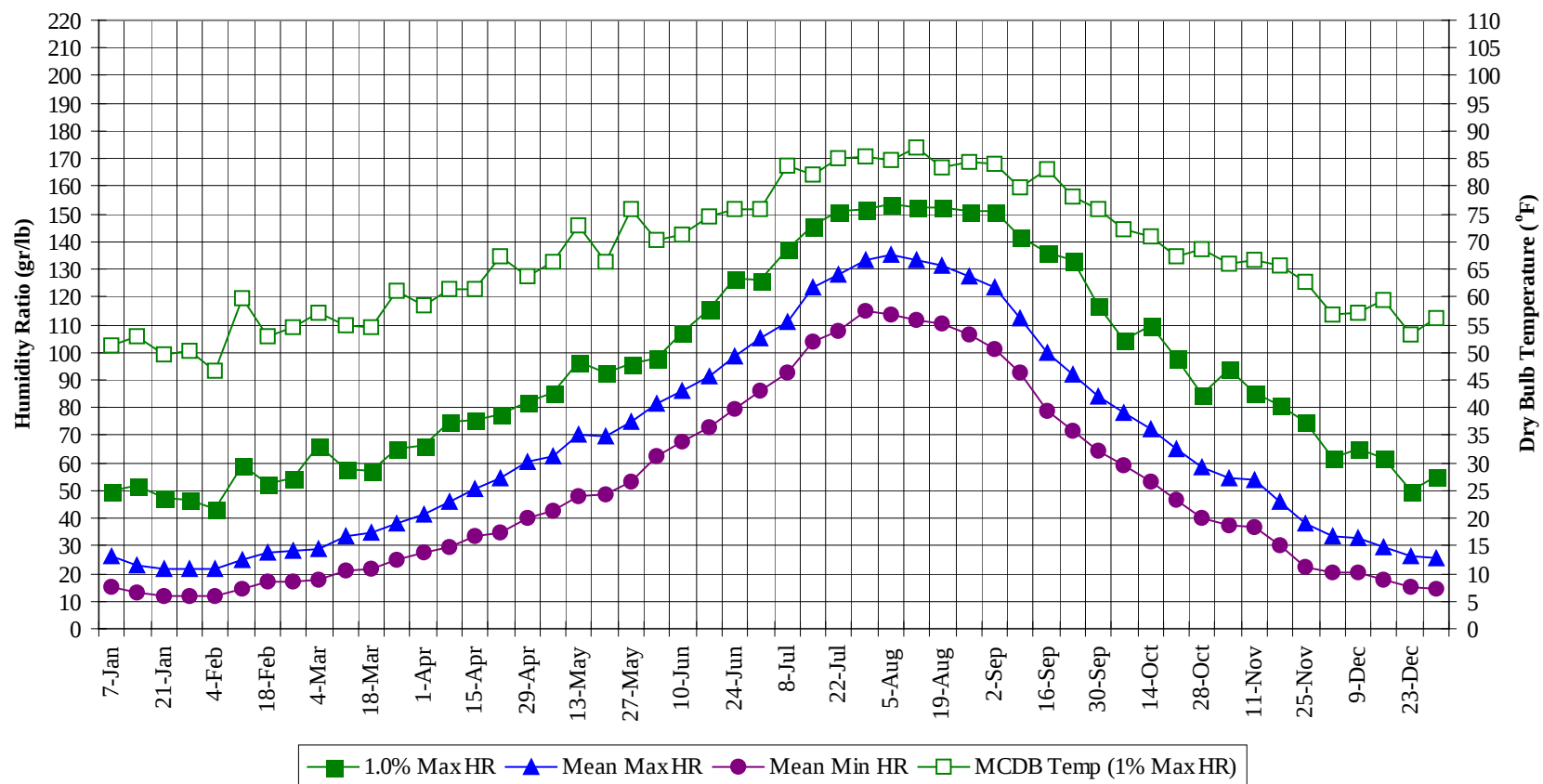


PUSAN

KO

WMO No. 471590

Long Term Humidity and Dry Bulb Temperature Summary



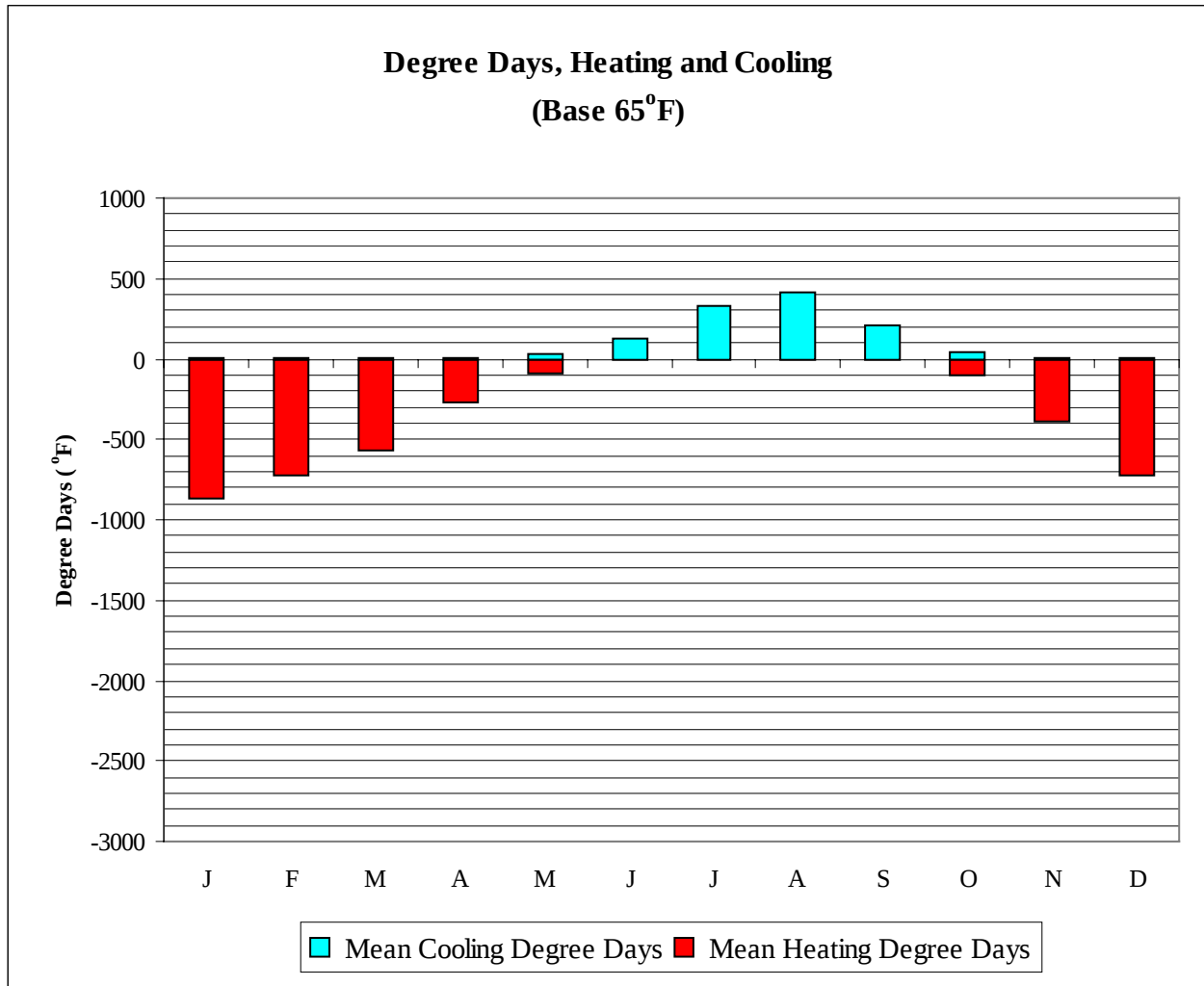
PUSAN**KO****WMO No. 471590****Long Term Dry Bulb Temperature and Humidity Summary**

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	55.0	48.0	45.7	33.2	19.0	49.7	51.3	26.4	14.9
14-Jan	56.0	51.8	44.3	31.7	19.0	51.8	53.0	23.3	13.2
21-Jan	53.0	44.4	42.7	30.6	19.0	47.6	49.5	22.0	11.6
28-Jan	54.0	45.9	43.5	31.0	18.0	46.9	50.1	21.8	11.8
4-Feb	54.0	44.6	43.1	30.4	16.0	43.4	46.6	21.6	12.1
11-Feb	59.0	54.7	45.8	32.5	19.0	58.8	59.8	24.7	14.5
18-Feb	57.0	45.8	47.8	35.3	19.0	52.5	53.0	27.9	16.8
25-Feb	57.0	48.7	47.5	35.0	21.0	54.6	54.4	28.3	16.8
4-Mar	60.0	58.0	49.1	36.1	19.0	66.5	57.2	29.1	17.4
11-Mar	61.0	50.2	52.6	39.6	29.0	58.1	54.8	33.5	20.7
18-Mar	61.0	49.8	53.8	41.0	30.0	57.4	54.4	34.7	21.9
25-Mar	63.0	53.6	54.5	42.4	32.0	65.1	61.0	38.3	25.2
1-Apr	64.0	54.5	57.1	44.9	35.0	66.5	58.4	41.4	27.9
8-Apr	69.0	55.8	60.1	47.3	38.0	74.9	61.5	46.3	29.3
15-Apr	68.0	56.8	61.0	49.1	41.0	75.6	61.4	50.7	33.5
22-Apr	72.0	60.0	63.5	51.3	43.0	77.7	67.4	54.7	35.0
29-Apr	72.0	59.1	65.9	53.6	47.0	81.9	63.6	60.7	40.2
6-May	74.0	61.9	66.5	54.9	49.0	85.4	66.4	62.2	42.6
13-May	76.0	60.3	69.2	57.3	51.0	96.6	73.0	70.0	47.8
20-May	76.0	63.0	68.8	57.3	50.0	92.4	66.5	69.5	48.6
27-May	77.0	64.9	70.8	59.5	54.0	95.9	76.0	74.9	53.2
3-Jun	79.0	64.9	72.5	61.5	54.0	98.0	70.2	81.5	62.2
10-Jun	79.0	66.3	73.3	62.9	57.0	107.1	71.4	86.0	67.9
17-Jun	81.0	70.4	74.2	64.3	59.0	115.5	74.6	91.5	72.8
24-Jun	81.0	70.9	74.2	65.2	59.0	126.7	75.9	98.7	79.8
1-Jul	81.0	72.7	75.3	67.0	63.0	126.0	75.9	104.8	86.3
8-Jul	85.0	77.6	77.0	68.4	62.0	137.2	83.9	110.7	92.9
15-Jul	87.0	78.8	78.4	71.1	63.0	145.6	82.0	123.4	103.7
22-Jul	90.0	80.0	81.2	72.9	66.0	151.2	85.2	127.9	107.7
29-Jul	91.0	80.2	83.2	74.5	66.0	151.9	85.3	133.5	114.9
5-Aug	91.0	79.7	84.6	75.3	67.0	154.0	84.7	135.1	113.8
12-Aug	91.0	79.9	84.3	74.9	66.0	152.6	87.0	133.0	111.4
19-Aug	90.0	78.5	84.1	75.0	68.0	152.6	83.3	131.5	110.6
26-Aug	89.0	78.0	82.7	73.5	68.0	151.2	84.3	127.1	106.2
2-Sep	89.0	78.7	82.4	72.8	67.0	151.2	84.0	123.4	101.2
9-Sep	86.0	76.6	79.6	69.9	64.0	142.1	79.8	112.5	92.3
16-Sep	84.0	73.2	77.8	67.4	63.0	135.8	83.0	99.7	79.0
23-Sep	81.0	72.2	76.4	65.6	59.0	133.0	78.0	92.0	71.4
30-Sep	81.0	68.1	75.1	63.8	57.0	116.9	75.9	84.3	64.1
7-Oct	79.0	67.9	73.5	61.7	55.0	104.3	72.1	78.3	59.4
14-Oct	78.0	65.3	72.1	59.6	52.0	109.9	71.0	72.5	53.3
21-Oct	75.0	62.8	69.6	57.4	49.0	98.0	67.3	64.8	46.7
28-Oct	75.0	62.6	67.6	54.1	45.0	84.7	68.6	58.7	40.1
4-Nov	73.0	62.9	65.2	52.2	43.0	93.8	66.0	54.6	37.3
11-Nov	71.0	59.9	63.3	50.9	36.0	85.4	66.8	53.7	36.5
18-Nov	69.0	58.0	59.4	46.9	34.0	80.5	65.7	45.7	30.3
25-Nov	65.0	58.7	56.2	43.2	31.0	74.9	62.8	38.0	22.6
2-Dec	63.0	51.0	53.6	40.4	26.0	61.6	56.8	33.2	20.0
9-Dec	63.0	54.7	52.3	39.4	27.0	65.1	57.0	33.1	20.1
16-Dec	62.0	54.5	49.5	36.9	23.0	61.6	59.4	29.9	17.5
23-Dec	57.0	50.0	47.5	35.1	24.0	49.7	53.3	26.5	15.2
31-Dec	59.0	49.8	46.3	33.3	19.0	55.3	56.2	25.9	14.2

PUSAN

KO

WMO No. 471590

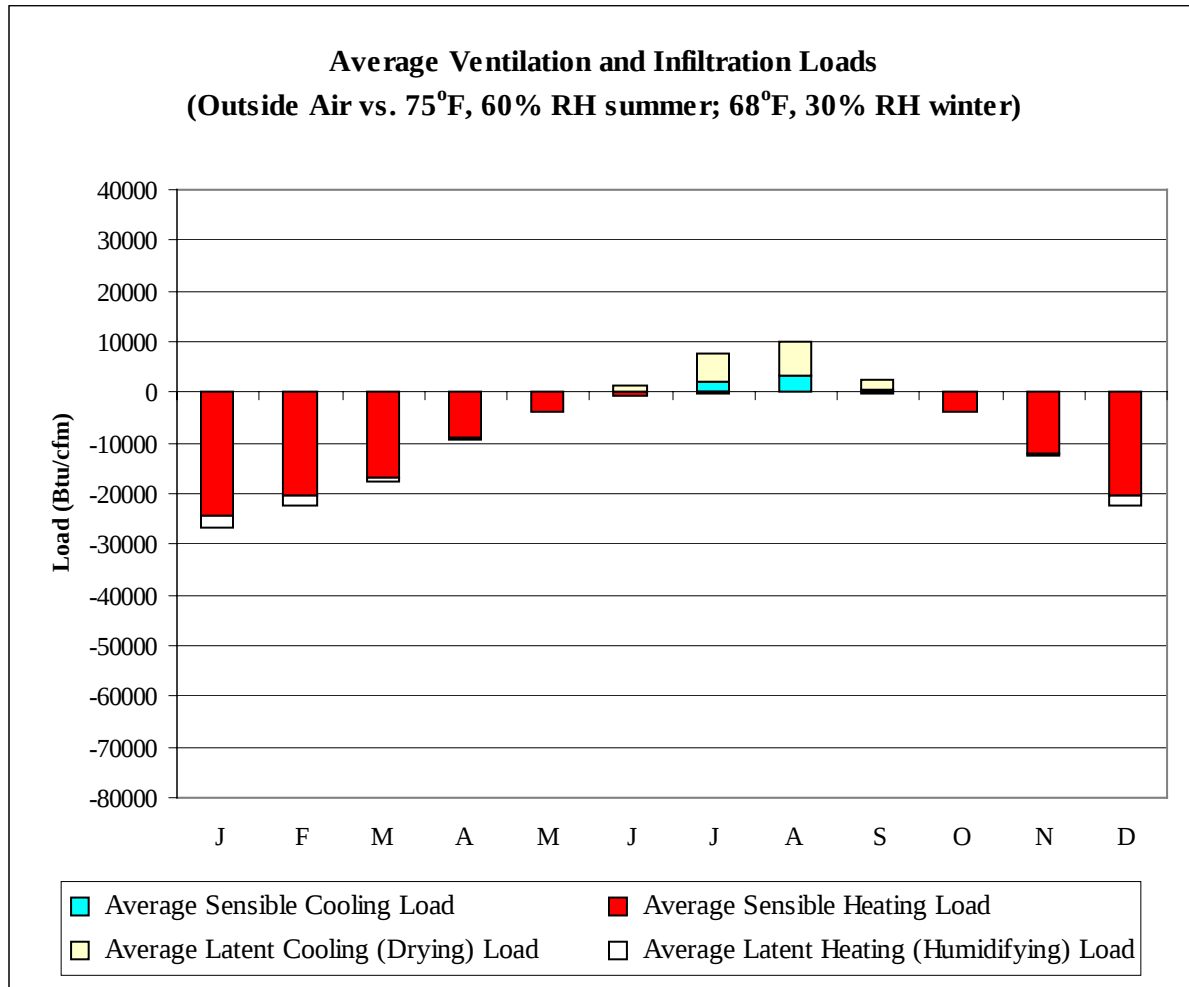


	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	870
FEB	0	720
MAR	0	563
APR	3	273
MAY	33	88
JUN	123	9
JUL	326	1
AUG	416	0
SEP	204	3
OCT	38	97
NOV	2	387
DEC	0	719
ANN	1146	3730

PUSAN

KO

WMO No. 471590



	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	0	-24527	0	-2343
FEB	0	-20500	0	-1778
MAR	0	-16648	0	-934
APR	0	-9137	5	-273
MAY	14	-3973	121	-24
JUN	77	-768	1394	0
JUL	2040	-95	5726	0
AUG	3484	-8	6539	0
SEP	577	-326	2113	0
OCT	17	-3912	176	-73
NOV	0	-11908	10	-666
DEC	0	-20589	0	-1712
ANN	6209	-112391	16084	-7803

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

No Solar Radiation
Data Available

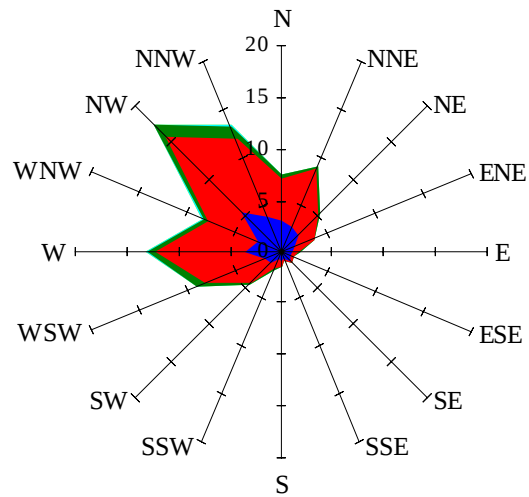


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

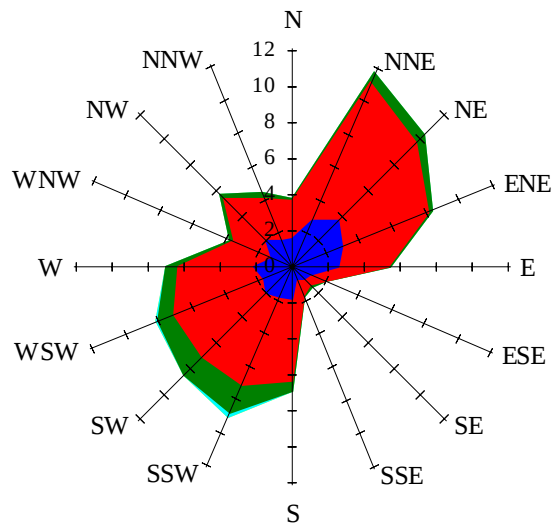
Labels of Percent Frequency on North Axis



Percent Calm = 1.98

Wind Summary - March, April, and May

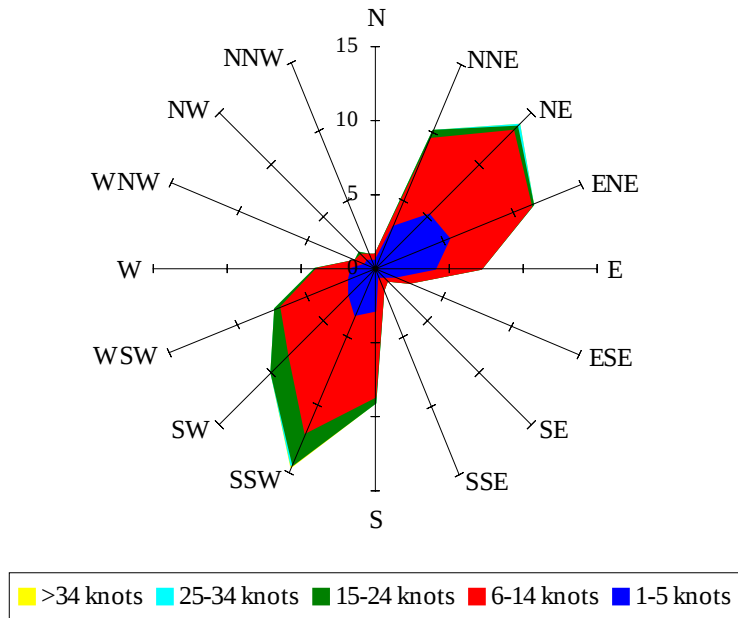
Labels of Percent Frequency on North Axis



Percent Calm = 2.22

Wind Summary - June, July, and August

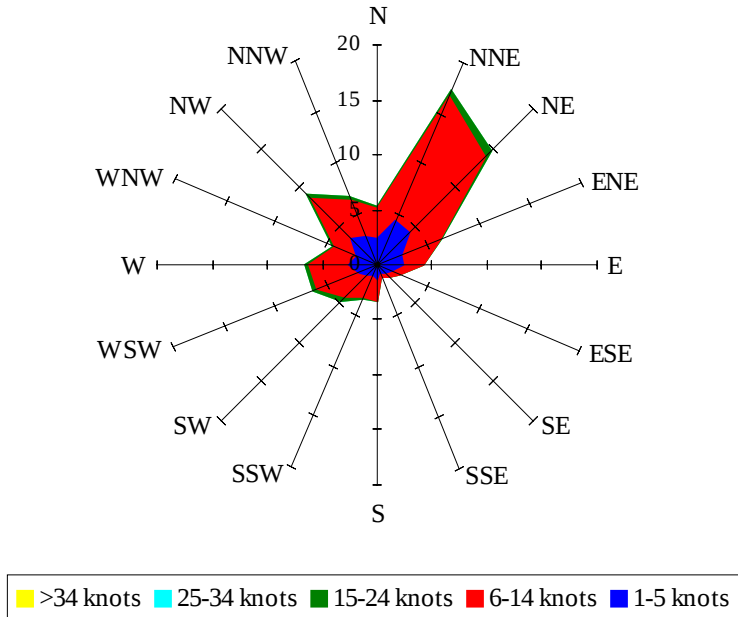
Labels of Percent Frequency on North Axis



Percent Calm = 2.14

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 3.32